



Full wwPDB EM Validation Report ⓘ

Mar 10, 2026 – 01:50 AM UTC

PDB ID : 8UQL / pdb_00008uql
EMDB ID : EMD-42473
Title : Escherichia coli transcription-translation coupled complex class B (TTC-B) containing RfaH in loaded state, mRNA with a 24 nt long spacer, and fMet-tRNAs in E-site and P-site of the ribosome
Authors : Molodtsov, V.; Wang, C.; Ebright, R.H.
Deposited on : 2023-10-24
Resolution : 3.20 Å(reported)

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

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

A user guide is available at

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

The types of validation reports are described at

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

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

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

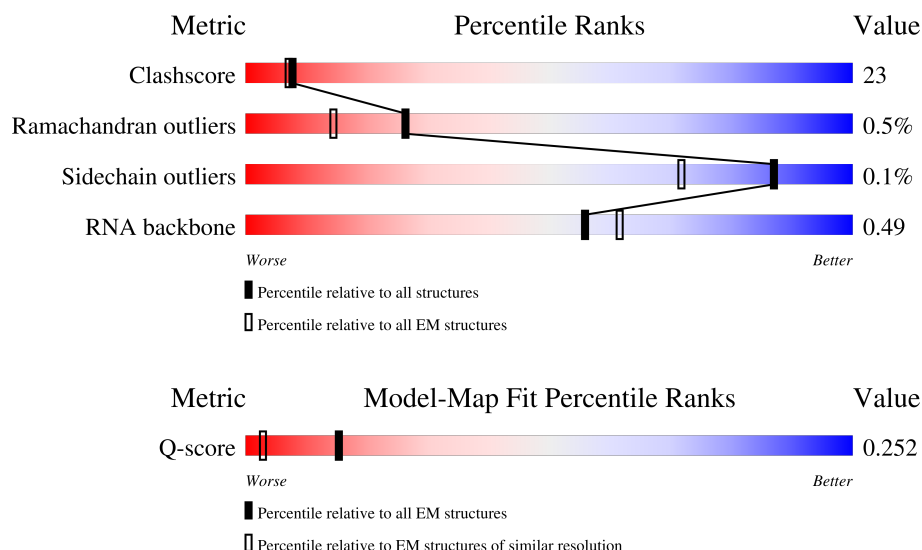
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.20 Å.

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



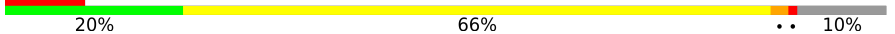
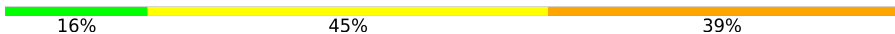
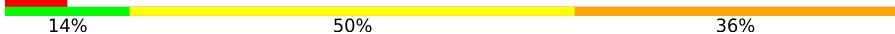
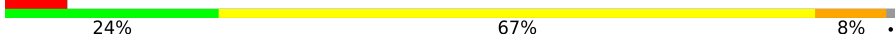
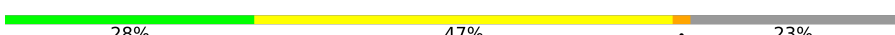
Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
RNA backbone	8273	3508	-
Q-score	-	25397	15020 (2.70 - 3.70)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$. 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	103	
2	1	110	
3	2	100	

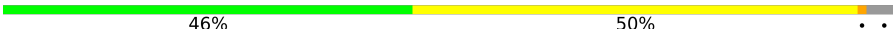
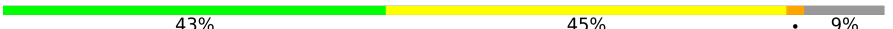
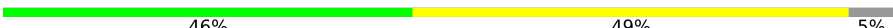
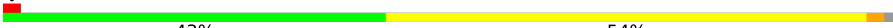
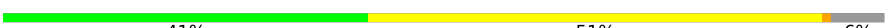
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Mol	Chain	Length	Quality of chain
4	3	104	
5	4	94	
6	5	36	
7	6	36	
8	7	41	
9	9	165	
10	A	76	
10	B	76	
11	AA	1342	
12	AB	162	
13	AC	329	
13	AD	329	
14	AE	1407	
15	AF	91	
16	C	75	
17	D	1542	
18	E	87	
19	F	71	
20	G	241	
21	H	557	
22	I	233	
23	J	206	
24	K	167	
25	L	135	
26	M	179	

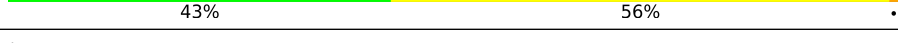
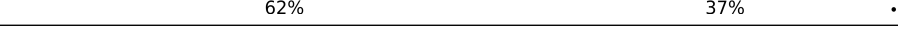
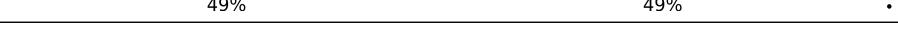
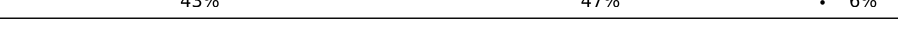
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Mol	Chain	Length	Quality of chain
27	N	130	
28	O	130	
29	P	103	
30	Q	129	
31	R	124	
32	S	101	
33	T	89	
34	U	82	
35	V	84	
36	W	92	
37	X	118	
38	Y	142	
39	Z	121	
40	a	2904	
41	b	85	
42	c	78	
43	d	120	
44	e	63	
45	f	59	
46	g	70	
47	h	273	
48	i	57	
49	j	209	
50	k	55	
51	l	201	

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Mol	Chain	Length	Quality of chain
52	m	46	 59% 41%
53	n	179	 44% 54% ...
54	o	65	 58% 35% 5% .
55	p	177	 69% 29% .
56	q	38	 58% 42%
57	r	149	 7% 69% 31%
58	s	142	 55% 44% ..
59	t	123	 43% 56% .
60	u	144	 62% 37% .
61	v	136	 49% 49% .
62	w	127	 43% 47% . 6%
63	x	117	 67% 32% .
64	y	115	 57% 42% .
65	z	118	 57% 42% ..

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
67	ZN	AE	1502	-	-	X	-

2 Entry composition [i](#)

There are 67 unique types of molecules in this entry. The entry contains 275952 atoms, of which 98639 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 Ribosomal protein L21.

Mol	Chain	Residues	Atoms						AltConf	Trace
1	0	103	Total	C	H	N	O	S	0	0
			1655	516	839	153	145	2		

- Molecule 2 is a protein called 50S ribosomal protein L22.

Mol	Chain	Residues	Atoms						AltConf	Trace
2	1	110	Total	C	H	N	O	S	0	0
			1779	532	922	166	156	3		

- Molecule 3 is a protein called 50S ribosomal protein L23.

Mol	Chain	Residues	Atoms						AltConf	Trace
3	2	94	Total	C	H	N	O	S	0	0
			1557	470	811	140	134	2		

- Molecule 4 is a protein called 50S ribosomal protein L24.

Mol	Chain	Residues	Atoms						AltConf	Trace
4	3	103	Total	C	H	N	O		0	0
			1632	498	844	148	142			

- Molecule 5 is a protein called 50S ribosomal protein L25.

Mol	Chain	Residues	Atoms						AltConf	Trace
5	4	94	Total	C	H	N	O	S	0	0
			1533	479	780	137	134	3		

- Molecule 6 is a DNA chain called NT DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
6	5	31	Total	C	N	O	P		0	0
			636	303	117	185	31			

- Molecule 7 is a DNA chain called T DNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	6	36	Total	C	N	O	P	0	0
			706	337	119	215	35		

- Molecule 8 is a RNA chain called mRNA with 24 nt long spacer.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	7	37	Total	C	N	O	P	0	0
			772	345	110	280	37		

- Molecule 9 is a protein called 50S ribosomal protein L10.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	9	148	Total	C	N	O	S	0	0
			1117	705	196	209	7		

- Molecule 10 is a RNA chain called E-site and P-site fMet-tRNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
10	A	76	Total 2446	C 723	H 826	N 295	O 527	P 75	0	0
10	B	76	Total 2434	C 723	H 814	N 295	O 527	P 75	0	0

- Molecule 11 is a protein called DNA-directed RNA polymerase subunit beta.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	AA	1316	Total	C	N	O	S	0	0
			10381	6514	1810	2014	43		

- Molecule 12 is a protein called Transcription antitermination protein RfaH.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	AB	161	Total	C	N	O	S	0	0
			1286	828	222	232	4		

- Molecule 13 is a protein called DNA-directed RNA polymerase subunit alpha.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	AC	221	Total	C	N	O	S	0	0
			1698	1060	299	333	6		

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Mol	Chain	Residues	Atoms					AltConf	Trace
13	AD	218	Total	C	N	O	S	0	0
			1677	1048	297	326	6		

- Molecule 14 is a protein called DNA-directed RNA polymerase subunit beta'.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	AE	1337	Total	C	N	O	S	0	0
			10404	6535	1856	1963	50		

- Molecule 15 is a protein called DNA-directed RNA polymerase subunit omega.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	AF	82	Total	C	N	O	S	0	0
			650	396	122	131	1		

- Molecule 16 is a protein called 30S ribosomal protein S18.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	C	66	Total	C	H	N	O	S	
			1103	344	559	102	97	1	0

- Molecule 17 is a RNA chain called 16S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	D	1524	Total	C	H	N	O	P	
			49126	14585	16423	6003	10591	1524	0

- Molecule 18 is a protein called 30S ribosomal protein S20.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	E	86	Total	C	H	N	O	S	
			1388	414	719	138	114	3	0

- Molecule 19 is a protein called 30S ribosomal protein S21.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	F	70	Total	C	H	N	O	S	
			1218	366	629	125	97	1	0

- Molecule 20 is a protein called 30S ribosomal protein S2.

Mol	Chain	Residues	Atoms						AltConf	Trace
20	G	225	Total	C	H	N	O	S	0	0
			3545	1113	1785	316	323	8		

- Molecule 21 is a protein called 30S ribosomal protein S1.

Mol	Chain	Residues	Atoms						AltConf	Trace
21	H	259	Total	C	H	N	O	S	0	0
			3184	1073	1454	305	349	3		

- Molecule 22 is a protein called 30S ribosomal protein S3.

Mol	Chain	Residues	Atoms						AltConf	Trace
22	I	208	Total	C	H	N	O	S	0	0
			3346	1036	1710	307	290	3		

- Molecule 23 is a protein called 30S ribosomal protein S4.

Mol	Chain	Residues	Atoms						AltConf	Trace
23	J	205	Total	C	H	N	O	S	0	0
			3350	1026	1707	315	298	4		

- Molecule 24 is a protein called 30S ribosomal protein S5.

Mol	Chain	Residues	Atoms						AltConf	Trace
24	K	156	Total	C	H	N	O	S	0	0
			2348	717	1196	217	212	6		

- Molecule 25 is a protein called 30S ribosomal protein S6.

Mol	Chain	Residues	Atoms						AltConf	Trace
25	L	104	Total	C	H	N	O	S	0	0
			1694	536	846	153	152	7		

- Molecule 26 is a protein called 30S ribosomal protein S7.

Mol	Chain	Residues	Atoms						AltConf	Trace
26	M	151	Total	C	H	N	O	S	0	0
			2416	735	1235	227	215	4		

- Molecule 27 is a protein called 30S ribosomal protein S8.

Mol	Chain	Residues	Atoms						AltConf	Trace
27	N	129	Total	C	H	N	O	S	0	0
			2010	616	1031	173	184	6		

- Molecule 28 is a protein called 30S ribosomal protein S9.

Mol	Chain	Residues	Atoms						AltConf	Trace
28	O	127	Total	C	H	N	O	S	0	0
			2092	634	1070	206	179	3		

- Molecule 29 is a protein called 30S ribosomal protein S10.

Mol	Chain	Residues	Atoms						AltConf	Trace
29	P	99	Total	C	H	N	O	S	0	0
			1621	495	831	151	143	1		

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

Mol	Chain	Residues	Atoms						AltConf	Trace
30	Q	117	Total	C	H	N	O	S	0	0
			1764	540	887	174	160	3		

- Molecule 31 is a protein called 30S ribosomal protein S12.

Mol	Chain	Residues	Atoms						AltConf	Trace
31	R	121	Total	C	H	N	O	S	0	0
			1940	580	1001	194	161	4		

- Molecule 32 is a protein called 30S ribosomal protein S14.

Mol	Chain	Residues	Atoms						AltConf	Trace
32	S	100	Total	C	H	N	O	S	0	0
			1649	499	844	164	139	3		

- Molecule 33 is a protein called 30S ribosomal protein S15.

Mol	Chain	Residues	Atoms						AltConf	Trace
33	T	88	Total	C	H	N	O	S	0	0
			1448	439	734	144	130	1		

- Molecule 34 is a protein called 30S ribosomal protein S16.

Mol	Chain	Residues	Atoms						AltConf	Trace
34	U	82	Total	C	H	N	O	S	0	0
			1315	406	666	128	114	1		

- Molecule 35 is a protein called 30S ribosomal protein S17.

Mol	Chain	Residues	Atoms						AltConf	Trace
35	V	80	Total	C	H	N	O	S	0	0
			1339	411	691	121	113	3		

- Molecule 36 is a protein called 30S ribosomal protein S19.

Mol	Chain	Residues	Atoms						AltConf	Trace
36	W	83	Total	C	H	N	O	S	0	0
			1351	424	688	126	111	2		

- Molecule 37 is a protein called 30S ribosomal protein S13.

Mol	Chain	Residues	Atoms						AltConf	Trace
37	X	116	Total	C	H	N	O	S	0	0
			1864	558	964	181	158	3		

- Molecule 38 is a protein called 50S ribosomal protein L11.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	Y	141	Total	C	N	O	S	0	0
			1032	651	179	196	6		

- Molecule 39 is a protein called 50S ribosomal protein L7/L12.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	Z	30	Total	C	N	O	S	0	0
			227	144	33	47	3		

- Molecule 40 is a RNA chain called 23S rRNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
40	a	2880	Total	C	H	N	O	P	0	0
			92918	27587	31077	11398	19976	2880		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
a	887	A	U	conflict	GB 937521852

- Molecule 41 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms						AltConf	Trace
41	b	76	Total	C	H	N	O	S	0	0
			1181	360	599	117	104	1		

- Molecule 42 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms						AltConf	Trace
42	c	77	Total	C	H	N	O	S	0	0
			1277	388	652	129	106	2		

- Molecule 43 is a RNA chain called 5S rRNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
43	d	120	Total	C	H	N	O	P	0	0
			3870	1144	1301	468	837	120		

- Molecule 44 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms						AltConf	Trace
44	e	62	Total	C	H	N	O	S	0	0
			1032	308	531	98	94	1		

- Molecule 45 is a protein called 50S ribosomal protein L30.

Mol	Chain	Residues	Atoms						AltConf	Trace
45	f	58	Total	C	H	N	O	S	0	0
			936	281	488	87	78	2		

- Molecule 46 is a protein called 50S ribosomal protein L31.

Mol	Chain	Residues	Atoms						AltConf	Trace
46	g	66	Total	C	H	N	O	S	0	0
			1042	323	520	99	94	6		

- Molecule 47 is a protein called 50S ribosomal protein L2.

Mol	Chain	Residues	Atoms						AltConf	Trace
47	h	271	Total	C	H	N	O	S	0	0
			4236	1288	2154	423	364	7		

- Molecule 48 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms						AltConf	Trace
48	i	56	Total	C	H	N	O	S	0	0
			903	269	459	94	80	1		

- Molecule 49 is a protein called 50S ribosomal protein L3.

Mol	Chain	Residues	Atoms						AltConf	Trace
49	j	209	Total	C	H	N	O	S	0	0
			3182	979	1617	288	294	4		

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

Mol	Chain	Residues	Atoms						AltConf	Trace
50	k	52	Total	C	H	N	O		0	0
			890	275	464	78	73			

- Molecule 51 is a protein called 50S ribosomal protein L4.

Mol	Chain	Residues	Atoms						AltConf	Trace
51	l	201	Total	C	H	N	O	S	0	0
			3171	974	1619	283	290	5		

- Molecule 52 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms						AltConf	Trace
52	m	46	Total	C	H	N	O	S	0	0
			795	228	418	90	57	2		

- Molecule 53 is a protein called 50S ribosomal protein L5.

Mol	Chain	Residues	Atoms						AltConf	Trace
53	n	177	Total	C	H	N	O	S	0	0
			2853	899	1443	249	256	6		

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

Mol	Chain	Residues	Atoms						AltConf	Trace
54	o	64	Total	C	H	N	O	S	0	0
			1076	323	572	105	74	2		

- Molecule 55 is a protein called 50S ribosomal protein L6.

Mol	Chain	Residues	Atoms						AltConf	Trace
55	p	175	Total	C	H	N	O	S	0	0
			2671	826	1358	241	244	2		

- Molecule 56 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms						AltConf	Trace
56	q	38	Total	C	H	N	O	S	0	0
			645	185	343	65	48	4		

- Molecule 57 is a protein called 50S ribosomal protein L9.

Mol	Chain	Residues	Atoms						AltConf	Trace
57	r	149	Total	C	H	N	O	S	0	0
			2259	699	1148	197	214	1		

- Molecule 58 is a protein called 50S ribosomal protein L13.

Mol	Chain	Residues	Atoms						AltConf	Trace
58	s	142	Total	C	H	N	O	S	0	0
			2291	714	1162	212	199	4		

- Molecule 59 is a protein called 50S ribosomal protein L14.

Mol	Chain	Residues	Atoms						AltConf	Trace
59	t	123	Total	C	H	N	O	S	0	0
			1969	593	1023	181	166	6		

- Molecule 60 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms						AltConf	Trace
60	u	144	Total	C	H	N	O	S	0	0
			2182	654	1129	207	190	2		

- Molecule 61 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms						AltConf	Trace
61	v	136	Total	C	H	N	O	S	0	0
			2231	686	1157	205	177	6		

- Molecule 62 is a protein called 50S ribosomal protein L17.

Mol	Chain	Residues	Atoms						AltConf	Trace
62	w	119	Total	C	H	N	O	S	0	0
			1945	588	994	195	163	5		

- Molecule 63 is a protein called 50S ribosomal protein L18.

Mol	Chain	Residues	Atoms						AltConf	Trace
63	x	116	Total	C	H	N	O		0	0
			1815	552	923	178	162			

- Molecule 64 is a protein called 50S ribosomal protein L19.

Mol	Chain	Residues	Atoms						AltConf	Trace
64	y	114	Total	C	H	N	O	S	0	0
			1879	574	962	179	163	1		

- Molecule 65 is a protein called 50S ribosomal protein L20.

Mol	Chain	Residues	Atoms						AltConf	Trace
65	z	117	Total	C	H	N	O		0	0
			1967	604	1020	192	151			

- Molecule 66 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		AltConf
66	AE	1	Total	Mg	0
			1	1	

- Molecule 67 is ZINC ION (CCD ID: ZN) (formula: Zn).

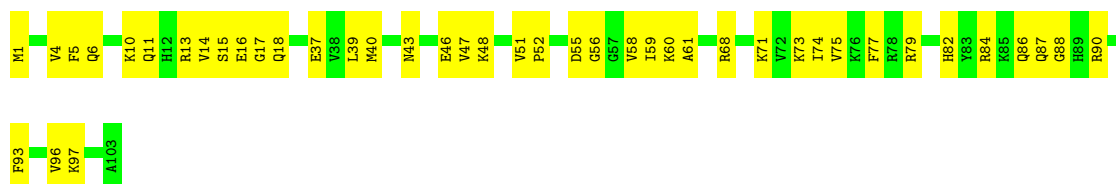
Mol	Chain	Residues	Atoms		AltConf
67	AE	2	Total	Zn	0
			2	2	

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.

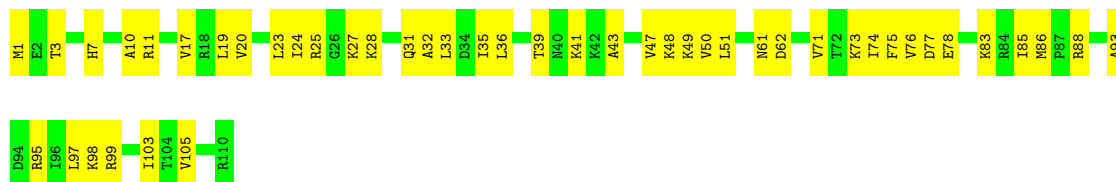
• Molecule 1: Ribosomal protein L21

Chain 0: 



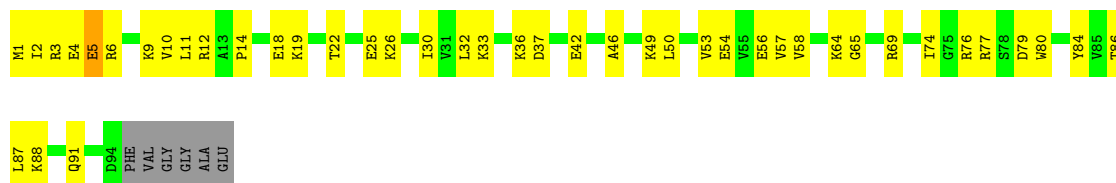
• Molecule 2: 50S ribosomal protein L22

Chain 1: 



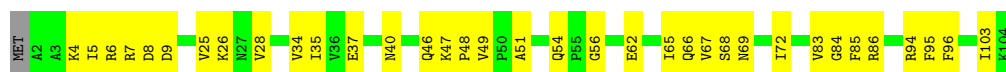
• Molecule 3: 50S ribosomal protein L23

Chain 2: 

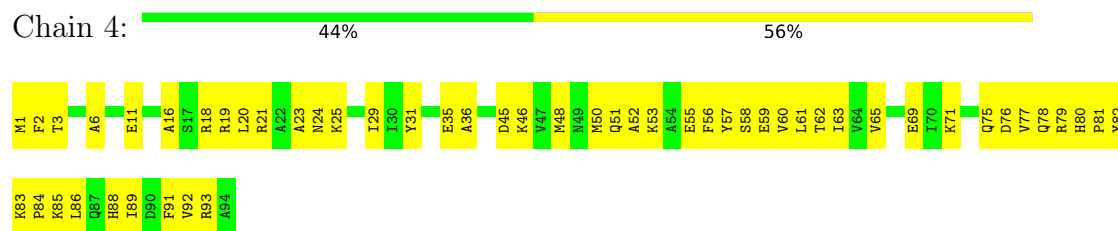


• Molecule 4: 50S ribosomal protein L24

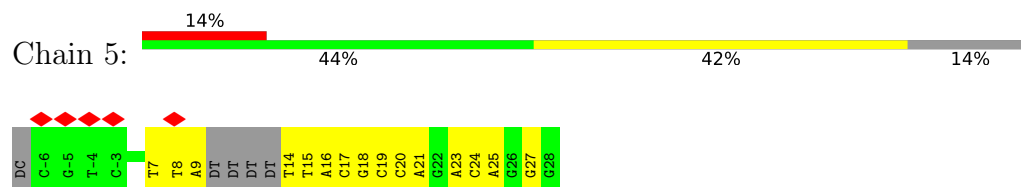
Chain 3: 



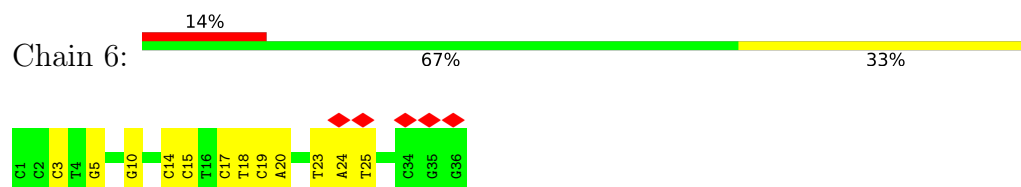
- Molecule 5: 50S ribosomal protein L25



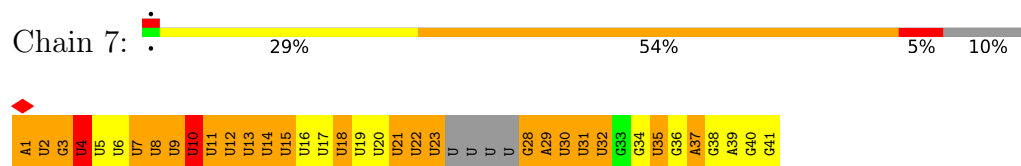
- Molecule 6: NT DNA



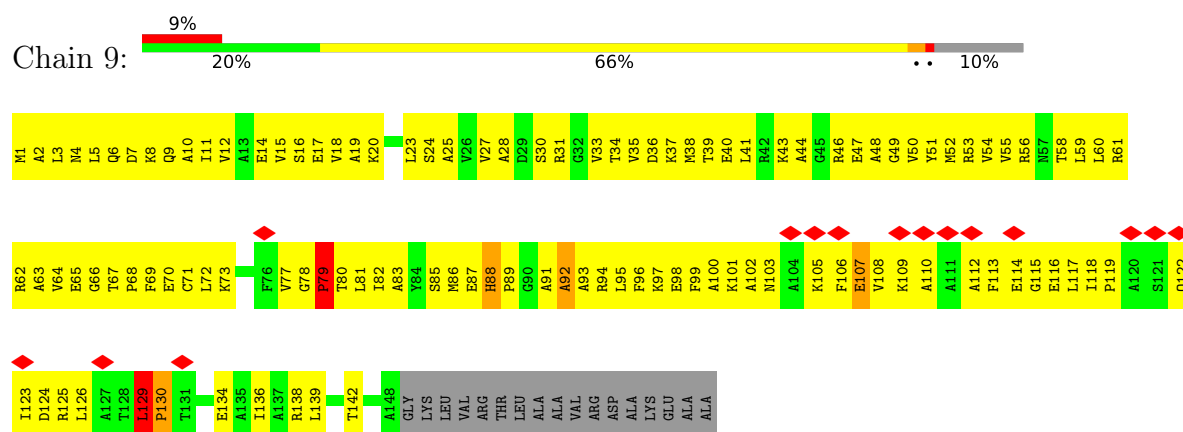
- Molecule 7: T DNA



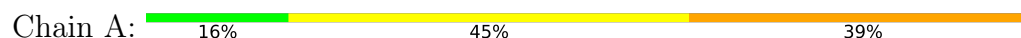
- Molecule 8: mRNA with 24 nt long spacer

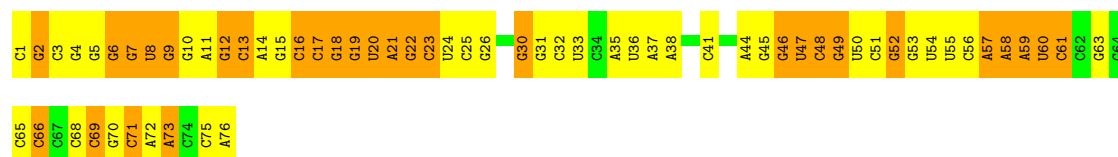


- Molecule 9: 50S ribosomal protein L10

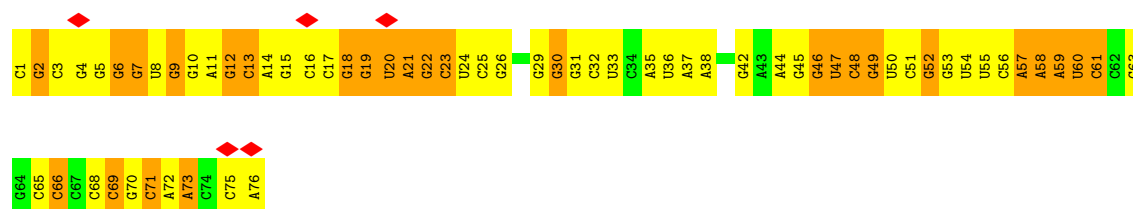
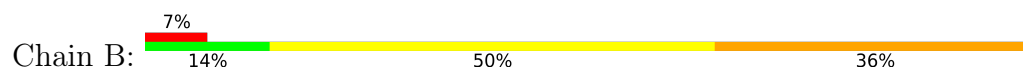


- Molecule 10: E-site and P-site fMet-tRNA

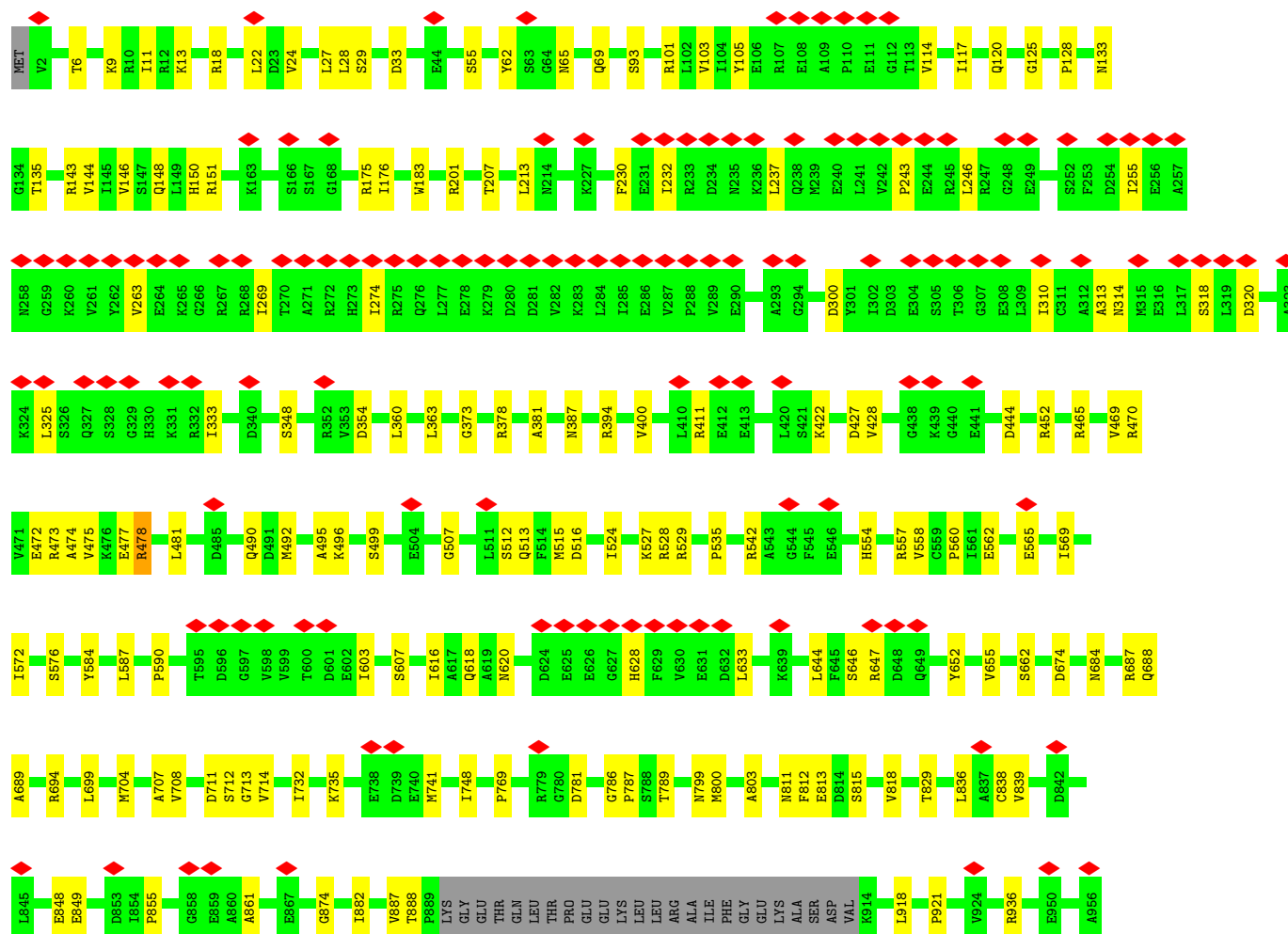
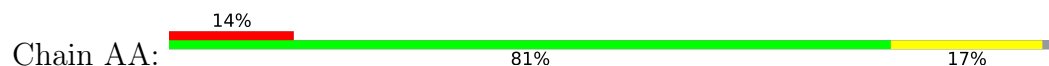


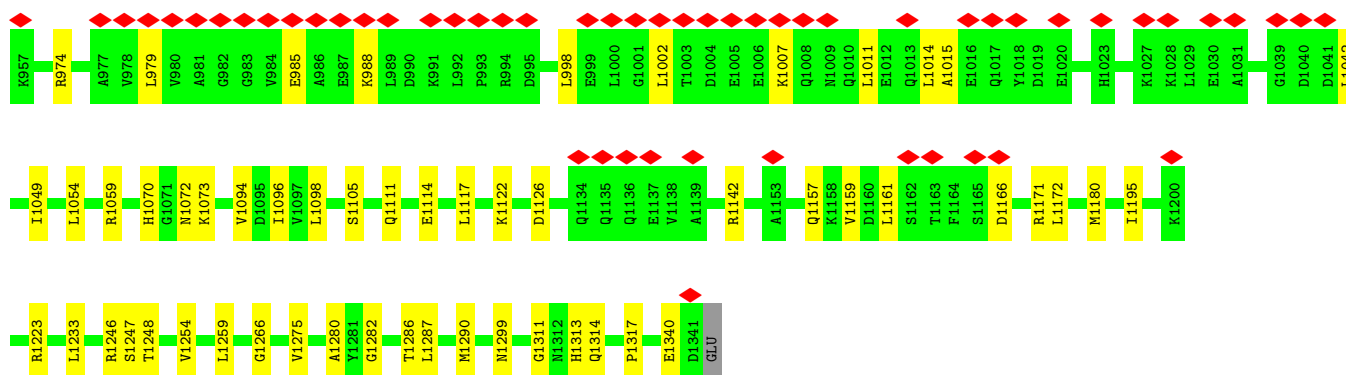


• Molecule 10: E-site and P-site fMet-tRNA

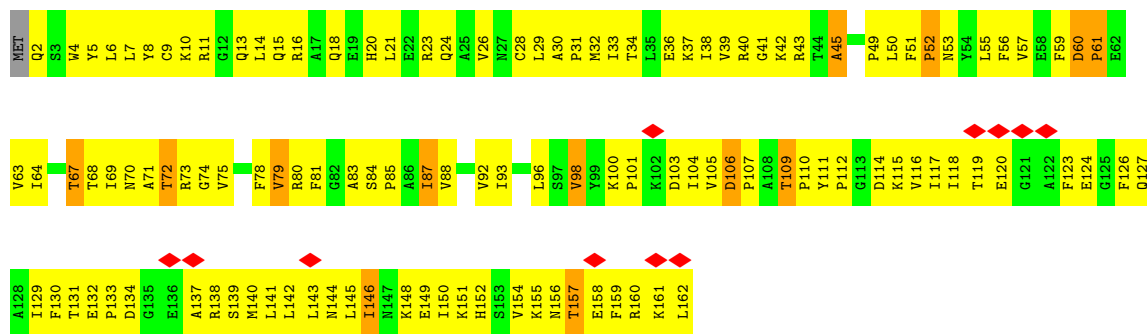


• Molecule 11: DNA-directed RNA polymerase subunit beta

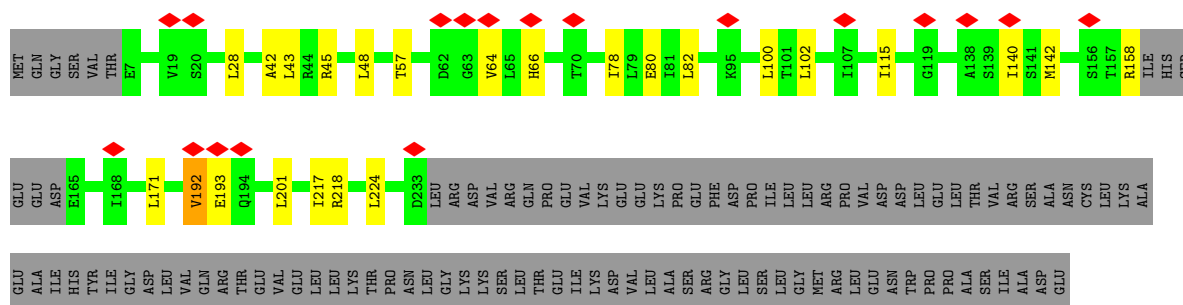




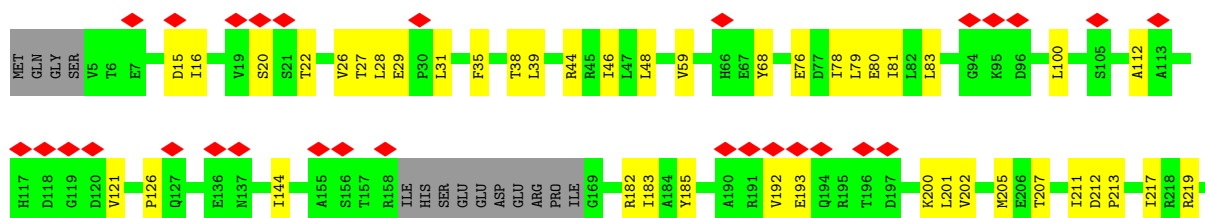
• Molecule 12: Transcription antitermination protein RfaH

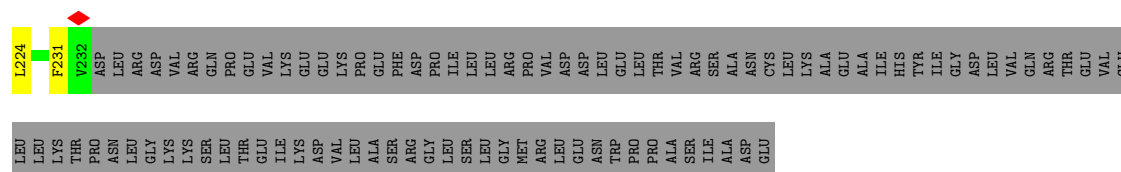


• Molecule 13: DNA-directed RNA polymerase subunit alpha

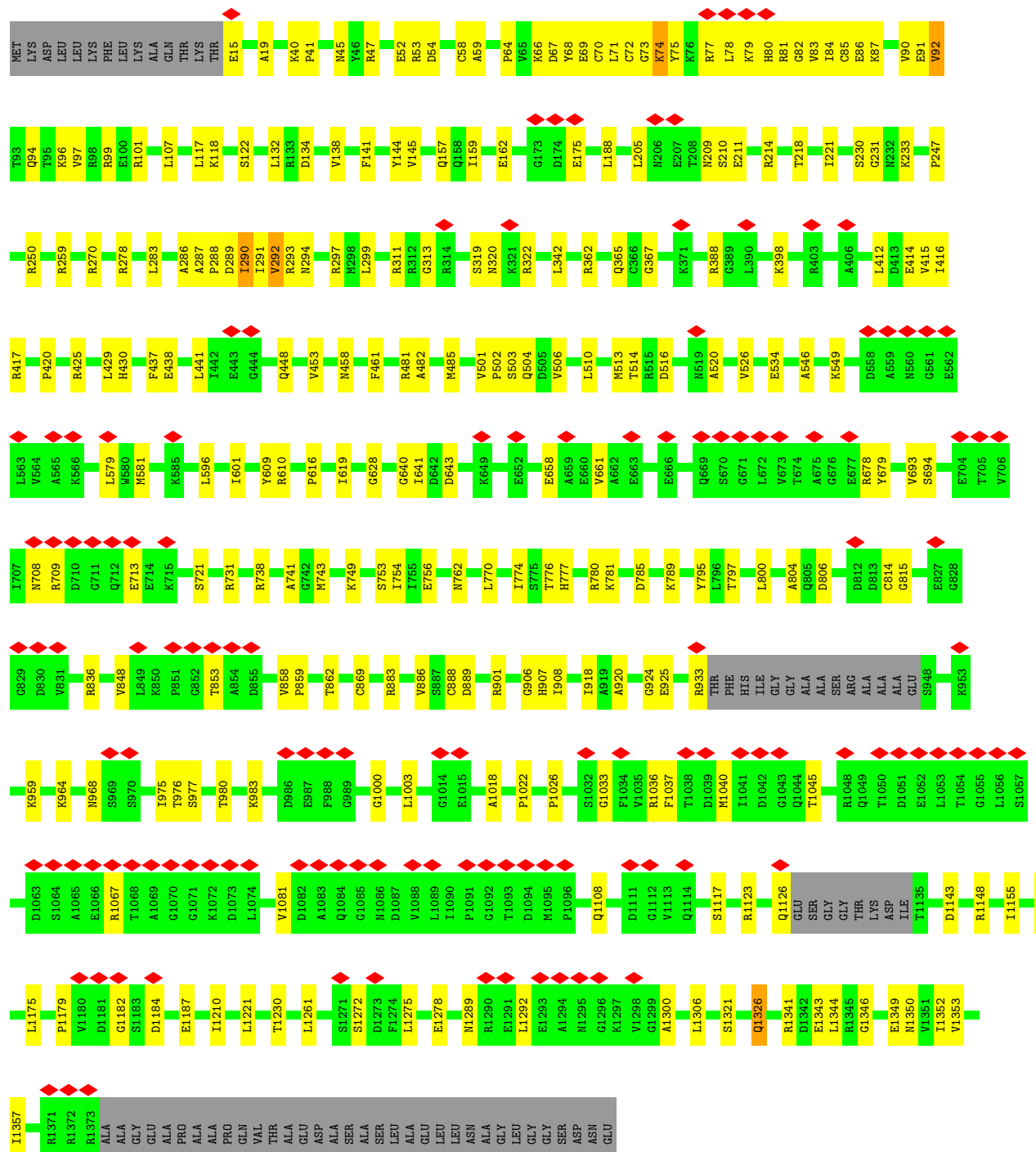
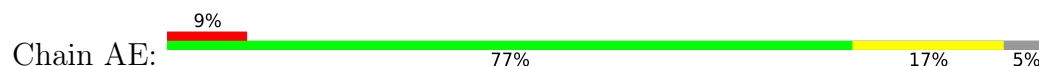


• Molecule 13: DNA-directed RNA polymerase subunit alpha

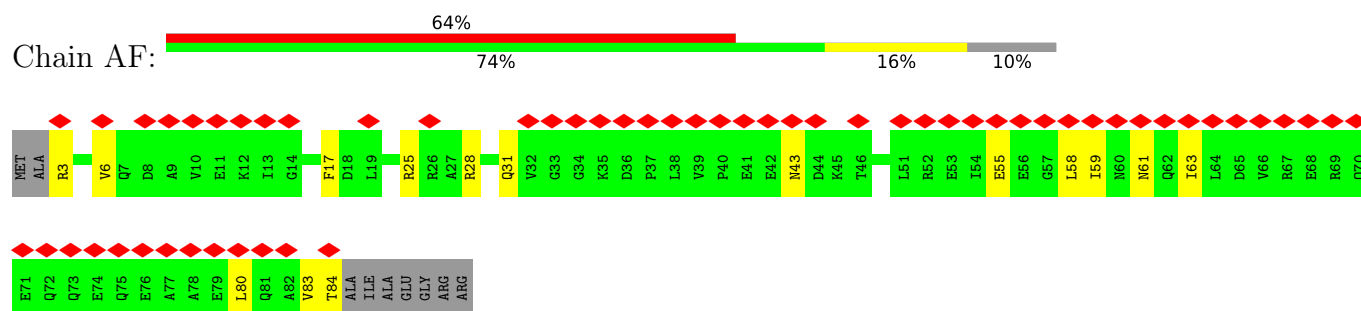




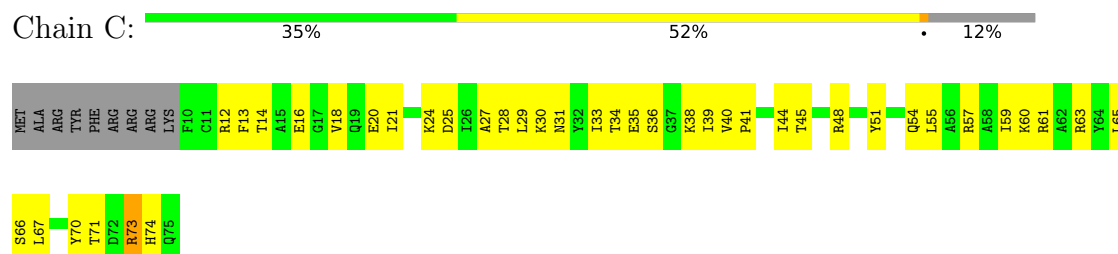
• Molecule 14: DNA-directed RNA polymerase subunit beta'



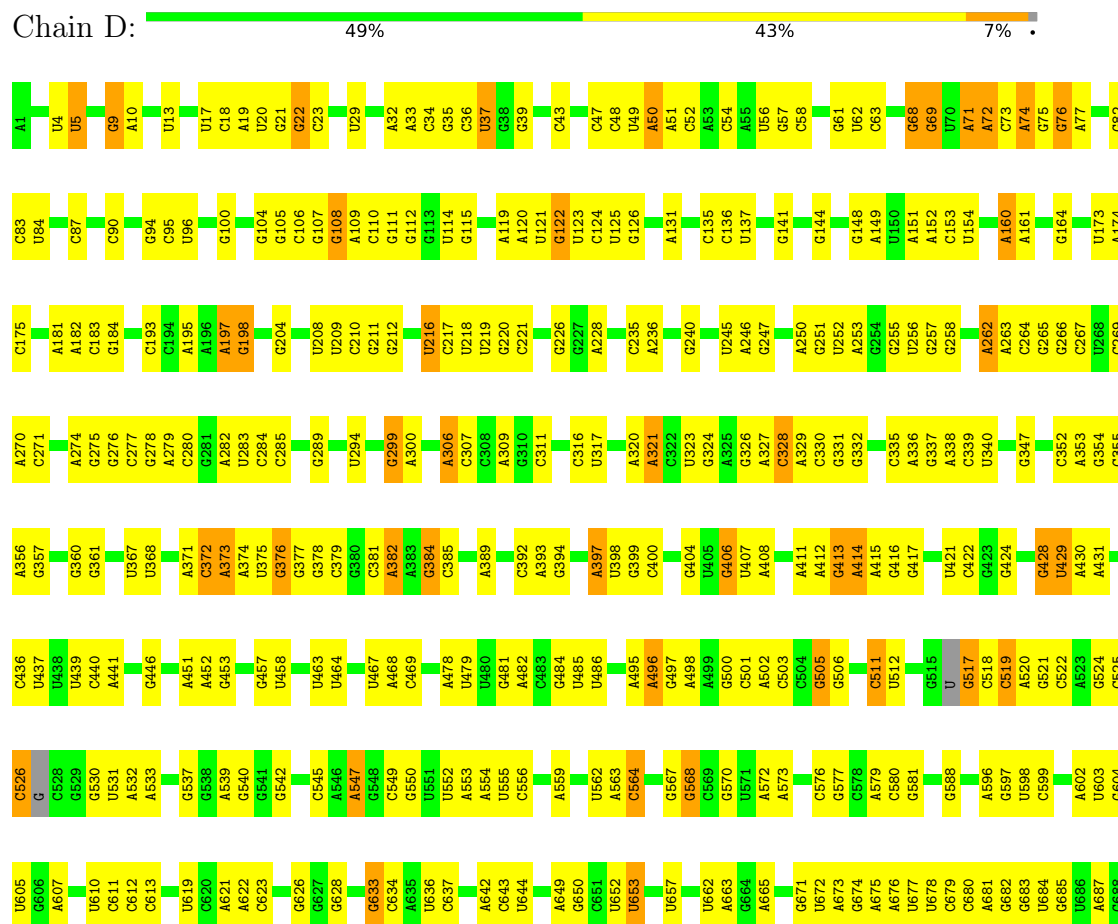
- Molecule 15: DNA-directed RNA polymerase subunit omega

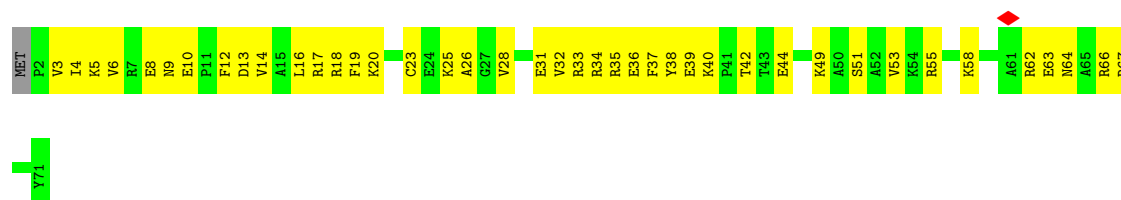


- Molecule 16: 30S ribosomal protein S18



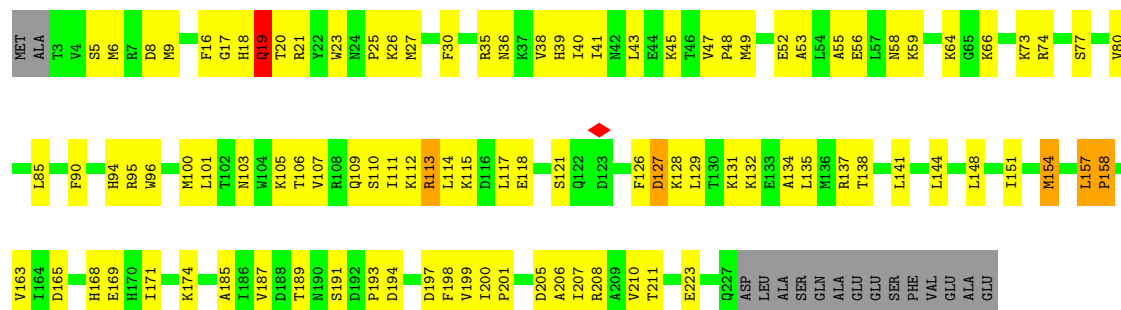
- Molecule 17: 16S rRNA





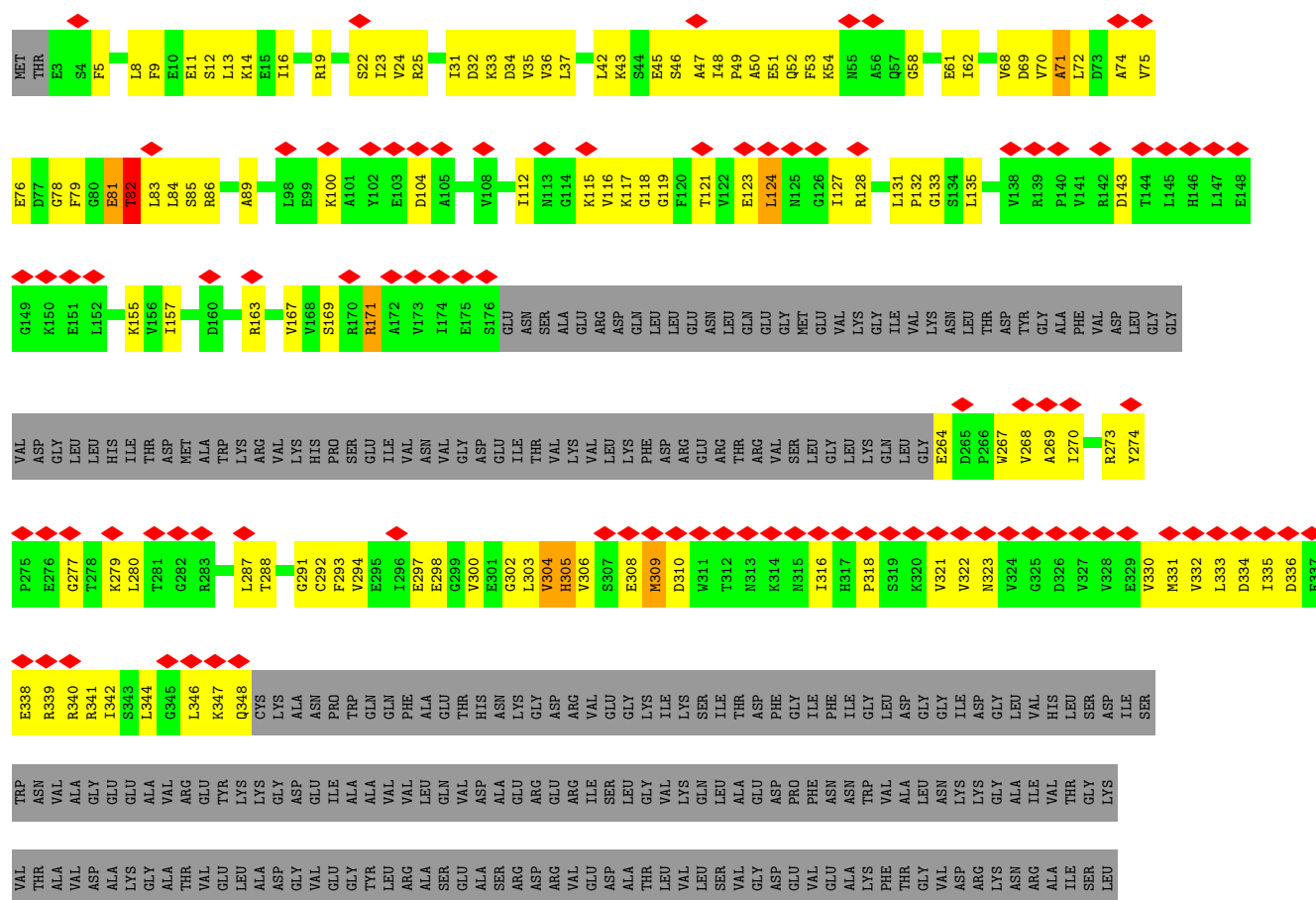
• Molecule 20: 30S ribosomal protein S2

Chain G: 52% 39% 7%



• Molecule 21: 30S ribosomal protein S1

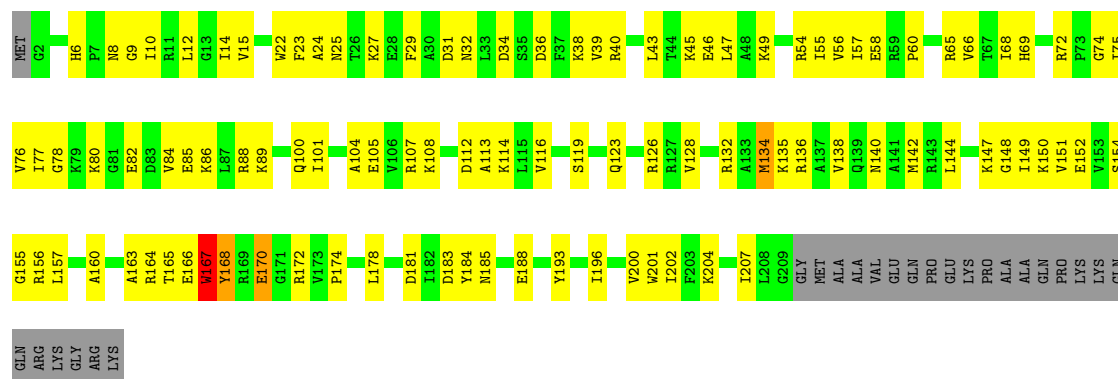
Chain H: 17% 24% 21% 54%



SER VAL ARG ALA LYS ASP GLU ALA ASP GLU LYS LYS ASP ALA LYS LYS GLY GLU

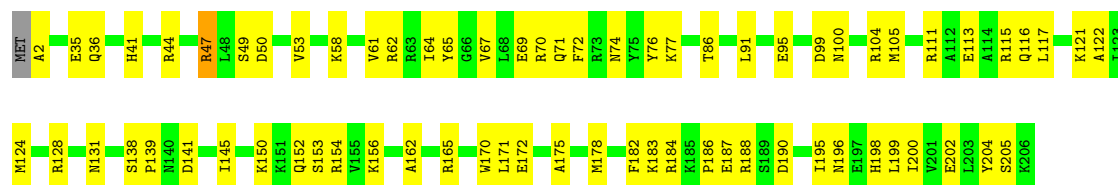
• Molecule 22: 30S ribosomal protein S3

Chain I: 45% 42% 11%



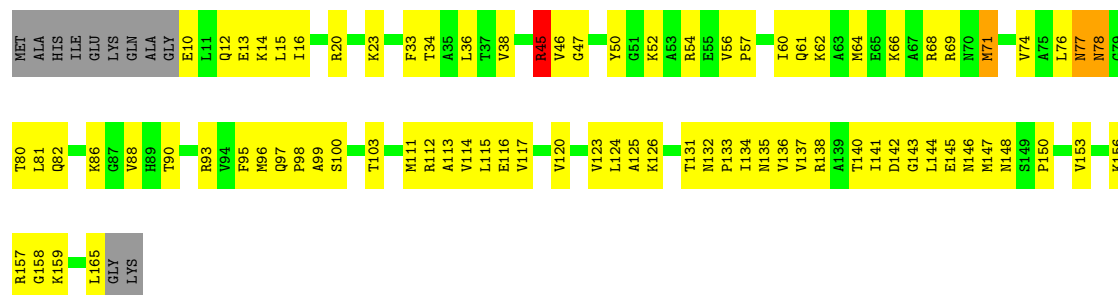
• Molecule 23: 30S ribosomal protein S4

Chain J: 66% 33%



• Molecule 24: 30S ribosomal protein S5

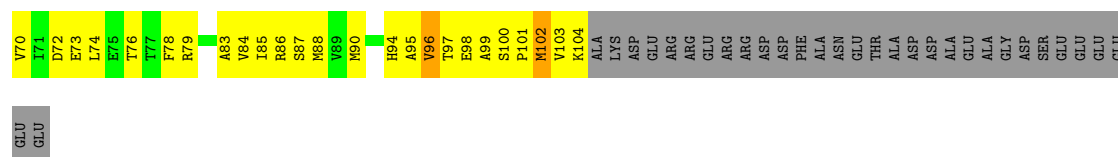
Chain K: 44% 47% 7%



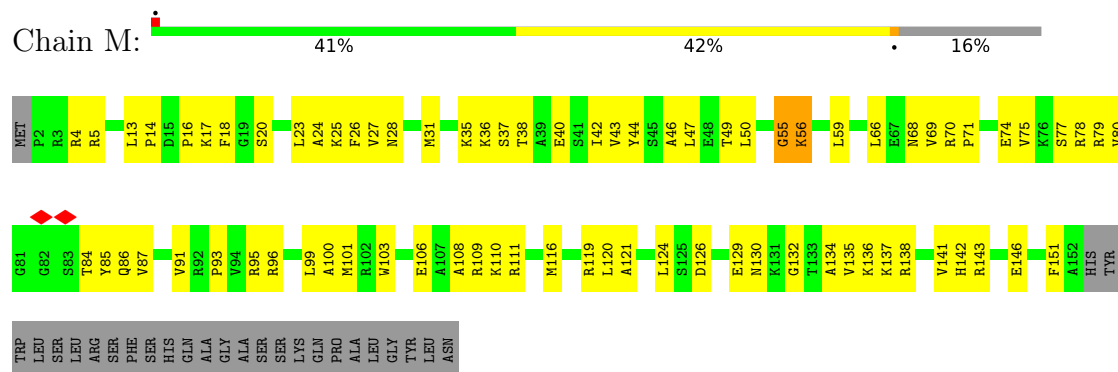
• Molecule 25: 30S ribosomal protein S6

Chain L: 28% 47% 23%

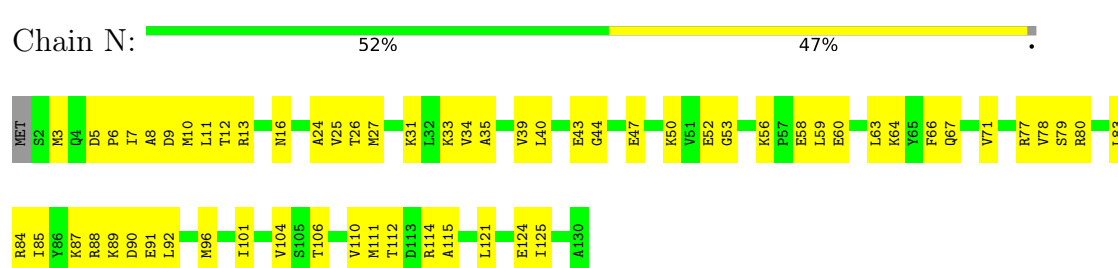




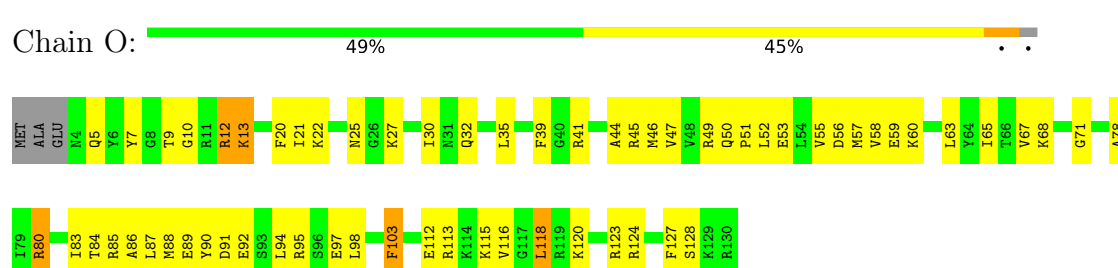
- Molecule 26: 30S ribosomal protein S7



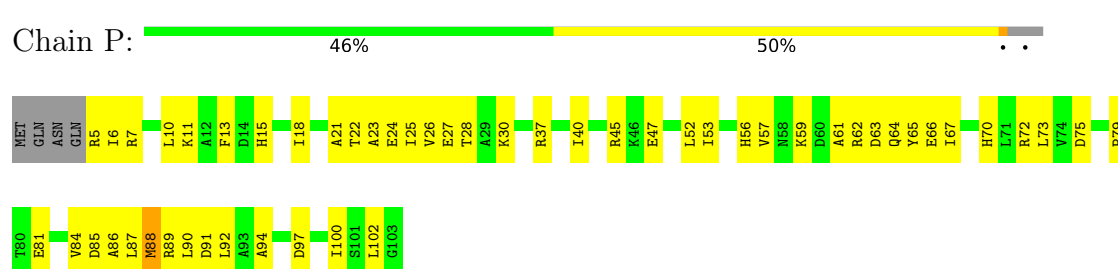
- Molecule 27: 30S ribosomal protein S8



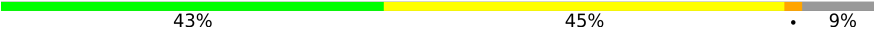
- Molecule 28: 30S ribosomal protein S9

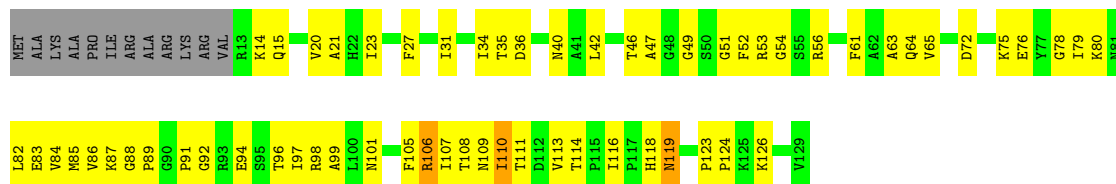


- Molecule 29: 30S ribosomal protein S10



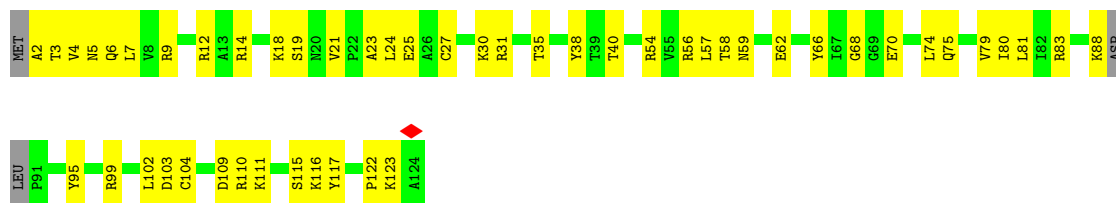
- Molecule 30: 30S ribosomal protein S11

Chain Q:  43% 45% 9%



- Molecule 31: 30S ribosomal protein S12

Chain R:  57% 40% 3%



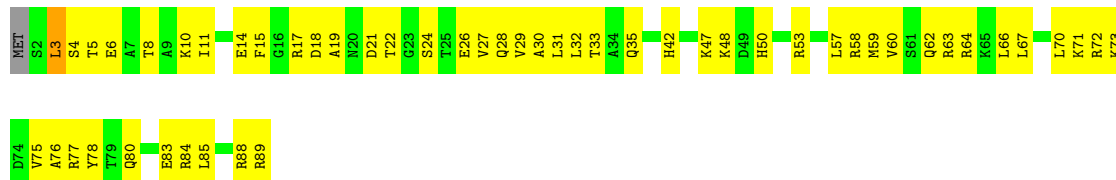
- Molecule 32: 30S ribosomal protein S14

Chain S:  51% 48% 1%



- Molecule 33: 30S ribosomal protein S15

Chain T:  40% 57% 3%

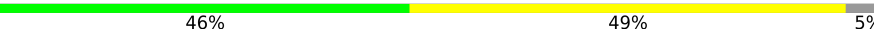


- Molecule 34: 30S ribosomal protein S16

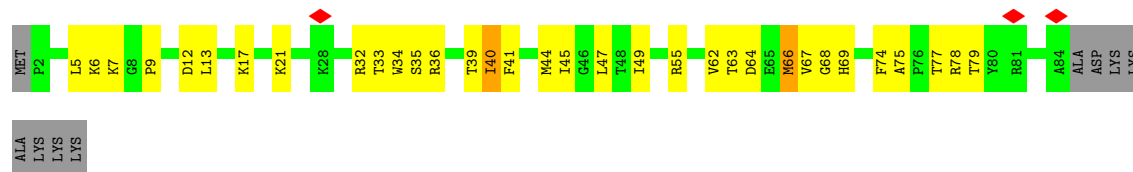
Chain U:  51% 49% 0%



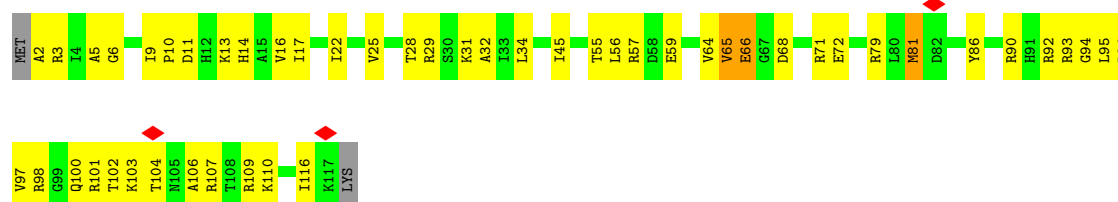
- Molecule 35: 30S ribosomal protein S17

Chain V:  46% 49% 5%

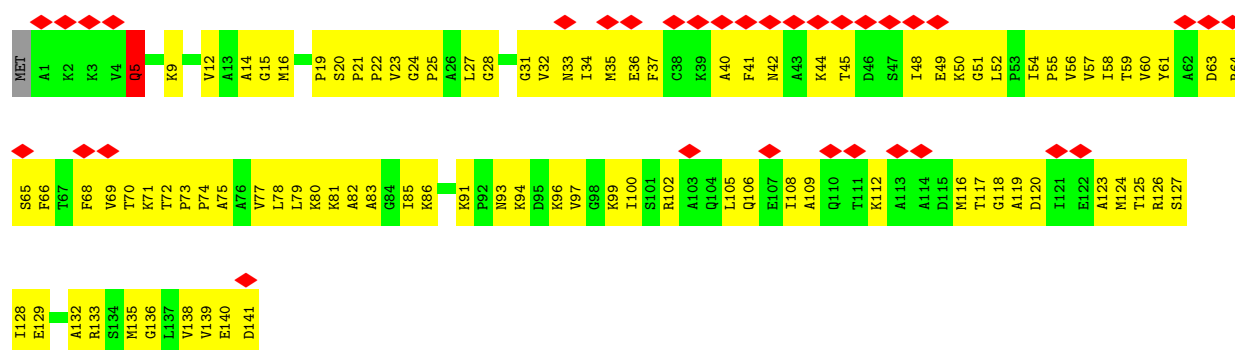
- Molecule 36: 30S ribosomal protein S19



- Molecule 37: 30S ribosomal protein S13



- Molecule 38: 50S ribosomal protein L11



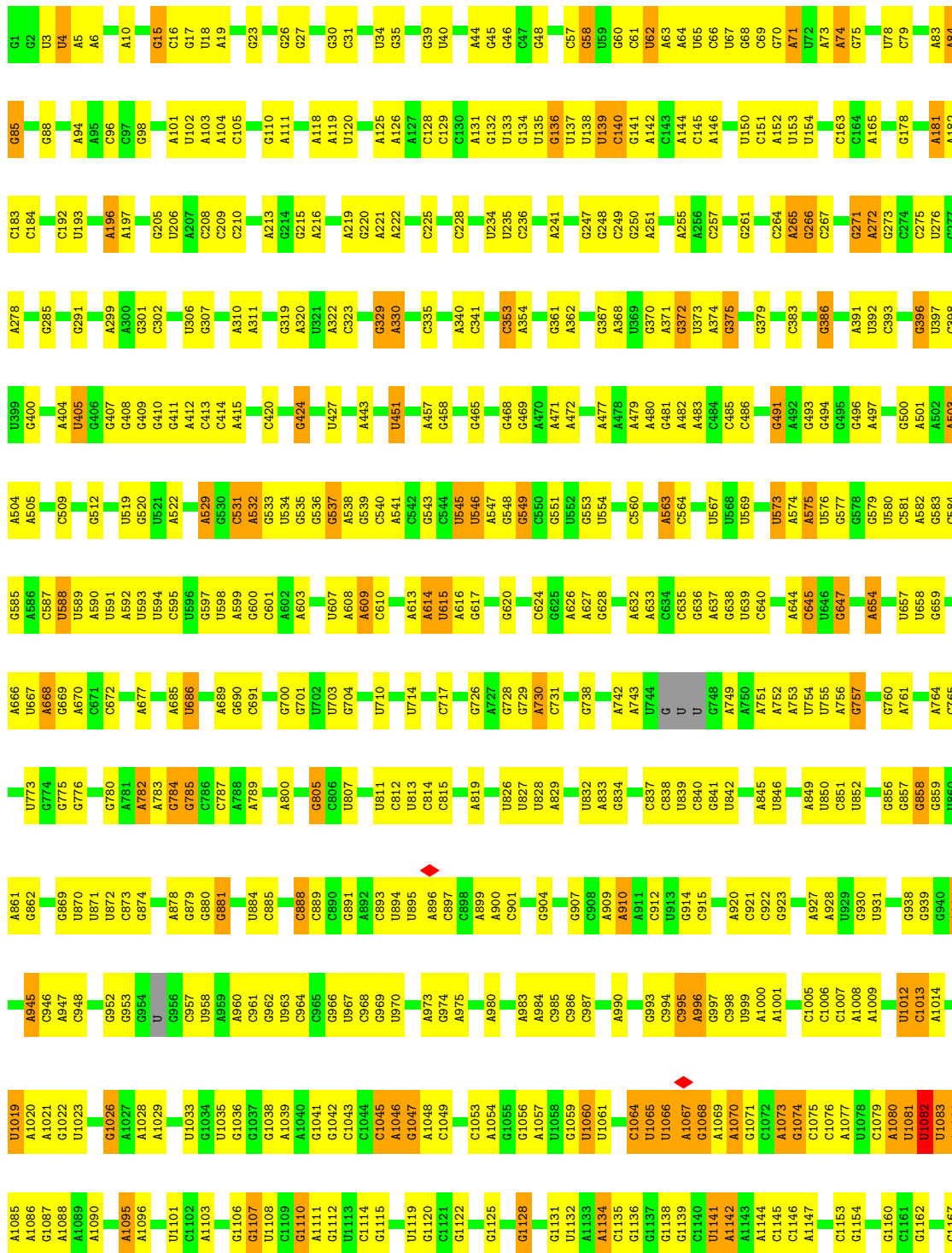
- Molecule 39: 50S ribosomal protein L7/L12



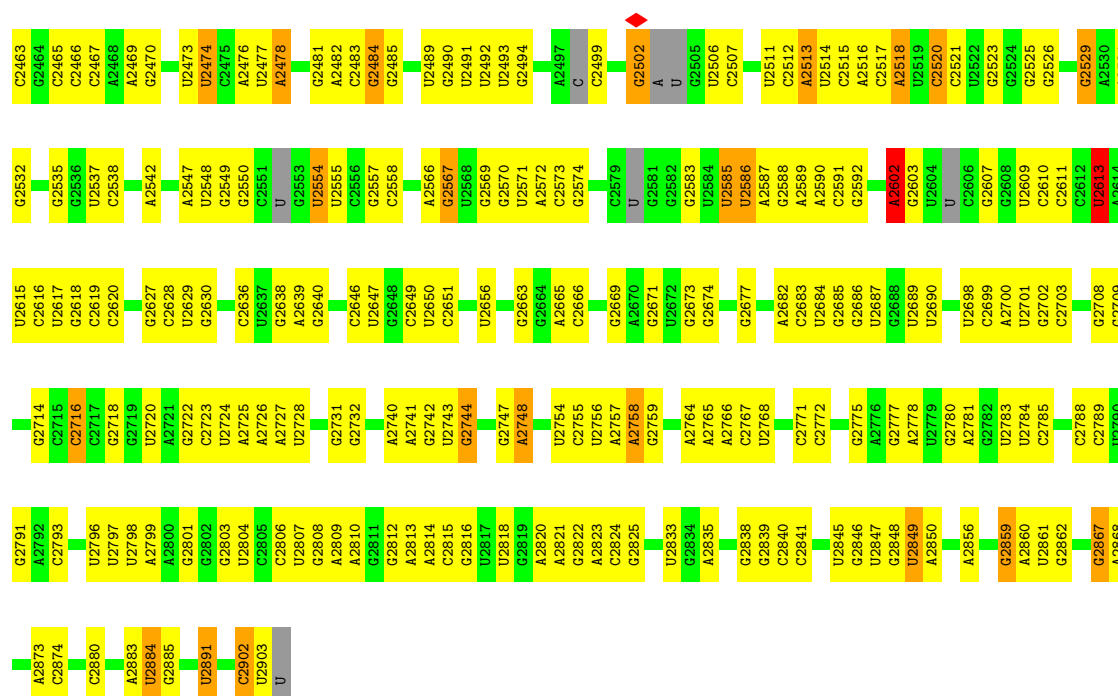
GLY
ALA
ASN
LYS
VAL
ALA
VAL
ILE
LYS
ALA
VAL
ARG
GLY
ALA
THR
GLY
LEU
GLY
LEU
LYS
GLU
ALA
LYS
ASP
LEU
VAL
GLU
SER
ALA
PRO
ALA
ALA
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LYS
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ALA
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ALA
GLY
GLU
VAL
GLU
VAL
LYS

• Molecule 40: 23S rRNA

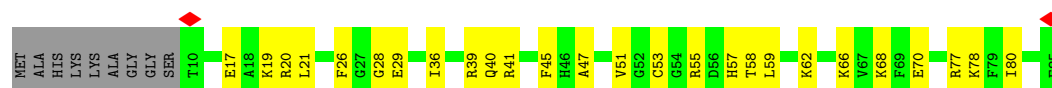
Chain a:  51% 42% 7%



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C2301	C2305	G2223	G2067	A1998	A1918	G1831	U1747	G1647	C1547	U1442	C1562	C1270	A1169
U2305	G2306	G2224	U2068	C1999	C1919	C1832	G1750	U1648	C1548	U1443	A1365	G1271	C1170
G2307	G2307	A2225	G	C2000	C1920	C1833	G1750	U1649	A1549	U1444	A1366	A1272	G1171
G2308	G2308	A2226	A2071	G2001	G1921	U1834	G1753	A1651	U1554	G1445	G1368	U1273	C1172
A2309	A2309	A2227	C2072	G2002	G1922	C1836	A1754	G1652	U1554	G1449	C1369	A1276	U1173
G2310	G2310	G2228	U	C2006	U1923	G1839	A1755	A1653	C1558	G1450	G1371	G1277	U1174
A2311	A2311	U2229	U2075	U2007	C1924	G1840	G1756	A1654	C1559	G1451	G1372	G1278	U1175
U2312	U2312	U2230	U2076	C2008	U1925	U1841	A1757	A1655	U1560	G1452	A1378	G1279	C1178
C2313	C2313	U2236	U2079	A2009	U1926	G1842	U1758	A1656	G1561	G1453	U1379	G1280	G1179
C2314	C2314	G2237	U2079	G2010	A1928	C1843	G1764	U1657	U1562	C1454	G1380	U1281	U1180
G2315	G2315	G2238	A2082	G2011	G1929	C1844	G1764	C1658	U1563	U1460	A1383	G1283	U1181
U2320	U2320	G2239	G2083	G2012	G1930	G1845	G1770	G1659	C1564	U1467	A1384	G1289	U1182
U2321	U2321	U2243	U2086	A2013	U1931	G1846	G1773	A1664	C1565	U1468	A1385	C1290	U1183
A2322	A2322	U2244	G2087	A2014	G1932	A1847	A1774	A1665	G1567	A1469	C1386	G1295	G1186
G2325	G2325	U2245	U2087	U2015	G1933	A1848	U1778	A1666	G1568	A1470	A1387	G1296	U1188
A2406	A2407	G2246	C2091	U2016	A1936	A1853	U1779	G1667	A1569	A1477	A1392	G1300	U1189
A2407	A2407	G2247	U2092	U2017	A1937	A1854	U1779	A1668	A1570	A1482	A1393	A1301	G1190
U2419	U2419	C2248	G2093	A2020	A1938	U1855	A1789	A1674	A1572	A1490	U1394	G1310	G1197
C2420	C2420	U2249	A2094	C2021	U1940	U1856	C1790	G1681	G1580	A1494	A1395	G1311	U1198
G2431	G2431	G2250	C2095	U2022	U1940	G1857	G1791	G1682	G1581	A1495	U1396	U1312	U1199
C2422	C2422	G	A2096	G2023	G1945	A1858	A1785	U1683	G1582	A1496	U1397	U1313	U1201
U2423	U2423	G2252	A2097	G2024	U1946	U1859	A1786	G1684	U1584	U1497	A1403	C1314	A1204
C2424	C2424	G2253	U2098	G2025	U1947	G1869	G1794	U1688	C1585	C1498	C1404	C1315	A1205
C2425	C2425	G	U2099	G2026	C1947	C1870	A1794	U1688	C1586	C1499	U1405	G1318	G1206
A2426	A2426	U2259	G2100	G2027	A1953	A1871	U1796	U1693	G1587	G1500	U1406	C1319	U1223
G2427	G2427	C2261	U2108	U2028	G1955	G1872	G1797	U1694	G1588	A1503	A1407	A1321	U1224
C2428	C2428	U2262	A2114	A	U1956	A1960	G1798	C1694	U1589	A1503	U1408	A1322	G1225
G2429	G2429	C2263	G2110	G2031	C1957	C1873	G1799	G1695	A1590	U1506	U1409	G1323	A1226
U2431	U2431	G2265	U2111	A2033	U1963	U1874	C1800	A1700	A1591	C1507	G1410	G1333	G1238
A2434	A2434	A2266	U2112	G2035	U1963	C1875	A1801	A1700	A1596	C1508	U1411	G1334	G1239
A2435	A2435	A2267	G2116	A2036	G1964	U1880	A1802	G1703	A1597	A1509	U1412	U1240	U1240
G2436	G2436	A2268	U2118	G2040	A1965	U1881	A1803	G1703	A1598	A1510	C1414	U1340	C1243
U2441	U2441	G2276	G2119	U2041	C1966	G1884	A1808	G1707	U1599	G1511	U1415	G1341	G1342
G2444	G2444	A2277	G2121	A2042	C1967	A1885	A1808	G1708	C1600	G1512	U1416	A1342	A1246
G2446	G2446	A2278	U2122	C2043	A1970	A1889	G1811	U1709	G1601	G1514	C1417	A1343	A1247
A2448	A2448	C2283	G2123	C2044	G1971	A1890	G1816	G1710	U1602	A1515	G1418	A1344	G1248
U2449	U2449	A2287	G2124	G2049	G1972	A1891	C1817	G1714	U1603	U1520	U1419	G1345	U1249
A2450	A2450	G2288	A2126	A2051	G1980	A1981	U1818	U1715	A1608	G1521	G1421	G1346	G1250
A2451	A2451	G2289	G2127	A2052	A1981	U1982	A1819	G1715	A1608	G1521	G1422	A1347	C1251
G2454	G2454	G2290	G2128	C2055	U1982	G1983	U1820	U1720	A1609	G1529	A1427	C1348	G1252
C2455	C2455	U2131	U2132	G2056	G1983	G1907	A1821	G1721	A1610	G1529	A1428	C1349	G1253
A2456	A2456	U2132	U2133	U2060	A1987	G1910	G1822	U1729	G1613	U1534	C1429	U1352	G1256
U2458	U2458	A2134	A2134	A2061	A1987	U	G1824	U1729	G1614	A1535	A1429	C1351	C1257
G2459	G2459	U2139	G2214	G2061	U1991	A1912	U1825	G1731	A1614	A1536	G1430	A1353	A1262
U2460	U2460	G2215	G2215	A2062	G1992	A1913	G1836	C1732	A	G1537	G1431	A1354	G1355
C2374	C2374	G2216	G2141	C2064	U1993	C1914	U1827	G1738	G1617	U1542	A1433	G1356	G1266
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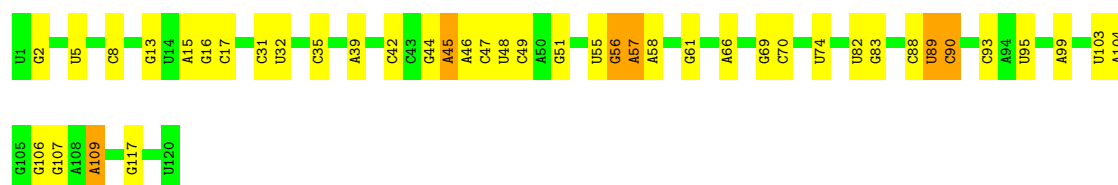
- Molecule 41: 50S ribosomal protein L27



- Molecule 42: 50S ribosomal protein L28

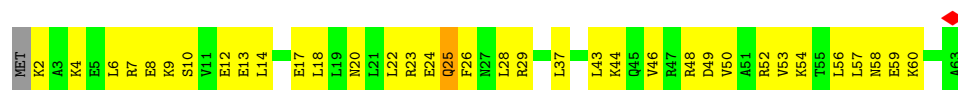


- Molecule 43: 5S rRNA



- Molecule 44: 50S ribosomal protein L29





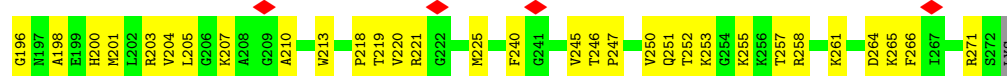
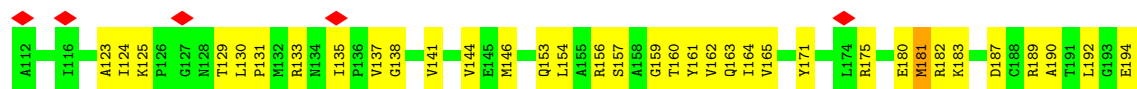
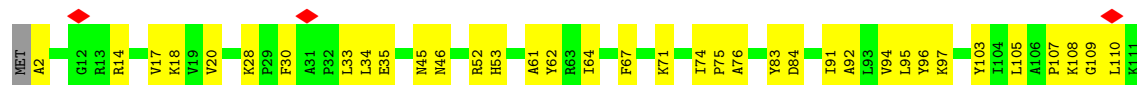
- Molecule 45: 50S ribosomal protein L30



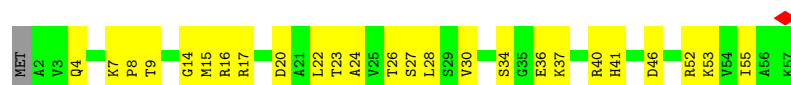
- Molecule 46: 50S ribosomal protein L31



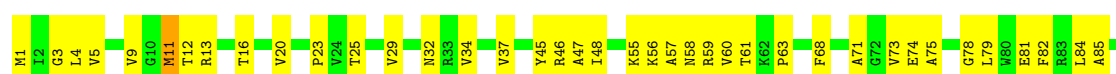
- Molecule 47: 50S ribosomal protein L2



- Molecule 48: 50S ribosomal protein L32

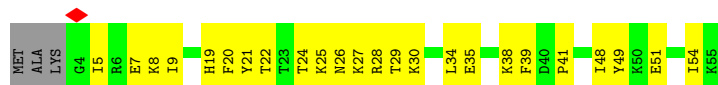


- Molecule 49: 50S ribosomal protein L33

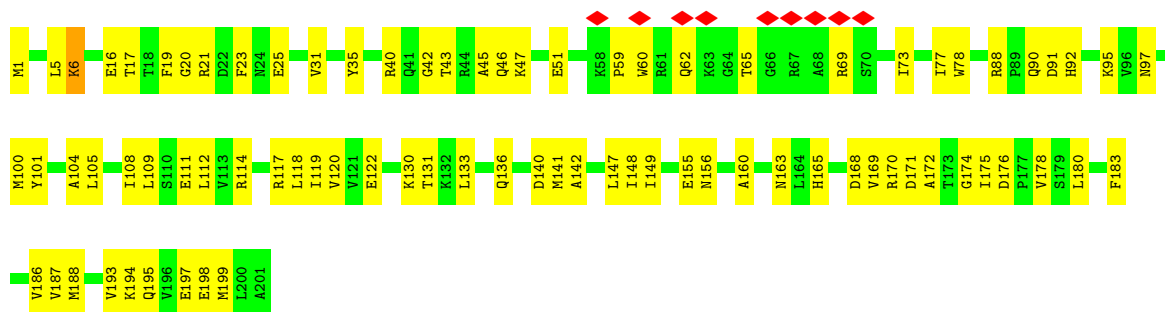




- Molecule 50: 50S ribosomal protein L33



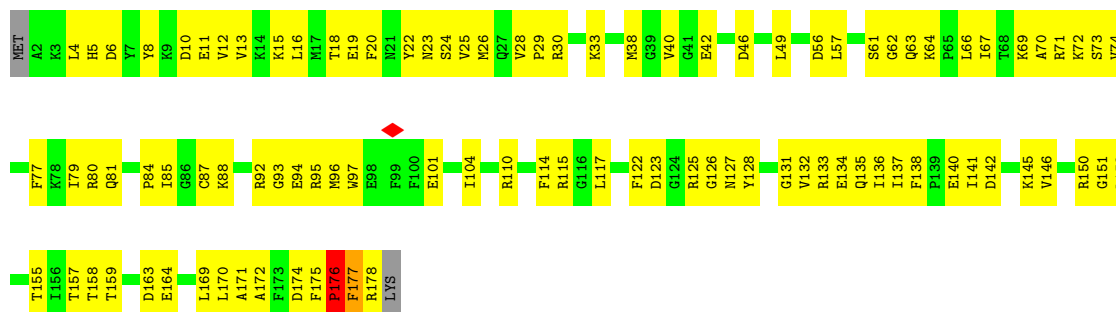
- Molecule 51: 50S ribosomal protein L4



- Molecule 52: 50S ribosomal protein L34



- Molecule 53: 50S ribosomal protein L5

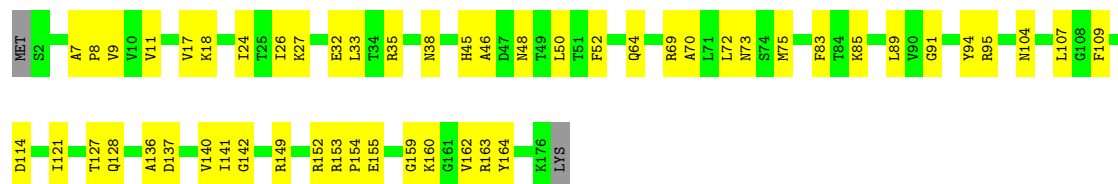


- Molecule 54: 50S ribosomal protein L35





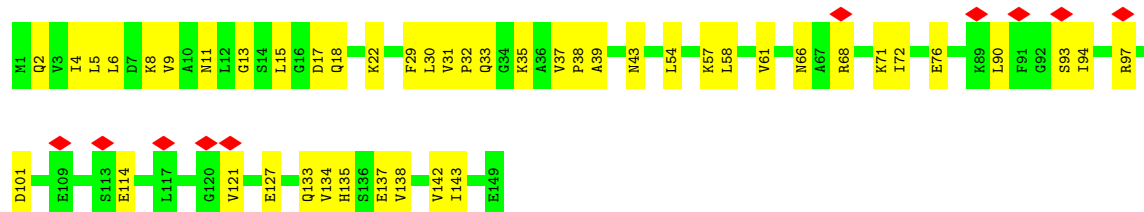
- Molecule 55: 50S ribosomal protein L6



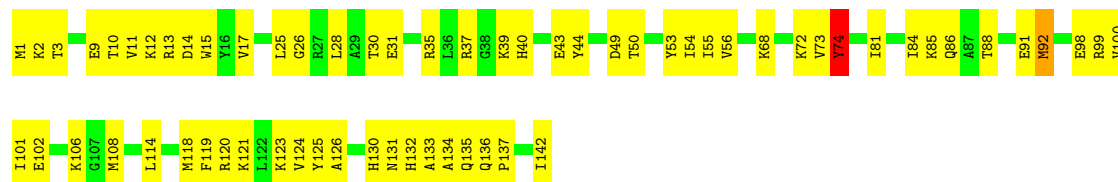
- Molecule 56: 50S ribosomal protein L36



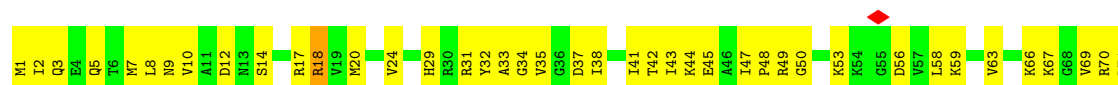
- Molecule 57: 50S ribosomal protein L9

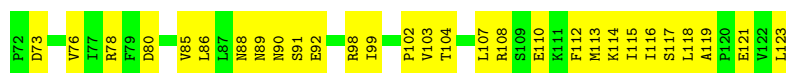


- Molecule 58: 50S ribosomal protein L13

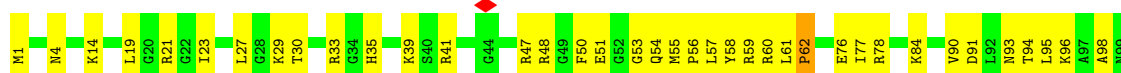


- Molecule 59: 50S ribosomal protein L14





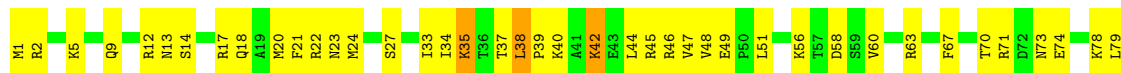
- Molecule 60: 50S ribosomal protein L15



- Molecule 61: 50S ribosomal protein L16



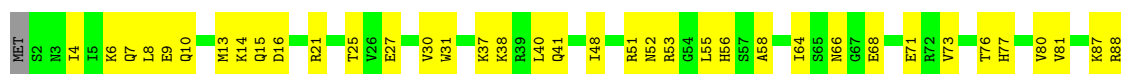
- Molecule 62: 50S ribosomal protein L17

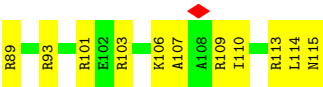


- Molecule 63: 50S ribosomal protein L18

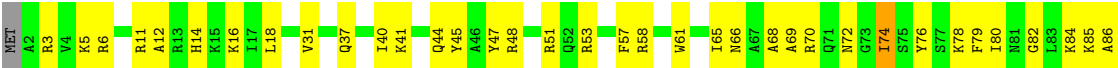


- Molecule 64: 50S ribosomal protein L19





• Molecule 65: 50S ribosomal protein L20



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	35602	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TALOS ARCTICA	Depositor
Voltage (kV)	200	Depositor
Electron dose ($e^-/\text{\AA}^2$)	28	Depositor
Minimum defocus (nm)	1250	Depositor
Maximum defocus (nm)	2500	Depositor
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	0.026	Depositor
Minimum map value	-0.009	Depositor
Average map value	-0.000	Depositor
Map value standard deviation	0.002	Depositor
Recommended contour level	0.002	Depositor
Map size (Å)	459.8208, 459.8208, 459.8208	wwPDB
Map dimensions	576, 576, 576	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.7983, 0.7983, 0.7983	Depositor

5 Model quality ⓘ

5.1 Standard geometry ⓘ

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

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	0.43	0/829	0.51	0/1107
2	1	0.60	0/864	0.63	0/1156
3	2	0.55	1/752 (0.1%)	0.67	0/1005
4	3	0.35	0/796	0.49	0/1062
5	4	0.57	0/766	0.63	0/1025
6	5	0.58	0/712	0.80	0/1094
7	6	0.57	0/786	0.80	0/1206
8	7	0.57	2/856 (0.2%)	0.88	4/1326 (0.3%)
9	9	0.37	0/1131	0.74	2/1524 (0.1%)
10	A	0.27	0/1810	0.58	0/2821
10	B	0.27	0/1810	0.58	0/2821
11	AA	0.38	0/10547	0.63	2/14232 (0.0%)
12	AB	0.95	0/1317	1.05	1/1786 (0.1%)
13	AC	0.38	0/1718	0.61	0/2328
13	AD	0.32	0/1696	0.60	0/2298
14	AE	0.39	0/10561	0.64	5/14258 (0.0%)
15	AF	0.30	0/652	0.61	0/879
16	C	0.67	0/553	0.81	1/743 (0.1%)
17	D	0.29	0/36610	0.41	9/57091 (0.0%)
18	E	0.61	0/675	0.72	0/895
19	F	0.53	0/597	0.61	0/792
20	G	0.68	5/1791 (0.3%)	0.79	8/2413 (0.3%)
21	H	0.38	0/1746	0.81	0/2382
22	I	0.57	1/1663 (0.1%)	0.68	5/2241 (0.2%)
23	J	0.46	0/1665	0.58	0/2227
24	K	0.72	2/1165 (0.2%)	0.86	6/1568 (0.4%)
25	L	0.68	1/867 (0.1%)	0.79	1/1171 (0.1%)
26	M	0.56	0/1195	0.69	2/1602 (0.1%)
27	N	0.50	0/989	0.58	0/1326
28	O	0.66	3/1034 (0.3%)	0.79	3/1375 (0.2%)
29	P	0.48	0/800	0.64	0/1082
30	Q	0.72	2/893 (0.2%)	0.76	2/1205 (0.2%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
31	R	0.49	0/952	0.59	0/1274
32	S	0.52	0/817	0.61	0/1088
33	T	0.57	1/722 (0.1%)	0.68	0/964
34	U	0.41	0/659	0.53	0/884
35	V	0.48	0/657	0.63	0/881
36	W	0.56	1/680 (0.1%)	0.62	1/915 (0.1%)
37	X	0.45	0/909	0.72	1/1215 (0.1%)
38	Y	0.38	2/1046 (0.2%)	0.66	2/1410 (0.1%)
39	Z	0.12	0/227	0.40	0/304
40	a	0.30	0/69247	0.43	10/107985 (0.0%)
41	b	0.41	0/589	0.56	0/779
42	c	0.51	0/635	0.61	0/848
43	d	0.25	0/2872	0.37	0/4478
44	e	0.69	2/502 (0.4%)	0.65	1/667 (0.1%)
45	f	0.52	0/452	0.57	0/605
46	g	0.45	1/531 (0.2%)	0.64	0/709
47	h	0.49	1/2121 (0.0%)	0.58	1/2852 (0.0%)
48	i	0.41	0/450	0.55	0/599
49	j	0.51	0/1586	0.57	1/2134 (0.0%)
50	k	0.45	0/433	0.62	0/576
51	l	0.51	1/1571 (0.1%)	0.62	0/2113
52	m	0.45	0/380	0.56	0/498
53	n	0.46	0/1434	0.66	1/1926 (0.1%)
54	o	0.51	0/513	0.70	1/676 (0.1%)
55	p	0.41	0/1333	0.62	2/1805 (0.1%)
56	q	0.46	0/303	0.64	0/397
57	r	0.28	0/1122	0.48	0/1515
58	s	0.70	2/1152 (0.2%)	0.73	2/1551 (0.1%)
59	t	0.52	0/955	0.75	3/1279 (0.2%)
60	u	0.43	0/1062	0.59	0/1413
61	v	0.60	1/1093 (0.1%)	0.77	3/1460 (0.2%)
62	w	0.83	3/964 (0.3%)	0.80	3/1289 (0.2%)
63	x	0.34	0/902	0.50	0/1209
64	y	0.41	0/929	0.54	0/1242
65	z	0.62	2/960 (0.2%)	0.62	0/1278
All	All	0.39	34/190606 (0.0%)	0.53	83/280859 (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	9	0	3
13	AC	0	1
13	AD	0	1
14	AE	0	4
20	G	0	1
21	H	0	5
22	I	0	1
24	K	0	2
28	O	0	1
37	X	0	1
38	Y	0	1
53	n	0	1
54	o	0	1
58	s	0	1
60	u	0	2
All	All	0	26

All (34) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
62	w	35	LYS	CE-NZ	-12.78	1.11	1.49
28	O	80	ARG	CD-NE	-10.51	1.31	1.46
62	w	42	LYS	CD-CE	-9.38	1.24	1.52
24	K	45	ARG	CG-CD	7.74	1.75	1.52
8	7	40	G	C1'-N9	-7.65	1.36	1.48
65	z	74	ILE	CG1-CD1	7.61	1.81	1.51
20	G	19	GLN	CB-CG	-7.54	1.29	1.52
28	O	118	LEU	CG-CD2	-7.32	1.28	1.52
36	W	66	MET	CG-SD	-7.17	1.62	1.80
25	L	42	TRP	CB-CG	-7.17	1.28	1.50
58	s	74	TYR	CZ-OH	-7.14	1.23	1.38
44	e	46	VAL	CB-CG1	-7.10	1.29	1.52
8	7	2	U	C1'-N1	7.06	1.59	1.48
3	2	5	GLU	CG-CD	-6.97	1.34	1.52
30	Q	106	ARG	CD-NE	-6.40	1.37	1.46
28	O	80	ARG	CZ-NH2	6.27	1.41	1.33
20	G	158	PRO	CA-C	-6.24	1.44	1.52
20	G	158	PRO	CG-CD	6.04	1.71	1.50
47	h	181	MET	CG-SD	-6.02	1.65	1.80
38	Y	5	GLN	CB-CG	-6.01	1.34	1.52
65	z	74	ILE	CB-CG2	-6.00	1.32	1.52
58	s	92	MET	CG-SD	-5.95	1.65	1.80
24	K	45	ARG	CD-NE	5.90	1.54	1.46

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
51	l	6	LYS	CE-NZ	-5.80	1.31	1.49
20	G	157	LEU	C-O	-5.78	1.15	1.24
33	T	3	LEU	CG-CD2	-5.62	1.34	1.52
38	Y	5	GLN	CA-C	-5.54	1.45	1.52
46	g	62	LYS	CE-NZ	-5.53	1.32	1.49
44	e	25	GLN	CB-CG	-5.34	1.36	1.52
22	I	134	MET	CB-CG	-5.29	1.36	1.52
30	Q	119	ASN	CG-ND2	5.16	1.44	1.33
20	G	19	GLN	CD-NE2	-5.14	1.22	1.33
61	v	45	GLN	CB-CG	-5.08	1.37	1.52
62	w	38	LEU	N-CA	-5.04	1.42	1.46

All (83) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
24	K	71	MET	CG-SD-CE	-11.31	76.01	100.90
20	G	158	PRO	N-CD-CG	-10.99	86.71	103.20
25	L	102	MET	CA-CB-CG	-9.60	94.89	114.10
58	s	92	MET	CG-SD-CE	-9.36	80.31	100.90
20	G	113	ARG	NE-CZ-NH2	9.24	127.51	119.20
8	7	1	A	O3'-P-O5'	-8.63	91.06	104.00
11	AA	478	ARG	CA-C-N	-8.61	106.00	122.53
11	AA	478	ARG	C-N-CA	-8.61	106.00	122.53
24	K	78	ASN	N-CA-CB	-8.51	96.11	110.49
8	7	4	U	C2'-C3'-O3'	8.24	121.86	109.50
59	t	18	ARG	NE-CZ-NH2	8.05	126.45	119.20
54	o	30	ARG	NE-CZ-NH1	-7.58	113.92	121.50
16	C	73	ARG	NE-CZ-NH2	7.52	125.97	119.20
28	O	80	ARG	CG-CD-NE	7.38	128.24	112.00
62	w	112	TYR	CZ-CE2-CD2	-7.36	106.36	119.60
22	I	134	MET	CB-CG-SD	-7.18	91.16	112.70
61	v	96	ILE	CA-C-N	7.06	132.32	121.03
61	v	96	ILE	C-N-CA	7.06	132.32	121.03
20	G	158	PRO	CA-N-CD	-7.04	102.14	112.00
59	t	18	ARG	NE-CZ-NH1	-7.02	114.48	121.50
20	G	19	GLN	CA-CB-CG	7.00	128.10	114.10
40	a	2334	U	OP2-P-O3'	-6.94	87.17	108.00
28	O	80	ARG	CB-CG-CD	-6.92	95.37	111.30
17	D	37	U	N3-C4-O4	-6.62	99.54	119.40
62	w	112	TYR	OH-CZ-CE2	-6.57	100.20	119.90
17	D	718	A	P-O5'-C5'	-6.54	111.09	120.90
30	Q	110	ILE	N-CA-C	-6.51	99.00	108.11

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
17	D	827	U	N3-C4-O4	-6.41	100.16	119.40
40	a	1019	U	N3-C4-O4	-6.37	100.28	119.40
17	D	1358	U	N3-C4-O4	-6.33	100.40	119.40
36	W	40	ILE	CA-CB-CG1	-6.30	99.68	110.40
58	s	92	MET	CB-CG-SD	-6.30	93.81	112.70
40	a	1019	U	C5-C4-O4	6.14	144.32	125.90
28	O	103	PHE	CD1-CE1-CZ	-6.02	109.17	120.00
40	a	2613	U	N3-C4-O4	-5.95	101.57	119.40
40	a	1082	U	N3-C4-O4	-5.93	101.61	119.40
40	a	1141	U	C5-C4-O4	5.89	143.57	125.90
20	G	157	LEU	C-N-CD	-5.89	100.87	125.00
17	D	37	U	C5-C4-O4	5.87	143.52	125.90
53	n	176	PRO	N-CA-C	5.87	121.25	114.20
17	D	1358	U	C5-C4-O4	5.86	143.47	125.90
37	X	81	MET	CG-SD-CE	-5.81	88.13	100.90
22	I	168	TYR	N-CA-CB	5.80	120.16	110.59
8	7	28	G	C2'-C3'-O3'	5.80	122.40	113.70
17	D	884	U	N3-C4-O4	-5.77	102.09	119.40
26	M	55	GLY	CA-C-N	5.75	132.53	121.54
26	M	55	GLY	C-N-CA	5.75	132.53	121.54
20	G	154	MET	CA-CB-CG	-5.73	102.64	114.10
17	D	827	U	C5-C4-O4	5.72	143.07	125.90
14	AE	853	THR	CA-C-N	5.71	130.97	122.74
14	AE	853	THR	C-N-CA	5.71	130.97	122.74
12	AB	157	THR	N-CA-C	-5.71	104.96	111.07
9	9	130	PRO	CA-N-CD	-5.67	104.06	112.00
22	I	134	MET	CG-SD-CE	-5.66	88.45	100.90
24	K	45	ARG	CB-CG-CD	-5.62	98.37	111.30
20	G	154	MET	CG-SD-CE	-5.62	88.55	100.90
24	K	45	ARG	CA-C-N	5.61	130.31	122.23
24	K	45	ARG	C-N-CA	5.61	130.31	122.23
59	t	18	ARG	CG-CD-NE	-5.55	99.79	112.00
40	a	1141	U	N3-C4-O4	-5.53	102.83	119.40
49	j	11	MET	CB-CG-SD	-5.51	96.17	112.70
61	v	10	ARG	NE-CZ-NH1	-5.45	116.05	121.50
14	AE	1184	ASP	N-CA-C	5.44	121.82	109.81
30	Q	106	ARG	NE-CZ-NH1	-5.42	116.08	121.50
9	9	129	LEU	C-N-CD	-5.40	102.88	125.00
62	w	38	LEU	N-CA-C	-5.33	105.21	112.35
38	Y	5	GLN	CB-CA-C	-5.25	99.97	110.42
8	7	10	U	C2'-C3'-O3'	5.25	117.38	109.50
40	a	2613	U	C5-C4-O4	5.24	141.61	125.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
55	p	46	ALA	CA-C-N	5.24	131.54	121.54
55	p	46	ALA	C-N-CA	5.24	131.54	121.54
24	K	45	ARG	O-C-N	-5.22	116.85	123.01
38	Y	5	GLN	CA-CB-CG	5.18	124.46	114.10
20	G	158	PRO	N-CA-CB	-5.17	97.96	103.38
22	I	170	GLU	CB-CG-CD	5.15	121.36	112.60
44	e	25	GLN	CG-CD-NE2	-5.15	108.68	116.40
40	a	2602	A	C4'-C3'-O3'	5.12	117.09	109.40
40	a	2334	U	C2'-C3'-O3'	-5.12	101.82	109.50
17	D	884	U	C5-C4-O4	5.08	141.13	125.90
14	AE	709	ARG	CA-C-N	5.05	135.39	126.45
14	AE	709	ARG	C-N-CA	5.05	135.39	126.45
22	I	167	TRP	CA-C-O	-5.01	115.74	121.40
47	h	181	MET	CG-SD-CE	-5.00	89.90	100.90

There are no chirality outliers.

All (26) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
9	9	107	GLU	Peptide
9	9	79	PRO	Peptide
9	9	92	ALA	Peptide
13	AC	192	VAL	Peptide
13	AD	20	SER	Peptide
14	AE	1326	GLN	Peptide
14	AE	1344	LEU	Peptide
14	AE	313	GLY	Peptide
14	AE	416	ILE	Peptide
20	G	19	GLN	Sidechain
21	H	124	LEU	Peptide
21	H	171	ARG	Peptide
21	H	274	TYR	Peptide
21	H	81	GLU	Peptide
21	H	82	THR	Peptide
22	I	167	TRP	Mainchain
24	K	45	ARG	Mainchain
24	K	77	ASN	Peptide
28	O	12	ARG	Peptide
37	X	65	VAL	Peptide
38	Y	5	GLN	Peptide
53	n	176	PRO	Peptide
54	o	31	HIS	Peptide

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Mol	Chain	Res	Type	Group
58	s	74	TYR	Sidechain
60	u	35	HIS	Peptide
60	u	62	PRO	Peptide

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	0	816	839	839	53	0
2	1	857	922	922	74	0
3	2	746	811	811	61	0
4	3	788	844	844	46	0
5	4	753	780	780	84	0
6	5	636	0	349	51	0
7	6	706	0	395	31	0
8	7	772	0	383	156	0
9	9	1117	0	1155	253	0
10	A	1620	826	827	112	0
10	B	1620	814	827	109	0
11	AA	10381	0	10390	234	0
12	AB	1286	0	1303	402	0
13	AC	1698	0	1718	14	0
13	AD	1677	0	1713	29	0
14	AE	10404	0	10625	279	0
15	AF	650	0	658	31	0
16	C	544	559	560	108	0
17	D	32703	16423	16453	736	0
18	E	669	719	719	82	0
19	F	589	629	629	61	0
20	G	1760	1785	1787	154	0
21	H	1730	1454	1455	167	0
22	I	1636	1710	1710	170	0
23	J	1643	1707	1707	85	0
24	K	1152	1196	1196	122	0
25	L	848	846	846	102	0
26	M	1181	1235	1238	123	0
27	N	979	1031	1031	92	0
28	O	1022	1070	1070	89	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
29	P	790	831	831	154	0
30	Q	877	887	887	96	0
31	R	939	1001	1001	90	0
32	S	805	844	844	74	0
33	T	714	734	734	92	0
34	U	649	666	666	61	0
35	V	648	691	691	65	0
36	W	663	688	688	47	0
37	X	900	964	965	109	0
38	Y	1032	0	1088	213	0
39	Z	227	0	237	30	0
40	a	61841	31077	31120	1316	0
41	b	582	599	599	46	0
42	c	625	652	652	35	0
43	d	2569	1301	1301	40	0
44	e	501	531	531	49	0
45	f	448	488	488	38	0
46	g	522	520	520	64	0
47	h	2082	2154	2154	140	0
48	i	444	459	458	49	0
49	j	1565	1617	1616	120	0
50	k	426	464	464	42	0
51	l	1552	1619	1619	127	0
52	m	377	418	418	29	0
53	n	1410	1443	1444	156	0
54	o	504	572	572	53	0
55	p	1313	1358	1358	77	0
56	q	302	343	343	26	0
57	r	1111	1148	1148	52	0
58	s	1129	1162	1162	126	0
59	t	946	1023	1023	110	0
60	u	1053	1129	1129	78	0
61	v	1074	1157	1157	123	0
62	w	951	994	994	101	0
63	x	892	923	923	43	0
64	y	917	962	962	57	0
65	z	947	1020	1019	78	0
66	AE	1	0	0	0	0
67	AE	2	0	0	3	0
All	All	177313	98639	128746	6900	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 23.

All (6900) 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)
12:AB:141:LEU:HD13	12:AB:159:PHE:CZ	1.28	1.66
14:AE:79:LYS:HA	14:AE:81:ARG:CZ	1.26	1.61
12:AB:38:ILE:HD13	12:AB:110:PRO:CB	1.21	1.60
6:5:9:DA:H5''	11:AA:473:ARG:CB	1.28	1.59
11:AA:481:LEU:CG	12:AB:23:ARG:HE	1.17	1.58
6:5:9:DA:C5'	11:AA:473:ARG:HB3	1.34	1.56
11:AA:481:LEU:CD2	12:AB:23:ARG:HH21	1.10	1.55
12:AB:38:ILE:HD13	12:AB:110:PRO:CG	1.24	1.54
65:z:74:ILE:CG1	65:z:74:ILE:CD1	1.81	1.54
12:AB:38:ILE:CG2	12:AB:156:ASN:HD22	1.19	1.54
24:K:45:ARG:CD	24:K:45:ARG:CG	1.75	1.54
11:AA:481:LEU:HG	12:AB:23:ARG:CZ	1.29	1.53
11:AA:481:LEU:HD23	12:AB:23:ARG:NH2	1.21	1.51
12:AB:38:ILE:HG21	12:AB:156:ASN:ND2	1.16	1.48
14:AE:72:CYS:SG	67:AE:1502:ZN:ZN	1.03	1.47
11:AA:481:LEU:CG	12:AB:23:ARG:NE	1.71	1.45
8:7:15:U:N3	15:AF:80:LEU:HG	1.18	1.45
12:AB:109:THR:HB	12:AB:110:PRO:CD	1.47	1.45
12:AB:81:PHE:CE1	14:AE:141:PHE:O	1.66	1.44
12:AB:141:LEU:CD1	12:AB:159:PHE:CE2	2.00	1.44
14:AE:79:LYS:HA	14:AE:81:ARG:NH1	1.20	1.42
11:AA:481:LEU:CG	12:AB:23:ARG:NH2	1.82	1.40
12:AB:38:ILE:CD1	12:AB:110:PRO:CB	1.98	1.37
11:AA:481:LEU:CD2	12:AB:23:ARG:NH2	1.74	1.37
8:7:23:U:C5	14:AE:96:LYS:HE2	1.58	1.37
12:AB:148:LYS:HZ1	29:P:6:ILE:CD1	1.39	1.35
11:AA:481:LEU:CG	12:AB:23:ARG:HH21	1.34	1.34
6:5:9:DA:OP2	11:AA:473:ARG:CB	1.73	1.33
14:AE:79:LYS:CA	14:AE:81:ARG:NH1	1.90	1.33
12:AB:38:ILE:CD1	12:AB:110:PRO:HB2	1.54	1.33
8:7:15:U:C4	15:AF:80:LEU:HG	1.65	1.31
8:7:15:U:O4	15:AF:80:LEU:CD1	1.75	1.31
14:AE:287:ALA:CB	14:AE:292:VAL:HG13	1.61	1.31
8:7:15:U:O4	15:AF:80:LEU:HD11	1.17	1.30
14:AE:79:LYS:CA	14:AE:81:ARG:CZ	2.06	1.30
8:7:15:U:C4	15:AF:80:LEU:CD1	2.14	1.29
8:7:22:U:C5'	22:I:80:LYS:HG3	1.63	1.29
12:AB:123:PHE:CE1	29:P:81:GLU:OE1	1.87	1.28
12:AB:145:LEU:HD12	29:P:85:ASP:O	1.11	1.28
8:7:15:U:C4	15:AF:80:LEU:CG	2.15	1.28

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AB:106:ASP:CG	12:AB:107:PRO:HD3	1.59	1.28
11:AA:387:ASN:CG	11:AA:394:ARG:NH1	1.92	1.26
11:AA:373:GLY:O	12:AB:83:ALA:HB1	1.32	1.25
14:AE:288:PRO:HD2	14:AE:291:ILE:CG2	1.66	1.25
12:AB:38:ILE:CD1	12:AB:110:PRO:CG	2.09	1.25
12:AB:109:THR:HG23	12:AB:162:LEU:OXT	1.34	1.24
12:AB:141:LEU:HD13	12:AB:159:PHE:CE2	1.63	1.24
8:7:11:U:H4'	24:K:20:ARG:NH2	1.50	1.23
12:AB:141:LEU:CD1	12:AB:159:PHE:CZ	2.15	1.23
8:7:21:U:H5	22:I:80:LYS:O	1.17	1.21
14:AE:81:ARG:O	22:I:100:GLN:NE2	1.74	1.21
12:AB:148:LYS:NZ	29:P:6:ILE:HD13	1.56	1.20
11:AA:481:LEU:CG	12:AB:23:ARG:CZ	1.99	1.20
8:7:15:U:O4	15:AF:80:LEU:CG	1.90	1.19
6:5:9:DA:C5'	11:AA:473:ARG:CB	2.02	1.19
7:6:25:DT:OP1	11:AA:496:LYS:CA	1.80	1.19
8:7:22:U:H5''	22:I:80:LYS:CG	1.71	1.19
11:AA:481:LEU:CB	12:AB:23:ARG:NH2	2.06	1.18
12:AB:38:ILE:HD11	12:AB:110:PRO:HB2	1.26	1.18
57:r:135:HIS:ND1	57:r:137:GLU:OE1	1.77	1.18
6:5:9:DA:C5'	11:AA:473:ARG:CG	2.22	1.17
12:AB:146:ILE:HG23	29:P:88:MET:CA	1.72	1.17
11:AA:481:LEU:CD1	12:AB:23:ARG:HE	1.57	1.17
25:L:9:MET:HE1	25:L:85:ILE:HB	1.17	1.17
37:X:81:MET:HE1	37:X:92:ARG:HB3	1.20	1.16
12:AB:38:ILE:CG2	12:AB:156:ASN:ND2	1.89	1.16
55:p:159:GLY:O	55:p:163:ARG:NH1	1.77	1.15
12:AB:141:LEU:HD13	12:AB:159:PHE:CE1	1.82	1.15
7:6:25:DT:C3'	11:AA:496:LYS:HG3	1.74	1.15
8:7:21:U:C5	22:I:80:LYS:O	1.99	1.15
38:Y:96:LYS:HE3	38:Y:136:GLY:HA3	1.29	1.15
12:AB:119:THR:HA	14:AE:45:ASN:ND2	1.62	1.14
6:5:9:DA:OP2	11:AA:473:ARG:HB2	0.97	1.14
11:AA:481:LEU:HB3	12:AB:23:ARG:NH2	1.61	1.14
12:AB:138:ARG:HG2	12:AB:154:VAL:C	1.71	1.14
40:a:2335:A:OP2	63:x:13:ARG:NE	1.81	1.14
6:5:9:DA:H5'	11:AA:473:ARG:CG	1.76	1.13
8:7:22:U:C4	11:AA:1299:ASN:OD1	2.00	1.13
8:7:23:U:H5	14:AE:96:LYS:CE	1.60	1.13
36:W:40:ILE:HD13	36:W:66:MET:SD	1.89	1.13
10:A:76:A:O2'	40:a:2394:C:N3	1.81	1.13

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:7:22:U:O4	11:AA:1299:ASN:OD1	1.66	1.13
12:AB:148:LYS:NZ	29:P:6:ILE:CD1	2.12	1.12
14:AE:287:ALA:HB2	14:AE:292:VAL:CG1	1.79	1.11
45:f:4:THR:OG1	45:f:37:GLU:OE2	1.68	1.11
11:AA:481:LEU:HG	12:AB:23:ARG:NE	0.79	1.11
57:r:135:HIS:HD1	57:r:137:GLU:CD	1.59	1.10
12:AB:111:TYR:HB3	12:AB:112:PRO:HD2	1.30	1.09
12:AB:119:THR:HA	14:AE:45:ASN:HD21	0.94	1.09
14:AE:74:LYS:NZ	29:P:88:MET:O	1.85	1.09
26:M:4:ARG:HG3	26:M:5:ARG:HG3	1.33	1.09
12:AB:109:THR:CB	12:AB:110:PRO:HD3	1.81	1.09
14:AE:79:LYS:HA	14:AE:81:ARG:NH2	1.66	1.09
12:AB:81:PHE:HE1	14:AE:141:PHE:O	0.76	1.09
12:AB:92:VAL:CG2	14:AE:289:ASP:HB3	1.81	1.09
10:B:75:C:OP2	40:a:2602:A:O2'	1.67	1.09
8:7:11:U:C4'	24:K:20:ARG:NH2	2.16	1.09
35:V:7:THR:OG1	35:V:60:GLU:OE2	1.66	1.09
38:Y:5:GLN:HG2	38:Y:61:TYR:CE1	1.87	1.09
6:5:9:DA:H5'	11:AA:473:ARG:HG3	1.09	1.08
11:AA:469:VAL:O	11:AA:473:ARG:HG2	1.53	1.08
19:F:37:PHE:HB2	30:Q:126:LYS:HE2	1.35	1.08
11:AA:373:GLY:O	12:AB:83:ALA:CB	2.02	1.08
12:AB:51:PHE:CZ	14:AE:288:PRO:HG3	1.89	1.08
12:AB:145:LEU:CD1	29:P:88:MET:HB3	1.82	1.08
52:m:22:MET:O	52:m:28:ARG:NH1	1.87	1.08
8:7:15:U:N3	15:AF:80:LEU:CG	2.13	1.08
12:AB:109:THR:HB	12:AB:110:PRO:HD3	1.13	1.08
6:5:9:DA:C5'	11:AA:473:ARG:HG3	1.82	1.07
12:AB:60:ASP:H	12:AB:61:PRO:CD	1.66	1.07
12:AB:38:ILE:HD13	12:AB:110:PRO:HG3	1.34	1.07
12:AB:145:LEU:HD13	29:P:88:MET:HB3	1.07	1.07
12:AB:145:LEU:CD1	29:P:85:ASP:O	2.03	1.06
60:u:122:VAL:HG12	60:u:125:LEU:HD21	1.35	1.06
17:D:1309:G:OP2	37:X:98:ARG:NE	1.88	1.06
12:AB:146:ILE:CG2	29:P:88:MET:HA	1.85	1.06
14:AE:288:PRO:HD2	14:AE:291:ILE:HG21	1.10	1.06
8:7:23:U:H3'	14:AE:94:GLN:OE1	1.50	1.06
12:AB:146:ILE:HG23	29:P:88:MET:HA	1.07	1.06
12:AB:123:PHE:CD1	29:P:81:GLU:OE1	2.08	1.06
12:AB:148:LYS:HD3	29:P:84:VAL:HG13	1.36	1.06
38:Y:14:ALA:HB1	38:Y:50:LYS:HD2	1.37	1.05

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:7:15:U:C4	15:AF:80:LEU:HD11	1.81	1.05
9:9:50:VAL:HG22	38:Y:119:ALA:HB3	1.33	1.05
46:g:58:ASP:OD1	46:g:62:LYS:NZ	1.90	1.05
9:9:48:ALA:HB3	9:9:51:TYR:HE1	1.20	1.05
14:AE:287:ALA:HB2	14:AE:292:VAL:HG13	1.08	1.05
12:AB:160:ARG:HH11	12:AB:160:ARG:HB2	1.19	1.04
8:7:11:U:O2'	24:K:33:PHE:CE1	2.10	1.04
9:9:46:ARG:HG3	9:9:94:ARG:HH21	1.12	1.04
19:F:25:LYS:NZ	21:H:336:ASP:OD1	1.90	1.04
9:9:103:ASN:ND2	9:9:107:GLU:OE2	1.91	1.04
49:j:184:ARG:NH2	64:y:7:GLN:OE1	1.90	1.04
12:AB:109:THR:CB	12:AB:110:PRO:CD	2.31	1.04
17:D:564:C:OP2	31:R:12:ARG:NH2	1.91	1.03
25:L:9:MET:HE1	25:L:85:ILE:CB	1.86	1.03
9:9:43:LYS:HG3	9:9:46:ARG:HH12	1.22	1.03
9:9:31:ARG:NH1	40:a:1054:A:O4'	1.91	1.03
11:AA:387:ASN:CG	11:AA:394:ARG:HH11	1.55	1.03
12:AB:106:ASP:OD1	12:AB:107:PRO:HD3	1.59	1.03
22:I:123:GLN:OE1	22:I:126:ARG:NH2	1.92	1.03
22:I:152:GLU:OE2	22:I:154:SER:OG	1.77	1.03
7:6:18:DT:H3	8:7:37:A:N6	1.55	1.03
8:7:4:U:O2'	17:D:1403:C:O2	1.75	1.03
25:L:42:TRP:CH2	25:L:102:MET:HG3	1.94	1.03
12:AB:144:ASN:HB2	12:AB:149:GLU:HB2	1.39	1.02
64:y:51:ARG:NH1	64:y:56:HIS:O	1.91	1.02
55:p:149:ARG:NH2	55:p:152:ARG:O	1.91	1.02
12:AB:145:LEU:HA	29:P:88:MET:SD	2.00	1.02
58:s:72:LYS:HD3	58:s:74:TYR:OH	1.59	1.02
49:j:179:ARG:NH1	49:j:180:VAL:O	1.92	1.02
9:9:136:ILE:HD12	9:9:139:LEU:HD12	1.38	1.01
12:AB:87:ILE:HD11	14:AE:162:GLU:HG3	1.43	1.01
12:AB:141:LEU:HD11	12:AB:159:PHE:CD2	1.95	1.01
12:AB:64:ILE:H	12:AB:64:ILE:HD12	1.26	1.01
38:Y:93:ASN:HA	38:Y:135:MET:CE	1.88	1.01
20:G:49:MET:HE1	20:G:201:PRO:HD3	1.42	1.01
12:AB:106:ASP:CG	12:AB:107:PRO:CD	2.32	1.01
8:7:3:G:H5''	17:D:1500:A:N6	1.75	1.00
8:7:15:U:O2	15:AF:83:VAL:HB	1.59	1.00
12:AB:146:ILE:N	29:P:88:MET:HB2	1.75	1.00
51:l:1:MET:HE2	51:l:16:GLU:HA	1.39	1.00
51:l:1:MET:HE1	51:l:20:GLY:HA3	1.43	1.00

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AB:38:ILE:H	12:AB:110:PRO:HG3	1.23	1.00
40:a:1042:G:HO2'	40:a:1043:C:H6	1.10	1.00
7:6:25:DT:H3'	11:AA:496:LYS:HG3	1.41	1.00
12:AB:119:THR:CA	14:AE:45:ASN:HD21	1.73	1.00
38:Y:93:ASN:HA	38:Y:135:MET:HE1	1.00	1.00
12:AB:139:SER:OG	12:AB:156:ASN:OD1	1.77	1.00
17:D:377:G:OP1	34:U:5:ARG:NH1	1.94	1.00
9:9:88:HIS:HB3	9:9:89:PRO:HD3	1.44	0.99
14:AE:70:CYS:SG	14:AE:72:CYS:SG	2.61	0.99
38:Y:56:VAL:HA	38:Y:71:LYS:HZ1	1.21	0.99
6:5:14:DT:H71	11:AA:201:ARG:NH2	1.77	0.99
57:r:38:PRO:O	57:r:43:ASN:ND2	1.96	0.99
8:7:23:U:C5	14:AE:96:LYS:CE	2.41	0.99
12:AB:114:ASP:O	12:AB:129:ILE:HG12	1.62	0.99
9:9:3:LEU:HD12	9:9:4:ASN:H	1.25	0.99
14:AE:288:PRO:CD	14:AE:291:ILE:HG21	1.92	0.99
6:5:16:DA:N6	11:AA:150:HIS:HA	1.78	0.99
14:AE:70:CYS:SG	14:AE:85:CYS:SG	2.60	0.99
8:7:15:U:O4	15:AF:80:LEU:CD2	2.11	0.98
12:AB:109:THR:HB	12:AB:110:PRO:HD2	1.40	0.98
25:L:42:TRP:HH2	25:L:102:MET:HG3	1.25	0.98
11:AA:474:ALA:O	11:AA:477:GLU:HB3	1.64	0.98
14:AE:287:ALA:CB	14:AE:292:VAL:CG1	2.38	0.98
14:AE:87:LYS:HG2	29:P:88:MET:HE2	0.99	0.98
32:S:86:GLU:OE1	32:S:90:ARG:NH1	1.96	0.97
6:5:7:DT:OP1	12:AB:10:LYS:NZ	1.96	0.97
14:AE:87:LYS:HG2	29:P:88:MET:CE	1.93	0.97
9:9:30:SER:O	9:9:31:ARG:NE	1.94	0.97
12:AB:119:THR:OG1	14:AE:45:ASN:OD1	1.83	0.97
17:D:1344:C:OP1	28:O:124:ARG:NH1	1.98	0.97
12:AB:106:ASP:CB	12:AB:107:PRO:CD	2.42	0.97
38:Y:60:VAL:HG22	38:Y:66:PHE:HB3	1.44	0.97
38:Y:93:ASN:CA	38:Y:135:MET:HE1	1.94	0.97
11:AA:481:LEU:CB	12:AB:23:ARG:HH21	1.69	0.97
32:S:92:GLU:OE1	32:S:92:GLU:N	1.97	0.96
39:Z:14:MET:HB3	39:Z:17:MET:HG2	1.46	0.96
8:7:2:U:P	17:D:1505:G:H8	1.88	0.96
6:5:16:DA:H61	11:AA:150:HIS:HA	1.29	0.96
9:9:95:LEU:HD13	9:9:98:GLU:OE2	1.65	0.96
20:G:154:MET:HE2	20:G:158:PRO:HD3	1.44	0.96
8:7:22:U:H4'	22:I:80:LYS:CD	1.96	0.96

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:387:ASN:ND2	11:AA:394:ARG:HH12	1.61	0.96
12:AB:92:VAL:HG22	14:AE:289:ASP:HB3	1.44	0.96
38:Y:33:ASN:HB3	38:Y:36:GLU:HG2	1.48	0.96
17:D:562:U:O2'	31:R:14:ARG:NH1	1.98	0.95
22:I:164:ARG:NH2	22:I:166:GLU:OE2	1.99	0.95
40:a:30:G:OP2	65:z:5:LYS:NZ	2.00	0.95
40:a:2093:G:OP1	57:r:22:LYS:NZ	1.98	0.95
58:s:12:LYS:NZ	58:s:14:ASP:OD1	1.96	0.95
9:9:23:LEU:HD13	9:9:92:ALA:HB1	1.49	0.95
9:9:61:ARG:NH1	40:a:1047:G:N7	2.15	0.95
63:x:111:ARG:NH2	63:x:117:PHE:OXT	1.99	0.95
10:B:30:G:HO2'	17:D:1339:A:H2	1.01	0.95
35:V:7:THR:OG1	35:V:61:ILE:O	1.85	0.95
12:AB:38:ILE:HG21	12:AB:156:ASN:CG	1.92	0.94
12:AB:87:ILE:CD1	14:AE:162:GLU:HG3	1.95	0.94
7:6:18:DT:H3	8:7:37:A:H61	1.05	0.94
55:p:38:ASN:ND2	55:p:64:GLN:OE1	2.00	0.94
9:9:31:ARG:HD2	40:a:1053:C:O2'	1.66	0.94
9:9:58:THR:HG21	9:9:81:LEU:HD23	1.48	0.94
12:AB:146:ILE:H	29:P:88:MET:HB2	1.28	0.94
8:7:22:U:H4'	22:I:80:LYS:HD2	1.48	0.94
12:AB:141:LEU:CD1	12:AB:159:PHE:CD2	2.50	0.94
12:AB:123:PHE:HE1	29:P:81:GLU:OE1	1.37	0.94
38:Y:14:ALA:O	38:Y:50:LYS:HE3	1.68	0.94
7:6:25:DT:OP1	11:AA:496:LYS:HA	1.12	0.94
8:7:15:U:O4	15:AF:80:LEU:HD21	1.65	0.94
9:9:3:LEU:HD12	9:9:4:ASN:N	1.82	0.94
6:5:9:DA:OP2	11:AA:473:ARG:CG	2.16	0.93
1:0:18:GLN:N	1:0:18:GLN:OE1	2.01	0.93
14:AE:81:ARG:C	22:I:100:GLN:NE2	2.27	0.93
11:AA:387:ASN:ND2	11:AA:394:ARG:NH1	2.15	0.93
9:9:50:VAL:HG22	38:Y:119:ALA:CB	1.98	0.93
14:AE:83:VAL:HB	22:I:100:GLN:OE1	1.69	0.93
25:L:9:MET:CE	25:L:85:ILE:HB	1.97	0.93
9:9:23:LEU:HD13	9:9:92:ALA:CB	1.98	0.93
38:Y:75:ALA:HB2	38:Y:112:LYS:HE3	1.48	0.93
8:7:15:U:O4'	15:AF:83:VAL:HG11	1.69	0.92
9:9:88:HIS:HB3	9:9:89:PRO:CD	1.97	0.92
8:7:11:U:H4'	24:K:20:ARG:HH22	1.18	0.92
8:7:22:U:H5''	22:I:80:LYS:HG3	0.95	0.92
59:t:90:ASN:OD1	59:t:91:SER:N	2.02	0.92

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AB:92:VAL:HG22	14:AE:289:ASP:CB	1.98	0.92
6:5:9:DA:P	11:AA:473:ARG:HB2	2.10	0.92
8:7:23:U:O3'	14:AE:94:GLN:CD	1.94	0.92
12:AB:51:PHE:HZ	14:AE:288:PRO:HG3	1.29	0.92
10:B:76:A:N3	40:a:2493:U:H4'	1.84	0.92
14:AE:59:ALA:CB	14:AE:71:LEU:HD21	1.99	0.92
14:AE:87:LYS:CG	29:P:88:MET:HE2	1.96	0.92
30:Q:51:GLY:O	30:Q:56:ARG:NH2	2.03	0.92
17:D:526:C:OP2	31:R:88:LYS:NZ	2.01	0.92
8:7:32:U:H5'	11:AA:1259:LEU:HD21	1.52	0.91
14:AE:79:LYS:HA	14:AE:81:ARG:HH12	1.32	0.91
40:a:2682:A:O4'	49:j:11:MET:SD	2.29	0.91
12:AB:145:LEU:HD13	29:P:88:MET:CB	1.99	0.91
7:6:25:DT:H2'	11:AA:496:LYS:HE3	1.51	0.91
40:a:2293:G:OP1	63:x:94:ARG:NH1	2.04	0.91
8:7:2:U:P	17:D:1505:G:C8	2.64	0.91
38:Y:79:LEU:HD21	38:Y:105:LEU:HD21	1.52	0.91
8:7:21:U:H5''	22:I:80:LYS:H	1.35	0.91
12:AB:141:LEU:HD11	12:AB:159:PHE:CE2	1.99	0.91
61:v:111:GLU:O	61:v:114:ARG:HG2	1.71	0.90
12:AB:148:LYS:HZ1	29:P:6:ILE:HD11	1.34	0.90
24:K:45:ARG:CD	24:K:45:ARG:CB	2.49	0.90
26:M:50:LEU:HD21	26:M:121:ALA:HA	1.52	0.90
9:9:92:ALA:O	9:9:129:LEU:HD13	1.70	0.90
40:a:1818:U:OP2	47:h:156:ARG:NH1	2.03	0.90
10:B:38:A:H4'	17:D:790:A:O4'	1.71	0.90
12:AB:111:TYR:HB3	12:AB:112:PRO:CD	2.00	0.90
12:AB:161:LYS:N	12:AB:161:LYS:HD3	1.86	0.90
46:g:27:THR:OG1	53:n:140:GLU:OE1	1.88	0.90
51:l:170:ARG:NH1	51:l:174:GLY:O	2.05	0.90
8:7:21:U:O2'	14:AE:15:GLU:HG3	1.72	0.90
16:C:38:LYS:NZ	17:D:718:A:N1	2.19	0.90
17:D:1526:G:N7	19:F:40:LYS:NZ	2.18	0.90
64:y:89:ARG:NE	64:y:113:ARG:O	2.05	0.90
12:AB:60:ASP:N	12:AB:61:PRO:CD	2.36	0.89
12:AB:11:ARG:HH11	12:AB:11:ARG:HG3	1.35	0.89
12:AB:148:LYS:HD3	29:P:84:VAL:CG1	2.02	0.89
16:C:60:LYS:HZ2	17:D:734:G:C2'	1.85	0.89
30:Q:15:GLN:NE2	30:Q:76:GLU:O	2.06	0.89
3:2:54:GLU:OE1	3:2:91:GLN:NE2	2.06	0.89
26:M:13:LEU:HD12	26:M:14:PRO:HD2	1.54	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:M:66:LEU:HD13	26:M:101:MET:CE	2.02	0.89
35:V:27:ARG:NH1	35:V:42:THR:OG1	2.03	0.89
63:x:36:TYR:OH	63:x:38:GLN:NE2	2.05	0.89
16:C:60:LYS:NZ	17:D:735:C:O4'	2.06	0.89
8:7:22:U:C4'	22:I:80:LYS:HG3	2.02	0.89
58:s:37:ARG:HA	58:s:118:MET:HE3	1.54	0.89
60:u:93:ASN:OD1	60:u:94:THR:N	2.05	0.89
40:a:2393:U:OP1	54:o:30:ARG:NE	2.05	0.89
17:D:280:C:O2	35:V:40:ARG:CZ	2.21	0.89
40:a:2756:U:OP2	56:q:19:ARG:NE	2.06	0.89
8:7:14:U:O3'	15:AF:84:THR:HG22	1.73	0.88
17:D:545:C:H5'	23:J:69:GLU:HG3	1.55	0.88
12:AB:146:ILE:H	29:P:88:MET:CB	1.85	0.88
14:AE:85:CYS:HG	67:AE:1502:ZN:ZN	0.70	0.88
40:a:78:U:OP1	44:e:4:LYS:NZ	2.06	0.88
40:a:404:A:O2'	40:a:405:U:OP2	1.90	0.88
10:A:76:A:N6	40:a:2422:C:O4'	2.06	0.88
32:S:90:ARG:HG3	32:S:92:GLU:OE1	1.73	0.88
38:Y:45:THR:CG2	38:Y:50:LYS:HD3	2.02	0.88
38:Y:129:GLU:HB3	38:Y:133:ARG:NH1	1.87	0.88
40:a:2780:G:OP2	58:s:120:ARG:NH1	2.07	0.88
44:e:23:ARG:NH1	44:e:24:GLU:OE2	2.06	0.88
23:J:67:VAL:HB	23:J:72:PHE:CZ	2.09	0.88
40:a:585:G:N7	65:z:6:ARG:NH1	2.21	0.88
12:AB:38:ILE:CB	12:AB:156:ASN:HD22	1.87	0.88
17:D:1439:G:OP1	18:E:33:LYS:NZ	2.05	0.88
38:Y:100:ILE:HD12	38:Y:105:LEU:HD11	1.54	0.88
38:Y:5:GLN:HG2	38:Y:61:TYR:HE1	1.31	0.88
58:s:98:GLU:OE2	58:s:126:ALA:N	2.07	0.88
62:w:24:MET:HA	62:w:24:MET:HE3	1.54	0.88
14:AE:59:ALA:CB	14:AE:71:LEU:CD2	2.51	0.87
9:9:8:LYS:O	9:9:12:VAL:HG23	1.73	0.87
14:AE:73:GLY:O	29:P:89:ARG:HB3	1.74	0.87
26:M:4:ARG:HG2	26:M:5:ARG:CZ	2.03	0.87
43:d:55:U:H1'	53:n:26:MET:HE2	1.57	0.87
46:g:16:CYS:HB2	46:g:37:CYS:HB3	1.54	0.87
19:F:31:GLU:OE2	19:F:35:ARG:NE	2.06	0.87
14:AE:79:LYS:N	14:AE:81:ARG:NH1	2.22	0.87
51:l:170:ARG:NH1	51:l:176:ASP:OD1	2.07	0.87
58:s:13:ARG:NH1	58:s:49:ASP:O	2.07	0.87
7:6:25:DT:C2'	11:AA:496:LYS:HG3	2.05	0.87

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AB:115:LYS:HA	12:AB:115:LYS:HZ2	1.38	0.87
37:X:81:MET:HE2	40:a:888:C:C5	2.09	0.87
60:u:90:VAL:HG13	60:u:95:LEU:HD21	1.57	0.86
16:C:27:ALA:O	16:C:30:LYS:HG2	1.74	0.86
38:Y:100:ILE:HD12	38:Y:105:LEU:CD1	2.05	0.86
38:Y:129:GLU:HB3	38:Y:133:ARG:HH12	1.38	0.86
38:Y:99:LYS:HD2	38:Y:140:GLU:OE1	1.75	0.86
12:AB:148:LYS:CD	29:P:84:VAL:HG13	2.05	0.86
1:0:87:GLN:NE2	1:0:88:GLY:O	2.09	0.86
22:I:58:GLU:OE1	22:I:65:ARG:NH1	2.08	0.86
27:N:5:ASP:OD2	27:N:77:ARG:NH1	2.07	0.86
8:7:22:U:C4	11:AA:1299:ASN:CG	2.53	0.86
8:7:23:U:H5	14:AE:96:LYS:HE2	0.74	0.86
11:AA:481:LEU:CD2	12:AB:23:ARG:CZ	2.45	0.86
38:Y:48:ILE:HG13	38:Y:49:GLU:H	1.41	0.86
12:AB:161:LYS:O	12:AB:161:LYS:NZ	2.08	0.86
9:9:48:ALA:HB3	9:9:51:TYR:CE1	2.09	0.86
14:AE:78:LEU:C	14:AE:81:ARG:HH11	1.79	0.86
12:AB:81:PHE:HE1	14:AE:141:PHE:C	1.82	0.85
10:A:33:U:OP1	26:M:77:SER:OG	1.95	0.85
12:AB:106:ASP:HB3	12:AB:107:PRO:HD2	1.56	0.85
12:AB:138:ARG:HH11	12:AB:138:ARG:HB2	1.41	0.85
35:V:77:ARG:NH2	35:V:78:VAL:O	2.08	0.85
12:AB:146:ILE:HG23	29:P:88:MET:N	1.90	0.85
47:h:175:ARG:HG3	47:h:181:MET:HE1	1.58	0.85
46:g:26:SER:OG	53:n:140:GLU:OE2	1.94	0.85
53:n:23:ASN:OD1	53:n:24:SER:N	2.09	0.85
9:9:58:THR:CG2	9:9:81:LEU:HD23	2.06	0.85
14:AE:80:HIS:CD2	22:I:65:ARG:NH2	2.43	0.85
12:AB:60:ASP:H	12:AB:61:PRO:HD3	1.41	0.85
12:AB:120:GLU:HA	14:AE:47:ARG:HG2	1.57	0.85
12:AB:140:MET:SD	12:AB:140:MET:N	2.50	0.85
12:AB:146:ILE:HD11	29:P:84:VAL:O	1.77	0.85
14:AE:78:LEU:C	14:AE:81:ARG:NH1	2.24	0.85
38:Y:15:GLY:HA2	38:Y:50:LYS:HG3	1.57	0.85
61:v:95:LEU:O	61:v:100:LYS:NZ	2.08	0.85
35:V:25:ILE:O	35:V:27:ARG:NH2	2.10	0.84
8:7:2:U:OP2	17:D:1505:G:C8	2.30	0.84
61:v:7:THR:OG1	61:v:10:ARG:NH1	2.11	0.84
1:0:68:ARG:NH1	40:a:1223:G:OP1	2.10	0.84
37:X:81:MET:CE	37:X:92:ARG:HB3	2.06	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AB:106:ASP:HB3	12:AB:107:PRO:CD	2.07	0.84
6:5:16:DA:N6	11:AA:151:ARG:N	2.25	0.84
12:AB:51:PHE:CZ	14:AE:288:PRO:CG	2.59	0.84
41:b:36:ILE:HG21	41:b:39:ARG:HD3	1.59	0.84
6:5:16:DA:N6	11:AA:150:HIS:CA	2.41	0.84
12:AB:38:ILE:HD13	12:AB:110:PRO:HB3	1.59	0.84
14:AE:83:VAL:N	22:I:100:GLN:CD	2.36	0.84
25:L:102:MET:SD	25:L:102:MET:N	2.46	0.84
12:AB:37:LYS:HG2	12:AB:106:ASP:OD2	1.77	0.83
58:s:102:GLU:OE1	58:s:102:GLU:N	2.10	0.83
61:v:77:PRO:HG2	61:v:80:VAL:HG21	1.57	0.83
28:O:84:THR:HG21	28:O:103:PHE:HB3	1.59	0.83
8:7:15:U:H3	15:AF:80:LEU:CG	1.82	0.83
14:AE:74:LYS:HB2	29:P:89:ARG:O	1.78	0.83
18:E:9:LYS:O	18:E:13:GLN:NE2	2.10	0.83
9:9:43:LYS:HG3	9:9:46:ARG:NH1	1.94	0.83
14:AE:287:ALA:HB1	14:AE:292:VAL:HG13	1.60	0.83
38:Y:75:ALA:CB	38:Y:112:LYS:HE3	2.07	0.83
40:a:2393:U:H5'	54:o:30:ARG:CZ	2.09	0.83
55:p:104:ASN:ND2	55:p:114:ASP:OD1	2.12	0.83
6:5:9:DA:P	11:AA:473:ARG:CB	2.66	0.83
12:AB:64:ILE:HG21	12:AB:68:THR:HG23	1.59	0.83
10:B:6:G:O2'	10:B:7:G:O5'	1.96	0.83
55:p:121:ILE:HD12	55:p:141:ILE:HG22	1.60	0.83
9:9:43:LYS:O	9:9:46:ARG:HG2	1.78	0.83
40:a:2682:A:O2'	49:j:13:ARG:NE	2.12	0.83
65:z:74:ILE:HD11	65:z:79:PHE:HA	1.60	0.83
12:AB:96:LEU:HD11	14:AE:288:PRO:HB3	1.58	0.83
40:a:2298:A:OP1	53:n:72:LYS:NZ	2.11	0.83
53:n:73:SER:OG	53:n:79:ILE:O	1.96	0.83
60:u:122:VAL:CG1	60:u:125:LEU:HD21	2.07	0.83
12:AB:38:ILE:CD1	12:AB:110:PRO:HG2	2.06	0.82
9:9:3:LEU:HD11	9:9:5:LEU:HD23	1.61	0.82
12:AB:126:PHE:HZ	29:P:89:ARG:NH1	1.78	0.82
12:AB:141:LEU:HD12	12:AB:159:PHE:CE2	2.12	0.82
38:Y:74:PRO:HG2	38:Y:77:VAL:HB	1.60	0.82
65:z:78:LYS:HD3	65:z:117:LEU:CD2	2.09	0.82
10:A:6:G:O2'	10:A:7:G:O5'	1.96	0.82
20:G:105:LYS:O	20:G:109:GLN:NE2	2.12	0.82
38:Y:116:MET:HG2	38:Y:124:MET:HG2	1.60	0.82
40:a:1257:C:H4'	51:l:78:TRP:CE2	2.14	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:2356:U:H5''	41:b:20:ARG:HD2	1.61	0.82
5:4:58:SER:OG	5:4:59:GLU:OE1	1.96	0.82
12:AB:109:THR:CG2	12:AB:110:PRO:HD3	2.09	0.82
38:Y:45:THR:HG22	38:Y:50:LYS:HD3	1.59	0.82
55:p:7:ALA:O	55:p:69:ARG:NE	2.12	0.82
59:t:7:MET:HG3	59:t:18:ARG:CZ	2.10	0.82
62:w:38:LEU:HD13	62:w:111:ALA:HB2	1.59	0.82
12:AB:33:ILE:HD12	12:AB:100:LYS:HB3	1.62	0.82
17:D:742:G:OP1	33:T:58:ARG:NH2	2.12	0.82
22:I:22:TRP:CZ3	22:I:24:ALA:HB2	2.14	0.82
40:a:1613:G:O2'	52:m:3:ARG:NH2	2.12	0.82
8:7:22:U:H4'	22:I:80:LYS:CG	2.10	0.82
17:D:107:G:O6	18:E:10:ARG:NE	2.13	0.82
49:j:152:PRO:HG3	49:j:156:PHE:CZ	2.14	0.82
38:Y:14:ALA:HB3	38:Y:51:GLY:H	1.45	0.81
8:7:3:G:C5'	17:D:1500:A:H62	1.92	0.81
11:AA:387:ASN:CB	11:AA:394:ARG:HH11	1.93	0.81
37:X:81:MET:HE1	37:X:92:ARG:CB	2.08	0.81
59:t:12:ASP:OD2	59:t:85:VAL:HG13	1.79	0.81
60:u:122:VAL:HG13	60:u:125:LEU:HD11	1.62	0.81
38:Y:96:LYS:CE	38:Y:136:GLY:HA3	2.08	0.81
40:a:2356:U:O3'	41:b:20:ARG:NH1	2.14	0.81
57:r:137:GLU:HG2	57:r:138:VAL:HG23	1.61	0.81
8:7:21:U:H5	22:I:80:LYS:C	1.88	0.81
9:9:1:MET:HE1	9:9:7:ASP:HB3	1.61	0.81
38:Y:58:ILE:HG22	38:Y:60:VAL:HG23	1.63	0.81
12:AB:145:LEU:HB3	29:P:88:MET:HB2	1.62	0.81
47:h:53:HIS:HE2	47:h:219:THR:HA	1.45	0.81
6:5:16:DA:H61	11:AA:150:HIS:CA	1.93	0.81
8:7:29:A:OP1	8:7:29:A:H4'	1.80	0.81
12:AB:14:LEU:HD13	12:AB:49:PRO:HG2	1.61	0.81
51:l:1:MET:HE1	51:l:20:GLY:CA	2.11	0.81
19:F:37:PHE:HB2	30:Q:126:LYS:CE	2.10	0.81
38:Y:40:ALA:HB1	38:Y:68:PHE:CE1	2.16	0.81
9:9:46:ARG:HG3	9:9:94:ARG:NH2	1.94	0.81
9:9:52:MET:HG2	9:9:95:LEU:HD11	1.62	0.81
12:AB:38:ILE:HG12	12:AB:156:ASN:ND2	1.96	0.81
17:D:311:C:OP1	34:U:31:ARG:NH2	2.13	0.81
12:AB:38:ILE:CG1	12:AB:156:ASN:ND2	2.44	0.80
40:a:1818:U:O5'	47:h:156:ARG:NH2	2.14	0.80
4:3:46:GLN:OE1	4:3:56:GLY:HA2	1.82	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AB:129:ILE:HB	12:AB:142:LEU:HD22	1.62	0.80
38:Y:9:LYS:HE2	38:Y:55:PRO:HB3	1.63	0.80
12:AB:31:PRO:HB2	12:AB:50:LEU:HB3	1.64	0.80
47:h:130:LEU:HA	47:h:189:ARG:HH11	1.46	0.80
1:0:86:GLN:OE1	40:a:1225:G:H4'	1.81	0.80
9:9:25:ALA:HB3	9:9:99:PHE:CD2	2.16	0.80
12:AB:81:PHE:HZ	14:AE:141:PHE:HB3	1.45	0.80
18:E:28:MET:HE1	18:E:58:VAL:HA	1.63	0.80
40:a:2393:U:P	54:o:30:ARG:HE	2.04	0.80
51:l:112:LEU:HD12	51:l:117:ARG:HB2	1.62	0.80
65:z:69:ALA:HB1	65:z:74:ILE:HG23	1.63	0.80
8:7:2:U:OP1	17:D:1505:G:C8	2.33	0.80
12:AB:114:ASP:O	12:AB:129:ILE:CG1	2.30	0.80
12:AB:146:ILE:HD12	29:P:87:LEU:HB2	1.64	0.80
12:AB:161:LYS:HD3	12:AB:161:LYS:H	1.46	0.80
41:b:28:GLY:O	41:b:66:LYS:NZ	2.13	0.80
59:t:98:ARG:NH2	59:t:118:LEU:O	2.14	0.80
16:C:38:LYS:HE2	16:C:38:LYS:HA	1.64	0.80
25:L:70:VAL:O	25:L:74:LEU:HD23	1.81	0.80
40:a:1276:A:O2'	62:w:20:MET:CE	2.30	0.80
17:D:275:G:H4'	35:V:16:LYS:HD2	1.64	0.79
40:a:2636:C:H4'	49:j:81:GLU:OE1	1.82	0.79
40:a:2682:A:C8	49:j:11:MET:CE	2.65	0.79
40:a:1655:A:H1'	49:j:118:PHE:HE2	1.46	0.79
53:n:117:LEU:HD13	53:n:176:PRO:HG2	1.64	0.79
65:z:74:ILE:HD13	65:z:79:PHE:HD1	1.46	0.79
9:9:77:VAL:HG13	9:9:114:GLU:OE1	1.81	0.79
28:O:56:ASP:O	28:O:60:LYS:NZ	2.16	0.79
9:9:112:ALA:O	9:9:123:ILE:HD11	1.83	0.79
12:AB:38:ILE:H	12:AB:110:PRO:CG	1.96	0.79
12:AB:43:ARG:HG2	12:AB:133:PRO:CG	2.12	0.79
6:5:9:DA:H5''	11:AA:473:ARG:CG	1.95	0.79
16:C:60:LYS:HZ3	17:D:735:C:P	2.05	0.79
23:J:62:ARG:NH1	23:J:69:GLU:OE2	2.16	0.79
9:9:3:LEU:CD1	9:9:4:ASN:H	1.96	0.79
59:t:20:MET:HB3	59:t:44:LYS:NZ	1.98	0.79
9:9:34:THR:O	9:9:38:MET:HG2	1.83	0.79
17:D:673:A:H2'	17:D:674:G:C8	2.18	0.79
27:N:9:ASP:OD2	27:N:13:ARG:NH1	2.15	0.79
38:Y:102:ARG:HD2	38:Y:141:ASP:CA	2.13	0.79
48:i:46:ASP:OD2	48:i:53:LYS:NZ	2.15	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:l:111:GLU:OE2	51:l:114:ARG:NH1	2.14	0.79
53:n:142:ASP:HB3	53:n:145:LYS:HE2	1.65	0.79
12:AB:21:LEU:HD11	12:AB:57:VAL:HG12	1.65	0.78
12:AB:60:ASP:N	12:AB:61:PRO:HD2	1.96	0.78
14:AE:81:ARG:H	14:AE:81:ARG:HD2	1.45	0.78
34:U:3:THR:HG21	34:U:5:ARG:CZ	2.14	0.78
42:c:30:LEU:HD12	42:c:31:PRO:HD2	1.63	0.78
46:g:18:CYS:HB3	46:g:40:CYS:CB	2.13	0.78
8:7:2:U:OP1	17:D:1505:G:H8	1.65	0.78
8:7:30:U:OP2	14:AE:398:LYS:NZ	2.16	0.78
9:9:129:LEU:H	9:9:130:PRO:HD2	1.45	0.78
12:AB:42:LYS:HD2	12:AB:42:LYS:N	1.98	0.78
40:a:2393:U:H5''	54:o:30:ARG:NH1	1.97	0.78
59:t:20:MET:HB3	59:t:44:LYS:HZ3	1.47	0.78
26:M:18:PHE:HE2	26:M:47:LEU:HD21	1.48	0.78
27:N:27:MET:N	27:N:58:GLU:OE2	2.16	0.78
56:q:2:LYS:NZ	56:q:32:LYS:O	2.17	0.78
63:x:104:GLN:NE2	63:x:108:ASP:OD2	2.16	0.78
9:9:5:LEU:O	9:9:9:GLN:NE2	2.15	0.78
10:A:18:G:N2	10:A:55:U:O2	2.17	0.78
21:H:306:VAL:HA	21:H:309:MET:SD	2.23	0.78
40:a:1453:A:N1	62:w:74:GLU:OE1	2.16	0.78
2:1:98:LYS:HD2	40:a:2012:G:OP1	1.83	0.78
9:9:81:LEU:HD21	40:a:1107:G:H4'	1.64	0.78
32:S:12:LYS:O	32:S:16:LEU:HD23	1.83	0.78
9:9:118:ILE:HB	9:9:119:PRO:HD3	1.64	0.78
12:AB:126:PHE:CZ	29:P:89:ARG:NH1	2.52	0.78
17:D:652:U:O3'	27:N:56:LYS:NZ	2.13	0.78
55:p:107:LEU:HB3	55:p:152:ARG:HE	1.47	0.78
7:6:25:DT:H3'	11:AA:496:LYS:CG	2.13	0.78
38:Y:9:LYS:HE2	38:Y:55:PRO:CG	2.13	0.78
12:AB:145:LEU:HB3	29:P:88:MET:CB	2.13	0.78
34:U:3:THR:HG21	34:U:5:ARG:NH1	1.99	0.78
6:5:16:DA:C6	11:AA:151:ARG:HG3	2.19	0.77
26:M:20:SER:HB3	26:M:23:LEU:HD13	1.63	0.77
6:5:14:DT:C7	11:AA:201:ARG:NH2	2.47	0.77
14:AE:74:LYS:HD3	29:P:91:ASP:HB3	1.66	0.77
26:M:40:GLU:OE2	28:O:41:ARG:NH2	2.17	0.77
9:9:27:VAL:HG13	9:9:83:ALA:HB3	1.66	0.77
12:AB:120:GLU:HG3	14:AE:47:ARG:HD3	1.66	0.77
9:9:134:GLU:OE2	9:9:136:ILE:HG22	1.84	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:375:U:P	34:U:70:ARG:HE	2.07	0.77
58:s:15:TRP:HZ3	58:s:135:GLN:HA	1.50	0.77
36:W:40:ILE:HG23	36:W:44:MET:SD	2.24	0.77
58:s:37:ARG:HA	58:s:118:MET:CE	2.14	0.77
12:AB:60:ASP:H	12:AB:61:PRO:HD2	1.50	0.77
40:a:1406:U:O2'	40:a:1407:G:O5'	2.02	0.77
12:AB:51:PHE:CE2	14:AE:288:PRO:CG	2.67	0.77
30:Q:87:LYS:CG	30:Q:113:VAL:HG23	2.15	0.77
8:7:22:U:H4'	22:I:80:LYS:HG3	1.64	0.77
12:AB:7:LEU:HD13	12:AB:75:VAL:HG21	1.65	0.77
40:a:1801:A:P	47:h:146:MET:HE1	2.25	0.77
12:AB:43:ARG:HG2	12:AB:133:PRO:HG2	1.66	0.77
23:J:58:LYS:NZ	23:J:69:GLU:OE2	2.15	0.76
40:a:1405:U:H2'	40:a:1406:U:C6	2.20	0.76
40:a:2511:U:C4'	49:j:130:GLN:OE1	2.33	0.76
6:5:14:DT:H71	11:AA:201:ARG:HH22	1.46	0.76
12:AB:138:ARG:HG2	12:AB:155:LYS:N	2.01	0.76
16:C:38:LYS:HD3	17:D:719:C:H1'	1.67	0.76
40:a:2297:A:N1	40:a:2321:U:C4	2.53	0.76
9:9:94:ARG:HB2	9:9:97:LYS:HE2	1.66	0.76
12:AB:143:LEU:H	12:AB:143:LEU:HD12	1.50	0.76
14:AE:59:ALA:HB1	14:AE:71:LEU:CD2	2.15	0.76
36:W:44:MET:SD	36:W:62:VAL:HG11	2.25	0.76
38:Y:93:ASN:C	38:Y:94:LYS:HD2	2.10	0.76
8:7:3:G:H5''	17:D:1500:A:H62	1.49	0.76
9:9:60:LEU:HD23	9:9:64:VAL:HG21	1.65	0.76
30:Q:84:VAL:HG23	30:Q:107:ILE:HD11	1.67	0.76
40:a:196:A:OP2	60:u:47:ARG:NH1	2.18	0.76
59:t:8:LEU:C	59:t:18:ARG:HH12	1.92	0.76
62:w:12:ARG:O	62:w:17:ARG:NH2	2.19	0.76
9:9:77:VAL:HG12	9:9:82:ILE:HG21	1.68	0.76
10:B:18:G:N2	10:B:55:U:O2	2.17	0.76
39:Z:14:MET:HG3	39:Z:15:SER:H	1.48	0.76
40:a:2314:A:OP1	53:n:88:LYS:NZ	2.18	0.76
17:D:550:G:O2'	31:R:116:LYS:NZ	2.18	0.76
17:D:1227:A:OP1	37:X:93:ARG:NH2	2.18	0.76
39:Z:2:ILE:HG22	39:Z:4:LYS:H	1.50	0.76
9:9:19:ALA:HA	9:9:70:GLU:HG2	1.66	0.76
40:a:1828:G:O6	47:h:221:ARG:NH1	2.19	0.76
58:s:15:TRP:CZ3	58:s:135:GLN:HA	2.21	0.76
61:v:1:MET:HA	61:v:1:MET:HE3	1.67	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AB:160:ARG:HB2	12:AB:160:ARG:NH1	1.98	0.76
38:Y:14:ALA:CB	38:Y:50:LYS:HD2	2.16	0.76
30:Q:87:LYS:HG2	30:Q:113:VAL:HG23	1.67	0.76
16:C:60:LYS:HZ2	17:D:734:G:H2'	1.49	0.75
20:G:30:PHE:CD1	20:G:201:PRO:HG3	2.21	0.75
25:L:42:TRP:HZ3	25:L:45:ARG:HH22	1.32	0.75
37:X:57:ARG:NH2	46:g:35:ASP:OD1	2.19	0.75
38:Y:126:ARG:NH2	40:a:1083:U:OP1	2.19	0.75
2:1:11:ARG:CZ	2:1:98:LYS:HE3	2.15	0.75
5:4:50:MET:O	5:4:56:PHE:CE2	2.38	0.75
9:9:5:LEU:C	9:9:9:GLN:HE22	1.94	0.75
20:G:154:MET:CE	20:G:158:PRO:HD3	2.16	0.75
40:a:686:U:O4	52:m:12:ARG:HD3	1.86	0.75
41:b:68:LYS:NZ	41:b:70:GLU:OE1	2.19	0.75
9:9:37:LYS:O	9:9:41:LEU:HG	1.86	0.75
21:H:52:GLN:OE1	21:H:86:ARG:CB	2.34	0.75
24:K:142:ASP:O	24:K:145:GLU:HG3	1.86	0.75
12:AB:81:PHE:CZ	14:AE:141:PHE:HB3	2.21	0.75
38:Y:56:VAL:CA	38:Y:71:LYS:HZ1	2.00	0.75
40:a:1276:A:O2'	62:w:20:MET:HE2	1.87	0.75
20:G:20:THR:HA	20:G:39:HIS:CE1	2.21	0.75
64:y:71:GLU:OE1	64:y:101:ARG:NE	2.19	0.75
40:a:2335:A:OP2	63:x:13:ARG:CZ	2.34	0.75
49:j:46:ARG:NH2	49:j:88:GLU:O	2.19	0.75
53:n:4:LEU:HD11	53:n:101:GLU:CA	2.16	0.75
57:r:6:LEU:HD11	57:r:37:VAL:HG23	1.69	0.75
19:F:63:GLU:OE1	19:F:67:ARG:NH1	2.20	0.75
26:M:18:PHE:CE2	26:M:47:LEU:HD21	2.21	0.75
40:a:742:A:H2'	40:a:743:A:C8	2.22	0.75
2:1:25:ARG:HH22	40:a:520:G:P	2.10	0.74
16:C:60:LYS:NZ	17:D:734:G:O3'	2.20	0.74
17:D:375:U:OP2	34:U:70:ARG:NH2	2.18	0.74
17:D:404:G:OP1	23:J:115:ARG:NH1	2.19	0.74
21:H:36:VAL:O	21:H:37:LEU:HD12	1.87	0.74
33:T:64:ARG:CZ	33:T:89:ARG:HH22	2.00	0.74
38:Y:9:LYS:HE2	38:Y:55:PRO:CB	2.17	0.74
53:n:56:ASP:OD2	53:n:150:ARG:NH1	2.20	0.74
12:AB:40:ARG:O	12:AB:155:LYS:HE3	1.87	0.74
37:X:28:THR:HG23	37:X:31:LYS:HE3	1.69	0.74
12:AB:143:LEU:HD12	12:AB:143:LEU:N	2.01	0.74
38:Y:81:LYS:HZ2	38:Y:86:LYS:HE2	1.52	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:H:303:LEU:O	21:H:305:HIS:N	2.20	0.74
41:b:21:LEU:HD21	41:b:41:ARG:HE	1.51	0.74
2:1:24:ILE:HG21	2:1:36:LEU:HD11	1.68	0.74
8:7:3:G:C5'	17:D:1500:A:N6	2.46	0.74
43:d:42:C:O5'	53:n:64:LYS:NZ	2.20	0.74
51:l:90:GLN:NE2	51:l:91:ASP:O	2.20	0.74
12:AB:117:ILE:HG22	12:AB:160:ARG:HG2	1.68	0.74
17:D:1217:C:OP2	32:S:9:ARG:NH2	2.19	0.74
46:g:18:CYS:CB	46:g:40:CYS:HB3	2.17	0.74
5:4:75:GLN:HG3	5:4:92:VAL:HG23	1.70	0.74
8:7:22:U:H5''	22:I:80:LYS:CB	2.18	0.74
12:AB:37:LYS:CG	12:AB:106:ASP:OD2	2.36	0.74
2:1:25:ARG:NH2	40:a:520:G:H5'	2.03	0.74
5:4:57:TYR:HB3	61:v:136:MET:CE	2.17	0.74
9:9:36:ASP:O	9:9:39:THR:HG22	1.87	0.74
12:AB:114:ASP:O	12:AB:129:ILE:CD1	2.36	0.74
23:J:100:ASN:OD1	23:J:111:ARG:NH1	2.21	0.74
40:a:537:G:OP2	58:s:2:LYS:NZ	2.20	0.74
62:w:60:VAL:HG22	62:w:63:ARG:NH1	2.03	0.74
14:AE:80:HIS:HD2	22:I:65:ARG:NH2	1.83	0.74
20:G:49:MET:CE	20:G:201:PRO:HD3	2.16	0.74
12:AB:87:ILE:H	12:AB:87:ILE:HD12	1.52	0.74
12:AB:145:LEU:HD11	29:P:89:ARG:HE	1.51	0.74
12:AB:148:LYS:HZ3	29:P:6:ILE:HD13	1.53	0.74
38:Y:102:ARG:CD	38:Y:141:ASP:HA	2.18	0.74
47:h:258:ARG:NH1	47:h:264:ASP:OD1	2.14	0.74
9:9:23:LEU:HD11	9:9:96:PHE:CD2	2.23	0.73
9:9:129:LEU:HD12	9:9:130:PRO:HD3	1.70	0.73
16:C:73:ARG:NH1	30:Q:113:VAL:HG12	2.02	0.73
17:D:376:G:H5''	34:U:5:ARG:HD2	1.68	0.73
17:D:739:C:O2'	33:T:42:HIS:ND1	2.18	0.73
26:M:103:TRP:CG	26:M:137:LYS:HZ2	2.06	0.73
12:AB:42:LYS:HE2	12:AB:155:LYS:HE3	1.67	0.73
39:Z:6:GLN:OE1	39:Z:10:ALA:HB2	1.88	0.73
61:v:73:ILE:HD11	61:v:93:VAL:HG22	1.70	0.73
2:1:23:LEU:HD11	48:i:24:ALA:HB2	1.70	0.73
59:t:17:ARG:HB2	59:t:45:GLU:OE1	1.88	0.73
62:w:33:ILE:HD11	62:w:112:TYR:CD1	2.23	0.73
2:1:86:MET:HE1	2:1:88:ARG:HD3	1.71	0.73
9:9:59:LEU:HD13	9:9:62:ARG:HD2	1.70	0.73
42:c:71:LEU:HB3	42:c:76:GLU:OE2	1.88	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:p:69:ARG:NH1	55:p:73:ASN:OD1	2.21	0.73
9:9:78:GLY:N	9:9:79:PRO:HD2	2.04	0.73
10:B:76:A:C2	40:a:2493:U:H4'	2.24	0.73
18:E:21:ASN:C	18:E:25:ARG:HE	1.96	0.73
47:h:123:ALA:HB1	47:h:125:LYS:NZ	2.04	0.73
12:AB:64:ILE:H	12:AB:64:ILE:CD1	1.97	0.73
17:D:636:U:H4'	35:V:6:ARG:CZ	2.19	0.73
23:J:105:MET:CE	23:J:171:LEU:HD13	2.18	0.73
37:X:81:MET:HE2	40:a:888:C:C6	2.24	0.73
38:Y:100:ILE:HD11	38:Y:139:VAL:HB	1.69	0.73
48:i:55:ILE:HD13	62:w:112:TYR:CZ	2.23	0.73
61:v:97:GLN:N	61:v:100:LYS:HE3	2.03	0.73
8:7:15:U:H3	15:AF:80:LEU:HG	0.92	0.73
33:T:76:ALA:O	33:T:80:GLN:NE2	2.22	0.73
55:p:85:LYS:HE3	55:p:164:TYR:CD1	2.24	0.73
12:AB:146:ILE:HD12	29:P:87:LEU:CB	2.19	0.73
40:a:1278:C:H4'	62:w:24:MET:HE1	1.70	0.73
11:AA:387:ASN:OD1	11:AA:394:ARG:NH1	2.21	0.73
19:F:13:ASP:OD1	19:F:14:VAL:N	2.22	0.73
12:AB:51:PHE:CE2	14:AE:288:PRO:HG3	2.22	0.72
10:B:53:G:C2	10:B:54:U:C5	2.77	0.72
38:Y:100:ILE:HG13	38:Y:139:VAL:CG2	2.18	0.72
47:h:130:LEU:HA	47:h:189:ARG:NH1	2.03	0.72
12:AB:118:ILE:HG23	12:AB:159:PHE:CE2	2.23	0.72
17:D:13:U:C4	17:D:915:A:N6	2.57	0.72
17:D:1158:C:O2'	20:G:132:LYS:NZ	2.21	0.72
31:R:56:ARG:HG2	31:R:62:GLU:OE2	1.89	0.72
55:p:17:VAL:O	55:p:18:LYS:HE2	1.89	0.72
8:7:15:U:O2	15:AF:83:VAL:CB	2.36	0.72
9:9:59:LEU:HD22	9:9:62:ARG:NE	2.02	0.72
17:D:375:U:OP1	34:U:70:ARG:HG2	1.88	0.72
22:I:142:MET:HE3	22:I:170:GLU:OE1	1.89	0.72
25:L:36:ILE:CD1	25:L:64:VAL:HG22	2.19	0.72
40:a:465:G:OP1	52:m:12:ARG:NH2	2.22	0.72
58:s:15:TRP:CZ3	58:s:135:GLN:HG3	2.25	0.72
62:w:42:LYS:N	62:w:42:LYS:HD3	2.05	0.72
10:A:53:G:C2	10:A:54:U:C5	2.77	0.72
14:AE:79:LYS:CA	14:AE:81:ARG:NH2	2.41	0.72
23:J:76:TYR:CE2	23:J:204:TYR:HB2	2.24	0.72
23:J:184:ARG:NH1	23:J:187:GLU:OE1	2.22	0.72
30:Q:72:ASP:O	30:Q:75:LYS:NZ	2.21	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:g:18:CYS:CB	46:g:40:CYS:CB	2.67	0.72
54:o:25:LYS:HB3	60:u:62:PRO:HG2	1.71	0.72
9:9:43:LYS:NZ	9:9:98:GLU:HB2	2.04	0.72
8:7:18:U:C6	8:7:18:U:H5'	2.24	0.72
38:Y:81:LYS:HD2	38:Y:81:LYS:N	2.05	0.72
61:v:50:ARG:HA	61:v:53:MET:SD	2.29	0.72
5:4:45:ASP:OD1	5:4:46:LYS:N	2.21	0.72
12:AB:16:ARG:HB3	12:AB:73:ARG:HD2	1.71	0.72
14:AE:81:ARG:HD2	14:AE:81:ARG:N	2.03	0.72
16:C:18:VAL:O	16:C:51:TYR:OH	2.06	0.72
26:M:55:GLY:O	26:M:56:LYS:O	2.07	0.72
33:T:64:ARG:NH1	33:T:64:ARG:HA	2.05	0.72
40:a:2884:U:OP2	48:i:40:ARG:NH2	2.23	0.72
17:D:311:C:P	34:U:31:ARG:HH22	2.13	0.72
22:I:39:VAL:O	22:I:43:LEU:HD23	1.90	0.72
40:a:1816:C:N4	47:h:35:GLU:OE2	2.20	0.72
53:n:127:ASN:OD1	53:n:158:THR:N	2.18	0.72
9:9:56:ARG:O	9:9:56:ARG:HG2	1.88	0.72
12:AB:40:ARG:O	12:AB:155:LYS:CE	2.37	0.72
24:K:69:ARG:CZ	24:K:69:ARG:HA	2.20	0.72
28:O:47:VAL:HA	28:O:50:GLN:HG2	1.71	0.72
18:E:75:HIS:CE1	18:E:79:LEU:HD11	2.25	0.72
38:Y:102:ARG:CZ	38:Y:139:VAL:HG11	2.19	0.72
40:a:1825:U:OP2	47:h:52:ARG:NH1	2.23	0.72
53:n:134:GLU:HG2	53:n:137:ILE:HG23	1.72	0.72
59:t:42:THR:O	59:t:44:LYS:NZ	2.19	0.72
17:D:653:U:C6	27:N:56:LYS:HE3	2.25	0.71
32:S:90:ARG:HG3	32:S:92:GLU:CD	2.15	0.71
37:X:66:GLU:OE1	37:X:66:GLU:N	2.23	0.71
3:2:56:GLU:OE2	3:2:88:LYS:HA	1.90	0.71
14:AE:68:TYR:HA	14:AE:92:VAL:HG23	1.72	0.71
17:D:1328:C:O2'	37:X:29:ARG:NH2	2.23	0.71
17:D:13:U:O4	17:D:21:G:C2	2.43	0.71
6:5:9:DA:OP2	11:AA:470:ARG:HA	1.90	0.71
14:AE:59:ALA:HB1	14:AE:71:LEU:HD22	1.71	0.71
14:AE:64:PRO:HG3	14:AE:90:VAL:CG1	2.20	0.71
9:9:47:GLU:HB3	9:9:51:TYR:CZ	2.24	0.71
11:AA:387:ASN:CG	11:AA:394:ARG:HH12	1.81	0.71
14:AE:77:ARG:NE	14:AE:77:ARG:HA	2.04	0.71
19:F:32:VAL:HG12	19:F:36:GLU:OE1	1.90	0.71
21:H:332:VAL:HG22	21:H:342:ILE:HD11	1.73	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:K:111:MET:O	24:K:115:LEU:HD23	1.91	0.71
29:P:18:ILE:O	29:P:22:THR:HG23	1.90	0.71
33:T:21:ASP:O	33:T:22:THR:OG1	2.07	0.71
40:a:2328:A:H2'	40:a:2329:U:C6	2.25	0.71
46:g:5:ILE:HD12	53:n:64:LYS:HE3	1.72	0.71
51:l:6:LYS:NZ	51:l:120:VAL:N	2.39	0.71
12:AB:148:LYS:HZ1	29:P:6:ILE:CG1	2.03	0.71
22:I:166:GLU:OE1	22:I:166:GLU:N	2.23	0.71
28:O:112:GLU:OE2	28:O:115:LYS:NZ	2.23	0.71
40:a:987:C:O3'	45:f:11:ARG:NH1	2.23	0.71
40:a:1824:G:OP1	47:h:52:ARG:NH2	2.23	0.71
9:9:27:VAL:CG1	9:9:83:ALA:HB3	2.20	0.71
9:9:142:THR:OG1	39:Z:7:ILE:HG21	1.90	0.71
40:a:2682:A:C8	49:j:11:MET:HE2	2.26	0.71
59:t:8:LEU:C	59:t:18:ARG:NH1	2.49	0.71
12:AB:119:THR:O	14:AE:47:ARG:CB	2.38	0.71
22:I:22:TRP:HZ3	22:I:24:ALA:HB2	1.53	0.71
38:Y:57:VAL:O	38:Y:69:VAL:HG22	1.91	0.71
65:z:92:ARG:HG3	65:z:95:LEU:HD12	1.71	0.71
5:4:77:VAL:CG2	5:4:79:ARG:HE	2.03	0.71
12:AB:37:LYS:HD2	12:AB:110:PRO:CD	2.21	0.71
16:C:38:LYS:NZ	17:D:718:A:C2	2.57	0.71
17:D:564:C:P	31:R:12:ARG:NH2	2.64	0.71
25:L:42:TRP:CH2	25:L:102:MET:CG	2.74	0.71
38:Y:19:PRO:HG2	38:Y:23:VAL:HG23	1.73	0.71
10:B:13:C:OP2	40:a:1907:G:N2	2.23	0.71
8:7:11:U:O2'	24:K:33:PHE:HE1	1.71	0.70
11:AA:474:ALA:O	11:AA:477:GLU:CB	2.37	0.70
12:AB:37:LYS:HD3	12:AB:109:THR:CB	2.21	0.70
17:D:736:C:C5'	25:L:90:MET:HE2	2.21	0.70
17:D:973:G:O4'	29:P:57:VAL:HG22	1.90	0.70
20:G:19:GLN:NE2	21:H:75:VAL:O	2.23	0.70
40:a:2469:A:N6	40:a:2481:G:O2'	2.23	0.70
12:AB:124:GLU:OE1	14:AE:47:ARG:HG2	1.90	0.70
22:I:147:LYS:NZ	22:I:204:LYS:O	2.22	0.70
28:O:7:TYR:N	28:O:89:GLU:OE2	2.24	0.70
30:Q:52:PHE:HD2	30:Q:56:ARG:HG2	1.56	0.70
37:X:71:ARG:CZ	37:X:72:GLU:HG3	2.22	0.70
58:s:15:TRP:NE1	58:s:53:TYR:HD2	1.90	0.70
4:3:46:GLN:NE2	4:3:47:LYS:O	2.24	0.70
9:9:56:ARG:NH2	40:a:1084:A:O4'	2.23	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:9:94:ARG:HB3	9:9:97:LYS:HZ3	1.54	0.70
17:D:375:U:OP1	34:U:70:ARG:NE	2.24	0.70
17:D:636:U:H4'	35:V:6:ARG:NH2	2.06	0.70
17:D:1376:U:OP2	26:M:25:LYS:NZ	2.24	0.70
31:R:5:ASN:OD1	35:V:36:LYS:NZ	2.24	0.70
38:Y:19:PRO:O	38:Y:24:GLY:HA2	1.92	0.70
55:p:107:LEU:O	55:p:152:ARG:NH1	2.25	0.70
2:1:25:ARG:HH22	40:a:520:G:C5'	2.04	0.70
10:B:6:G:HO2'	10:B:7:G:C5'	2.04	0.70
33:T:63:ARG:O	33:T:67:LEU:HD23	1.90	0.70
38:Y:91:LYS:NZ	38:Y:97:VAL:HG21	2.07	0.70
38:Y:100:ILE:HG13	38:Y:139:VAL:HG23	1.74	0.70
40:a:2511:U:H4'	49:j:130:GLN:OE1	1.91	0.70
61:v:53:MET:HE3	61:v:120:ALA:HB2	1.74	0.70
8:7:23:U:C5	14:AE:96:LYS:CD	2.75	0.70
17:D:1208:C:H2'	17:D:1209:C:H6	1.55	0.70
22:I:24:ALA:HB3	22:I:29:PHE:CE2	2.27	0.70
22:I:74:GLY:O	22:I:78:GLY:N	2.24	0.70
40:a:2314:A:H1'	53:n:155:THR:HG21	1.74	0.70
57:r:33:GLN:OE1	57:r:35:LYS:NZ	2.24	0.70
61:v:105:MET:SD	61:v:117:PHE:CZ	2.85	0.70
9:9:122:GLN:HG2	9:9:123:ILE:N	2.06	0.70
17:D:274:A:H4'	35:V:16:LYS:CE	2.22	0.70
40:a:1012:U:O4	58:s:30:THR:HG21	1.92	0.70
40:a:2780:G:P	58:s:120:ARG:HH11	2.13	0.70
47:h:133:ARG:NE	47:h:187:ASP:OD2	2.25	0.70
8:7:13:U:H3	23:J:47:ARG:HH11	1.37	0.70
8:7:21:U:O2'	14:AE:15:GLU:CG	2.40	0.70
9:9:6:GLN:HA	9:9:9:GLN:NE2	2.06	0.70
38:Y:100:ILE:CG1	38:Y:139:VAL:HB	2.22	0.70
38:Y:116:MET:CG	38:Y:124:MET:HG2	2.21	0.70
40:a:871:U:H2'	40:a:872:U:C6	2.26	0.70
40:a:2350:C:OP1	54:o:45:ARG:NH2	2.25	0.70
61:v:39:GLY:N	61:v:96:ILE:O	2.22	0.70
12:AB:138:ARG:HA	12:AB:155:LYS:HA	1.72	0.70
27:N:87:LYS:HD2	27:N:91:GLU:HB3	1.74	0.70
31:R:7:LEU:HD21	31:R:12:ARG:NH2	2.07	0.70
40:a:2356:U:H5''	41:b:20:ARG:CD	2.21	0.70
58:s:73:VAL:C	58:s:74:TYR:CD2	2.70	0.70
6:5:16:DA:H62	11:AA:151:ARG:H	1.37	0.69
39:Z:14:MET:HB3	39:Z:17:MET:CG	2.21	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:u:123:ARG:NH2	60:u:143:GLU:OE2	2.25	0.69
2:1:83:LYS:HB2	2:1:95:ARG:HD3	1.72	0.69
8:7:41:G:OP1	11:AA:1073:LYS:NZ	2.23	0.69
10:A:6:G:HO2'	10:A:7:G:C5'	2.04	0.69
20:G:126:PHE:O	20:G:127:ASP:O	2.10	0.69
33:T:76:ALA:C	33:T:80:GLN:HE22	2.00	0.69
40:a:1653:G:H3'	62:w:2:ARG:HD2	1.74	0.69
50:k:21:TYR:OH	50:k:39:PHE:O	2.10	0.69
10:A:37:A:O2'	10:A:38:A:H5'	1.93	0.69
18:E:25:ARG:CD	18:E:66:LEU:HD11	2.22	0.69
18:E:78:ASN:O	18:E:82:GLN:OE1	2.10	0.69
22:I:134:MET:HE3	22:I:151:VAL:HG23	1.75	0.69
47:h:180:GLU:C	47:h:181:MET:HE2	2.17	0.69
51:l:17:THR:HA	51:l:21:ARG:HH21	1.57	0.69
14:AE:59:ALA:HB2	14:AE:71:LEU:HD21	1.74	0.69
24:K:111:MET:CE	24:K:125:ALA:HB1	2.23	0.69
26:M:66:LEU:HG	26:M:70:ARG:HE	1.57	0.69
51:l:6:LYS:NZ	51:l:120:VAL:O	2.24	0.69
10:B:37:A:O2'	10:B:38:A:H5'	1.93	0.69
20:G:26:LYS:HD2	20:G:193:PRO:HG2	1.74	0.69
25:L:9:MET:HE1	25:L:85:ILE:CG2	2.22	0.69
33:T:28:GLN:O	33:T:32:LEU:HG	1.93	0.69
38:Y:102:ARG:HD2	38:Y:141:ASP:HA	1.75	0.69
56:q:25:VAL:HB	56:q:35:GLN:OE1	1.92	0.69
5:4:63:ILE:HD11	5:4:91:PHE:CD2	2.28	0.69
7:6:25:DT:H2'	11:AA:496:LYS:HG3	1.73	0.69
9:9:92:ALA:HB1	9:9:129:LEU:HD22	1.74	0.69
12:AB:87:ILE:HD12	12:AB:87:ILE:N	2.07	0.69
46:g:16:CYS:CB	46:g:37:CYS:HB3	2.21	0.69
14:AE:85:CYS:SG	67:AE:1502:ZN:ZN	1.79	0.69
10:B:38:A:O2'	17:D:790:A:OP1	2.09	0.69
17:D:1308:U:OP1	37:X:100:GLN:NE2	2.26	0.69
18:E:12:ILE:O	18:E:15:GLU:HG3	1.92	0.69
37:X:28:THR:HG23	37:X:31:LYS:CE	2.22	0.69
1:0:10:LYS:HE2	40:a:994:C:O2'	1.90	0.69
8:7:8:U:OP2	17:D:1397:C:N3	2.26	0.69
12:AB:145:LEU:CB	29:P:88:MET:HB2	2.22	0.69
12:AB:146:ILE:N	29:P:88:MET:SD	2.66	0.69
18:E:9:LYS:C	18:E:13:GLN:HE22	2.00	0.69
19:F:8:GLU:OE2	19:F:9:ASN:ND2	2.26	0.69
22:I:142:MET:HE1	22:I:148:GLY:HA2	1.72	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:K:93:ARG:HB3	24:K:93:ARG:CZ	2.21	0.69
26:M:16:PRO:HB3	28:O:46:MET:HG3	1.73	0.69
29:P:47:GLU:N	29:P:47:GLU:OE1	2.23	0.69
35:V:16:LYS:HD3	35:V:16:LYS:C	2.17	0.69
36:W:36:ARG:NH2	36:W:75:ALA:O	2.26	0.69
45:f:16:ARG:NE	45:f:54:MET:SD	2.66	0.69
62:w:45:ARG:O	62:w:49:GLU:OE1	2.11	0.69
9:9:52:MET:HE1	9:9:85:SER:C	2.17	0.69
16:C:57:ARG:HE	16:C:61:ARG:HH12	1.37	0.69
17:D:1308:U:P	37:X:100:GLN:HE22	2.16	0.69
47:h:205:LEU:HD12	47:h:210:ALA:HB1	1.75	0.69
59:t:103:VAL:HG22	59:t:104:THR:H	1.58	0.69
2:l:25:ARG:HH22	40:a:520:G:H5'	1.58	0.69
12:AB:51:PHE:CE2	14:AE:288:PRO:HG2	2.26	0.69
12:AB:69:ILE:HD12	12:AB:69:ILE:N	2.07	0.69
20:G:100:MET:HE1	20:G:101:LEU:HD21	1.75	0.69
21:H:22:SER:N	21:H:69:ASP:OD2	2.26	0.69
11:AA:65:ASN:HB3	11:AA:105:TYR:HB2	1.73	0.68
14:AE:1033:GLY:HA3	14:AE:1081:VAL:O	1.92	0.68
40:a:2742:G:OP1	56:q:36:ARG:NH1	2.25	0.68
51:l:6:LYS:HE3	51:l:119:ILE:HG23	1.75	0.68
12:AB:145:LEU:CA	29:P:88:MET:SD	2.78	0.68
38:Y:23:VAL:HG23	38:Y:24:GLY:H	1.58	0.68
53:n:56:ASP:HB3	53:n:150:ARG:NH2	2.07	0.68
59:t:112:PHE:HD2	59:t:115:ILE:HD12	1.59	0.68
61:v:1:MET:HE1	61:v:43:ALA:C	2.18	0.68
2:l:7:HIS:CD2	2:l:10:ALA:HB2	2.27	0.68
10:A:58:A:O2'	10:A:59:A:H3'	1.93	0.68
12:AB:148:LYS:NZ	29:P:6:ILE:CG1	2.56	0.68
18:E:45:ALA:O	18:E:48:GLN:HG3	1.93	0.68
25:L:18:VAL:HA	25:L:21:MET:HE2	1.75	0.68
40:a:1190:G:OP1	60:u:30:THR:OG1	2.10	0.68
51:l:101:TYR:CE2	51:l:105:LEU:HD11	2.28	0.68
61:v:1:MET:HE1	61:v:44:ARG:N	2.09	0.68
7:6:20:DA:N6	8:7:36:G:N1	2.42	0.68
10:B:58:A:O2'	10:B:59:A:H3'	1.93	0.68
29:P:86:ALA:O	29:P:90:LEU:HD13	1.93	0.68
31:R:27:CYS:HB2	31:R:30:LYS:HE2	1.75	0.68
37:X:90:ARG:CD	37:X:97:VAL:HA	2.23	0.68
38:Y:118:GLY:O	38:Y:124:MET:HE3	1.92	0.68
4:3:72:ILE:HD12	4:3:83:VAL:HG21	1.76	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:6:18:DT:N3	8:7:37:A:N6	2.36	0.68
9:9:44:ALA:HB1	9:9:52:MET:HB3	1.74	0.68
12:AB:92:VAL:CG2	14:AE:289:ASP:CB	2.62	0.68
17:D:1344:C:P	28:O:124:ARG:HH11	2.16	0.68
21:H:308:GLU:O	21:H:310:ASP:N	2.26	0.68
33:T:27:VAL:O	33:T:31:LEU:HD23	1.93	0.68
19:F:12:PHE:CE1	30:Q:107:ILE:HG22	2.29	0.68
25:L:35:LYS:NZ	25:L:36:ILE:O	2.26	0.68
26:M:4:ARG:HG2	26:M:5:ARG:NH1	2.08	0.68
32:S:20:TYR:HE2	32:S:52:PRO:HG2	1.58	0.68
32:S:42:TRP:CZ3	46:g:66:ILE:HG23	2.29	0.68
53:n:69:LYS:HD3	53:n:84:PRO:HA	1.74	0.68
59:t:5:GLN:HA	59:t:20:MET:HE2	1.74	0.68
5:4:53:LYS:HD2	5:4:56:PHE:CE2	2.28	0.68
13:AD:48:LEU:HB2	13:AD:183:ILE:HD11	1.76	0.68
60:u:55:MET:HE1	60:u:60:ARG:HG2	1.75	0.68
62:w:24:MET:HE2	62:w:34:ILE:CD1	2.24	0.68
9:9:47:GLU:HG3	9:9:94:ARG:CZ	2.24	0.68
9:9:139:LEU:HD21	39:Z:11:VAL:HG22	1.76	0.68
12:AB:148:LYS:CE	29:P:84:VAL:HG13	2.24	0.68
23:J:76:TYR:HE2	23:J:204:TYR:HB2	1.57	0.68
23:J:121:LYS:HG2	23:J:131:ASN:HD21	1.59	0.68
38:Y:99:LYS:NZ	38:Y:140:GLU:OE2	2.26	0.68
40:a:1056:G:O2'	40:a:1103:A:N6	2.27	0.68
9:9:24:SER:CB	9:9:116:GLU:HG3	2.24	0.68
12:AB:5:TYR:HB2	12:AB:57:VAL:HG23	1.76	0.68
22:I:134:MET:HE1	22:I:167:TRP:HA	1.76	0.68
25:L:38:ARG:NH1	25:L:99:ALA:HB2	2.09	0.68
34:U:45:GLU:HG3	34:U:46:LYS:HD3	1.76	0.68
61:v:111:GLU:O	61:v:115:GLU:OE1	2.11	0.68
9:9:43:LYS:HA	9:9:46:ARG:CZ	2.24	0.68
12:AB:151:LYS:HZ3	12:AB:151:LYS:N	1.92	0.68
14:AE:288:PRO:HD2	14:AE:291:ILE:HG22	1.74	0.68
45:f:41:THR:O	45:f:44:ILE:HG22	1.94	0.68
12:AB:87:ILE:HD11	14:AE:162:GLU:CG	2.23	0.67
12:AB:145:LEU:HB2	29:P:85:ASP:HA	1.76	0.67
20:G:27:MET:SD	20:G:30:PHE:HB2	2.33	0.67
30:Q:80:LYS:HB3	30:Q:106:ARG:NH1	2.09	0.67
47:h:76:ALA:HB1	47:h:94:VAL:HG12	1.76	0.67
51:l:118:LEU:HD11	51:l:188:MET:SD	2.34	0.67
53:n:94:GLU:HA	53:n:97:TRP:HE3	1.59	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:52:PRO:HB3	65:z:89:GLU:OE2	1.94	0.67
21:H:304:VAL:O	21:H:304:VAL:HG12	1.94	0.67
38:Y:60:VAL:HG22	38:Y:66:PHE:CB	2.23	0.67
38:Y:79:LEU:HD21	38:Y:105:LEU:CD2	2.25	0.67
45:f:40:ASP:C	45:f:45:ARG:HH22	2.03	0.67
12:AB:146:ILE:HD12	29:P:88:MET:N	2.08	0.67
20:G:49:MET:HE1	20:G:201:PRO:CD	2.23	0.67
25:L:42:TRP:HZ2	25:L:102:MET:SD	2.17	0.67
38:Y:116:MET:HG2	38:Y:124:MET:CG	2.24	0.67
46:g:5:ILE:HB	53:n:64:LYS:HD3	1.75	0.67
59:t:9:ASN:OD1	59:t:10:VAL:N	2.27	0.67
5:4:50:MET:HA	5:4:56:PHE:CZ	2.29	0.67
9:9:73:LYS:HG2	9:9:117:LEU:HD12	1.76	0.67
17:D:564:C:OP1	31:R:12:ARG:NH1	2.27	0.67
17:D:588:G:H4'	27:N:3:MET:HE1	1.77	0.67
17:D:876:C:H1'	27:N:12:THR:HG21	1.76	0.67
33:T:80:GLN:O	33:T:83:GLU:HG3	1.95	0.67
40:a:666:A:H1'	54:o:4:ILE:HD12	1.76	0.67
12:AB:20:HIS:HD2	12:AB:73:ARG:HB2	1.57	0.67
12:AB:148:LYS:HE2	29:P:84:VAL:CG1	2.24	0.67
24:K:115:LEU:HD12	24:K:120:VAL:HG11	1.75	0.67
40:a:2420:C:H5''	50:k:8:LYS:NZ	2.09	0.67
59:t:99:ILE:HD13	59:t:118:LEU:HB2	1.77	0.67
10:B:24:U:O2'	40:a:1922:G:O3'	2.12	0.67
16:C:13:PHE:HB3	16:C:51:TYR:CE1	2.30	0.67
32:S:19:LYS:HG3	32:S:20:TYR:CD1	2.29	0.67
62:w:49:GLU:OE1	62:w:49:GLU:N	2.26	0.67
2:1:19:LEU:HD21	48:i:22:LEU:HB2	1.75	0.67
8:7:8:U:H5'	17:D:1397:C:N3	2.10	0.67
39:Z:2:ILE:HG22	39:Z:5:ASP:H	1.58	0.67
40:a:1454:C:O4'	62:w:63:ARG:NE	2.28	0.67
40:a:2334:U:H4'	40:a:2335:A:OP2	1.95	0.67
40:a:2682:A:O4'	49:j:11:MET:HE1	1.95	0.67
65:z:68:ALA:HB1	65:z:106:PHE:CE2	2.29	0.67
17:D:274:A:H4'	35:V:16:LYS:HE3	1.76	0.67
17:D:673:A:H5''	25:L:86:ARG:NH1	2.09	0.67
17:D:945:G:C2	17:D:946:A:C8	2.83	0.67
26:M:111:ARG:O	26:M:119:ARG:NH2	2.27	0.67
40:a:927:A:H2'	40:a:928:A:C8	2.30	0.67
56:q:1:MET:HE1	56:q:35:GLN:CA	2.25	0.67
62:w:38:LEU:HD13	62:w:111:ALA:CB	2.24	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:9:43:LYS:NZ	9:9:101:LYS:HE2	2.09	0.67
9:9:50:VAL:CG2	38:Y:119:ALA:HB3	2.20	0.67
12:AB:119:THR:HA	14:AE:45:ASN:CG	2.19	0.67
14:AE:83:VAL:CB	22:I:100:GLN:OE1	2.43	0.67
10:B:71:C:H3'	10:B:72:A:C8	2.30	0.67
18:E:25:ARG:HD2	18:E:66:LEU:HD11	1.75	0.67
65:z:79:PHE:HE1	65:z:110:VAL:HA	1.60	0.67
5:4:75:GLN:HG3	5:4:92:VAL:CG2	2.25	0.67
10:A:32:C:H4'	26:M:86:GLN:NE2	2.10	0.67
12:AB:38:ILE:CG1	12:AB:156:ASN:HD21	2.06	0.67
14:AE:74:LYS:CB	29:P:89:ARG:O	2.43	0.67
21:H:23:ILE:N	21:H:69:ASP:OD2	2.27	0.67
37:X:90:ARG:HD2	37:X:97:VAL:HA	1.77	0.67
10:A:71:C:H3'	10:A:72:A:C8	2.30	0.66
14:AE:83:VAL:N	22:I:100:GLN:OE1	2.28	0.66
18:E:79:LEU:HA	18:E:82:GLN:OE1	1.94	0.66
22:I:151:VAL:HG12	22:I:200:VAL:HG23	1.77	0.66
26:M:20:SER:CB	26:M:23:LEU:HD13	2.24	0.66
40:a:1802:A:H2'	40:a:1803:A:C8	2.30	0.66
61:v:1:MET:HE1	61:v:44:ARG:HA	1.76	0.66
5:4:84:PRO:O	5:4:85:LYS:HE2	1.96	0.66
5:4:89:ILE:HG21	5:4:91:PHE:CE1	2.29	0.66
6:5:9:DA:O5'	11:AA:473:ARG:HB3	1.95	0.66
12:AB:38:ILE:HG12	12:AB:156:ASN:HD21	1.59	0.66
17:D:1151:A:O2'	17:D:1152:A:O5'	2.13	0.66
19:F:31:GLU:OE1	19:F:34:ARG:NH2	2.28	0.66
23:J:196:ASN:OD1	23:J:198:HIS:CE1	2.49	0.66
24:K:156:LYS:HE3	27:N:71:VAL:HG13	1.76	0.66
26:M:109:ARG:HD2	26:M:116:MET:HE1	1.76	0.66
28:O:86:ALA:O	28:O:89:GLU:HG2	1.95	0.66
40:a:614:A:O2'	40:a:615:U:OP2	2.12	0.66
40:a:1665:A:O5'	59:t:66:LYS:NZ	2.28	0.66
40:a:2420:C:H5''	50:k:8:LYS:CE	2.25	0.66
55:p:85:LYS:CE	55:p:164:TYR:HD1	2.07	0.66
57:r:37:VAL:HG12	57:r:43:ASN:ND2	2.09	0.66
58:s:15:TRP:NE1	58:s:53:TYR:CD2	2.63	0.66
61:v:45:GLN:NE2	61:v:125:PRO:HD3	2.10	0.66
5:4:77:VAL:HG23	5:4:89:ILE:HG12	1.76	0.66
8:7:22:U:O4	11:AA:1299:ASN:CG	2.37	0.66
12:AB:6:LEU:HB3	12:AB:79:VAL:HG11	1.77	0.66
16:C:70:TYR:CE2	17:D:674:G:H4'	2.30	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:M:46:ALA:CB	26:M:120:LEU:HD22	2.25	0.66
38:Y:45:THR:HG21	38:Y:50:LYS:HD3	1.76	0.66
38:Y:85:ILE:H	38:Y:85:ILE:HD12	1.59	0.66
40:a:1655:A:H1'	49:j:118:PHE:CE2	2.28	0.66
6:5:16:DA:H62	11:AA:151:ARG:N	1.91	0.66
9:9:44:ALA:HA	9:9:47:GLU:OE1	1.95	0.66
12:AB:37:LYS:HD3	12:AB:109:THR:HB	1.76	0.66
12:AB:92:VAL:HG22	14:AE:289:ASP:HB2	1.77	0.66
19:F:58:LYS:O	19:F:62:ARG:HG2	1.96	0.66
27:N:67:GLN:OE1	27:N:67:GLN:N	2.28	0.66
38:Y:37:PHE:CZ	38:Y:56:VAL:HG11	2.30	0.66
38:Y:48:ILE:HG13	38:Y:49:GLU:N	2.10	0.66
8:7:21:U:OP1	22:I:80:LYS:HG2	1.96	0.66
9:9:43:LYS:HZ2	9:9:101:LYS:HE2	1.61	0.66
12:AB:119:THR:CB	14:AE:45:ASN:OD1	2.42	0.66
21:H:308:GLU:HG2	21:H:309:MET:H	1.61	0.66
28:O:5:GLN:NE2	28:O:20:PHE:HB3	2.10	0.66
10:B:75:C:OP2	40:a:2602:A:C2'	2.43	0.66
16:C:51:TYR:CD1	16:C:54:GLN:NE2	2.63	0.66
31:R:30:LYS:HB3	31:R:57:LEU:HD11	1.78	0.66
37:X:81:MET:CE	40:a:888:C:C5	2.78	0.66
40:a:752:A:OP1	52:m:1:MET:HE1	1.95	0.66
1:0:55:ASP:OD1	1:0:56:GLY:N	2.27	0.66
4:3:26:LYS:HB2	4:3:35:ILE:HG23	1.78	0.66
12:AB:38:ILE:HG21	12:AB:156:ASN:CB	2.26	0.66
12:AB:119:THR:O	14:AE:47:ARG:HB3	1.96	0.66
20:G:90:PHE:CD2	20:G:154:MET:HE3	2.31	0.66
23:J:74:ASN:HA	23:J:77:LYS:HZ3	1.60	0.66
33:T:64:ARG:NH1	33:T:89:ARG:HH22	1.94	0.66
38:Y:32:VAL:HG22	38:Y:60:VAL:HG21	1.77	0.66
38:Y:102:ARG:HG3	38:Y:140:GLU:O	1.96	0.66
40:a:1800:C:OP2	47:h:182:ARG:NH1	2.27	0.66
9:9:139:LEU:CD2	39:Z:11:VAL:HG22	2.26	0.66
12:AB:145:LEU:C	29:P:88:MET:HB2	2.21	0.66
17:D:246:A:C2	17:D:282:A:C5	2.84	0.66
18:E:81:ALA:C	18:E:85:LYS:HZ3	2.04	0.66
20:G:53:ALA:HA	20:G:56:GLU:OE1	1.96	0.66
20:G:90:PHE:CE2	20:G:154:MET:HE3	2.31	0.66
21:H:163:ARG:N	21:H:298:GLU:OE2	2.28	0.66
21:H:303:LEU:O	21:H:303:LEU:HG	1.96	0.66
26:M:23:LEU:HD21	26:M:59:LEU:HD21	1.76	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:Z:20:VAL:O	39:Z:20:VAL:HG12	1.94	0.66
40:a:2175:C:H2'	40:a:2176:A:C8	2.31	0.66
9:9:23:LEU:HD13	9:9:92:ALA:HB2	1.77	0.66
9:9:24:SER:OG	9:9:86:MET:HE2	1.96	0.66
17:D:1228:C:OP2	37:X:110:LYS:NZ	2.28	0.66
20:G:101:LEU:HD22	20:G:157:LEU:CD1	2.26	0.66
26:M:26:PHE:HD1	26:M:101:MET:SD	2.19	0.66
32:S:42:TRP:HH2	46:g:66:ILE:HA	1.61	0.66
61:v:111:GLU:HG2	61:v:112:LEU:HD12	1.78	0.66
9:9:25:ALA:HB2	9:9:96:PHE:CE1	2.31	0.66
12:AB:11:ARG:HG3	12:AB:11:ARG:NH1	2.09	0.66
14:AE:84:ILE:HG22	14:AE:91:GLU:HG3	1.78	0.66
28:O:83:ILE:O	28:O:87:LEU:HD23	1.96	0.66
40:a:2682:A:C8	49:j:11:MET:HE1	2.30	0.66
5:4:56:PHE:O	5:4:61:LEU:HD11	1.95	0.65
17:D:375:U:P	34:U:70:ARG:NE	2.69	0.65
18:E:21:ASN:C	18:E:25:ARG:NE	2.54	0.65
18:E:54:MET:HE1	18:E:75:HIS:CE1	2.31	0.65
32:S:53:ARG:HB3	32:S:59:ARG:NH1	2.11	0.65
33:T:53:ARG:O	33:T:57:LEU:HD23	1.97	0.65
58:s:43:GLU:OE1	58:s:43:GLU:N	2.29	0.65
40:a:617:G:H4'	51:l:199:MET:HE1	1.78	0.65
40:a:1824:G:OP1	47:h:52:ARG:CZ	2.44	0.65
47:h:53:HIS:NE2	47:h:219:THR:HA	2.11	0.65
61:v:31:PHE:N	61:v:104:GLU:OE2	2.29	0.65
8:7:11:U:C4'	24:K:20:ARG:HH22	1.93	0.65
12:AB:8:TYR:OH	14:AE:278:ARG:NH2	2.29	0.65
18:E:16:LYS:O	18:E:19:LYS:HG2	1.97	0.65
20:G:27:MET:HG2	20:G:189:THR:HA	1.78	0.65
40:a:111:A:O3'	44:e:58:ASN:ND2	2.28	0.65
40:a:2572:A:N7	49:j:150:GLN:NE2	2.45	0.65
40:a:2682:A:H2'	40:a:2683:C:O4'	1.96	0.65
42:c:71:LEU:HB3	42:c:76:GLU:CD	2.20	0.65
43:d:55:U:H1'	53:n:26:MET:CE	2.26	0.65
51:l:40:ARG:HD2	51:l:92:HIS:ND1	2.10	0.65
51:l:147:LEU:HB2	51:l:183:PHE:HD2	1.62	0.65
51:l:149:ILE:HD11	51:l:188:MET:HG2	1.78	0.65
10:A:76:A:N6	40:a:2422:C:O5'	2.29	0.65
17:D:1158:C:O2'	20:G:132:LYS:CE	2.45	0.65
20:G:23:TRP:CD1	20:G:39:HIS:HE1	2.14	0.65
32:S:87:ALA:CA	32:S:90:ARG:NH1	2.60	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:W:62:VAL:HG13	36:W:66:MET:HE3	1.77	0.65
38:Y:24:GLY:O	38:Y:27:LEU:HG	1.96	0.65
40:a:2355:G:C2'	40:a:2356:U:H5'	2.26	0.65
59:t:1:MET:HE1	59:t:32:TYR:CD1	2.31	0.65
4:3:34:VAL:HG13	4:3:67:VAL:HG22	1.78	0.65
9:9:14:GLU:O	9:9:18:VAL:HG23	1.96	0.65
10:A:22:G:H2'	10:A:23:C:C6	2.32	0.65
11:AA:481:LEU:CB	12:AB:23:ARG:CZ	2.61	0.65
12:AB:118:ILE:HD13	12:AB:118:ILE:N	2.11	0.65
35:V:60:GLU:OE1	35:V:76:VAL:CG2	2.45	0.65
40:a:2356:U:O3'	41:b:20:ARG:CZ	2.45	0.65
40:a:2393:U:P	54:o:30:ARG:NE	2.70	0.65
44:e:4:LYS:HZ2	44:e:7:ARG:HH12	1.45	0.65
47:h:129:THR:HG22	47:h:189:ARG:HD2	1.77	0.65
58:s:13:ARG:HH22	58:s:50:THR:HA	1.60	0.65
59:t:1:MET:HE1	59:t:32:TYR:CG	2.31	0.65
65:z:85:LYS:HD2	65:z:116:ALA:HB1	1.78	0.65
5:4:50:MET:HB3	5:4:56:PHE:CE1	2.31	0.65
11:AA:314:ASN:HD21	11:AA:348:SER:HA	1.62	0.65
12:AB:162:LEU:O	14:AE:40:LYS:NZ	2.27	0.65
17:D:280:C:H1'	35:V:40:ARG:NH2	2.11	0.65
20:G:134:ALA:O	20:G:137:ARG:HG2	1.96	0.65
24:K:137:VAL:O	24:K:140:THR:OG1	2.15	0.65
25:L:25:TYR:O	25:L:29:ILE:HD12	1.97	0.65
38:Y:99:LYS:HD2	38:Y:140:GLU:CD	2.22	0.65
46:g:58:ASP:C	46:g:62:LYS:NZ	2.55	0.65
51:l:62:GLN:O	51:l:69:ARG:NE	2.30	0.65
58:s:53:TYR:CE1	58:s:121:LYS:HD2	2.32	0.65
60:u:122:VAL:CG1	60:u:125:LEU:HD11	2.27	0.65
61:v:45:GLN:NE2	61:v:125:PRO:CD	2.59	0.65
3:2:3:ARG:NH1	3:2:5:GLU:OE2	2.30	0.65
6:5:16:DA:H61	11:AA:150:HIS:C	2.05	0.65
19:F:10:GLU:OE2	19:F:18:ARG:NE	2.30	0.65
24:K:148:ASN:OD1	27:N:96:MET:CE	2.45	0.65
47:h:52:ARG:HE	47:h:53:HIS:HE1	1.44	0.65
49:j:3:GLY:O	49:j:4:LEU:HD12	1.95	0.65
55:p:52:PHE:CD1	55:p:69:ARG:HD3	2.32	0.65
14:AE:58:CYS:SG	14:AE:59:ALA:N	2.69	0.65
25:L:2:ARG:CZ	25:L:68:GLN:NE2	2.60	0.65
38:Y:14:ALA:HB3	38:Y:51:GLY:N	2.12	0.65
42:c:66:THR:HG22	42:c:70:GLU:OE2	1.97	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:t:38:ILE:HD11	59:t:112:PHE:HZ	1.60	0.65
16:C:73:ARG:HH12	30:Q:113:VAL:CB	2.09	0.65
18:E:28:MET:SD	18:E:61:GLN:HG3	2.36	0.65
23:J:138:SER:O	23:J:141:ASP:CG	2.40	0.65
27:N:10:MET:HG3	27:N:27:MET:HE1	1.78	0.65
31:R:80:ILE:HD12	31:R:104:CYS:HB2	1.79	0.65
38:Y:20:SER:HB2	38:Y:21:PRO:HD3	1.79	0.65
38:Y:102:ARG:HD2	38:Y:141:ASP:CB	2.27	0.65
40:a:998:C:OP2	65:z:92:ARG:NH2	2.29	0.65
53:n:117:LEU:HD13	53:n:176:PRO:CG	2.26	0.65
54:o:30:ARG:HH12	60:u:62:PRO:CB	2.10	0.65
6:5:16:DA:N6	11:AA:150:HIS:C	2.55	0.64
9:9:25:ALA:HB3	9:9:99:PHE:HD2	1.61	0.64
19:F:58:LYS:O	19:F:62:ARG:CG	2.45	0.64
21:H:277:GLY:HA2	21:H:331:MET:CE	2.27	0.64
37:X:28:THR:HA	37:X:31:LYS:HE3	1.78	0.64
38:Y:14:ALA:C	38:Y:50:LYS:HE3	2.22	0.64
38:Y:126:ARG:NH2	40:a:1083:U:P	2.70	0.64
39:Z:22:LEU:O	39:Z:26:MET:HE1	1.97	0.64
40:a:1278:C:C4'	62:w:24:MET:HE1	2.27	0.64
2:1:71:VAL:HB	2:1:74:ILE:HD11	1.79	0.64
4:3:68:SER:OG	40:a:335:C:O2	2.15	0.64
10:A:19:G:C2	40:a:2112:G:O4'	2.50	0.64
12:AB:38:ILE:CB	12:AB:156:ASN:ND2	2.54	0.64
14:AE:79:LYS:C	14:AE:81:ARG:CZ	2.70	0.64
10:B:22:G:H2'	10:B:23:C:C6	2.32	0.64
16:C:34:THR:N	16:C:38:LYS:O	2.30	0.64
17:D:714:G:H2'	17:D:715:A:C8	2.32	0.64
17:D:738:C:H5''	25:L:68:GLN:NE2	2.12	0.64
20:G:19:GLN:HG3	21:H:76:GLU:HB3	1.79	0.64
23:J:150:LYS:HE2	23:J:178:MET:HE2	1.79	0.64
53:n:135:GLN:HG3	53:n:150:ARG:NH2	2.13	0.64
9:9:129:LEU:N	9:9:130:PRO:HD2	2.12	0.64
10:A:32:C:H4'	26:M:86:GLN:HE21	1.62	0.64
12:AB:115:LYS:HZ2	12:AB:115:LYS:CA	2.09	0.64
17:D:675:A:H1'	30:Q:118:HIS:CD2	2.33	0.64
23:J:62:ARG:HG2	23:J:72:PHE:CZ	2.33	0.64
33:T:3:LEU:HD22	33:T:8:THR:CG2	2.27	0.64
40:a:1839:G:H1'	40:a:1927:A:C8	2.32	0.64
51:l:45:ALA:HB1	51:l:88:ARG:NH2	2.12	0.64
8:7:23:U:H3	11:AA:1299:ASN:HD21	1.43	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AB:129:ILE:H	12:AB:142:LEU:HB3	1.62	0.64
12:AB:146:ILE:CD1	29:P:87:LEU:HB2	2.26	0.64
20:G:26:LYS:NZ	20:G:193:PRO:HG2	2.12	0.64
21:H:119:GLY:HA2	21:H:133:GLY:HA2	1.79	0.64
38:Y:55:PRO:HB2	38:Y:71:LYS:HE2	1.80	0.64
40:a:196:A:C2	60:u:50:PHE:HZ	2.16	0.64
40:a:2308:G:C5	53:n:77:PHE:CZ	2.85	0.64
23:J:99:ASP:OD1	23:J:100:ASN:N	2.31	0.64
38:Y:102:ARG:NE	38:Y:102:ARG:HA	2.11	0.64
40:a:537:G:OP1	58:s:2:LYS:HE2	1.98	0.64
57:r:137:GLU:HG2	57:r:138:VAL:N	2.11	0.64
61:v:105:MET:CE	61:v:108:VAL:HG21	2.27	0.64
9:9:100:ALA:HB2	9:9:125:ARG:NE	2.13	0.64
9:9:117:LEU:O	9:9:117:LEU:HD23	1.98	0.64
12:AB:38:ILE:CD1	12:AB:110:PRO:HG3	2.03	0.64
12:AB:92:VAL:HG21	14:AE:289:ASP:HB3	1.78	0.64
12:AB:160:ARG:HH11	12:AB:160:ARG:CB	2.05	0.64
17:D:1308:U:P	37:X:100:GLN:NE2	2.70	0.64
22:I:45:LYS:NZ	22:I:46:GLU:OE1	2.29	0.64
22:I:132:ARG:O	22:I:135:LYS:HG2	1.97	0.64
31:R:25:GLU:CD	31:R:59:ASN:HD22	2.05	0.64
35:V:31:HIS:CD2	35:V:34:TYR:H	2.16	0.64
36:W:40:ILE:CD1	36:W:66:MET:SD	2.77	0.64
38:Y:102:ARG:NE	38:Y:139:VAL:HG21	2.13	0.64
12:AB:38:ILE:HG21	12:AB:156:ASN:HD22	0.52	0.64
14:AE:79:LYS:C	14:AE:81:ARG:NH2	2.56	0.64
32:S:87:ALA:HA	32:S:90:ARG:CZ	2.28	0.64
38:Y:81:LYS:NZ	38:Y:86:LYS:HE2	2.12	0.64
47:h:123:ALA:HB1	47:h:125:LYS:HZ3	1.63	0.64
49:j:55:LYS:HZ1	49:j:59:ARG:C	2.05	0.64
2:1:25:ARG:NH2	40:a:520:G:C5'	2.60	0.64
8:7:9:U:N3	17:D:1196:A:N7	2.45	0.64
9:9:43:LYS:HD3	9:9:98:GLU:HG3	1.78	0.64
11:AA:1282:GLY:HA3	15:AF:17:PHE:HE1	1.63	0.64
12:AB:138:ARG:HG2	12:AB:154:VAL:CA	2.27	0.64
12:AB:145:LEU:CB	29:P:88:MET:CB	2.75	0.64
22:I:156:ARG:HH11	22:I:193:TYR:HB3	1.63	0.64
26:M:4:ARG:CG	26:M:5:ARG:CZ	2.75	0.64
26:M:23:LEU:HD21	26:M:59:LEU:CD2	2.27	0.64
40:a:1596:A:H2'	40:a:1597:A:C8	2.32	0.64
40:a:2311:A:N3	53:n:85:ILE:HD11	2.13	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:l:69:ARG:NH1	51:l:69:ARG:HA	2.13	0.64
53:n:93:GLY:O	53:n:96:MET:N	2.29	0.64
65:z:41:LYS:HG3	65:z:45:TYR:CE2	2.32	0.64
8:7:11:U:H4'	24:K:20:ARG:HH21	1.53	0.64
17:D:718:A:H5'	30:Q:119:ASN:ND2	2.13	0.64
37:X:16:VAL:HG23	37:X:17:ILE:HD12	1.80	0.64
46:g:65:ASN:OD1	46:g:66:ILE:N	2.30	0.64
51:l:194:LYS:O	51:l:198:GLU:OE1	2.15	0.64
60:u:84:LYS:HZ2	60:u:98:ALA:C	2.02	0.64
64:y:31:TRP:CZ3	64:y:38:LYS:HD3	2.33	0.64
3:2:36:LYS:HE3	3:2:79:ASP:OD2	1.98	0.64
12:AB:117:ILE:HA	12:AB:127:GLN:HG2	1.80	0.64
21:H:19:ARG:O	21:H:72:LEU:HB2	1.98	0.64
38:Y:5:GLN:HE22	38:Y:60:VAL:N	1.96	0.64
55:p:149:ARG:CZ	55:p:162:VAL:O	2.45	0.64
9:9:24:SER:OG	9:9:116:GLU:HG3	1.98	0.63
10:A:54:U:H3	10:A:58:A:N6	1.96	0.63
40:a:2335:A:P	63:x:13:ARG:CZ	2.87	0.63
55:p:107:LEU:O	55:p:152:ARG:CZ	2.45	0.63
8:7:21:U:O4	22:I:82:GLU:HB2	1.97	0.63
38:Y:5:GLN:HG2	38:Y:61:TYR:CD1	2.32	0.63
40:a:2723:C:H5''	62:w:1:MET:HE3	1.78	0.63
62:w:33:ILE:CG1	62:w:112:TYR:HD1	2.11	0.63
64:y:64:ILE:HG13	64:y:64:ILE:O	1.97	0.63
9:9:7:ASP:O	9:9:11:ILE:HD12	1.98	0.63
9:9:46:ARG:CG	9:9:94:ARG:HH21	2.02	0.63
9:9:47:GLU:HG2	9:9:95:LEU:HD21	1.78	0.63
12:AB:2:GLN:HG3	12:AB:59:PHE:HA	1.80	0.63
17:D:1309:G:P	37:X:98:ARG:HE	2.20	0.63
17:D:1323:G:H2'	17:D:1324:A:C8	2.33	0.63
20:G:114:LEU:HD13	20:G:144:LEU:CB	2.28	0.63
40:a:2682:A:O4'	49:j:11:MET:CE	2.47	0.63
1:0:82:HIS:CG	1:0:82:HIS:O	2.52	0.63
9:9:73:LYS:NZ	9:9:115:GLY:O	2.31	0.63
37:X:16:VAL:HG12	37:X:34:LEU:HD12	1.80	0.63
38:Y:31:GLY:C	38:Y:60:VAL:HG11	2.23	0.63
51:l:112:LEU:HG	51:l:118:LEU:HB2	1.79	0.63
63:x:114:GLY:O	63:x:116:GLN:NE2	2.31	0.63
8:7:9:U:N3	17:D:1196:A:C8	2.66	0.63
11:AA:478:ARG:HD2	11:AA:492:MET:HA	1.80	0.63
14:AE:72:CYS:HG	14:AE:85:CYS:HG	1.43	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:H:70:VAL:HG12	21:H:83:LEU:O	1.98	0.63
34:U:5:ARG:HG2	34:U:68:SER:HB2	1.80	0.63
48:i:17:ARG:HA	48:i:20:ASP:OD1	1.99	0.63
51:l:6:LYS:HE3	51:l:119:ILE:CG2	2.28	0.63
57:r:135:HIS:ND1	57:r:137:GLU:CD	2.44	0.63
5:4:50:MET:O	5:4:52:ALA:N	2.31	0.63
12:AB:50:LEU:HD13	12:AB:100:LYS:HG2	1.79	0.63
10:B:76:A:H1'	40:a:2494:G:OP1	1.98	0.63
24:K:61:GLN:HA	24:K:64:MET:CE	2.27	0.63
31:R:75:GLN:OE1	31:R:75:GLN:N	2.32	0.63
32:S:10:GLU:O	32:S:14:VAL:HG23	1.97	0.63
38:Y:21:PRO:HB2	38:Y:22:PRO:HD3	1.80	0.63
38:Y:102:ARG:HG3	38:Y:141:ASP:HA	1.80	0.63
45:f:41:THR:O	45:f:44:ILE:N	2.30	0.63
9:9:47:GLU:HB3	9:9:51:TYR:OH	1.97	0.63
12:AB:87:ILE:CD1	12:AB:87:ILE:H	2.09	0.63
12:AB:145:LEU:CA	29:P:88:MET:HB2	2.28	0.63
17:D:1152:A:OP1	29:P:70:HIS:ND1	2.29	0.63
29:P:24:GLU:HA	29:P:27:GLU:OE1	1.98	0.63
38:Y:37:PHE:CE1	38:Y:56:VAL:HG11	2.33	0.63
40:a:2725:A:C4	40:a:2727:A:C8	2.87	0.63
59:t:8:LEU:N	59:t:18:ARG:NH1	2.46	0.63
1:0:51:VAL:HG23	65:z:86:ALA:O	1.98	0.63
8:7:29:A:H2'	8:7:29:A:N3	2.13	0.63
8:7:32:U:C5'	11:AA:1259:LEU:HD21	2.27	0.63
9:9:56:ARG:H	9:9:56:ARG:HD3	1.63	0.63
10:B:31:G:O3'	17:D:1340:A:O2'	2.17	0.63
10:B:54:U:H3	10:B:58:A:N6	1.96	0.63
16:C:73:ARG:HH12	30:Q:113:VAL:HA	1.62	0.63
40:a:754:U:H2'	40:a:755:U:C6	2.34	0.63
40:a:1067:A:O2'	40:a:1068:G:O4'	2.16	0.63
40:a:2419:U:H4'	50:k:22:THR:HG21	1.79	0.63
59:t:42:THR:HG23	59:t:44:LYS:NZ	2.12	0.63
5:4:77:VAL:HG11	5:4:79:ARG:HH21	1.64	0.63
24:K:140:THR:O	24:K:144:LEU:HD23	1.99	0.63
36:W:66:MET:SD	36:W:66:MET:O	2.57	0.63
38:Y:9:LYS:HG2	38:Y:55:PRO:HB3	1.80	0.63
38:Y:100:ILE:CD1	38:Y:139:VAL:HB	2.29	0.63
1:0:84:ARG:NH1	40:a:813:U:OP1	2.31	0.62
5:4:80:HIS:CE1	5:4:82:TYR:H	2.17	0.62
9:9:77:VAL:HG12	9:9:77:VAL:O	1.99	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:9:113:PHE:O	9:9:123:ILE:HG13	1.99	0.62
26:M:23:LEU:HD12	26:M:23:LEU:N	2.13	0.62
38:Y:86:LYS:HD3	38:Y:86:LYS:C	2.23	0.62
40:a:2013:A:N1	40:a:2613:U:O4	2.32	0.62
44:e:13:GLU:O	44:e:17:GLU:OE1	2.16	0.62
46:g:58:ASP:C	46:g:62:LYS:HZ3	2.07	0.62
50:k:21:TYR:CE2	50:k:38:LYS:HG2	2.34	0.62
12:AB:81:PHE:CZ	14:AE:141:PHE:CB	2.81	0.62
16:C:33:ILE:O	21:H:338:GLU:CD	2.42	0.62
17:D:13:U:O2	17:D:914:A:C8	2.52	0.62
17:D:43:C:OP1	34:U:12:LYS:NZ	2.29	0.62
17:D:1226:C:H2'	37:X:102:THR:OG1	1.98	0.62
17:D:1228:C:OP1	37:X:107:ARG:NH1	2.32	0.62
40:a:2315:G:H4'	53:n:127:ASN:ND2	2.14	0.62
9:9:50:VAL:HG23	38:Y:120:ASP:OD2	1.98	0.62
33:T:88:ARG:NH2	40:a:714:U:OP2	2.31	0.62
61:v:88:ASN:OD1	61:v:89:VAL:N	2.32	0.62
3:2:56:GLU:OE2	3:2:87:LEU:C	2.42	0.62
8:7:21:U:O4	22:I:82:GLU:OE1	2.17	0.62
12:AB:80:ARG:HB3	14:AE:297:ARG:NH2	2.14	0.62
17:D:337:G:H2'	17:D:338:A:C8	2.34	0.62
20:G:30:PHE:CD1	20:G:201:PRO:CG	2.83	0.62
21:H:16:ILE:HG22	21:H:25:ARG:NH2	2.14	0.62
22:I:14:ILE:HG22	22:I:15:VAL:HG13	1.82	0.62
47:h:251:GLN:HE22	47:h:253:LYS:C	2.07	0.62
60:u:84:LYS:NZ	60:u:98:ALA:O	2.20	0.62
6:5:14:DT:O4	11:AA:201:ARG:NH2	2.30	0.62
16:C:13:PHE:CE2	16:C:21:ILE:HD11	2.34	0.62
17:D:932:C:H5'	26:M:4:ARG:HH11	1.62	0.62
17:D:1290:G:H4'	26:M:35:LYS:HZ3	1.64	0.62
20:G:19:GLN:OE1	20:G:21:ARG:HG2	2.00	0.62
21:H:61:GLU:HG2	21:H:62:ILE:HG23	1.81	0.62
24:K:45:ARG:HB3	24:K:71:MET:HE2	1.82	0.62
24:K:111:MET:HE1	24:K:125:ALA:HB1	1.80	0.62
25:L:102:MET:HG2	25:L:103:VAL:N	2.06	0.62
26:M:4:ARG:HG3	26:M:5:ARG:CG	2.22	0.62
26:M:50:LEU:HD21	26:M:121:ALA:CA	2.28	0.62
40:a:2682:A:O5'	49:j:11:MET:HE1	1.98	0.62
61:v:38:ARG:HA	61:v:96:ILE:O	2.00	0.62
5:4:57:TYR:OH	5:4:79:ARG:NH2	2.24	0.62
9:9:23:LEU:HD11	9:9:96:PHE:CE2	2.34	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:62:TYR:HE2	12:AB:71:ALA:O	1.81	0.62
11:AA:387:ASN:HB3	11:AA:394:ARG:HH11	1.63	0.62
26:M:66:LEU:HD13	26:M:101:MET:HE1	1.81	0.62
32:S:13:ARG:HB3	32:S:60:GLN:HG3	1.81	0.62
9:9:28:ALA:H	9:9:110:ALA:HA	1.61	0.62
12:AB:87:ILE:CD1	14:AE:162:GLU:CG	2.75	0.62
20:G:110:SER:HA	20:G:113:ARG:HE	1.65	0.62
21:H:135:LEU:O	21:H:169:SER:HA	1.99	0.62
24:K:113:ALA:HA	24:K:116:GLU:OE1	2.00	0.62
34:U:18:GLN:OE1	34:U:37:GLY:O	2.17	0.62
38:Y:102:ARG:HA	38:Y:102:ARG:HE	1.64	0.62
40:a:1824:G:C3'	47:h:52:ARG:HH12	2.13	0.62
6:5:9:DA:P	11:AA:473:ARG:CG	2.88	0.62
8:7:11:U:O4'	24:K:20:ARG:NH2	2.32	0.62
9:9:98:GLU:HA	9:9:101:LYS:HZ3	1.65	0.62
20:G:118:GLU:O	20:G:121:SER:OG	2.15	0.62
26:M:18:PHE:HD2	26:M:59:LEU:HD21	1.65	0.62
28:O:123:ARG:HG2	28:O:123:ARG:O	1.98	0.62
39:Z:8:ILE:HG13	39:Z:9:GLU:N	2.15	0.62
40:a:1277:G:N3	62:w:23:ASN:ND2	2.47	0.62
51:l:23:PHE:HB2	51:l:111:GLU:OE2	1.99	0.62
59:t:8:LEU:N	59:t:18:ARG:HH12	1.98	0.62
7:6:25:DT:OP1	11:AA:496:LYS:C	2.43	0.62
12:AB:15:GLN:OE1	12:AB:15:GLN:HA	1.99	0.62
12:AB:115:LYS:HA	12:AB:115:LYS:NZ	2.13	0.62
16:C:45:THR:HA	21:H:340:ARG:NH2	2.15	0.62
32:S:77:PHE:HE1	32:S:93:ILE:HG21	1.63	0.62
38:Y:79:LEU:CD2	38:Y:105:LEU:HD21	2.27	0.62
38:Y:79:LEU:CD1	38:Y:132:ALA:HA	2.29	0.62
38:Y:99:LYS:NZ	38:Y:138:VAL:HG13	2.13	0.62
45:f:10:THR:HB	45:f:56:LYS:HZ2	1.64	0.62
50:k:34:LEU:HB3	50:k:51:GLU:HG3	1.82	0.62
8:7:9:U:O4	17:D:1196:A:N9	2.32	0.62
10:A:5:G:H2'	10:A:6:G:H5'	1.82	0.62
10:A:33:U:O3'	26:M:84:THR:OG1	2.16	0.62
20:G:126:PHE:O	20:G:126:PHE:CD1	2.53	0.62
21:H:135:LEU:CB	21:H:167:VAL:CB	2.78	0.62
26:M:17:LYS:HG3	26:M:18:PHE:CD1	2.35	0.62
32:S:87:ALA:HA	32:S:90:ARG:NH1	2.15	0.62
33:T:67:LEU:HD12	33:T:78:TYR:CE1	2.35	0.62
38:Y:80:LYS:HG3	38:Y:86:LYS:O	2.00	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:1138:G:N3	58:s:108:MET:HE2	2.14	0.62
40:a:1406:U:C2	40:a:1407:G:C8	2.88	0.62
40:a:1839:G:C8	40:a:1927:A:H1'	2.35	0.62
61:v:1:MET:HE1	61:v:44:ARG:CA	2.30	0.62
62:w:42:LYS:HE2	62:w:97:ILE:HG21	1.82	0.62
65:z:74:ILE:HD11	65:z:79:PHE:CA	2.30	0.62
17:D:406:G:H21	23:J:116:GLN:HE22	1.46	0.61
17:D:562:U:C2'	31:R:14:ARG:HH11	2.13	0.61
20:G:38:VAL:CG2	21:H:75:VAL:HG21	2.30	0.61
38:Y:19:PRO:O	38:Y:24:GLY:CA	2.48	0.61
40:a:2307:G:O4'	40:a:2308:G:C5	2.52	0.61
58:s:11:VAL:HG11	58:s:13:ARG:NH1	2.15	0.61
65:z:74:ILE:CD1	65:z:74:ILE:CB	2.76	0.61
8:7:21:U:H5'	8:7:22:U:H5''	1.81	0.61
10:A:36:U:H2'	10:A:37:A:C8	2.35	0.61
11:AA:120:GLN:NE2	11:AA:490:GLN:OE1	2.32	0.61
20:G:49:MET:HE3	20:G:199:VAL:O	1.99	0.61
53:n:33:LYS:HA	53:n:96:MET:SD	2.39	0.61
53:n:38:MET:SD	53:n:150:ARG:HD2	2.40	0.61
58:s:37:ARG:NH2	58:s:44:TYR:OH	2.32	0.61
9:9:47:GLU:HA	9:9:94:ARG:HH22	1.64	0.61
11:AA:472:GLU:HG3	11:AA:473:ARG:HD3	1.83	0.61
13:AC:45:ARG:HD3	13:AD:38:THR:HB	1.82	0.61
17:D:563:A:C2	17:D:567:G:C5	2.89	0.61
24:K:69:ARG:HA	24:K:69:ARG:NE	2.15	0.61
27:N:24:ALA:HB1	27:N:60:GLU:OE2	2.00	0.61
32:S:19:LYS:HG3	32:S:20:TYR:CE1	2.35	0.61
37:X:22:ILE:HB	37:X:25:VAL:HG12	1.80	0.61
40:a:985:C:C2	40:a:986:C:C5	2.88	0.61
57:r:114:GLU:OE2	57:r:134:VAL:N	2.33	0.61
8:7:7:U:H6	8:7:7:U:H5''	1.64	0.61
8:7:15:U:C4	15:AF:80:LEU:HD12	2.30	0.61
12:AB:38:ILE:HD12	12:AB:38:ILE:N	2.15	0.61
54:o:32:ILE:HG13	54:o:32:ILE:O	2.00	0.61
9:9:25:ALA:HB2	9:9:96:PHE:CD1	2.36	0.61
17:D:1124:G:O2'	17:D:1145:A:N6	2.33	0.61
24:K:61:GLN:HA	24:K:64:MET:HE3	1.81	0.61
40:a:2682:A:H8	49:j:11:MET:HE1	1.66	0.61
47:h:141:VAL:HG23	47:h:162:VAL:CG1	2.31	0.61
54:o:13:ARG:HD3	60:u:58:TYR:O	2.00	0.61
62:w:37:THR:OG1	62:w:40:LYS:HD2	2.00	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
63:x:90:VAL:HG21	63:x:115:LEU:HD21	1.81	0.61
12:AB:69:ILE:HD12	12:AB:69:ILE:H	1.65	0.61
12:AB:106:ASP:CB	12:AB:107:PRO:HD2	2.20	0.61
28:O:94:LEU:HB3	28:O:97:GLU:OE2	2.01	0.61
36:W:67:VAL:HG21	46:g:57:VAL:HG22	1.82	0.61
50:k:34:LEU:HB3	50:k:51:GLU:CG	2.31	0.61
8:7:11:U:O2'	24:K:33:PHE:CZ	2.52	0.61
8:7:22:U:C5	11:AA:1299:ASN:OD1	2.52	0.61
11:AA:528:ARG:NH2	11:AA:576:SER:O	2.30	0.61
17:D:687:A:C2	17:D:704:A:C5	2.88	0.61
27:N:43:GLU:CD	27:N:101:ILE:HG21	2.25	0.61
29:P:23:ALA:O	29:P:27:GLU:OE1	2.18	0.61
29:P:25:ILE:O	29:P:28:THR:OG1	2.19	0.61
37:X:28:THR:CG2	37:X:31:LYS:HE3	2.30	0.61
38:Y:9:LYS:HE2	38:Y:55:PRO:HG3	1.82	0.61
40:a:548:G:H3'	40:a:549:G:O4'	2.01	0.61
40:a:1668:A:O2'	40:a:1674:G:N7	2.32	0.61
46:g:1:MET:HE2	46:g:6:HIS:CD2	2.35	0.61
46:g:5:ILE:HD12	53:n:64:LYS:CE	2.31	0.61
12:AB:38:ILE:N	12:AB:110:PRO:HG3	2.07	0.61
22:I:58:GLU:OE2	29:P:94:ALA:CB	2.48	0.61
38:Y:72:THR:OG1	38:Y:73:PRO:HD2	2.01	0.61
3:2:56:GLU:OE1	3:2:86:THR:O	2.19	0.61
7:6:23:DT:C5'	14:AE:259:ARG:HH12	2.14	0.61
9:9:52:MET:C	9:9:52:MET:HE3	2.25	0.61
11:AA:1072:ASN:ND2	11:AA:1111:GLN:OE1	2.34	0.61
10:B:36:U:H2'	10:B:37:A:C8	2.36	0.61
20:G:73:LYS:O	20:G:74:ARG:HG2	2.00	0.61
21:H:280:LEU:N	21:H:330:VAL:O	2.31	0.61
24:K:81:LEU:HG	24:K:96:MET:HE1	1.83	0.61
25:L:9:MET:HE2	25:L:51:ILE:HD11	1.83	0.61
30:Q:84:VAL:HG23	30:Q:107:ILE:CD1	2.30	0.61
36:W:45:ILE:HA	36:W:62:VAL:CG1	2.31	0.61
40:a:2191:A:H2'	40:a:2192:U:C6	2.36	0.61
58:s:13:ARG:HH22	58:s:50:THR:CA	2.14	0.61
1:0:73:LYS:NZ	40:a:1225:G:OP1	2.34	0.61
3:2:9:LYS:O	3:2:12:ARG:NH1	2.30	0.61
3:2:56:GLU:OE2	3:2:87:LEU:O	2.18	0.61
6:5:16:DA:C5	11:AA:151:ARG:HG3	2.35	0.61
11:AA:55:SER:OG	11:AA:465:ARG:NH1	2.33	0.61
13:AD:211:ILE:HG12	13:AD:219:ARG:HH12	1.65	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:1145:A:O2'	17:D:1146:A:O5'	2.18	0.61
43:d:5:U:OP1	43:d:61:G:O2'	2.16	0.61
58:s:98:GLU:O	58:s:102:GLU:OE1	2.18	0.61
58:s:102:GLU:HB3	58:s:119:PHE:HZ	1.66	0.61
12:AB:38:ILE:HG13	12:AB:43:ARG:HB3	1.83	0.60
22:I:142:MET:HE2	22:I:149:ILE:HG22	1.83	0.60
26:M:103:TRP:O	26:M:106:GLU:HG3	2.01	0.60
14:AE:814:CYS:SG	14:AE:883:ARG:NH2	2.74	0.60
17:D:1157:A:C2	17:D:1181:G:C4	2.88	0.60
24:K:159:LYS:NZ	27:N:44:GLY:HA3	2.16	0.60
40:a:271:G:C4	40:a:272:A:C8	2.89	0.60
40:a:1070:A:N7	40:a:1096:A:O2'	2.35	0.60
60:u:76:GLU:HG3	60:u:111:ILE:CD1	2.31	0.60
2:1:1:MET:SD	2:1:3:THR:OG1	2.59	0.60
5:4:77:VAL:HG22	5:4:79:ARG:HE	1.64	0.60
9:9:123:ILE:O	9:9:123:ILE:HG23	2.02	0.60
26:M:137:LYS:O	26:M:141:VAL:HG23	2.02	0.60
35:V:60:GLU:OE1	35:V:76:VAL:HG23	2.01	0.60
40:a:753:A:C2	40:a:754:U:C6	2.89	0.60
49:j:1:MET:HE2	49:j:100:LEU:HD11	1.83	0.60
53:n:122:PHE:CZ	53:n:170:LEU:HD12	2.36	0.60
61:v:75:GLU:HG3	61:v:90:GLU:OE1	2.01	0.60
9:9:23:LEU:HA	9:9:118:ILE:CG1	2.31	0.60
9:9:61:ARG:NE	40:a:1046:A:O5'	2.34	0.60
14:AE:1161:GLY:HA3	14:AE:1179:PRO:HA	1.83	0.60
10:B:30:G:O2'	17:D:1339:A:C2	2.52	0.60
17:D:522:C:OP2	31:R:66:TYR:OH	2.17	0.60
17:D:692:U:N3	17:D:695:A:OP2	2.34	0.60
17:D:1125:U:C2	17:D:1127:G:C8	2.89	0.60
24:K:112:ARG:O	24:K:116:GLU:OE1	2.19	0.60
27:N:106:THR:HB	27:N:121:LEU:HD13	1.83	0.60
35:V:61:ILE:HG13	35:V:73:TRP:CZ3	2.36	0.60
37:X:55:THR:O	37:X:59:GLU:OE1	2.18	0.60
38:Y:36:GLU:HG3	38:Y:66:PHE:CE1	2.36	0.60
40:a:1172:C:H2'	40:a:1173:U:O4'	2.02	0.60
61:v:111:GLU:HA	61:v:114:ARG:HE	1.66	0.60
62:w:47:VAL:O	62:w:51:LEU:HD23	2.00	0.60
8:7:9:U:O4	17:D:1196:A:C8	2.55	0.60
9:9:47:GLU:HG3	9:9:94:ARG:NH1	2.16	0.60
9:9:94:ARG:CB	9:9:97:LYS:HE2	2.32	0.60
12:AB:146:ILE:CD1	29:P:88:MET:N	2.64	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:1006:G:H2'	17:D:1007:U:C6	2.36	0.60
23:J:91:LEU:HD21	23:J:195:ILE:HD12	1.84	0.60
25:L:42:TRP:CZ2	25:L:102:MET:HG3	2.36	0.60
40:a:2093:G:P	57:r:22:LYS:HZ2	2.20	0.60
45:f:40:ASP:C	45:f:45:ARG:NH2	2.60	0.60
57:r:5:LEU:HD12	57:r:17:ASP:O	2.00	0.60
60:u:51:GLU:OE1	60:u:51:GLU:N	2.34	0.60
10:A:65:C:H2'	10:A:66:C:H5'	1.83	0.60
37:X:81:MET:HE1	37:X:92:ARG:HD3	1.83	0.60
40:a:639:U:H2'	40:a:640:C:C6	2.36	0.60
40:a:2363:G:OP2	54:o:40:ARG:HD2	2.01	0.60
50:k:19:HIS:ND1	50:k:41:PRO:CD	2.65	0.60
58:s:13:ARG:NH2	58:s:49:ASP:O	2.34	0.60
1:0:61:ALA:HB1	1:0:96:VAL:HG22	1.84	0.60
2:1:86:MET:CE	2:1:88:ARG:HD3	2.32	0.60
12:AB:79:VAL:HG13	12:AB:79:VAL:O	2.02	0.60
28:O:55:VAL:O	28:O:57:MET:N	2.34	0.60
40:a:404:A:HO2'	40:a:405:U:P	2.25	0.60
40:a:2189:U:P	40:a:2189:U:O4'	2.60	0.60
55:p:85:LYS:HE3	55:p:164:TYR:HD1	1.67	0.60
10:B:65:C:H2'	10:B:66:C:H5'	1.83	0.60
17:D:1169:A:H2'	17:D:1170:A:C8	2.37	0.60
27:N:104:VAL:HG23	27:N:125:ILE:HD13	1.84	0.60
29:P:26:VAL:HG12	29:P:30:LYS:NZ	2.16	0.60
30:Q:46:THR:OG1	30:Q:49:GLY:N	2.34	0.60
33:T:64:ARG:CZ	33:T:64:ARG:HB3	2.32	0.60
53:n:25:VAL:O	53:n:28:VAL:HG12	2.02	0.60
53:n:38:MET:HG3	53:n:57:LEU:HD21	1.83	0.60
62:w:33:ILE:CG1	62:w:112:TYR:CD1	2.85	0.60
2:1:98:LYS:NZ	40:a:2011:U:O3'	2.34	0.60
3:2:1:MET:N	40:a:142:A:O2'	2.33	0.60
9:9:23:LEU:HD21	9:9:96:PHE:CG	2.36	0.60
14:AE:83:VAL:H	22:I:100:GLN:CD	2.09	0.60
14:AE:741:ALA:O	14:AE:762:ASN:ND2	2.32	0.60
14:AE:785:ASP:O	14:AE:789:LYS:HB2	2.01	0.60
10:B:5:G:H2'	10:B:6:G:H5'	1.83	0.60
16:C:29:LEU:HD23	16:C:59:ILE:HD13	1.83	0.60
17:D:1160:G:C2	17:D:1161:C:C6	2.89	0.60
17:D:1290:G:H4'	26:M:35:LYS:NZ	2.17	0.60
29:P:86:ALA:C	29:P:90:LEU:HD13	2.27	0.60
40:a:575:A:C2	40:a:576:U:C5	2.90	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:947:A:H2'	40:a:948:C:C6	2.37	0.60
40:a:1322:A:C5	40:a:1323:C:C5	2.90	0.60
60:u:76:GLU:HG3	60:u:111:ILE:HD13	1.84	0.60
12:AB:14:LEU:O	12:AB:14:LEU:HD23	2.01	0.60
13:AD:112:ALA:HB3	13:AD:126:PRO:HA	1.83	0.60
14:AE:64:PRO:HG3	14:AE:90:VAL:HG12	1.83	0.60
14:AE:75:TYR:HE1	29:P:91:ASP:OD2	1.85	0.60
17:D:652:U:H4'	27:N:56:LYS:NZ	2.16	0.60
17:D:718:A:O2'	19:F:34:ARG:NH2	2.34	0.60
22:I:85:GLU:OE2	22:I:88:ARG:NH1	2.26	0.60
27:N:43:GLU:HG2	27:N:101:ILE:HD13	1.84	0.60
28:O:57:MET:HA	28:O:60:LYS:HE2	1.83	0.60
38:Y:99:LYS:HD3	38:Y:138:VAL:O	2.02	0.60
8:7:15:U:OP1	22:I:132:ARG:NH2	2.35	0.59
9:9:33:VAL:HG22	9:9:36:ASP:CG	2.27	0.59
14:AE:86:GLU:OE1	14:AE:86:GLU:N	2.34	0.59
10:B:75:C:P	40:a:2602:A:O2'	2.60	0.59
17:D:878:A:OP2	27:N:80:ARG:NH1	2.35	0.59
27:N:88:ARG:HB2	27:N:91:GLU:OE1	2.00	0.59
28:O:56:ASP:O	28:O:57:MET:HE2	2.02	0.59
35:V:10:GLY:HA3	35:V:25:ILE:HD13	1.83	0.59
40:a:468:G:N7	52:m:39:ARG:NH2	2.42	0.59
47:h:67:PHE:CE1	47:h:156:ARG:HD2	2.37	0.59
6:5:9:DA:O5'	11:AA:473:ARG:CB	2.49	0.59
9:9:7:ASP:OD1	9:9:8:LYS:N	2.35	0.59
9:9:103:ASN:HA	9:9:107:GLU:OE2	2.02	0.59
18:E:32:ILE:HG12	18:E:75:HIS:CE1	2.37	0.59
19:F:16:LEU:C	19:F:20:LYS:HZ3	2.10	0.59
19:F:49:LYS:O	19:F:53:VAL:HG23	2.02	0.59
21:H:155:LYS:O	21:H:169:SER:N	2.35	0.59
26:M:50:LEU:HD11	26:M:124:LEU:HB2	1.85	0.59
37:X:93:ARG:HG2	37:X:95:LEU:HD23	1.85	0.59
38:Y:126:ARG:HH22	40:a:1083:U:P	2.25	0.59
40:a:1817:G:H3'	47:h:156:ARG:HH22	1.67	0.59
47:h:84:ASP:HB2	47:h:91:ILE:HD12	1.84	0.59
12:AB:14:LEU:HD23	12:AB:14:LEU:C	2.27	0.59
16:C:73:ARG:CZ	30:Q:113:VAL:HG12	2.31	0.59
17:D:496:A:N3	17:D:496:A:H2'	2.17	0.59
26:M:18:PHE:HB3	26:M:59:LEU:HD11	1.84	0.59
34:U:5:ARG:HH22	34:U:24:SER:HA	1.66	0.59
40:a:413:C:H2'	40:a:414:C:H6	1.66	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:993:G:OP2	65:z:51:ARG:NH2	2.36	0.59
40:a:1028:A:H2'	40:a:1029:A:C8	2.37	0.59
40:a:1432:G:H2'	40:a:1433:A:C8	2.37	0.59
47:h:164:ILE:HG23	47:h:164:ILE:O	2.01	0.59
14:AE:506:VAL:HG23	14:AE:628:GLY:HA3	1.83	0.59
17:D:718:A:C4	30:Q:118:HIS:ND1	2.71	0.59
20:G:106:THR:HA	20:G:109:GLN:NE2	2.18	0.59
21:H:333:LEU:O	21:H:334:ASP:OD1	2.19	0.59
26:M:111:ARG:O	26:M:119:ARG:NH1	2.34	0.59
37:X:25:VAL:HG23	37:X:29:ARG:CB	2.32	0.59
38:Y:23:VAL:HG23	38:Y:24:GLY:N	2.17	0.59
40:a:323:C:H2'	51:l:163:ASN:OD1	2.02	0.59
40:a:654:A:H61	54:o:19:LYS:HD2	1.68	0.59
40:a:1257:C:H4'	51:l:78:TRP:CD2	2.37	0.59
47:h:62:TYR:CE2	47:h:64:ILE:HD13	2.38	0.59
48:i:22:LEU:HG	48:i:23:THR:N	2.17	0.59
54:o:30:ARG:HH12	60:u:62:PRO:CA	2.14	0.59
58:s:74:TYR:CD2	58:s:74:TYR:N	2.69	0.59
58:s:102:GLU:CD	58:s:124:VAL:HG11	2.28	0.59
8:7:29:A:H5'	8:7:30:U:H5''	1.84	0.59
9:9:73:LYS:CG	9:9:117:LEU:HD12	2.32	0.59
9:9:97:LYS:NZ	9:9:130:PRO:HA	2.17	0.59
17:D:1055:A:C2'	22:I:156:ARG:HH21	2.15	0.59
17:D:1107:C:P	22:I:172:ARG:HG3	2.43	0.59
24:K:12:GLN:HB3	24:K:14:LYS:NZ	2.18	0.59
26:M:28:ASN:HA	26:M:31:MET:HE3	1.85	0.59
27:N:47:GLU:OE2	27:N:64:LYS:HA	2.02	0.59
40:a:2298:A:C4	40:a:2321:U:C5	2.90	0.59
58:s:73:VAL:HG13	58:s:86:GLN:HG2	1.84	0.59
59:t:8:LEU:CA	59:t:18:ARG:HH12	2.15	0.59
1:0:68:ARG:HH12	40:a:1223:G:P	2.24	0.59
17:D:736:C:O2'	25:L:88:MET:HE1	2.02	0.59
17:D:978:A:C5	17:D:1319:A:C2	2.90	0.59
18:E:28:MET:SD	18:E:57:ILE:HG22	2.42	0.59
40:a:1406:U:O2'	40:a:1407:G:O4'	2.19	0.59
40:a:1798:U:OP2	47:h:271:ARG:NH2	2.36	0.59
1:0:51:VAL:O	1:0:51:VAL:HG13	2.02	0.59
5:4:63:ILE:HD11	5:4:91:PHE:CE2	2.37	0.59
9:9:51:TYR:HB2	9:9:88:HIS:CB	2.32	0.59
12:AB:2:GLN:HG3	12:AB:61:PRO:HD3	1.83	0.59
12:AB:37:LYS:HD3	12:AB:109:THR:OG1	2.01	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:C:12:ARG:CG	21:H:264:GLU:CB	2.80	0.59
20:G:23:TRP:HZ3	20:G:25:PRO:HA	1.67	0.59
20:G:128:LYS:HD2	20:G:128:LYS:O	2.03	0.59
22:I:24:ALA:C	22:I:29:PHE:HE2	2.11	0.59
32:S:20:TYR:HD2	32:S:55:SER:OG	1.85	0.59
32:S:42:TRP:CH2	46:g:66:ILE:HA	2.38	0.59
40:a:856:G:H2'	40:a:857:G:C8	2.37	0.59
40:a:1277:G:H5'	62:w:20:MET:HE2	1.84	0.59
53:n:4:LEU:HD11	53:n:101:GLU:HA	1.84	0.59
60:u:61:LEU:HB3	60:u:62:PRO:HD2	1.85	0.59
6:5:16:DA:N6	11:AA:151:ARG:HG3	2.17	0.59
9:9:78:GLY:N	9:9:79:PRO:CD	2.66	0.59
14:AE:92:VAL:HG22	14:AE:92:VAL:O	2.01	0.59
10:B:69:C:H2'	10:B:70:G:O4'	2.02	0.59
16:C:73:ARG:NH1	30:Q:113:VAL:HA	2.18	0.59
17:D:739:C:HO2'	33:T:42:HIS:CE1	2.15	0.59
22:I:54:ARG:NH2	22:I:56:VAL:HG21	2.18	0.59
31:R:7:LEU:CD2	31:R:12:ARG:NH2	2.65	0.59
40:a:2189:U:O4'	40:a:2189:U:OP1	2.21	0.59
40:a:2395:C:H2'	40:a:2396:G:O4'	2.03	0.59
40:a:2815:C:C2	40:a:2816:G:C8	2.91	0.59
53:n:122:PHE:O	53:n:123:ASP:OD1	2.19	0.59
58:s:55:ILE:HG13	58:s:123:LYS:NZ	2.17	0.59
9:9:60:LEU:HA	9:9:64:VAL:HB	1.84	0.59
11:AA:1142:ARG:NH1	11:AA:1161:LEU:O	2.36	0.59
17:D:657:U:C4'	33:T:28:GLN:HE22	2.15	0.59
17:D:890:G:O2'	17:D:906:A:N6	2.35	0.59
17:D:921:U:H4'	24:K:23:LYS:NZ	2.18	0.59
21:H:131:LEU:CB	21:H:167:VAL:HA	2.32	0.59
40:a:2002:G:OP1	62:w:17:ARG:NH2	2.26	0.59
40:a:2243:U:H2'	40:a:2244:U:C6	2.38	0.59
40:a:2259:U:N3	40:a:2260:C:C5	2.71	0.59
44:e:2:LYS:HD2	44:e:6:LEU:HD11	1.85	0.59
44:e:2:LYS:CE	44:e:52:ARG:HE	2.15	0.59
45:f:10:THR:HG22	45:f:54:MET:C	2.27	0.59
47:h:30:PHE:O	47:h:34:LEU:HD23	2.02	0.59
51:l:148:ILE:HD13	51:l:187:VAL:HB	1.85	0.59
65:z:82:GLY:CA	65:z:117:LEU:CD1	2.81	0.59
3:2:56:GLU:OE1	3:2:87:LEU:C	2.46	0.59
4:3:7:ARG:HH22	40:a:98:G:N2	2.00	0.59
7:6:25:DT:H2'	11:AA:496:LYS:CE	2.28	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:9:98:GLU:HA	9:9:101:LYS:HG2	1.83	0.59
10:A:69:C:H2'	10:A:70:G:O4'	2.02	0.59
12:AB:133:PRO:HD3	12:AB:140:MET:HE3	1.85	0.59
14:AE:82:GLY:HA3	22:I:100:GLN:HG3	1.85	0.59
21:H:273:ARG:CZ	21:H:297:GLU:HG3	2.33	0.59
24:K:10:GLU:OE1	24:K:10:GLU:N	2.35	0.59
40:a:607:U:C5	40:a:620:G:C4	2.91	0.59
49:j:25:THR:HG21	49:j:193:VAL:HG22	1.84	0.59
50:k:7:GLU:CD	50:k:7:GLU:H	2.11	0.59
7:6:20:DA:C6	8:7:36:G:C2	2.91	0.58
8:7:9:U:O4	17:D:1196:A:O4'	2.21	0.58
9:9:14:GLU:OE1	9:9:62:ARG:O	2.19	0.58
17:D:439:U:O2	17:D:440:C:C5	2.56	0.58
17:D:662:U:O2'	17:D:836:G:OP1	2.21	0.58
17:D:972:C:O2'	29:P:57:VAL:HG13	2.03	0.58
24:K:16:ILE:HD11	24:K:38:VAL:HG12	1.83	0.58
38:Y:77:VAL:HG13	38:Y:81:LYS:HZ3	1.68	0.58
40:a:567:U:OP2	60:u:29:LYS:NZ	2.35	0.58
40:a:2335:A:OP2	63:x:13:ARG:CD	2.51	0.58
3:2:19:LYS:NZ	40:a:1340:U:OP1	2.34	0.58
4:3:6:ARG:NH1	40:a:84:A:O2'	2.36	0.58
8:7:18:U:C6	8:7:18:U:C5'	2.85	0.58
21:H:81:GLU:O	21:H:82:THR:HG23	2.02	0.58
21:H:273:ARG:HD3	21:H:280:LEU:HD11	1.85	0.58
24:K:93:ARG:HB3	24:K:93:ARG:NH2	2.18	0.58
26:M:66:LEU:HD11	26:M:100:ALA:HB3	1.85	0.58
38:Y:116:MET:HG2	38:Y:124:MET:CB	2.34	0.58
40:a:15:G:O2'	48:i:15:MET:CE	2.51	0.58
40:a:1065:U:O2'	40:a:1066:U:O5'	2.16	0.58
55:p:85:LYS:NZ	55:p:164:TYR:HD1	2.01	0.58
62:w:60:VAL:HA	62:w:63:ARG:NH1	2.17	0.58
12:AB:59:PHE:N	12:AB:59:PHE:HD1	2.01	0.58
14:AE:1275:LEU:HB3	14:AE:1278:GLU:HB2	1.83	0.58
16:C:60:LYS:NZ	17:D:734:G:C2'	2.63	0.58
17:D:13:U:N3	17:D:915:A:N6	2.51	0.58
17:D:829:G:O3'	20:G:23:TRP:CZ2	2.56	0.58
17:D:1308:U:P	37:X:98:ARG:HG3	2.43	0.58
20:G:26:LYS:CD	20:G:193:PRO:HG2	2.32	0.58
20:G:114:LEU:HD13	20:G:144:LEU:HB2	1.83	0.58
23:J:74:ASN:HA	23:J:77:LYS:NZ	2.17	0.58
27:N:7:ILE:HB	27:N:77:ARG:NH1	2.18	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:V:11:ARG:HE	35:V:58:VAL:CG2	2.16	0.58
40:a:811:U:H2'	60:u:21:ARG:HA	1.86	0.58
40:a:2460:U:C2	40:a:2461:A:C8	2.91	0.58
52:m:1:MET:HE3	52:m:3:ARG:HH11	1.67	0.58
59:t:5:GLN:HA	59:t:20:MET:CE	2.32	0.58
60:u:55:MET:CE	60:u:60:ARG:HG2	2.33	0.58
64:y:7:GLN:CD	64:y:7:GLN:C	2.71	0.58
1:0:15:SER:HB2	1:0:18:GLN:NE2	2.19	0.58
4:3:94:ARG:HB3	4:3:103:ILE:HD12	1.86	0.58
5:4:76:ASP:OD1	5:4:77:VAL:N	2.33	0.58
11:AA:69:GLN:HE21	11:AA:101:ARG:HD2	1.67	0.58
16:C:14:THR:HG21	16:C:48:ARG:NE	2.17	0.58
17:D:588:G:H4'	27:N:3:MET:CE	2.33	0.58
18:E:61:GLN:NE2	18:E:66:LEU:HD22	2.18	0.58
24:K:156:LYS:HA	27:N:66:PHE:CD2	2.38	0.58
28:O:49:ARG:HB3	28:O:53:GLU:OE2	2.02	0.58
38:Y:5:GLN:HE22	38:Y:60:VAL:C	2.10	0.58
39:Z:14:MET:HG3	39:Z:15:SER:N	2.17	0.58
58:s:132:HIS:O	58:s:135:GLN:HB2	2.03	0.58
1:0:16:GLU:C	1:0:18:GLN:OE1	2.46	0.58
9:9:17:GLU:HG2	9:9:88:HIS:NE2	2.18	0.58
10:A:70:G:H2'	10:A:71:C:H5''	1.85	0.58
22:I:25:ASN:N	22:I:29:PHE:HE2	2.01	0.58
23:J:62:ARG:HG2	23:J:72:PHE:CE1	2.37	0.58
27:N:8:ALA:O	27:N:12:THR:HG23	2.03	0.58
33:T:21:ASP:OD1	33:T:22:THR:N	2.34	0.58
40:a:563:A:OP1	65:z:41:LYS:NZ	2.35	0.58
40:a:580:U:H2'	40:a:581:C:H6	1.69	0.58
40:a:832:U:H2'	40:a:833:A:H8	1.69	0.58
40:a:1824:G:H5''	47:h:52:ARG:HH22	1.69	0.58
50:k:35:GLU:OE2	50:k:48:ILE:HG23	2.03	0.58
52:m:24:THR:HG23	52:m:27:GLY:H	1.68	0.58
58:s:120:ARG:CZ	58:s:120:ARG:HB2	2.34	0.58
60:u:91:ASP:O	60:u:95:LEU:HD23	2.03	0.58
61:v:97:GLN:H	61:v:100:LYS:HZ1	1.51	0.58
11:AA:373:GLY:C	12:AB:83:ALA:HB1	2.24	0.58
16:C:73:ARG:HH12	30:Q:113:VAL:CA	2.16	0.58
17:D:736:C:H5''	25:L:90:MET:HE2	1.85	0.58
17:D:974:A:OP1	32:S:69:ARG:NH1	2.37	0.58
26:M:26:PHE:CD1	26:M:101:MET:SD	2.97	0.58
37:X:22:ILE:HG23	37:X:66:GLU:OE2	2.03	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:2225:A:H4'	40:a:2226:C:O5'	2.03	0.58
40:a:2683:C:H4'	49:j:13:ARG:CZ	2.34	0.58
53:n:46:ASP:OD1	53:n:49:LEU:HD13	2.03	0.58
59:t:88:ASN:ND2	59:t:90:ASN:OD1	2.36	0.58
3:2:56:GLU:OE1	3:2:56:GLU:N	2.33	0.58
5:4:60:VAL:HG12	5:4:71:LYS:HE2	1.86	0.58
9:9:24:SER:HB2	9:9:86:MET:HA	1.86	0.58
11:AA:707:ALA:O	11:AA:711:ASP:HB2	2.03	0.58
20:G:35:ARG:HD2	21:H:14:LYS:HE3	1.84	0.58
20:G:96:TRP:CH2	20:G:100:MET:HE3	2.38	0.58
24:K:146:ASN:OD1	24:K:147:MET:N	2.37	0.58
26:M:24:ALA:O	26:M:27:VAL:HG22	2.04	0.58
30:Q:20:VAL:CG1	30:Q:85:MET:HE1	2.33	0.58
30:Q:52:PHE:CD2	30:Q:56:ARG:HG2	2.39	0.58
34:U:12:LYS:CD	34:U:13:LYS:HG2	2.33	0.58
38:Y:91:LYS:HZ1	38:Y:97:VAL:HG21	1.65	0.58
40:a:1021:A:N1	40:a:1141:U:O4	2.37	0.58
40:a:1197:G:H2'	40:a:1198:U:H6	1.68	0.58
40:a:1869:G:N2	40:a:1871:A:O2'	2.37	0.58
40:a:2780:G:P	58:s:120:ARG:NH1	2.74	0.58
59:t:112:PHE:CD2	59:t:115:ILE:HD12	2.39	0.58
8:7:10:U:H5''	8:7:10:U:O2	2.03	0.58
11:AA:838:CYS:HB2	11:AA:918:LEU:HD22	1.85	0.58
12:AB:148:LYS:NZ	29:P:6:ILE:HG12	2.19	0.58
14:AE:1143:ASP:OD1	14:AE:1148:ARG:NH1	2.37	0.58
10:B:15:G:N1	10:B:20:U:O2	2.37	0.58
34:U:19:VAL:HG12	34:U:37:GLY:C	2.28	0.58
40:a:2547:A:H2'	40:a:2548:U:C6	2.38	0.58
43:d:42:C:P	53:n:64:LYS:HZ1	2.26	0.58
43:d:106:G:H2'	43:d:107:G:O4'	2.04	0.58
58:s:39:LYS:HA	58:s:44:TYR:CD1	2.39	0.58
58:s:53:TYR:CD1	58:s:121:LYS:HD2	2.39	0.58
8:7:7:U:H5''	8:7:7:U:C6	2.39	0.58
9:9:4:ASN:HB3	9:9:8:LYS:NZ	2.19	0.58
14:AE:1221:LEU:HD22	14:AE:1306:LEU:HB2	1.84	0.58
22:I:82:GLU:O	22:I:86:LYS:HD3	2.04	0.58
52:m:12:ARG:NE	52:m:44:VAL:HG21	2.19	0.58
57:r:37:VAL:HG12	57:r:43:ASN:HD21	1.68	0.58
57:r:68:ARG:O	57:r:72:ILE:HD12	2.03	0.58
58:s:31:GLU:OE2	58:s:35:ARG:NH1	2.37	0.58
2:1:11:ARG:NH1	2:1:98:LYS:HE3	2.19	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AB:37:LYS:HD2	12:AB:110:PRO:HD2	1.86	0.58
16:C:16:GLU:OE1	16:C:18:VAL:N	2.36	0.58
28:O:5:GLN:NE2	28:O:20:PHE:CB	2.67	0.58
30:Q:87:LYS:HG3	30:Q:113:VAL:HG23	1.86	0.58
37:X:25:VAL:HG23	37:X:29:ARG:HB2	1.85	0.58
39:Z:8:ILE:HG13	39:Z:9:GLU:H	1.68	0.58
40:a:5:A:H2'	40:a:6:A:C8	2.39	0.58
40:a:1567:G:OP2	47:h:83:TYR:OH	2.19	0.58
51:l:136:GLN:NE2	51:l:140:ASP:OD2	2.37	0.58
51:l:170:ARG:CZ	51:l:175:ILE:HA	2.33	0.58
55:p:149:ARG:NH2	55:p:162:VAL:N	2.52	0.58
16:C:55:LEU:O	16:C:59:ILE:HG12	2.04	0.57
25:L:95:ALA:O	25:L:96:VAL:C	2.47	0.57
27:N:66:PHE:CG	27:N:67:GLN:OE1	2.57	0.57
29:P:21:ALA:O	29:P:24:GLU:HG3	2.04	0.57
40:a:1682:G:H2'	40:a:1683:U:C6	2.39	0.57
51:l:119:ILE:O	51:l:187:VAL:HA	2.03	0.57
9:9:23:LEU:N	9:9:118:ILE:HD11	2.19	0.57
25:L:14:GLN:OE1	25:L:83:ALA:HA	2.05	0.57
29:P:22:THR:O	29:P:26:VAL:HG23	2.03	0.57
30:Q:51:GLY:O	30:Q:56:ARG:CZ	2.51	0.57
33:T:60:VAL:O	33:T:64:ARG:HG2	2.03	0.57
40:a:1141:U:H5	58:s:68:LYS:NZ	2.02	0.57
40:a:1568:G:N7	47:h:28:LYS:NZ	2.52	0.57
40:a:2349:G:C6	40:a:2369:A:C6	2.92	0.57
59:t:121:GLU:OE2	64:y:41:GLN:NE2	2.37	0.57
2:1:73:LYS:C	2:1:74:ILE:HD12	2.29	0.57
5:4:46:LYS:O	5:4:50:MET:HG2	2.04	0.57
8:7:21:U:C4	22:I:82:GLU:HB2	2.39	0.57
11:AA:516:ASP:OD1	11:AA:516:ASP:O	2.22	0.57
17:D:512:U:OP1	23:J:44:ARG:NH1	2.38	0.57
20:G:35:ARG:HD2	21:H:14:LYS:CE	2.34	0.57
20:G:66:LYS:HB3	20:G:154:MET:CE	2.34	0.57
21:H:75:VAL:HG23	21:H:81:GLU:OE2	2.04	0.57
38:Y:116:MET:HB3	38:Y:124:MET:HE2	1.86	0.57
40:a:70:G:H4'	40:a:71:A:OP1	2.02	0.57
45:f:40:ASP:OD1	45:f:45:ARG:NH2	2.37	0.57
51:l:62:GLN:O	51:l:69:ARG:HD3	2.03	0.57
12:AB:6:LEU:HD22	12:AB:79:VAL:HG21	1.86	0.57
17:D:695:A:H8	17:D:695:A:H5''	1.69	0.57
18:E:61:GLN:HE21	18:E:66:LEU:HD22	1.69	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:V:42:THR:HG22	35:V:44:LEU:CD1	2.34	0.57
37:X:16:VAL:CG2	37:X:17:ILE:HD12	2.35	0.57
40:a:3:U:H2'	40:a:4:U:H6	1.69	0.57
54:o:55:LEU:HD21	54:o:59:ILE:HD11	1.87	0.57
57:r:30:LEU:HD23	57:r:35:LYS:HE2	1.86	0.57
61:v:49:ALA:O	61:v:52:ALA:N	2.37	0.57
6:5:9:DA:P	11:AA:470:ARG:HA	2.43	0.57
14:AE:144:TYR:OH	14:AE:293:ARG:NH2	2.36	0.57
10:B:60:U:H4'	10:B:61:C:OP2	2.04	0.57
17:D:911:U:H2'	17:D:912:C:C6	2.40	0.57
17:D:1515:G:H2'	17:D:1516:G:H8	1.70	0.57
20:G:52:GLU:O	20:G:56:GLU:OE1	2.22	0.57
24:K:148:ASN:OD1	27:N:96:MET:HE1	2.03	0.57
38:Y:70:THR:O	38:Y:71:LYS:HG3	2.03	0.57
40:a:782:A:C2	47:h:225:MET:HE2	2.39	0.57
40:a:1009:A:OP2	58:s:39:LYS:NZ	2.37	0.57
40:a:2514:U:H2'	40:a:2515:C:C6	2.40	0.57
42:c:66:THR:O	42:c:70:GLU:OE1	2.23	0.57
61:v:49:ALA:C	61:v:53:MET:HE1	2.30	0.57
65:z:74:ILE:HG12	65:z:79:PHE:HB2	1.86	0.57
11:AA:13:LYS:HB2	11:AA:1180:MET:HE2	1.86	0.57
12:AB:141:LEU:HD21	12:AB:154:VAL:HG12	1.86	0.57
16:C:51:TYR:HD1	16:C:54:GLN:NE2	2.00	0.57
20:G:19:GLN:CG	21:H:76:GLU:HB3	2.34	0.57
20:G:107:VAL:O	20:G:111:ILE:HG12	2.04	0.57
21:H:291:GLY:HA2	21:H:305:HIS:HA	1.85	0.57
24:K:159:LYS:HZ3	27:N:44:GLY:HA3	1.69	0.57
33:T:32:LEU:HD11	33:T:62:GLN:OE1	2.04	0.57
38:Y:109:ALA:HB2	38:Y:128:ILE:HG13	1.86	0.57
40:a:78:U:H5''	44:e:4:LYS:NZ	2.19	0.57
40:a:84:A:N1	40:a:98:G:O2'	2.37	0.57
41:b:55:ARG:NE	41:b:55:ARG:HA	2.19	0.57
55:p:85:LYS:CE	55:p:164:TYR:CD1	2.86	0.57
61:v:77:PRO:HG2	61:v:80:VAL:CG2	2.31	0.57
10:B:70:G:H2'	10:B:71:C:H5''	1.85	0.57
17:D:193:C:O2'	18:E:59:ASP:OD2	2.23	0.57
20:G:35:ARG:HG2	20:G:40:ILE:HG13	1.87	0.57
21:H:100:LYS:O	21:H:104:ASP:N	2.38	0.57
24:K:86:LYS:HZ2	24:K:95:PHE:HE1	1.53	0.57
26:M:68:ASN:ND2	26:M:130:ASN:OD1	2.38	0.57
30:Q:15:GLN:OE1	30:Q:78:GLY:HA3	2.05	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:R:110:ARG:NE	31:R:117:TYR:HD2	2.02	0.57
32:S:90:ARG:C	32:S:92:GLU:OE1	2.47	0.57
33:T:10:LYS:O	33:T:14:GLU:OE1	2.23	0.57
40:a:659:G:H1'	51:l:100:MET:HE1	1.87	0.57
40:a:1047:G:HO2'	40:a:1110:G:H1	1.53	0.57
40:a:2483:C:O2	61:v:51:ARG:NH2	2.38	0.57
47:h:181:MET:HE2	47:h:181:MET:N	2.18	0.57
50:k:34:LEU:H	50:k:51:GLU:CD	2.12	0.57
9:9:54:VAL:HG13	9:9:54:VAL:O	2.03	0.57
10:A:15:G:N1	10:A:20:U:O2	2.37	0.57
13:AC:82:LEU:HD11	13:AC:171:LEU:HD23	1.86	0.57
17:D:280:C:O2	35:V:40:ARG:NH2	2.37	0.57
17:D:439:U:O2	17:D:440:C:C6	2.58	0.57
17:D:915:A:N6	17:D:916:U:C4	2.72	0.57
17:D:1227:A:H5'	37:X:110:LYS:HZ1	1.70	0.57
17:D:1356:G:H2'	17:D:1357:A:C8	2.40	0.57
21:H:116:VAL:CA	21:H:279:LYS:HD2	2.35	0.57
22:I:6:HIS:HB3	32:S:89:MET:SD	2.45	0.57
23:J:196:ASN:ND2	23:J:199:LEU:HG	2.20	0.57
27:N:52:GLU:OE1	27:N:53:GLY:N	2.37	0.57
28:O:94:LEU:O	28:O:98:LEU:HD13	2.04	0.57
40:a:593:U:H2'	40:a:594:U:C6	2.39	0.57
41:b:45:PHE:CD2	41:b:80:ILE:HD11	2.40	0.57
46:g:18:CYS:HB3	46:g:40:CYS:HB2	1.85	0.57
49:j:3:GLY:N	49:j:204:LYS:HE2	2.20	0.57
5:4:57:TYR:CD2	61:v:136:MET:HE2	2.40	0.57
9:9:124:ASP:OD2	9:9:126:LEU:HD21	2.05	0.57
12:AB:64:ILE:HD12	12:AB:64:ILE:N	2.07	0.57
21:H:51:GLU:OE1	21:H:51:GLU:N	2.37	0.57
21:H:297:GLU:HG2	21:H:300:VAL:HG21	1.86	0.57
22:I:151:VAL:HG12	22:I:200:VAL:CG2	2.35	0.57
26:M:23:LEU:HD12	26:M:23:LEU:H	1.70	0.57
33:T:28:GLN:HB2	33:T:66:LEU:HD21	1.86	0.57
38:Y:102:ARG:CG	38:Y:141:ASP:HA	2.33	0.57
40:a:2192:U:H2'	40:a:2193:G:C8	2.40	0.57
40:a:2816:G:O4'	48:i:41:HIS:CE1	2.57	0.57
43:d:48:U:H2'	43:d:49:C:C6	2.40	0.57
51:l:62:GLN:HA	51:l:69:ARG:NH2	2.20	0.57
61:v:111:GLU:OE1	61:v:111:GLU:N	2.32	0.57
64:y:106:LYS:HA	64:y:109:ARG:NH2	2.20	0.57
4:3:6:ARG:CZ	40:a:84:A:H2'	2.35	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:4:2:PHE:HE2	5:4:55:GLU:HG2	1.69	0.57
11:AA:1223:ARG:NH2	14:AE:721:SER:OG	2.38	0.57
16:C:13:PHE:HB3	16:C:51:TYR:CD1	2.39	0.57
28:O:118:LEU:CD2	28:O:124:ARG:HA	2.35	0.57
38:Y:15:GLY:HA2	38:Y:50:LYS:CG	2.33	0.57
38:Y:32:VAL:HG22	38:Y:60:VAL:CG2	2.34	0.57
40:a:1693:U:O2'	47:h:14:ARG:NH2	2.38	0.57
44:e:18:LEU:HD11	44:e:54:LYS:HE3	1.86	0.57
49:j:91:THR:HB	49:j:94:GLN:HG2	1.87	0.57
51:l:1:MET:CE	51:l:16:GLU:HA	2.25	0.57
53:n:4:LEU:HD11	53:n:101:GLU:N	2.18	0.57
57:r:97:ARG:NH1	57:r:101:ASP:OD2	2.37	0.57
6:5:25:DA:C2	7:6:5:DG:C2	2.92	0.56
8:7:12:U:H3'	8:7:12:U:H6	1.70	0.56
9:9:27:VAL:HG13	9:9:27:VAL:O	2.05	0.56
11:AA:818:VAL:HG22	11:AA:1096:ILE:HG12	1.87	0.56
14:AE:80:HIS:CD2	22:I:65:ARG:CZ	2.88	0.56
17:D:552:U:O2'	31:R:83:ARG:O	2.19	0.56
26:M:66:LEU:HD23	26:M:70:ARG:HH21	1.69	0.56
36:W:40:ILE:HG21	36:W:66:MET:SD	2.45	0.56
40:a:628:G:C6	40:a:636:G:C2	2.92	0.56
40:a:1360:G:N7	40:a:1361:G:C8	2.73	0.56
40:a:1442:U:H2'	40:a:1443:U:C6	2.40	0.56
40:a:2291:U:H2'	40:a:2292:U:C6	2.40	0.56
53:n:114:PHE:O	53:n:115:ARG:NE	2.34	0.56
61:v:37:GLY:C	61:v:126:ILE:HD11	2.30	0.56
12:AB:59:PHE:N	12:AB:59:PHE:CD1	2.73	0.56
17:D:61:G:N7	18:E:6:SER:OG	2.33	0.56
17:D:276:G:H5'	35:V:17:MET:CE	2.36	0.56
17:D:1366:C:O2'	29:P:62:ARG:NH2	2.38	0.56
20:G:131:LYS:HG3	20:G:132:LYS:HD2	1.87	0.56
31:R:4:VAL:HG13	31:R:5:ASN:N	2.20	0.56
33:T:32:LEU:CD1	33:T:62:GLN:OE1	2.53	0.56
35:V:4:LYS:HD2	35:V:5:ILE:HG23	1.86	0.56
37:X:28:THR:HG22	37:X:29:ARG:NH1	2.20	0.56
38:Y:58:ILE:HG23	38:Y:66:PHE:CE2	2.40	0.56
40:a:2682:A:H8	49:j:11:MET:CE	2.16	0.56
40:a:2720:U:OP1	64:y:53:ARG:NH2	2.39	0.56
50:k:19:HIS:ND1	50:k:41:PRO:HD2	2.20	0.56
61:v:105:MET:HE2	61:v:108:VAL:HG21	1.87	0.56
3:2:56:GLU:CD	3:2:87:LEU:C	2.73	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:4:53:LYS:HB2	5:4:56:PHE:CE2	2.40	0.56
8:7:6:U:C2	17:D:1493:A:H2	2.24	0.56
9:9:38:MET:SD	38:Y:117:THR:HG22	2.45	0.56
9:9:47:GLU:O	9:9:51:TYR:CE1	2.59	0.56
11:AA:1122:LYS:NZ	11:AA:1126:ASP:OD1	2.38	0.56
12:AB:115:LYS:HB3	12:AB:127:GLN:HE22	1.69	0.56
12:AB:148:LYS:HE2	29:P:84:VAL:HG11	1.87	0.56
14:AE:233:LYS:NZ	17:D:1030:U:O5'	2.38	0.56
17:D:521:G:O5'	31:R:70:GLU:OE1	2.23	0.56
17:D:1381:U:C2	17:D:1382:C:C6	2.94	0.56
18:E:61:GLN:HE21	18:E:66:LEU:CD2	2.18	0.56
22:I:66:VAL:HB	22:I:101:ILE:HD12	1.88	0.56
26:M:134:ALA:O	26:M:137:LYS:HG2	2.05	0.56
29:P:86:ALA:O	29:P:90:LEU:CD1	2.53	0.56
33:T:80:GLN:O	33:T:84:ARG:HG2	2.06	0.56
34:U:14:ARG:HD3	34:U:42:ILE:HG21	1.86	0.56
38:Y:5:GLN:CG	38:Y:61:TYR:CE1	2.76	0.56
40:a:5:A:H2'	40:a:6:A:H8	1.70	0.56
40:a:1266:G:O2'	40:a:2012:G:O6	2.22	0.56
41:b:51:VAL:C	41:b:62:LYS:HZ3	2.14	0.56
51:l:17:THR:HA	51:l:21:ARG:NH2	2.19	0.56
53:n:163:ASP:OD1	53:n:164:GLU:N	2.39	0.56
57:r:4:ILE:HD12	57:r:17:ASP:O	2.05	0.56
65:z:53:ARG:CG	65:z:57:PHE:HE2	2.18	0.56
11:AA:839:VAL:HG12	11:AA:1049:ILE:HG12	1.87	0.56
17:D:110:C:O2'	34:U:25:ARG:O	2.21	0.56
22:I:140:ASN:O	22:I:144:LEU:HD23	2.06	0.56
22:I:156:ARG:NH1	22:I:193:TYR:O	2.39	0.56
24:K:136:VAL:O	24:K:140:THR:HG23	2.04	0.56
25:L:42:TRP:CZ2	25:L:102:MET:CG	2.89	0.56
33:T:11:ILE:HG21	33:T:31:LEU:HD13	1.85	0.56
37:X:93:ARG:CG	37:X:95:LEU:HD23	2.35	0.56
40:a:16:C:C4'	48:i:15:MET:HE3	2.35	0.56
40:a:64:A:H2'	40:a:65:U:H6	1.71	0.56
40:a:839:U:C2	40:a:840:C:C5	2.93	0.56
40:a:839:U:H2'	40:a:840:C:C6	2.40	0.56
40:a:1198:U:H2'	40:a:1199:U:C6	2.39	0.56
40:a:2315:G:H4'	53:n:127:ASN:HD22	1.71	0.56
40:a:2849:U:P	64:y:93:ARG:NH2	2.78	0.56
41:b:51:VAL:C	41:b:62:LYS:NZ	2.64	0.56
45:f:7:ILE:CG2	45:f:55:VAL:HG21	2.35	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:h:183:LYS:HE2	47:h:266:PHE:HA	1.88	0.56
54:o:30:ARG:HH12	60:u:62:PRO:HB3	1.70	0.56
61:v:26:VAL:HG13	61:v:104:GLU:CD	2.29	0.56
5:4:80:HIS:CE1	5:4:83:LYS:HG3	2.41	0.56
9:9:43:LYS:HD3	9:9:98:GLU:CG	2.35	0.56
11:AA:1142:ARG:NH2	11:AA:1166:ASP:OD1	2.38	0.56
11:AA:1254:VAL:O	14:AE:99:ARG:NH2	2.37	0.56
12:AB:2:GLN:HA	12:AB:61:PRO:HD3	1.88	0.56
17:D:562:U:C3'	31:R:14:ARG:HH11	2.18	0.56
17:D:827:U:O4	17:D:872:A:N1	2.39	0.56
40:a:589:U:H2'	40:a:590:A:H8	1.71	0.56
40:a:1818:U:OP2	47:h:156:ARG:CZ	2.53	0.56
40:a:2071:A:H2'	40:a:2072:C:C6	2.40	0.56
53:n:62:GLY:C	53:n:95:ARG:NH2	2.63	0.56
64:y:51:ARG:HD3	64:y:58:ALA:HB3	1.86	0.56
65:z:74:ILE:HD13	65:z:79:PHE:CD1	2.34	0.56
9:9:56:ARG:NH2	40:a:1084:A:C1'	2.69	0.56
11:AA:481:LEU:HD23	12:AB:23:ARG:HH22	1.54	0.56
10:B:5:G:H2'	10:B:6:G:C5'	2.36	0.56
27:N:7:ILE:O	27:N:10:MET:HB3	2.05	0.56
40:a:17:G:H2'	40:a:18:U:C6	2.41	0.56
40:a:500:G:N1	40:a:503:A:OP2	2.37	0.56
40:a:1365:A:O2'	42:c:11:ARG:NH1	2.39	0.56
40:a:2517:C:C2	40:a:2542:A:N6	2.74	0.56
51:l:42:GLY:CA	51:l:92:HIS:HE1	2.18	0.56
57:r:6:LEU:HD11	57:r:37:VAL:CG2	2.33	0.56
59:t:59:LYS:CD	59:t:89:ASN:HA	2.36	0.56
10:B:22:G:H2'	10:B:23:C:H6	1.70	0.56
20:G:5:SER:OG	20:G:8:ASP:OD2	2.24	0.56
31:R:27:CYS:SG	31:R:30:LYS:NZ	2.68	0.56
33:T:3:LEU:HB2	33:T:35:GLN:CD	2.31	0.56
37:X:71:ARG:NE	46:g:50:ASP:O	2.39	0.56
40:a:1799:G:C2	47:h:154:LEU:HD23	2.40	0.56
40:a:2189:U:O2'	40:a:2190:G:O4'	2.22	0.56
44:e:2:LYS:HE2	44:e:52:ARG:HE	1.71	0.56
47:h:175:ARG:CG	47:h:181:MET:HE1	2.35	0.56
55:p:109:PHE:CE1	55:p:152:ARG:NH1	2.74	0.56
61:v:70:ASP:C	61:v:92:TRP:HZ3	2.13	0.56
62:w:9:GLN:O	62:w:17:ARG:HD3	2.04	0.56
5:4:77:VAL:HG11	5:4:79:ARG:NH2	2.21	0.56
5:4:80:HIS:CD2	5:4:81:PRO:HD2	2.41	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:7:11:U:O2	8:7:11:U:H2'	2.06	0.56
10:A:5:G:H2'	10:A:6:G:C5'	2.35	0.56
10:A:16:C:O2	40:a:2181:U:H5'	2.06	0.56
10:A:60:U:H4'	10:A:61:C:OP2	2.04	0.56
12:AB:146:ILE:H	29:P:88:MET:CG	2.19	0.56
17:D:440:C:C4	17:D:441:A:N7	2.73	0.56
17:D:672:U:O2'	17:D:673:A:H5'	2.06	0.56
19:F:26:ALA:HB3	19:F:28:VAL:HG23	1.88	0.56
21:H:117:LYS:CB	21:H:279:LYS:O	2.54	0.56
24:K:148:ASN:ND2	24:K:153:VAL:HG12	2.20	0.56
29:P:63:ASP:OD2	29:P:64:GLN:N	2.38	0.56
40:a:64:A:H2'	40:a:65:U:C6	2.40	0.56
40:a:1720:U:H2'	40:a:1721:G:O4'	2.06	0.56
46:g:47:LYS:HG2	53:n:115:ARG:NH2	2.20	0.56
53:n:5:HIS:HD2	53:n:97:TRP:CE2	2.24	0.56
57:r:54:LEU:HA	57:r:57:LYS:NZ	2.20	0.56
58:s:37:ARG:HD3	58:s:39:LYS:HD2	1.88	0.56
62:w:67:PHE:O	62:w:71:ARG:N	2.39	0.56
6:5:15:DT:C2	11:AA:183:TRP:CD1	2.93	0.56
20:G:19:GLN:HG3	21:H:76:GLU:CB	2.35	0.56
22:I:49:LYS:HZ3	22:I:75:ILE:HD11	1.70	0.56
40:a:930:G:H1'	45:f:25:LEU:HD21	1.87	0.56
40:a:960:A:H61	61:v:82:MET:HE1	1.71	0.56
40:a:1278:C:O2'	62:w:27:SER:OG	2.16	0.56
40:a:1857:G:O2'	40:a:1884:G:N2	2.38	0.56
40:a:2191:A:H2'	40:a:2192:U:H6	1.71	0.56
40:a:2803:G:H2'	40:a:2804:U:C6	2.41	0.56
54:o:30:ARG:NH1	60:u:62:PRO:HB3	2.21	0.56
61:v:96:ILE:HA	61:v:100:LYS:NZ	2.21	0.56
5:4:31:TYR:OH	43:d:103:U:O2'	2.20	0.56
5:4:57:TYR:HB3	61:v:136:MET:HE3	1.87	0.56
10:B:18:G:H1'	10:B:58:A:C2	2.41	0.56
17:D:671:G:O3'	25:L:79:ARG:NH2	2.39	0.56
21:H:163:ARG:CB	21:H:298:GLU:HG3	2.35	0.56
23:J:162:ALA:HA	23:J:165:ARG:CZ	2.36	0.56
24:K:74:VAL:HG11	24:K:144:LEU:HD12	1.88	0.56
43:d:45:A:H5'	53:n:92:ARG:NH1	2.20	0.56
60:u:125:LEU:HD23	60:u:125:LEU:N	2.21	0.56
3:2:54:GLU:OE1	3:2:54:GLU:N	2.38	0.55
5:4:48:MET:HE3	5:4:84:PRO:O	2.04	0.55
8:7:8:U:H5'	17:D:1397:C:C2	2.41	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:9:73:LYS:HD2	9:9:73:LYS:O	2.06	0.55
12:AB:141:LEU:N	12:AB:141:LEU:HD23	2.20	0.55
20:G:30:PHE:CD1	20:G:45:LYS:NZ	2.74	0.55
22:I:164:ARG:CZ	22:I:166:GLU:OE2	2.54	0.55
23:J:62:ARG:HA	23:J:72:PHE:CE1	2.41	0.55
29:P:47:GLU:OE1	29:P:67:ILE:O	2.24	0.55
36:W:12:ASP:OD2	36:W:35:SER:OG	2.14	0.55
37:X:96:PRO:HG3	37:X:102:THR:HG22	1.89	0.55
40:a:784:G:H5'	40:a:785:G:OP1	2.06	0.55
40:a:1038:G:H2'	40:a:1039:A:C8	2.42	0.55
40:a:1570:A:H2'	40:a:1571:A:C8	2.41	0.55
61:v:41:LEU:CD2	61:v:45:GLN:HE22	2.18	0.55
2:1:62:ASP:OD1	2:1:62:ASP:O	2.24	0.55
8:7:1:A:H2'	8:7:2:U:H6	1.70	0.55
10:A:75:C:O2'	10:A:76:A:C8	2.58	0.55
11:AA:985:GLU:HB3	11:AA:988:LYS:HB2	1.89	0.55
14:AE:82:GLY:HA3	22:I:100:GLN:CG	2.37	0.55
17:D:321:A:N7	17:D:328:C:O2'	2.38	0.55
17:D:588:G:C5'	27:N:3:MET:HE1	2.36	0.55
26:M:71:PRO:HG3	26:M:103:TRP:CH2	2.42	0.55
34:U:39:PHE:HD1	34:U:50:THR:HG22	1.70	0.55
40:a:2063:C:O2	40:a:2063:C:H2'	2.07	0.55
40:a:2189:U:O2'	40:a:2190:G:C5'	2.54	0.55
41:b:68:LYS:HZ2	41:b:70:GLU:CD	2.14	0.55
49:j:180:VAL:O	49:j:180:VAL:HG13	2.05	0.55
55:p:85:LYS:HE3	55:p:164:TYR:CE1	2.41	0.55
55:p:94:TYR:CE1	55:p:107:LEU:O	2.59	0.55
59:t:20:MET:HB3	59:t:44:LYS:CE	2.35	0.55
3:2:56:GLU:CD	3:2:88:LYS:HA	2.31	0.55
4:3:47:LYS:HE3	40:a:483:A:OP1	2.06	0.55
8:7:11:U:HO2'	24:K:33:PHE:HE1	1.44	0.55
9:9:31:ARG:CD	40:a:1053:C:O2'	2.47	0.55
10:A:22:G:O2'	10:A:23:C:P	2.65	0.55
10:A:56:C:H1'	40:a:2112:G:C6	2.42	0.55
17:D:280:C:H1'	35:V:40:ARG:NH1	2.21	0.55
17:D:1370:G:C2	17:D:1371:G:C8	2.95	0.55
24:K:112:ARG:HG3	24:K:116:GLU:OE2	2.06	0.55
29:P:15:HIS:HA	29:P:18:ILE:HG22	1.88	0.55
36:W:64:ASP:OD2	46:g:57:VAL:HG23	2.06	0.55
40:a:1289:C:C2	40:a:1290:C:C5	2.94	0.55
47:h:62:TYR:CD2	47:h:64:ILE:HD13	2.41	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:k:5:ILE:HG23	50:k:28:ARG:NH1	2.21	0.55
59:t:41:ILE:HD11	59:t:86:LEU:HD22	1.89	0.55
59:t:59:LYS:HZ3	59:t:92:GLU:HG2	1.72	0.55
3:2:2:ILE:HG21	3:2:42:GLU:OE1	2.06	0.55
10:A:18:G:H1'	10:A:58:A:C2	2.41	0.55
16:C:60:LYS:HZ1	17:D:735:C:C4'	2.17	0.55
17:D:502:A:O3'	31:R:116:LYS:HE2	2.06	0.55
17:D:977:A:O2'	17:D:979:C:OP2	2.25	0.55
24:K:45:ARG:C	24:K:71:MET:HE2	2.32	0.55
30:Q:87:LYS:HG3	30:Q:113:VAL:CG2	2.35	0.55
31:R:109:ASP:C	31:R:111:LYS:HZ3	2.14	0.55
39:Z:2:ILE:HB	39:Z:5:ASP:HB3	1.88	0.55
40:a:1321:A:C4	40:a:1322:A:C8	2.95	0.55
44:e:20:ASN:O	44:e:23:ARG:HG2	2.06	0.55
49:j:11:MET:SD	49:j:11:MET:C	2.90	0.55
58:s:13:ARG:CZ	58:s:49:ASP:O	2.54	0.55
59:t:12:ASP:CG	59:t:85:VAL:HG13	2.30	0.55
9:9:24:SER:CB	9:9:86:MET:HE2	2.36	0.55
10:B:75:C:O2'	10:B:76:A:C8	2.58	0.55
23:J:138:SER:O	23:J:141:ASP:OD1	2.24	0.55
27:N:78:VAL:HG12	27:N:85:ILE:HG21	1.89	0.55
29:P:6:ILE:HG21	29:P:100:ILE:HD11	1.89	0.55
32:S:87:ALA:HB1	32:S:93:ILE:HG13	1.87	0.55
35:V:11:ARG:HE	35:V:58:VAL:HG22	1.69	0.55
40:a:537:G:OP2	58:s:2:LYS:CE	2.55	0.55
40:a:608:A:H2'	40:a:609:A:C8	2.42	0.55
40:a:1665:A:O3'	59:t:66:LYS:HD3	2.07	0.55
40:a:1665:A:C3'	59:t:66:LYS:HZ2	2.20	0.55
46:g:2:LYS:HB2	46:g:5:ILE:HD11	1.88	0.55
48:i:40:ARG:HG3	48:i:41:HIS:ND1	2.21	0.55
55:p:33:LEU:HD11	55:p:136:ALA:HB1	1.89	0.55
58:s:74:TYR:CE2	58:s:92:MET:HE1	2.42	0.55
59:t:59:LYS:HD2	59:t:89:ASN:HA	1.87	0.55
9:9:98:GLU:HA	9:9:101:LYS:NZ	2.22	0.55
17:D:1076:U:OP1	20:G:174:LYS:NZ	2.40	0.55
22:I:150:LYS:HE3	22:I:201:TRP:CZ3	2.41	0.55
33:T:35:GLN:CB	33:T:59:MET:HE1	2.35	0.55
40:a:1082:U:O4	40:a:1086:A:N1	2.39	0.55
40:a:2351:G:O6	54:o:39:LYS:CE	2.55	0.55
44:e:53:VAL:O	44:e:57:LEU:HD23	2.07	0.55
44:e:56:LEU:O	44:e:59:GLU:HG3	2.06	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:l:1:MET:HE1	51:l:20:GLY:N	2.21	0.55
61:v:45:GLN:HE21	61:v:124:LEU:HD23	1.72	0.55
63:x:36:TYR:CD2	63:x:52:SER:HB2	2.41	0.55
64:y:27:GLU:HB3	64:y:87:LYS:NZ	2.22	0.55
5:4:57:TYR:CB	61:v:136:MET:CE	2.84	0.55
10:A:37:A:H2'	10:A:38:A:O4'	2.07	0.55
16:C:60:LYS:HD2	17:D:734:G:O2'	2.07	0.55
17:D:946:A:H2'	17:D:947:G:C8	2.41	0.55
19:F:19:PHE:CE2	30:Q:110:ILE:HG22	2.42	0.55
22:I:31:ASP:HA	32:S:65:ARG:HH22	1.71	0.55
22:I:132:ARG:HA	22:I:135:LYS:HE3	1.89	0.55
30:Q:61:PHE:O	30:Q:64:GLN:HG2	2.06	0.55
38:Y:33:ASN:HB3	38:Y:36:GLU:CG	2.30	0.55
38:Y:123:ALA:O	38:Y:126:ARG:HG3	2.07	0.55
40:a:16:C:O4'	48:i:15:MET:CE	2.55	0.55
40:a:888:C:N4	40:a:889:C:N4	2.55	0.55
40:a:2335:A:OP2	63:x:13:ARG:HB3	2.06	0.55
40:a:2591:C:H2'	40:a:2592:G:C8	2.42	0.55
41:b:21:LEU:HD21	41:b:41:ARG:NE	2.21	0.55
56:q:1:MET:HE1	56:q:35:GLN:C	2.32	0.55
62:w:24:MET:HE2	62:w:34:ILE:HD13	1.87	0.55
9:9:3:LEU:HD12	9:9:4:ASN:CA	2.37	0.55
9:9:61:ARG:NH2	40:a:1045:C:O3'	2.40	0.55
9:9:94:ARG:CB	9:9:97:LYS:HZ3	2.19	0.55
14:AE:75:TYR:CE1	29:P:91:ASP:OD2	2.59	0.55
10:B:22:G:O2'	10:B:23:C:P	2.65	0.55
17:D:37:U:O4	17:D:397:A:N1	2.40	0.55
17:D:50:A:O2'	17:D:360:G:N2	2.40	0.55
17:D:73:C:O2	17:D:73:C:H2'	2.07	0.55
20:G:27:MET:CE	20:G:187:VAL:HG12	2.37	0.55
25:L:99:ALA:HB3	25:L:104:LYS:NZ	2.22	0.55
26:M:95:ARG:O	26:M:99:LEU:HG	2.06	0.55
40:a:1059:G:H2'	40:a:1060:U:C5	2.41	0.55
40:a:2299:U:H2'	40:a:2300:C:H6	1.71	0.55
53:n:134:GLU:N	53:n:134:GLU:OE1	2.40	0.55
60:u:76:GLU:CG	60:u:111:ILE:HD13	2.37	0.55
65:z:92:ARG:HA	65:z:95:LEU:HD12	1.89	0.55
7:6:23:DT:O5'	14:AE:259:ARG:NH1	2.39	0.55
9:9:122:GLN:HG2	9:9:123:ILE:H	1.70	0.55
11:AA:103:VAL:HB	11:AA:114:VAL:HG11	1.89	0.55
11:AA:633:LEU:HD13	11:AA:644:LEU:HD23	1.89	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AB:145:LEU:HB3	29:P:88:MET:HB3	1.87	0.55
14:AE:888:CYS:SG	14:AE:889:ASP:N	2.74	0.55
10:B:32:C:H5'	17:D:1340:A:O3'	2.06	0.55
17:D:324:G:N1	17:D:327:A:OP2	2.39	0.55
17:D:1071:C:H2'	17:D:1072:G:H8	1.71	0.55
18:E:6:SER:O	18:E:10:ARG:HG2	2.07	0.55
21:H:71:ALA:C	21:H:72:LEU:HD12	2.32	0.55
21:H:118:GLY:O	21:H:133:GLY:HA2	2.06	0.55
24:K:99:ALA:HB2	24:K:124:LEU:HG	1.88	0.55
27:N:7:ILE:O	27:N:11:LEU:HD13	2.06	0.55
38:Y:45:THR:HG21	38:Y:50:LYS:CD	2.36	0.55
40:a:151:C:H2'	40:a:152:A:H8	1.72	0.55
40:a:1469:A:H2'	40:a:1470:A:C8	2.42	0.55
40:a:2064:C:H2'	40:a:2065:C:C6	2.42	0.55
46:g:5:ILE:CD1	53:n:64:LYS:HE3	2.36	0.55
46:g:61:ASN:OD1	46:g:65:ASN:ND2	2.40	0.55
49:j:55:LYS:NZ	49:j:60:VAL:N	2.55	0.55
62:w:24:MET:HA	62:w:24:MET:CE	2.33	0.55
9:9:23:LEU:HD21	9:9:96:PHE:CD1	2.42	0.55
9:9:97:LYS:HD3	9:9:130:PRO:HG3	1.89	0.55
11:AA:1070:HIS:NE2	11:AA:1114:GLU:OE1	2.36	0.55
12:AB:33:ILE:HG22	12:AB:50:LEU:HB2	1.89	0.55
14:AE:87:LYS:C	14:AE:87:LYS:HD3	2.32	0.55
10:B:37:A:H2'	10:B:38:A:O4'	2.07	0.55
17:D:1208:C:H2'	17:D:1209:C:C6	2.40	0.55
17:D:1399:C:O2	17:D:1502:A:N6	2.40	0.55
18:E:32:ILE:HG23	18:E:75:HIS:NE2	2.21	0.55
19:F:19:PHE:CE1	19:F:23:CYS:SG	3.00	0.55
21:H:9:PHE:O	21:H:13:LEU:HD23	2.06	0.55
21:H:268:VAL:HG23	21:H:269:ALA:N	2.22	0.55
26:M:23:LEU:O	26:M:27:VAL:HG13	2.07	0.55
30:Q:84:VAL:CG2	30:Q:107:ILE:HD11	2.37	0.55
32:S:27:LEU:HD21	32:S:48:LEU:N	2.21	0.55
34:U:76:LYS:C	34:U:80:LYS:HZ3	2.15	0.55
37:X:95:LEU:HB3	37:X:96:PRO:CD	2.37	0.55
40:a:728:G:C4	40:a:730:A:C8	2.95	0.55
40:a:1386:C:H2'	40:a:1387:A:C8	2.42	0.55
45:f:10:THR:HB	45:f:56:LYS:NZ	2.22	0.55
58:s:73:VAL:HG12	58:s:74:TYR:N	2.20	0.55
61:v:39:GLY:O	61:v:96:ILE:N	2.33	0.55
62:w:35:LYS:NZ	62:w:112:TYR:HE2	2.04	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
64:y:15:GLN:NE2	64:y:16:ASP:OD1	2.40	0.55
4:3:48:PRO:HG3	4:3:56:GLY:HA3	1.89	0.54
13:AC:28:LEU:HD22	13:AC:201:LEU:HD23	1.88	0.54
19:F:31:GLU:O	19:F:34:ARG:HG2	2.08	0.54
22:I:155:GLY:O	22:I:196:ILE:HG12	2.08	0.54
23:J:105:MET:HE1	23:J:171:LEU:HB3	1.89	0.54
37:X:95:LEU:O	37:X:109:ARG:NH2	2.39	0.54
40:a:851:C:H2'	40:a:852:U:H6	1.72	0.54
40:a:2376:A:N3	63:x:111:ARG:NH1	2.54	0.54
40:a:2741:A:O3'	56:q:36:ARG:NH1	2.40	0.54
40:a:2833:U:O2	49:j:58:ASN:ND2	2.41	0.54
51:l:147:LEU:HD11	51:l:170:ARG:HD2	1.89	0.54
58:s:133:ALA:C	58:s:135:GLN:N	2.60	0.54
63:x:21:LEU:HD22	63:x:23:ALA:HB2	1.87	0.54
9:9:129:LEU:HD12	9:9:129:LEU:C	2.32	0.54
12:AB:148:LYS:CE	29:P:84:VAL:CG1	2.84	0.54
10:B:60:U:P	10:B:61:C:H41	2.30	0.54
40:a:151:C:C2	40:a:152:A:C8	2.95	0.54
40:a:923:G:O4'	41:b:29:GLU:OE2	2.24	0.54
47:h:17:VAL:HB	47:h:204:VAL:HG12	1.89	0.54
51:l:60:TRP:CD1	51:l:65:THR:HG21	2.43	0.54
62:w:24:MET:HE3	62:w:24:MET:CA	2.34	0.54
2:1:41:LYS:HE3	40:a:2010:G:P	2.48	0.54
4:3:7:ARG:HB3	40:a:85:G:OP2	2.07	0.54
5:4:6:ALA:HB3	5:4:65:VAL:CG2	2.37	0.54
9:9:36:ASP:N	9:9:36:ASP:OD1	2.40	0.54
13:AC:100:LEU:HD23	13:AC:115:ILE:HG21	1.89	0.54
14:AE:886:VAL:HG11	14:AE:1230:THR:HG21	1.89	0.54
17:D:375:U:OP1	34:U:70:ARG:CG	2.54	0.54
17:D:736:C:H2'	17:D:737:C:C6	2.43	0.54
21:H:116:VAL:HA	21:H:279:LYS:HD2	1.88	0.54
23:J:175:ALA:O	23:J:178:MET:SD	2.65	0.54
24:K:77:ASN:HB2	24:K:82:GLN:HG3	1.89	0.54
26:M:31:MET:SD	26:M:36:LYS:HA	2.48	0.54
30:Q:20:VAL:HB	30:Q:35:THR:HG23	1.89	0.54
40:a:150:U:H2'	40:a:151:C:H6	1.72	0.54
40:a:372:G:O2'	40:a:400:G:O6	2.16	0.54
40:a:1349:C:C2	40:a:1350:C:C5	2.95	0.54
40:a:1656:C:OP1	49:j:141:ARG:CD	2.55	0.54
40:a:1708:C:C2	40:a:1709:U:C5	2.95	0.54
47:h:157:SER:O	47:h:195:VAL:HG11	2.07	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:n:71:ARG:O	53:n:81:GLN:NE2	2.40	0.54
59:t:35:VAL:HG23	59:t:63:VAL:HA	1.89	0.54
1:0:13:ARG:NH2	65:z:97:ASP:OD1	2.40	0.54
2:1:25:ARG:NH2	40:a:519:U:O3'	2.40	0.54
2:1:31:GLN:O	2:1:35:ILE:HG12	2.07	0.54
2:1:43:ALA:O	2:1:47:VAL:HG12	2.07	0.54
5:4:55:GLU:O	5:4:59:GLU:OE1	2.24	0.54
5:4:80:HIS:ND1	5:4:83:LYS:N	2.55	0.54
11:AA:29:SER:O	11:AA:33:ASP:HB2	2.07	0.54
11:AA:143:ARG:NH2	11:AA:512:SER:O	2.40	0.54
14:AE:1346:GLY:O	14:AE:1350:ASN:ND2	2.41	0.54
17:D:652:U:C3'	27:N:56:LYS:HZ1	2.19	0.54
17:D:679:C:C2	17:D:680:C:C5	2.95	0.54
17:D:750:C:N3	17:D:751:U:C5	2.75	0.54
18:E:56:PRO:HG2	18:E:57:ILE:HD12	1.90	0.54
19:F:63:GLU:HG2	19:F:67:ARG:NH2	2.23	0.54
20:G:19:GLN:CD	21:H:76:GLU:HB3	2.33	0.54
20:G:148:LEU:HD22	20:G:151:ILE:HD11	1.89	0.54
24:K:131:THR:O	24:K:131:THR:HG22	2.08	0.54
24:K:157:ARG:NE	27:N:43:GLU:O	2.40	0.54
25:L:39:LEU:O	25:L:39:LEU:HD12	2.07	0.54
27:N:87:LYS:HG2	27:N:92:LEU:HA	1.90	0.54
31:R:56:ARG:HA	31:R:62:GLU:OE2	2.08	0.54
37:X:28:THR:CA	37:X:31:LYS:HE3	2.37	0.54
38:Y:44:LYS:O	38:Y:44:LYS:HD2	2.07	0.54
40:a:857:G:H5''	41:b:78:LYS:HZ2	1.72	0.54
40:a:2297:A:C2	40:a:2320:U:O4'	2.61	0.54
40:a:2454:G:C4	40:a:2455:G:C8	2.96	0.54
40:a:2557:G:H2'	40:a:2558:C:C6	2.42	0.54
47:h:67:PHE:CE1	47:h:105:LEU:HD11	2.42	0.54
49:j:156:PHE:CD2	58:s:81:ILE:HD13	2.42	0.54
55:p:149:ARG:NE	55:p:162:VAL:O	2.40	0.54
62:w:94:TYR:C	62:w:116:VAL:HG23	2.32	0.54
64:y:31:TRP:CZ3	64:y:40:LEU:HD11	2.43	0.54
8:7:18:U:O2	8:7:18:U:H2'	2.06	0.54
16:C:40:VAL:HG13	21:H:339:ARG:HD3	1.89	0.54
17:D:1329:A:OP1	37:X:28:THR:HB	2.06	0.54
20:G:187:VAL:HG21	20:G:199:VAL:HG23	1.89	0.54
27:N:7:ILE:O	27:N:11:LEU:CD1	2.55	0.54
28:O:10:GLY:HA3	28:O:78:ALA:O	2.08	0.54
28:O:88:MET:HE1	28:O:95:ARG:HA	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:R:110:ARG:NE	31:R:117:TYR:CD2	2.76	0.54
33:T:3:LEU:HD22	33:T:8:THR:HG22	1.88	0.54
35:V:31:HIS:ND1	35:V:32:PRO:HD2	2.23	0.54
40:a:589:U:H2'	40:a:590:A:C8	2.42	0.54
40:a:1019:U:O4	40:a:1142:A:N1	2.40	0.54
40:a:1348:C:C5	40:a:1349:C:C5	2.95	0.54
54:o:16:LYS:HD2	54:o:65:ALA:HB1	1.88	0.54
62:w:44:LEU:HD22	62:w:113:ILE:HD13	1.90	0.54
2:1:7:HIS:HD2	2:1:10:ALA:HB2	1.69	0.54
4:3:26:LYS:HE2	4:3:26:LYS:HA	1.88	0.54
10:A:60:U:P	10:A:61:C:H41	2.30	0.54
14:AE:287:ALA:CB	14:AE:292:VAL:HG22	2.37	0.54
16:C:34:THR:HG22	16:C:36:SER:H	1.72	0.54
17:D:547:A:OP1	23:J:70:ARG:NH2	2.41	0.54
17:D:713:G:H2'	17:D:714:G:C8	2.42	0.54
17:D:1078:U:O3'	24:K:138:ARG:NH2	2.40	0.54
23:J:121:LYS:HG2	23:J:131:ASN:ND2	2.20	0.54
26:M:38:THR:O	26:M:42:ILE:HG12	2.08	0.54
26:M:79:ARG:O	26:M:79:ARG:HD2	2.06	0.54
37:X:81:MET:CE	37:X:92:ARG:HD3	2.38	0.54
40:a:134:G:H2'	40:a:135:U:C6	2.43	0.54
40:a:1563:U:H2'	40:a:1564:C:C6	2.43	0.54
40:a:2356:U:H4'	41:b:20:ARG:HH11	1.73	0.54
40:a:2742:G:P	56:q:36:ARG:NH1	2.80	0.54
40:a:2766:A:C2	40:a:2767:C:C6	2.96	0.54
53:n:46:ASP:CG	53:n:49:LEU:HD13	2.33	0.54
59:t:1:MET:CE	59:t:32:TYR:HB3	2.38	0.54
62:w:35:LYS:NZ	62:w:112:TYR:CE2	2.76	0.54
1:0:10:LYS:HE2	40:a:996:A:OP1	2.07	0.54
2:1:31:GLN:OE1	2:1:31:GLN:N	2.28	0.54
5:4:35:GLU:OE1	5:4:93:ARG:CZ	2.56	0.54
8:7:1:A:C4	8:7:2:U:C5	2.95	0.54
8:7:3:G:C3'	17:D:1500:A:N6	2.71	0.54
11:AA:243:PRO:HB2	11:AA:274:ILE:HG23	1.90	0.54
16:C:13:PHE:CZ	16:C:21:ILE:HG12	2.42	0.54
18:E:78:ASN:C	18:E:82:GLN:OE1	2.50	0.54
21:H:5:PHE:O	21:H:9:PHE:HD1	1.90	0.54
21:H:268:VAL:HG23	21:H:269:ALA:H	1.72	0.54
23:J:61:VAL:HG21	23:J:200:ILE:HD11	1.90	0.54
25:L:39:LEU:HB3	25:L:62:MET:HE1	1.88	0.54
29:P:5:ARG:HG3	29:P:7:ARG:NH1	2.23	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:228:C:N4	40:a:2407:A:N3	2.52	0.54
40:a:1084:A:N7	40:a:1085:A:C6	2.76	0.54
53:n:16:LEU:HD11	53:n:169:LEU:CD1	2.38	0.54
59:t:34:GLY:N	59:t:37:ASP:OD2	2.40	0.54
60:u:57:LEU:HA	60:u:60:ARG:HD2	1.89	0.54
11:AA:684:ASN:OD1	11:AA:687:ARG:NH2	2.41	0.54
14:AE:968:ASN:HA	14:AE:1117:SER:HB2	1.90	0.54
17:D:17:U:H2'	17:D:18:C:C6	2.42	0.54
17:D:695:A:OP1	30:Q:53:ARG:HD3	2.07	0.54
17:D:769:G:H4'	17:D:1513:A:H4'	1.90	0.54
18:E:25:ARG:HD3	18:E:66:LEU:HD11	1.90	0.54
25:L:3:HIS:CG	25:L:65:GLU:OE1	2.61	0.54
26:M:79:ARG:HB2	26:M:84:THR:HG23	1.90	0.54
31:R:74:LEU:HD11	31:R:80:ILE:HD11	1.90	0.54
37:X:28:THR:O	37:X:31:LYS:HG2	2.07	0.54
38:Y:129:GLU:CB	38:Y:133:ARG:HH12	2.16	0.54
40:a:839:U:H2'	40:a:840:C:H6	1.73	0.54
40:a:1433:A:H2'	40:a:1434:A:O4'	2.07	0.54
40:a:1830:C:C2	40:a:1831:G:C8	2.96	0.54
40:a:2838:G:C4	40:a:2839:G:C8	2.95	0.54
49:j:4:LEU:HD23	49:j:29:VAL:HG11	1.89	0.54
49:j:78:GLY:C	49:j:79:LEU:HD22	2.32	0.54
51:l:188:MET:HE2	51:l:193:VAL:HA	1.89	0.54
52:m:26:ASN:O	52:m:30:VAL:HG23	2.08	0.54
6:5:8:DT:O4	12:AB:10:LYS:NZ	2.38	0.54
8:7:6:U:C2	17:D:1493:A:C2	2.95	0.54
9:9:52:MET:HE1	9:9:85:SER:CA	2.38	0.54
10:A:41:C:O4'	26:M:143:ARG:NH1	2.41	0.54
10:A:76:A:N1	40:a:2422:C:C6	2.75	0.54
11:AA:1117:LEU:HD12	11:AA:1195:ILE:HG12	1.90	0.54
12:AB:124:GLU:OE1	14:AE:47:ARG:CG	2.55	0.54
14:AE:66:LYS:HB2	14:AE:69:GLU:CB	2.38	0.54
14:AE:679:TYR:OH	14:AE:754:ILE:O	2.23	0.54
16:C:39:ILE:HD12	17:D:719:C:O2	2.07	0.54
17:D:106:C:N4	18:E:10:ARG:NH2	2.56	0.54
17:D:399:G:H2'	17:D:400:C:C6	2.43	0.54
18:E:22:ALA:CA	18:E:25:ARG:HH21	2.21	0.54
18:E:32:ILE:CG2	18:E:75:HIS:NE2	2.71	0.54
30:Q:79:ILE:O	30:Q:105:PHE:HE1	1.91	0.54
40:a:1657:U:O2'	49:j:138:LEU:HD22	2.08	0.54
40:a:2328:A:H2'	40:a:2329:U:H6	1.68	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:2537:U:H2'	40:a:2538:C:C6	2.43	0.54
43:d:42:C:C5'	53:n:64:LYS:HZ1	2.18	0.54
44:e:28:LEU:HD23	44:e:43:LEU:HD22	1.88	0.54
47:h:107:PRO:HD2	47:h:110:LEU:HD22	1.89	0.54
49:j:55:LYS:HZ2	49:j:60:VAL:HB	1.73	0.54
50:k:29:THR:HG23	50:k:30:LYS:HG2	1.90	0.54
51:l:60:TRP:NE1	51:l:69:ARG:NH1	2.56	0.54
51:l:62:GLN:O	51:l:69:ARG:CD	2.56	0.54
59:t:2:ILE:CG2	59:t:8:LEU:HD11	2.38	0.54
59:t:18:ARG:HB3	59:t:45:GLU:HB3	1.89	0.54
60:u:122:VAL:HG13	60:u:125:LEU:CD1	2.34	0.54
61:v:1:MET:CE	61:v:44:ARG:HA	2.38	0.54
1:0:10:LYS:CE	40:a:996:A:OP1	2.56	0.54
3:2:6:ARG:NH2	3:2:10:VAL:HG22	2.23	0.54
3:2:30:ILE:HG22	3:2:32:LEU:CD2	2.38	0.54
3:2:56:GLU:OE1	3:2:87:LEU:CA	2.56	0.54
4:3:26:LYS:HE3	4:3:37:GLU:HB2	1.90	0.54
8:7:14:U:O3'	15:AF:84:THR:CG2	2.54	0.54
11:AA:628:HIS:HB3	11:AA:647:ARG:HH21	1.73	0.54
14:AE:901:ARG:HH21	14:AE:906:GLY:HA2	1.73	0.54
17:D:76:G:C4	17:D:77:A:C8	2.95	0.54
18:E:19:LYS:HG3	18:E:20:HIS:N	2.22	0.54
18:E:25:ARG:HD3	18:E:66:LEU:HD21	1.90	0.54
20:G:18:HIS:HA	21:H:43:LYS:HD2	1.90	0.54
20:G:58:ASN:OD1	20:G:223:GLU:OE1	2.26	0.54
27:N:50:LYS:HE2	27:N:50:LYS:HA	1.89	0.54
27:N:87:LYS:HD2	27:N:91:GLU:CB	2.37	0.54
34:U:23:ASP:HB3	34:U:26:ASN:OD1	2.07	0.54
38:Y:32:VAL:HA	38:Y:60:VAL:HG21	1.90	0.54
38:Y:33:ASN:HB2	38:Y:36:GLU:OE2	2.08	0.54
38:Y:80:LYS:CG	38:Y:86:LYS:O	2.56	0.54
40:a:581:C:H2'	40:a:582:A:H8	1.73	0.54
40:a:2683:C:H4'	49:j:13:ARG:NH2	2.22	0.54
44:e:2:LYS:HE2	44:e:49:ASP:HA	1.88	0.54
44:e:23:ARG:HG3	44:e:24:GLU:N	2.21	0.54
51:l:119:ILE:O	51:l:188:MET:N	2.35	0.54
59:t:14:SER:OG	59:t:86:LEU:HD12	2.08	0.54
61:v:21:ALA:HB2	61:v:100:LYS:HG3	1.90	0.54
9:9:51:TYR:HB2	9:9:88:HIS:HB2	1.90	0.53
9:9:112:ALA:O	9:9:123:ILE:CD1	2.54	0.53
10:B:38:A:O2'	17:D:790:A:P	2.66	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:N:83:LEU:HD21	31:R:4:VAL:HG11	1.89	0.53
31:R:35:THR:OG1	31:R:56:ARG:HG3	2.08	0.53
35:V:7:THR:CB	35:V:60:GLU:OE2	2.56	0.53
36:W:47:LEU:O	36:W:62:VAL:HG23	2.08	0.53
40:a:1000:A:H2'	40:a:1001:A:C8	2.43	0.53
40:a:1774:C:O2	40:a:1774:C:H2'	2.07	0.53
40:a:1790:C:H2'	40:a:1791:A:C5	2.43	0.53
40:a:2038:G:H2'	40:a:2039:U:O4'	2.08	0.53
46:g:11:GLU:HA	46:g:25:ARG:HA	1.90	0.53
51:l:62:GLN:HA	51:l:69:ARG:HH21	1.73	0.53
51:l:69:ARG:HA	51:l:69:ARG:CZ	2.37	0.53
58:s:9:GLU:HG2	58:s:10:THR:HG23	1.90	0.53
64:y:9:GLU:OE2	64:y:55:LEU:N	2.37	0.53
8:7:22:U:C5'	22:I:80:LYS:CG	2.51	0.53
12:AB:43:ARG:HG2	12:AB:133:PRO:HG3	1.89	0.53
12:AB:84:SER:OG	12:AB:85:PRO:HD2	2.09	0.53
12:AB:138:ARG:CG	12:AB:155:LYS:N	2.70	0.53
17:D:932:C:C5'	26:M:4:ARG:HH11	2.21	0.53
32:S:42:TRP:CH2	46:g:66:ILE:HG23	2.42	0.53
32:S:54:ASP:HA	32:S:59:ARG:HD2	1.90	0.53
40:a:685:A:O2'	40:a:773:U:O4	2.17	0.53
40:a:1817:G:C6	40:a:1818:U:C5	2.95	0.53
40:a:2355:G:H2'	40:a:2356:U:H5'	1.91	0.53
40:a:2387:U:O4'	41:b:41:ARG:NH1	2.41	0.53
49:j:4:LEU:HG	49:j:32:ASN:OD1	2.08	0.53
57:r:143:ILE:O	57:r:143:ILE:HG13	2.08	0.53
58:s:15:TRP:HE3	58:s:135:GLN:O	1.90	0.53
7:6:20:DA:C6	8:7:36:G:N2	2.76	0.53
8:7:13:U:H6	8:7:13:U:H5''	1.73	0.53
10:A:16:C:O2	40:a:2181:U:C5'	2.57	0.53
14:AE:526:VAL:HG12	14:AE:549:LYS:HB2	1.90	0.53
10:B:31:G:O2'	17:D:1340:A:H4'	2.08	0.53
22:I:85:GLU:O	22:I:89:LYS:HE2	2.09	0.53
24:K:137:VAL:O	24:K:141:ILE:HG12	2.09	0.53
28:O:67:VAL:C	28:O:68:LYS:HD2	2.33	0.53
28:O:118:LEU:HD23	28:O:124:ARG:HA	1.91	0.53
33:T:11:ILE:HA	33:T:14:GLU:OE1	2.09	0.53
37:X:22:ILE:HB	37:X:25:VAL:CG1	2.39	0.53
38:Y:78:LEU:HD13	38:Y:108:ILE:HG12	1.90	0.53
40:a:150:U:H2'	40:a:151:C:C6	2.44	0.53
40:a:1820:U:C4	47:h:159:GLY:HA3	2.44	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:h:52:ARG:HE	47:h:53:HIS:CE1	2.23	0.53
50:k:9:ILE:CG2	50:k:27:LYS:HZ1	2.21	0.53
53:n:132:VAL:CG2	53:n:152:LEU:HD23	2.39	0.53
58:s:73:VAL:C	58:s:74:TYR:HD2	2.14	0.53
61:v:45:GLN:NE2	61:v:125:PRO:HD2	2.22	0.53
63:x:48:LEU:CD2	63:x:87:ILE:HD11	2.38	0.53
11:AA:811:ASN:HA	11:AA:815:SER:HB2	1.90	0.53
14:AE:1175:LEU:O	14:AE:1187:GLU:HA	2.08	0.53
31:R:102:LEU:O	31:R:103:ASP:OD1	2.26	0.53
32:S:63:ARG:NH2	32:S:68:GLY:O	2.32	0.53
38:Y:77:VAL:O	38:Y:77:VAL:HG12	2.08	0.53
38:Y:102:ARG:HG3	38:Y:140:GLU:C	2.33	0.53
40:a:69:C:O2	40:a:73:A:O2'	2.26	0.53
40:a:537:G:P	58:s:2:LYS:HE2	2.49	0.53
40:a:590:A:H2'	40:a:591:U:C6	2.44	0.53
40:a:1779:U:H5	40:a:1784:A:N7	2.06	0.53
40:a:2020:A:C2	40:a:2022:U:O4'	2.61	0.53
40:a:2473:U:O2	40:a:2473:U:H2'	2.09	0.53
50:k:8:LYS:NZ	50:k:54:ILE:HG12	2.23	0.53
59:t:73:ASP:OD2	64:y:80:VAL:HG11	2.08	0.53
60:u:54:GLN:NE2	60:u:60:ARG:HH12	2.07	0.53
61:v:96:ILE:HA	61:v:100:LYS:CE	2.38	0.53
63:x:38:GLN:HG2	63:x:50:ALA:CB	2.38	0.53
65:z:78:LYS:CD	65:z:117:LEU:CD2	2.84	0.53
2:l:41:LYS:HZ2	40:a:2009:A:P	2.30	0.53
4:3:69:ASN:ND2	40:a:329:G:OP2	2.37	0.53
11:AA:786:GLY:N	11:AA:789:THR:OG1	2.41	0.53
13:AD:205:MET:HE3	13:AD:213:PRO:HB3	1.90	0.53
14:AE:1000:GLY:HA3	14:AE:1026:PRO:HG2	1.90	0.53
17:D:537:G:OP1	31:R:110:ARG:NH2	2.38	0.53
18:E:24:ARG:O	18:E:28:MET:HG2	2.08	0.53
20:G:23:TRP:CD1	20:G:39:HIS:CE1	2.97	0.53
22:I:58:GLU:OE2	22:I:60:PRO:HD3	2.09	0.53
25:L:62:MET:HA	25:L:62:MET:HE3	1.90	0.53
26:M:4:ARG:CG	26:M:5:ARG:NH1	2.72	0.53
29:P:26:VAL:O	29:P:30:LYS:HG3	2.07	0.53
36:W:17:LYS:HB3	36:W:21:LYS:HZ3	1.74	0.53
40:a:3:U:H2'	40:a:4:U:C6	2.42	0.53
40:a:414:C:H2'	40:a:415:A:C8	2.44	0.53
40:a:588:U:H2'	40:a:589:U:C6	2.43	0.53
40:a:632:A:H2'	40:a:633:A:C8	2.44	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:1167:C:C2	40:a:1168:G:C8	2.97	0.53
40:a:2259:U:C2	40:a:2260:C:C6	2.96	0.53
40:a:2747:G:O6	40:a:2755:C:H5''	2.08	0.53
61:v:20:LEU:H	61:v:20:LEU:HD23	1.73	0.53
61:v:97:GLN:H	61:v:100:LYS:CE	2.21	0.53
7:6:20:DA:N6	8:7:36:G:C2	2.76	0.53
9:9:88:HIS:O	9:9:89:PRO:C	2.51	0.53
12:AB:6:LEU:HD13	12:AB:79:VAL:HG21	1.89	0.53
14:AE:77:ARG:HD3	14:AE:78:LEU:H	1.73	0.53
16:C:54:GLN:HG3	16:C:55:LEU:N	2.22	0.53
17:D:339:C:H2'	17:D:340:U:H6	1.73	0.53
17:D:1329:A:P	37:X:28:THR:HB	2.48	0.53
21:H:332:VAL:HG12	21:H:334:ASP:H	1.73	0.53
22:I:85:GLU:HG3	22:I:89:LYS:NZ	2.23	0.53
25:L:36:ILE:O	25:L:36:ILE:HG23	2.08	0.53
26:M:103:TRP:CD1	26:M:137:LYS:HZ2	2.26	0.53
28:O:21:ILE:HD11	28:O:87:LEU:HD22	1.90	0.53
40:a:743:A:O2'	40:a:1659:G:OP1	2.25	0.53
40:a:1353:A:H2'	40:a:1354:A:C8	2.43	0.53
40:a:2649:C:H2'	40:a:2650:U:H6	1.73	0.53
52:m:25:LYS:HG3	52:m:29:GLN:HE22	1.73	0.53
57:r:33:GLN:HB3	57:r:35:LYS:HZ3	1.74	0.53
59:t:2:ILE:HG23	59:t:8:LEU:HD11	1.91	0.53
59:t:38:ILE:HD11	59:t:112:PHE:CZ	2.43	0.53
5:4:19:ARG:NH1	43:d:95:U:OP2	2.41	0.53
5:4:80:HIS:ND1	5:4:83:LYS:HB2	2.23	0.53
11:AA:143:ARG:NH1	11:AA:507:GLY:O	2.32	0.53
15:AF:3:ARG:NH1	15:AF:55:GLU:OE2	2.40	0.53
16:C:12:ARG:NH2	16:C:13:PHE:CE1	2.77	0.53
17:D:197:A:H1'	17:D:198:G:OP2	2.08	0.53
17:D:1358:U:O4	17:D:1363:A:N1	2.41	0.53
19:F:17:ARG:HA	19:F:20:LYS:NZ	2.24	0.53
21:H:279:LYS:HA	21:H:331:MET:HB3	1.89	0.53
22:I:24:ALA:C	22:I:29:PHE:CE2	2.87	0.53
24:K:14:LYS:HD3	24:K:117:VAL:CG1	2.38	0.53
36:W:66:MET:HG2	36:W:74:PHE:CZ	2.44	0.53
40:a:15:G:H2'	48:i:15:MET:HE1	1.90	0.53
40:a:67:U:N3	40:a:74:A:C6	2.77	0.53
40:a:78:U:H2'	40:a:79:C:C6	2.44	0.53
40:a:1412:U:C4	40:a:1413:A:N7	2.77	0.53
40:a:1565:C:OP1	47:h:18:LYS:NZ	2.26	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:2093:G:OP2	57:r:22:LYS:HE3	2.09	0.53
40:a:2849:U:O5'	64:y:93:ARG:NH2	2.42	0.53
53:n:72:LYS:HA	53:n:81:GLN:HE22	1.74	0.53
58:s:133:ALA:C	58:s:135:GLN:H	2.16	0.53
60:u:14:LYS:HE2	60:u:14:LYS:HA	1.91	0.53
2:1:33:LEU:HD23	2:1:51:LEU:HD23	1.88	0.53
12:AB:96:LEU:CD1	14:AE:288:PRO:HB3	2.35	0.53
17:D:62:U:H2'	17:D:63:C:C6	2.44	0.53
17:D:750:C:C2	17:D:751:U:C5	2.96	0.53
22:I:142:MET:SD	22:I:170:GLU:OE1	2.67	0.53
24:K:134:ILE:HG23	24:K:135:ASN:N	2.24	0.53
24:K:158:GLY:C	24:K:159:LYS:HD2	2.34	0.53
27:N:31:LYS:HE3	27:N:31:LYS:HA	1.90	0.53
38:Y:77:VAL:HA	38:Y:80:LYS:HD3	1.91	0.53
40:a:2867:G:C6	64:y:21:ARG:NH1	2.76	0.53
47:h:76:ALA:HB1	47:h:94:VAL:CG1	2.39	0.53
49:j:55:LYS:NZ	49:j:59:ARG:HB3	2.23	0.53
53:n:93:GLY:HA2	53:n:97:TRP:CZ3	2.44	0.53
62:w:14:SER:HA	62:w:17:ARG:CZ	2.39	0.53
8:7:9:U:C4	17:D:1196:A:C8	2.97	0.53
9:9:87:GLU:OE2	9:9:95:LEU:HG	2.09	0.53
12:AB:141:LEU:HD11	12:AB:154:VAL:HG11	1.90	0.53
17:D:280:C:H1'	35:V:40:ARG:CZ	2.37	0.53
21:H:45:GLU:OE1	21:H:45:GLU:N	2.41	0.53
23:J:67:VAL:HB	23:J:72:PHE:CE1	2.43	0.53
26:M:103:TRP:HB3	26:M:137:LYS:HD3	1.89	0.53
29:P:27:GLU:HA	29:P:30:LYS:NZ	2.23	0.53
33:T:15:PHE:CD2	33:T:30:ALA:CB	2.92	0.53
40:a:372:G:O2'	42:c:54:LYS:HE3	2.09	0.53
40:a:1818:U:C6	47:h:156:ARG:NH2	2.77	0.53
40:a:2356:U:C5'	41:b:20:ARG:HD2	2.36	0.53
49:j:46:ARG:NH1	49:j:85:ALA:O	2.32	0.53
49:j:124:ARG:NH1	49:j:161:MET:O	2.41	0.53
55:p:32:GLU:C	55:p:33:LEU:HD12	2.34	0.53
59:t:1:MET:CE	59:t:32:TYR:CB	2.87	0.53
60:u:111:ILE:HD12	60:u:111:ILE:N	2.24	0.53
62:w:37:THR:OG1	62:w:40:LYS:CD	2.57	0.53
8:7:8:U:OP2	17:D:1397:C:C2	2.62	0.53
12:AB:152:HIS:CE1	29:P:81:GLU:OE2	2.62	0.53
14:AE:795:TYR:OH	14:AE:1326:GLN:NE2	2.42	0.53
17:D:73:C:O2	17:D:73:C:C2'	2.57	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:1086:U:C2	17:D:1087:G:C8	2.97	0.53
17:D:1439:G:P	18:E:33:LYS:HZ1	2.31	0.53
22:I:23:PHE:HD2	29:P:97:ASP:HB2	1.74	0.53
26:M:27:VAL:HG12	26:M:43:VAL:HG21	1.90	0.53
28:O:5:GLN:NE2	28:O:22:LYS:NZ	2.56	0.53
30:Q:20:VAL:HG13	30:Q:85:MET:HE1	1.90	0.53
32:S:79:LEU:HB2	32:S:84:VAL:HG22	1.91	0.53
37:X:68:ASP:O	37:X:71:ARG:HG3	2.09	0.53
40:a:833:A:H2'	40:a:834:G:C8	2.44	0.53
40:a:963:U:C2	40:a:964:C:C5	2.97	0.53
49:j:131:ASP:OD2	49:j:132:ALA:N	2.42	0.53
51:l:175:ILE:CG2	51:l:180:LEU:HD11	2.38	0.53
1:O:71:LYS:HG3	1:O:73:LYS:HE3	1.91	0.52
9:9:3:LEU:CG	9:9:4:ASN:H	2.21	0.52
9:9:43:LYS:HZ3	9:9:98:GLU:HB2	1.72	0.52
13:AC:43:LEU:HD13	13:AC:217:ILE:HD11	1.90	0.52
13:AD:182:ARG:NH1	14:AE:534:GLU:OE1	2.42	0.52
16:C:38:LYS:HE2	16:C:38:LYS:CA	2.37	0.52
17:D:564:C:P	31:R:12:ARG:HH22	2.30	0.52
17:D:1308:U:H3'	37:X:98:ARG:CZ	2.39	0.52
24:K:86:LYS:N	24:K:86:LYS:HD2	2.23	0.52
26:M:85:TYR:CD2	26:M:151:PHE:CZ	2.96	0.52
39:Z:18:ASP:HB3	39:Z:22:LEU:CD1	2.39	0.52
40:a:1295:C:C2	40:a:1296:G:C8	2.97	0.52
56:q:9:LYS:HZ3	56:q:11:CYS:C	2.17	0.52
2:1:24:ILE:O	2:1:71:VAL:HG21	2.08	0.52
11:AA:360:LEU:HD13	11:AA:378:ARG:HH11	1.72	0.52
12:AB:155:LYS:HE2	12:AB:157:THR:HG23	1.90	0.52
14:AE:122:SER:HB2	14:AE:132:LEU:HD12	1.91	0.52
10:B:38:A:O2'	17:D:790:A:O5'	2.27	0.52
17:D:274:A:H4'	35:V:16:LYS:NZ	2.24	0.52
17:D:842:U:H3'	17:D:843:U:C5'	2.39	0.52
17:D:1439:G:P	18:E:33:LYS:NZ	2.82	0.52
18:E:75:HIS:CE1	18:E:79:LEU:CD1	2.93	0.52
22:I:105:GLU:OE1	22:I:107:ARG:NE	2.42	0.52
38:Y:126:ARG:NH1	40:a:1082:U:C5'	2.72	0.52
40:a:995:C:N4	58:s:2:LYS:HG3	2.24	0.52
40:a:1145:C:C2	40:a:1146:C:C5	2.97	0.52
40:a:1266:G:OP1	48:i:16:ARG:NE	2.35	0.52
40:a:2049:G:N2	49:j:161:MET:HE1	2.24	0.52
45:f:10:THR:HG23	45:f:11:ARG:HG2	1.90	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:j:48:ILE:HG12	49:j:84:LEU:HD21	1.90	0.52
58:s:25:LEU:CD1	58:s:101:ILE:HD13	2.39	0.52
6:5:9:DA:OP2	11:AA:473:ARG:HG2	2.05	0.52
9:9:136:ILE:HG13	9:9:136:ILE:O	2.09	0.52
11:AA:1287:LEU:HD13	14:AE:1357:ILE:HD11	1.91	0.52
12:AB:38:ILE:HG23	12:AB:156:ASN:ND2	2.13	0.52
12:AB:126:PHE:N	12:AB:126:PHE:CD1	2.77	0.52
13:AD:100:LEU:HD21	13:AD:121:VAL:HG11	1.90	0.52
20:G:23:TRP:HZ3	20:G:25:PRO:CA	2.21	0.52
20:G:23:TRP:HB3	20:G:39:HIS:CE1	2.44	0.52
31:R:25:GLU:OE1	31:R:59:ASN:ND2	2.42	0.52
37:X:71:ARG:HH12	46:g:52:ALA:HB3	1.75	0.52
38:Y:116:MET:HG2	38:Y:124:MET:HB3	1.91	0.52
40:a:888:C:C4	40:a:889:C:C4	2.97	0.52
40:a:1243:C:H1'	60:u:4:ASN:O	2.09	0.52
40:a:1340:U:C5	40:a:1603:A:C8	2.97	0.52
40:a:1348:C:C4	40:a:1349:C:C6	2.97	0.52
40:a:2287:A:C8	40:a:2289:G:C8	2.96	0.52
40:a:2473:U:C4	40:a:2474:U:C5	2.97	0.52
46:g:47:LYS:HE2	53:n:115:ARG:NE	2.25	0.52
47:h:74:ILE:CG2	47:h:96:TYR:HD1	2.21	0.52
47:h:108:LYS:HD3	47:h:194:GLU:HB2	1.92	0.52
51:l:60:TRP:NE1	51:l:69:ARG:HH12	2.07	0.52
55:p:149:ARG:CZ	55:p:154:PRO:HD3	2.40	0.52
1:0:5:PHE:HB3	1:0:59:ILE:HD12	1.91	0.52
8:7:3:G:H3'	17:D:1500:A:N6	2.24	0.52
13:AD:28:LEU:HD12	13:AD:201:LEU:HD23	1.91	0.52
17:D:1175:G:N3	17:D:1176:A:C8	2.77	0.52
20:G:168:HIS:HB3	20:G:169:GLU:OE1	2.10	0.52
21:H:32:ASP:OD1	21:H:35:VAL:CG2	2.58	0.52
22:I:183:ASP:HB3	22:I:204:LYS:NZ	2.25	0.52
27:N:66:PHE:CD2	27:N:67:GLN:OE1	2.62	0.52
29:P:22:THR:O	29:P:25:ILE:HG22	2.10	0.52
29:P:47:GLU:OE1	29:P:67:ILE:HG23	2.09	0.52
33:T:24:SER:O	33:T:28:GLN:HG2	2.09	0.52
40:a:271:G:C4	40:a:272:A:N7	2.77	0.52
40:a:1145:C:N3	40:a:1146:C:C5	2.77	0.52
40:a:1656:C:OP1	49:j:141:ARG:HD3	2.10	0.52
40:a:2308:G:C6	53:n:77:PHE:CZ	2.97	0.52
40:a:2822:G:O2'	40:a:2824:C:OP2	2.20	0.52
61:v:97:GLN:N	61:v:100:LYS:CE	2.72	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:2:33:LYS:HG3	3:2:80:TRP:CE3	2.44	0.52
9:9:61:ARG:NE	40:a:1046:A:P	2.83	0.52
14:AE:514:THR:HG21	14:AE:596:LEU:HD12	1.90	0.52
20:G:127:ASP:O	20:G:128:LYS:HB3	2.09	0.52
32:S:87:ALA:N	32:S:90:ARG:NH1	2.58	0.52
33:T:64:ARG:HA	33:T:64:ARG:HH11	1.75	0.52
40:a:560:C:O2	65:z:48:ARG:NH1	2.37	0.52
40:a:645:C:H2'	40:a:647:G:C8	2.45	0.52
47:h:124:ILE:O	47:h:125:LYS:HD3	2.10	0.52
60:u:58:TYR:CE2	60:u:59:ARG:HG2	2.44	0.52
3:2:53:VAL:HG21	3:2:87:LEU:HD23	1.91	0.52
5:4:35:GLU:OE1	5:4:36:ALA:O	2.27	0.52
11:AA:524:ILE:HG21	11:AA:708:VAL:HG13	1.92	0.52
12:AB:138:ARG:HH11	12:AB:138:ARG:CB	2.20	0.52
13:AD:16:ILE:HG23	13:AD:26:VAL:HG22	1.91	0.52
17:D:404:G:O2'	17:D:498:A:N1	2.37	0.52
17:D:452:A:H2'	17:D:453:G:O4'	2.10	0.52
17:D:1158:C:O2'	20:G:132:LYS:HE2	2.09	0.52
20:G:26:LYS:HE3	20:G:194:ASP:OD1	2.10	0.52
28:O:9:THR:HB	28:O:85:ARG:NH1	2.25	0.52
38:Y:58:ILE:HG23	38:Y:66:PHE:CD2	2.44	0.52
38:Y:126:ARG:NH1	40:a:1083:U:P	2.83	0.52
40:a:607:U:C5	40:a:620:G:C5	2.97	0.52
40:a:1154:G:OP2	65:z:58:ARG:CZ	2.58	0.52
40:a:1204:A:O4'	40:a:1206:G:C8	2.63	0.52
40:a:2727:A:O2'	59:t:70:ARG:NH2	2.43	0.52
47:h:52:ARG:NE	47:h:53:HIS:HE1	2.07	0.52
60:u:90:VAL:CG1	60:u:95:LEU:HD21	2.33	0.52
65:z:65:ILE:HB	65:z:76:TYR:HE1	1.75	0.52
2:1:27:LYS:O	2:1:71:VAL:HG22	2.10	0.52
4:3:6:ARG:HG3	40:a:84:A:H3'	1.91	0.52
6:5:9:DA:OP2	11:AA:470:ARG:O	2.28	0.52
8:7:3:G:C4'	17:D:1500:A:H62	2.22	0.52
9:9:43:LYS:O	9:9:47:GLU:OE1	2.28	0.52
11:AA:974:ARG:HD2	11:AA:1014:LEU:HD21	1.92	0.52
12:AB:37:LYS:CD	12:AB:110:PRO:CD	2.87	0.52
12:AB:38:ILE:HD12	12:AB:110:PRO:HG2	1.91	0.52
16:C:60:LYS:CE	17:D:735:C:C4'	2.88	0.52
17:D:936:C:C2	17:D:937:A:C8	2.98	0.52
20:G:9:MET:HE1	20:G:47:VAL:CG2	2.40	0.52
20:G:38:VAL:HG22	21:H:75:VAL:HG21	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:I:132:ARG:HG3	22:I:135:LYS:HE3	1.92	0.52
22:I:142:MET:CE	22:I:170:GLU:OE1	2.58	0.52
28:O:57:MET:HA	28:O:60:LYS:CE	2.40	0.52
30:Q:86:VAL:O	30:Q:113:VAL:HG22	2.08	0.52
37:X:13:LYS:HE3	37:X:17:ILE:HG21	1.91	0.52
38:Y:78:LEU:HD12	38:Y:112:LYS:NZ	2.25	0.52
40:a:813:U:H2'	40:a:814:C:H6	1.73	0.52
40:a:1314:C:C2	40:a:1315:C:C5	2.98	0.52
40:a:1379:U:H4'	40:a:1380:G:OP1	2.09	0.52
40:a:2812:G:H2'	40:a:2813:A:C8	2.45	0.52
40:a:2847:U:H2'	40:a:2848:G:O4'	2.09	0.52
50:k:21:TYR:CE2	50:k:49:TYR:CD2	2.98	0.52
53:n:42:GLU:HG3	53:n:49:LEU:HD23	1.91	0.52
58:s:15:TRP:CE3	58:s:135:GLN:O	2.63	0.52
63:x:53:THR:HG23	63:x:74:VAL:HG21	1.92	0.52
65:z:65:ILE:HB	65:z:76:TYR:CE1	2.45	0.52
1:0:10:LYS:CE	40:a:994:C:O2'	2.56	0.52
5:4:63:ILE:CD1	5:4:91:PHE:CD2	2.93	0.52
7:6:14:DC:H2'	7:6:15:DC:C6	2.43	0.52
7:6:19:DC:H2'	7:6:20:DA:H8	1.74	0.52
9:9:43:LYS:HZ2	9:9:98:GLU:HB2	1.75	0.52
11:AA:246:LEU:HB3	11:AA:269:ILE:HD13	1.91	0.52
11:AA:855:PRO:HD2	11:AA:887:VAL:HG11	1.91	0.52
12:AB:115:LYS:NZ	12:AB:115:LYS:CB	2.73	0.52
12:AB:151:LYS:NZ	12:AB:151:LYS:CB	2.73	0.52
14:AE:959:LYS:HB3	14:AE:983:LYS:HB2	1.92	0.52
17:D:122:G:C5	17:D:123:U:C5	2.98	0.52
17:D:512:U:P	23:J:44:ARG:NH1	2.83	0.52
17:D:1082:A:OP1	24:K:23:LYS:NZ	2.34	0.52
17:D:1240:U:C5	26:M:116:MET:HE2	2.44	0.52
20:G:53:ALA:CA	20:G:56:GLU:OE1	2.57	0.52
22:I:49:LYS:NZ	22:I:75:ILE:HD11	2.24	0.52
22:I:178:LEU:HD23	22:I:178:LEU:C	2.35	0.52
31:R:110:ARG:HE	31:R:117:TYR:HD2	1.57	0.52
33:T:64:ARG:NH2	33:T:89:ARG:HH22	2.07	0.52
40:a:2308:G:C5	53:n:77:PHE:HZ	2.26	0.52
40:a:2391:G:P	54:o:32:ILE:HD12	2.50	0.52
56:q:25:VAL:CB	56:q:35:GLN:OE1	2.56	0.52
65:z:108:ALA:O	65:z:111:GLU:HG3	2.09	0.52
9:9:59:LEU:HB2	9:9:62:ARG:HG3	1.92	0.52
10:A:22:G:H2'	10:A:23:C:H6	1.70	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:475:VAL:C	11:AA:477:GLU:H	2.17	0.52
13:AC:140:ILE:HD12	13:AC:142:MET:HE3	1.91	0.52
14:AE:1179:PRO:HB2	14:AE:1182:GLY:H	1.75	0.52
17:D:58:C:O2	17:D:58:C:H2'	2.09	0.52
19:F:37:PHE:HB3	30:Q:124:PRO:O	2.10	0.52
21:H:48:ILE:HG22	21:H:49:PRO:O	2.10	0.52
21:H:335:ILE:HG12	21:H:342:ILE:HD12	1.92	0.52
28:O:47:VAL:O	28:O:80:ARG:HD2	2.09	0.52
30:Q:84:VAL:HG21	30:Q:97:ILE:CD1	2.39	0.52
38:Y:99:LYS:HZ3	38:Y:138:VAL:HG13	1.74	0.52
40:a:414:C:H2'	40:a:415:A:H8	1.75	0.52
40:a:1980:G:O2'	40:a:1982:U:OP2	2.23	0.52
40:a:2723:C:H4'	62:w:1:MET:HE3	1.92	0.52
40:a:2814:A:H2'	40:a:2815:C:H6	1.75	0.52
43:d:42:C:P	53:n:64:LYS:NZ	2.83	0.52
53:n:136:ILE:HD12	53:n:141:ILE:HG23	1.92	0.52
55:p:9:VAL:HG22	55:p:69:ARG:NH1	2.24	0.52
58:s:31:GLU:HG2	58:s:142:ILE:HG12	1.92	0.52
2:1:61:ASN:OD1	40:a:496:G:H1'	2.09	0.52
11:AA:62:TYR:CE2	12:AB:71:ALA:O	2.63	0.52
14:AE:342:LEU:HD23	14:AE:1352:ILE:HG23	1.90	0.52
17:D:500:G:H2'	17:D:501:C:C6	2.45	0.52
17:D:512:U:P	23:J:44:ARG:HH12	2.33	0.52
17:D:868:C:H2'	17:D:869:G:O4'	2.10	0.52
17:D:1176:A:H2'	17:D:1177:G:C8	2.45	0.52
23:J:50:ASP:O	23:J:53:VAL:HG22	2.09	0.52
26:M:111:ARG:N	26:M:119:ARG:NH2	2.58	0.52
33:T:3:LEU:HD22	33:T:8:THR:HG23	1.92	0.52
40:a:1138:G:C2	58:s:108:MET:HE2	2.45	0.52
40:a:1278:C:H5'	62:w:24:MET:SD	2.49	0.52
40:a:1346:G:C6	40:a:1601:G:C6	2.98	0.52
40:a:1801:A:OP2	47:h:146:MET:HE1	2.09	0.52
40:a:2311:A:C5	53:n:77:PHE:CD2	2.98	0.52
46:g:58:ASP:CG	46:g:62:LYS:NZ	2.67	0.52
53:n:29:PRO:HB2	53:n:169:LEU:HD22	1.91	0.52
55:p:89:LEU:HD22	55:p:162:VAL:HG22	1.91	0.52
59:t:20:MET:CB	59:t:44:LYS:HZ3	2.18	0.52
62:w:33:ILE:CD1	62:w:112:TYR:CD1	2.91	0.52
5:4:48:MET:CE	5:4:86:LEU:HG	2.40	0.51
10:A:23:C:H2'	10:A:24:U:C6	2.46	0.51
10:A:31:G:H2'	10:A:32:C:O4'	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:A:48:C:C5	10:A:59:A:C8	2.98	0.51
12:AB:41:GLY:HA2	12:AB:156:ASN:CB	2.40	0.51
10:B:6:G:C4	10:B:7:G:C8	2.98	0.51
10:B:48:C:C5	10:B:59:A:C8	2.98	0.51
16:C:70:TYR:CE2	25:L:49:TYR:CZ	2.98	0.51
16:C:71:THR:H	16:C:74:HIS:HE1	1.58	0.51
18:E:54:MET:CE	18:E:75:HIS:HE1	2.24	0.51
20:G:17:GLY:HA3	20:G:41:ILE:HD11	1.92	0.51
21:H:321:VAL:HG13	21:H:322:VAL:HG23	1.91	0.51
24:K:111:MET:HE2	24:K:125:ALA:HB1	1.90	0.51
25:L:88:MET:HE2	25:L:90:MET:HE3	1.91	0.51
29:P:7:ARG:HD3	29:P:75:ASP:OD1	2.10	0.51
38:Y:139:VAL:HG22	38:Y:140:GLU:N	2.25	0.51
40:a:703:U:H2'	40:a:704:G:O4'	2.10	0.51
40:a:872:U:H2'	40:a:873:C:H6	1.75	0.51
40:a:2305:U:H4'	53:n:133:ARG:NH2	2.26	0.51
40:a:2329:U:H2'	40:a:2330:G:C8	2.45	0.51
40:a:2466:C:N3	40:a:2467:C:C5	2.79	0.51
43:d:15:A:O4'	43:d:109:A:C8	2.63	0.51
48:i:26:THR:HG23	48:i:27:SER:N	2.25	0.51
49:j:131:ASP:OD1	49:j:134:HIS:HB2	2.10	0.51
53:n:71:ARG:C	53:n:81:GLN:HE22	2.17	0.51
53:n:134:GLU:CG	53:n:137:ILE:HG23	2.40	0.51
58:s:15:TRP:CZ3	58:s:135:GLN:CA	2.93	0.51
61:v:1:MET:HA	61:v:1:MET:CE	2.38	0.51
65:z:78:LYS:HD3	65:z:117:LEU:HD23	1.88	0.51
1:0:4:VAL:HG22	1:0:40:MET:HB3	1.91	0.51
9:9:94:ARG:HB2	9:9:97:LYS:CE	2.36	0.51
12:AB:11:ARG:HH11	12:AB:11:ARG:CG	2.13	0.51
12:AB:115:LYS:NZ	12:AB:115:LYS:HB3	2.24	0.51
14:AE:67:ASP:C	14:AE:69:GLU:H	2.18	0.51
10:B:76:A:H1'	40:a:2494:G:P	2.50	0.51
17:D:925:G:C2	17:D:927:G:C8	2.98	0.51
28:O:112:GLU:HG3	28:O:115:LYS:HZ3	1.74	0.51
30:Q:61:PHE:CD1	30:Q:64:GLN:NE2	2.78	0.51
31:R:24:LEU:C	31:R:25:GLU:OE1	2.52	0.51
33:T:63:ARG:HD2	33:T:67:LEU:CD2	2.40	0.51
38:Y:9:LYS:CG	38:Y:55:PRO:HB3	2.39	0.51
39:Z:26:MET:HA	39:Z:30:PHE:CD1	2.46	0.51
46:g:47:LYS:HD3	53:n:178:ARG:HH22	1.73	0.51
53:n:30:ARG:HB2	53:n:30:ARG:NH2	2.25	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:o:25:LYS:HB3	60:u:62:PRO:CG	2.40	0.51
58:s:15:TRP:CD1	58:s:53:TYR:HB2	2.46	0.51
8:7:2:U:H2'	8:7:3:G:C8	2.45	0.51
11:AA:125:GLY:HA2	11:AA:499:SER:HB2	1.92	0.51
12:AB:151:LYS:HZ3	12:AB:151:LYS:H	1.56	0.51
14:AE:430:HIS:HB3	14:AE:925:GLU:HG3	1.93	0.51
17:D:501:C:H2'	17:D:502:A:H8	1.75	0.51
17:D:564:C:H5'	35:V:34:TYR:CE1	2.46	0.51
17:D:1226:C:C2'	37:X:102:THR:OG1	2.58	0.51
21:H:36:VAL:O	21:H:48:ILE:HB	2.10	0.51
23:J:74:ASN:O	23:J:77:LYS:HG2	2.09	0.51
24:K:36:LEU:HD13	24:K:134:ILE:CD1	2.41	0.51
25:L:33:GLU:HG3	25:L:33:GLU:O	2.10	0.51
28:O:123:ARG:O	28:O:123:ARG:CG	2.57	0.51
33:T:3:LEU:HD12	33:T:35:GLN:OE1	2.10	0.51
40:a:413:C:C2	40:a:414:C:C5	2.99	0.51
40:a:658:U:O2'	51:l:97:ASN:OD1	2.28	0.51
40:a:960:A:H61	61:v:82:MET:CE	2.23	0.51
40:a:1666:G:OP1	59:t:66:LYS:HD3	2.10	0.51
41:b:51:VAL:N	41:b:62:LYS:HZ3	2.08	0.51
49:j:154:LYS:HE3	49:j:156:PHE:CE1	2.46	0.51
59:t:71:ARG:NH2	59:t:123:LEU:O	2.42	0.51
59:t:103:VAL:HG21	59:t:107:LEU:CD2	2.41	0.51
62:w:58:ASP:CG	62:w:80:PHE:CZ	2.89	0.51
65:z:53:ARG:HG3	65:z:57:PHE:HE2	1.75	0.51
4:3:66:GLN:OE1	4:3:69:ASN:ND2	2.44	0.51
9:9:55:VAL:CG1	9:9:56:ARG:N	2.74	0.51
10:A:56:C:C5	40:a:2168:G:C6	2.98	0.51
12:AB:37:LYS:CD	12:AB:109:THR:HB	2.40	0.51
17:D:501:C:H2'	17:D:502:A:C8	2.46	0.51
20:G:165:ASP:O	20:G:169:GLU:OE1	2.28	0.51
24:K:62:LYS:HA	24:K:62:LYS:HE3	1.92	0.51
29:P:24:GLU:O	29:P:28:THR:HG23	2.10	0.51
29:P:66:GLU:CG	32:S:99:ALA:HB2	2.41	0.51
31:R:54:ARG:HH11	31:R:62:GLU:HG3	1.76	0.51
38:Y:16:MET:HG2	38:Y:16:MET:O	2.09	0.51
40:a:1095:A:H2'	40:a:1096:A:C8	2.45	0.51
40:a:1198:U:C2	40:a:1199:U:C5	2.98	0.51
40:a:1666:G:P	59:t:66:LYS:HD3	2.50	0.51
40:a:1707:G:C8	40:a:1756:G:C5	2.98	0.51
40:a:1824:G:O2'	47:h:252:THR:HG21	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:1996:C:H5''	49:j:128:ARG:NH1	2.25	0.51
40:a:2006:C:C2	40:a:2007:U:C5	2.99	0.51
40:a:2758:A:H1'	55:p:38:ASN:HD21	1.74	0.51
50:k:21:TYR:CE2	50:k:49:TYR:CE2	2.99	0.51
51:l:6:LYS:CE	51:l:119:ILE:HG23	2.40	0.51
57:r:29:PHE:CE2	57:r:35:LYS:HE3	2.45	0.51
59:t:17:ARG:NH2	59:t:47:ILE:HG23	2.25	0.51
2:1:25:ARG:NH1	40:a:519:U:O3'	2.43	0.51
9:9:106:PHE:CG	9:9:106:PHE:O	2.63	0.51
12:AB:38:ILE:CD1	12:AB:38:ILE:N	2.73	0.51
12:AB:42:LYS:N	12:AB:42:LYS:CD	2.73	0.51
12:AB:129:ILE:HG22	12:AB:142:LEU:HB2	1.92	0.51
12:AB:134:ASP:HB3	12:AB:138:ARG:H	1.75	0.51
17:D:335:C:C2	17:D:336:A:C8	2.99	0.51
17:D:1371:G:O3'	28:O:71:GLY:HA3	2.10	0.51
25:L:45:ARG:HA	25:L:45:ARG:NE	2.26	0.51
27:N:79:SER:HB2	27:N:85:ILE:HG22	1.92	0.51
28:O:88:MET:HE1	28:O:95:ARG:HG3	1.91	0.51
29:P:15:HIS:HB3	29:P:70:HIS:CE1	2.46	0.51
30:Q:52:PHE:CZ	30:Q:65:VAL:HG21	2.45	0.51
33:T:11:ILE:HD11	33:T:30:ALA:C	2.36	0.51
36:W:41:PHE:O	36:W:44:MET:HG3	2.11	0.51
40:a:139:U:OP2	40:a:140:C:N4	2.43	0.51
40:a:628:G:C5	40:a:636:G:N2	2.79	0.51
40:a:1394:U:H4'	40:a:1603:A:H4'	1.92	0.51
40:a:2649:C:C2	40:a:2650:U:C5	2.97	0.51
53:n:8:TYR:HE2	53:n:30:ARG:HE	1.58	0.51
58:s:15:TRP:CH2	58:s:135:GLN:HG3	2.46	0.51
60:u:56:PRO:O	60:u:60:ARG:HG3	2.10	0.51
5:4:2:PHE:CE2	5:4:55:GLU:HG2	2.45	0.51
9:9:47:GLU:O	9:9:49:GLY:N	2.43	0.51
14:AE:83:VAL:CA	22:I:100:GLN:OE1	2.58	0.51
14:AE:640:GLY:N	14:AE:643:ASP:OD2	2.42	0.51
17:D:280:C:H1'	35:V:40:ARG:HH22	1.75	0.51
17:D:934:C:C4	17:D:1345:U:C5	2.98	0.51
18:E:9:LYS:C	18:E:13:GLN:NE2	2.62	0.51
19:F:25:LYS:HE3	21:H:336:ASP:OD2	2.11	0.51
25:L:42:TRP:CZ2	25:L:102:MET:SD	3.01	0.51
25:L:67:PRO:O	25:L:70:VAL:HG22	2.11	0.51
28:O:7:TYR:H	28:O:89:GLU:CD	2.19	0.51
38:Y:86:LYS:HD3	38:Y:86:LYS:O	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:993:G:C6	40:a:1162:G:C6	2.99	0.51
50:k:8:LYS:HZ1	50:k:54:ILE:HG12	1.75	0.51
57:r:6:LEU:CD1	57:r:37:VAL:HG23	2.39	0.51
5:4:50:MET:CA	5:4:56:PHE:CZ	2.94	0.51
5:4:80:HIS:CD2	5:4:83:LYS:HZ3	2.28	0.51
8:7:13:U:H5''	8:7:13:U:C6	2.45	0.51
9:9:93:ALA:O	9:9:129:LEU:O	2.27	0.51
11:AA:93:SER:HA	11:AA:128:PRO:HA	1.92	0.51
17:D:107:G:C5	18:E:10:ARG:NH2	2.79	0.51
17:D:678:U:H2'	17:D:679:C:H6	1.76	0.51
19:F:6:VAL:HG12	30:Q:108:THR:O	2.11	0.51
29:P:24:GLU:CA	29:P:27:GLU:OE1	2.59	0.51
36:W:45:ILE:HA	36:W:62:VAL:HG11	1.93	0.51
40:a:265:A:N1	40:a:427:U:O2'	2.40	0.51
40:a:626:A:N3	60:u:78:ARG:CZ	2.74	0.51
40:a:1453:A:C8	62:w:73:ASN:OD1	2.64	0.51
40:a:1791:A:C2	40:a:1829:A:C4'	2.94	0.51
40:a:2298:A:O3'	53:n:72:LYS:HE2	2.11	0.51
40:a:2314:A:P	53:n:88:LYS:HZ2	2.33	0.51
40:a:2315:G:O2'	53:n:125:ARG:HD3	2.09	0.51
40:a:2682:A:C2	49:j:23:PRO:HB3	2.46	0.51
44:e:20:ASN:HA	44:e:23:ARG:HE	1.76	0.51
47:h:34:LEU:HD12	47:h:61:ALA:HB1	1.92	0.51
49:j:152:PRO:CG	49:j:156:PHE:CZ	2.91	0.51
51:l:168:ASP:HB3	51:l:183:PHE:HE2	1.75	0.51
54:o:19:LYS:HE2	54:o:19:LYS:HA	1.91	0.51
17:D:679:C:H2'	17:D:680:C:H6	1.74	0.51
17:D:728:A:H2'	17:D:729:A:C8	2.46	0.51
21:H:163:ARG:CA	21:H:298:GLU:HG3	2.41	0.51
22:I:68:ILE:HG13	22:I:101:ILE:HD11	1.93	0.51
31:R:62:GLU:OE2	31:R:62:GLU:HA	2.11	0.51
36:W:44:MET:SD	36:W:62:VAL:CG1	2.99	0.51
37:X:96:PRO:CG	37:X:102:THR:HG22	2.40	0.51
40:a:756:A:H2'	40:a:757:G:O4'	2.11	0.51
40:a:2387:U:H4'	41:b:41:ARG:HH12	1.76	0.51
40:a:2387:U:C4'	41:b:41:ARG:HH12	2.24	0.51
49:j:122:VAL:HG21	49:j:141:ARG:HG3	1.92	0.51
51:l:170:ARG:CZ	51:l:176:ASP:OD1	2.58	0.51
61:v:73:ILE:HD12	61:v:73:ILE:N	2.26	0.51
61:v:112:LEU:HA	61:v:115:GLU:OE1	2.10	0.51
64:y:106:LYS:HD3	64:y:109:ARG:NH2	2.26	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
65:z:74:ILE:HG13	65:z:78:LYS:CE	2.40	0.51
3:2:19:LYS:O	3:2:22:THR:OG1	2.22	0.51
5:4:6:ALA:HB3	5:4:65:VAL:HG22	1.93	0.51
6:5:9:DA:P	11:AA:473:ARG:HG3	2.51	0.51
6:5:17:DC:H5''	6:5:17:DC:H6	1.75	0.51
12:AB:143:LEU:N	12:AB:143:LEU:CD1	2.73	0.51
14:AE:82:GLY:C	22:I:100:GLN:HG3	2.36	0.51
14:AE:1045:THR:O	14:AE:1067:ARG:NH2	2.41	0.51
16:C:73:ARG:HH12	30:Q:113:VAL:HB	1.76	0.51
17:D:1106:G:O3'	22:I:172:ARG:HG3	2.11	0.51
17:D:1492:A:O2'	17:D:1493:A:H5''	2.11	0.51
20:G:35:ARG:HB3	21:H:14:LYS:NZ	2.26	0.51
20:G:90:PHE:CD2	20:G:154:MET:CE	2.94	0.51
21:H:279:LYS:HA	21:H:331:MET:CB	2.41	0.51
22:I:142:MET:HE3	22:I:170:GLU:C	2.36	0.51
24:K:88:VAL:HG12	24:K:93:ARG:HA	1.93	0.51
26:M:111:ARG:NH2	26:M:126:ASP:OD2	2.43	0.51
40:a:125:A:C5	52:m:10:LEU:HD13	2.46	0.51
40:a:617:G:C4'	51:l:199:MET:HE1	2.39	0.51
40:a:1598:A:C5	40:a:1599:U:C5	2.99	0.51
40:a:1996:C:H4'	49:j:128:ARG:HH12	1.75	0.51
40:a:2428:G:H21	60:u:60:ARG:CZ	2.23	0.51
40:a:2588:G:O6	40:a:2607:G:C6	2.64	0.51
48:i:30:VAL:HG22	48:i:37:LYS:CD	2.41	0.51
51:l:6:LYS:HZ1	51:l:119:ILE:C	2.19	0.51
53:n:15:LYS:O	53:n:18:THR:N	2.43	0.51
55:p:162:VAL:O	55:p:162:VAL:HG12	2.11	0.51
57:r:2:GLN:HG3	57:r:39:ALA:CB	2.40	0.51
58:s:84:ILE:HG23	58:s:84:ILE:O	2.11	0.51
61:v:115:GLU:O	61:v:119:LEU:HD23	2.09	0.51
3:2:49:LYS:HE2	3:2:49:LYS:HA	1.93	0.51
4:3:85:PHE:CE1	4:3:94:ARG:HG2	2.45	0.51
5:4:51:GLN:OE1	5:4:57:TYR:OH	2.27	0.51
8:7:31:U:O2	8:7:31:U:H2'	2.11	0.51
9:9:43:LYS:HA	9:9:46:ARG:NH1	2.26	0.51
10:A:6:G:C4	10:A:7:G:C8	2.98	0.51
14:AE:510:LEU:HD22	14:AE:601:ILE:HD12	1.91	0.51
10:B:23:C:H2'	10:B:24:U:C6	2.45	0.51
10:B:31:G:H2'	10:B:32:C:O4'	2.10	0.51
17:D:49:U:C2	17:D:361:G:N2	2.79	0.51
17:D:767:A:H2'	17:D:768:A:O4'	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:864:A:H2'	17:D:865:A:C8	2.46	0.51
17:D:978:A:C4	17:D:1319:A:C2	2.98	0.51
24:K:156:LYS:NZ	27:N:71:VAL:O	2.42	0.51
28:O:51:PRO:HA	28:O:103:PHE:HE2	1.76	0.51
34:U:73:ALA:HA	34:U:76:LYS:CE	2.41	0.51
35:V:15:ASP:OD1	35:V:55:ILE:HD11	2.11	0.51
35:V:62:ARG:CA	35:V:73:TRP:CZ3	2.93	0.51
40:a:1790:C:C3'	40:a:1791:A:C8	2.94	0.51
40:a:1801:A:OP1	47:h:146:MET:HE1	2.11	0.51
50:k:19:HIS:CE1	50:k:41:PRO:HD3	2.45	0.51
1:0:37:GLU:O	1:0:37:GLU:HG3	2.11	0.50
5:4:62:THR:OG1	5:4:71:LYS:HE3	2.11	0.50
7:6:17:DC:H42	8:7:38:G:H1	1.58	0.50
11:AA:232:ILE:HG12	11:AA:237:LEU:HG	1.93	0.50
11:AA:373:GLY:O	12:AB:83:ALA:HB3	2.01	0.50
12:AB:36:GLU:OE1	12:AB:111:TYR:CD1	2.64	0.50
12:AB:146:ILE:HD12	29:P:87:LEU:C	2.36	0.50
16:C:25:ASP:O	16:C:29:LEU:HD13	2.11	0.50
17:D:21:G:C2	17:D:22:G:C5	2.99	0.50
17:D:107:G:C6	18:E:10:ARG:NH2	2.79	0.50
17:D:580:C:H2'	17:D:581:G:O4'	2.11	0.50
17:D:653:U:O5'	27:N:56:LYS:HE2	2.11	0.50
21:H:304:VAL:HG11	21:H:346:LEU:HB2	1.93	0.50
27:N:106:THR:HB	27:N:121:LEU:CD1	2.41	0.50
34:U:12:LYS:HD3	34:U:13:LYS:HG2	1.93	0.50
34:U:39:PHE:CD1	34:U:50:THR:HG22	2.45	0.50
40:a:910:A:C8	61:v:12:MET:CE	2.93	0.50
40:a:1454:C:H4'	62:w:63:ARG:NH1	2.27	0.50
40:a:1681:G:H2'	40:a:1757:A:N1	2.25	0.50
58:s:35:ARG:HA	58:s:40:HIS:CE1	2.46	0.50
59:t:59:LYS:HZ3	59:t:92:GLU:CG	2.24	0.50
61:v:105:MET:HE2	61:v:108:VAL:CG2	2.40	0.50
61:v:114:ARG:C	61:v:118:LYS:HZ3	2.19	0.50
8:7:3:G:C4'	17:D:1500:A:N6	2.74	0.50
10:A:19:G:N2	40:a:2112:G:O4'	2.44	0.50
14:AE:287:ALA:HB3	14:AE:292:VAL:HG22	1.94	0.50
16:C:12:ARG:HG3	21:H:264:GLU:CB	2.41	0.50
20:G:169:GLU:OE1	20:G:169:GLU:N	2.44	0.50
25:L:11:HIS:HB3	25:L:14:GLN:OE1	2.11	0.50
25:L:65:GLU:OE1	25:L:65:GLU:HA	2.12	0.50
29:P:73:LEU:HD21	29:P:75:ASP:OD2	2.10	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:Q:27:PHE:CE2	30:Q:89:PRO:HG2	2.46	0.50
31:R:3:THR:O	31:R:6:GLN:N	2.44	0.50
32:S:47:LYS:O	32:S:50:THR:OG1	2.25	0.50
33:T:5:THR:HG23	33:T:6:GLU:N	2.25	0.50
37:X:71:ARG:HD2	37:X:72:GLU:N	2.26	0.50
40:a:251:A:OP1	60:u:58:TYR:OH	2.23	0.50
40:a:2063:C:C2	40:a:2064:C:C6	3.00	0.50
40:a:2086:U:H2'	40:a:2087:G:C8	2.45	0.50
47:h:18:LYS:HE3	47:h:20:VAL:CG2	2.40	0.50
53:n:94:GLU:HA	53:n:97:TRP:CE3	2.43	0.50
55:p:26:ILE:HG22	55:p:75:MET:HE2	1.93	0.50
59:t:99:ILE:HD13	59:t:118:LEU:CB	2.39	0.50
61:v:115:GLU:HA	61:v:118:LYS:NZ	2.26	0.50
64:y:27:GLU:HB3	64:y:87:LYS:HZ1	1.76	0.50
8:7:12:U:H5''	24:K:56:VAL:HG21	1.93	0.50
11:AA:714:VAL:HB	11:AA:787:PRO:HD2	1.92	0.50
17:D:311:C:O5'	17:D:311:C:H6	1.94	0.50
17:D:555:U:H2'	17:D:556:C:C6	2.46	0.50
17:D:821:G:H2'	17:D:822:U:C6	2.47	0.50
17:D:1073:U:O2'	20:G:105:LYS:HE3	2.11	0.50
19:F:25:LYS:NZ	21:H:336:ASP:CG	2.68	0.50
20:G:187:VAL:HG13	20:G:191:SER:HB2	1.93	0.50
37:X:31:LYS:HG3	37:X:32:ALA:N	2.25	0.50
37:X:92:ARG:HD2	40:a:888:C:OP1	2.12	0.50
38:Y:126:ARG:HD2	38:Y:127:SER:N	2.27	0.50
40:a:65:U:H2'	40:a:66:C:H6	1.75	0.50
40:a:780:G:C2	40:a:782:A:C2	3.00	0.50
40:a:2063:C:C4	40:a:2064:C:C5	3.00	0.50
47:h:52:ARG:HG3	47:h:53:HIS:ND1	2.27	0.50
54:o:31:HIS:O	54:o:32:ILE:C	2.54	0.50
61:v:53:MET:HE3	61:v:120:ALA:CB	2.40	0.50
62:w:12:ARG:NE	62:w:20:MET:HE1	2.26	0.50
9:9:6:GLN:HA	9:9:9:GLN:HE22	1.75	0.50
9:9:55:VAL:HG12	9:9:56:ARG:N	2.25	0.50
10:A:33:U:H5''	26:M:84:THR:HG21	1.93	0.50
12:AB:145:LEU:HD11	29:P:89:ARG:NE	2.23	0.50
12:AB:146:ILE:CD1	29:P:88:MET:H	2.24	0.50
14:AE:157:GLN:HE22	14:AE:188:LEU:HD22	1.76	0.50
17:D:339:C:C2	17:D:340:U:C5	2.99	0.50
17:D:564:C:H5'	35:V:34:TYR:HE1	1.76	0.50
17:D:754:C:OP1	33:T:72:ARG:NH1	2.44	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:1080:A:OP1	24:K:50:TYR:OH	2.29	0.50
21:H:303:LEU:O	21:H:303:LEU:CG	2.60	0.50
22:I:108:LYS:N	22:I:108:LYS:HD2	2.26	0.50
26:M:35:LYS:HE3	26:M:38:THR:OG1	2.11	0.50
30:Q:63:ALA:HB1	30:Q:96:THR:CG2	2.41	0.50
38:Y:55:PRO:C	38:Y:71:LYS:HE2	2.36	0.50
40:a:624:C:O2'	40:a:657:U:OP1	2.29	0.50
40:a:1141:U:H5	58:s:68:LYS:HZ1	1.58	0.50
40:a:1823:G:O2'	40:a:1824:G:H5'	2.12	0.50
40:a:2193:G:O2'	40:a:2194:U:OP1	2.28	0.50
40:a:2298:A:P	53:n:72:LYS:HZ3	2.33	0.50
46:g:7:PRO:HD2	53:n:62:GLY:O	2.11	0.50
58:s:72:LYS:HD3	58:s:74:TYR:CZ	2.43	0.50
58:s:74:TYR:N	58:s:74:TYR:HD2	2.10	0.50
58:s:98:GLU:HB3	58:s:102:GLU:OE2	2.12	0.50
1:0:17:GLY:HA2	1:0:97:LYS:HE2	1.92	0.50
2:1:17:VAL:HG12	2:1:76:VAL:HG21	1.94	0.50
3:2:11:LEU:HD12	3:2:11:LEU:N	2.26	0.50
11:AA:400:VAL:HG21	11:AA:452:ARG:HE	1.77	0.50
16:C:41:PRO:HD2	21:H:339:ARG:NE	2.26	0.50
16:C:60:LYS:NZ	17:D:735:C:C5'	2.75	0.50
17:D:718:A:H5'	30:Q:119:ASN:HD22	1.76	0.50
17:D:958:A:O4'	36:W:55:ARG:NH1	2.45	0.50
20:G:23:TRP:CZ3	20:G:25:PRO:HA	2.47	0.50
23:J:104:ARG:NE	23:J:104:ARG:HA	2.27	0.50
25:L:4:TYR:OH	25:L:68:GLN:HG2	2.11	0.50
31:R:80:ILE:HG22	31:R:81:LEU:N	2.27	0.50
32:S:10:GLU:OE2	32:S:63:ARG:HD2	2.11	0.50
40:a:532:A:H4'	40:a:533:G:C8	2.46	0.50
40:a:580:U:H2'	40:a:581:C:C6	2.46	0.50
40:a:851:C:H2'	40:a:852:U:C6	2.46	0.50
40:a:2252:G:H2'	40:a:2253:G:H8	1.76	0.50
40:a:2392:A:C8	40:a:2429:G:C2	3.00	0.50
40:a:2420:C:H5''	50:k:8:LYS:HE2	1.93	0.50
40:a:2902:C:N4	40:a:2903:U:O4	2.45	0.50
41:b:55:ARG:HA	41:b:55:ARG:CZ	2.41	0.50
42:c:71:LEU:HB3	42:c:76:GLU:CG	2.41	0.50
52:m:25:LYS:C	52:m:29:GLN:HE22	2.20	0.50
53:n:5:HIS:HD2	53:n:97:TRP:CZ2	2.29	0.50
53:n:122:PHE:CE2	53:n:128:TYR:CD1	3.00	0.50
55:p:24:ILE:HG22	55:p:35:ARG:O	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:p:127:THR:HG22	55:p:128:GLN:N	2.26	0.50
61:v:31:PHE:O	61:v:104:GLU:CD	2.54	0.50
61:v:105:MET:SD	61:v:113:ALA:HB1	2.52	0.50
62:w:82:GLU:OE1	62:w:82:GLU:N	2.44	0.50
63:x:4:LYS:N	63:x:4:LYS:HD3	2.27	0.50
5:4:2:PHE:CE1	5:4:56:PHE:CE1	2.99	0.50
11:AA:18:ARG:HE	11:AA:620:ASN:HA	1.77	0.50
11:AA:146:VAL:HG21	11:AA:513:GLN:HE21	1.77	0.50
11:AA:255:ILE:HB	11:AA:263:VAL:HB	1.92	0.50
12:AB:116:VAL:HG21	12:AB:130:PHE:CE1	2.46	0.50
12:AB:117:ILE:HA	12:AB:127:GLN:HA	1.92	0.50
12:AB:118:ILE:HD12	12:AB:159:PHE:CZ	2.47	0.50
14:AE:693:VAL:HG21	14:AE:743:MET:HE3	1.94	0.50
17:D:744:C:H2'	17:D:745:G:C8	2.47	0.50
17:D:877:G:H5''	27:N:80:ARG:HD2	1.94	0.50
20:G:110:SER:CA	20:G:113:ARG:HE	2.25	0.50
24:K:111:MET:O	24:K:114:VAL:HG12	2.11	0.50
25:L:66:ALA:HB1	25:L:67:PRO:HD2	1.94	0.50
26:M:18:PHE:CD2	26:M:59:LEU:HD21	2.46	0.50
28:O:30:ILE:HD13	28:O:39:PHE:HE2	1.75	0.50
30:Q:23:ILE:N	30:Q:87:LYS:HZ1	2.09	0.50
33:T:33:THR:HG21	33:T:85:LEU:HD12	1.94	0.50
39:Z:15:SER:O	39:Z:19:VAL:HG23	2.11	0.50
40:a:4:U:C2	40:a:5:A:C8	3.00	0.50
40:a:1348:C:O2	40:a:1348:C:H2'	2.11	0.50
40:a:2063:C:O2	40:a:2450:A:N1	2.45	0.50
40:a:2133:G:O2'	40:a:2157:G:N2	2.44	0.50
40:a:2159:G:H2'	40:a:2160:C:C6	2.47	0.50
40:a:2230:G:C5'	42:c:30:LEU:HD23	2.41	0.50
40:a:2489:U:H2'	40:a:2490:G:O4'	2.12	0.50
40:a:2813:A:C4	40:a:2814:A:C8	2.99	0.50
42:c:65:ASP:CG	42:c:66:THR:N	2.70	0.50
45:f:41:THR:N	45:f:45:ARG:HH22	2.09	0.50
46:g:36:VAL:HG21	46:g:41:HIS:ND1	2.27	0.50
50:k:34:LEU:CB	50:k:51:GLU:OE2	2.60	0.50
58:s:54:ILE:O	58:s:123:LYS:HG2	2.12	0.50
59:t:42:THR:CG2	59:t:44:LYS:HZ1	2.25	0.50
3:2:3:ARG:NH2	3:2:4:GLU:HB2	2.26	0.50
3:2:10:VAL:HG12	3:2:11:LEU:HD12	1.93	0.50
9:9:97:LYS:HZ1	9:9:130:PRO:HA	1.77	0.50
10:A:56:C:H2'	10:A:57:A:H5''	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:411:ARG:NH2	11:AA:427:ASP:OD2	2.44	0.50
11:AA:529:ARG:HH11	11:AA:572:ILE:HG22	1.77	0.50
12:AB:92:VAL:HG13	12:AB:96:LEU:HD13	1.93	0.50
14:AE:814:CYS:SG	14:AE:815:GLY:N	2.85	0.50
16:C:24:LYS:HB3	25:L:102:MET:HE1	1.93	0.50
17:D:975:A:H8	17:D:1357:A:HO2'	1.59	0.50
17:D:1017:U:O2'	17:D:1018:G:O4'	2.30	0.50
20:G:26:LYS:HD2	20:G:193:PRO:CG	2.40	0.50
20:G:114:LEU:HD13	20:G:144:LEU:HB3	1.94	0.50
24:K:156:LYS:HE3	27:N:71:VAL:CG1	2.41	0.50
25:L:9:MET:O	25:L:84:VAL:HA	2.12	0.50
26:M:17:LYS:HZ2	26:M:18:PHE:HD1	1.56	0.50
28:O:88:MET:SD	28:O:95:ARG:CZ	2.99	0.50
33:T:3:LEU:HD23	33:T:3:LEU:C	2.36	0.50
38:Y:60:VAL:CG2	38:Y:66:PHE:HB3	2.28	0.50
40:a:672:C:O2'	51:l:77:ILE:HD11	2.11	0.50
40:a:1199:U:H2'	40:a:1200:C:C6	2.47	0.50
40:a:1223:G:N2	40:a:1226:A:OP2	2.43	0.50
51:l:194:LYS:O	51:l:197:GLU:N	2.45	0.50
59:t:121:GLU:HG3	59:t:123:LEU:HD12	1.94	0.50
61:v:45:GLN:HE21	61:v:124:LEU:HA	1.75	0.50
64:y:9:GLU:CG	64:y:55:LEU:HB2	2.40	0.50
4:3:6:ARG:HG2	4:3:7:ARG:H	1.77	0.50
9:9:10:ALA:O	9:9:14:GLU:HG3	2.12	0.50
9:9:87:GLU:OE2	9:9:95:LEU:HB2	2.12	0.50
10:A:15:G:H2'	10:A:15:G:N3	2.27	0.50
12:AB:8:TYR:CE1	12:AB:53:ASN:HB2	2.46	0.50
12:AB:116:VAL:HG11	12:AB:130:PHE:CE2	2.46	0.50
10:B:23:C:H2'	10:B:24:U:H6	1.77	0.50
17:D:36:C:C4	17:D:37:U:C5	3.00	0.50
17:D:612:C:C2	17:D:613:C:C5	2.99	0.50
17:D:922:G:H2'	17:D:923:A:C8	2.47	0.50
17:D:1071:C:H2'	17:D:1072:G:C8	2.47	0.50
20:G:16:PHE:HB3	21:H:43:LYS:HA	1.93	0.50
21:H:273:ARG:NH1	21:H:297:GLU:HB2	2.25	0.50
24:K:157:ARG:HH12	27:N:43:GLU:CD	2.20	0.50
26:M:74:GLU:OE1	26:M:75:VAL:O	2.30	0.50
40:a:44:A:H2'	40:a:45:G:O4'	2.12	0.50
40:a:594:U:H2'	40:a:595:C:C6	2.47	0.50
40:a:813:U:H2'	40:a:814:C:C6	2.46	0.50
40:a:1199:U:H2'	40:a:1200:C:H6	1.77	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:1318:U:C2	40:a:1319:C:C5	2.99	0.50
40:a:1843:C:C2	40:a:1844:C:C5	3.00	0.50
40:a:1853:A:H2'	40:a:1854:A:C8	2.46	0.50
40:a:1999:C:O3'	40:a:2722:G:N2	2.44	0.50
40:a:2093:G:OP2	57:r:22:LYS:HG2	2.11	0.50
40:a:2266:A:H4'	40:a:2267:A:N3	2.26	0.50
40:a:2849:U:OP2	64:y:93:ARG:CZ	2.60	0.50
40:a:2884:U:H3	48:i:40:ARG:NH1	2.09	0.50
47:h:141:VAL:HG23	47:h:162:VAL:HG12	1.94	0.50
56:q:2:LYS:CE	56:q:35:GLN:HE21	2.25	0.50
60:u:58:TYR:CD2	60:u:59:ARG:HG2	2.46	0.50
61:v:29:GLY:HA3	61:v:104:GLU:HG3	1.94	0.50
2:l:35:ILE:O	2:l:39:THR:HG23	2.12	0.50
9:9:52:MET:CE	9:9:85:SER:HB2	2.42	0.50
11:AA:400:VAL:HG11	11:AA:452:ARG:HD2	1.94	0.50
12:AB:11:ARG:NH1	12:AB:11:ARG:CG	2.73	0.50
16:C:51:TYR:O	16:C:54:GLN:HG3	2.11	0.50
17:D:276:G:C5'	35:V:17:MET:CE	2.89	0.50
21:H:342:ILE:HG12	21:H:344:LEU:HD12	1.93	0.50
27:N:83:LEU:HD11	31:R:4:VAL:HB	1.94	0.50
38:Y:37:PHE:HE1	38:Y:58:ILE:HD11	1.76	0.50
39:Z:18:ASP:HB3	39:Z:22:LEU:HD12	1.92	0.50
40:a:16:C:O4'	48:i:15:MET:HE3	2.12	0.50
40:a:271:G:H4'	40:a:272:A:OP1	2.10	0.50
40:a:1754:A:N1	40:a:2716:C:O2'	2.34	0.50
40:a:1956:U:C4	40:a:1957:C:C5	2.99	0.50
40:a:2193:G:HO2'	40:a:2194:U:P	2.34	0.50
40:a:2230:G:H5'	42:c:30:LEU:HD23	1.94	0.50
49:j:68:PHE:CD2	49:j:75:ALA:HA	2.46	0.50
58:s:30:THR:HG23	58:s:31:GLU:N	2.26	0.50
58:s:55:ILE:CG1	58:s:123:LYS:HE2	2.42	0.50
58:s:98:GLU:O	58:s:99:ARG:C	2.53	0.50
61:v:41:LEU:HD22	61:v:45:GLN:NE2	2.27	0.50
3:2:14:PRO:HA	3:2:32:LEU:HD13	1.94	0.49
8:7:3:G:H5''	17:D:1501:C:N4	2.27	0.49
9:9:58:THR:HG21	9:9:81:LEU:CD2	2.31	0.49
14:AE:77:ARG:HB3	14:AE:80:HIS:HB2	1.93	0.49
36:W:33:THR:HG21	36:W:49:ILE:HD11	1.94	0.49
37:X:3:ARG:HH22	46:g:36:VAL:HG12	1.77	0.49
40:a:247:G:O6	54:o:12:LYS:NZ	2.39	0.49
40:a:372:G:C8	42:c:61:LYS:HD2	2.46	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:1791:A:C2	40:a:1829:A:O4'	2.65	0.49
40:a:2065:C:H2'	40:a:2066:C:H6	1.77	0.49
40:a:2698:U:H2'	40:a:2699:C:C6	2.46	0.49
41:b:47:ALA:HB2	41:b:59:LEU:HD11	1.94	0.49
47:h:130:LEU:HD21	47:h:192:LEU:HD21	1.93	0.49
49:j:184:ARG:HH12	64:y:7:GLN:NE2	2.09	0.49
51:l:170:ARG:HH12	51:l:176:ASP:N	2.09	0.49
58:s:73:VAL:CG1	58:s:74:TYR:N	2.75	0.49
58:s:123:LYS:CE	58:s:132:HIS:HD2	2.25	0.49
62:w:103:ARG:HA	62:w:110:MET:HE2	1.93	0.49
65:z:82:GLY:HA3	65:z:117:LEU:CD1	2.41	0.49
1:0:73:LYS:HZ1	1:0:88:GLY:HA3	1.77	0.49
9:9:67:THR:N	9:9:68:PRO:CD	2.75	0.49
11:AA:481:LEU:CD1	12:AB:23:ARG:NE	2.42	0.49
11:AA:1340:GLU:HB2	14:AE:19:ALA:HB3	1.94	0.49
12:AB:38:ILE:HG21	12:AB:156:ASN:HB2	1.95	0.49
12:AB:68:THR:O	12:AB:68:THR:OG1	2.26	0.49
10:B:47:U:O2'	10:B:50:U:P	2.70	0.49
16:C:60:LYS:NZ	17:D:734:G:H2'	2.25	0.49
16:C:60:LYS:HE3	17:D:735:C:C4'	2.42	0.49
17:D:160:A:H2'	17:D:161:A:O4'	2.12	0.49
17:D:653:U:O4'	27:N:56:LYS:CE	2.60	0.49
17:D:829:G:O3'	20:G:23:TRP:HZ2	1.95	0.49
23:J:170:TRP:CD2	23:J:186:PRO:HB3	2.47	0.49
29:P:7:ARG:HD3	29:P:75:ASP:CG	2.36	0.49
32:S:87:ALA:HA	32:S:90:ARG:HG2	1.94	0.49
36:W:49:ILE:HG23	36:W:49:ILE:O	2.12	0.49
38:Y:57:VAL:HG23	38:Y:71:LYS:HD3	1.94	0.49
40:a:3:U:C2	40:a:4:U:C5	3.00	0.49
40:a:65:U:C2	40:a:66:C:C6	3.00	0.49
40:a:272:A:N3	40:a:273:G:C8	2.80	0.49
40:a:1205:A:C2	51:l:165:HIS:CE1	3.00	0.49
40:a:1799:G:N2	47:h:154:LEU:HD23	2.26	0.49
40:a:1945:G:C4	40:a:1946:U:C5	2.99	0.49
40:a:2082:A:H2'	40:a:2083:G:O4'	2.12	0.49
46:g:47:LYS:NZ	53:n:115:ARG:HA	2.27	0.49
59:t:1:MET:HE3	59:t:32:TYR:HB3	1.94	0.49
62:w:58:ASP:OD1	62:w:63:ARG:NH2	2.44	0.49
65:z:58:ARG:HA	65:z:61:TRP:CE3	2.47	0.49
5:4:2:PHE:HB2	5:4:61:LEU:HG	1.94	0.49
6:5:9:DA:H5"	11:AA:473:ARG:HB3	0.54	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:9:67:THR:O	9:9:72:LEU:HG	2.12	0.49
10:A:68:C:C3'	10:A:69:C:H5''	2.42	0.49
12:AB:117:ILE:HD13	14:AE:53:ARG:H	1.77	0.49
12:AB:160:ARG:HD3	14:AE:52:GLU:CD	2.38	0.49
10:B:56:C:H2'	10:B:57:A:H5''	1.93	0.49
10:B:68:C:C3'	10:B:69:C:H5''	2.42	0.49
17:D:406:G:C5	17:D:495:A:C5	3.01	0.49
17:D:610:U:O2	17:D:610:U:H2'	2.12	0.49
17:D:626:G:O3'	34:U:51:ARG:NH1	2.45	0.49
19:F:36:GLU:OE2	19:F:36:GLU:HA	2.11	0.49
22:I:164:ARG:HD2	22:I:166:GLU:OE2	2.12	0.49
24:K:13:GLU:C	24:K:14:LYS:HD2	2.37	0.49
24:K:157:ARG:CZ	27:N:43:GLU:HG3	2.43	0.49
26:M:132:GLY:O	26:M:136:LYS:NZ	2.45	0.49
27:N:35:ALA:O	27:N:39:VAL:HG23	2.12	0.49
27:N:96:MET:HG2	27:N:96:MET:O	2.13	0.49
27:N:110:VAL:C	27:N:111:MET:SD	2.95	0.49
38:Y:126:ARG:HD2	38:Y:126:ARG:C	2.36	0.49
40:a:413:C:H2'	40:a:414:C:C6	2.46	0.49
40:a:807:U:OP2	60:u:41:ARG:NH1	2.42	0.49
40:a:2259:U:C6	40:a:2427:C:C4	2.99	0.49
40:a:2362:C:O5'	54:o:40:ARG:NH2	2.45	0.49
42:c:6:GLN:CD	42:c:49:LEU:HD22	2.38	0.49
47:h:124:ILE:C	47:h:125:LYS:HD3	2.36	0.49
47:h:160:THR:O	47:h:195:VAL:HG12	2.13	0.49
47:h:261:LYS:HA	47:h:264:ASP:OD2	2.12	0.49
48:i:40:ARG:NH1	48:i:41:HIS:CD2	2.80	0.49
51:l:141:MET:O	51:l:142:ALA:HB3	2.13	0.49
58:s:131:ASN:OD1	58:s:131:ASN:O	2.30	0.49
3:2:12:ARG:HH21	44:e:29:ARG:CZ	2.25	0.49
5:4:35:GLU:OE1	5:4:93:ARG:NH2	2.46	0.49
5:4:48:MET:HE2	5:4:86:LEU:HG	1.93	0.49
9:9:31:ARG:HH22	40:a:1106:G:N2	2.10	0.49
12:AB:9:CYS:H	12:AB:53:ASN:HB3	1.77	0.49
12:AB:21:LEU:HD22	12:AB:26:VAL:HG13	1.94	0.49
12:AB:42:LYS:HD2	12:AB:42:LYS:H	1.71	0.49
12:AB:119:THR:O	14:AE:47:ARG:HB2	2.11	0.49
14:AE:71:LEU:HD22	14:AE:90:VAL:HG21	1.93	0.49
14:AE:429:LEU:HB3	14:AE:925:GLU:HG2	1.95	0.49
17:D:908:A:H2'	17:D:909:A:C8	2.48	0.49
20:G:109:GLN:C	20:G:113:ARG:HE	2.19	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:H:112:ILE:HA	21:H:121:THR:O	2.12	0.49
22:I:188:GLU:OE1	22:I:188:GLU:N	2.45	0.49
38:Y:20:SER:CB	38:Y:21:PRO:HD3	2.43	0.49
40:a:26:G:H2'	40:a:27:G:O4'	2.13	0.49
40:a:234:U:C2	40:a:235:U:C6	3.00	0.49
40:a:1065:U:HO2'	40:a:1066:U:P	2.35	0.49
40:a:1142:A:C4	40:a:1144:A:N7	2.80	0.49
40:a:2349:G:O6	40:a:2369:A:N6	2.46	0.49
40:a:2485:G:O3'	61:v:125:PRO:HB3	2.12	0.49
47:h:131:PRO:HD3	47:h:189:ARG:NH1	2.27	0.49
55:p:94:TYR:CE1	55:p:152:ARG:HD2	2.48	0.49
59:t:7:MET:SD	59:t:18:ARG:NE	2.85	0.49
10:A:47:U:O2'	10:A:50:U:P	2.71	0.49
11:AA:618:GLN:HG3	14:AE:770:LEU:HD13	1.95	0.49
13:AD:100:LEU:HB2	13:AD:144:ILE:HG23	1.94	0.49
14:AE:417:ARG:NH1	15:AF:43:ASN:O	2.45	0.49
14:AE:425:ARG:NH1	14:AE:458:ASN:O	2.45	0.49
10:B:15:G:H2'	10:B:15:G:N3	2.27	0.49
17:D:373:A:C2	17:D:482:A:C6	3.00	0.49
21:H:267:TRP:CE3	21:H:340:ARG:HG3	2.47	0.49
22:I:82:GLU:O	22:I:86:LYS:CD	2.60	0.49
25:L:35:LYS:HG3	25:L:36:ILE:N	2.27	0.49
26:M:71:PRO:HG3	26:M:103:TRP:HH2	1.76	0.49
30:Q:98:ARG:HG2	30:Q:98:ARG:HH11	1.78	0.49
33:T:33:THR:OG1	33:T:63:ARG:NH1	2.45	0.49
37:X:81:MET:HG2	40:a:888:C:C4	2.47	0.49
38:Y:21:PRO:CB	38:Y:22:PRO:HD3	2.41	0.49
38:Y:126:ARG:CZ	40:a:1083:U:P	3.00	0.49
40:a:125:A:OP2	52:m:19:ARG:NH2	2.39	0.49
40:a:636:G:N2	60:u:76:GLU:OE2	2.45	0.49
40:a:840:C:C2	40:a:841:G:C8	3.01	0.49
40:a:995:C:O2	58:s:3:THR:OG1	2.17	0.49
40:a:1830:C:N3	40:a:1831:G:N7	2.61	0.49
40:a:2682:A:C5'	49:j:11:MET:HE1	2.42	0.49
57:r:90:LEU:HD21	57:r:94:ILE:CD1	2.42	0.49
58:s:13:ARG:HH22	58:s:49:ASP:C	2.19	0.49
61:v:42:THR:HA	61:v:93:VAL:HG12	1.95	0.49
62:w:73:ASN:C	62:w:73:ASN:HD22	2.17	0.49
9:9:78:GLY:H	9:9:79:PRO:HD2	1.75	0.49
14:AE:209:ASN:HB3	14:AE:214:ARG:HH21	1.76	0.49
14:AE:1289:ASN:ND2	14:AE:1300:ALA:O	2.46	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:C:66:SER:HA	25:L:49:TYR:CE1	2.47	0.49
17:D:136:C:C2	17:D:137:U:C6	3.00	0.49
17:D:500:G:H2'	17:D:501:C:H6	1.77	0.49
17:D:744:C:H2'	17:D:745:G:H8	1.78	0.49
17:D:1397:C:OP1	17:D:1397:C:H2'	2.13	0.49
19:F:63:GLU:O	19:F:67:ARG:HD2	2.12	0.49
20:G:49:MET:CE	20:G:201:PRO:CD	2.87	0.49
20:G:112:LYS:HE2	20:G:112:LYS:HA	1.95	0.49
37:X:65:VAL:HG23	37:X:66:GLU:OE1	2.12	0.49
40:a:132:G:H2'	40:a:133:U:C6	2.47	0.49
40:a:998:C:OP1	65:z:84:LYS:NZ	2.39	0.49
40:a:2290:G:H2'	40:a:2291:U:C6	2.47	0.49
40:a:2848:G:O2'	40:a:2867:G:N2	2.37	0.49
45:f:41:THR:CA	45:f:45:ARG:HH22	2.26	0.49
48:i:28:LEU:O	48:i:37:LYS:NZ	2.46	0.49
55:p:137:ASP:OD2	55:p:140:VAL:HG23	2.12	0.49
56:q:1:MET:HE1	56:q:35:GLN:HA	1.95	0.49
58:s:72:LYS:HD3	58:s:74:TYR:HH	1.73	0.49
60:u:55:MET:HE1	60:u:60:ARG:HA	1.94	0.49
62:w:82:GLU:O	62:w:86:ARG:HG2	2.13	0.49
64:y:7:GLN:NE2	64:y:10:GLN:HE21	2.11	0.49
64:y:9:GLU:HG3	64:y:55:LEU:CB	2.43	0.49
9:9:52:MET:HE2	9:9:85:SER:HB2	1.95	0.49
11:AA:836:LEU:HD13	11:AA:1054:LEU:HD13	1.95	0.49
14:AE:67:ASP:C	14:AE:69:GLU:N	2.71	0.49
17:D:739:C:O2	33:T:42:HIS:HE1	1.94	0.49
24:K:46:VAL:N	24:K:71:MET:HE2	2.27	0.49
26:M:66:LEU:CD1	26:M:101:MET:CE	2.84	0.49
28:O:12:ARG:HD3	28:O:13:LYS:H	1.78	0.49
28:O:52:LEU:HB3	28:O:58:VAL:HG12	1.94	0.49
31:R:74:LEU:HD11	31:R:80:ILE:CD1	2.43	0.49
40:a:1021:A:H3'	40:a:1021:A:N3	2.27	0.49
40:a:1571:A:H2'	40:a:1572:A:C8	2.47	0.49
40:a:2179:C:C2	40:a:2180:U:C5	3.00	0.49
46:g:63:ARG:HG3	46:g:64:PHE:CD1	2.48	0.49
49:j:55:LYS:NZ	49:j:59:ARG:C	2.70	0.49
58:s:13:ARG:NH2	58:s:50:THR:HA	2.27	0.49
58:s:123:LYS:HD2	58:s:132:HIS:HD2	1.78	0.49
3:2:11:LEU:HD11	3:2:46:ALA:HB3	1.95	0.49
11:AA:475:VAL:C	11:AA:477:GLU:N	2.69	0.49
11:AA:732:ILE:HD11	11:AA:769:PRO:HB3	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AB:143:LEU:H	12:AB:143:LEU:CD1	2.22	0.49
14:AE:749:LYS:HD3	14:AE:753:SER:HB2	1.94	0.49
17:D:35:G:H2'	17:D:36:C:C6	2.48	0.49
17:D:126:G:OP1	17:D:605:U:O2'	2.19	0.49
17:D:373:A:C2	17:D:374:A:C8	3.01	0.49
17:D:376:G:OP2	34:U:70:ARG:HD3	2.13	0.49
17:D:1218:C:H2'	17:D:1219:A:C8	2.48	0.49
17:D:1314:C:H2'	17:D:1315:U:C6	2.48	0.49
22:I:119:SER:O	22:I:123:GLN:HG2	2.13	0.49
24:K:113:ALA:CA	24:K:116:GLU:OE1	2.60	0.49
24:K:134:ILE:O	24:K:137:VAL:HG12	2.12	0.49
28:O:52:LEU:O	28:O:55:VAL:O	2.31	0.49
35:V:50:ASN:HB2	35:V:52:GLU:OE2	2.13	0.49
40:a:583:G:OP1	65:z:11:ARG:NH2	2.46	0.49
40:a:1069:A:O2'	40:a:1073:A:N6	2.38	0.49
40:a:1790:C:H2'	40:a:1791:A:C8	2.48	0.49
40:a:2809:A:H2'	40:a:2810:A:C8	2.48	0.49
51:l:195:GLN:HA	51:l:198:GLU:OE1	2.13	0.49
56:q:1:MET:CA	56:q:1:MET:HE3	2.43	0.49
59:t:88:ASN:OD1	59:t:89:ASN:N	2.46	0.49
59:t:114:LYS:O	59:t:118:LEU:HD23	2.11	0.49
61:v:1:MET:HE3	61:v:1:MET:CA	2.34	0.49
61:v:50:ARG:CA	61:v:53:MET:SD	3.00	0.49
64:y:25:THR:OG1	64:y:88:ARG:HB3	2.12	0.49
7:6:19:DC:H2'	7:6:20:DA:C8	2.48	0.49
9:9:136:ILE:CD1	9:9:139:LEU:HD12	2.25	0.49
11:AA:9:LYS:HG2	11:AA:1171:ARG:HH12	1.77	0.49
11:AA:565:GLU:HA	11:AA:569:ILE:HG12	1.95	0.49
12:AB:14:LEU:C	12:AB:14:LEU:CD2	2.85	0.49
17:D:10:A:OP2	24:K:131:THR:HG21	2.12	0.49
17:D:356:A:N3	17:D:368:U:O2'	2.37	0.49
17:D:674:G:P	25:L:86:ARG:HH22	2.35	0.49
17:D:718:A:C8	30:Q:118:HIS:HB3	2.48	0.49
17:D:736:C:H2'	17:D:737:C:H6	1.77	0.49
17:D:1319:A:C8	17:D:1323:G:C6	3.01	0.49
20:G:109:GLN:O	20:G:113:ARG:NE	2.45	0.49
20:G:126:PHE:C	20:G:127:ASP:O	2.55	0.49
30:Q:87:LYS:CG	30:Q:113:VAL:CG2	2.89	0.49
40:a:57:C:H2'	40:a:58:G:O4'	2.12	0.49
40:a:851:C:C2	40:a:852:U:C5	3.00	0.49
40:a:1792:G:H5''	47:h:204:VAL:HG23	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:1818:U:O2'	47:h:153:GLN:O	2.23	0.49
40:a:2093:G:N7	40:a:2225:A:H2'	2.28	0.49
40:a:2259:U:C2	40:a:2260:C:C5	3.01	0.49
40:a:2754:U:O3'	56:q:19:ARG:NH2	2.46	0.49
51:l:40:ARG:HD2	51:l:92:HIS:CE1	2.48	0.49
51:l:97:ASN:ND2	51:l:100:MET:HE2	2.27	0.49
51:l:155:GLU:HG2	51:l:156:ASN:N	2.26	0.49
58:s:125:TYR:HE2	58:s:130:HIS:HB2	1.78	0.49
61:v:70:ASP:C	61:v:92:TRP:CZ3	2.90	0.49
61:v:95:LEU:HD23	61:v:95:LEU:H	1.78	0.49
2:1:1:MET:CG	2:1:62:ASP:OD2	2.61	0.49
2:1:36:LEU:HD23	2:1:48:LYS:HB2	1.94	0.49
10:A:23:C:H2'	10:A:24:U:H6	1.77	0.49
12:AB:116:VAL:HA	12:AB:162:LEU:HD13	1.94	0.49
12:AB:148:LYS:CD	29:P:84:VAL:CG1	2.75	0.49
17:D:562:U:O3'	31:R:14:ARG:NH1	2.46	0.49
17:D:953:G:O6	37:X:103:LYS:CE	2.60	0.49
28:O:32:GLN:HG3	28:O:32:GLN:O	2.13	0.49
29:P:37:ARG:HB3	29:P:75:ASP:HB2	1.94	0.49
35:V:42:THR:HG22	35:V:44:LEU:HD12	1.95	0.49
37:X:94:GLY:C	37:X:95:LEU:HD22	2.38	0.49
38:Y:56:VAL:HA	38:Y:71:LYS:NZ	2.08	0.49
38:Y:126:ARG:HH12	40:a:1082:U:C3'	2.26	0.49
40:a:537:G:P	58:s:2:LYS:CE	3.00	0.49
40:a:1664:A:C2'	40:a:1665:A:H5'	2.43	0.49
40:a:1932:A:H2'	40:a:1933:G:O4'	2.13	0.49
40:a:2012:G:H8	40:a:2012:G:O5'	1.96	0.49
45:f:41:THR:N	45:f:45:ARG:NH2	2.61	0.49
55:p:69:ARG:NH1	55:p:73:ASN:HD21	2.11	0.49
56:q:14:CYS:SG	56:q:33:HIS:HB3	2.53	0.49
58:s:1:MET:HE2	65:z:97:ASP:OD2	2.13	0.49
60:u:117:THR:HG23	60:u:118:THR:N	2.28	0.49
63:x:41:ALA:HB2	63:x:48:LEU:HD11	1.95	0.49
4:3:6:ARG:NH1	40:a:84:A:H2'	2.28	0.48
5:4:1:MET:O	5:4:1:MET:HE3	2.13	0.48
9:9:31:ARG:NE	9:9:31:ARG:HA	2.28	0.48
9:9:108:VAL:O	9:9:109:LYS:HB3	2.12	0.48
12:AB:18:GLN:NE2	12:AB:28:CYS:SG	2.86	0.48
12:AB:41:GLY:HA2	12:AB:156:ASN:HB2	1.94	0.48
12:AB:144:ASN:ND2	12:AB:148:LYS:O	2.46	0.48
14:AE:79:LYS:CB	14:AE:81:ARG:NH1	2.73	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:AE:520:ALA:HB3	14:AE:546:ALA:HB2	1.95	0.48
16:C:13:PHE:CB	16:C:51:TYR:CD1	2.95	0.48
17:D:56:U:H2'	17:D:57:G:C8	2.48	0.48
17:D:71:A:N1	17:D:100:G:C8	2.81	0.48
17:D:109:A:H2'	17:D:326:G:N2	2.27	0.48
17:D:718:A:C5	30:Q:118:HIS:ND1	2.81	0.48
21:H:70:VAL:HA	21:H:85:SER:HA	1.95	0.48
22:I:77:ILE:HA	22:I:84:VAL:HG13	1.94	0.48
26:M:109:ARG:O	26:M:119:ARG:NH2	2.46	0.48
26:M:142:HIS:O	26:M:146:GLU:HG2	2.13	0.48
29:P:63:ASP:OD1	29:P:65:TYR:CZ	2.66	0.48
30:Q:85:MET:HB3	30:Q:113:VAL:HG11	1.95	0.48
33:T:64:ARG:CZ	33:T:64:ARG:CB	2.91	0.48
35:V:62:ARG:HA	35:V:73:TRP:CZ3	2.47	0.48
38:Y:77:VAL:HG13	38:Y:81:LYS:NZ	2.27	0.48
40:a:15:G:C2'	48:i:15:MET:HE1	2.42	0.48
40:a:39:G:H1'	51:l:43:THR:HG21	1.95	0.48
40:a:235:U:C2	40:a:236:C:C5	3.00	0.48
40:a:1141:U:H4'	40:a:1142:A:O5'	2.13	0.48
40:a:1921:G:C2'	40:a:1922:G:H5'	2.43	0.48
40:a:2014:A:H2'	40:a:2015:A:C8	2.47	0.48
40:a:2189:U:O2'	40:a:2190:G:O5'	2.31	0.48
56:q:10:LEU:HD23	56:q:33:HIS:CD2	2.47	0.48
61:v:53:MET:SD	61:v:53:MET:N	2.86	0.48
63:x:90:VAL:HG22	63:x:115:LEU:HD11	1.94	0.48
2:1:20:VAL:O	2:1:23:LEU:HB3	2.13	0.48
5:4:1:MET:SD	5:4:3:THR:OG1	2.71	0.48
9:9:95:LEU:HD12	9:9:99:PHE:CZ	2.48	0.48
12:AB:7:LEU:CD2	12:AB:78:PHE:HA	2.43	0.48
12:AB:29:LEU:HG	12:AB:56:PHE:HB2	1.94	0.48
12:AB:115:LYS:HZ1	12:AB:127:GLN:HE22	1.61	0.48
14:AE:678:ARG:NH1	14:AE:756:GLU:OE1	2.46	0.48
17:D:331:G:H2'	18:E:4:ILE:HD11	1.95	0.48
17:D:563:A:N1	17:D:884:U:O4	2.46	0.48
17:D:1324:A:H2'	17:D:1325:C:H6	1.78	0.48
17:D:1439:G:OP1	18:E:33:LYS:CE	2.61	0.48
24:K:112:ARG:C	24:K:116:GLU:OE1	2.57	0.48
25:L:62:MET:HE3	25:L:62:MET:CA	2.43	0.48
26:M:129:GLU:O	26:M:130:ASN:HB2	2.13	0.48
38:Y:126:ARG:NH1	40:a:1082:U:O5'	2.46	0.48
40:a:2677:G:C6	40:a:2731:G:C6	3.01	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:2740:A:H2'	40:a:2741:A:C8	2.47	0.48
43:d:117:G:OP1	63:x:56:LYS:HD3	2.14	0.48
44:e:14:LEU:HD13	44:e:57:LEU:HD22	1.95	0.48
50:k:19:HIS:CD2	50:k:20:PHE:N	2.82	0.48
54:o:62:LEU:HG	54:o:65:ALA:HA	1.95	0.48
60:u:59:ARG:HH11	60:u:59:ARG:HG3	1.77	0.48
61:v:57:VAL:HG22	61:v:60:GLN:O	2.13	0.48
65:z:72:ASN:ND2	65:z:106:PHE:CE2	2.81	0.48
65:z:78:LYS:CD	65:z:117:LEU:HD21	2.43	0.48
65:z:79:PHE:CE1	65:z:110:VAL:HG22	2.48	0.48
5:4:77:VAL:HG13	5:4:77:VAL:O	2.14	0.48
11:AA:1280:ALA:HB1	14:AE:918:ILE:HG22	1.95	0.48
13:AD:182:ARG:O	13:AD:205:MET:HA	2.14	0.48
14:AE:412:LEU:HD22	14:AE:441:LEU:HD21	1.94	0.48
10:B:12:G:C2'	10:B:13:C:OP1	2.61	0.48
16:C:45:THR:HA	21:H:340:ARG:HH21	1.77	0.48
16:C:60:LYS:NZ	17:D:735:C:C4'	2.74	0.48
17:D:123:U:H5''	17:D:311:C:O2'	2.13	0.48
17:D:429:U:O2	17:D:430:A:C8	2.67	0.48
17:D:816:A:OP1	17:D:1526:G:O2'	2.27	0.48
17:D:1227:A:H5'	37:X:110:LYS:NZ	2.28	0.48
22:I:142:MET:HG3	22:I:170:GLU:OE1	2.13	0.48
23:J:76:TYR:CE2	23:J:204:TYR:CB	2.95	0.48
23:J:113:GLU:O	23:J:117:LEU:HG	2.13	0.48
24:K:34:THR:HG22	24:K:52:LYS:HD3	1.95	0.48
33:T:35:GLN:HB3	33:T:59:MET:HE1	1.95	0.48
34:U:18:GLN:NE2	34:U:35:ARG:HE	2.10	0.48
37:X:9:ILE:HG13	37:X:10:PRO:HD2	1.95	0.48
40:a:920:A:C5	40:a:921:C:C5	3.01	0.48
40:a:1042:G:C4	40:a:1043:C:C6	3.02	0.48
40:a:2061:G:C2	40:a:2063:C:C5	3.01	0.48
40:a:2515:C:H2'	40:a:2516:A:H8	1.78	0.48
45:f:3:LYS:HE2	45:f:3:LYS:HA	1.95	0.48
62:w:87:PHE:HZ	62:w:115:LEU:HG	1.77	0.48
62:w:114:GLU:N	62:w:114:GLU:OE1	2.46	0.48
8:7:30:U:O2	8:7:30:U:H3'	2.14	0.48
9:9:24:SER:O	9:9:116:GLU:HB2	2.14	0.48
12:AB:73:ARG:HA	12:AB:73:ARG:HE	1.79	0.48
16:C:60:LYS:CD	17:D:734:G:O2'	2.62	0.48
17:D:123:U:C2	17:D:124:C:C5	3.01	0.48
17:D:925:G:C6	17:D:927:G:N7	2.80	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:1215:G:C2	17:D:1216:A:C8	3.01	0.48
17:D:1314:C:H2'	17:D:1315:U:H6	1.78	0.48
17:D:1428:A:H2'	17:D:1429:A:O4'	2.13	0.48
18:E:19:LYS:CG	18:E:20:HIS:N	2.76	0.48
26:M:16:PRO:CB	28:O:46:MET:HG3	2.42	0.48
27:N:40:LEU:O	27:N:44:GLY:N	2.47	0.48
30:Q:31:ILE:HD12	30:Q:46:THR:HG22	1.94	0.48
38:Y:78:LEU:HD12	38:Y:112:LYS:HZ1	1.77	0.48
40:a:1036:G:C6	40:a:1120:G:C5	3.00	0.48
40:a:2313:C:H5''	53:n:88:LYS:HD2	1.95	0.48
40:a:2351:G:O6	54:o:39:LYS:HE3	2.13	0.48
40:a:2685:G:OP1	59:t:78:ARG:NH2	2.47	0.48
44:e:2:LYS:HZ1	44:e:49:ASP:C	2.21	0.48
48:i:40:ARG:NH1	48:i:41:HIS:CG	2.81	0.48
51:l:5:LEU:HD23	51:l:122:GLU:HG3	1.95	0.48
53:n:16:LEU:HD12	53:n:28:VAL:CG2	2.43	0.48
1:0:6:GLN:OE1	1:0:11:GLN:HG2	2.14	0.48
1:0:73:LYS:HE2	1:0:73:LYS:HA	1.95	0.48
3:2:2:ILE:HG12	3:2:42:GLU:CD	2.37	0.48
5:4:53:LYS:HD2	5:4:56:PHE:HE2	1.77	0.48
9:9:25:ALA:CB	9:9:99:PHE:HD2	2.26	0.48
12:AB:6:LEU:HD11	14:AE:291:ILE:CD1	2.44	0.48
12:AB:100:LYS:N	12:AB:101:PRO:HD3	2.28	0.48
10:B:22:G:O2'	10:B:23:C:O5'	2.32	0.48
10:B:32:C:H2'	10:B:33:U:H5'	1.94	0.48
17:D:43:C:P	34:U:12:LYS:NZ	2.86	0.48
17:D:306:A:C5	17:D:307:C:C5	3.02	0.48
17:D:429:U:N3	17:D:431:A:N6	2.61	0.48
23:J:124:MET:HE2	23:J:128:ARG:CA	2.43	0.48
30:Q:94:GLU:O	30:Q:97:ILE:HG22	2.13	0.48
34:U:26:ASN:ND2	34:U:31:ARG:HE	2.11	0.48
35:V:17:MET:HG3	35:V:20:SER:HB2	1.95	0.48
40:a:760:G:H2'	40:a:761:A:O4'	2.14	0.48
40:a:962:G:C5	40:a:963:U:C5	3.01	0.48
40:a:1405:U:H2'	40:a:1406:U:C5	2.49	0.48
40:a:2683:C:OP1	64:y:51:ARG:NH2	2.46	0.48
40:a:2684:U:C4	40:a:2685:G:N7	2.81	0.48
50:k:7:GLU:HG2	50:k:27:LYS:NZ	2.29	0.48
53:n:142:ASP:CB	53:n:145:LYS:HE2	2.40	0.48
61:v:41:LEU:HD22	61:v:45:GLN:HE22	1.78	0.48
65:z:51:ARG:N	65:z:51:ARG:HD2	2.28	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:94:ARG:CB	4:3:103:ILE:HD12	2.43	0.48
5:4:59:GLU:OE1	5:4:59:GLU:N	2.47	0.48
8:7:21:U:H5'	22:I:80:LYS:CG	2.43	0.48
10:A:72:A:H2'	10:A:73:A:H5''	1.95	0.48
11:AA:363:LEU:HB3	11:AA:381:ALA:HB1	1.96	0.48
11:AA:554:HIS:HD2	11:AA:558:VAL:HB	1.77	0.48
12:AB:21:LEU:HD13	12:AB:26:VAL:HG22	1.95	0.48
12:AB:160:ARG:NH1	12:AB:160:ARG:CB	2.73	0.48
14:AE:107:LEU:HD22	14:AE:299:LEU:HD21	1.94	0.48
16:C:60:LYS:NZ	17:D:734:G:C3'	2.76	0.48
20:G:111:ILE:HD13	20:G:148:LEU:HD13	1.95	0.48
21:H:37:LEU:HD11	21:H:47:ALA:HA	1.96	0.48
22:I:156:ARG:HG2	22:I:193:TYR:HB2	1.95	0.48
23:J:76:TYR:HE2	23:J:204:TYR:CB	2.26	0.48
31:R:38:TYR:HE2	31:R:40:THR:CG2	2.25	0.48
40:a:104:A:C5	40:a:105:C:C5	3.02	0.48
40:a:783:A:N3	40:a:783:A:H2'	2.29	0.48
41:b:26:PHE:H	41:b:29:GLU:HG3	1.79	0.48
46:g:18:CYS:HB2	46:g:40:CYS:HB3	1.96	0.48
63:x:90:VAL:HG13	63:x:115:LEU:HD11	1.96	0.48
2:1:25:ARG:HH12	40:a:520:G:P	2.37	0.48
2:1:95:ARG:NH1	2:1:97:LEU:HG	2.28	0.48
11:AA:1314:GLN:HB2	15:AF:28:ARG:HH12	1.78	0.48
14:AE:79:LYS:CA	14:AE:81:ARG:HH12	1.96	0.48
23:J:62:ARG:NE	23:J:72:PHE:CE2	2.81	0.48
23:J:170:TRP:CZ3	23:J:190:ASP:HB3	2.48	0.48
24:K:148:ASN:ND2	24:K:153:VAL:CG1	2.77	0.48
24:K:157:ARG:NH1	27:N:43:GLU:HA	2.29	0.48
29:P:5:ARG:HG3	29:P:7:ARG:HH12	1.78	0.48
33:T:71:LYS:HE2	33:T:78:TYR:CE2	2.48	0.48
40:a:111:A:O2'	44:e:58:ASN:ND2	2.46	0.48
40:a:145:C:H2'	40:a:146:A:H8	1.78	0.48
40:a:208:C:H2'	40:a:209:C:H6	1.78	0.48
40:a:654:A:N6	54:o:19:LYS:HD2	2.29	0.48
40:a:1321:A:C5	40:a:1322:A:C8	3.02	0.48
40:a:1442:U:H2'	40:a:1443:U:H6	1.79	0.48
49:j:91:THR:HB	49:j:94:GLN:CG	2.44	0.48
49:j:101:PHE:CZ	49:j:203:VAL:HG12	2.48	0.48
55:p:94:TYR:C	55:p:95:ARG:HD2	2.38	0.48
1:0:61:ALA:HB1	1:0:96:VAL:CG2	2.43	0.48
1:0:68:ARG:NH2	1:0:90:ARG:HD3	2.29	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:7:15:U:O2	15:AF:83:VAL:CG1	2.62	0.48
10:A:19:G:C6	40:a:2112:G:O5'	2.67	0.48
11:AA:560:PRO:O	14:AE:780:ARG:NH2	2.47	0.48
12:AB:119:THR:C	14:AE:45:ASN:HD21	2.21	0.48
14:AE:82:GLY:C	22:I:100:GLN:CD	2.81	0.48
17:D:109:A:C6	17:D:326:G:C6	3.02	0.48
17:D:378:G:H2'	17:D:379:C:C6	2.49	0.48
26:M:135:VAL:HG23	26:M:136:LYS:HD2	1.96	0.48
26:M:138:ARG:HG2	26:M:142:HIS:CE1	2.48	0.48
29:P:27:GLU:HA	29:P:30:LYS:HZ1	1.79	0.48
32:S:12:LYS:HD2	32:S:16:LEU:CD2	2.44	0.48
40:a:576:U:H2'	40:a:577:G:C8	2.48	0.48
40:a:880:G:C2	40:a:881:G:C8	3.02	0.48
40:a:1385:A:O2'	40:a:1396:U:O2	2.31	0.48
40:a:1429:G:H2'	40:a:1430:G:H8	1.79	0.48
40:a:2091:C:O2	42:c:34:HIS:CE1	2.67	0.48
40:a:2296:U:H4'	40:a:2297:A:OP1	2.14	0.48
40:a:2771:C:C2	40:a:2772:C:C5	3.01	0.48
42:c:67:VAL:HA	42:c:70:GLU:OE1	2.14	0.48
47:h:138:GLY:H	47:h:164:ILE:HG23	1.79	0.48
50:k:7:GLU:CG	50:k:27:LYS:HZ3	2.27	0.48
50:k:21:TYR:CE2	50:k:38:LYS:CG	2.96	0.48
51:l:147:LEU:HD11	51:l:170:ARG:CD	2.43	0.48
58:s:88:THR:O	58:s:92:MET:HE2	2.13	0.48
58:s:98:GLU:OE1	58:s:124:VAL:HG13	2.13	0.48
59:t:20:MET:HB3	59:t:44:LYS:HE2	1.95	0.48
64:y:40:LEU:HD12	64:y:40:LEU:N	2.28	0.48
5:4:21:ARG:HA	5:4:25:LYS:O	2.14	0.48
5:4:89:ILE:CG2	5:4:91:PHE:CE1	2.95	0.48
6:5:17:DC:C5	11:AA:542:ARG:HD3	2.49	0.48
11:AA:562:GLU:OE1	11:AA:662:SER:OG	2.28	0.48
14:AE:77:ARG:HA	14:AE:77:ARG:CZ	2.44	0.48
14:AE:1321:SER:OG	14:AE:1349:GLU:OE2	2.32	0.48
20:G:131:LYS:HE3	20:G:132:LYS:NZ	2.29	0.48
21:H:302:GLY:HA3	21:H:344:LEU:HD13	1.96	0.48
22:I:134:MET:HG3	22:I:151:VAL:CG2	2.44	0.48
22:I:134:MET:HE2	22:I:168:TYR:CG	2.49	0.48
23:J:62:ARG:CZ	23:J:69:GLU:HG2	2.44	0.48
25:L:70:VAL:O	25:L:74:LEU:CD2	2.56	0.48
28:O:89:GLU:O	28:O:92:GLU:OE1	2.32	0.48
31:R:7:LEU:HD23	35:V:34:TYR:OH	2.12	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:T:29:VAL:HG22	33:T:66:LEU:HD23	1.96	0.48
33:T:77:ARG:HH21	33:T:80:GLN:NE2	2.11	0.48
35:V:11:ARG:HD2	35:V:56:GLY:C	2.39	0.48
35:V:62:ARG:C	35:V:73:TRP:CE3	2.92	0.48
37:X:16:VAL:HG23	37:X:17:ILE:N	2.29	0.48
37:X:86:TYR:CE2	37:X:90:ARG:NE	2.82	0.48
38:Y:52:LEU:O	38:Y:54:ILE:HG12	2.14	0.48
38:Y:99:LYS:CD	38:Y:138:VAL:O	2.61	0.48
40:a:67:U:N3	40:a:74:A:N6	2.62	0.48
40:a:208:C:C2	40:a:209:C:C5	3.01	0.48
40:a:1065:U:HO2'	40:a:1066:U:C5'	2.26	0.48
40:a:1666:G:H1'	59:t:3:GLN:NE2	2.29	0.48
40:a:1825:U:P	47:h:52:ARG:NH1	2.86	0.48
46:g:47:LYS:HE2	53:n:115:ARG:CZ	2.43	0.48
46:g:47:LYS:HE2	53:n:115:ARG:HA	1.95	0.48
51:l:149:ILE:CG2	51:l:175:ILE:HD11	2.43	0.48
2:l:98:LYS:HZ2	40:a:2012:G:P	2.36	0.48
3:2:69:ARG:HG3	3:2:74:ILE:HD13	1.96	0.48
11:AA:812:PHE:O	14:AE:504:GLN:NE2	2.40	0.48
12:AB:151:LYS:NZ	12:AB:151:LYS:HB2	2.28	0.48
14:AE:291:ILE:O	14:AE:293:ARG:N	2.46	0.48
14:AE:438:GLU:OE2	14:AE:481:ARG:NH1	2.44	0.48
10:B:72:A:H2'	10:B:73:A:H5''	1.95	0.48
17:D:35:G:H2'	17:D:36:C:H6	1.79	0.48
17:D:1127:G:C2	17:D:1128:C:C6	3.01	0.48
17:D:1225:A:H2'	17:D:1226:C:C5	2.49	0.48
17:D:1308:U:H3'	37:X:98:ARG:NH2	2.29	0.48
25:L:38:ARG:HD2	25:L:40:GLU:OE2	2.13	0.48
29:P:15:HIS:O	29:P:18:ILE:HG22	2.14	0.48
29:P:64:GLN:OE1	29:P:65:TYR:O	2.31	0.48
35:V:27:ARG:HH12	35:V:42:THR:CB	2.26	0.48
35:V:42:THR:HG22	35:V:44:LEU:HD11	1.95	0.48
39:Z:26:MET:O	39:Z:30:PHE:HB2	2.14	0.48
40:a:299:A:N1	40:a:322:A:O2'	2.42	0.48
40:a:1590:A:H2'	40:a:1591:A:C8	2.48	0.48
40:a:1808:A:O2'	42:c:3:ARG:NH1	2.46	0.48
40:a:2327:A:H2'	40:a:2328:A:C8	2.49	0.48
40:a:2373:G:H2'	40:a:2374:C:C6	2.49	0.48
49:j:124:ARG:HA	49:j:165:MET:CE	2.44	0.48
51:l:42:GLY:HA3	51:l:92:HIS:CE1	2.49	0.48
52:m:25:LYS:HE2	52:m:28:ARG:HH21	1.78	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:n:70:ALA:O	53:n:81:GLN:OE1	2.31	0.48
58:s:56:VAL:O	58:s:124:VAL:HA	2.14	0.48
63:x:115:LEU:HD23	63:x:117:PHE:CE1	2.48	0.48
2:1:95:ARG:NH1	2:1:97:LEU:CD2	2.77	0.47
9:9:24:SER:HB3	9:9:116:GLU:HG3	1.94	0.47
9:9:38:MET:SD	38:Y:117:THR:CG2	3.02	0.47
10:A:12:G:C2'	10:A:13:C:OP1	2.61	0.47
10:A:35:A:H2'	10:A:36:U:C6	2.49	0.47
10:A:65:C:C2'	10:A:66:C:H5'	2.44	0.47
12:AB:143:LEU:HD22	12:AB:152:HIS:CD2	2.48	0.47
16:C:12:ARG:CZ	16:C:13:PHE:CE1	2.97	0.47
16:C:16:GLU:OE1	16:C:18:VAL:HB	2.14	0.47
22:I:134:MET:HE1	22:I:167:TRP:CA	2.43	0.47
24:K:57:PRO:HA	24:K:60:ILE:HG12	1.96	0.47
33:T:77:ARG:NH2	33:T:80:GLN:NE2	2.62	0.47
40:a:379:G:N1	40:a:396:G:C6	2.82	0.47
40:a:581:C:C2	40:a:582:A:C8	3.02	0.47
40:a:600:G:H2'	40:a:601:C:C6	2.49	0.47
40:a:1589:U:O2'	40:a:1590:A:O5'	2.28	0.47
40:a:1656:C:P	49:j:141:ARG:HD2	2.54	0.47
40:a:1841:U:C2	40:a:1842:G:C8	3.02	0.47
40:a:1844:C:C2	40:a:1845:G:C8	3.02	0.47
40:a:2043:C:C2	40:a:2044:C:C5	3.02	0.47
55:p:94:TYR:HD1	55:p:107:LEU:HD23	1.79	0.47
57:r:58:LEU:O	57:r:61:VAL:HG22	2.14	0.47
60:u:77:ILE:HD11	60:u:108:ALA:HB1	1.95	0.47
62:w:33:ILE:HD11	62:w:112:TYR:CE1	2.48	0.47
62:w:38:LEU:N	62:w:39:PRO:CD	2.76	0.47
63:x:115:LEU:HD23	63:x:117:PHE:HE1	1.79	0.47
2:1:23:LEU:HD21	2:1:35:ILE:CG2	2.44	0.47
2:1:28:LYS:HB2	2:1:31:GLN:OE1	2.14	0.47
4:3:28:VAL:HG23	4:3:34:VAL:HG12	1.96	0.47
9:9:3:LEU:O	9:9:4:ASN:OD1	2.32	0.47
9:9:99:PHE:O	9:9:103:ASN:OD1	2.32	0.47
10:A:21:A:H4'	10:A:21:A:OP1	2.13	0.47
10:A:70:G:C3'	10:A:71:C:H5''	2.43	0.47
11:AA:318:SER:OG	11:AA:320:ASP:OD1	2.31	0.47
14:AE:516:ASP:OD1	14:AE:516:ASP:N	2.47	0.47
10:B:26:G:H1	10:B:44:A:N6	2.12	0.47
16:C:21:ILE:HG13	16:C:54:GLN:NE2	2.29	0.47
17:D:636:U:H5'	35:V:6:ARG:NE	2.29	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:1176:A:H2'	17:D:1177:G:O4'	2.14	0.47
17:D:1307:U:H2'	17:D:1308:U:C6	2.49	0.47
18:E:9:LYS:O	18:E:12:ILE:HG12	2.14	0.47
20:G:35:ARG:HB3	21:H:14:LYS:HZ3	1.79	0.47
20:G:117:LEU:HD21	20:G:141:LEU:HB2	1.96	0.47
23:J:138:SER:O	23:J:139:PRO:C	2.57	0.47
24:K:157:ARG:NH1	27:N:43:GLU:CD	2.72	0.47
26:M:66:LEU:HD13	26:M:101:MET:HE3	1.93	0.47
26:M:109:ARG:C	26:M:119:ARG:HH21	2.23	0.47
31:R:5:ASN:HB3	31:R:9:ARG:HH22	1.80	0.47
37:X:86:TYR:HE2	37:X:90:ARG:NH2	2.11	0.47
38:Y:19:PRO:HG2	38:Y:23:VAL:CG2	2.42	0.47
38:Y:126:ARG:NH1	40:a:1083:U:OP2	2.47	0.47
40:a:592:A:C2	54:o:4:ILE:HD11	2.49	0.47
40:a:879:G:H2'	40:a:880:G:O4'	2.14	0.47
40:a:1385:A:C4	40:a:1386:C:C5	3.02	0.47
40:a:1790:C:H2'	40:a:1791:A:N7	2.29	0.47
40:a:2193:G:O2'	40:a:2194:U:P	2.72	0.47
40:a:2298:A:H5''	53:n:72:LYS:CE	2.44	0.47
40:a:2300:C:H2'	40:a:2301:C:H6	1.79	0.47
40:a:2314:A:C1'	53:n:155:THR:HG21	2.42	0.47
44:e:10:SER:OG	44:e:13:GLU:HG2	2.13	0.47
53:n:12:VAL:O	53:n:16:LEU:HG	2.14	0.47
55:p:18:LYS:HE2	55:p:18:LYS:HA	1.96	0.47
61:v:29:GLY:H	61:v:104:GLU:HG2	1.79	0.47
61:v:58:LYS:O	61:v:59:ARG:HG3	2.13	0.47
2:1:71:VAL:O	2:1:71:VAL:HG23	2.13	0.47
5:4:11:GLU:OE2	5:4:19:ARG:NH2	2.47	0.47
5:4:53:LYS:O	5:4:56:PHE:HD2	1.97	0.47
11:AA:1311:GLY:O	15:AF:31:GLN:NE2	2.47	0.47
10:B:48:C:C2'	10:B:49:G:OP2	2.62	0.47
17:D:61:G:O6	18:E:10:ARG:NH2	2.47	0.47
25:L:36:ILE:HD12	25:L:63:ASN:O	2.14	0.47
28:O:49:ARG:C	28:O:53:GLU:OE1	2.57	0.47
28:O:86:ALA:HA	28:O:89:GLU:HG2	1.95	0.47
31:R:99:ARG:NE	31:R:104:CYS:SG	2.87	0.47
41:b:51:VAL:HG12	41:b:59:LEU:HD12	1.96	0.47
61:v:53:MET:HB2	61:v:116:ALA:HB1	1.96	0.47
2:1:105:VAL:HG13	2:1:105:VAL:O	2.14	0.47
4:3:40:ASN:OD1	4:3:65:ILE:HB	2.14	0.47
4:3:84:GLY:HA3	4:3:95:PHE:CZ	2.48	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:A:30:G:O2'	10:A:31:G:H5'	2.15	0.47
10:A:32:C:H2'	10:A:33:U:H5'	1.94	0.47
12:AB:141:LEU:HG	12:AB:154:VAL:HB	1.95	0.47
13:AC:102:LEU:HD12	13:AC:115:ILE:HG12	1.96	0.47
14:AE:616:PRO:HA	14:AE:619:ILE:HG22	1.96	0.47
10:B:21:A:H4'	10:B:21:A:OP1	2.13	0.47
17:D:72:A:C5	17:D:73:C:C5	3.02	0.47
17:D:377:G:OP1	34:U:5:ARG:CZ	2.60	0.47
17:D:611:C:C2	17:D:612:C:C5	3.02	0.47
17:D:1530:G:H2'	17:D:1531:A:C8	2.49	0.47
18:E:22:ALA:HA	18:E:25:ARG:HE	1.79	0.47
19:F:62:ARG:HD2	19:F:63:GLU:N	2.29	0.47
23:J:61:VAL:HA	23:J:64:ILE:HD12	1.96	0.47
26:M:17:LYS:NZ	26:M:18:PHE:CE1	2.78	0.47
28:O:21:ILE:HD12	28:O:86:ALA:HB1	1.96	0.47
28:O:63:LEU:HD13	28:O:65:ILE:HD11	1.97	0.47
38:Y:106:GLN:OE1	38:Y:125:THR:HG21	2.15	0.47
40:a:6:A:O3'	58:s:132:HIS:CE1	2.67	0.47
40:a:78:U:OP1	44:e:4:LYS:CE	2.63	0.47
40:a:451:U:H4'	51:l:47:LYS:HZ1	1.79	0.47
40:a:626:A:C2	60:u:78:ARG:CZ	2.98	0.47
40:a:1791:A:C2	40:a:1829:A:H4'	2.49	0.47
40:a:2064:C:H2'	40:a:2065:C:H6	1.79	0.47
40:a:2297:A:C6	40:a:2321:U:O4	2.68	0.47
40:a:2638:G:O2'	40:a:2775:G:N2	2.37	0.47
40:a:2814:A:C4	40:a:2815:C:C5	3.03	0.47
41:b:45:PHE:HD2	41:b:80:ILE:HD11	1.77	0.47
47:h:108:LYS:HZ3	47:h:194:GLU:N	2.13	0.47
47:h:130:LEU:HG	47:h:135:ILE:HG13	1.96	0.47
53:n:22:TYR:HE2	53:n:29:PRO:HD3	1.79	0.47
58:s:15:TRP:HD1	58:s:53:TYR:HB2	1.78	0.47
64:y:9:GLU:HG3	64:y:55:LEU:HB2	1.95	0.47
5:4:69:GLU:H	5:4:69:GLU:CD	2.22	0.47
9:9:16:SER:HB2	9:9:20:LYS:NZ	2.29	0.47
9:9:24:SER:HG	9:9:85:SER:C	2.22	0.47
9:9:30:SER:O	9:9:31:ARG:CZ	2.59	0.47
9:9:51:TYR:CD2	9:9:88:HIS:HB2	2.49	0.47
10:A:22:G:O2'	10:A:23:C:O5'	2.31	0.47
11:AA:477:GLU:HG2	12:AB:72:THR:HB	1.95	0.47
11:AA:689:ALA:HB2	11:AA:1233:LEU:HD23	1.97	0.47
12:AB:141:LEU:CD1	12:AB:159:PHE:CE1	2.75	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:AE:977:SER:OG	14:AE:980:THR:OG1	2.32	0.47
10:B:70:G:C3'	10:B:71:C:H5''	2.44	0.47
17:D:216:U:H2'	17:D:217:C:C6	2.50	0.47
17:D:375:U:H1'	34:U:28:ARG:HH22	1.79	0.47
17:D:983:A:H5'	17:D:984:C:OP2	2.15	0.47
21:H:5:PHE:CE1	21:H:9:PHE:HE1	2.31	0.47
22:I:132:ARG:CA	22:I:135:LYS:HE3	2.44	0.47
22:I:183:ASP:HB3	22:I:204:LYS:HZ2	1.80	0.47
28:O:118:LEU:HD22	28:O:123:ARG:C	2.39	0.47
30:Q:116:ILE:HG13	30:Q:116:ILE:O	2.14	0.47
36:W:9:PRO:HD3	46:g:64:PHE:CD2	2.49	0.47
38:Y:19:PRO:HG2	38:Y:24:GLY:H	1.79	0.47
38:Y:102:ARG:NE	38:Y:139:VAL:CG2	2.78	0.47
40:a:2000:C:OP1	62:w:5:LYS:NZ	2.38	0.47
40:a:2246:G:H2'	40:a:2247:A:C8	2.49	0.47
40:a:2455:G:H2'	40:a:2456:C:C6	2.48	0.47
40:a:2591:C:H2'	40:a:2592:G:H8	1.78	0.47
40:a:2884:U:N3	48:i:40:ARG:NH1	2.62	0.47
49:j:1:MET:O	49:j:204:LYS:HD2	2.15	0.47
53:n:93:GLY:C	53:n:97:TRP:CZ3	2.92	0.47
57:r:18:GLN:HE22	57:r:39:ALA:HB2	1.78	0.47
61:v:57:VAL:HG22	61:v:57:VAL:O	2.14	0.47
65:z:69:ALA:HA	65:z:106:PHE:HZ	1.80	0.47
3:2:1:MET:HE1	40:a:139:U:C4	2.50	0.47
8:7:32:U:H6	8:7:32:U:H3'	1.80	0.47
10:A:26:G:H1	10:A:44:A:N6	2.12	0.47
10:A:48:C:C2'	10:A:49:G:OP2	2.62	0.47
10:A:70:G:C2'	10:A:71:C:H5''	2.45	0.47
12:AB:145:LEU:CB	29:P:88:MET:HB3	2.42	0.47
14:AE:79:LYS:CB	14:AE:81:ARG:HH12	2.28	0.47
14:AE:797:THR:HG22	14:AE:924:GLY:HA3	1.97	0.47
16:C:60:LYS:HE3	17:D:735:C:H4'	1.97	0.47
17:D:110:C:H2'	17:D:111:G:O4'	2.14	0.47
17:D:330:C:O2	17:D:330:C:H2'	2.14	0.47
17:D:657:U:C1'	33:T:28:GLN:HE22	2.23	0.47
17:D:1149:C:H2'	17:D:1150:A:H8	1.79	0.47
19:F:4:ILE:CD1	19:F:19:PHE:HA	2.43	0.47
22:I:25:ASN:O	22:I:27:LYS:N	2.47	0.47
23:J:139:PRO:N	23:J:182:PHE:HE2	2.12	0.47
23:J:195:ILE:HG13	23:J:195:ILE:O	2.14	0.47
28:O:7:TYR:O	28:O:89:GLU:CD	2.58	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:R:74:LEU:HD11	31:R:80:ILE:HG13	1.96	0.47
32:S:57:PRO:HA	32:S:60:GLN:OE1	2.13	0.47
33:T:15:PHE:CD2	33:T:30:ALA:HB2	2.49	0.47
38:Y:37:PHE:HZ	38:Y:56:VAL:HG11	1.79	0.47
39:Z:29:LYS:HG3	39:Z:30:PHE:CE2	2.49	0.47
40:a:963:U:H2'	40:a:964:C:H6	1.80	0.47
40:a:1083:U:O2'	40:a:1085:A:OP2	2.32	0.47
40:a:1467:U:C4	40:a:1546:G:C2	3.03	0.47
40:a:1585:C:H2'	40:a:1586:A:O4'	2.15	0.47
40:a:2297:A:N1	40:a:2321:U:O4	2.47	0.47
40:a:2520:C:C6	40:a:2567:G:H1'	2.50	0.47
46:g:5:ILE:CD1	53:n:64:LYS:CE	2.92	0.47
48:i:55:ILE:HD13	62:w:112:TYR:CE1	2.50	0.47
51:l:130:LYS:HB2	51:l:133:LEU:HD12	1.97	0.47
61:v:41:LEU:HG	61:v:96:ILE:HG13	1.96	0.47
64:y:13:MET:HG3	64:y:77:HIS:CE1	2.49	0.47
65:z:74:ILE:HG13	65:z:78:LYS:HE3	1.94	0.47
2:1:23:LEU:HD21	2:1:35:ILE:HG22	1.94	0.47
3:2:56:GLU:OE2	3:2:88:LYS:CA	2.61	0.47
8:7:7:U:C6	8:7:7:U:C3'	2.97	0.47
9:9:38:MET:HA	9:9:41:LEU:HD12	1.96	0.47
9:9:103:ASN:HA	9:9:107:GLU:HG3	1.96	0.47
10:A:48:C:O2'	10:A:49:G:OP2	2.27	0.47
10:A:75:C:O2'	10:A:76:A:N7	2.48	0.47
11:AA:133:ASN:O	11:AA:527:LYS:NZ	2.42	0.47
11:AA:1286:THR:O	11:AA:1290:MET:HB2	2.14	0.47
12:AB:33:ILE:HG23	12:AB:33:ILE:O	2.15	0.47
12:AB:51:PHE:HB3	12:AB:52:PRO:CD	2.45	0.47
12:AB:88:VAL:O	12:AB:88:VAL:HG12	2.13	0.47
12:AB:106:ASP:CG	12:AB:107:PRO:HD2	2.30	0.47
12:AB:127:GLN:HE21	12:AB:127:GLN:HB3	1.49	0.47
14:AE:290:ILE:O	14:AE:290:ILE:HG12	2.14	0.47
14:AE:1108:GLN:HE21	14:AE:1123:ARG:HH12	1.62	0.47
14:AE:1350:ASN:HA	14:AE:1353:VAL:HG12	1.97	0.47
10:B:30:G:O2'	10:B:31:G:H5'	2.15	0.47
10:B:75:C:P	40:a:2602:A:H2'	2.55	0.47
17:D:436:C:C2	17:D:437:U:C5	3.02	0.47
17:D:653:U:N1	27:N:56:LYS:HE3	2.30	0.47
17:D:821:G:H2'	17:D:822:U:H6	1.80	0.47
17:D:893:C:C2	17:D:894:G:C8	3.01	0.47
17:D:1149:C:C2	17:D:1150:A:C8	3.03	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:1151:A:HO2'	17:D:1152:A:P	2.38	0.47
17:D:1172:C:H2'	17:D:1173:U:C6	2.49	0.47
17:D:1238:A:H2	17:D:1241:G:N3	2.13	0.47
17:D:1323:G:H2'	17:D:1324:A:H8	1.78	0.47
17:D:1363:A:C5	17:D:1365:G:C6	3.03	0.47
17:D:1382:C:N3	17:D:1383:C:C5	2.83	0.47
19:F:19:PHE:HE2	30:Q:110:ILE:C	2.23	0.47
19:F:64:ASN:HA	19:F:67:ARG:HD3	1.97	0.47
20:G:26:LYS:O	20:G:26:LYS:HD3	2.14	0.47
20:G:110:SER:HA	20:G:113:ARG:HH21	1.79	0.47
21:H:115:LYS:HA	21:H:119:GLY:C	2.40	0.47
24:K:16:ILE:H	24:K:16:ILE:HD12	1.79	0.47
26:M:69:VAL:HA	26:M:138:ARG:HD3	1.97	0.47
26:M:69:VAL:HG23	26:M:100:ALA:HB1	1.97	0.47
26:M:71:PRO:O	26:M:96:ARG:NH1	2.47	0.47
27:N:34:VAL:HG22	27:N:59:LEU:HD21	1.96	0.47
28:O:127:PHE:CD1	28:O:128:SER:N	2.83	0.47
29:P:13:PHE:CZ	29:P:67:ILE:HD11	2.50	0.47
32:S:63:ARG:HD3	32:S:68:GLY:O	2.15	0.47
33:T:76:ALA:C	33:T:80:GLN:NE2	2.68	0.47
35:V:30:LYS:HD3	35:V:35:GLY:HA2	1.97	0.47
37:X:5:ALA:HB3	37:X:66:GLU:OE2	2.14	0.47
38:Y:74:PRO:O	38:Y:78:LEU:HG	2.13	0.47
38:Y:102:ARG:HE	38:Y:139:VAL:HG21	1.79	0.47
38:Y:102:ARG:HH11	38:Y:141:ASP:CG	2.23	0.47
40:a:591:U:C2	40:a:592:A:C8	3.03	0.47
40:a:872:U:H2'	40:a:873:C:C6	2.50	0.47
40:a:1197:G:C4	40:a:1198:U:C5	3.02	0.47
40:a:1349:C:N3	40:a:1350:C:C5	2.83	0.47
40:a:1598:A:C4	40:a:1599:U:C6	3.03	0.47
40:a:1858:A:N6	40:a:1884:G:H1'	2.29	0.47
40:a:1936:A:N7	40:a:1945:G:C8	2.83	0.47
40:a:2070:A:H2'	40:a:2071:A:O4'	2.14	0.47
40:a:2294:G:OP1	63:x:98:GLN:OE1	2.33	0.47
40:a:2299:U:H2'	40:a:2300:C:C6	2.49	0.47
40:a:2299:U:P	53:n:72:LYS:HE2	2.54	0.47
40:a:2419:U:O2'	40:a:2420:C:H5'	2.14	0.47
40:a:2748:A:C2	40:a:2757:A:C5	3.03	0.47
45:f:4:THR:CB	45:f:37:GLU:OE2	2.58	0.47
47:h:181:MET:HE2	47:h:181:MET:CA	2.45	0.47
51:l:59:PRO:HB2	51:l:60:TRP:CE3	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:n:8:TYR:HA	53:n:12:VAL:HB	1.95	0.47
53:n:67:ILE:HD13	53:n:87:CYS:HB3	1.95	0.47
55:p:9:VAL:HG23	55:p:69:ARG:HD2	1.95	0.47
59:t:42:THR:C	59:t:44:LYS:HZ2	2.15	0.47
61:v:31:PHE:O	61:v:104:GLU:OE1	2.33	0.47
1:0:82:HIS:CD2	60:u:23:ILE:HG12	2.50	0.47
8:7:8:U:OP2	17:D:1397:C:O2	2.33	0.47
9:9:40:GLU:CD	9:9:54:VAL:HG11	2.39	0.47
11:AA:1314:GLN:HA	15:AF:28:ARG:HH22	1.80	0.47
12:AB:64:ILE:HG22	12:AB:67:THR:HB	1.97	0.47
14:AE:287:ALA:HB2	14:AE:292:VAL:HG11	1.85	0.47
14:AE:437:PHE:HZ	14:AE:453:VAL:HG11	1.79	0.47
10:B:65:C:C2'	10:B:66:C:H5'	2.44	0.47
17:D:13:U:C4	17:D:21:G:C2	3.03	0.47
17:D:197:A:C6	17:D:221:C:H4'	2.50	0.47
17:D:642:A:H2'	17:D:643:C:H6	1.80	0.47
17:D:1227:A:C2	17:D:1228:C:C6	3.02	0.47
23:J:62:ARG:HA	23:J:72:PHE:CZ	2.50	0.47
25:L:29:ILE:HG21	25:L:64:VAL:HG13	1.97	0.47
26:M:95:ARG:CZ	26:M:99:LEU:HD21	2.45	0.47
27:N:112:THR:HG23	27:N:115:ALA:H	1.80	0.47
29:P:13:PHE:CE1	29:P:67:ILE:HD11	2.50	0.47
32:S:74:LEU:HD23	32:S:77:PHE:CD2	2.49	0.47
36:W:63:THR:HG22	36:W:64:ASP:N	2.30	0.47
40:a:1790:C:O3'	40:a:1791:A:C8	2.68	0.47
40:a:2314:A:P	53:n:88:LYS:NZ	2.87	0.47
40:a:2420:C:C5'	50:k:8:LYS:NZ	2.76	0.47
46:g:45:THR:O	46:g:49:ARG:CZ	2.62	0.47
48:i:4:GLN:OE1	48:i:8:PRO:CD	2.63	0.47
51:l:112:LEU:HD21	51:l:186:VAL:HB	1.97	0.47
55:p:8:PRO:C	55:p:69:ARG:HH21	2.22	0.47
55:p:52:PHE:CZ	55:p:72:LEU:HD22	2.50	0.47
55:p:155:GLU:O	55:p:159:GLY:HA2	2.15	0.47
62:w:44:LEU:C	62:w:44:LEU:HD23	2.39	0.47
65:z:108:ALA:O	65:z:112:LYS:HG2	2.15	0.47
5:4:2:PHE:CE1	5:4:56:PHE:CZ	3.03	0.47
11:AA:103:VAL:HG12	11:AA:117:ILE:HG22	1.97	0.47
12:AB:13:GLN:HG2	12:AB:73:ARG:NH2	2.30	0.47
13:AD:35:PHE:HA	13:AD:38:THR:HG22	1.97	0.47
17:D:1325:C:C2	17:D:1326:U:C5	3.02	0.47
19:F:12:PHE:CE1	30:Q:107:ILE:CG2	2.98	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:G:110:SER:CA	20:G:113:ARG:HH21	2.27	0.47
20:G:207:ILE:HG23	20:G:208:ARG:N	2.30	0.47
21:H:303:LEU:C	21:H:305:HIS:N	2.73	0.47
29:P:26:VAL:HG12	29:P:30:LYS:HZ2	1.78	0.47
35:V:7:THR:CG2	35:V:60:GLU:OE2	2.63	0.47
40:a:6:A:H5'	58:s:131:ASN:OD1	2.15	0.47
40:a:272:A:C2	40:a:273:G:C5	3.02	0.47
40:a:400:G:OP2	42:c:57:ARG:NH1	2.46	0.47
40:a:609:A:H3'	40:a:610:C:H6	1.80	0.47
40:a:1477:A:N6	40:a:1514:G:O2'	2.45	0.47
40:a:1708:C:H2'	40:a:1709:U:H6	1.79	0.47
40:a:2236:U:H2'	40:a:2237:G:O4'	2.15	0.47
40:a:2364:C:H2'	40:a:2365:G:O4'	2.15	0.47
40:a:2646:C:OP2	40:a:2732:G:O2'	2.25	0.47
41:b:26:PHE:O	41:b:29:GLU:HG2	2.15	0.47
43:d:42:C:C5	53:n:66:LEU:HD12	2.49	0.47
44:e:20:ASN:HA	44:e:23:ARG:NE	2.30	0.47
47:h:52:ARG:NE	47:h:53:HIS:CE1	2.83	0.47
51:l:60:TRP:CD1	51:l:69:ARG:HH12	2.33	0.47
56:q:1:MET:HE3	56:q:1:MET:HA	1.97	0.47
60:u:110:VAL:HG23	60:u:125:LEU:HD12	1.97	0.47
61:v:30:SER:N	61:v:104:GLU:OE2	2.48	0.47
62:w:115:LEU:HD23	62:w:117:ASP:N	2.30	0.47
65:z:53:ARG:HG2	65:z:57:PHE:CE2	2.49	0.47
3:2:57:VAL:HG12	3:2:86:THR:OG1	2.15	0.47
11:AA:28:LEU:HD21	11:AA:524:ILE:HG13	1.97	0.47
11:AA:400:VAL:HG22	11:AA:584:TYR:HB3	1.96	0.47
10:B:70:G:C2'	10:B:71:C:H5''	2.45	0.47
17:D:520:A:O3'	31:R:70:GLU:OE2	2.32	0.47
17:D:520:A:O2'	31:R:70:GLU:CD	2.57	0.47
17:D:687:A:C2	17:D:704:A:C4	3.02	0.47
17:D:1368:A:OP1	28:O:113:ARG:NH2	2.48	0.47
17:D:1412:C:H2'	17:D:1413:A:C8	2.49	0.47
24:K:96:MET:HG2	24:K:125:ALA:HB2	1.97	0.47
26:M:116:MET:HA	26:M:119:ARG:HD3	1.97	0.47
27:N:3:MET:O	27:N:3:MET:HE3	2.14	0.47
32:S:20:TYR:CD2	32:S:55:SER:OG	2.67	0.47
40:a:858:G:P	41:b:78:LYS:HZ1	2.35	0.47
40:a:921:C:C2	40:a:922:C:C5	3.03	0.47
40:a:984:A:N3	40:a:984:A:H2'	2.29	0.47
40:a:1200:C:C2	40:a:1201:U:C5	3.03	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:1441:G:H2'	40:a:1442:U:C6	2.50	0.47
40:a:2093:G:O2'	40:a:2198:A:N1	2.41	0.47
40:a:2700:A:H2'	40:a:2701:U:C6	2.50	0.47
40:a:2700:A:H2'	40:a:2701:U:H6	1.80	0.47
40:a:2788:C:H2'	40:a:2789:C:C6	2.50	0.47
44:e:12:GLU:CG	44:e:13:GLU:N	2.78	0.47
48:i:28:LEU:HB2	48:i:37:LYS:HE3	1.97	0.47
51:l:168:ASP:HB3	51:l:183:PHE:CE2	2.49	0.47
56:q:2:LYS:HE2	56:q:35:GLN:HG3	1.97	0.47
57:r:71:LYS:HZ2	57:r:72:ILE:HA	1.80	0.47
59:t:50:GLY:O	59:t:53:LYS:NZ	2.47	0.47
4:3:47:LYS:NZ	40:a:482:A:O5'	2.48	0.46
4:3:96:PHE:CE1	4:3:103:ILE:HG12	2.50	0.46
9:9:6:GLN:CA	9:9:9:GLN:NE2	2.78	0.46
11:AA:207:THR:OG1	11:AA:354:ASP:OD2	2.32	0.46
12:AB:145:LEU:CG	29:P:88:MET:HB3	2.44	0.46
10:B:35:A:H2'	10:B:36:U:C6	2.49	0.46
17:D:277:C:OP1	35:V:43:LYS:HD2	2.15	0.46
17:D:977:A:H1'	17:D:982:U:O4	2.15	0.46
20:G:197:ASP:OD2	20:G:198:PHE:CE2	2.68	0.46
21:H:277:GLY:CA	21:H:331:MET:CE	2.93	0.46
28:O:49:ARG:O	28:O:53:GLU:OE1	2.32	0.46
30:Q:20:VAL:HB	30:Q:35:THR:CG2	2.45	0.46
31:R:18:LYS:NZ	31:R:19:SER:O	2.47	0.46
32:S:79:LEU:HB2	32:S:84:VAL:CG2	2.45	0.46
33:T:5:THR:O	33:T:8:THR:OG1	2.27	0.46
33:T:47:LYS:HD3	33:T:47:LYS:N	2.30	0.46
38:Y:102:ARG:HD3	38:Y:141:ASP:OD1	2.16	0.46
40:a:392:U:C2	40:a:393:C:C5	3.04	0.46
40:a:909:A:H2'	40:a:912:C:H5	1.80	0.46
40:a:1048:A:C4	40:a:1049:C:C5	3.02	0.46
40:a:1333:G:C2	40:a:1334:G:C8	3.03	0.46
40:a:2190:G:H2'	40:a:2191:A:C8	2.50	0.46
40:a:2294:G:OP1	63:x:10:ARG:HD3	2.15	0.46
40:a:2298:A:C4	40:a:2321:U:H5	2.31	0.46
40:a:2314:A:O2'	53:n:155:THR:HG21	2.15	0.46
40:a:2362:C:OP2	54:o:40:ARG:CZ	2.63	0.46
40:a:2743:U:O2'	55:p:153:ARG:NH1	2.48	0.46
44:e:10:SER:OG	44:e:12:GLU:HG2	2.15	0.46
46:g:56:ARG:HH21	46:g:59:ARG:HH21	1.62	0.46
53:n:38:MET:HE3	53:n:57:LEU:HG	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:u:19:LEU:CD2	60:u:27:LEU:HD12	2.45	0.46
61:v:41:LEU:HG	61:v:96:ILE:CG1	2.45	0.46
63:x:15:ARG:C	63:x:19:GLN:HE22	2.24	0.46
7:6:10:DG:OP1	14:AE:311:ARG:NH2	2.47	0.46
9:9:18:VAL:CG1	9:9:71:CYS:HB2	2.45	0.46
10:A:52:G:C6	10:A:63:G:O6	2.68	0.46
12:AB:132:GLU:OE1	12:AB:133:PRO:HD2	2.14	0.46
12:AB:146:ILE:N	29:P:88:MET:CB	2.55	0.46
12:AB:151:LYS:N	12:AB:151:LYS:NZ	2.60	0.46
17:D:675:A:C1'	30:Q:118:HIS:CD2	2.99	0.46
17:D:745:G:H2'	17:D:746:A:C8	2.50	0.46
17:D:1145:A:HO2'	17:D:1146:A:P	2.38	0.46
17:D:1308:U:P	37:X:98:ARG:CG	3.03	0.46
17:D:1324:A:H2'	17:D:1325:C:C6	2.51	0.46
19:F:37:PHE:HA	30:Q:123:PRO:HB2	1.97	0.46
21:H:270:ILE:HG23	21:H:270:ILE:O	2.15	0.46
31:R:2:ALA:CA	31:R:7:LEU:HD11	2.45	0.46
32:S:63:ARG:NH2	32:S:70:PRO:HD3	2.30	0.46
33:T:3:LEU:HD23	33:T:4:SER:O	2.15	0.46
40:a:391:A:C5	40:a:392:U:C5	3.04	0.46
40:a:404:A:H4'	40:a:405:U:O5'	2.15	0.46
40:a:493:G:H2'	40:a:494:G:O4'	2.16	0.46
40:a:1794:A:H2'	40:a:1795:C:C6	2.50	0.46
40:a:2345:G:C5	40:a:2347:C:C5	3.02	0.46
40:a:2517:C:O2	40:a:2542:A:N6	2.48	0.46
51:l:6:LYS:HZ1	51:l:119:ILE:HG22	1.81	0.46
51:l:23:PHE:CE2	51:l:25:GLU:HA	2.50	0.46
57:r:18:GLN:OE1	57:r:39:ALA:HB1	2.15	0.46
59:t:1:MET:CE	59:t:32:TYR:CG	2.99	0.46
63:x:35:ILE:HD11	63:x:102:ARG:HH21	1.81	0.46
65:z:69:ALA:O	65:z:74:ILE:HG22	2.15	0.46
8:7:14:U:H1'	15:AF:84:THR:HB	1.92	0.46
8:7:22:U:H5''	22:I:80:LYS:HB2	1.95	0.46
10:A:46:G:H1'	10:A:47:U:C5	2.51	0.46
11:AA:735:LYS:HA	11:AA:748:ILE:HG22	1.98	0.46
11:AA:848:GLU:HG2	11:AA:888:THR:HG22	1.96	0.46
12:AB:15:GLN:HE22	12:AB:32:MET:HE1	1.79	0.46
12:AB:24:GLN:HE22	12:AB:70:ASN:HB3	1.80	0.46
12:AB:98:VAL:O	12:AB:98:VAL:HG22	2.16	0.46
10:B:47:U:H2'	10:B:48:C:H4'	1.97	0.46
17:D:106:C:N4	18:E:10:ARG:HH22	2.12	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:808:C:OP1	33:T:48:LYS:HE3	2.14	0.46
17:D:1359:C:OP2	32:S:75:ARG:NE	2.42	0.46
17:D:1513:A:H2'	17:D:1514:G:C8	2.51	0.46
21:H:24:VAL:HG23	21:H:24:VAL:O	2.16	0.46
22:I:22:TRP:CZ2	22:I:32:ASN:HB2	2.50	0.46
26:M:74:GLU:CG	26:M:91:VAL:CG1	2.94	0.46
29:P:10:LEU:C	29:P:11:LYS:HD3	2.40	0.46
33:T:48:LYS:O	33:T:50:HIS:N	2.48	0.46
36:W:77:THR:OG1	36:W:78:ARG:HD2	2.15	0.46
40:a:666:A:H4'	60:u:48:ARG:HD2	1.97	0.46
40:a:1006:C:C2	40:a:1138:G:N2	2.83	0.46
40:a:1068:G:O6	40:a:1069:A:N6	2.48	0.46
40:a:1370:C:H2'	40:a:1371:G:O4'	2.16	0.46
40:a:2513:A:H2'	40:a:2514:U:C6	2.50	0.46
40:a:2537:U:H2'	40:a:2538:C:H6	1.79	0.46
40:a:2766:A:C5	40:a:2767:C:C5	3.03	0.46
42:c:71:LEU:O	42:c:76:GLU:HG3	2.16	0.46
46:g:8:LYS:NZ	46:g:10:GLU:HB2	2.30	0.46
48:i:40:ARG:HH12	48:i:41:HIS:CD2	2.34	0.46
49:j:9:VAL:O	49:j:197:THR:HG23	2.15	0.46
51:l:148:ILE:CD1	51:l:187:VAL:HB	2.44	0.46
57:r:31:VAL:HB	57:r:32:PRO:HD3	1.97	0.46
58:s:25:LEU:HD11	58:s:101:ILE:HD13	1.98	0.46
58:s:39:LYS:HA	58:s:44:TYR:HD1	1.78	0.46
62:w:24:MET:HG3	62:w:44:LEU:HD12	1.97	0.46
63:x:83:LEU:HD23	63:x:88:LYS:HE3	1.97	0.46
1:0:71:LYS:HE2	1:0:90:ARG:HD2	1.97	0.46
3:2:5:GLU:HA	44:e:22:LEU:CD2	2.45	0.46
3:2:64:LYS:HD2	40:a:1312:U:C4	2.51	0.46
5:4:23:ALA:O	5:4:24:ASN:OD1	2.33	0.46
9:9:69:PHE:C	9:9:72:LEU:HD11	2.40	0.46
12:AB:123:PHE:HD1	29:P:81:GLU:OE1	1.82	0.46
12:AB:130:PHE:HB3	12:AB:140:MET:HE2	1.96	0.46
10:B:6:G:O2'	10:B:7:G:H8	1.98	0.46
17:D:339:C:H2'	17:D:340:U:C6	2.50	0.46
17:D:611:C:C2	17:D:612:C:C6	3.04	0.46
17:D:864:A:H5'	24:K:90:THR:O	2.14	0.46
20:G:18:HIS:CE1	20:G:205:ASP:OD1	2.69	0.46
31:R:2:ALA:N	31:R:7:LEU:HD11	2.29	0.46
38:Y:96:LYS:HD2	38:Y:136:GLY:O	2.15	0.46
40:a:247:G:H4'	40:a:386:G:C5	2.49	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:396:G:C5	40:a:397:U:C5	3.03	0.46
40:a:1770:G:C6	40:a:1983:G:C5	3.03	0.46
40:a:2646:C:O5'	40:a:2646:C:H6	1.98	0.46
41:b:53:CYS:SG	41:b:57:HIS:HA	2.55	0.46
44:e:24:GLU:O	44:e:25:GLN:C	2.57	0.46
50:k:25:LYS:HD3	50:k:51:GLU:OE2	2.14	0.46
51:l:194:LYS:HG3	51:l:198:GLU:OE2	2.16	0.46
53:n:171:ALA:O	53:n:174:ASP:N	2.47	0.46
59:t:8:LEU:N	59:t:8:LEU:HD12	2.30	0.46
59:t:20:MET:H	59:t:44:LYS:HZ3	1.63	0.46
3:2:18:GLU:O	3:2:22:THR:HG23	2.15	0.46
5:4:53:LYS:HB3	5:4:55:GLU:OE1	2.16	0.46
8:7:35:U:H4'	14:AE:322:ARG:CZ	2.46	0.46
9:9:60:LEU:O	9:9:64:VAL:HB	2.15	0.46
14:AE:287:ALA:HB3	14:AE:292:VAL:CG2	2.46	0.46
14:AE:288:PRO:HD2	14:AE:291:ILE:CB	2.42	0.46
10:B:52:G:C6	10:B:63:G:O6	2.68	0.46
16:C:12:ARG:NH2	16:C:28:THR:CG2	2.79	0.46
16:C:51:TYR:HD1	16:C:54:GLN:HE22	1.58	0.46
16:C:65:LEU:HG	16:C:65:LEU:O	2.16	0.46
17:D:22:G:C5	17:D:23:C:C5	3.03	0.46
17:D:110:C:O4'	34:U:25:ARG:NH2	2.49	0.46
17:D:878:A:P	27:N:80:ARG:HH11	2.39	0.46
17:D:1055:A:H1'	22:I:156:ARG:NH2	2.31	0.46
17:D:1458:G:H5''	18:E:26:SER:OG	2.14	0.46
17:D:1512:U:H2'	17:D:1513:A:C8	2.51	0.46
19:F:16:LEU:HD12	30:Q:98:ARG:HH21	1.81	0.46
19:F:33:ARG:O	19:F:36:GLU:HG2	2.15	0.46
22:I:134:MET:HE2	22:I:168:TYR:CB	2.46	0.46
25:L:9:MET:HE2	25:L:51:ILE:CD1	2.44	0.46
25:L:43:GLY:HA2	25:L:58:HIS:CE1	2.51	0.46
37:X:56:LEU:HA	37:X:59:GLU:OE1	2.16	0.46
40:a:15:G:O2'	48:i:15:MET:HE2	2.15	0.46
40:a:57:C:C2	40:a:58:G:C8	3.04	0.46
40:a:78:U:P	44:e:4:LYS:HZ3	2.34	0.46
40:a:689:A:H2'	40:a:690:G:C8	2.49	0.46
40:a:1797:G:O2'	47:h:257:THR:HG22	2.16	0.46
40:a:2454:G:C6	40:a:2499:C:N4	2.83	0.46
40:a:2514:U:H2'	40:a:2515:C:H6	1.80	0.46
51:l:42:GLY:HA3	51:l:92:HIS:HE1	1.80	0.46
58:s:31:GLU:HG2	58:s:142:ILE:HG23	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:v:59:ARG:CZ	61:v:59:ARG:O	2.63	0.46
64:y:103:ARG:HD3	64:y:107:ALA:C	2.41	0.46
3:2:3:ARG:CZ	3:2:5:GLU:OE1	2.64	0.46
4:3:4:LYS:O	4:3:94:ARG:NH2	2.40	0.46
5:4:53:LYS:HD2	5:4:56:PHE:CZ	2.50	0.46
10:A:19:G:O6	40:a:2112:G:O5'	2.34	0.46
12:AB:4:TRP:NE1	12:AB:93:ILE:HG21	2.31	0.46
12:AB:11:ARG:HH22	14:AE:278:ARG:NH1	2.14	0.46
12:AB:103:ASP:HB2	12:AB:104:ILE:H	1.53	0.46
14:AE:230:SER:OG	14:AE:231:GLY:N	2.49	0.46
14:AE:287:ALA:CB	14:AE:292:VAL:CG2	2.93	0.46
14:AE:420:PRO:HA	14:AE:437:PHE:O	2.16	0.46
16:C:31:ASN:OD1	21:H:268:VAL:HG12	2.15	0.46
17:D:413:G:N2	17:D:428:G:H1'	2.31	0.46
17:D:826:C:O2	27:N:16:ASN:ND2	2.49	0.46
17:D:829:G:H4'	20:G:23:TRP:CH2	2.51	0.46
17:D:1189:U:OP1	32:S:98:LYS:NZ	2.48	0.46
17:D:1226:C:H4'	17:D:1227:A:OP1	2.16	0.46
18:E:82:GLN:HA	18:E:85:LYS:NZ	2.31	0.46
20:G:110:SER:HA	20:G:113:ARG:NE	2.29	0.46
25:L:38:ARG:NE	25:L:97:THR:O	2.49	0.46
26:M:46:ALA:O	26:M:49:THR:OG1	2.25	0.46
26:M:108:ALA:O	26:M:119:ARG:NH2	2.45	0.46
27:N:114:ARG:HD2	27:N:114:ARG:C	2.41	0.46
33:T:11:ILE:HG21	33:T:31:LEU:CD1	2.45	0.46
37:X:104:THR:O	37:X:104:THR:HG22	2.16	0.46
38:Y:5:GLN:NE2	38:Y:60:VAL:C	2.74	0.46
38:Y:59:THR:O	38:Y:66:PHE:HB2	2.16	0.46
38:Y:93:ASN:O	38:Y:94:LYS:HD2	2.16	0.46
40:a:374:A:C2	40:a:375:G:H1'	2.51	0.46
40:a:584:C:N4	40:a:585:G:C6	2.83	0.46
40:a:1131:G:OP1	58:s:81:ILE:O	2.34	0.46
40:a:2616:C:N3	40:a:2617:U:C5	2.84	0.46
40:a:2702:G:C5	40:a:2703:C:C5	3.03	0.46
40:a:2840:C:C2	40:a:2841:C:C5	3.03	0.46
48:i:52:ARG:HA	48:i:52:ARG:NE	2.30	0.46
49:j:5:VAL:HG22	49:j:202:ILE:CD1	2.46	0.46
50:k:7:GLU:OE2	50:k:27:LYS:HG3	2.16	0.46
59:t:24:VAL:HG23	59:t:33:ALA:HB2	1.97	0.46
65:z:113:ALA:O	65:z:117:LEU:HD13	2.15	0.46
2:1:11:ARG:CZ	2:1:11:ARG:HB3	2.45	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:66:GLN:OE1	40:a:329:G:OP2	2.34	0.46
12:AB:37:LYS:CD	12:AB:110:PRO:HD2	2.46	0.46
16:C:12:ARG:NH1	16:C:13:PHE:CE1	2.84	0.46
16:C:63:ARG:HB3	16:C:70:TYR:CE1	2.51	0.46
17:D:307:C:O2	17:D:307:C:H2'	2.15	0.46
17:D:610:U:N3	17:D:611:C:C5	2.83	0.46
17:D:737:C:C2	17:D:738:C:C5	3.03	0.46
17:D:1435:G:H2'	17:D:1436:U:C6	2.51	0.46
18:E:54:MET:O	18:E:58:VAL:HG23	2.16	0.46
22:I:85:GLU:O	22:I:89:LYS:CE	2.64	0.46
25:L:47:LEU:HD13	25:L:51:ILE:HG12	1.98	0.46
26:M:78:ARG:CG	26:M:80:VAL:HG13	2.46	0.46
26:M:111:ARG:O	26:M:119:ARG:CZ	2.63	0.46
32:S:13:ARG:HB3	32:S:60:GLN:CG	2.46	0.46
36:W:32:ARG:NH2	36:W:34:TRP:CZ3	2.84	0.46
38:Y:126:ARG:HH12	40:a:1082:U:C5'	2.29	0.46
40:a:306:U:H2'	40:a:307:G:O4'	2.16	0.46
40:a:1408:G:N3	40:a:1408:G:H2'	2.31	0.46
40:a:1433:A:H2'	40:a:1434:A:C1'	2.46	0.46
40:a:1796:U:H2'	40:a:1797:G:C8	2.50	0.46
40:a:2243:U:H2'	40:a:2244:U:H6	1.80	0.46
40:a:2683:C:H4'	49:j:13:ARG:NH1	2.31	0.46
40:a:2803:G:H2'	40:a:2804:U:C5	2.50	0.46
42:c:41:GLU:O	42:c:44:LYS:HD2	2.16	0.46
46:g:16:CYS:SG	46:g:37:CYS:N	2.89	0.46
51:l:6:LYS:HZ1	51:l:120:VAL:N	2.13	0.46
51:l:35:TYR:CD2	51:l:178:VAL:HG11	2.51	0.46
59:t:48:PRO:HB2	59:t:49:ARG:HE	1.81	0.46
64:y:14:LYS:NZ	64:y:76:THR:O	2.49	0.46
64:y:106:LYS:CD	64:y:109:ARG:NH2	2.79	0.46
2:1:50:VAL:HG12	2:1:105:VAL:CG1	2.45	0.46
5:4:48:MET:HE3	5:4:85:LYS:HA	1.97	0.46
9:9:61:ARG:CD	40:a:1046:A:O5'	2.64	0.46
10:A:24:U:H2'	10:A:25:C:C6	2.51	0.46
10:A:32:C:C2'	10:A:33:U:H5'	2.46	0.46
12:AB:18:GLN:O	12:AB:18:GLN:HG3	2.14	0.46
12:AB:133:PRO:CD	12:AB:140:MET:HE3	2.45	0.46
13:AD:59:VAL:HG22	13:AD:144:ILE:HA	1.97	0.46
14:AE:66:LYS:HB2	14:AE:69:GLU:HB3	1.96	0.46
16:C:21:ILE:CD1	16:C:54:GLN:NE2	2.79	0.46
16:C:34:THR:HB	16:C:38:LYS:H	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:696:A:H2'	17:D:697:U:H6	1.81	0.46
17:D:765:G:C6	17:D:812:G:C4	3.04	0.46
25:L:1:MET:N	25:L:65:GLU:OE2	2.41	0.46
25:L:17:GLN:C	25:L:21:MET:HE1	2.40	0.46
29:P:63:ASP:OD2	29:P:63:ASP:C	2.59	0.46
35:V:61:ILE:C	35:V:73:TRP:HZ3	2.23	0.46
36:W:9:PRO:HB3	46:g:64:PHE:CZ	2.51	0.46
40:a:136:G:C6	40:a:144:A:C6	3.04	0.46
40:a:396:G:C6	40:a:397:U:C4	3.04	0.46
40:a:644:A:H2'	40:a:645:C:O4'	2.15	0.46
40:a:923:G:H4'	41:b:29:GLU:OE1	2.16	0.46
40:a:1007:C:H5''	58:s:37:ARG:NE	2.31	0.46
40:a:1406:U:O2'	40:a:1407:G:P	2.74	0.46
40:a:1421:G:C2	40:a:1422:G:C8	3.03	0.46
40:a:1588:G:C6	40:a:1589:U:O4	2.69	0.46
40:a:1794:A:H2'	40:a:1795:C:H6	1.80	0.46
40:a:2061:G:N2	40:a:2063:C:C6	2.84	0.46
40:a:2200:C:OP2	42:c:37:ARG:NH2	2.48	0.46
40:a:2351:G:O6	54:o:39:LYS:NZ	2.48	0.46
43:d:82:U:O2'	45:f:53:PHE:HE2	1.98	0.46
43:d:83:G:H1'	45:f:53:PHE:CE1	2.51	0.46
45:f:12:SER:C	45:f:54:MET:HE1	2.40	0.46
53:n:127:ASN:OD1	53:n:157:THR:HA	2.16	0.46
55:p:149:ARG:CZ	55:p:162:VAL:C	2.89	0.46
9:9:68:PRO:O	9:9:72:LEU:HD21	2.16	0.46
9:9:87:GLU:OE2	9:9:95:LEU:CG	2.64	0.46
9:9:129:LEU:HD12	9:9:130:PRO:CD	2.43	0.46
10:A:47:U:H2'	10:A:48:C:H4'	1.97	0.46
10:A:50:U:H2'	10:A:51:C:C6	2.51	0.46
12:AB:111:TYR:CB	12:AB:112:PRO:CD	2.75	0.46
13:AC:64:VAL:HG11	13:AC:78:ILE:HG21	1.97	0.46
14:AE:848:VAL:HB	14:AE:858:VAL:HG22	1.98	0.46
16:C:14:THR:HG21	16:C:48:ARG:CD	2.46	0.46
16:C:33:ILE:O	21:H:338:GLU:CG	2.64	0.46
16:C:65:LEU:HD23	16:C:67:LEU:HD11	1.96	0.46
17:D:915:A:C5	17:D:916:U:C6	3.04	0.46
17:D:915:A:C6	17:D:916:U:C5	3.04	0.46
18:E:49:LYS:O	18:E:53:GLU:HG2	2.16	0.46
22:I:58:GLU:OE2	29:P:94:ALA:HB1	2.16	0.46
22:I:142:MET:HE3	22:I:170:GLU:HB3	1.98	0.46
22:I:181:ASP:HB2	22:I:207:ILE:HD11	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:L:96:VAL:O	25:L:96:VAL:HG23	2.16	0.46
26:M:31:MET:HE1	26:M:36:LYS:CD	2.46	0.46
27:N:6:PRO:O	27:N:33:LYS:NZ	2.48	0.46
29:P:26:VAL:C	29:P:30:LYS:HZ3	2.24	0.46
32:S:77:PHE:CE1	32:S:93:ILE:HD13	2.51	0.46
32:S:82:ILE:HG23	32:S:83:LYS:N	2.31	0.46
33:T:11:ILE:HD11	33:T:30:ALA:HB1	1.98	0.46
37:X:3:ARG:HB3	46:g:35:ASP:OD2	2.15	0.46
38:Y:59:THR:C	38:Y:66:PHE:HB2	2.41	0.46
38:Y:99:LYS:NZ	38:Y:138:VAL:O	2.44	0.46
40:a:6:A:N3	58:s:135:GLN:NE2	2.59	0.46
40:a:30:G:H2'	40:a:31:C:H6	1.81	0.46
40:a:182:A:H2'	40:a:183:C:H6	1.81	0.46
40:a:2065:C:C2	40:a:2066:C:C5	3.04	0.46
40:a:2725:A:C4	40:a:2727:A:N7	2.83	0.46
42:c:76:GLU:OE1	42:c:77:LYS:O	2.34	0.46
43:d:57:A:C5	53:n:26:MET:CE	2.99	0.46
47:h:2:ALA:N	47:h:20:VAL:O	2.49	0.46
49:j:55:LYS:HZ2	49:j:60:VAL:CA	2.28	0.46
58:s:123:LYS:HD2	58:s:132:HIS:CD2	2.50	0.46
62:w:48:VAL:CG1	62:w:49:GLU:OE1	2.64	0.46
63:x:88:LYS:O	63:x:115:LEU:HD12	2.16	0.46
10:A:33:U:H4'	26:M:84:THR:HB	1.97	0.46
12:AB:36:GLU:H	12:AB:104:ILE:HG22	1.80	0.46
14:AE:82:GLY:CA	22:I:100:GLN:HG3	2.45	0.46
14:AE:1037:PHE:HB3	14:AE:1040:MET:HB2	1.97	0.46
10:B:24:U:H2'	10:B:25:C:C6	2.51	0.46
16:C:60:LYS:CE	17:D:735:C:O4'	2.64	0.46
17:D:13:U:O2	17:D:915:A:N7	2.49	0.46
17:D:110:C:H1'	34:U:25:ARG:NH1	2.31	0.46
17:D:337:G:H2'	17:D:338:A:H8	1.80	0.46
17:D:827:U:O4	17:D:872:A:C2	2.69	0.46
17:D:915:A:C5	17:D:916:U:C5	3.04	0.46
17:D:982:U:P	32:S:6:MET:HE2	2.56	0.46
20:G:19:GLN:NE2	21:H:75:VAL:HG13	2.30	0.46
20:G:100:MET:SD	20:G:101:LEU:HD23	2.56	0.46
22:I:107:ARG:HB3	22:I:108:LYS:HD2	1.96	0.46
24:K:143:GLY:O	24:K:146:ASN:OD1	2.34	0.46
29:P:90:LEU:HD12	29:P:90:LEU:N	2.31	0.46
33:T:8:THR:O	33:T:11:ILE:HG22	2.16	0.46
40:a:152:A:H2'	40:a:153:U:C6	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:1019:U:O4	40:a:1142:A:C2	2.69	0.46
40:a:1607:C:N4	40:a:1622:G:OP2	2.35	0.46
45:f:51:VAL:O	45:f:55:VAL:HG12	2.16	0.46
49:j:5:VAL:HB	49:j:32:ASN:ND2	2.31	0.46
49:j:48:ILE:CD1	49:j:84:LEU:HD11	2.46	0.46
51:l:1:MET:CE	51:l:20:GLY:N	2.79	0.46
51:l:21:ARG:HA	51:l:21:ARG:NE	2.31	0.46
53:n:4:LEU:HD21	53:n:101:GLU:HG3	1.97	0.46
54:o:31:HIS:O	54:o:32:ILE:O	2.33	0.46
58:s:136:GLN:N	58:s:137:PRO:CD	2.78	0.46
1:0:4:VAL:CG2	1:0:40:MET:HB3	2.45	0.45
2:1:11:ARG:NH1	2:1:11:ARG:HB3	2.30	0.45
3:2:3:ARG:HH22	3:2:4:GLU:HB2	1.81	0.45
5:4:50:MET:CB	5:4:56:PHE:CE1	2.98	0.45
10:A:68:C:H3'	10:A:69:C:H5''	1.97	0.45
12:AB:21:LEU:HD12	12:AB:28:CYS:SG	2.56	0.45
12:AB:117:ILE:CA	12:AB:127:GLN:HG2	2.43	0.45
14:AE:53:ARG:HA	14:AE:54:ASP:HA	1.59	0.45
14:AE:482:ALA:HA	15:AF:6:VAL:HG21	1.98	0.45
14:AE:804:ALA:O	14:AE:806:ASP:N	2.47	0.45
10:B:46:G:H1'	10:B:47:U:C5	2.51	0.45
17:D:980:C:C5	17:D:981:U:C2	3.04	0.45
17:D:1437:A:C2	17:D:1438:G:C8	3.04	0.45
20:G:19:GLN:OE1	20:G:21:ARG:CG	2.63	0.45
22:I:135:LYS:O	22:I:138:VAL:HG12	2.17	0.45
23:J:41:HIS:ND1	23:J:44:ARG:NH1	2.63	0.45
24:K:145:GLU:CD	24:K:146:ASN:N	2.74	0.45
26:M:134:ALA:HA	26:M:137:LYS:CD	2.46	0.45
29:P:47:GLU:HB2	29:P:67:ILE:HG22	1.98	0.45
31:R:56:ARG:HG2	31:R:62:GLU:CD	2.41	0.45
33:T:15:PHE:CE2	33:T:30:ALA:HB1	2.51	0.45
36:W:44:MET:HE1	36:W:66:MET:HE1	1.98	0.45
36:W:44:MET:HE1	36:W:62:VAL:CG2	2.46	0.45
38:Y:79:LEU:O	38:Y:83:ALA:HB3	2.16	0.45
40:a:257:C:O2	60:u:104:GLN:NE2	2.48	0.45
40:a:581:C:H2'	40:a:582:A:C8	2.50	0.45
40:a:582:A:H5''	65:z:11:ARG:HH12	1.82	0.45
40:a:644:A:C2	40:a:2369:A:H1'	2.51	0.45
40:a:669:G:H2'	40:a:670:A:N7	2.31	0.45
40:a:753:A:C6	40:a:754:U:C5	3.04	0.45
40:a:1406:U:O2	40:a:1407:G:C8	2.69	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:1499:C:C2	40:a:1500:G:C8	3.03	0.45
40:a:1656:C:H2'	40:a:1657:U:H6	1.81	0.45
40:a:1665:A:C5'	59:t:66:LYS:NZ	2.79	0.45
40:a:1688:U:O2'	40:a:1700:A:N7	2.44	0.45
40:a:2197:U:C5	40:a:2224:G:C6	3.03	0.45
40:a:2309:A:H2'	40:a:2310:C:O4'	2.16	0.45
43:d:45:A:C5'	53:n:92:ARG:NH1	2.79	0.45
50:k:34:LEU:HB2	50:k:51:GLU:OE2	2.16	0.45
57:r:137:GLU:CG	57:r:138:VAL:HG23	2.39	0.45
61:v:41:LEU:HD22	61:v:124:LEU:HD22	1.97	0.45
62:w:37:THR:HG21	62:w:40:LYS:HZ2	1.81	0.45
65:z:79:PHE:CE1	65:z:110:VAL:HA	2.46	0.45
2:1:20:VAL:CG1	2:1:47:VAL:HG11	2.46	0.45
9:9:25:ALA:HB3	9:9:99:PHE:CE2	2.51	0.45
11:AA:176:ILE:HD11	11:AA:428:VAL:HG21	1.98	0.45
11:AA:812:PHE:HZ	14:AE:503:SER:HB2	1.80	0.45
13:AD:15:ASP:OD1	13:AD:27:THR:OG1	2.30	0.45
13:AD:185:TYR:HA	13:AD:202:VAL:O	2.16	0.45
13:AD:212:ASP:OD1	13:AD:212:ASP:N	2.48	0.45
14:AE:1341:ARG:NH1	14:AE:1343:GLU:OE2	2.49	0.45
10:B:75:C:O2'	10:B:76:A:N7	2.48	0.45
17:D:371:A:H2'	17:D:372:C:O4'	2.15	0.45
17:D:440:C:C2	17:D:441:A:C8	3.04	0.45
17:D:723:U:O2	19:F:49:LYS:HE3	2.16	0.45
17:D:735:C:C2	17:D:736:C:C5	3.05	0.45
17:D:771:G:C6	17:D:809:G:C6	3.03	0.45
17:D:918:A:H2'	17:D:919:A:C8	2.51	0.45
17:D:1108:G:C5	17:D:1109:C:C5	3.04	0.45
17:D:1109:C:C2	17:D:1110:A:C8	3.04	0.45
17:D:1132:C:O2	17:D:1132:C:H2'	2.16	0.45
17:D:1302:C:OP1	37:X:13:LYS:NZ	2.30	0.45
25:L:98:GLU:OE1	25:L:98:GLU:HA	2.16	0.45
28:O:46:MET:HB3	28:O:50:GLN:NE2	2.31	0.45
32:S:12:LYS:NZ	32:S:16:LEU:HD21	2.31	0.45
36:W:32:ARG:NH2	36:W:34:TRP:HZ3	2.14	0.45
40:a:67:U:N3	40:a:68:G:C5	2.84	0.45
40:a:78:U:P	44:e:4:LYS:NZ	2.89	0.45
40:a:132:G:H2'	40:a:133:U:H6	1.80	0.45
40:a:1803:A:O2'	47:h:257:THR:HG21	2.16	0.45
40:a:2289:G:C2	40:a:2290:G:C8	3.04	0.45
40:a:2814:A:C5	40:a:2815:C:C5	3.05	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:j:55:LYS:NZ	49:j:56:LYS:O	2.49	0.45
51:l:6:LYS:CE	51:l:119:ILE:CG2	2.94	0.45
53:n:15:LYS:O	53:n:19:GLU:OE1	2.35	0.45
53:n:122:PHE:HZ	53:n:170:LEU:HD12	1.81	0.45
54:o:26:HIS:CE1	54:o:48:ALA:HB2	2.51	0.45
55:p:137:ASP:OD2	55:p:140:VAL:N	2.45	0.45
1:0:58:VAL:HG13	1:0:60:LYS:HZ3	1.82	0.45
3:2:64:LYS:CE	40:a:1312:U:O4	2.64	0.45
9:9:3:LEU:HD12	9:9:5:LEU:H	1.82	0.45
9:9:4:ASN:OD1	40:a:1046:A:N7	2.50	0.45
12:AB:20:HIS:CD2	12:AB:73:ARG:HB2	2.46	0.45
12:AB:84:SER:OG	12:AB:85:PRO:CD	2.64	0.45
14:AE:218:THR:HA	14:AE:221:ILE:HG22	1.96	0.45
14:AE:388:ARG:NH2	14:AE:414:GLU:OE1	2.49	0.45
10:B:32:C:C2'	10:B:33:U:H5'	2.46	0.45
17:D:878:A:P	27:N:80:ARG:NH1	2.89	0.45
17:D:1086:U:O2	17:D:1086:U:H2'	2.16	0.45
17:D:1308:U:H3'	37:X:98:ARG:NE	2.32	0.45
18:E:54:MET:C	18:E:54:MET:SD	3.00	0.45
20:G:117:LEU:HD23	20:G:141:LEU:HA	1.98	0.45
22:I:39:VAL:HG23	22:I:40:ARG:N	2.32	0.45
22:I:72:ARG:NE	22:I:75:ILE:HB	2.32	0.45
24:K:86:LYS:HE3	24:K:95:PHE:CD1	2.51	0.45
28:O:88:MET:CE	28:O:95:ARG:HG3	2.46	0.45
32:S:6:MET:HE3	32:S:63:ARG:NH1	2.31	0.45
32:S:86:GLU:OE2	32:S:90:ARG:HD3	2.16	0.45
33:T:15:PHE:CE2	33:T:30:ALA:CB	2.99	0.45
34:U:45:GLU:HG3	34:U:46:LYS:CD	2.45	0.45
37:X:13:LYS:HZ2	37:X:17:ILE:HG21	1.81	0.45
40:a:235:U:N3	40:a:236:C:C5	2.84	0.45
40:a:685:A:C8	40:a:773:U:C4	3.04	0.45
40:a:1889:A:H2'	40:a:1890:A:C8	2.51	0.45
40:a:2149:U:H2'	40:a:2150:C:C6	2.52	0.45
40:a:2357:G:P	41:b:20:ARG:CZ	3.04	0.45
40:a:2755:C:H3'	56:q:19:ARG:NH2	2.31	0.45
40:a:2784:U:H2'	40:a:2785:C:H6	1.80	0.45
51:l:195:GLN:CA	51:l:198:GLU:OE1	2.64	0.45
52:m:12:ARG:CG	52:m:44:VAL:HG21	2.47	0.45
53:n:22:TYR:CE2	53:n:28:VAL:HA	2.52	0.45
55:p:11:VAL:HG13	55:p:11:VAL:O	2.17	0.45
65:z:76:TYR:O	65:z:80:ILE:HG12	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:46:GLN:NE2	4:3:54:GLN:HG2	2.31	0.45
9:9:59:LEU:HB2	9:9:62:ARG:CG	2.45	0.45
9:9:122:GLN:OE1	9:9:122:GLN:N	2.49	0.45
11:AA:24:VAL:HG11	11:AA:704:MET:HE1	1.98	0.45
14:AE:86:GLU:N	14:AE:86:GLU:CD	2.73	0.45
16:C:12:ARG:HB2	21:H:264:GLU:CB	2.46	0.45
17:D:198:G:OP2	17:D:198:G:C8	2.70	0.45
17:D:309:A:O2'	17:D:607:A:N1	2.45	0.45
17:D:511:C:C2	17:D:512:U:C5	3.05	0.45
17:D:1209:C:C2	17:D:1210:C:C5	3.04	0.45
19:F:58:LYS:HD2	19:F:58:LYS:C	2.42	0.45
20:G:109:GLN:C	20:G:113:ARG:NE	2.75	0.45
22:I:55:ILE:HD12	22:I:68:ILE:HG12	1.98	0.45
22:I:114:LYS:HB2	22:I:185:ASN:ND2	2.32	0.45
24:K:165:LEU:HD12	27:N:114:ARG:NH1	2.30	0.45
29:P:59:LYS:HE2	29:P:62:ARG:NH2	2.31	0.45
32:S:13:ARG:HB3	32:S:60:GLN:HE21	1.81	0.45
34:U:6:LEU:HD23	34:U:17:TYR:CB	2.47	0.45
38:Y:81:LYS:N	38:Y:81:LYS:CD	2.79	0.45
40:a:607:U:C6	40:a:620:G:N7	2.85	0.45
40:a:985:C:N3	40:a:986:C:C5	2.84	0.45
45:f:27:LEU:O	45:f:38:ARG:NE	2.44	0.45
45:f:41:THR:C	45:f:45:ARG:NH2	2.75	0.45
47:h:108:LYS:HZ3	47:h:194:GLU:H	1.65	0.45
49:j:3:GLY:O	49:j:82:PHE:CE2	2.69	0.45
49:j:71:ALA:HB3	49:j:73:VAL:HG22	1.98	0.45
51:l:23:PHE:CD1	51:l:111:GLU:CD	2.95	0.45
51:l:95:LYS:HE2	51:l:97:ASN:OD1	2.17	0.45
51:l:108:ILE:HD11	51:l:180:LEU:HD13	1.98	0.45
51:l:147:LEU:HB2	51:l:183:PHE:CD2	2.48	0.45
58:s:55:ILE:HG13	58:s:123:LYS:CE	2.46	0.45
7:6:25:DT:OP1	11:AA:496:LYS:O	2.34	0.45
21:H:54:LYS:HD3	21:H:58:GLY:C	2.42	0.45
21:H:288:THR:O	21:H:288:THR:HG22	2.16	0.45
21:H:297:GLU:OE1	21:H:297:GLU:N	2.49	0.45
23:J:74:ASN:CA	23:J:77:LYS:HZ3	2.26	0.45
23:J:172:GLU:CD	23:J:183:LYS:HD2	2.42	0.45
24:K:13:GLU:OE1	24:K:13:GLU:N	2.50	0.45
25:L:9:MET:C	25:L:9:MET:SD	3.00	0.45
25:L:17:GLN:CB	25:L:21:MET:HE1	2.47	0.45
27:N:8:ALA:N	27:N:77:ARG:HH11	2.14	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:N:26:THR:OG1	27:N:58:GLU:CG	2.65	0.45
30:Q:84:VAL:HG21	30:Q:97:ILE:HD11	1.99	0.45
31:R:68:GLY:O	31:R:99:ARG:NH1	2.48	0.45
33:T:75:VAL:HG13	33:T:76:ALA:N	2.31	0.45
34:U:8:ARG:H	34:U:28:ARG:HD3	1.81	0.45
37:X:90:ARG:HD3	37:X:96:PRO:O	2.17	0.45
40:a:532:A:OP1	65:z:45:TYR:OH	2.32	0.45
40:a:952:G:C6	40:a:966:G:C6	3.05	0.45
40:a:1386:C:H2'	40:a:1387:A:H8	1.81	0.45
40:a:1664:A:N3	59:t:67:LYS:NZ	2.58	0.45
40:a:1707:G:C4	40:a:1708:C:C5	3.04	0.45
40:a:1786:A:H1'	40:a:1938:A:N6	2.30	0.45
40:a:1818:U:H6	47:h:156:ARG:NH2	2.13	0.45
40:a:2013:A:C2	40:a:2613:U:O4	2.68	0.45
40:a:2095:A:O5'	57:r:11:ASN:OD1	2.35	0.45
40:a:2313:C:O3'	53:n:88:LYS:NZ	2.48	0.45
40:a:2650:U:H2'	40:a:2651:C:H6	1.81	0.45
40:a:2766:A:C6	40:a:2767:C:C5	3.05	0.45
44:e:4:LYS:HZ2	44:e:7:ARG:NH1	2.14	0.45
46:g:47:LYS:CD	53:n:178:ARG:HH22	2.29	0.45
47:h:123:ALA:HB1	47:h:125:LYS:CE	2.47	0.45
51:l:73:ILE:HG13	51:l:73:ILE:O	2.17	0.45
51:l:117:ARG:NH1	60:u:1:MET:HE2	2.32	0.45
56:q:1:MET:HE3	56:q:2:LYS:N	2.31	0.45
59:t:108:ARG:CG	59:t:116:ILE:HD13	2.46	0.45
61:v:97:GLN:H	61:v:100:LYS:NZ	2.13	0.45
63:x:90:VAL:CG2	63:x:115:LEU:HD21	2.46	0.45
5:4:50:MET:C	5:4:56:PHE:CZ	2.94	0.45
9:9:34:THR:HA	9:9:37:LYS:NZ	2.32	0.45
9:9:43:LYS:HE3	9:9:102:ALA:HB2	1.97	0.45
9:9:61:ARG:HE	40:a:1046:A:P	2.39	0.45
9:9:94:ARG:CB	9:9:97:LYS:CE	2.94	0.45
9:9:118:ILE:HB	9:9:119:PRO:CD	2.42	0.45
11:AA:230:PHE:HB2	11:AA:333:ILE:HB	1.98	0.45
13:AC:218:ARG:NH1	13:AD:231:PHE:O	2.50	0.45
14:AE:781:LYS:HD2	14:AE:933:ARG:HH12	1.81	0.45
10:B:18:G:N7	10:B:57:A:N6	2.65	0.45
10:B:50:U:H2'	10:B:51:C:C6	2.51	0.45
17:D:151:A:C5	17:D:152:A:C8	3.04	0.45
17:D:278:G:OP2	35:V:43:LYS:NZ	2.49	0.45
17:D:983:A:H2	17:D:984:C:C6	2.34	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:1173:U:H2'	17:D:1174:G:O4'	2.17	0.45
17:D:1328:C:O3'	37:X:28:THR:HB	2.16	0.45
17:D:1436:U:H2'	17:D:1437:A:C8	2.52	0.45
25:L:18:VAL:N	25:L:19:PRO:CD	2.80	0.45
25:L:73:GLU:O	25:L:76:THR:OG1	2.33	0.45
25:L:85:ILE:HG22	25:L:86:ARG:HG2	1.99	0.45
26:M:87:VAL:HG12	26:M:151:PHE:HD2	1.81	0.45
27:N:25:VAL:HG23	27:N:63:LEU:CD1	2.46	0.45
36:W:62:VAL:HG13	36:W:66:MET:CE	2.44	0.45
38:Y:45:THR:HG22	38:Y:45:THR:O	2.16	0.45
40:a:372:G:O2'	42:c:54:LYS:CE	2.64	0.45
40:a:832:U:H2'	40:a:833:A:C8	2.50	0.45
40:a:1107:G:C5	40:a:1108:U:C5	3.04	0.45
40:a:1398:C:C2	40:a:1399:C:C5	3.04	0.45
40:a:1414:C:H2'	40:a:1415:U:C6	2.52	0.45
40:a:2040:G:OP1	58:s:106:LYS:NZ	2.38	0.45
40:a:2250:G:OP1	61:v:84:LYS:NZ	2.48	0.45
40:a:2373:G:H2'	40:a:2374:C:H6	1.81	0.45
40:a:2727:A:O3'	59:t:70:ARG:NH2	2.50	0.45
47:h:52:ARG:CD	47:h:53:HIS:CE1	3.00	0.45
50:k:19:HIS:CE1	50:k:41:PRO:CD	2.99	0.45
51:l:23:PHE:CE2	51:l:25:GLU:HB2	2.52	0.45
58:s:17:VAL:HG23	58:s:137:PRO:HB2	1.98	0.45
64:y:15:GLN:NE2	64:y:16:ASP:CG	2.75	0.45
64:y:31:TRP:CZ3	64:y:40:LEU:CD1	3.00	0.45
1:0:4:VAL:HG23	1:0:39:LEU:HB2	1.97	0.45
1:0:73:LYS:HD3	1:0:86:GLN:HE21	1.82	0.45
2:1:86:MET:HE1	2:1:88:ARG:CD	2.42	0.45
5:4:31:TYR:O	5:4:92:VAL:HA	2.17	0.45
8:7:11:U:C4'	24:K:20:ARG:HH21	2.16	0.45
10:A:18:G:N7	10:A:57:A:N6	2.65	0.45
10:B:53:G:N3	10:B:54:U:C5	2.85	0.45
17:D:280:C:O2	35:V:40:ARG:NE	2.48	0.45
17:D:715:A:H2'	17:D:716:A:C8	2.52	0.45
19:F:12:PHE:CD1	30:Q:101:ASN:ND2	2.84	0.45
19:F:38:TYR:O	30:Q:126:LYS:HE3	2.17	0.45
19:F:63:GLU:HG2	19:F:67:ARG:CZ	2.46	0.45
22:I:58:GLU:OE1	22:I:65:ARG:CZ	2.65	0.45
24:K:76:LEU:HD12	24:K:76:LEU:O	2.17	0.45
26:M:138:ARG:HG2	26:M:142:HIS:HE1	1.81	0.45
28:O:51:PRO:CA	28:O:103:PHE:HE2	2.30	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:Q:51:GLY:O	30:Q:56:ARG:NH1	2.50	0.45
31:R:31:ARG:O	31:R:57:LEU:HD12	2.17	0.45
31:R:122:PRO:C	31:R:123:LYS:HE2	2.42	0.45
32:S:6:MET:HE3	32:S:63:ARG:HH11	1.82	0.45
33:T:10:LYS:CD	33:T:14:GLU:OE2	2.65	0.45
39:Z:2:ILE:CG2	39:Z:5:ASP:H	2.28	0.45
40:a:607:U:C6	40:a:620:G:C5	3.04	0.45
40:a:783:A:O2'	40:a:785:G:OP1	2.35	0.45
40:a:1146:C:C2	40:a:1147:A:C8	3.05	0.45
40:a:1278:C:H2'	40:a:1279:G:H8	1.80	0.45
40:a:2016:U:H2'	40:a:2017:U:C6	2.52	0.45
40:a:2297:A:C2	40:a:2320:U:C1'	3.00	0.45
40:a:2547:A:H2'	40:a:2548:U:H6	1.77	0.45
40:a:2649:C:H2'	40:a:2650:U:C6	2.51	0.45
40:a:2723:C:H2'	40:a:2724:U:O4'	2.16	0.45
40:a:2756:U:N3	40:a:2758:A:N6	2.64	0.45
46:g:58:ASP:C	46:g:62:LYS:HZ1	2.25	0.45
47:h:33:LEU:O	47:h:64:ILE:HG12	2.16	0.45
48:i:30:VAL:HG22	48:i:37:LYS:HD2	1.99	0.45
51:l:175:ILE:HG21	51:l:180:LEU:HD11	1.97	0.45
55:p:69:ARG:NH1	55:p:73:ASN:CG	2.74	0.45
55:p:91:GLY:HA3	55:p:94:TYR:CD2	2.52	0.45
56:q:30:GLU:HB3	56:q:33:HIS:ND1	2.32	0.45
59:t:17:ARG:NH2	59:t:47:ILE:CG2	2.80	0.45
64:y:7:GLN:HE21	64:y:10:GLN:HE21	1.65	0.45
3:2:65:GLY:H	3:2:76:ARG:HH12	1.64	0.45
10:A:3:C:H2'	10:A:4:G:H8	1.82	0.45
11:AA:1002:LEU:HD21	11:AA:1007:LYS:HB2	1.98	0.45
12:AB:151:LYS:HB2	12:AB:151:LYS:HE2	1.80	0.45
12:AB:155:LYS:HE2	12:AB:157:THR:CG2	2.47	0.45
13:AD:68:TYR:HE1	13:AD:79:LEU:HD13	1.82	0.45
13:AD:83:LEU:HD11	14:AE:526:VAL:HB	1.99	0.45
10:B:3:C:H2'	10:B:4:G:H8	1.82	0.45
17:D:414:A:C4	17:D:415:A:C8	3.05	0.45
17:D:958:A:C4	36:W:55:ARG:HD3	2.52	0.45
17:D:1202:U:C5	17:D:1203:C:C5	3.05	0.45
19:F:12:PHE:CD1	30:Q:101:ASN:CG	2.95	0.45
21:H:32:ASP:OD1	21:H:35:VAL:HG23	2.16	0.45
21:H:32:ASP:OD1	21:H:35:VAL:HG22	2.17	0.45
22:I:24:ALA:HB3	22:I:29:PHE:CD2	2.51	0.45
22:I:84:VAL:HG23	22:I:85:GLU:N	2.31	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:J:35:GLU:HG2	23:J:36:GLN:N	2.32	0.45
24:K:13:GLU:O	24:K:13:GLU:HG2	2.16	0.45
25:L:94:HIS:CG	25:L:95:ALA:H	2.34	0.45
26:M:132:GLY:O	26:M:136:LYS:HD3	2.17	0.45
28:O:5:GLN:HE21	28:O:20:PHE:HB3	1.81	0.45
28:O:58:VAL:HG23	28:O:59:GLU:N	2.31	0.45
29:P:5:ARG:HE	29:P:7:ARG:CZ	2.29	0.45
29:P:64:GLN:HG2	32:S:101:TRP:CH2	2.52	0.45
33:T:71:LYS:HE2	33:T:78:TYR:CD2	2.52	0.45
38:Y:60:VAL:HG22	38:Y:66:PHE:CD1	2.52	0.45
40:a:2049:G:N2	49:j:161:MET:CE	2.80	0.45
40:a:2262:U:N3	40:a:2263:C:C5	2.85	0.45
40:a:2848:G:HO2'	40:a:2867:G:H22	1.63	0.45
42:c:43:GLU:OE1	42:c:45:ARG:CB	2.65	0.45
44:e:12:GLU:HG2	44:e:13:GLU:H	1.80	0.45
59:t:42:THR:CG2	59:t:44:LYS:NZ	2.78	0.45
59:t:76:VAL:HG12	64:y:73:VAL:HB	1.97	0.45
62:w:12:ARG:HE	62:w:20:MET:HE1	1.82	0.45
65:z:89:GLU:N	65:z:89:GLU:OE1	2.50	0.45
2:1:86:MET:SD	2:1:88:ARG:HD2	2.56	0.45
9:9:77:VAL:CG1	9:9:82:ILE:HG21	2.41	0.45
10:A:11:A:H2'	10:A:12:G:O4'	2.17	0.45
10:A:18:G:C5	10:A:57:A:N6	2.85	0.45
12:AB:55:LEU:CD2	12:AB:57:VAL:HG13	2.47	0.45
12:AB:67:THR:HG22	12:AB:68:THR:CG2	2.47	0.45
12:AB:116:VAL:HG21	12:AB:130:PHE:CD1	2.52	0.45
12:AB:144:ASN:HB2	12:AB:149:GLU:CB	2.28	0.45
12:AB:150:ILE:HG12	12:AB:152:HIS:CD2	2.52	0.45
10:B:18:G:C5	10:B:57:A:N6	2.85	0.45
17:D:633:G:H2'	17:D:634:C:H6	1.82	0.45
17:D:653:U:O4'	27:N:56:LYS:HE3	2.16	0.45
17:D:676:A:H2'	17:D:677:U:H6	1.82	0.45
17:D:753:A:OP1	33:T:73:LYS:NZ	2.50	0.45
17:D:1250:A:H2'	17:D:1251:A:C8	2.52	0.45
17:D:1315:U:O2	17:D:1360:A:H2	2.00	0.45
20:G:27:MET:HG3	20:G:27:MET:O	2.16	0.45
28:O:94:LEU:O	28:O:97:GLU:CD	2.60	0.45
30:Q:88:GLY:H	30:Q:114:THR:HG22	1.81	0.45
31:R:30:LYS:C	31:R:81:LEU:HD12	2.42	0.45
31:R:30:LYS:O	31:R:81:LEU:HD12	2.16	0.45
32:S:77:PHE:HE1	32:S:93:ILE:CG2	2.30	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:T:32:LEU:HD12	33:T:63:ARG:HA	1.98	0.45
40:a:152:A:H2'	40:a:153:U:H6	1.82	0.45
40:a:535:G:H2'	40:a:536:G:O4'	2.17	0.45
40:a:564:C:H1'	65:z:37:GLN:NE2	2.32	0.45
40:a:575:A:C2	40:a:576:U:C6	3.05	0.45
40:a:730:A:C2	40:a:731:C:C5	3.05	0.45
40:a:1444:G:C4	40:a:1445:G:C8	3.05	0.45
40:a:1656:C:C2	40:a:1657:U:C5	3.05	0.45
40:a:1790:C:C2'	40:a:1791:A:C8	3.00	0.45
43:d:44:G:H3'	53:n:92:ARG:HH22	1.81	0.45
48:i:23:THR:O	48:i:23:THR:HG23	2.17	0.45
51:l:112:LEU:CD1	51:l:117:ARG:HB2	2.39	0.45
60:u:101:ILE:C	60:u:105:ILE:HD12	2.42	0.45
62:w:60:VAL:CG2	62:w:63:ARG:NH1	2.78	0.45
9:9:11:ILE:HG12	9:9:65:GLU:HG2	1.98	0.45
9:9:25:ALA:HB2	9:9:96:PHE:HE1	1.81	0.45
10:A:6:G:O2'	10:A:7:G:H8	1.98	0.45
12:AB:78:PHE:CD2	12:AB:78:PHE:N	2.73	0.45
12:AB:79:VAL:HG22	14:AE:294:ASN:ND2	2.32	0.45
16:C:70:TYR:CE2	25:L:49:TYR:CE1	3.05	0.45
16:C:70:TYR:C	16:C:71:THR:HG23	2.42	0.45
17:D:35:G:N3	31:R:115:SER:OG	2.47	0.45
17:D:604:G:H2'	17:D:605:U:O4'	2.17	0.45
17:D:928:G:H2'	17:D:929:G:H8	1.81	0.45
20:G:19:GLN:HE21	21:H:75:VAL:C	2.24	0.45
20:G:163:VAL:CG1	20:G:185:ALA:HA	2.47	0.45
21:H:332:VAL:O	21:H:344:LEU:HA	2.17	0.45
22:I:165:THR:C	22:I:166:GLU:OE1	2.60	0.45
26:M:44:TYR:C	26:M:44:TYR:CD2	2.94	0.45
28:O:80:ARG:NH2	28:O:103:PHE:CE1	2.85	0.45
38:Y:12:VAL:HG22	38:Y:54:ILE:O	2.17	0.45
40:a:78:U:H5''	44:e:4:LYS:HZ1	1.81	0.45
40:a:597:G:H2'	40:a:598:U:C6	2.52	0.45
40:a:598:U:H2'	40:a:599:A:C8	2.52	0.45
40:a:893:C:H2'	40:a:894:U:C5	2.52	0.45
40:a:1064:C:O2'	40:a:1065:U:C6	2.63	0.45
40:a:1796:U:H2'	40:a:1797:G:H8	1.81	0.45
40:a:2617:U:C2	40:a:2618:G:C8	3.05	0.45
40:a:2627:G:O2'	40:a:2781:A:N1	2.43	0.45
46:g:1:MET:SD	46:g:3:LYS:HE2	2.56	0.45
48:i:4:GLN:OE1	48:i:7:LYS:HA	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:l:23:PHE:CD1	51:l:111:GLU:CG	3.00	0.45
51:l:112:LEU:HD23	51:l:118:LEU:HD13	1.99	0.45
53:n:16:LEU:HD11	53:n:169:LEU:HD13	1.98	0.45
54:o:8:ARG:HA	54:o:8:ARG:HE	1.82	0.45
57:r:127:GLU:OE2	57:r:143:ILE:HB	2.17	0.45
4:3:49:VAL:HG23	4:3:51:ALA:O	2.17	0.44
9:9:6:GLN:CA	9:9:9:GLN:HE22	2.30	0.44
9:9:31:ARG:NH1	40:a:1054:A:C1'	2.80	0.44
11:AA:11:ILE:HG22	11:AA:1172:LEU:HD11	1.99	0.44
11:AA:674:ASP:OD2	11:AA:1070:HIS:ND1	2.50	0.44
12:AB:37:LYS:HB2	12:AB:106:ASP:OD2	2.17	0.44
12:AB:87:ILE:CG1	14:AE:162:GLU:HG3	2.45	0.44
12:AB:116:VAL:HG12	12:AB:162:LEU:H	1.81	0.44
17:D:262:A:H2'	17:D:263:A:C8	2.53	0.44
17:D:984:C:C2	17:D:985:C:C5	3.05	0.44
17:D:1287:A:H2'	17:D:1288:A:C8	2.52	0.44
18:E:25:ARG:O	18:E:28:MET:HB2	2.17	0.44
21:H:303:LEU:O	21:H:304:VAL:C	2.59	0.44
21:H:308:GLU:C	21:H:310:ASP:H	2.25	0.44
22:I:72:ARG:HD3	22:I:75:ILE:HG22	1.99	0.44
25:L:100:SER:HB2	25:L:101:PRO:HD2	1.98	0.44
26:M:106:GLU:O	26:M:110:LYS:HG2	2.18	0.44
28:O:113:ARG:HD2	32:S:101:TRP:CD1	2.52	0.44
31:R:7:LEU:HD21	31:R:12:ARG:HH21	1.82	0.44
31:R:18:LYS:HD3	31:R:19:SER:O	2.16	0.44
33:T:3:LEU:CD2	33:T:8:THR:HG23	2.47	0.44
34:U:73:ALA:HA	34:U:76:LYS:HE3	1.98	0.44
38:Y:42:ASN:OD1	38:Y:50:LYS:NZ	2.46	0.44
40:a:145:C:H2'	40:a:146:A:C8	2.53	0.44
40:a:594:U:C2	40:a:595:C:C5	3.05	0.44
40:a:782:A:N1	47:h:225:MET:HE2	2.32	0.44
40:a:837:C:N3	40:a:941:A:N6	2.65	0.44
40:a:966:G:O4'	40:a:2267:A:N6	2.51	0.44
40:a:1042:G:C5	40:a:1043:C:C5	3.05	0.44
40:a:1310:G:N2	40:a:1313:U:C4	2.85	0.44
40:a:2356:U:H4'	41:b:20:ARG:HD2	1.99	0.44
40:a:2478:A:C8	40:a:2529:G:C5	3.04	0.44
40:a:2747:G:C2	40:a:2756:U:C5	3.05	0.44
40:a:2839:G:C5	40:a:2840:C:C5	3.05	0.44
46:g:30:HIS:CG	46:g:31:ASP:N	2.85	0.44
55:p:8:PRO:C	55:p:69:ARG:NH2	2.75	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:71:LYS:CG	1:0:73:LYS:HE3	2.47	0.44
1:0:77:PHE:CD2	65:z:40:ILE:HG21	2.53	0.44
5:4:29:ILE:HD13	43:d:74:U:O2	2.17	0.44
9:9:14:GLU:OE1	9:9:63:ALA:HA	2.17	0.44
11:AA:560:PRO:HB2	14:AE:776:THR:HG21	2.00	0.44
14:AE:283:LEU:HD23	14:AE:292:VAL:HG11	1.99	0.44
10:B:18:G:N2	10:B:58:A:N7	2.65	0.44
17:D:13:U:O4	17:D:20:U:O4	2.34	0.44
17:D:524:G:H2'	17:D:525:C:C6	2.52	0.44
17:D:1060:U:H5''	29:P:53:ILE:HD12	1.99	0.44
17:D:1486:G:H2'	17:D:1487:G:O4'	2.18	0.44
19:F:26:ALA:CB	19:F:28:VAL:HG23	2.47	0.44
20:G:9:MET:HE1	20:G:47:VAL:HG22	1.99	0.44
20:G:128:LYS:C	20:G:129:LEU:HD12	2.42	0.44
21:H:37:LEU:HG	21:H:46:SER:O	2.16	0.44
21:H:49:PRO:CD	21:H:84:LEU:HD21	2.47	0.44
21:H:76:GLU:OE1	21:H:79:PHE:HA	2.17	0.44
21:H:163:ARG:N	21:H:298:GLU:CG	2.81	0.44
21:H:287:LEU:HG	21:H:292:CYS:HA	1.98	0.44
26:M:134:ALA:O	26:M:137:LYS:CG	2.65	0.44
36:W:68:GLY:HA3	46:g:59:ARG:HH22	1.82	0.44
37:X:3:ARG:NH2	53:n:110:ARG:HD2	2.33	0.44
38:Y:44:LYS:HG2	38:Y:68:PHE:HE2	1.82	0.44
38:Y:139:VAL:HG22	38:Y:140:GLU:H	1.82	0.44
40:a:1013:C:C2	40:a:1014:A:C8	3.04	0.44
40:a:1432:G:H2'	40:a:1433:A:H8	1.79	0.44
40:a:1441:G:H2'	40:a:1442:U:H6	1.82	0.44
40:a:2450:A:C2	40:a:2451:A:C4	3.06	0.44
40:a:2743:U:H2'	40:a:2744:G:O4'	2.17	0.44
40:a:2783:U:H2'	40:a:2784:U:C6	2.52	0.44
40:a:2848:G:C2	40:a:2867:G:C4	3.05	0.44
49:j:74:GLU:HG2	49:j:75:ALA:N	2.31	0.44
51:l:90:GLN:OE1	51:l:92:HIS:CD2	2.70	0.44
53:n:10:ASP:OD1	53:n:11:GLU:HG3	2.17	0.44
54:o:39:LYS:HG2	54:o:42:ARG:HH12	1.82	0.44
54:o:49:MET:H	54:o:49:MET:HE2	1.81	0.44
54:o:55:LEU:C	54:o:55:LEU:HD23	2.42	0.44
61:v:3:GLN:OE1	61:v:4:PRO:O	2.35	0.44
61:v:111:GLU:O	61:v:112:LEU:C	2.57	0.44
62:w:60:VAL:HG22	62:w:63:ARG:HH12	1.78	0.44
64:y:31:TRP:CH2	64:y:40:LEU:HD11	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:O:13:ARG:CZ	65:z:97:ASP:CG	2.91	0.44
4:3:47:LYS:HZ3	40:a:482:A:P	2.40	0.44
8:7:2:U:OP2	17:D:926:G:N2	2.50	0.44
10:A:71:C:C3'	10:A:72:A:C8	2.99	0.44
12:AB:148:LYS:HD2	29:P:100:ILE:HD13	1.99	0.44
14:AE:59:ALA:HB3	14:AE:71:LEU:CD2	2.42	0.44
10:B:71:C:H2'	10:B:72:A:N9	2.32	0.44
17:D:269:C:H2'	17:D:270:A:C8	2.51	0.44
17:D:376:G:C2	17:D:389:A:C2	3.06	0.44
17:D:704:A:C4	17:D:705:G:C8	3.06	0.44
20:G:52:GLU:C	20:G:56:GLU:OE1	2.60	0.44
20:G:77:SER:O	20:G:80:VAL:HG12	2.17	0.44
22:I:156:ARG:CG	22:I:193:TYR:HB2	2.47	0.44
25:L:78:PHE:HD1	25:L:87:SER:HB3	1.82	0.44
29:P:10:LEU:HD22	29:P:22:THR:HG22	1.98	0.44
30:Q:52:PHE:CE1	30:Q:65:VAL:HG21	2.52	0.44
31:R:74:LEU:HD11	31:R:80:ILE:CG1	2.48	0.44
36:W:13:LEU:O	36:W:17:LYS:HG2	2.17	0.44
40:a:27:G:C4	40:a:512:G:N2	2.86	0.44
40:a:150:U:C2	40:a:151:C:C5	3.06	0.44
40:a:234:U:C4	40:a:235:U:C5	3.06	0.44
40:a:532:A:N7	40:a:2021:C:O2'	2.44	0.44
40:a:590:A:H2'	40:a:591:U:H6	1.80	0.44
40:a:639:U:H2'	40:a:640:C:H6	1.82	0.44
40:a:841:G:H2'	40:a:842:U:C6	2.52	0.44
40:a:1020:A:C2	40:a:1141:U:C2	3.06	0.44
40:a:1856:U:H2'	40:a:1857:G:O4'	2.17	0.44
40:a:2175:C:C2'	40:a:2176:A:C8	3.00	0.44
40:a:2216:G:H2'	40:a:2217:G:H8	1.82	0.44
40:a:2250:G:OP1	40:a:2275:C:O2'	2.25	0.44
40:a:2850:A:N7	40:a:2868:A:O2'	2.42	0.44
49:j:184:ARG:NH2	64:y:7:GLN:CD	2.72	0.44
53:n:175:PHE:CG	53:n:176:PRO:HD2	2.52	0.44
55:p:18:LYS:HG3	55:p:27:LYS:NZ	2.32	0.44
57:r:137:GLU:OE1	57:r:137:GLU:N	2.42	0.44
60:u:91:ASP:HB2	60:u:93:ASN:OD1	2.17	0.44
60:u:101:ILE:HG13	60:u:102:GLY:H	1.82	0.44
64:y:106:LYS:CD	64:y:109:ARG:HH22	2.29	0.44
1:O:46:GLU:HG2	1:O:48:LYS:NZ	2.32	0.44
2:1:24:ILE:HG21	2:1:36:LEU:CD1	2.42	0.44
4:3:5:ILE:HG13	4:3:72:ILE:HD11	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:4:16:ALA:O	5:4:20:LEU:HG	2.17	0.44
8:7:9:U:OP2	8:7:9:U:C6	2.70	0.44
9:9:23:LEU:HA	9:9:118:ILE:HD11	1.99	0.44
11:AA:557:ARG:NH2	11:AA:607:SER:O	2.50	0.44
11:AA:800:MET:HB2	11:AA:800:MET:HE3	1.69	0.44
11:AA:813:GLU:HB2	14:AE:461:PHE:HD2	1.83	0.44
14:AE:907:HIS:ND1	14:AE:908:ILE:O	2.48	0.44
10:B:3:C:H2'	10:B:4:G:C8	2.52	0.44
10:B:68:C:H3'	10:B:69:C:H5''	1.97	0.44
17:D:682:G:C2	17:D:683:G:C8	3.06	0.44
17:D:824:G:C6	17:D:877:G:C6	3.05	0.44
20:G:48:PRO:O	20:G:52:GLU:HG2	2.18	0.44
21:H:71:ALA:HB3	21:H:83:LEU:O	2.18	0.44
21:H:116:VAL:O	21:H:279:LYS:NZ	2.41	0.44
21:H:310:ASP:HB2	21:H:316:ILE:HD11	2.00	0.44
21:H:332:VAL:CG1	21:H:335:ILE:HG13	2.48	0.44
22:I:147:LYS:HE2	22:I:204:LYS:C	2.43	0.44
24:K:50:TYR:C	24:K:66:LYS:HE3	2.43	0.44
24:K:150:PRO:O	24:K:153:VAL:HG22	2.16	0.44
26:M:31:MET:HE3	26:M:31:MET:HB2	1.76	0.44
28:O:63:LEU:CD1	28:O:65:ILE:HD11	2.48	0.44
29:P:28:THR:HG22	29:P:90:LEU:HD23	1.98	0.44
35:V:31:HIS:HD2	35:V:34:TYR:H	1.62	0.44
36:W:5:LEU:HD12	36:W:6:LYS:N	2.32	0.44
37:X:55:THR:HG22	37:X:59:GLU:OE2	2.17	0.44
38:Y:41:PHE:O	38:Y:45:THR:OG1	2.22	0.44
40:a:128:C:C2	40:a:129:C:C5	3.06	0.44
40:a:536:G:H4'	65:z:57:PHE:HZ	1.82	0.44
40:a:580:U:O3'	65:z:31:VAL:HG13	2.17	0.44
40:a:900:A:C5	40:a:901:C:C5	3.06	0.44
40:a:1349:C:O2	40:a:1349:C:H2'	2.17	0.44
40:a:1709:U:H2'	40:a:1710:G:H8	1.82	0.44
40:a:2345:G:N3	40:a:2381:A:H2'	2.33	0.44
40:a:2616:C:C2	40:a:2617:U:C6	3.06	0.44
42:c:33:LEU:O	42:c:34:HIS:CG	2.70	0.44
43:d:45:A:C4	43:d:46:A:C8	3.05	0.44
47:h:240:PHE:CD2	47:h:240:PHE:O	2.71	0.44
51:l:198:GLU:OE1	51:l:198:GLU:N	2.43	0.44
53:n:63:GLN:HG3	53:n:95:ARG:HD3	1.99	0.44
53:n:92:ARG:CZ	53:n:92:ARG:HB3	2.47	0.44
54:o:45:ARG:HB3	54:o:46:PRO:CD	2.48	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:o:55:LEU:CD2	54:o:59:ILE:HD11	2.46	0.44
58:s:98:GLU:O	58:s:100:VAL:N	2.50	0.44
1:0:74:ILE:HD12	1:0:74:ILE:N	2.32	0.44
2:1:78:GLU:OE2	40:a:1262:A:OP1	2.35	0.44
9:9:23:LEU:O	9:9:87:GLU:CD	2.60	0.44
9:9:138:ARG:NH1	39:Z:10:ALA:O	2.51	0.44
10:A:72:A:C3'	10:A:73:A:H5''	2.47	0.44
11:AA:1246:ARG:HH11	11:AA:1266:GLY:HA2	1.82	0.44
14:AE:41:PRO:HB2	14:AE:270:ARG:HG3	1.99	0.44
15:AF:25:ARG:NH1	15:AF:61:ASN:OD1	2.49	0.44
16:C:41:PRO:HD2	21:H:339:ARG:CZ	2.47	0.44
17:D:219:U:C2	17:D:220:G:C8	3.05	0.44
17:D:360:G:H2'	17:D:361:G:C8	2.53	0.44
17:D:1062:U:H2'	17:D:1063:C:C6	2.53	0.44
17:D:1172:C:H2'	17:D:1173:U:H6	1.82	0.44
17:D:1389:C:H2'	17:D:1390:U:O4'	2.17	0.44
18:E:16:LYS:HA	18:E:19:LYS:HE3	2.00	0.44
18:E:58:VAL:HG12	18:E:72:ALA:HB1	1.99	0.44
22:I:22:TRP:CZ2	22:I:32:ASN:CB	3.01	0.44
23:J:95:GLU:HG3	23:J:186:PRO:HG3	1.98	0.44
24:K:50:TYR:O	24:K:66:LYS:HE3	2.17	0.44
31:R:38:TYR:CE2	31:R:40:THR:CG2	3.01	0.44
34:U:14:ARG:CD	34:U:42:ILE:HG21	2.47	0.44
35:V:30:LYS:HB2	35:V:37:PHE:CE1	2.52	0.44
37:X:11:ASP:HA	37:X:45:ILE:HB	1.99	0.44
37:X:55:THR:C	37:X:59:GLU:OE1	2.60	0.44
40:a:219:A:H2'	40:a:220:G:C8	2.52	0.44
40:a:607:U:N3	40:a:608:A:N7	2.66	0.44
40:a:730:A:C2	40:a:731:C:C6	3.05	0.44
40:a:1182:G:H2'	40:a:1183:U:O4'	2.17	0.44
49:j:131:ASP:OD1	49:j:133:THR:O	2.36	0.44
54:o:31:HIS:C	54:o:33:LEU:HG	2.42	0.44
55:p:11:VAL:HG12	55:p:48:ASN:O	2.17	0.44
57:r:72:ILE:O	57:r:72:ILE:HG22	2.16	0.44
2:1:36:LEU:N	2:1:36:LEU:HD12	2.33	0.44
9:9:19:ALA:CB	9:9:69:PHE:HE2	2.31	0.44
10:B:48:C:O2'	10:B:49:G:OP2	2.27	0.44
10:B:71:C:C3'	10:B:72:A:C8	2.99	0.44
16:C:40:VAL:HG22	21:H:339:ARG:HE	1.83	0.44
16:C:65:LEU:HD23	16:C:67:LEU:CD1	2.47	0.44
17:D:316:C:C2	17:D:317:U:C5	3.06	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:746:A:H2'	17:D:747:A:C8	2.53	0.44
17:D:1408:A:H2'	17:D:1409:C:C6	2.52	0.44
17:D:1436:U:H2'	17:D:1437:A:H8	1.82	0.44
20:G:66:LYS:HB3	20:G:154:MET:HE3	1.99	0.44
20:G:171:ILE:H	20:G:171:ILE:HD12	1.82	0.44
21:H:31:ILE:O	21:H:31:ILE:HG13	2.18	0.44
21:H:53:PHE:HE1	21:H:68:VAL:HG21	1.82	0.44
23:J:49:SER:O	23:J:53:VAL:HG13	2.18	0.44
23:J:105:MET:HE3	23:J:171:LEU:HD13	1.97	0.44
24:K:93:ARG:NH2	24:K:93:ARG:CB	2.80	0.44
26:M:78:ARG:HG3	26:M:80:VAL:HG13	2.00	0.44
31:R:24:LEU:HD23	31:R:95:TYR:HE1	1.83	0.44
37:X:79:ARG:NH1	46:g:56:ARG:NH1	2.66	0.44
38:Y:15:GLY:CA	38:Y:50:LYS:HG3	2.40	0.44
38:Y:32:VAL:HG13	38:Y:58:ILE:HG21	2.00	0.44
40:a:65:U:N3	40:a:66:C:C5	2.86	0.44
40:a:980:A:N7	40:a:1136:G:H5'	2.32	0.44
40:a:1084:A:N6	40:a:1085:A:N1	2.66	0.44
40:a:1774:C:O2	40:a:1774:C:C2'	2.65	0.44
40:a:1792:G:C5'	47:h:204:VAL:HG23	2.47	0.44
40:a:1820:U:C2	47:h:201:MET:HE2	2.53	0.44
40:a:2393:U:C5'	54:o:30:ARG:NH1	2.76	0.44
40:a:2465:C:O2	40:a:2465:C:H2'	2.18	0.44
40:a:2646:C:H2'	40:a:2647:U:O4'	2.18	0.44
40:a:2747:G:N2	40:a:2756:U:C6	2.85	0.44
45:f:41:THR:O	45:f:42:PRO:C	2.58	0.44
47:h:200:HIS:O	47:h:203:ARG:HG2	2.17	0.44
47:h:251:GLN:OE1	47:h:255:LYS:CB	2.65	0.44
49:j:55:LYS:HZ1	49:j:59:ARG:HB3	1.81	0.44
55:p:69:ARG:HH12	55:p:73:ASN:CG	2.25	0.44
55:p:83:PHE:HB2	55:p:141:ILE:HD13	2.00	0.44
57:r:6:LEU:C	57:r:15:LEU:HD13	2.43	0.44
58:s:35:ARG:HA	58:s:40:HIS:ND1	2.32	0.44
58:s:88:THR:OG1	58:s:91:GLU:HG3	2.18	0.44
62:w:87:PHE:HE2	62:w:115:LEU:HD11	1.83	0.44
10:A:3:C:H2'	10:A:4:G:C8	2.52	0.44
11:AA:477:GLU:HB2	12:AB:72:THR:HG21	2.00	0.44
14:AE:774:ILE:HA	14:AE:777:HIS:HD2	1.82	0.44
14:AE:964:LYS:O	14:AE:976:THR:OG1	2.35	0.44
10:B:71:C:H2'	10:B:72:A:C1'	2.47	0.44
17:D:153:C:C2	17:D:154:U:C5	3.06	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:377:G:H2'	17:D:378:G:H8	1.81	0.44
17:D:736:C:H4'	25:L:88:MET:HE2	1.99	0.44
17:D:953:G:O6	37:X:103:LYS:HE3	2.18	0.44
17:D:1146:A:C5	17:D:1147:C:C5	3.06	0.44
17:D:1434:A:H2'	17:D:1435:G:O4'	2.18	0.44
20:G:9:MET:HE2	20:G:43:LEU:HD22	2.00	0.44
20:G:117:LEU:HD21	20:G:141:LEU:CA	2.48	0.44
21:H:5:PHE:CZ	21:H:9:PHE:CE1	3.06	0.44
21:H:304:VAL:O	21:H:304:VAL:CG1	2.63	0.44
22:I:112:ASP:O	22:I:116:VAL:HG23	2.18	0.44
27:N:110:VAL:O	27:N:111:MET:SD	2.75	0.44
28:O:86:ALA:O	28:O:89:GLU:CG	2.65	0.44
29:P:24:GLU:OE2	29:P:92:LEU:CD2	2.66	0.44
29:P:40:ILE:HD12	29:P:73:LEU:CD2	2.48	0.44
29:P:66:GLU:HG3	32:S:99:ALA:HB2	2.00	0.44
29:P:73:LEU:C	29:P:73:LEU:HD23	2.42	0.44
33:T:11:ILE:HD13	33:T:31:LEU:HA	1.99	0.44
35:V:28:PHE:CZ	35:V:37:PHE:HB3	2.53	0.44
40:a:221:A:C4	40:a:266:G:N7	2.85	0.44
40:a:1657:U:H2'	40:a:1658:C:H6	1.83	0.44
40:a:2516:A:O2'	40:a:2517:C:H5'	2.18	0.44
40:a:2718:G:O2'	40:a:2847:U:H5''	2.18	0.44
45:f:12:SER:CA	45:f:32:ILE:HD11	2.46	0.44
47:h:91:ILE:HG22	47:h:92:ALA:N	2.33	0.44
47:h:146:MET:HE2	47:h:153:GLN:OE1	2.17	0.44
62:w:13:ASN:O	62:w:17:ARG:HG3	2.17	0.44
62:w:79:LEU:HD23	62:w:83:LEU:HD12	1.99	0.44
17:D:284:C:C2	17:D:285:C:C5	3.06	0.44
17:D:636:U:H2'	17:D:637:C:C6	2.52	0.44
20:G:64:LYS:HE2	20:G:64:LYS:HA	1.99	0.44
22:I:149:ILE:HG13	22:I:201:TRP:O	2.18	0.44
24:K:134:ILE:CG2	24:K:135:ASN:N	2.81	0.44
25:L:5:GLU:CD	25:L:61:LEU:HD11	2.42	0.44
25:L:53:LYS:HD2	25:L:53:LYS:O	2.18	0.44
27:N:35:ALA:HB1	27:N:110:VAL:HG11	1.99	0.44
30:Q:14:LYS:HD3	30:Q:15:GLN:N	2.32	0.44
33:T:26:GLU:HG3	33:T:27:VAL:N	2.33	0.44
36:W:39:THR:HG22	36:W:40:ILE:N	2.33	0.44
37:X:2:ALA:HB1	37:X:9:ILE:CG2	2.47	0.44
37:X:106:ALA:HB3	37:X:110:LYS:CD	2.48	0.44
38:Y:102:ARG:NH1	38:Y:139:VAL:HG11	2.33	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:6:A:O2'	58:s:132:HIS:ND1	2.50	0.44
40:a:66:C:N4	40:a:74:A:N6	2.66	0.44
40:a:598:U:H2'	40:a:599:A:H8	1.82	0.44
40:a:685:A:N1	40:a:787:C:H1'	2.33	0.44
40:a:1144:A:C4	40:a:1145:C:C5	3.05	0.44
40:a:1839:G:C4	40:a:1840:G:C8	3.06	0.44
40:a:2063:C:N3	40:a:2064:C:C5	2.86	0.44
40:a:2484:G:OP1	61:v:44:ARG:HD2	2.18	0.44
40:a:2884:U:O2	48:i:40:ARG:NH2	2.51	0.44
51:l:1:MET:HE3	51:l:19:PHE:C	2.43	0.44
53:n:6:ASP:O	53:n:10:ASP:OD2	2.36	0.44
53:n:40:VAL:HG13	53:n:42:GLU:CD	2.43	0.44
54:o:45:ARG:HD2	54:o:45:ARG:C	2.43	0.44
55:p:27:LYS:HG2	55:p:32:GLU:HG3	2.00	0.44
58:s:28:LEU:HD12	58:s:142:ILE:CG2	2.47	0.44
58:s:73:VAL:CG1	58:s:86:GLN:HG2	2.46	0.44
58:s:118:MET:HB3	58:s:118:MET:HE2	1.81	0.44
59:t:44:LYS:N	59:t:44:LYS:HD2	2.33	0.44
60:u:103:ILE:HG23	60:u:104:GLN:HG2	1.99	0.44
61:v:38:ARG:HB2	61:v:98:PRO:HD3	2.00	0.44
62:w:60:VAL:HG22	62:w:63:ARG:HH11	1.80	0.44
62:w:73:ASN:C	62:w:73:ASN:ND2	2.76	0.44
65:z:66:ASN:CG	65:z:76:TYR:HB2	2.42	0.44
65:z:82:GLY:CA	65:z:117:LEU:HD11	2.48	0.44
8:7:1:A:C6	10:B:37:A:N1	2.86	0.44
8:7:12:U:C3'	8:7:12:U:C6	3.00	0.44
10:A:18:G:N2	10:A:58:A:N7	2.65	0.44
10:A:49:G:H8	10:A:49:G:O5'	2.01	0.44
13:AD:182:ARG:HD2	14:AE:581:MET:HE1	1.98	0.44
15:AF:58:LEU:HD12	15:AF:59:ILE:HG12	2.00	0.44
10:B:49:G:O5'	10:B:49:G:H8	2.01	0.44
10:B:75:C:P	40:a:2602:A:C2'	3.05	0.44
16:C:34:THR:HG22	16:C:35:GLU:N	2.33	0.44
16:C:34:THR:OG1	16:C:38:LYS:HB2	2.17	0.44
17:D:311:C:P	34:U:31:ARG:NH2	2.85	0.44
17:D:678:U:H2'	17:D:679:C:C6	2.53	0.44
17:D:1240:U:OP1	26:M:116:MET:HB2	2.17	0.44
17:D:1477:U:H2'	17:D:1478:U:C6	2.53	0.44
20:G:49:MET:HB3	20:G:49:MET:HE2	1.79	0.44
20:G:206:ALA:O	20:G:210:VAL:HG23	2.18	0.44
21:H:294:VAL:HG11	21:H:330:VAL:HG21	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:M:4:ARG:HG2	26:M:5:ARG:NH2	2.32	0.44
28:O:39:PHE:CD1	28:O:44:ALA:HB1	2.53	0.44
30:Q:85:MET:HG3	30:Q:111:THR:HB	2.00	0.44
36:W:79:THR:HG23	36:W:79:THR:O	2.18	0.44
40:a:61:C:C2	40:a:94:A:C2	3.06	0.44
40:a:1169:A:N3	40:a:1169:A:O4'	2.51	0.44
40:a:1434:A:H2'	40:a:1435:G:C8	2.52	0.44
40:a:1913:A:OP2	40:a:1913:A:H3'	2.18	0.44
40:a:2029:G:N1	40:a:2033:A:OP2	2.35	0.44
40:a:2347:C:C2	40:a:2348:U:C5	3.05	0.44
40:a:2548:U:C2	40:a:2549:G:C8	3.06	0.44
42:c:4:VAL:HG22	42:c:11:ARG:HG2	2.00	0.44
45:f:41:THR:O	45:f:43:ALA:N	2.51	0.44
47:h:74:ILE:HB	47:h:96:TYR:CD1	2.53	0.44
47:h:265:LYS:HG3	47:h:266:PHE:CD2	2.52	0.44
49:j:204:LYS:HD3	49:j:205:PRO:HD2	2.00	0.44
55:p:141:ILE:HG13	55:p:142:GLY:N	2.32	0.44
57:r:93:SER:OG	57:r:121:VAL:HG13	2.18	0.44
60:u:55:MET:SD	60:u:60:ARG:N	2.90	0.44
61:v:72:PRO:C	61:v:73:ILE:HD12	2.43	0.44
62:w:12:ARG:NH1	62:w:20:MET:HE1	2.33	0.44
2:1:36:LEU:HD23	2:1:48:LYS:CA	2.48	0.43
3:2:6:ARG:NE	3:2:42:GLU:CD	2.76	0.43
8:7:39:A:O3'	11:AA:688:GLN:NE2	2.51	0.43
11:AA:811:ASN:ND2	11:AA:1098:LEU:O	2.51	0.43
11:AA:998:LEU:HG	11:AA:1011:LEU:HB3	1.99	0.43
14:AE:641:ILE:HD12	14:AE:641:ILE:HA	1.89	0.43
10:B:11:A:H2'	10:B:12:G:O4'	2.18	0.43
10:B:75:C:OP1	40:a:2602:A:C8	2.71	0.43
17:D:33:A:H2'	17:D:34:C:C6	2.53	0.43
17:D:195:A:H5''	18:E:64:LYS:HZ2	1.83	0.43
17:D:415:A:C6	17:D:416:G:C5	3.05	0.43
17:D:622:A:C8	17:D:623:C:C6	3.06	0.43
18:E:60:ARG:O	18:E:64:LYS:HD3	2.18	0.43
21:H:12:SER:O	21:H:16:ILE:HG13	2.18	0.43
21:H:19:ARG:O	21:H:72:LEU:HD13	2.18	0.43
21:H:277:GLY:HA2	21:H:331:MET:HE3	1.97	0.43
22:I:157:LEU:CD1	22:I:166:GLU:OE1	2.66	0.43
24:K:132:ASN:OD1	24:K:134:ILE:HG22	2.18	0.43
25:L:35:LYS:HD2	25:L:36:ILE:H	1.82	0.43
27:N:84:ARG:HD2	27:N:124:GLU:OE1	2.17	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:S:86:GLU:O	32:S:90:ARG:HG2	2.17	0.43
37:X:22:ILE:HG23	37:X:66:GLU:CD	2.43	0.43
38:Y:14:ALA:O	38:Y:15:GLY:C	2.61	0.43
38:Y:45:THR:HG21	38:Y:50:LYS:NZ	2.33	0.43
38:Y:82:ALA:HB3	38:Y:108:ILE:CD1	2.48	0.43
40:a:208:C:H2'	40:a:209:C:C6	2.53	0.43
40:a:372:G:O4'	42:c:61:LYS:NZ	2.44	0.43
40:a:861:A:H2'	40:a:862:G:O4'	2.17	0.43
40:a:1141:U:H4'	40:a:1142:A:O4'	2.18	0.43
40:a:1282:U:H2'	40:a:1283:G:O4'	2.18	0.43
40:a:1443:U:H2'	40:a:1444:G:H8	1.83	0.43
40:a:1613:G:O2'	52:m:3:ARG:CZ	2.64	0.43
40:a:1695:G:N7	47:h:14:ARG:NH2	2.66	0.43
40:a:1753:G:N2	40:a:1755:A:H3'	2.32	0.43
40:a:2845:U:H5''	64:y:52:ASN:O	2.18	0.43
43:d:89:U:O2'	43:d:90:C:P	2.77	0.43
45:f:31:ARG:HG2	45:f:34:HIS:HB2	2.00	0.43
51:l:23:PHE:CE2	51:l:25:GLU:CB	3.01	0.43
51:l:131:THR:HG22	51:l:160:ALA:O	2.18	0.43
51:l:149:ILE:CD1	51:l:188:MET:HG2	2.46	0.43
53:n:117:LEU:N	53:n:177:PHE:O	2.51	0.43
65:z:76:TYR:CZ	65:z:80:ILE:HD11	2.53	0.43
65:z:78:LYS:HG2	65:z:117:LEU:HD21	2.00	0.43
2:1:19:LEU:HD23	2:1:19:LEU:C	2.43	0.43
3:2:56:GLU:OE1	3:2:86:THR:C	2.61	0.43
3:2:56:GLU:CD	3:2:88:LYS:N	2.76	0.43
6:5:18:DG:C4	6:5:19:DC:C5	3.06	0.43
10:A:71:C:H2'	10:A:72:A:N9	2.32	0.43
13:AD:31:LEU:HD21	13:AD:39:LEU:HD12	2.00	0.43
17:D:511:C:C2	17:D:512:U:C6	3.06	0.43
17:D:882:C:O2'	17:D:883:C:H5'	2.19	0.43
17:D:1103:C:O2	20:G:106:THR:HG21	2.18	0.43
17:D:1120:C:H2'	17:D:1121:U:H6	1.83	0.43
17:D:1152:A:OP1	29:P:72:ARG:NH1	2.43	0.43
17:D:1217:C:P	32:S:9:ARG:HE	2.41	0.43
17:D:1329:A:OP1	37:X:28:THR:CB	2.66	0.43
17:D:1333:A:H2'	17:D:1334:G:O4'	2.17	0.43
17:D:1437:A:N3	17:D:1438:G:C8	2.86	0.43
21:H:53:PHE:CE1	21:H:68:VAL:HG21	2.52	0.43
22:I:69:HIS:CD2	22:I:104:ALA:HB3	2.54	0.43
25:L:29:ILE:HD12	25:L:29:ILE:H	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:Q:21:ALA:HB3	30:Q:84:VAL:HG22	1.99	0.43
31:R:110:ARG:N	31:R:111:LYS:HZ3	2.16	0.43
33:T:3:LEU:HD23	33:T:4:SER:N	2.33	0.43
33:T:71:LYS:HZ3	33:T:78:TYR:HD2	1.61	0.43
34:U:12:LYS:HD2	34:U:13:LYS:HG2	2.00	0.43
35:V:31:HIS:NE2	35:V:34:TYR:HD2	2.15	0.43
40:a:133:U:H2'	40:a:134:G:C8	2.54	0.43
40:a:538:A:H2'	40:a:539:G:O4'	2.18	0.43
40:a:870:U:N3	40:a:871:U:C5	2.86	0.43
40:a:1863:G:H2'	40:a:1864:U:H6	1.82	0.43
40:a:1936:A:C8	40:a:1945:G:N7	2.86	0.43
40:a:2092:U:C2	40:a:2225:A:O2'	2.71	0.43
40:a:2093:G:P	57:r:22:LYS:HG2	2.58	0.43
40:a:2492:U:C2'	40:a:2493:U:H5'	2.48	0.43
40:a:2615:U:C2	48:i:4:GLN:HA	2.53	0.43
44:e:59:GLU:CD	44:e:60:LYS:N	2.76	0.43
45:f:4:THR:CG2	45:f:37:GLU:OE2	2.65	0.43
47:h:130:LEU:CD2	47:h:192:LEU:HD21	2.48	0.43
47:h:205:LEU:HD12	47:h:210:ALA:CB	2.44	0.43
55:p:94:TYR:CE1	55:p:152:ARG:CD	3.01	0.43
57:r:90:LEU:HD21	57:r:94:ILE:HD11	2.00	0.43
59:t:18:ARG:NE	59:t:18:ARG:HA	2.33	0.43
62:w:60:VAL:HA	62:w:63:ARG:CZ	2.48	0.43
64:y:106:LYS:CA	64:y:109:ARG:NH2	2.81	0.43
65:z:76:TYR:OH	65:z:92:ARG:HG2	2.18	0.43
1:0:60:LYS:N	1:0:60:LYS:HD3	2.33	0.43
1:0:93:PHE:CD1	1:0:93:PHE:C	2.96	0.43
2:1:1:MET:SD	2:1:62:ASP:OD2	2.76	0.43
2:1:20:VAL:HG11	2:1:47:VAL:HG11	1.99	0.43
3:2:42:GLU:OE1	3:2:42:GLU:HA	2.19	0.43
10:A:53:G:N3	10:A:54:U:C5	2.85	0.43
11:AA:557:ARG:HB3	11:AA:587:LEU:HD13	2.00	0.43
11:AA:829:THR:HG23	11:AA:1059:ARG:HG2	1.99	0.43
12:AB:129:ILE:HG22	12:AB:142:LEU:CB	2.48	0.43
12:AB:145:LEU:C	29:P:88:MET:SD	3.02	0.43
10:B:72:A:C3'	10:B:73:A:H5''	2.47	0.43
16:C:20:GLU:OE1	16:C:21:ILE:O	2.36	0.43
16:C:27:ALA:HB1	16:C:30:LYS:HE3	2.00	0.43
16:C:27:ALA:CA	16:C:30:LYS:HE3	2.49	0.43
17:D:34:C:H2'	17:D:35:G:H8	1.83	0.43
17:D:108:G:H5''	17:D:108:G:N3	2.33	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:323:U:H4'	18:E:17:ALA:HB3	1.99	0.43
17:D:621:A:H2'	17:D:622:A:C8	2.53	0.43
17:D:622:A:C8	17:D:623:C:C5	3.06	0.43
17:D:689:C:H2'	17:D:690:G:O4'	2.19	0.43
17:D:690:G:H2'	17:D:691:G:C8	2.54	0.43
17:D:1120:C:C2	17:D:1121:U:C5	3.06	0.43
18:E:16:LYS:HG3	18:E:19:LYS:HE3	1.98	0.43
19:F:51:SER:OG	19:F:55:ARG:NH2	2.52	0.43
20:G:187:VAL:N	20:G:200:ILE:O	2.40	0.43
21:H:8:LEU:HD12	21:H:11:GLU:OE2	2.18	0.43
21:H:74:ALA:HB3	21:H:83:LEU:HD23	1.99	0.43
22:I:134:MET:HG3	22:I:151:VAL:HG21	2.00	0.43
25:L:16:GLU:H	25:L:16:GLU:CD	2.26	0.43
27:N:89:LYS:HG3	27:N:90:ASP:N	2.31	0.43
28:O:21:ILE:CD1	28:O:86:ALA:CB	2.96	0.43
28:O:80:ARG:O	28:O:84:THR:HG23	2.19	0.43
28:O:86:ALA:C	28:O:89:GLU:HG2	2.43	0.43
31:R:23:ALA:O	31:R:25:GLU:OE1	2.36	0.43
35:V:15:ASP:OD1	35:V:15:ASP:N	2.49	0.43
37:X:14:HIS:HB2	37:X:17:ILE:HD13	1.99	0.43
38:Y:102:ARG:HH21	38:Y:105:LEU:HD12	1.81	0.43
40:a:39:G:H2'	40:a:40:U:C6	2.53	0.43
40:a:577:G:OP1	40:a:2502:G:O2'	2.36	0.43
40:a:677:A:O2'	40:a:2071:A:H5'	2.17	0.43
40:a:963:U:H2'	40:a:964:C:C6	2.53	0.43
40:a:1385:A:C4	40:a:1403:A:C2	3.07	0.43
40:a:1824:G:P	47:h:52:ARG:CZ	3.06	0.43
40:a:1879:C:H2'	40:a:1880:U:O4'	2.18	0.43
40:a:2615:U:H2'	40:a:2616:C:H6	1.83	0.43
40:a:2702:G:C4	40:a:2703:C:C5	3.06	0.43
44:e:13:GLU:C	44:e:17:GLU:OE1	2.61	0.43
45:f:6:LYS:HD3	45:f:6:LYS:N	2.33	0.43
48:i:17:ARG:CA	48:i:20:ASP:OD1	2.66	0.43
50:k:34:LEU:HB3	50:k:51:GLU:OE2	2.19	0.43
54:o:13:ARG:HG2	60:u:62:PRO:O	2.18	0.43
54:o:30:ARG:HH12	60:u:62:PRO:N	2.15	0.43
58:s:132:HIS:HA	58:s:135:GLN:OE1	2.17	0.43
61:v:77:PRO:CG	61:v:80:VAL:HG21	2.40	0.43
61:v:112:LEU:HD12	61:v:112:LEU:N	2.34	0.43
62:w:98:LEU:N	62:w:112:TYR:O	2.51	0.43
1:0:1:MET:HE3	1:0:43:ASN:OD1	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:2:9:LYS:O	3:2:12:ARG:NH2	2.52	0.43
5:4:31:TYR:HE2	43:d:104:A:O4'	2.01	0.43
8:7:1:A:H2'	8:7:2:U:C6	2.50	0.43
9:9:92:ALA:HB3	9:9:129:LEU:HB2	1.99	0.43
10:A:19:G:O6	40:a:2111:U:H3'	2.18	0.43
10:A:71:C:H2'	10:A:72:A:C1'	2.47	0.43
12:AB:4:TRP:CD1	12:AB:93:ILE:HG13	2.53	0.43
12:AB:36:GLU:O	12:AB:36:GLU:HG2	2.18	0.43
12:AB:81:PHE:HZ	14:AE:141:PHE:CB	2.18	0.43
13:AD:192:VAL:HG12	13:AD:193:GLU:H	1.83	0.43
10:B:19:G:N3	10:B:57:A:C4	2.87	0.43
16:C:38:LYS:HA	16:C:38:LYS:CE	2.37	0.43
17:D:404:G:N7	23:J:2:ALA:HB3	2.33	0.43
17:D:671:G:H4'	25:L:79:ARG:HH12	1.83	0.43
18:E:21:ASN:HB3	18:E:25:ARG:CZ	2.48	0.43
19:F:39:GLU:OE2	19:F:44:GLU:HA	2.18	0.43
21:H:123:GLU:HA	21:H:128:ARG:HA	2.00	0.43
22:I:23:PHE:CD2	29:P:97:ASP:HB2	2.53	0.43
23:J:76:TYR:HE1	23:J:86:THR:HG21	1.84	0.43
28:O:91:ASP:HB3	28:O:94:LEU:HG	1.99	0.43
33:T:63:ARG:HD2	33:T:67:LEU:HD21	2.00	0.43
34:U:5:ARG:HA	34:U:71:VAL:HG21	2.01	0.43
36:W:12:ASP:OD2	36:W:35:SER:CB	2.66	0.43
37:X:92:ARG:NH1	40:a:888:C:OP1	2.38	0.43
38:Y:19:PRO:CG	38:Y:23:VAL:CG2	2.95	0.43
38:Y:99:LYS:CE	38:Y:140:GLU:OE2	2.67	0.43
40:a:957:C:H5'	61:v:75:GLU:OE1	2.17	0.43
40:a:1021:A:C2	40:a:1141:U:O4	2.71	0.43
40:a:1114:C:H2'	40:a:1115:G:C8	2.54	0.43
40:a:1223:G:N1	40:a:1226:A:OP2	2.49	0.43
40:a:1360:G:C8	40:a:1361:G:C8	3.06	0.43
40:a:1900:A:N1	40:a:1970:A:C6	2.87	0.43
40:a:2098:U:H2'	40:a:2099:U:O4'	2.17	0.43
40:a:2228:G:H2'	40:a:2229:U:C6	2.54	0.43
40:a:2572:A:OP2	49:j:149:ASN:O	2.35	0.43
40:a:2821:A:C2	40:a:2822:G:C4	3.07	0.43
44:e:24:GLU:O	44:e:28:LEU:HD13	2.17	0.43
47:h:220:VAL:HG23	47:h:225:MET:HE3	2.00	0.43
48:i:55:ILE:HD13	62:w:112:TYR:CE2	2.54	0.43
49:j:81:GLU:O	49:j:82:PHE:HD1	2.01	0.43
50:k:21:TYR:CE2	50:k:38:LYS:HB3	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:n:126:GLY:HA2	53:n:163:ASP:HA	2.01	0.43
55:p:69:ARG:NH1	55:p:73:ASN:ND2	2.66	0.43
55:p:94:TYR:HE1	55:p:152:ARG:HD2	1.83	0.43
57:r:135:HIS:CE1	57:r:137:GLU:OE1	2.62	0.43
59:t:38:ILE:CD1	59:t:112:PHE:HZ	2.30	0.43
60:u:95:LEU:HD13	60:u:100:ILE:HD12	2.01	0.43
4:3:7:ARG:O	4:3:25:VAL:O	2.36	0.43
7:6:24:DA:OP2	7:6:24:DA:C8	2.70	0.43
8:7:4:U:C5	17:D:1403:C:H1'	2.52	0.43
8:7:23:U:C4	14:AE:96:LYS:HE2	2.37	0.43
9:9:35:VAL:O	9:9:35:VAL:HG22	2.19	0.43
9:9:88:HIS:CB	9:9:89:PRO:CD	2.81	0.43
10:A:32:C:O3'	26:M:86:GLN:NE2	2.51	0.43
11:AA:477:GLU:CA	12:AB:72:THR:HG21	2.48	0.43
12:AB:20:HIS:CE1	12:AB:71:ALA:HB3	2.54	0.43
12:AB:50:LEU:HD13	12:AB:100:LYS:CG	2.46	0.43
12:AB:119:THR:HB	12:AB:160:ARG:HB2	2.00	0.43
14:AE:1022:PRO:O	14:AE:1126:GLN:NE2	2.45	0.43
10:B:31:G:H5'	17:D:1339:A:C2	2.54	0.43
16:C:18:VAL:HG13	16:C:51:TYR:HE1	1.83	0.43
17:D:384:G:H2'	17:D:385:C:C6	2.54	0.43
17:D:564:C:OP1	31:R:12:ARG:CZ	2.66	0.43
17:D:1157:A:C2	17:D:1181:G:C5	3.06	0.43
17:D:1325:C:N3	17:D:1326:U:C5	2.86	0.43
17:D:1458:G:OP1	18:E:30:THR:OG1	2.30	0.43
19:F:14:VAL:O	19:F:18:ARG:HG3	2.19	0.43
20:G:96:TRP:CZ2	20:G:100:MET:HE3	2.52	0.43
21:H:332:VAL:O	21:H:333:LEU:HB2	2.18	0.43
22:I:34:ASP:HB2	32:S:65:ARG:CZ	2.48	0.43
25:L:1:MET:HE2	25:L:67:PRO:N	2.34	0.43
25:L:9:MET:HE3	25:L:9:MET:HB3	1.85	0.43
25:L:9:MET:HE3	25:L:86:ARG:N	2.33	0.43
25:L:72:ASP:O	25:L:76:THR:HG23	2.17	0.43
27:N:31:LYS:N	27:N:31:LYS:HD2	2.34	0.43
27:N:35:ALA:HB1	27:N:110:VAL:CG1	2.48	0.43
29:P:52:LEU:HB2	32:S:81:ARG:NH1	2.33	0.43
30:Q:85:MET:HB3	30:Q:113:VAL:HG21	2.00	0.43
33:T:15:PHE:HE2	33:T:30:ALA:HB1	1.82	0.43
34:U:9:HIS:O	34:U:16:PHE:HB3	2.18	0.43
35:V:27:ARG:HH22	35:V:42:THR:N	2.16	0.43
36:W:69:HIS:ND1	36:W:74:PHE:HZ	2.17	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:Y:14:ALA:O	38:Y:16:MET:N	2.51	0.43
38:Y:14:ALA:C	38:Y:50:LYS:HD2	2.44	0.43
38:Y:45:THR:HG21	38:Y:50:LYS:HZ2	1.82	0.43
40:a:15:G:O2'	48:i:15:MET:HE1	2.16	0.43
40:a:74:A:N7	40:a:88:G:C5	2.87	0.43
40:a:969:G:H2'	40:a:970:U:C6	2.53	0.43
40:a:1319:C:O2'	40:a:1320:C:H5'	2.18	0.43
40:a:1565:C:OP1	47:h:18:LYS:HD2	2.19	0.43
40:a:2021:C:OP1	48:i:9:THR:HG21	2.18	0.43
40:a:2025:C:H2'	40:a:2026:U:C6	2.53	0.43
40:a:2273:A:H2'	40:a:2274:A:C8	2.54	0.43
40:a:2547:A:H5'	59:t:29:HIS:NE2	2.34	0.43
49:j:107:VAL:HG13	49:j:177:VAL:HG11	2.00	0.43
49:j:172:VAL:HG11	49:j:175:LEU:HD11	1.99	0.43
51:l:47:LYS:HA	51:l:51:GLU:CD	2.44	0.43
52:m:41:ARG:NE	52:m:41:ARG:HA	2.33	0.43
65:z:12:ALA:O	65:z:16:LYS:HG2	2.19	0.43
8:7:7:U:H6	8:7:7:U:H3'	1.84	0.43
9:9:58:THR:HG23	40:a:1108:U:OP1	2.17	0.43
10:A:19:G:N3	10:A:57:A:C4	2.87	0.43
11:AA:300:ASP:OD1	11:AA:313:ALA:N	2.51	0.43
12:AB:104:ILE:H	12:AB:104:ILE:HG12	1.36	0.43
14:AE:412:LEU:HA	14:AE:415:VAL:HG22	2.01	0.43
14:AE:708:ASN:N	14:AE:708:ASN:OD1	2.50	0.43
17:D:381:C:H2'	17:D:382:A:O4'	2.19	0.43
17:D:429:U:O2	17:D:430:A:N7	2.50	0.43
17:D:562:U:C3'	31:R:14:ARG:NH1	2.81	0.43
17:D:598:U:C2	17:D:599:C:C5	3.06	0.43
17:D:642:A:C5	17:D:643:C:C5	3.06	0.43
17:D:792:A:H1'	17:D:794:A:N7	2.34	0.43
17:D:1125:U:N3	17:D:1127:G:C8	2.86	0.43
17:D:1184:G:C2	17:D:1185:G:C8	3.07	0.43
17:D:1276:G:O5'	17:D:1276:G:H8	2.02	0.43
18:E:22:ALA:CA	18:E:25:ARG:HE	2.31	0.43
19:F:3:VAL:HG22	30:Q:111:THR:HG23	2.01	0.43
21:H:49:PRO:HD3	21:H:84:LEU:HD21	1.99	0.43
25:L:2:ARG:HB2	25:L:4:TYR:CE1	2.53	0.43
28:O:51:PRO:HB3	28:O:103:PHE:HD2	1.83	0.43
35:V:63:GLU:HB2	35:V:73:TRP:CZ2	2.54	0.43
37:X:90:ARG:NH1	37:X:96:PRO:O	2.51	0.43
40:a:66:C:H42	40:a:74:A:H62	1.67	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:196:A:C5	40:a:805:G:C6	3.07	0.43
40:a:841:G:C6	40:a:938:G:C6	3.06	0.43
40:a:1095:A:O2'	40:a:1096:A:O4'	2.36	0.43
40:a:1409:U:C2	40:a:1410:G:C8	3.06	0.43
40:a:1506:U:H2'	40:a:1507:C:C6	2.54	0.43
40:a:2392:A:N3	60:u:55:MET:HE2	2.34	0.43
40:a:2466:C:C2	40:a:2467:C:C5	3.06	0.43
40:a:2523:G:HO2'	40:a:2764:A:HO2'	1.66	0.43
40:a:2859:G:H2'	40:a:2860:A:C8	2.54	0.43
42:c:76:GLU:CD	42:c:76:GLU:C	2.87	0.43
43:d:39:A:C2	43:d:44:G:C2	3.07	0.43
43:d:69:G:C5	43:d:70:C:C6	3.06	0.43
44:e:56:LEU:C	44:e:59:GLU:HG3	2.44	0.43
47:h:183:LYS:CE	47:h:265:LYS:O	2.67	0.43
49:j:61:THR:OG1	49:j:63:PRO:HD2	2.18	0.43
49:j:61:THR:HG23	49:j:63:PRO:HD2	2.00	0.43
51:l:105:LEU:O	51:l:109:LEU:HG	2.18	0.43
52:m:26:ASN:HA	52:m:29:GLN:HE21	1.83	0.43
55:p:149:ARG:HD2	55:p:162:VAL:O	2.18	0.43
58:s:124:VAL:O	58:s:125:TYR:HD1	2.01	0.43
61:v:74:THR:HA	61:v:88:ASN:O	2.19	0.43
63:x:50:ALA:O	63:x:81:ARG:NH2	2.51	0.43
64:y:106:LYS:CB	64:y:109:ARG:HH22	2.32	0.43
2:1:99:ARG:CZ	2:1:99:ARG:HB2	2.49	0.43
9:9:70:GLU:HG3	9:9:71:CYS:N	2.34	0.43
9:9:77:VAL:O	9:9:77:VAL:CG1	2.66	0.43
9:9:129:LEU:H	9:9:129:LEU:HG	1.72	0.43
9:9:129:LEU:CD1	9:9:130:PRO:HD3	2.45	0.43
10:A:11:A:H2'	10:A:12:G:C8	2.54	0.43
10:A:22:G:OP2	10:A:22:G:C8	2.72	0.43
11:AA:469:VAL:O	11:AA:473:ARG:CG	2.45	0.43
11:AA:477:GLU:CD	11:AA:477:GLU:C	2.85	0.43
12:AB:131:THR:H	12:AB:140:MET:HE2	1.83	0.43
16:C:54:GLN:HA	16:C:57:ARG:NH1	2.33	0.43
17:D:5:U:O2	17:D:5:U:O4'	2.37	0.43
17:D:13:U:N3	17:D:915:A:C6	2.86	0.43
17:D:21:G:H2'	17:D:22:G:C8	2.54	0.43
17:D:375:U:OP2	34:U:70:ARG:NE	2.51	0.43
17:D:393:A:C2	17:D:394:G:C8	3.07	0.43
17:D:674:G:H2'	17:D:675:A:H8	1.84	0.43
17:D:679:C:N3	17:D:680:C:C5	2.87	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:1160:G:C6	17:D:1161:C:C5	3.06	0.43
17:D:1208:C:C2	17:D:1209:C:C6	3.07	0.43
17:D:1244:G:C6	17:D:1294:G:C6	3.06	0.43
18:E:54:MET:CE	18:E:75:HIS:CE1	2.99	0.43
21:H:52:GLN:OE1	21:H:52:GLN:HA	2.18	0.43
22:I:14:ILE:HG13	22:I:178:LEU:HD21	1.99	0.43
22:I:152:GLU:OE2	22:I:165:THR:HG23	2.18	0.43
23:J:69:GLU:HA	23:J:72:PHE:HD2	1.83	0.43
26:M:23:LEU:H	26:M:23:LEU:CD1	2.30	0.43
31:R:18:LYS:HD3	31:R:19:SER:N	2.33	0.43
31:R:57:LEU:HD23	31:R:59:ASN:CG	2.43	0.43
31:R:80:ILE:CG2	31:R:81:LEU:N	2.82	0.43
34:U:4:ILE:N	34:U:4:ILE:HD12	2.34	0.43
34:U:8:ARG:HD3	34:U:17:TYR:CE1	2.54	0.43
38:Y:33:ASN:OD1	38:Y:35:MET:HE2	2.18	0.43
38:Y:82:ALA:HB3	38:Y:108:ILE:HD12	2.01	0.43
40:a:125:A:C6	52:m:10:LEU:HD13	2.54	0.43
40:a:782:A:C6	47:h:225:MET:HE2	2.53	0.43
40:a:1707:G:C5	40:a:1708:C:C5	3.07	0.43
40:a:1946:U:H2'	40:a:1947:C:H6	1.84	0.43
40:a:1996:C:OP1	59:t:31:ARG:NE	2.52	0.43
40:a:1996:C:OP1	59:t:31:ARG:NH2	2.51	0.43
40:a:1997:C:OP1	49:j:128:ARG:NH1	2.51	0.43
40:a:2175:C:H2'	40:a:2176:A:N7	2.33	0.43
40:a:2462:C:C2	40:a:2463:C:C5	3.07	0.43
40:a:2768:U:OP1	58:s:85:LYS:HE3	2.19	0.43
43:d:48:U:P	63:x:30:ARG:HH22	2.41	0.43
43:d:55:U:O2'	53:n:26:MET:CE	2.67	0.43
48:i:17:ARG:CB	48:i:20:ASP:OD1	2.67	0.43
51:l:170:ARG:NH1	51:l:175:ILE:HA	2.34	0.43
53:n:66:LEU:HD23	53:n:67:ILE:N	2.34	0.43
53:n:136:ILE:HA	53:n:141:ILE:HG21	2.01	0.43
58:s:1:MET:SD	58:s:2:LYS:C	3.02	0.43
59:t:59:LYS:NZ	59:t:92:GLU:CG	2.82	0.43
61:v:96:ILE:HA	61:v:100:LYS:HE3	2.00	0.43
62:w:56:LYS:NZ	62:w:90:ARG:O	2.47	0.43
3:2:6:ARG:HE	3:2:42:GLU:CD	2.27	0.43
8:7:34:G:C2'	8:7:35:U:H5'	2.49	0.43
9:9:27:VAL:HG12	9:9:83:ALA:HB3	2.01	0.43
10:A:35:A:H2'	10:A:36:U:O4'	2.18	0.43
11:AA:22:LEU:HB3	11:AA:655:VAL:HG11	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:1157:GLN:HG3	11:AA:1159:VAL:HG13	2.00	0.43
12:AB:81:PHE:CZ	14:AE:141:PHE:HB2	2.54	0.43
12:AB:154:VAL:HG13	12:AB:158:GLU:HB2	1.99	0.43
13:AD:29:GLU:HB3	13:AD:200:LYS:HG3	1.99	0.43
13:AD:78:ILE:HA	13:AD:81:ILE:HG22	2.01	0.43
14:AE:79:LYS:HG3	14:AE:81:ARG:HH12	1.83	0.43
14:AE:1036:ARG:HE	14:AE:1081:VAL:HG21	1.84	0.43
10:B:57:A:O5'	10:B:58:A:P	2.77	0.43
17:D:563:A:C2	17:D:567:G:C6	3.07	0.43
17:D:610:U:C2	17:D:611:C:C6	3.06	0.43
17:D:754:C:O5'	33:T:72:ARG:NH1	2.51	0.43
17:D:1073:U:O2	20:G:103:ASN:ND2	2.52	0.43
17:D:1107:C:OP1	22:I:172:ARG:HG3	2.19	0.43
17:D:1317:C:OP2	32:S:28:LYS:CE	2.67	0.43
18:E:60:ARG:HG3	18:E:64:LYS:NZ	2.34	0.43
19:F:31:GLU:CD	19:F:34:ARG:NH2	2.77	0.43
21:H:308:GLU:HG2	21:H:309:MET:N	2.32	0.43
24:K:16:ILE:HD11	24:K:38:VAL:CG1	2.46	0.43
27:N:3:MET:HE3	27:N:3:MET:HB3	1.84	0.43
30:Q:47:ALA:O	30:Q:52:PHE:HB2	2.19	0.43
30:Q:83:GLU:OE1	30:Q:83:GLU:N	2.51	0.43
40:a:78:U:C5'	44:e:4:LYS:NZ	2.81	0.43
40:a:407:G:C2	40:a:408:G:C8	3.07	0.43
40:a:910:A:H8	61:v:12:MET:CE	2.31	0.43
40:a:2305:U:H5''	53:n:131:GLY:HA3	2.00	0.43
40:a:2391:G:P	54:o:32:ILE:CD1	3.06	0.43
40:a:2477:U:O2	56:q:4:ARG:NH2	2.51	0.43
40:a:2846:G:H2'	40:a:2847:U:O4'	2.19	0.43
43:d:46:A:C5	43:d:47:C:C5	3.06	0.43
45:f:10:THR:CB	45:f:56:LYS:NZ	2.81	0.43
46:g:59:ARG:HH11	46:g:63:ARG:CD	2.31	0.43
47:h:45:ASN:OD1	47:h:46:ASN:N	2.51	0.43
51:l:6:LYS:HZ2	51:l:119:ILE:HA	1.83	0.43
53:n:15:LYS:C	53:n:19:GLU:OE1	2.61	0.43
53:n:20:PHE:HB3	53:n:22:TYR:CE1	2.54	0.43
55:p:70:ALA:HA	55:p:73:ASN:HD22	1.84	0.43
58:s:28:LEU:HD12	58:s:142:ILE:HG21	2.01	0.43
59:t:116:ILE:HG13	59:t:117:SER:N	2.34	0.43
60:u:122:VAL:CG1	60:u:125:LEU:CD2	2.90	0.43
61:v:105:MET:HE1	61:v:113:ALA:HA	2.01	0.43
61:v:111:GLU:HG2	61:v:112:LEU:N	2.33	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:74:ILE:HD12	2:1:74:ILE:N	2.34	0.43
4:3:7:ARG:HG3	4:3:8:ASP:N	2.33	0.43
4:3:7:ARG:NH2	40:a:84:A:O2'	2.51	0.43
11:AA:712:SER:OG	11:AA:713:GLY:N	2.49	0.43
12:AB:51:PHE:HE2	14:AE:288:PRO:HG2	1.79	0.43
10:B:35:A:H2'	10:B:36:U:O4'	2.18	0.43
16:C:60:LYS:NZ	17:D:735:C:O5'	2.52	0.43
17:D:43:C:P	34:U:12:LYS:HE3	2.59	0.43
17:D:250:A:O4'	17:D:252:U:C6	2.72	0.43
17:D:283:U:C2	17:D:284:C:C6	3.06	0.43
17:D:723:U:C2	19:F:49:LYS:HE3	2.54	0.43
17:D:739:C:O2'	33:T:42:HIS:CE1	2.68	0.43
17:D:892:A:H2'	17:D:893:C:H6	1.83	0.43
17:D:1149:C:N3	17:D:1150:A:N7	2.67	0.43
17:D:1194:U:H2'	17:D:1195:C:C6	2.54	0.43
20:G:131:LYS:O	20:G:135:LEU:HD13	2.19	0.43
21:H:19:ARG:HD3	21:H:19:ARG:N	2.32	0.43
21:H:303:LEU:CD2	21:H:305:HIS:HB3	2.48	0.43
22:I:132:ARG:CB	22:I:135:LYS:HE3	2.49	0.43
24:K:97:GLN:NE2	24:K:98:PRO:O	2.52	0.43
27:N:10:MET:HB2	27:N:33:LYS:HZ2	1.83	0.43
28:O:89:GLU:HG3	28:O:90:TYR:N	2.33	0.43
30:Q:63:ALA:CB	30:Q:92:GLY:HA3	2.48	0.43
30:Q:91:PRO:HD2	30:Q:92:GLY:H	1.83	0.43
31:R:21:VAL:HG23	31:R:21:VAL:O	2.19	0.43
39:Z:29:LYS:O	39:Z:30:PHE:HD2	2.02	0.43
40:a:479:A:H4'	40:a:480:A:OP1	2.18	0.43
40:a:531:C:C5	40:a:2035:G:C2	3.07	0.43
40:a:579:G:H2'	40:a:580:U:C6	2.53	0.43
40:a:996:A:N6	40:a:1160:G:C6	2.87	0.43
40:a:1406:U:O2'	40:a:1407:G:C5'	2.66	0.43
40:a:1657:U:C2	40:a:1658:C:C5	3.06	0.43
40:a:1770:G:C5	40:a:1983:G:C6	3.07	0.43
40:a:1778:U:C4	40:a:1784:A:C4	3.07	0.43
40:a:1839:G:O4'	40:a:1927:A:O4'	2.37	0.43
40:a:2049:G:H21	49:j:161:MET:HE2	1.84	0.43
40:a:2529:G:N7	56:q:32:LYS:NZ	2.63	0.43
40:a:2590:A:H2'	40:a:2591:C:H6	1.83	0.43
40:a:2665:A:C2	40:a:2666:C:C6	3.07	0.43
46:g:47:LYS:CE	53:n:115:ARG:HA	2.49	0.43
47:h:94:VAL:HG12	47:h:95:LEU:N	2.34	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:n:73:SER:OG	53:n:80:ARG:HA	2.19	0.43
53:n:79:ILE:O	53:n:79:ILE:HG13	2.18	0.43
53:n:94:GLU:CA	53:n:97:TRP:HE3	2.31	0.43
53:n:104:ILE:HD11	53:n:174:ASP:O	2.19	0.43
59:t:110:GLU:OE1	59:t:110:GLU:HA	2.19	0.43
59:t:118:LEU:O	59:t:119:ALA:C	2.62	0.43
61:v:53:MET:O	61:v:57:VAL:HG12	2.19	0.43
3:2:3:ARG:HG3	3:2:5:GLU:OE1	2.19	0.43
5:4:80:HIS:HE1	5:4:82:TYR:CG	2.37	0.43
6:5:20:DC:H1'	6:5:21:DA:H5'	2.00	0.43
10:A:19:G:N2	40:a:2112:G:C1'	2.82	0.43
12:AB:21:LEU:HD11	12:AB:57:VAL:CG1	2.43	0.43
12:AB:33:ILE:HG21	12:AB:50:LEU:HD12	2.01	0.43
14:AE:117:LEU:HG	14:AE:118:LYS:HG3	2.00	0.43
14:AE:975:ILE:HG22	14:AE:977:SER:H	1.83	0.43
17:D:76:G:C5	17:D:77:A:C8	3.06	0.43
17:D:246:A:C2	17:D:282:A:C4	3.06	0.43
17:D:323:U:H2'	17:D:324:G:O4'	2.19	0.43
17:D:1127:G:C6	17:D:1128:C:C5	3.07	0.43
18:E:9:LYS:CG	18:E:13:GLN:NE2	2.82	0.43
20:G:23:TRP:CZ3	20:G:25:PRO:CA	3.01	0.43
21:H:124:LEU:O	21:H:127:ILE:O	2.36	0.43
21:H:305:HIS:CG	21:H:306:VAL:H	2.36	0.43
22:I:22:TRP:CH2	22:I:32:ASN:HB2	2.54	0.43
23:J:117:LEU:HD23	23:J:154:ARG:HH21	1.84	0.43
24:K:45:ARG:CG	24:K:45:ARG:NE	2.72	0.43
36:W:44:MET:HE1	36:W:62:VAL:HG22	2.01	0.43
38:Y:99:LYS:HD2	38:Y:140:GLU:OE2	2.19	0.43
38:Y:126:ARG:NH2	40:a:1082:U:O3'	2.47	0.43
40:a:271:G:C2	40:a:272:A:C5	3.07	0.43
40:a:310:A:C2	40:a:330:A:C4	3.07	0.43
40:a:471:A:H2'	40:a:472:A:O4'	2.19	0.43
40:a:997:G:H5''	65:z:92:ARG:NH1	2.34	0.43
40:a:1509:A:N3	40:a:1510:G:C8	2.87	0.43
43:d:31:C:C2	43:d:32:U:C5	3.06	0.43
43:d:57:A:C4	43:d:58:A:C8	3.07	0.43
44:e:37:LEU:HD21	44:e:43:LEU:CD2	2.49	0.43
49:j:57:ALA:O	49:j:60:VAL:HG12	2.19	0.43
52:m:25:LYS:O	52:m:28:ARG:N	2.52	0.43
60:u:95:LEU:HD12	60:u:100:ILE:HG21	1.99	0.43
62:w:58:ASP:HB2	62:w:80:PHE:CE1	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
63:x:14:ALA:O	63:x:15:ARG:C	2.61	0.43
2:1:31:GLN:H	2:1:31:GLN:CD	2.22	0.42
5:4:57:TYR:HD2	61:v:136:MET:HE2	1.82	0.42
9:9:24:SER:O	9:9:96:PHE:CE1	2.72	0.42
10:A:47:U:O2'	10:A:50:U:OP1	2.37	0.42
11:AA:694:ARG:HH22	13:AC:80:GLU:HG3	1.82	0.42
12:AB:8:TYR:CD1	12:AB:53:ASN:HB2	2.54	0.42
12:AB:21:LEU:HD23	12:AB:21:LEU:HA	1.83	0.42
12:AB:124:GLU:OE2	14:AE:45:ASN:ND2	2.52	0.42
14:AE:362:ARG:H	14:AE:365:GLN:HE21	1.66	0.42
17:D:68:G:H3'	17:D:69:G:H5''	2.01	0.42
17:D:415:A:C4	17:D:416:G:C8	3.07	0.42
17:D:416:G:C4	17:D:417:G:C8	3.07	0.42
17:D:539:A:H2'	17:D:540:G:C8	2.54	0.42
17:D:611:C:N3	17:D:612:C:C5	2.87	0.42
17:D:789:U:O2'	17:D:791:G:N7	2.45	0.42
17:D:796:C:N3	17:D:797:C:C5	2.87	0.42
17:D:986:U:H2'	17:D:987:G:C8	2.53	0.42
17:D:1006:G:H2'	17:D:1007:U:H6	1.81	0.42
17:D:1464:U:C2	17:D:1465:A:C8	3.07	0.42
19:F:58:LYS:O	19:F:62:ARG:NE	2.45	0.42
20:G:208:ARG:NH1	20:G:211:THR:CG2	2.82	0.42
27:N:66:PHE:C	27:N:67:GLN:OE1	2.62	0.42
29:P:45:ARG:HD3	29:P:47:GLU:OE2	2.18	0.42
31:R:25:GLU:OE2	31:R:30:LYS:HE3	2.18	0.42
37:X:64:VAL:O	37:X:64:VAL:HG13	2.19	0.42
37:X:71:ARG:NH1	37:X:72:GLU:HG3	2.33	0.42
37:X:101:ARG:C	37:X:103:LYS:H	2.26	0.42
38:Y:99:LYS:CE	38:Y:138:VAL:O	2.67	0.42
40:a:153:U:H2'	40:a:154:U:C6	2.53	0.42
40:a:396:G:OP2	42:c:10:LYS:NZ	2.45	0.42
40:a:533:G:H2'	40:a:534:U:C6	2.54	0.42
40:a:536:G:H4'	65:z:57:PHE:CZ	2.53	0.42
40:a:580:U:C2	40:a:581:C:C5	3.07	0.42
40:a:1361:G:H2'	40:a:1362:C:C6	2.54	0.42
40:a:1792:G:H5'	47:h:204:VAL:CG2	2.49	0.42
40:a:1956:U:C2	40:a:1957:C:C6	3.06	0.42
40:a:2387:U:C4'	41:b:41:ARG:NH1	2.81	0.42
40:a:2806:C:H2'	40:a:2807:U:O4'	2.18	0.42
43:d:39:A:C2	43:d:44:G:C4	3.07	0.42
46:g:47:LYS:HZ1	53:n:115:ARG:HA	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:j:55:LYS:HZ2	49:j:60:VAL:N	2.17	0.42
54:o:33:LEU:O	54:o:41:LYS:NZ	2.45	0.42
55:p:85:LYS:HD2	55:p:85:LYS:HA	1.77	0.42
61:v:104:GLU:OE1	61:v:104:GLU:HA	2.17	0.42
2:1:36:LEU:CD2	2:1:48:LYS:HA	2.48	0.42
4:3:6:ARG:CG	4:3:7:ARG:H	2.31	0.42
8:7:12:U:H4'	24:K:56:VAL:HG11	2.02	0.42
9:9:18:VAL:HG13	9:9:71:CYS:HB2	2.00	0.42
9:9:69:PHE:O	9:9:72:LEU:HD11	2.20	0.42
12:AB:38:ILE:HD12	12:AB:110:PRO:CG	2.29	0.42
12:AB:120:GLU:CG	14:AE:47:ARG:HD3	2.42	0.42
12:AB:134:ASP:CG	12:AB:137:ALA:HB3	2.44	0.42
14:AE:97:VAL:HG12	14:AE:101:ARG:HG3	2.01	0.42
14:AE:694:SER:OG	14:AE:738:ARG:NE	2.52	0.42
16:C:29:LEU:CD2	16:C:59:ILE:HD13	2.48	0.42
16:C:73:ARG:NH1	30:Q:113:VAL:CG1	2.76	0.42
17:D:771:G:H2'	17:D:772:U:C6	2.54	0.42
17:D:1172:C:C2	17:D:1173:U:C5	3.08	0.42
17:D:1328:C:H5''	37:X:28:THR:HG21	2.01	0.42
17:D:1408:A:H2'	17:D:1409:C:H6	1.84	0.42
18:E:78:ASN:O	18:E:82:GLN:CD	2.61	0.42
19:F:32:VAL:HG11	30:Q:89:PRO:HG3	1.99	0.42
19:F:66:ARG:NH2	19:F:67:ARG:NH2	2.66	0.42
20:G:110:SER:OG	20:G:113:ARG:NH2	2.47	0.42
20:G:134:ALA:HA	20:G:137:ARG:HE	1.83	0.42
21:H:308:GLU:OE1	21:H:308:GLU:N	2.53	0.42
21:H:330:VAL:HB	21:H:344:LEU:HD23	2.01	0.42
23:J:41:HIS:ND1	23:J:44:ARG:CZ	2.82	0.42
23:J:67:VAL:CG1	23:J:71:GLN:HB3	2.50	0.42
27:N:10:MET:CG	27:N:27:MET:HE1	2.47	0.42
27:N:47:GLU:OE1	27:N:63:LEU:C	2.62	0.42
28:O:35:LEU:CD2	28:O:45:ARG:HG2	2.49	0.42
30:Q:64:GLN:HB2	30:Q:99:ALA:HB2	2.01	0.42
33:T:15:PHE:HD2	33:T:30:ALA:CB	2.31	0.42
36:W:40:ILE:HG22	36:W:67:VAL:HA	2.01	0.42
37:X:71:ARG:CZ	46:g:50:ASP:O	2.67	0.42
40:a:301:G:C4	40:a:302:C:C5	3.07	0.42
40:a:587:C:O2	60:u:33:ARG:NH2	2.52	0.42
40:a:666:A:H1'	54:o:4:ILE:CD1	2.47	0.42
40:a:729:G:C8	47:h:207:LYS:HD2	2.54	0.42
40:a:1141:U:O2	40:a:1142:A:N6	2.52	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:1342:A:O2'	40:a:1344:U:OP2	2.31	0.42
40:a:2061:G:N3	40:a:2063:C:C5	2.87	0.42
40:a:2297:A:C2	40:a:2321:U:C5	3.07	0.42
49:j:16:THR:HG23	49:j:20:VAL:O	2.19	0.42
49:j:100:LEU:O	49:j:100:LEU:HD12	2.19	0.42
49:j:104:VAL:HG12	49:j:105:LYS:N	2.33	0.42
49:j:181:ASP:HB3	49:j:186:LEU:HB2	1.99	0.42
56:q:3:VAL:HG12	56:q:36:ARG:HB3	2.00	0.42
61:v:31:PHE:C	61:v:104:GLU:OE1	2.62	0.42
3:2:76:ARG:CZ	3:2:77:ARG:O	2.67	0.42
4:3:35:ILE:HD11	4:3:62:GLU:C	2.44	0.42
9:9:23:LEU:CA	9:9:118:ILE:HD11	2.50	0.42
10:A:57:A:O5'	10:A:58:A:P	2.77	0.42
12:AB:141:LEU:HD13	12:AB:159:PHE:CD1	2.45	0.42
14:AE:658:GLU:HA	14:AE:661:VAL:HG22	2.00	0.42
10:B:22:G:C8	10:B:22:G:OP2	2.72	0.42
17:D:105:G:C5	17:D:106:C:C4	3.08	0.42
17:D:235:C:H2'	17:D:236:A:H8	1.83	0.42
17:D:619:U:O4'	23:J:128:ARG:CZ	2.67	0.42
17:D:986:U:H2'	17:D:987:G:O4'	2.20	0.42
17:D:1174:G:H2'	17:D:1175:G:H5'	2.01	0.42
17:D:1381:U:C4	17:D:1382:C:C5	3.07	0.42
17:D:1436:U:C2	17:D:1437:A:C8	3.07	0.42
17:D:1499:A:H2'	17:D:1500:A:H8	1.84	0.42
20:G:26:LYS:CE	20:G:193:PRO:HG2	2.49	0.42
20:G:30:PHE:CE1	20:G:201:PRO:HG3	2.53	0.42
21:H:76:GLU:OE2	21:H:78:GLY:C	2.61	0.42
21:H:135:LEU:CB	21:H:157:ILE:CB	2.97	0.42
22:I:54:ARG:NH1	22:I:69:HIS:NE2	2.66	0.42
22:I:156:ARG:O	22:I:156:ARG:HG3	2.19	0.42
23:J:139:PRO:N	23:J:182:PHE:CE2	2.88	0.42
26:M:99:LEU:O	26:M:103:TRP:CG	2.73	0.42
28:O:56:ASP:OD1	28:O:56:ASP:N	2.51	0.42
31:R:3:THR:O	31:R:4:VAL:C	2.62	0.42
35:V:43:LYS:C	35:V:44:LEU:HD12	2.45	0.42
40:a:16:C:O4'	48:i:15:MET:HE1	2.20	0.42
40:a:39:G:H2'	40:a:40:U:H6	1.83	0.42
40:a:192:C:C5	40:a:193:U:C6	3.07	0.42
40:a:320:A:N3	51:l:163:ASN:ND2	2.67	0.42
40:a:858:G:OP1	41:b:78:LYS:HE3	2.18	0.42
40:a:1065:U:O2'	40:a:1066:U:P	2.77	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:1074:G:C6	40:a:1075:C:N4	2.87	0.42
40:a:1080:A:C6	40:a:1081:U:C4	3.08	0.42
40:a:1789:A:OP2	47:h:221:ARG:NH1	2.52	0.42
40:a:2332:C:P	41:b:77:ARG:HH21	2.42	0.42
40:a:2585:U:O2	40:a:2585:U:O4'	2.37	0.42
40:a:2884:U:C2	48:i:40:ARG:CZ	3.02	0.42
42:c:3:ARG:CD	42:c:30:LEU:HD11	2.50	0.42
43:d:83:G:O4'	45:f:53:PHE:CE2	2.72	0.42
47:h:71:LYS:HB2	47:h:96:TYR:CZ	2.54	0.42
53:n:93:GLY:O	53:n:94:GLU:C	2.61	0.42
54:o:45:ARG:HB3	54:o:46:PRO:HD3	2.02	0.42
59:t:7:MET:SD	59:t:18:ARG:HG3	2.59	0.42
59:t:7:MET:C	59:t:18:ARG:NH1	2.77	0.42
62:w:33:ILE:CD1	62:w:112:TYR:HD1	2.32	0.42
62:w:96:ARG:O	62:w:113:ILE:HA	2.18	0.42
63:x:88:LYS:O	63:x:116:GLN:OE1	2.38	0.42
2:1:95:ARG:C	2:1:95:ARG:HD2	2.44	0.42
11:AA:125:GLY:H	11:AA:495:ALA:HB1	1.84	0.42
12:AB:16:ARG:HB3	12:AB:73:ARG:CD	2.45	0.42
16:C:30:LYS:HA	16:C:33:ILE:HG12	2.01	0.42
16:C:33:ILE:O	21:H:338:GLU:HB3	2.19	0.42
16:C:40:VAL:HG13	21:H:339:ARG:CD	2.49	0.42
17:D:122:G:C4	17:D:123:U:C6	3.08	0.42
17:D:505:G:C2	17:D:506:G:C5	3.07	0.42
17:D:662:U:H2'	17:D:663:A:C8	2.55	0.42
17:D:1104:G:H4'	20:G:113:ARG:HH22	1.83	0.42
17:D:1410:A:H2'	17:D:1411:C:C6	2.54	0.42
17:D:1493:A:O2'	17:D:1494:G:P	2.78	0.42
17:D:1526:G:P	19:F:42:THR:HG23	2.59	0.42
20:G:30:PHE:CG	20:G:45:LYS:NZ	2.87	0.42
23:J:170:TRP:CD1	23:J:171:LEU:HG	2.54	0.42
25:L:88:MET:SD	25:L:90:MET:HE3	2.60	0.42
30:Q:20:VAL:CG1	30:Q:21:ALA:N	2.82	0.42
30:Q:84:VAL:HG11	30:Q:97:ILE:HD13	2.00	0.42
33:T:10:LYS:HE2	33:T:10:LYS:HA	2.00	0.42
33:T:70:LEU:HG	33:T:78:TYR:HB2	2.02	0.42
37:X:71:ARG:NH1	46:g:51:VAL:O	2.52	0.42
40:a:136:G:H2'	40:a:137:U:C6	2.54	0.42
40:a:340:A:H2'	40:a:341:C:O4'	2.19	0.42
40:a:749:A:H2'	40:a:749:A:N3	2.35	0.42
40:a:938:G:C2	40:a:939:G:C8	3.08	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:1144:A:C5	40:a:1145:C:C5	3.07	0.42
40:a:1365:A:H4'	42:c:11:ARG:HH12	1.85	0.42
40:a:1665:A:O3'	59:t:66:LYS:CD	2.67	0.42
40:a:2072:C:C2	40:a:2073:C:C5	3.08	0.42
40:a:2223:G:OP1	47:h:171:TYR:OH	2.37	0.42
40:a:2571:U:O2'	49:j:151:THR:HG23	2.20	0.42
40:a:2756:U:N3	40:a:2758:A:C6	2.87	0.42
43:d:57:A:N7	53:n:26:MET:CE	2.82	0.42
48:i:4:GLN:OE1	48:i:8:PRO:HD3	2.19	0.42
48:i:55:ILE:CD1	62:w:112:TYR:CD2	3.02	0.42
49:j:170:VAL:HG13	49:j:194:PRO:CG	2.50	0.42
50:k:7:GLU:OE2	50:k:27:LYS:N	2.50	0.42
50:k:9:ILE:HD12	50:k:51:GLU:HG2	2.01	0.42
52:m:4:THR:HG23	52:m:5:PHE:N	2.34	0.42
57:r:8:LYS:NZ	57:r:9:VAL:O	2.52	0.42
58:s:125:TYR:CD2	58:s:130:HIS:HB3	2.54	0.42
59:t:1:MET:HE1	59:t:32:TYR:CB	2.49	0.42
63:x:79:ALA:CB	63:x:113:ALA:HB3	2.49	0.42
65:z:14:HIS:O	65:z:18:LEU:HD23	2.18	0.42
1:0:47:VAL:C	1:0:48:LYS:HD3	2.45	0.42
8:7:23:U:O3'	14:AE:94:GLN:CG	2.62	0.42
9:9:4:ASN:HB3	9:9:8:LYS:HZ2	1.83	0.42
11:AA:646:SER:OG	11:AA:647:ARG:N	2.52	0.42
12:AB:141:LEU:HB2	12:AB:143:LEU:HD11	2.01	0.42
12:AB:148:LYS:HZ2	29:P:6:ILE:CG1	2.31	0.42
14:AE:836:ARG:HG3	14:AE:869:CYS:HB3	2.02	0.42
10:B:11:A:H2'	10:B:12:G:C8	2.54	0.42
17:D:320:A:H2'	17:D:321:A:O4'	2.19	0.42
17:D:603:U:C2	17:D:604:G:C8	3.08	0.42
17:D:684:U:H2'	17:D:685:G:O4'	2.19	0.42
17:D:1202:U:N3	32:S:82:ILE:HD13	2.35	0.42
18:E:22:ALA:N	18:E:25:ARG:HE	2.17	0.42
24:K:15:LEU:HD23	24:K:15:LEU:H	1.84	0.42
24:K:157:ARG:HG2	24:K:159:LYS:HD3	2.01	0.42
24:K:157:ARG:NH2	27:N:43:GLU:OE2	2.46	0.42
25:L:14:GLN:NE2	25:L:83:ALA:HB2	2.35	0.42
26:M:138:ARG:O	26:M:142:HIS:ND1	2.46	0.42
28:O:50:GLN:OE1	28:O:50:GLN:HA	2.20	0.42
29:P:40:ILE:HD12	29:P:73:LEU:HD22	2.02	0.42
29:P:64:GLN:HG2	32:S:101:TRP:HH2	1.84	0.42
31:R:25:GLU:O	31:R:25:GLU:HG2	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:R:66:TYR:CE2	31:R:68:GLY:HA2	2.55	0.42
33:T:63:ARG:HD2	33:T:67:LEU:HD23	2.01	0.42
34:U:7:ALA:HA	34:U:28:ARG:HD3	2.01	0.42
35:V:48:ASP:HB3	35:V:75:LEU:CD2	2.49	0.42
37:X:3:ARG:CZ	53:n:110:ARG:HD2	2.49	0.42
38:Y:64:ARG:O	38:Y:64:ARG:HG3	2.17	0.42
40:a:197:A:N6	40:a:2430:A:H2'	2.34	0.42
40:a:353:C:C2	40:a:354:A:C8	3.07	0.42
40:a:553:G:C5	40:a:554:U:C5	3.07	0.42
40:a:573:U:O2'	40:a:574:A:H3'	2.19	0.42
40:a:1588:G:N1	40:a:1589:U:O4	2.53	0.42
40:a:1964:G:H4'	40:a:1965:C:OP2	2.19	0.42
40:a:2554:U:H2'	40:a:2555:U:C6	2.55	0.42
49:j:156:PHE:CE2	58:s:81:ILE:HD13	2.54	0.42
53:n:38:MET:HE3	53:n:57:LEU:CG	2.49	0.42
54:o:29:LEU:O	54:o:29:LEU:HG	2.19	0.42
55:p:109:PHE:CD1	55:p:152:ARG:NH1	2.88	0.42
59:t:43:ILE:HD12	59:t:56:ASP:HB2	2.01	0.42
61:v:105:MET:HG2	61:v:117:PHE:CZ	2.54	0.42
65:z:111:GLU:OE2	65:z:112:LYS:HD2	2.19	0.42
2:1:49:LYS:NZ	40:a:491:G:O6	2.50	0.42
5:4:55:GLU:OE1	5:4:55:GLU:N	2.42	0.42
8:7:13:U:H3	23:J:47:ARG:NH1	2.10	0.42
9:9:3:LEU:CD1	9:9:5:LEU:H	2.31	0.42
9:9:118:ILE:CB	9:9:119:PRO:HD3	2.44	0.42
11:AA:590:PRO:HB2	11:AA:655:VAL:HG21	2.01	0.42
13:AD:46:ILE:HD11	13:AD:224:LEU:HD13	2.02	0.42
17:D:57:G:H2'	17:D:58:C:C6	2.54	0.42
17:D:256:U:H2'	17:D:257:G:C8	2.54	0.42
17:D:877:G:H5''	27:N:80:ARG:CD	2.49	0.42
17:D:964:A:C2	17:D:969:A:N3	2.87	0.42
17:D:1071:C:C5'	24:K:54:ARG:HH21	2.33	0.42
19:F:25:LYS:HZ2	21:H:336:ASP:CG	2.21	0.42
20:G:131:LYS:HE3	20:G:132:LYS:HZ3	1.84	0.42
21:H:322:VAL:HG12	21:H:323:ASN:HB2	2.02	0.42
21:H:331:MET:SD	21:H:348:GLN:HG2	2.60	0.42
23:J:153:SER:OG	23:J:156:LYS:NZ	2.53	0.42
29:P:45:ARG:CD	29:P:47:GLU:OE2	2.67	0.42
30:Q:20:VAL:HG12	30:Q:21:ALA:N	2.35	0.42
31:R:57:LEU:HG	31:R:58:THR:N	2.35	0.42
36:W:17:LYS:O	36:W:21:LYS:HD3	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:Y:23:VAL:HG23	38:Y:27:LEU:HD23	2.01	0.42
38:Y:126:ARG:HH12	40:a:1083:U:P	2.40	0.42
40:a:68:G:N2	40:a:74:A:OP2	2.51	0.42
40:a:690:G:H2'	40:a:691:C:H6	1.84	0.42
40:a:826:U:O2'	60:u:53:GLY:HA3	2.20	0.42
40:a:1028:A:N6	40:a:1125:G:H2'	2.34	0.42
40:a:1064:C:H2'	40:a:1065:U:C6	2.55	0.42
40:a:1170:C:O2	40:a:1170:C:H2'	2.18	0.42
40:a:1269:A:H2'	40:a:1270:C:C6	2.54	0.42
40:a:1511:G:H2'	40:a:1512:C:H6	1.84	0.42
40:a:1597:A:H5''	40:a:1598:A:H5'	2.02	0.42
40:a:2093:G:P	57:r:22:LYS:CG	3.07	0.42
40:a:2249:U:H3'	40:a:2250:G:C5'	2.49	0.42
40:a:2287:A:N7	40:a:2289:G:C8	2.87	0.42
40:a:2547:A:H4'	59:t:29:HIS:NE2	2.34	0.42
40:a:2856:A:C6	40:a:2862:G:C6	3.08	0.42
43:d:82:U:O2	45:f:53:PHE:HZ	2.02	0.42
44:e:8:GLU:O	44:e:9:LYS:HD3	2.19	0.42
53:n:66:LEU:HD23	53:n:67:ILE:C	2.45	0.42
53:n:132:VAL:CG2	53:n:152:LEU:CD2	2.97	0.42
57:r:66:ASN:CG	57:r:135:HIS:HB2	2.45	0.42
58:s:15:TRP:CE3	58:s:135:GLN:HB3	2.55	0.42
58:s:123:LYS:CD	58:s:132:HIS:HD2	2.33	0.42
61:v:71:LYS:C	61:v:92:TRP:CE3	2.97	0.42
64:y:110:ILE:HG13	64:y:110:ILE:O	2.19	0.42
1:0:4:VAL:HG23	1:0:4:VAL:O	2.20	0.42
1:0:40:MET:HE1	65:z:105:ALA:HB1	2.01	0.42
2:1:25:ARG:NH2	40:a:520:G:P	2.87	0.42
9:9:23:LEU:HA	9:9:118:ILE:HG13	2.01	0.42
9:9:41:LEU:CD1	38:Y:117:THR:HG22	2.50	0.42
10:A:18:G:H2'	10:A:57:A:C2	2.55	0.42
11:AA:741:MET:SD	11:AA:974:ARG:NH2	2.93	0.42
12:AB:29:LEU:HD12	12:AB:30:ALA:N	2.35	0.42
12:AB:146:ILE:HD12	29:P:87:LEU:CA	2.50	0.42
14:AE:708:ASN:HA	14:AE:713:GLU:HA	2.00	0.42
17:D:124:C:H2'	17:D:125:U:H6	1.84	0.42
17:D:374:A:C6	17:D:375:U:C4	3.08	0.42
17:D:407:U:C2	17:D:408:A:C8	3.08	0.42
17:D:553:A:H2'	17:D:554:A:H8	1.84	0.42
17:D:1055:A:O2'	22:I:156:ARG:NH2	2.47	0.42
17:D:1439:G:H2'	17:D:1440:U:O4'	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:E:48:GLN:CD	18:E:49:LYS:N	2.78	0.42
20:G:134:ALA:HA	20:G:137:ARG:NE	2.35	0.42
22:I:72:ARG:HD3	22:I:75:ILE:H	1.84	0.42
22:I:72:ARG:O	22:I:75:ILE:HG22	2.19	0.42
24:K:68:ARG:O	24:K:69:ARG:NH1	2.52	0.42
24:K:80:THR:OG1	24:K:81:LEU:N	2.53	0.42
25:L:1:MET:CE	25:L:67:PRO:HD3	2.50	0.42
25:L:2:ARG:C	25:L:65:GLU:OE1	2.62	0.42
26:M:74:GLU:HG3	26:M:91:VAL:CG1	2.50	0.42
30:Q:21:ALA:HA	30:Q:34:ILE:HD13	2.02	0.42
30:Q:35:THR:HA	30:Q:42:LEU:HG	2.01	0.42
40:a:6:A:O3'	58:s:132:HIS:HE1	2.03	0.42
40:a:62:U:O2	40:a:62:U:H2'	2.20	0.42
40:a:250:G:H2'	40:a:251:A:C8	2.54	0.42
40:a:593:U:H2'	40:a:594:U:H6	1.85	0.42
40:a:667:U:H2'	40:a:668:A:O4'	2.20	0.42
40:a:838:C:C2	40:a:839:U:C6	3.07	0.42
40:a:973:A:O4'	40:a:1188:U:C6	2.73	0.42
40:a:1443:U:H2'	40:a:1444:G:C8	2.54	0.42
40:a:1560:G:C5	40:a:1561:C:C5	3.08	0.42
40:a:1587:G:H2'	40:a:1588:G:C8	2.54	0.42
40:a:1874:C:H2'	40:a:1875:G:O4'	2.20	0.42
40:a:2332:C:OP1	41:b:77:ARG:NH2	2.52	0.42
41:b:21:LEU:HD23	41:b:40:GLN:HA	2.00	0.42
44:e:25:GLN:OE1	44:e:50:VAL:HG21	2.19	0.42
46:g:16:CYS:CB	46:g:37:CYS:CB	2.90	0.42
49:j:34:VAL:HG13	49:j:48:ILE:CG2	2.50	0.42
49:j:151:THR:HG23	49:j:151:THR:O	2.19	0.42
51:l:6:LYS:NZ	51:l:119:ILE:C	2.77	0.42
53:n:12:VAL:HG13	53:n:172:ALA:CB	2.49	0.42
58:s:125:TYR:HE2	58:s:130:HIS:CB	2.32	0.42
61:v:1:MET:SD	61:v:44:ARG:HA	2.59	0.42
61:v:95:LEU:C	61:v:96:ILE:HD13	2.45	0.42
61:v:104:GLU:CD	61:v:105:MET:H	2.28	0.42
61:v:115:GLU:HA	61:v:118:LYS:HE2	2.02	0.42
62:w:46:ARG:HE	62:w:46:ARG:HB3	1.65	0.42
64:y:55:LEU:HA	64:y:77:HIS:CD2	2.54	0.42
64:y:106:LYS:HB3	64:y:109:ARG:HH22	1.84	0.42
65:z:47:TYR:CZ	65:z:51:ARG:NH2	2.87	0.42
2:1:75:PHE:HE2	2:1:77:ASP:OD2	2.02	0.42
3:2:9:LYS:C	3:2:12:ARG:HH22	2.28	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:7:13:U:C6	8:7:13:U:C3'	3.03	0.42
9:9:80:THR:O	40:a:1108:U:OP1	2.37	0.42
9:9:129:LEU:N	9:9:130:PRO:CD	2.81	0.42
11:AA:444:ASP:OD1	11:AA:444:ASP:N	2.51	0.42
11:AA:481:LEU:CD2	12:AB:23:ARG:NE	2.61	0.42
12:AB:150:ILE:HG12	12:AB:152:HIS:NE2	2.34	0.42
14:AE:609:TYR:HD2	14:AE:610:ARG:HD2	1.85	0.42
10:B:18:G:H2'	10:B:57:A:C2	2.55	0.42
10:B:38:A:H4'	17:D:790:A:C1'	2.49	0.42
16:C:44:ILE:HG22	21:H:340:ARG:HB2	2.02	0.42
17:D:520:A:C2'	31:R:70:GLU:OE1	2.67	0.42
17:D:736:C:H5'	25:L:90:MET:HE2	1.97	0.42
17:D:768:A:C5	17:D:769:G:C8	3.08	0.42
17:D:1035:A:C6	17:D:1036:A:N7	2.88	0.42
17:D:1241:G:H2'	17:D:1242:G:H8	1.85	0.42
17:D:1315:U:H2'	17:D:1316:G:O4'	2.19	0.42
17:D:1499:A:O2'	17:D:1500:A:H5'	2.20	0.42
18:E:50:ALA:O	18:E:54:MET:HG3	2.19	0.42
20:G:115:LYS:C	20:G:115:LYS:HD3	2.45	0.42
21:H:74:ALA:HB3	21:H:83:LEU:CD2	2.50	0.42
22:I:66:VAL:HB	22:I:101:ILE:CD1	2.50	0.42
22:I:149:ILE:HG13	22:I:202:ILE:HG12	2.01	0.42
23:J:67:VAL:C	23:J:72:PHE:CE2	2.98	0.42
24:K:77:ASN:O	24:K:80:THR:O	2.37	0.42
24:K:100:SER:O	24:K:103:THR:HG22	2.20	0.42
24:K:115:LEU:O	24:K:120:VAL:HG12	2.20	0.42
25:L:42:TRP:HB2	25:L:59:TYR:O	2.20	0.42
26:M:56:LYS:H	26:M:56:LYS:HG3	1.68	0.42
28:O:97:GLU:HG2	28:O:98:LEU:N	2.35	0.42
33:T:70:LEU:CD2	33:T:78:TYR:HA	2.49	0.42
33:T:70:LEU:HD23	33:T:78:TYR:HD1	1.85	0.42
36:W:45:ILE:HA	36:W:62:VAL:HG12	2.01	0.42
36:W:66:MET:SD	36:W:66:MET:C	3.03	0.42
38:Y:81:LYS:HD2	38:Y:81:LYS:H	1.83	0.42
40:a:104:A:C4	40:a:105:C:C6	3.08	0.42
40:a:209:C:N3	40:a:210:C:C5	2.87	0.42
40:a:579:G:H2'	40:a:580:U:H6	1.85	0.42
40:a:814:C:C2	40:a:815:C:C5	3.07	0.42
40:a:1145:C:H2'	40:a:1146:C:H6	1.84	0.42
40:a:1252:G:H1	65:z:37:GLN:HE21	1.68	0.42
40:a:1281:G:H2'	40:a:1282:U:C6	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:1399:C:C2	40:a:1400:U:C5	3.08	0.42
40:a:2259:U:C5	40:a:2427:C:N4	2.88	0.42
40:a:2728:U:H5'	59:t:70:ARG:HH22	1.85	0.42
40:a:2756:U:C4	40:a:2759:G:O6	2.73	0.42
44:e:14:LEU:HA	44:e:17:GLU:OE1	2.20	0.42
52:m:25:LYS:HG3	52:m:29:GLN:NE2	2.34	0.42
62:w:18:GLN:HE22	62:w:22:ARG:NE	2.18	0.42
62:w:45:ARG:O	62:w:49:GLU:CD	2.63	0.42
62:w:98:LEU:CD1	62:w:114:GLU:OE2	2.68	0.42
63:x:15:ARG:C	63:x:19:GLN:NE2	2.78	0.42
64:y:37:LYS:CA	64:y:37:LYS:HE3	2.49	0.42
3:2:26:LYS:CE	3:2:26:LYS:HA	2.50	0.42
4:3:6:ARG:HG2	4:3:7:ARG:N	2.35	0.42
6:5:16:DA:OP1	11:AA:175:ARG:NH2	2.52	0.42
10:A:59:A:C5	10:A:60:U:C5	3.08	0.42
10:A:68:C:C4	10:A:69:C:C5	3.08	0.42
11:AA:469:VAL:HA	11:AA:472:GLU:HG2	2.02	0.42
11:AA:699:LEU:HG	11:AA:799:ASN:HD22	1.84	0.42
11:AA:741:MET:HE3	11:AA:974:ARG:HH12	1.84	0.42
12:AB:34:THR:CG2	12:AB:45:ALA:HB1	2.50	0.42
14:AE:501:VAL:HA	14:AE:502:PRO:HD3	1.94	0.42
17:D:36:C:N4	17:D:37:U:C4	2.88	0.42
17:D:76:G:C5	17:D:77:A:N7	2.88	0.42
17:D:414:A:C2	17:D:415:A:H1'	2.54	0.42
17:D:687:A:C2	17:D:704:A:C6	3.07	0.42
17:D:946:A:C2	17:D:947:G:C5	3.08	0.42
17:D:1060:U:OP1	32:S:85:ARG:NH1	2.48	0.42
17:D:1073:U:C2	17:D:1074:G:C8	3.07	0.42
17:D:1524:C:H2'	17:D:1525:G:C8	2.55	0.42
20:G:20:THR:HA	20:G:39:HIS:HE1	1.82	0.42
20:G:47:VAL:N	20:G:48:PRO:HD2	2.35	0.42
21:H:33:LYS:HA	21:H:34:ASP:HA	1.80	0.42
22:I:54:ARG:NH2	22:I:56:VAL:CG2	2.82	0.42
23:J:76:TYR:HE1	23:J:86:THR:CG2	2.33	0.42
25:L:25:TYR:O	25:L:26:THR:C	2.61	0.42
25:L:94:HIS:CG	25:L:95:ALA:N	2.88	0.42
27:N:27:MET:CA	27:N:58:GLU:OE2	2.67	0.42
30:Q:23:ILE:C	30:Q:87:LYS:HZ3	2.27	0.42
32:S:87:ALA:CA	32:S:90:ARG:CZ	2.96	0.42
33:T:10:LYS:HA	33:T:10:LYS:CE	2.49	0.42
40:a:235:U:C2	40:a:236:C:C6	3.08	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:299:A:C5	40:a:322:A:C2	3.07	0.42
40:a:751:A:C6	40:a:789:A:C5	3.08	0.42
40:a:1709:U:H2'	40:a:1710:G:C8	2.55	0.42
40:a:2037:A:H2'	40:a:2038:G:C8	2.54	0.42
40:a:2066:C:O2'	40:a:2067:G:H5'	2.20	0.42
47:h:196:GLY:O	47:h:198:ALA:N	2.53	0.42
49:j:175:LEU:HB3	49:j:189:VAL:HG12	2.02	0.42
55:p:149:ARG:HH12	55:p:154:PRO:HB3	1.85	0.42
57:r:114:GLU:OE2	57:r:133:GLN:N	2.53	0.42
59:t:24:VAL:O	59:t:24:VAL:HG13	2.20	0.42
59:t:113:MET:SD	59:t:113:MET:C	3.03	0.42
63:x:88:LYS:HB3	63:x:116:GLN:OE1	2.20	0.42
1:0:52:PRO:HB3	65:z:89:GLU:CD	2.44	0.42
3:2:22:THR:O	3:2:25:GLU:HG2	2.20	0.42
7:6:14:DC:H2'	7:6:15:DC:H6	1.85	0.42
7:6:25:DT:H2'	11:AA:496:LYS:CG	2.44	0.42
9:9:47:GLU:C	9:9:49:GLY:H	2.28	0.42
9:9:95:LEU:O	9:9:98:GLU:HG2	2.20	0.42
11:AA:22:LEU:HD22	11:AA:603:ILE:HG21	2.02	0.42
11:AA:144:VAL:HG23	11:AA:515:MET:HB2	2.02	0.42
12:AB:145:LEU:CG	29:P:85:ASP:O	2.66	0.42
10:B:5:G:C2'	10:B:6:G:H5'	2.50	0.42
17:D:960:U:O2'	17:D:1223:C:H4'	2.20	0.42
17:D:1064:G:O2'	17:D:1190:G:N2	2.53	0.42
20:G:101:LEU:HD22	20:G:157:LEU:HD12	1.99	0.42
21:H:34:ASP:OD1	21:H:50:ALA:HB3	2.20	0.42
21:H:308:GLU:HB2	21:H:347:LYS:HB3	2.02	0.42
21:H:336:ASP:HB2	21:H:341:ARG:H	1.84	0.42
22:I:36:ASP:OD1	22:I:57:ILE:HG21	2.19	0.42
24:K:82:GLN:OE1	24:K:147:MET:SD	2.78	0.42
26:M:18:PHE:HD2	26:M:59:LEU:CD2	2.31	0.42
29:P:7:ARG:HA	29:P:75:ASP:OD1	2.20	0.42
31:R:57:LEU:HD23	31:R:59:ASN:OD1	2.20	0.42
32:S:63:ARG:HH22	32:S:70:PRO:HD3	1.85	0.42
32:S:91:GLY:C	32:S:92:GLU:OE1	2.62	0.42
37:X:25:VAL:O	37:X:25:VAL:HG13	2.19	0.42
38:Y:57:VAL:CG2	38:Y:71:LYS:HD3	2.50	0.42
38:Y:102:ARG:CZ	38:Y:139:VAL:HG21	2.50	0.42
39:Z:14:MET:CG	39:Z:15:SER:H	2.25	0.42
40:a:126:A:OP1	52:m:45:SER:OG	2.37	0.42
40:a:138:U:C5	40:a:142:A:C6	3.08	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:151:C:H2'	40:a:152:A:C8	2.53	0.42
40:a:833:A:OP2	60:u:39:LYS:NZ	2.49	0.42
40:a:958:U:C4	61:v:40:ARG:NH1	2.88	0.42
40:a:1008:A:OP2	58:s:37:ARG:NH1	2.52	0.42
40:a:1139:G:O3'	58:s:26:GLY:HA3	2.19	0.42
40:a:1824:G:H3'	47:h:52:ARG:HH12	1.84	0.42
40:a:1829:A:C8	40:a:1830:C:C5	3.08	0.42
40:a:2002:G:OP1	62:w:13:ASN:HA	2.20	0.42
40:a:2049:G:H21	49:j:161:MET:CE	2.33	0.42
40:a:2179:C:H2'	40:a:2180:U:H6	1.83	0.42
40:a:2218:G:C5'	42:c:45:ARG:HH12	2.33	0.42
40:a:2226:C:H2'	40:a:2227:A:O4'	2.20	0.42
40:a:2310:C:O2'	53:n:74:VAL:HG12	2.20	0.42
40:a:2469:A:C6	40:a:2482:A:C8	3.08	0.42
40:a:2586:U:H2'	40:a:2587:A:O4'	2.20	0.42
40:a:2590:A:C2	40:a:2591:C:C5	3.08	0.42
50:k:7:GLU:HG3	50:k:27:LYS:HZ3	1.85	0.42
51:l:31:VAL:HG21	51:l:104:ALA:CB	2.50	0.42
51:l:194:LYS:C	51:l:198:GLU:OE1	2.63	0.42
55:p:52:PHE:HZ	55:p:72:LEU:HD22	1.85	0.42
58:s:37:ARG:HA	58:s:118:MET:HE1	2.00	0.42
61:v:115:GLU:O	61:v:116:ALA:C	2.61	0.42
1:0:74:ILE:HD13	1:0:87:GLN:OE1	2.20	0.41
3:2:5:GLU:HA	44:e:22:LEU:HD21	2.02	0.41
3:2:57:VAL:HG22	3:2:58:VAL:N	2.35	0.41
8:7:22:U:C4'	22:I:80:LYS:CG	2.75	0.41
9:9:105:LYS:O	9:9:106:PHE:HB3	2.18	0.41
10:A:31:G:H2'	10:A:32:C:C6	2.55	0.41
12:AB:119:THR:CA	14:AE:45:ASN:ND2	2.49	0.41
14:AE:66:LYS:HB2	14:AE:69:GLU:HB2	2.02	0.41
14:AE:210:SER:O	14:AE:214:ARG:N	2.43	0.41
16:C:13:PHE:CG	16:C:51:TYR:CD1	3.08	0.41
17:D:112:G:N1	17:D:330:C:C5	2.88	0.41
17:D:119:A:C2	17:D:240:G:C8	3.07	0.41
17:D:338:A:C5	17:D:339:C:C5	3.08	0.41
17:D:356:A:C5	17:D:357:G:C8	3.08	0.41
17:D:519:C:H2'	17:D:520:A:O4'	2.20	0.41
17:D:678:U:C2	17:D:679:C:C5	3.08	0.41
17:D:997:U:O2'	17:D:998:C:H5'	2.20	0.41
17:D:1152:A:P	29:P:72:ARG:HH22	2.43	0.41
17:D:1240:U:H5	26:M:116:MET:HE2	1.83	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:1261:A:C5	17:D:1262:C:C6	3.07	0.41
17:D:1368:A:OP1	28:O:116:VAL:HG23	2.20	0.41
17:D:1437:A:C4	17:D:1438:G:C8	3.08	0.41
17:D:1512:U:H2'	17:D:1513:A:H8	1.85	0.41
18:E:53:GLU:O	18:E:57:ILE:CD1	2.69	0.41
22:I:6:HIS:CD2	32:S:89:MET:HB3	2.55	0.41
24:K:12:GLN:HB3	24:K:14:LYS:HZ2	1.85	0.41
30:Q:36:ASP:OD1	30:Q:40:ASN:N	2.53	0.41
31:R:3:THR:O	31:R:6:GLN:HB2	2.20	0.41
33:T:77:ARG:HA	33:T:77:ARG:NE	2.35	0.41
34:U:19:VAL:HG11	34:U:52:LEU:CD2	2.50	0.41
37:X:16:VAL:HG12	37:X:34:LEU:CD1	2.50	0.41
40:a:271:G:C2	40:a:272:A:C4	3.08	0.41
40:a:780:G:O2'	40:a:783:A:N6	2.53	0.41
40:a:871:U:H2'	40:a:872:U:H6	1.78	0.41
40:a:1416:G:HO2'	40:a:1417:C:P	2.43	0.41
40:a:1683:U:H2'	40:a:1684:G:H8	1.83	0.41
40:a:1996:C:H4'	49:j:128:ARG:NH1	2.35	0.41
45:f:4:THR:O	45:f:5:ILE:HD13	2.20	0.41
47:h:245:VAL:HA	47:h:250:VAL:O	2.20	0.41
49:j:47:ALA:O	49:j:48:ILE:HD13	2.20	0.41
50:k:9:ILE:HG22	50:k:27:LYS:HZ1	1.84	0.41
54:o:30:ARG:CZ	60:u:62:PRO:HB3	2.50	0.41
57:r:8:LYS:HD2	57:r:13:GLY:O	2.20	0.41
61:v:112:LEU:CA	61:v:115:GLU:OE1	2.68	0.41
62:w:38:LEU:HB3	62:w:39:PRO:HD3	2.02	0.41
63:x:48:LEU:CD2	63:x:87:ILE:CD1	2.98	0.41
5:4:48:MET:CE	5:4:85:LYS:HA	2.51	0.41
8:7:35:U:H4'	14:AE:322:ARG:NH1	2.35	0.41
9:9:17:GLU:OE2	9:9:53:ARG:NH2	2.53	0.41
10:A:8:U:O2'	10:A:47:U:C4	2.67	0.41
10:A:9:G:O2'	10:A:45:G:H2'	2.20	0.41
11:AA:861:ALA:HB1	11:AA:882:ILE:HD13	2.01	0.41
14:AE:859:PRO:HD2	14:AE:862:THR:HG21	2.01	0.41
16:C:44:ILE:CG2	21:H:340:ARG:HB2	2.50	0.41
17:D:299:G:H2'	17:D:300:A:C8	2.55	0.41
17:D:611:C:H2'	17:D:611:C:O2	2.18	0.41
17:D:1189:U:H4'	22:I:10:ILE:CD1	2.50	0.41
19:F:5:LYS:CD	30:Q:109:ASN:OD1	2.68	0.41
22:I:14:ILE:HB	22:I:178:LEU:HD21	2.01	0.41
24:K:123:VAL:O	24:K:124:LEU:HD23	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:L:9:MET:SD	25:L:57:ALA:HB1	2.60	0.41
27:N:83:LEU:HD21	31:R:4:VAL:HG21	2.02	0.41
28:O:35:LEU:HD21	28:O:45:ARG:HG2	2.03	0.41
28:O:116:VAL:HG11	29:P:62:ARG:HD3	2.02	0.41
37:X:16:VAL:HG23	37:X:17:ILE:CD1	2.47	0.41
40:a:451:U:P	51:l:47:LYS:HZ3	2.43	0.41
40:a:592:A:N3	54:o:4:ILE:HD11	2.35	0.41
40:a:635:C:OP1	60:u:126:ARG:CZ	2.68	0.41
40:a:704:G:O2'	40:a:726:G:N2	2.45	0.41
40:a:789:A:N1	52:m:3:ARG:NH2	2.68	0.41
40:a:1906:G:C8	40:a:1929:G:C4	3.08	0.41
40:a:1906:G:C8	40:a:1929:G:C5	3.07	0.41
40:a:2072:C:C2	40:a:2073:C:C6	3.08	0.41
40:a:2357:G:OP1	41:b:20:ARG:CZ	2.68	0.41
40:a:2454:G:C5	40:a:2455:G:C8	3.09	0.41
40:a:2507:C:C2	40:a:2583:G:C2	3.07	0.41
40:a:2686:G:H2'	40:a:2687:U:C6	2.56	0.41
40:a:2708:G:C2	40:a:2709:G:C8	3.08	0.41
41:b:40:GLN:NE2	41:b:59:LEU:HD23	2.35	0.41
44:e:20:ASN:O	44:e:24:GLU:HG2	2.20	0.41
47:h:108:LYS:CG	47:h:109:GLY:N	2.83	0.41
47:h:144:VAL:HG21	47:h:162:VAL:HG11	2.01	0.41
51:l:193:VAL:O	51:l:194:LYS:C	2.62	0.41
55:p:91:GLY:HA2	55:p:160:LYS:CD	2.50	0.41
59:t:20:MET:CB	59:t:44:LYS:HE2	2.51	0.41
59:t:108:ARG:HG2	59:t:116:ILE:HD13	2.01	0.41
5:4:2:PHE:CD1	5:4:56:PHE:CE1	3.08	0.41
6:5:23:DA:H2''	6:5:24:DC:C6	2.56	0.41
9:9:11:ILE:O	9:9:15:VAL:HG23	2.20	0.41
9:9:33:VAL:O	9:9:36:ASP:OD1	2.39	0.41
9:9:94:ARG:N	9:9:94:ARG:HD3	2.34	0.41
10:A:19:G:O6	40:a:2112:G:P	2.79	0.41
11:AA:836:LEU:HD21	11:AA:921:PRO:HD3	2.02	0.41
12:AB:6:LEU:HG	12:AB:56:PHE:HE1	1.85	0.41
10:B:1:C:C5	10:B:2:G:N7	2.89	0.41
10:B:5:G:C2'	10:B:6:G:C5'	2.98	0.41
17:D:119:A:C4	17:D:240:G:N7	2.88	0.41
17:D:671:G:O2'	25:L:79:ARG:NH1	2.54	0.41
17:D:860:A:H2'	17:D:861:G:O4'	2.20	0.41
17:D:920:U:H2'	17:D:921:U:C6	2.56	0.41
17:D:980:C:H2'	17:D:981:U:H5'	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:1319:A:C8	17:D:1323:G:C5	3.08	0.41
20:G:55:ALA:O	20:G:59:LYS:HG2	2.19	0.41
20:G:187:VAL:HG11	20:G:193:PRO:HB3	2.02	0.41
21:H:86:ARG:O	21:H:89:ALA:HB3	2.20	0.41
23:J:76:TYR:O	23:J:76:TYR:CD1	2.73	0.41
27:N:83:LEU:HD11	31:R:4:VAL:CB	2.51	0.41
29:P:79:PRO:HG2	29:P:102:LEU:HD11	2.03	0.41
33:T:18:ASP:O	33:T:19:ALA:HB3	2.20	0.41
34:U:26:ASN:ND2	34:U:31:ARG:CD	2.83	0.41
34:U:73:ALA:HA	34:U:76:LYS:HE2	2.03	0.41
37:X:81:MET:HE1	37:X:92:ARG:CD	2.49	0.41
38:Y:60:VAL:CG2	38:Y:66:PHE:CD1	3.03	0.41
38:Y:82:ALA:CB	38:Y:108:ILE:HD12	2.50	0.41
38:Y:96:LYS:CD	38:Y:136:GLY:HA3	2.50	0.41
39:Z:29:LYS:C	39:Z:30:PHE:HD2	2.28	0.41
40:a:700:G:H2'	40:a:701:G:O4'	2.20	0.41
40:a:888:C:C4	40:a:889:C:N4	2.88	0.41
40:a:1076:C:H2'	40:a:1077:A:C8	2.54	0.41
40:a:1289:C:H2'	40:a:1290:C:H6	1.84	0.41
40:a:1343:G:C8	40:a:1597:A:C6	3.08	0.41
40:a:1580:A:C8	40:a:1581:G:C8	3.08	0.41
40:a:1958:C:O2'	40:a:1959:G:H5'	2.20	0.41
40:a:2245:U:O2'	40:a:2436:G:OP2	2.27	0.41
40:a:2511:U:C5'	49:j:130:GLN:OE1	2.69	0.41
40:a:2589:A:H2'	40:a:2590:A:H8	1.86	0.41
40:a:2783:U:H2'	40:a:2784:U:H6	1.85	0.41
47:h:163:GLN:HB3	47:h:175:ARG:HB3	2.02	0.41
49:j:68:PHE:CE1	49:j:79:LEU:HD21	2.54	0.41
49:j:175:LEU:HB3	49:j:189:VAL:CG1	2.50	0.41
51:l:6:LYS:NZ	51:l:119:ILE:CG2	2.83	0.41
51:l:77:ILE:O	51:l:77:ILE:HG22	2.19	0.41
51:l:97:ASN:CG	51:l:100:MET:HE2	2.45	0.41
51:l:149:ILE:HG21	51:l:175:ILE:HD11	2.01	0.41
53:n:4:LEU:HD11	53:n:101:GLU:CB	2.50	0.41
55:p:121:ILE:HD12	55:p:141:ILE:CG2	2.39	0.41
61:v:135:VAL:HG12	61:v:136:MET:CE	2.50	0.41
63:x:83:LEU:HD23	63:x:88:LYS:HD3	2.02	0.41
65:z:111:GLU:OE2	65:z:112:LYS:HG2	2.19	0.41
3:2:37:ASP:OD2	3:2:37:ASP:C	2.62	0.41
6:5:25:DA:N3	7:6:5:DG:N2	2.68	0.41
9:9:59:LEU:HD22	9:9:62:ARG:HE	1.81	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:A:5:G:C2'	10:A:6:G:C5'	2.98	0.41
11:AA:1275:VAL:HG13	11:AA:1287:LEU:HD11	2.01	0.41
14:AE:319:SER:HA	14:AE:320:ASN:HA	1.74	0.41
10:B:31:G:H2'	10:B:32:C:C6	2.55	0.41
16:C:12:ARG:CB	21:H:264:GLU:CB	2.98	0.41
16:C:70:TYR:CD2	17:D:674:G:H4'	2.55	0.41
17:D:123:U:OP1	17:D:311:C:O2'	2.33	0.41
17:D:294:U:OP1	17:D:610:U:O2'	2.29	0.41
17:D:619:U:H1'	23:J:128:ARG:NH1	2.34	0.41
17:D:643:C:C2	17:D:644:U:C5	3.08	0.41
17:D:673:A:H2'	17:D:674:G:H8	1.79	0.41
17:D:745:G:H2'	17:D:746:A:H8	1.84	0.41
17:D:811:C:O2'	17:D:901:A:N1	2.50	0.41
17:D:951:G:C6	17:D:1231:G:C6	3.08	0.41
17:D:1061:G:H5'	29:P:61:ALA:HB2	2.02	0.41
17:D:1186:G:H4'	28:O:112:GLU:OE2	2.21	0.41
17:D:1202:U:C2	32:S:82:ILE:HD13	2.55	0.41
17:D:1513:A:H2'	17:D:1514:G:H8	1.84	0.41
20:G:106:THR:HA	20:G:109:GLN:HE21	1.85	0.41
21:H:116:VAL:O	21:H:279:LYS:HG2	2.21	0.41
26:M:93:PRO:O	26:M:96:ARG:HG2	2.20	0.41
28:O:50:GLN:CA	28:O:53:GLU:OE1	2.69	0.41
30:Q:75:LYS:HG3	30:Q:76:GLU:N	2.35	0.41
35:V:61:ILE:HA	35:V:75:LEU:HA	2.02	0.41
38:Y:24:GLY:HA3	38:Y:25:PRO:HD3	1.85	0.41
38:Y:126:ARG:NH1	40:a:1082:U:O3'	2.51	0.41
40:a:136:G:H2'	40:a:137:U:H6	1.85	0.41
40:a:152:A:C6	40:a:153:U:C4	3.09	0.41
40:a:181:A:H2'	40:a:182:A:C8	2.56	0.41
40:a:654:A:H61	54:o:19:LYS:CD	2.31	0.41
40:a:874:G:C6	40:a:904:G:C6	3.08	0.41
40:a:1069:A:C2	40:a:1073:A:C8	3.08	0.41
40:a:2210:U:H4'	40:a:2211:A:OP1	2.20	0.41
40:a:2461:A:H2'	40:a:2462:C:C6	2.55	0.41
40:a:2569:G:C2	40:a:2570:G:C8	3.09	0.41
40:a:2759:G:O2'	55:p:35:ARG:NH1	2.52	0.41
40:a:2784:U:H2'	40:a:2785:C:C6	2.55	0.41
41:b:17:GLU:OE1	41:b:19:LYS:HD3	2.21	0.41
42:c:66:THR:O	42:c:69:ALA:N	2.53	0.41
47:h:71:LYS:CB	47:h:96:TYR:CZ	3.03	0.41
47:h:137:VAL:HA	47:h:164:ILE:HG23	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:i:22:LEU:CG	48:i:23:THR:N	2.84	0.41
49:j:37:VAL:HG13	49:j:48:ILE:CD1	2.49	0.41
49:j:91:THR:HG22	49:j:92:VAL:N	2.35	0.41
51:l:170:ARG:CZ	51:l:174:GLY:O	2.66	0.41
60:u:123:ARG:C	60:u:125:LEU:HD22	2.45	0.41
62:w:18:GLN:CD	62:w:18:GLN:C	2.88	0.41
64:y:30:VAL:HG12	64:y:81:VAL:HG12	2.03	0.41
1:0:77:PHE:CD1	1:0:77:PHE:C	2.98	0.41
3:2:11:LEU:HD11	3:2:46:ALA:CB	2.50	0.41
9:9:2:ALA:HB3	9:9:6:GLN:HB2	2.01	0.41
11:AA:27:LEU:O	11:AA:528:ARG:NH1	2.43	0.41
11:AA:148:GLN:NE2	11:AA:535:PRO:O	2.40	0.41
11:AA:1313:HIS:CD2	15:AF:31:GLN:HE22	2.37	0.41
12:AB:73:ARG:HE	12:AB:73:ARG:CA	2.33	0.41
13:AC:57:THR:HG23	13:AC:158:ARG:HH21	1.86	0.41
17:D:13:U:C2	17:D:914:A:C8	3.08	0.41
17:D:197:A:N6	17:D:221:C:H4'	2.35	0.41
17:D:255:G:H2'	17:D:256:U:C6	2.55	0.41
17:D:306:A:C4	17:D:307:C:C6	3.08	0.41
17:D:407:U:O4'	23:J:116:GLN:OE1	2.39	0.41
17:D:545:C:OP2	23:J:62:ARG:NH1	2.53	0.41
17:D:718:A:C2	30:Q:118:HIS:CE1	3.09	0.41
17:D:1227:A:OP2	37:X:110:LYS:HE3	2.20	0.41
17:D:1411:C:H2'	17:D:1412:C:C6	2.56	0.41
20:G:6:MET:HA	20:G:9:MET:SD	2.61	0.41
20:G:137:ARG:HG3	20:G:138:THR:N	2.36	0.41
21:H:54:LYS:HD3	21:H:58:GLY:HA2	2.02	0.41
21:H:303:LEU:O	21:H:305:HIS:HA	2.21	0.41
21:H:309:MET:HE1	21:H:318:PRO:CA	2.51	0.41
22:I:47:LEU:HD22	22:I:76:VAL:HG22	2.03	0.41
24:K:88:VAL:HG12	24:K:93:ARG:HG2	2.02	0.41
24:K:123:VAL:C	24:K:124:LEU:HD23	2.45	0.41
26:M:108:ALA:O	26:M:119:ARG:NE	2.51	0.41
28:O:50:GLN:HA	28:O:53:GLU:OE1	2.20	0.41
30:Q:20:VAL:HG13	30:Q:85:MET:CE	2.51	0.41
38:Y:34:ILE:O	38:Y:34:ILE:HG22	2.20	0.41
38:Y:63:ASP:C	38:Y:65:SER:H	2.28	0.41
40:a:909:A:C4	40:a:912:C:C5	3.09	0.41
40:a:1128:G:C6	40:a:2518:A:C6	3.08	0.41
40:a:1177:G:O2'	40:a:1178:C:O5'	2.28	0.41
40:a:1198:U:H2'	40:a:1199:U:H6	1.83	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:1651:G:P	62:w:40:LYS:NZ	2.94	0.41
40:a:1773:A:C8	40:a:1829:A:C8	3.08	0.41
40:a:1792:G:C5'	47:h:204:VAL:CG2	2.99	0.41
40:a:1827:U:H2'	40:a:1828:G:O4'	2.20	0.41
40:a:1953:A:H2	40:a:2549:G:N3	2.18	0.41
40:a:2215:C:H2'	40:a:2216:G:C8	2.54	0.41
40:a:2636:C:O2'	49:j:45:TYR:OH	1.99	0.41
47:h:53:HIS:NE2	47:h:219:THR:HG23	2.35	0.41
47:h:164:ILE:O	47:h:164:ILE:CG2	2.65	0.41
47:h:165:VAL:HG12	47:h:175:ARG:NH2	2.35	0.41
50:k:8:LYS:HA	50:k:24:THR:HA	2.02	0.41
51:l:23:PHE:CD1	51:l:111:GLU:HG3	2.55	0.41
51:l:171:ASP:OD1	51:l:172:ALA:N	2.53	0.41
53:n:132:VAL:HG11	53:n:137:ILE:HD11	2.01	0.41
55:p:89:LEU:HD22	55:p:162:VAL:HA	2.02	0.41
58:s:53:TYR:HD1	58:s:121:LYS:HB3	1.86	0.41
59:t:103:VAL:HG21	59:t:107:LEU:HD22	2.03	0.41
61:v:105:MET:HG2	61:v:117:PHE:HZ	1.86	0.41
62:w:45:ARG:CZ	62:w:45:ARG:HB3	2.50	0.41
63:x:21:LEU:C	63:x:21:LEU:HD23	2.46	0.41
5:4:18:ARG:NH1	43:d:93:C:OP2	2.53	0.41
9:9:15:VAL:HG22	9:9:66:GLY:HA3	2.00	0.41
9:9:52:MET:HG2	9:9:95:LEU:CD1	2.39	0.41
12:AB:145:LEU:HA	12:AB:145:LEU:HD22	1.86	0.41
14:AE:975:ILE:HD11	14:AE:1003:LEU:HG	2.02	0.41
10:B:9:G:O2'	10:B:45:G:H2'	2.20	0.41
10:B:12:G:H2'	10:B:13:C:OP1	2.20	0.41
17:D:9:G:OP2	24:K:126:LYS:HD2	2.21	0.41
17:D:338:A:H2'	17:D:339:C:H6	1.86	0.41
17:D:1186:G:O2'	28:O:112:GLU:OE2	2.33	0.41
17:D:1251:A:H2'	17:D:1252:A:O4'	2.20	0.41
19:F:39:GLU:OE1	19:F:44:GLU:OE1	2.38	0.41
22:I:172:ARG:NH1	22:I:174:PRO:HG3	2.35	0.41
23:J:62:ARG:CG	23:J:72:PHE:CZ	3.02	0.41
28:O:44:ALA:HA	28:O:47:VAL:HG22	2.03	0.41
28:O:112:GLU:HG3	28:O:115:LYS:NZ	2.35	0.41
31:R:4:VAL:CG1	31:R:5:ASN:N	2.83	0.41
31:R:116:LYS:O	31:R:117:TYR:HD1	2.02	0.41
34:U:3:THR:HG22	34:U:22:ALA:O	2.21	0.41
35:V:77:ARG:HH21	35:V:78:VAL:H	1.69	0.41
39:Z:17:MET:HE3	39:Z:17:MET:HB2	1.90	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:66:C:H42	40:a:74:A:N6	2.19	0.41
40:a:67:U:C4	40:a:74:A:N6	2.89	0.41
40:a:367:G:C4	40:a:368:A:C8	3.07	0.41
40:a:967:U:H2'	40:a:968:C:C6	2.56	0.41
40:a:1048:A:C5	40:a:1049:C:C5	3.09	0.41
40:a:1246:A:H2'	40:a:1247:A:O4'	2.20	0.41
40:a:1957:C:C2	40:a:1958:C:C5	3.09	0.41
40:a:2097:A:H2'	40:a:2098:U:C6	2.55	0.41
40:a:2639:A:H2'	40:a:2640:G:O4'	2.21	0.41
40:a:2650:U:C2	40:a:2651:C:C5	3.08	0.41
40:a:2708:G:O4'	62:w:71:ARG:NH1	2.53	0.41
40:a:2838:G:C6	40:a:2839:G:C5	3.08	0.41
40:a:2884:U:P	48:i:40:ARG:NH2	2.93	0.41
41:b:58:THR:HG23	41:b:58:THR:O	2.21	0.41
43:d:47:C:C4	43:d:48:U:C5	3.09	0.41
47:h:180:GLU:O	47:h:181:MET:HE2	2.21	0.41
53:n:61:SER:O	53:n:63:GLN:N	2.54	0.41
55:p:17:VAL:O	55:p:18:LYS:CE	2.65	0.41
58:s:133:ALA:O	58:s:134:ALA:C	2.62	0.41
62:w:24:MET:CG	62:w:44:LEU:HD12	2.51	0.41
62:w:49:GLU:OE2	62:w:95:THR:CG2	2.69	0.41
63:x:36:TYR:CD2	63:x:37:ALA:N	2.88	0.41
64:y:4:ILE:O	64:y:8:LEU:HD13	2.21	0.41
65:z:66:ASN:OD1	65:z:70:ARG:NE	2.54	0.41
3:2:50:LEU:HD23	44:e:26:PHE:CE1	2.56	0.41
5:4:2:PHE:CZ	5:4:56:PHE:CZ	3.08	0.41
5:4:78:GLN:OE1	5:4:88:HIS:HB3	2.21	0.41
8:7:21:U:C5	22:I:80:LYS:C	2.80	0.41
9:9:31:ARG:HH11	40:a:1054:A:C4'	2.31	0.41
11:AA:936:ARG:HB2	11:AA:1042:LEU:HD12	2.03	0.41
13:AC:42:ALA:HB1	13:AC:224:LEU:HD11	2.03	0.41
13:AD:205:MET:HE1	13:AD:217:ILE:HG13	2.03	0.41
14:AE:134:ASP:HB3	14:AE:159:ILE:HG21	2.02	0.41
14:AE:211:GLU:HA	14:AE:214:ARG:HD2	2.01	0.41
14:AE:1155:ILE:HG13	14:AE:1210:ILE:HB	2.02	0.41
16:C:70:TYR:HE2	25:L:49:TYR:CZ	2.38	0.41
17:D:104:G:C2	17:D:105:G:C5	3.09	0.41
17:D:602:A:H2'	17:D:603:U:H6	1.86	0.41
17:D:820:U:H4'	17:D:821:G:OP2	2.20	0.41
17:D:1140:C:O2'	17:D:1141:C:O5'	2.39	0.41
17:D:1288:A:H2'	17:D:1289:A:O4'	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:1326:U:H2'	17:D:1327:C:C6	2.56	0.41
17:D:1381:U:N3	17:D:1382:C:C5	2.88	0.41
17:D:1382:C:O2	17:D:1382:C:H2'	2.20	0.41
18:E:54:MET:HE2	18:E:54:MET:HB2	1.86	0.41
20:G:30:PHE:HA	20:G:45:LYS:NZ	2.35	0.41
20:G:185:ALA:O	20:G:200:ILE:N	2.54	0.41
21:H:287:LEU:HD23	21:H:318:PRO:HB2	2.02	0.41
21:H:309:MET:HE1	21:H:318:PRO:HG3	2.02	0.41
22:I:123:GLN:HB3	22:I:128:VAL:HG21	2.02	0.41
22:I:147:LYS:CE	22:I:204:LYS:C	2.94	0.41
22:I:147:LYS:CE	22:I:204:LYS:O	2.68	0.41
23:J:65:TYR:CE1	23:J:100:ASN:CG	2.98	0.41
24:K:111:MET:O	24:K:112:ARG:C	2.63	0.41
31:R:30:LYS:CB	31:R:57:LEU:HD11	2.47	0.41
32:S:86:GLU:CD	32:S:90:ARG:HD3	2.45	0.41
33:T:64:ARG:CZ	33:T:89:ARG:HH12	2.33	0.41
40:a:30:G:H2'	40:a:31:C:C6	2.55	0.41
40:a:458:G:N2	40:a:469:G:H2'	2.36	0.41
40:a:1589:U:O2'	40:a:1590:A:P	2.79	0.41
40:a:1676:A:H2'	40:a:1677:A:C8	2.56	0.41
40:a:1746:A:H2'	40:a:1747:U:C6	2.56	0.41
40:a:2246:G:H2'	40:a:2247:A:H8	1.86	0.41
40:a:2526:G:O2'	56:q:1:MET:HG2	2.21	0.41
40:a:2673:G:C2	40:a:2674:G:C8	3.08	0.41
47:h:35:GLU:CD	47:h:64:ILE:HD11	2.46	0.41
47:h:53:HIS:CD2	47:h:218:PRO:O	2.74	0.41
50:k:26:ASN:OD1	50:k:28:ARG:NH1	2.54	0.41
52:m:12:ARG:HG3	52:m:44:VAL:HG21	2.03	0.41
53:n:16:LEU:HD11	53:n:169:LEU:HD12	2.03	0.41
53:n:67:ILE:CD1	53:n:87:CYS:HB3	2.50	0.41
57:r:5:LEU:CD1	57:r:17:ASP:HB3	2.50	0.41
57:r:76:GLU:OE2	57:r:142:VAL:HA	2.21	0.41
59:t:98:ARG:NH2	59:t:118:LEU:C	2.79	0.41
62:w:60:VAL:CA	62:w:63:ARG:NH1	2.84	0.41
65:z:91:ASP:O	65:z:95:LEU:HG	2.20	0.41
2:1:85:ILE:HG13	2:1:85:ILE:O	2.19	0.41
4:3:5:ILE:HA	4:3:72:ILE:HD11	2.03	0.41
4:3:86:ARG:CZ	4:3:95:PHE:CD2	3.04	0.41
5:4:77:VAL:HG21	5:4:79:ARG:HH21	1.86	0.41
11:AA:6:THR:OG1	11:AA:781:ASP:OD1	2.33	0.41
11:AA:213:LEU:HD13	11:AA:422:LYS:HG2	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:524:ILE:HD12	11:AA:712:SER:HB2	2.02	0.41
11:AA:616:ILE:HG13	11:AA:652:TYR:HB2	2.02	0.41
11:AA:849:GLU:HB2	11:AA:887:VAL:HG23	2.02	0.41
12:AB:146:ILE:HD13	29:P:88:MET:H	1.86	0.41
14:AE:800:LEU:HB3	14:AE:920:ALA:HB1	2.02	0.41
16:C:12:ARG:NH1	16:C:13:PHE:CD1	2.89	0.41
17:D:218:U:H2'	17:D:219:U:O4'	2.20	0.41
17:D:1227:A:C8	37:X:116:ILE:HD11	2.56	0.41
17:D:1309:G:C8	37:X:98:ARG:NH2	2.88	0.41
17:D:1318:A:OP1	36:W:7:LYS:NZ	2.52	0.41
18:E:43:ASP:CG	18:E:46:ALA:HB3	2.46	0.41
19:F:5:LYS:HD3	30:Q:109:ASN:OD1	2.20	0.41
21:H:277:GLY:C	21:H:331:MET:HE3	2.45	0.41
22:I:113:ALA:HB1	22:I:200:VAL:HG13	2.02	0.41
22:I:184:TYR:O	22:I:185:ASN:CG	2.63	0.41
24:K:46:VAL:HG12	24:K:47:GLY:N	2.36	0.41
25:L:3:HIS:CD2	25:L:95:ALA:HA	2.56	0.41
25:L:35:LYS:CG	25:L:36:ILE:N	2.84	0.41
26:M:16:PRO:HB3	28:O:46:MET:CG	2.47	0.41
27:N:8:ALA:N	27:N:77:ARG:NH1	2.69	0.41
29:P:6:ILE:CG2	29:P:100:ILE:HG13	2.51	0.41
29:P:22:THR:O	29:P:23:ALA:C	2.64	0.41
29:P:22:THR:HG21	29:P:72:ARG:HG3	2.03	0.41
29:P:56:HIS:C	29:P:57:VAL:HG23	2.44	0.41
29:P:59:LYS:HE2	29:P:62:ARG:CZ	2.50	0.41
34:U:67:ILE:HG13	34:U:67:ILE:O	2.20	0.41
40:a:241:A:N1	40:a:255:A:H5''	2.36	0.41
40:a:370:G:C6	40:a:424:G:N7	2.89	0.41
40:a:409:G:H2'	40:a:410:G:C8	2.56	0.41
40:a:638:G:H2'	40:a:639:U:C6	2.56	0.41
40:a:689:A:H2'	40:a:690:G:H8	1.85	0.41
40:a:826:U:OP1	40:a:2428:G:H3'	2.20	0.41
40:a:975:A:H1'	40:a:990:A:C2	2.56	0.41
40:a:985:C:O2	40:a:986:C:C6	2.73	0.41
40:a:1239:G:H2'	40:a:1240:U:O4'	2.21	0.41
40:a:1322:A:C4	40:a:1323:C:C6	3.08	0.41
40:a:1351:C:H2'	40:a:1352:U:O4'	2.21	0.41
40:a:1398:C:H2'	40:a:1399:C:H6	1.86	0.41
40:a:1406:U:C2	40:a:1407:G:N7	2.89	0.41
40:a:1582:C:C2'	40:a:1583:A:H5''	2.51	0.41
40:a:1824:G:O5'	47:h:52:ARG:NH1	2.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:1827:U:O2'	40:a:1828:G:H5'	2.19	0.41
40:a:2065:C:C2	40:a:2066:C:C6	3.09	0.41
40:a:2244:U:O2'	40:a:2245:U:H5'	2.20	0.41
40:a:2722:G:C2'	40:a:2723:C:H5'	2.50	0.41
43:d:31:C:O2	43:d:31:C:H2'	2.21	0.41
44:e:2:LYS:HZ1	44:e:49:ASP:CA	2.34	0.41
49:j:37:VAL:HG22	49:j:48:ILE:HD12	2.02	0.41
49:j:55:LYS:HD3	49:j:56:LYS:N	2.36	0.41
49:j:152:PRO:HG3	49:j:156:PHE:CE1	2.53	0.41
49:j:184:ARG:CZ	64:y:7:GLN:OE1	2.65	0.41
53:n:38:MET:HE3	53:n:57:LEU:CD2	2.50	0.41
58:s:1:MET:SD	58:s:2:LYS:O	2.79	0.41
58:s:99:ARG:O	58:s:100:VAL:C	2.63	0.41
59:t:80:ASP:OD1	64:y:68:GLU:OE2	2.39	0.41
59:t:102:PRO:HD3	64:y:66:ASN:HB2	2.02	0.41
60:u:98:ALA:O	60:u:100:ILE:HG13	2.20	0.41
2:1:23:LEU:CD2	2:1:39:THR:HG21	2.50	0.41
3:2:6:ARG:NH2	3:2:10:VAL:CG2	2.84	0.41
3:2:30:ILE:HG22	3:2:32:LEU:HD22	2.03	0.41
6:5:9:DA:H5'	11:AA:473:ARG:CD	2.46	0.41
6:5:27:DG:N2	7:6:3:DC:O2	2.53	0.41
8:7:10:U:O2	8:7:10:U:C3'	2.69	0.41
9:9:23:LEU:HD13	9:9:129:LEU:HD22	2.03	0.41
9:9:43:LYS:HA	9:9:46:ARG:NH2	2.35	0.41
9:9:87:GLU:OE1	9:9:91:ALA:O	2.38	0.41
9:9:94:ARG:HB3	9:9:97:LYS:NZ	2.32	0.41
10:A:5:G:C2'	10:A:6:G:H5'	2.50	0.41
10:A:12:G:H2'	10:A:13:C:OP1	2.20	0.41
10:A:25:C:C4	10:A:26:G:C8	3.09	0.41
10:A:33:U:H5''	26:M:84:THR:CG2	2.50	0.41
11:AA:310:ILE:HG21	11:AA:325:LEU:HB3	2.03	0.41
11:AA:803:ALA:HB2	11:AA:1094:VAL:HG21	2.03	0.41
11:AA:874:GLY:HA2	13:AC:66:HIS:HB3	2.03	0.41
12:AB:16:ARG:HD3	12:AB:73:ARG:CZ	2.51	0.41
12:AB:138:ARG:HB3	12:AB:139:SER:H	1.69	0.41
12:AB:140:MET:SD	12:AB:140:MET:O	2.79	0.41
13:AD:22:THR:OG1	13:AD:207:THR:OG1	2.36	0.41
13:AD:76:GLU:HB3	13:AD:80:GLU:HB3	2.01	0.41
14:AE:138:VAL:HG21	14:AE:145:VAL:HB	2.03	0.41
14:AE:513:MET:HE1	14:AE:579:LEU:HD13	2.01	0.41
10:B:25:C:C4	10:B:26:G:C8	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:B:47:U:O2'	10:B:50:U:OP1	2.37	0.41
17:D:124:C:H2'	17:D:125:U:C6	2.56	0.41
17:D:124:C:C2	17:D:125:U:C5	3.08	0.41
17:D:376:G:O3'	34:U:5:ARG:NE	2.54	0.41
17:D:414:A:C2	17:D:415:A:N9	2.89	0.41
17:D:501:C:H1'	17:D:549:C:H1'	2.01	0.41
17:D:552:U:H2'	17:D:553:A:H8	1.85	0.41
17:D:570:G:H1'	17:D:820:U:C4	2.55	0.41
17:D:680:C:C2	17:D:681:A:C8	3.09	0.41
17:D:695:A:O5'	30:Q:53:ARG:CZ	2.69	0.41
17:D:921:U:H4'	24:K:23:LYS:HZ3	1.83	0.41
17:D:958:A:H5'	36:W:55:ARG:HH12	1.86	0.41
17:D:1113:C:C2	17:D:1114:C:C5	3.08	0.41
18:E:9:LYS:HG2	18:E:13:GLN:NE2	2.36	0.41
18:E:59:ASP:OD1	18:E:76:LYS:HE2	2.21	0.41
20:G:20:THR:O	20:G:23:TRP:CD1	2.74	0.41
21:H:70:VAL:O	21:H:71:ALA:HB2	2.20	0.41
21:H:267:TRP:CD2	21:H:340:ARG:HG3	2.56	0.41
22:I:8:ASN:O	22:I:12:LEU:HD23	2.21	0.41
25:L:36:ILE:HD11	25:L:62:MET:HE2	2.03	0.41
25:L:51:ILE:CG2	25:L:86:ARG:HH21	2.34	0.41
30:Q:94:GLU:O	30:Q:94:GLU:OE2	2.39	0.41
31:R:24:LEU:CD2	31:R:95:TYR:CE1	3.04	0.41
32:S:10:GLU:OE1	32:S:63:ARG:HG3	2.20	0.41
33:T:26:GLU:CG	33:T:27:VAL:N	2.83	0.41
34:U:18:GLN:OE1	34:U:35:ARG:NE	2.54	0.41
35:V:11:ARG:HD3	35:V:57:ASP:C	2.46	0.41
37:X:55:THR:CG2	37:X:59:GLU:OE2	2.69	0.41
39:Z:19:VAL:O	39:Z:23:ILE:HG12	2.21	0.41
40:a:126:A:O5'	52:m:19:ARG:HG3	2.21	0.41
40:a:134:G:H2'	40:a:135:U:H6	1.85	0.41
40:a:205:G:O2'	40:a:206:U:OP2	2.39	0.41
40:a:209:C:C2	40:a:210:C:C6	3.09	0.41
40:a:319:G:H2'	40:a:320:A:O4'	2.20	0.41
40:a:686:U:O4	52:m:12:ARG:CD	2.64	0.41
40:a:1026:G:C8	40:a:1134:A:C4	3.08	0.41
40:a:1047:G:N2	40:a:1110:G:O2'	2.53	0.41
40:a:1248:G:O2'	65:z:3:ARG:HA	2.21	0.41
40:a:1250:G:OP2	60:u:21:ARG:NE	2.47	0.41
40:a:1427:A:H4'	40:a:1428:C:O4'	2.21	0.41
40:a:1542:U:H2'	40:a:1543:G:O4'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:1558:C:O4'	40:a:1560:G:C8	2.74	0.41
40:a:1665:A:O3'	59:t:66:LYS:NZ	2.44	0.41
40:a:1824:G:H5''	47:h:52:ARG:NH2	2.36	0.41
40:a:1843:C:H2'	40:a:1844:C:H6	1.85	0.41
40:a:2040:G:H2'	40:a:2041:U:O4'	2.20	0.41
40:a:2065:C:N3	40:a:2066:C:C5	2.89	0.41
40:a:2393:U:H2'	40:a:2394:C:C6	2.56	0.41
40:a:2627:G:H2'	40:a:2628:C:C6	2.56	0.41
40:a:2813:A:H2'	40:a:2814:A:H8	1.84	0.41
41:b:55:ARG:CZ	41:b:55:ARG:CA	2.99	0.41
43:d:55:U:H2'	43:d:56:G:C8	2.56	0.41
45:f:42:PRO:N	45:f:45:ARG:NH1	2.69	0.41
47:h:75:PRO:O	47:h:97:LYS:HD3	2.21	0.41
47:h:124:ILE:O	47:h:124:ILE:HG22	2.21	0.41
48:i:14:GLY:HA2	48:i:17:ARG:HG2	2.02	0.41
49:j:11:MET:SD	49:j:12:THR:N	2.94	0.41
49:j:55:LYS:HD3	49:j:55:LYS:C	2.45	0.41
49:j:146:ILE:HA	49:j:159:LYS:NZ	2.36	0.41
50:k:21:TYR:CZ	50:k:38:LYS:CG	3.04	0.41
50:k:26:ASN:OD1	50:k:28:ARG:CZ	2.69	0.41
51:l:6:LYS:HE2	51:l:6:LYS:HB2	1.74	0.41
52:m:26:ASN:HA	52:m:29:GLN:NE2	2.36	0.41
53:n:26:MET:HE3	53:n:26:MET:HB2	1.93	0.41
53:n:33:LYS:CA	53:n:96:MET:SD	3.07	0.41
53:n:38:MET:HE3	53:n:57:LEU:HD23	2.01	0.41
53:n:141:ILE:HD11	53:n:146:VAL:CG1	2.51	0.41
54:o:22:PHE:CE1	54:o:62:LEU:HD23	2.55	0.41
55:p:94:TYR:HE1	55:p:152:ARG:CD	2.34	0.41
58:s:92:MET:HB2	58:s:92:MET:HE3	1.13	0.41
59:t:7:MET:CE	59:t:20:MET:HB2	2.51	0.41
59:t:58:LEU:N	59:t:58:LEU:HD23	2.36	0.41
60:u:95:LEU:HD13	60:u:100:ILE:CD1	2.51	0.41
61:v:31:PHE:CZ	61:v:110:GLU:HG3	2.56	0.41
61:v:45:GLN:HE22	61:v:125:PRO:HD2	1.85	0.41
61:v:49:ALA:O	61:v:50:ARG:C	2.62	0.41
61:v:106:ASP:OD1	61:v:106:ASP:C	2.64	0.41
62:w:38:LEU:HD12	62:w:38:LEU:HA	1.72	0.41
62:w:70:THR:O	62:w:71:ARG:HB2	2.20	0.41
62:w:87:PHE:O	62:w:88:ALA:C	2.64	0.41
64:y:6:LYS:HD2	64:y:6:LYS:C	2.46	0.41
64:y:48:ILE:HD11	64:y:101:ARG:NH1	2.36	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:36:LEU:HD22	2:1:48:LYS:HA	2.03	0.41
3:2:19:LYS:HE2	3:2:84:TYR:OH	2.21	0.41
3:2:26:LYS:HA	3:2:26:LYS:HE3	2.02	0.41
8:7:32:U:C3'	8:7:32:U:C6	3.04	0.41
10:A:41:C:H4'	26:M:143:ARG:CZ	2.51	0.41
12:AB:37:LYS:HD2	12:AB:37:LYS:HA	1.75	0.41
14:AE:79:LYS:HB3	14:AE:79:LYS:NZ	2.36	0.41
14:AE:247:PRO:HA	14:AE:250:ARG:HE	1.86	0.41
10:B:59:A:C5	10:B:60:U:C5	3.08	0.41
16:C:44:ILE:HG21	21:H:339:ARG:C	2.45	0.41
17:D:21:G:N2	17:D:22:G:C6	2.88	0.41
17:D:429:U:H3	17:D:431:A:N6	2.18	0.41
17:D:567:G:H2'	17:D:568:G:O4'	2.21	0.41
17:D:680:C:H2'	17:D:681:A:H8	1.85	0.41
17:D:687:A:C8	17:D:701:U:C4	3.08	0.41
17:D:915:A:H8	17:D:915:A:O5'	2.04	0.41
17:D:1061:G:C6	17:D:1197:A:C6	3.09	0.41
17:D:1075:U:O3'	20:G:174:LYS:NZ	2.51	0.41
20:G:36:ASN:ND2	21:H:19:ARG:HD2	2.36	0.41
20:G:94:HIS:O	20:G:95:ARG:C	2.64	0.41
21:H:293:PHE:HA	21:H:302:GLY:O	2.20	0.41
22:I:8:ASN:O	22:I:12:LEU:CD2	2.69	0.41
22:I:72:ARG:CD	22:I:75:ILE:HB	2.51	0.41
22:I:155:GLY:HA2	22:I:163:ALA:HB1	2.03	0.41
22:I:156:ARG:HD3	22:I:160:ALA:O	2.21	0.41
23:J:76:TYR:CD1	23:J:76:TYR:C	2.98	0.41
25:L:42:TRP:HB3	25:L:59:TYR:HB2	2.03	0.41
26:M:23:LEU:N	26:M:23:LEU:CD1	2.81	0.41
27:N:59:LEU:HD23	27:N:59:LEU:HA	1.93	0.41
28:O:118:LEU:HB3	28:O:120:LYS:O	2.21	0.41
32:S:10:GLU:CD	32:S:63:ARG:HD2	2.45	0.41
36:W:17:LYS:HB3	36:W:21:LYS:NZ	2.36	0.41
40:a:443:A:N1	51:l:40:ARG:NH2	2.68	0.41
40:a:485:C:N3	40:a:486:C:C5	2.89	0.41
40:a:540:C:C2	40:a:541:A:C8	3.09	0.41
40:a:829:A:N7	40:a:2247:A:O2'	2.52	0.41
40:a:1009:A:N3	40:a:1153:C:O2'	2.48	0.41
40:a:1057:A:C2	40:a:1082:U:N3	2.89	0.41
40:a:1548:A:H2'	40:a:1549:A:C8	2.56	0.41
40:a:1822:C:O2'	40:a:1823:G:H5'	2.21	0.41
40:a:1945:G:H2'	40:a:1946:U:C6	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:2205:A:H2'	40:a:2206:C:C6	2.56	0.41
40:a:2520:C:O2'	40:a:2521:C:H5'	2.20	0.41
40:a:2619:C:O2'	40:a:2620:C:H5'	2.21	0.41
41:b:55:ARG:NE	41:b:55:ARG:CA	2.84	0.41
48:i:34:SER:OG	48:i:36:GLU:HG2	2.20	0.41
49:j:5:VAL:HB	49:j:32:ASN:HD21	1.86	0.41
49:j:146:ILE:HA	49:j:159:LYS:HZ1	1.86	0.41
50:k:19:HIS:CD2	50:k:20:PHE:H	2.39	0.41
51:l:108:ILE:HD11	51:l:180:LEU:CD1	2.50	0.41
51:l:148:ILE:O	51:l:169:VAL:HA	2.21	0.41
53:n:150:ARG:HG2	53:n:151:GLY:N	2.36	0.41
53:n:170:LEU:HB2	53:n:177:PHE:HZ	1.86	0.41
59:t:1:MET:HE3	59:t:32:TYR:CB	2.50	0.41
62:w:17:ARG:O	62:w:21:PHE:HD2	2.04	0.41
62:w:73:ASN:ND2	62:w:73:ASN:O	2.50	0.41
1:0:13:ARG:C	1:0:14:VAL:HG13	2.46	0.40
2:1:1:MET:HG3	2:1:62:ASP:OD2	2.22	0.40
8:7:4:U:C6	17:D:1403:C:H1'	2.57	0.40
9:9:94:ARG:O	9:9:98:GLU:HG2	2.21	0.40
10:A:16:C:O2	10:A:16:C:H2'	2.21	0.40
10:A:76:A:C2'	40:a:2394:C:N3	2.80	0.40
11:AA:998:LEU:HD21	11:AA:1015:ALA:HB2	2.02	0.40
12:AB:117:ILE:HD13	14:AE:53:ARG:N	2.36	0.40
10:B:68:C:C4	10:B:69:C:C5	3.08	0.40
16:C:34:THR:HB	16:C:38:LYS:N	2.35	0.40
16:C:54:GLN:HG3	16:C:55:LEU:H	1.85	0.40
17:D:71:A:C6	17:D:100:G:N7	2.89	0.40
17:D:105:G:H2'	17:D:106:C:C6	2.56	0.40
17:D:107:G:C6	17:D:108:G:C4	3.09	0.40
17:D:135:C:H2'	34:U:1:MET:CE	2.51	0.40
17:D:436:C:N3	17:D:437:U:C5	2.89	0.40
17:D:517:G:O2'	17:D:530:G:H4'	2.21	0.40
17:D:562:U:O3'	31:R:12:ARG:HD2	2.20	0.40
17:D:1119:C:C2	17:D:1120:C:C5	3.09	0.40
18:E:45:ALA:O	18:E:48:GLN:NE2	2.49	0.40
18:E:55:GLN:N	18:E:56:PRO:HD2	2.36	0.40
19:F:12:PHE:O	19:F:16:LEU:HG	2.21	0.40
22:I:34:ASP:O	22:I:38:LYS:HG3	2.21	0.40
24:K:133:PRO:HA	24:K:136:VAL:HG12	2.02	0.40
25:L:24:ARG:HA	25:L:24:ARG:NE	2.36	0.40
26:M:37:SER:HA	28:O:41:ARG:HH22	1.85	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:R:59:ASN:OD1	31:R:59:ASN:C	2.62	0.40
35:V:7:THR:C	35:V:8:LEU:HD12	2.46	0.40
38:Y:100:ILE:CG1	38:Y:139:VAL:CB	2.97	0.40
40:a:184:C:C2	40:a:213:A:N1	2.89	0.40
40:a:235:U:H2'	40:a:236:C:H6	1.86	0.40
40:a:379:G:C6	40:a:396:G:O6	2.75	0.40
40:a:529:A:C4	40:a:2023:C:C5	3.09	0.40
40:a:1019:U:OP1	40:a:1035:U:O2'	2.32	0.40
40:a:1177:G:O2'	40:a:1178:C:O4'	2.39	0.40
40:a:1289:C:H2'	40:a:1290:C:C6	2.56	0.40
40:a:1858:A:C2	40:a:1885:A:C1'	3.05	0.40
40:a:2298:A:N3	40:a:2321:U:C5	2.89	0.40
40:a:2422:C:C4	40:a:2424:C:C4	3.09	0.40
40:a:2531:A:C4	40:a:2532:G:C8	3.08	0.40
40:a:2557:G:H2'	40:a:2558:C:H6	1.84	0.40
41:b:17:GLU:OE1	41:b:19:LYS:NZ	2.54	0.40
45:f:25:LEU:C	45:f:25:LEU:HD23	2.46	0.40
47:h:161:TYR:HB3	47:h:194:GLU:HG2	2.03	0.40
48:i:28:LEU:CB	48:i:37:LYS:HE3	2.51	0.40
49:j:68:PHE:CZ	49:j:79:LEU:HD21	2.56	0.40
49:j:104:VAL:CG1	49:j:106:LYS:O	2.69	0.40
53:n:30:ARG:O	53:n:159:THR:HG23	2.21	0.40
55:p:45:HIS:HA	55:p:50:LEU:HD13	2.02	0.40
55:p:149:ARG:CZ	55:p:154:PRO:CD	2.98	0.40
57:r:8:LYS:HD2	57:r:9:VAL:H	1.86	0.40
58:s:114:LEU:O	58:s:118:MET:HG3	2.21	0.40
60:u:101:ILE:HG13	60:u:102:GLY:N	2.36	0.40
62:w:78:LYS:HA	62:w:82:GLU:OE1	2.21	0.40
62:w:84:GLY:N	62:w:85:PRO:HD2	2.36	0.40
2:1:10:ALA:CB	2:1:103:ILE:CD1	2.99	0.40
8:7:1:A:H61	10:B:37:A:N6	2.19	0.40
13:AC:48:LEU:HD23	13:AC:48:LEU:HA	1.86	0.40
14:AE:1272:SER:HB2	14:AE:1292:LEU:HD11	2.02	0.40
16:C:38:LYS:NZ	17:D:718:A:C6	2.79	0.40
17:D:105:G:C6	17:D:106:C:C4	3.10	0.40
17:D:114:U:H2'	17:D:115:G:C8	2.56	0.40
17:D:174:A:C5	17:D:175:C:C5	3.10	0.40
17:D:264:C:H2'	17:D:265:G:O4'	2.21	0.40
17:D:502:A:H2'	17:D:503:C:H6	1.86	0.40
17:D:597:G:N7	17:D:598:U:C5	2.89	0.40
17:D:610:U:C4	17:D:611:C:C5	3.10	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:1000:A:N1	17:D:1041:G:C6	2.89	0.40
17:D:1141:C:O2'	17:D:1142:G:P	2.79	0.40
18:E:15:GLU:CD	18:E:16:LYS:N	2.80	0.40
19:F:66:ARG:NH2	19:F:67:ARG:HH22	2.19	0.40
20:G:96:TRP:CH2	20:G:100:MET:CE	3.03	0.40
21:H:119:GLY:HA3	21:H:132:PRO:C	2.47	0.40
22:I:135:LYS:HG3	22:I:136:ARG:N	2.35	0.40
23:J:122:ALA:HB1	23:J:145:ILE:HD11	2.03	0.40
23:J:202:GLU:HA	23:J:205:SER:OG	2.22	0.40
29:P:56:HIS:ND1	29:P:57:VAL:HG23	2.36	0.40
30:Q:49:GLY:C	30:Q:51:GLY:H	2.29	0.40
32:S:37:SER:O	32:S:41:ARG:HG3	2.22	0.40
34:U:69:ASP:OD1	34:U:69:ASP:C	2.63	0.40
39:Z:6:GLN:O	39:Z:6:GLN:HG3	2.21	0.40
40:a:16:C:C4'	48:i:15:MET:CE	2.99	0.40
40:a:48:G:C2	40:a:178:G:C6	3.10	0.40
40:a:482:A:O2'	40:a:497:A:N1	2.44	0.40
40:a:545:U:O2'	40:a:546:U:O3'	2.39	0.40
40:a:1144:A:C6	40:a:1145:C:C4	3.09	0.40
40:a:1494:A:H2'	40:a:1495:A:C8	2.56	0.40
40:a:1820:U:C2	47:h:201:MET:CE	3.03	0.40
40:a:2216:G:H2'	40:a:2217:G:C8	2.57	0.40
40:a:2364:C:O2'	41:b:58:THR:HG21	2.22	0.40
40:a:2483:C:H1'	61:v:51:ARG:CZ	2.51	0.40
40:a:2549:G:C2	40:a:2550:G:C5	3.10	0.40
40:a:2649:C:C2	40:a:2650:U:C6	3.08	0.40
40:a:2808:G:N1	40:a:2891:U:C5	2.89	0.40
40:a:2839:G:C4	40:a:2840:C:C6	3.09	0.40
43:d:8:C:O2'	63:x:40:ILE:HD13	2.21	0.40
44:e:44:LYS:HZ3	44:e:48:ARG:HE	1.69	0.40
46:g:7:PRO:CG	53:n:62:GLY:O	2.69	0.40
47:h:18:LYS:HE3	47:h:20:VAL:HG21	2.02	0.40
49:j:3:GLY:C	49:j:4:LEU:HD12	2.47	0.40
53:n:8:TYR:O	53:n:13:VAL:HG23	2.20	0.40
53:n:136:ILE:HA	53:n:141:ILE:CG2	2.51	0.40
53:n:138:PHE:O	53:n:141:ILE:HG22	2.20	0.40
55:p:149:ARG:NH1	55:p:154:PRO:CG	2.84	0.40
56:q:4:ARG:O	56:q:37:GLN:HA	2.22	0.40
61:v:112:LEU:HD12	61:v:112:LEU:H	1.86	0.40
62:w:12:ARG:CZ	62:w:20:MET:HE1	2.52	0.40
1:0:77:PHE:HE1	1:0:79:ARG:HA	1.86	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:32:ALA:O	2:1:36:LEU:CD1	2.70	0.40
4:3:6:ARG:NH1	40:a:84:A:C2'	2.84	0.40
4:3:6:ARG:N	4:3:9:ASP:OD2	2.49	0.40
4:3:84:GLY:C	4:3:95:PHE:CE2	2.99	0.40
4:3:86:ARG:NH2	4:3:95:PHE:CB	2.84	0.40
5:4:53:LYS:HB2	5:4:56:PHE:HE2	1.83	0.40
8:7:21:U:H5''	22:I:80:LYS:N	2.18	0.40
9:9:43:LYS:HG2	9:9:98:GLU:CD	2.47	0.40
9:9:117:LEU:O	9:9:117:LEU:CD2	2.67	0.40
11:AA:135:THR:HG22	11:AA:144:VAL:HG22	2.03	0.40
11:AA:979:LEU:HD11	11:AA:1011:LEU:HD11	2.03	0.40
12:AB:26:VAL:HB	12:AB:59:PHE:CD2	2.56	0.40
17:D:18:C:C2	17:D:19:A:C8	3.09	0.40
17:D:375:U:H1'	34:U:28:ARG:NH2	2.36	0.40
17:D:505:G:H2'	17:D:506:G:C8	2.57	0.40
17:D:983:A:C2	17:D:984:C:C6	3.10	0.40
17:D:985:C:C2	17:D:986:U:C5	3.08	0.40
17:D:1372:U:H2'	17:D:1373:G:O4'	2.22	0.40
20:G:85:LEU:HD23	20:G:85:LEU:C	2.46	0.40
20:G:90:PHE:CD2	20:G:154:MET:SD	3.14	0.40
24:K:147:MET:O	24:K:147:MET:HE3	2.21	0.40
26:M:18:PHE:CD2	26:M:59:LEU:HG	2.56	0.40
28:O:21:ILE:HD12	28:O:86:ALA:CB	2.50	0.40
33:T:71:LYS:NZ	33:T:78:TYR:CD2	2.87	0.40
37:X:3:ARG:NH2	46:g:35:ASP:HB2	2.36	0.40
39:Z:6:GLN:CD	39:Z:10:ALA:HB2	2.45	0.40
40:a:18:U:H2'	40:a:19:A:H8	1.86	0.40
40:a:392:U:N3	40:a:393:C:C5	2.90	0.40
40:a:397:U:H2'	40:a:398:C:C6	2.56	0.40
40:a:2024:G:C5	40:a:2040:G:C2	3.09	0.40
40:a:2656:U:O2	40:a:2656:U:H2'	2.21	0.40
40:a:2821:A:H4'	49:j:167:ASN:ND2	2.36	0.40
47:h:91:ILE:HG21	47:h:103:TYR:HB3	2.03	0.40
47:h:189:ARG:HG3	47:h:190:ALA:N	2.36	0.40
47:h:210:ALA:HA	47:h:213:TRP:CE3	2.56	0.40
49:j:108:ASP:OD1	49:j:173:GLN:HA	2.21	0.40
51:l:46:GLN:O	51:l:88:ARG:NH2	2.53	0.40
51:l:170:ARG:HH22	51:l:176:ASP:H	1.68	0.40
55:p:83:PHE:HB2	55:p:141:ILE:CD1	2.52	0.40
59:t:1:MET:HE1	59:t:32:TYR:HB3	2.03	0.40
59:t:59:LYS:NZ	59:t:92:GLU:HG2	2.36	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:v:50:ARG:O	61:v:53:MET:SD	2.80	0.40
1:0:75:VAL:HG12	65:z:44:GLN:OE1	2.22	0.40
8:7:1:A:C6	8:7:2:U:C4	3.10	0.40
9:9:82:ILE:HD13	9:9:82:ILE:HA	1.98	0.40
10:A:1:C:C5	10:A:2:G:N7	2.89	0.40
10:A:16:C:H3'	10:A:17:C:H5''	2.04	0.40
10:A:21:A:HO2'	10:A:22:G:P	2.44	0.40
12:AB:115:LYS:HB3	12:AB:115:LYS:HZ1	1.87	0.40
13:AD:44:ARG:HA	13:AD:183:ILE:HD12	2.04	0.40
14:AE:205:LEU:HA	14:AE:205:LEU:HD23	1.89	0.40
14:AE:367:GLY:HA3	14:AE:448:GLN:HB2	2.03	0.40
10:B:9:G:H5''	10:B:11:A:OP2	2.21	0.40
10:B:29:G:C6	10:B:42:G:C6	3.10	0.40
17:D:262:A:C4	17:D:263:A:C8	3.10	0.40
17:D:695:A:OP1	30:Q:54:GLY:HA3	2.21	0.40
17:D:1071:C:H5'	24:K:54:ARG:NH2	2.37	0.40
17:D:1086:U:H3	17:D:1099:G:H22	1.70	0.40
18:E:9:LYS:HG3	18:E:13:GLN:HE22	1.87	0.40
18:E:48:GLN:NE2	18:E:49:LYS:HB2	2.37	0.40
21:H:42:LEU:HD23	21:H:81:GLU:HB3	2.04	0.40
23:J:188:ARG:NH2	23:J:195:ILE:HG13	2.36	0.40
24:K:156:LYS:HA	27:N:66:PHE:CG	2.57	0.40
25:L:1:MET:HE2	25:L:66:ALA:C	2.47	0.40
28:O:83:ILE:O	28:O:87:LEU:CD2	2.68	0.40
29:P:21:ALA:HB1	29:P:92:LEU:HD23	2.04	0.40
30:Q:82:LEU:CD1	30:Q:105:PHE:CG	3.05	0.40
31:R:79:VAL:O	31:R:103:ASP:HB2	2.20	0.40
37:X:65:VAL:CG2	37:X:66:GLU:OE1	2.70	0.40
38:Y:55:PRO:C	38:Y:71:LYS:CE	2.95	0.40
38:Y:66:PHE:HE2	38:Y:68:PHE:HB3	1.87	0.40
40:a:272:A:C2	40:a:273:G:C8	3.09	0.40
40:a:910:A:N1	40:a:2277:G:H1'	2.36	0.40
40:a:945:A:C4	40:a:2448:A:C2	3.09	0.40
40:a:1355:G:C2	40:a:1356:G:C8	3.09	0.40
40:a:1430:G:H2'	40:a:1431:A:C8	2.56	0.40
40:a:1449:G:C6	40:a:1450:G:N7	2.89	0.40
40:a:1520:U:O4	40:a:1521:G:C6	2.75	0.40
40:a:2366:A:H2'	40:a:2367:G:O4'	2.21	0.40
40:a:2759:G:H1'	55:p:35:ARG:HH22	1.87	0.40
42:c:3:ARG:HD2	42:c:30:LEU:CD1	2.51	0.40
42:c:67:VAL:CA	42:c:70:GLU:OE1	2.69	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:e:14:LEU:CA	44:e:17:GLU:OE1	2.70	0.40
45:f:5:ILE:HG22	45:f:6:LYS:N	2.36	0.40
46:g:57:VAL:O	46:g:58:ASP:C	2.62	0.40
47:h:74:ILE:HG22	47:h:96:TYR:HD1	1.86	0.40
59:t:121:GLU:OE1	59:t:121:GLU:HA	2.21	0.40
61:v:57:VAL:CG2	61:v:60:GLN:O	2.69	0.40
64:y:48:ILE:HD11	64:y:101:ARG:HH11	1.86	0.40
2:1:93:ALA:HB2	40:a:1614:A:C2	2.57	0.40
4:3:47:LYS:NZ	40:a:482:A:C5'	2.85	0.40
8:7:21:U:C6	8:7:21:U:C3'	3.04	0.40
11:AA:1105:SER:HB2	14:AE:731:ARG:HB3	2.03	0.40
11:AA:1247:SER:OG	11:AA:1248:THR:N	2.55	0.40
14:AE:82:GLY:CA	22:I:100:GLN:NE2	2.85	0.40
14:AE:438:GLU:HG3	14:AE:485:MET:HE1	2.03	0.40
14:AE:1003:LEU:HD23	14:AE:1018:ALA:HB2	2.02	0.40
16:C:51:TYR:HA	16:C:54:GLN:NE2	2.36	0.40
17:D:74:A:C4	17:D:75:G:C8	3.09	0.40
17:D:228:A:C4'	34:U:63:GLN:CD	2.95	0.40
17:D:437:U:H5''	23:J:152:GLN:CD	2.46	0.40
17:D:619:U:C1'	23:J:128:ARG:NH1	2.85	0.40
17:D:932:C:OP1	26:M:4:ARG:NH1	2.55	0.40
19:F:4:ILE:HD12	19:F:19:PHE:HA	2.03	0.40
20:G:17:GLY:C	21:H:43:LYS:HD2	2.46	0.40
20:G:56:GLU:HG2	20:G:198:PHE:CZ	2.55	0.40
20:G:126:PHE:O	20:G:127:ASP:C	2.65	0.40
22:I:6:HIS:CD2	22:I:9:GLY:H	2.39	0.40
23:J:74:ASN:OD1	23:J:74:ASN:C	2.64	0.40
23:J:138:SER:C	23:J:182:PHE:CE2	3.00	0.40
28:O:25:ASN:HB2	28:O:27:LYS:NZ	2.36	0.40
29:P:73:LEU:HD23	29:P:73:LEU:O	2.21	0.40
33:T:17:ARG:HG3	33:T:18:ASP:N	2.36	0.40
33:T:67:LEU:CD1	33:T:78:TYR:CE1	3.04	0.40
36:W:34:TRP:O	36:W:36:ARG:N	2.54	0.40
38:Y:28:GLY:HA3	38:Y:32:VAL:HB	2.03	0.40
38:Y:100:ILE:HG13	38:Y:139:VAL:CB	2.51	0.40
40:a:320:A:H2'	51:l:131:THR:HG21	2.03	0.40
40:a:581:C:C2	40:a:582:A:N7	2.90	0.40
40:a:814:C:N3	40:a:815:C:C5	2.89	0.40
40:a:849:A:H2'	40:a:850:U:H6	1.87	0.40
40:a:873:C:C2	40:a:874:G:C8	3.09	0.40
40:a:1443:U:C2	40:a:1444:G:C8	3.09	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:1945:G:H2'	40:a:1946:U:H6	1.87	0.40
40:a:2079:U:O2'	42:c:23:ASN:OD1	2.40	0.40
40:a:2314:A:O2'	53:n:155:THR:CG2	2.69	0.40
44:e:13:GLU:O	44:e:14:LEU:C	2.63	0.40
47:h:157:SER:O	47:h:195:VAL:CG1	2.70	0.40
47:h:220:VAL:CG2	47:h:225:MET:HE3	2.51	0.40
47:h:246:THR:HB	47:h:247:PRO:HD2	2.04	0.40
55:p:52:PHE:CE1	55:p:69:ARG:HD3	2.55	0.40
57:r:54:LEU:HD12	57:r:57:LYS:HE2	2.03	0.40
58:s:49:ASP:OD1	58:s:121:LYS:NZ	2.54	0.40
59:t:35:VAL:HG11	59:t:69:VAL:HG11	2.04	0.40
60:u:96:LYS:HG2	60:u:102:GLY:O	2.20	0.40
64:y:114:LEU:HG	64:y:115:ASN:N	2.36	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	0	101/103 (98%)	97 (96%)	4 (4%)	0	100	100
2	1	108/110 (98%)	107 (99%)	1 (1%)	0	100	100
3	2	92/100 (92%)	87 (95%)	5 (5%)	0	100	100
4	3	101/104 (97%)	98 (97%)	3 (3%)	0	100	100
5	4	92/94 (98%)	89 (97%)	3 (3%)	0	100	100
9	9	146/165 (88%)	100 (68%)	43 (30%)	3 (2%)	5	31
11	AA	1312/1342 (98%)	1193 (91%)	118 (9%)	1 (0%)	48	79
12	AB	159/162 (98%)	107 (67%)	36 (23%)	16 (10%)	0	2
13	AC	217/329 (66%)	203 (94%)	12 (6%)	2 (1%)	14	47
13	AD	214/329 (65%)	198 (92%)	16 (8%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
14	AE	1331/1407 (95%)	1212 (91%)	113 (8%)	6 (0%)	24	59
15	AF	80/91 (88%)	77 (96%)	3 (4%)	0	100	100
16	C	64/75 (85%)	63 (98%)	1 (2%)	0	100	100
18	E	84/87 (97%)	83 (99%)	1 (1%)	0	100	100
19	F	68/71 (96%)	68 (100%)	0	0	100	100
20	G	223/241 (92%)	212 (95%)	10 (4%)	1 (0%)	30	62
21	H	255/557 (46%)	182 (71%)	66 (26%)	7 (3%)	4	25
22	I	206/233 (88%)	193 (94%)	13 (6%)	0	100	100
23	J	203/206 (98%)	201 (99%)	2 (1%)	0	100	100
24	K	154/167 (92%)	145 (94%)	8 (5%)	1 (1%)	21	56
25	L	102/135 (76%)	97 (95%)	4 (4%)	1 (1%)	12	45
26	M	149/179 (83%)	140 (94%)	8 (5%)	1 (1%)	18	52
27	N	127/130 (98%)	123 (97%)	4 (3%)	0	100	100
28	O	125/130 (96%)	116 (93%)	8 (6%)	1 (1%)	16	50
29	P	97/103 (94%)	89 (92%)	8 (8%)	0	100	100
30	Q	115/129 (89%)	107 (93%)	8 (7%)	0	100	100
31	R	117/124 (94%)	112 (96%)	5 (4%)	0	100	100
32	S	98/101 (97%)	97 (99%)	1 (1%)	0	100	100
33	T	86/89 (97%)	83 (96%)	3 (4%)	0	100	100
34	U	80/82 (98%)	76 (95%)	4 (5%)	0	100	100
35	V	78/84 (93%)	74 (95%)	4 (5%)	0	100	100
36	W	81/92 (88%)	80 (99%)	1 (1%)	0	100	100
37	X	114/118 (97%)	103 (90%)	9 (8%)	2 (2%)	6	34
38	Y	139/142 (98%)	101 (73%)	38 (27%)	0	100	100
39	Z	28/121 (23%)	22 (79%)	6 (21%)	0	100	100
41	b	74/85 (87%)	73 (99%)	1 (1%)	0	100	100
42	c	75/78 (96%)	72 (96%)	3 (4%)	0	100	100
44	e	60/63 (95%)	57 (95%)	3 (5%)	0	100	100
45	f	56/59 (95%)	52 (93%)	4 (7%)	0	100	100
46	g	64/70 (91%)	62 (97%)	2 (3%)	0	100	100
47	h	269/273 (98%)	255 (95%)	14 (5%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
48	i	54/57 (95%)	49 (91%)	5 (9%)	0	100	100
49	j	207/209 (99%)	198 (96%)	9 (4%)	0	100	100
50	k	50/55 (91%)	50 (100%)	0	0	100	100
51	l	199/201 (99%)	188 (94%)	11 (6%)	0	100	100
52	m	44/46 (96%)	43 (98%)	1 (2%)	0	100	100
53	n	175/179 (98%)	160 (91%)	14 (8%)	1 (1%)	21	56
54	o	62/65 (95%)	57 (92%)	4 (6%)	1 (2%)	7	36
55	p	173/177 (98%)	162 (94%)	11 (6%)	0	100	100
56	q	36/38 (95%)	35 (97%)	1 (3%)	0	100	100
57	r	147/149 (99%)	139 (95%)	8 (5%)	0	100	100
58	s	140/142 (99%)	133 (95%)	7 (5%)	0	100	100
59	t	121/123 (98%)	114 (94%)	7 (6%)	0	100	100
60	u	142/144 (99%)	134 (94%)	8 (6%)	0	100	100
61	v	134/136 (98%)	129 (96%)	5 (4%)	0	100	100
62	w	117/127 (92%)	112 (96%)	5 (4%)	0	100	100
63	x	114/117 (97%)	107 (94%)	7 (6%)	0	100	100
64	y	112/115 (97%)	105 (94%)	7 (6%)	0	100	100
65	z	115/118 (98%)	111 (96%)	4 (4%)	0	100	100
All	All	9486/10558 (90%)	8732 (92%)	710 (8%)	44 (0%)	26	59

All (44) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
12	AB	52	PRO
12	AB	60	ASP
12	AB	87	ILE
12	AB	98	VAL
12	AB	109	THR
20	G	127	ASP
21	H	304	VAL
26	M	56	LYS
54	o	32	ILE
12	AB	39	VAL
12	AB	45	ALA
12	AB	79	VAL
12	AB	105	VAL

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Mol	Chain	Res	Type
12	AB	106	ASP
14	AE	92	VAL
14	AE	175	GLU
21	H	171	ARG
21	H	305	HIS
21	H	309	MET
12	AB	61	PRO
12	AB	146	ILE
24	K	78	ASN
25	L	96	VAL
28	O	13	LYS
53	n	177	PHE
12	AB	67	THR
12	AB	72	THR
13	AC	193	GLU
21	H	82	THR
14	AE	74	LYS
14	AE	286	ALA
21	H	143	ASP
37	X	6	GLY
37	X	66	GLU
9	9	79	PRO
9	9	88	HIS
12	AB	74	GLY
13	AC	192	VAL
14	AE	290	ILE
21	H	71	ALA
14	AE	292	VAL
9	9	129	LEU
11	AA	1317	PRO
12	AB	63	VAL

5.3.2 Protein sidechains ⓘ

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

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

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
14	AE	527/1168 (45%)	526 (100%)	1 (0%)	87	89
15	AF	70/75 (93%)	69 (99%)	1 (1%)	59	77
16	C	57/65 (88%)	57 (100%)	0	100	100
18	E	65/66 (98%)	65 (100%)	0	100	100
19	F	60/61 (98%)	60 (100%)	0	100	100
20	G	187/199 (94%)	187 (100%)	0	100	100
21	H	137/461 (30%)	137 (100%)	0	100	100
22	I	171/190 (90%)	171 (100%)	0	100	100
23	J	172/173 (99%)	171 (99%)	1 (1%)	78	84
24	K	119/126 (94%)	119 (100%)	0	100	100
25	L	91/116 (78%)	91 (100%)	0	100	100
26	M	124/147 (84%)	124 (100%)	0	100	100
27	N	104/105 (99%)	104 (100%)	0	100	100
28	O	105/107 (98%)	105 (100%)	0	100	100
29	P	86/90 (96%)	85 (99%)	1 (1%)	63	79
30	Q	90/99 (91%)	90 (100%)	0	100	100
31	R	101/104 (97%)	101 (100%)	0	100	100
32	S	83/84 (99%)	83 (100%)	0	100	100
33	T	76/77 (99%)	76 (100%)	0	100	100
34	U	65/65 (100%)	65 (100%)	0	100	100
35	V	74/78 (95%)	74 (100%)	0	100	100
36	W	72/79 (91%)	72 (100%)	0	100	100
37	X	94/96 (98%)	94 (100%)	0	100	100
38	Y	109/110 (99%)	109 (100%)	0	100	100
39	Z	26/85 (31%)	26 (100%)	0	100	100
41	b	58/63 (92%)	58 (100%)	0	100	100
42	c	67/68 (98%)	67 (100%)	0	100	100
44	e	54/55 (98%)	54 (100%)	0	100	100
45	f	48/49 (98%)	48 (100%)	0	100	100
46	g	59/62 (95%)	59 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
47	h	216/218 (99%)	216 (100%)	0	100	100
48	i	47/48 (98%)	47 (100%)	0	100	100
49	j	164/164 (100%)	164 (100%)	0	100	100
50	k	47/49 (96%)	47 (100%)	0	100	100
51	l	165/165 (100%)	165 (100%)	0	100	100
52	m	38/38 (100%)	38 (100%)	0	100	100
53	n	148/150 (99%)	148 (100%)	0	100	100
54	o	51/52 (98%)	51 (100%)	0	100	100
55	p	136/138 (99%)	136 (100%)	0	100	100
56	q	34/34 (100%)	34 (100%)	0	100	100
57	r	114/114 (100%)	114 (100%)	0	100	100
58	s	116/116 (100%)	116 (100%)	0	100	100
59	t	104/104 (100%)	104 (100%)	0	100	100
60	u	103/103 (100%)	103 (100%)	0	100	100
61	v	109/109 (100%)	109 (100%)	0	100	100
62	w	99/103 (96%)	99 (100%)	0	100	100
63	x	86/87 (99%)	86 (100%)	0	100	100
64	y	99/100 (99%)	99 (100%)	0	100	100
65	z	89/90 (99%)	89 (100%)	0	100	100
All	All	5116/6305 (81%)	5112 (100%)	4 (0%)	87	91

All (4) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
14	AE	1261	LEU
15	AF	63	ILE
23	J	47	ARG
29	P	88	MET

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (74) such sidechains are listed below:

Mol	Chain	Res	Type
14	AE	777	HIS
14	AE	865	HIS

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Mol	Chain	Res	Type
14	AE	910	ASN
14	AE	1108	GLN
14	AE	1235	ASN
14	AE	1238	GLN
14	AE	1326	GLN
15	AF	31	GLN
15	AF	62	GLN
16	C	54	GLN
18	E	13	GLN
18	E	61	GLN
19	F	9	ASN
20	G	18	HIS
20	G	39	HIS
20	G	94	HIS
22	I	3	GLN
22	I	6	HIS
22	I	8	ASN
22	I	32	ASN
23	J	36	GLN
23	J	131	ASN
23	J	198	HIS
24	K	89	HIS
25	L	3	HIS
25	L	68	GLN
26	M	68	ASN
26	M	86	GLN
28	O	5	GLN
28	O	81	HIS
28	O	126	GLN
29	P	58	ASN
30	Q	64	GLN
31	R	77	HIS
32	S	4	GLN
33	T	80	GLN
34	U	26	ASN
34	U	59	HIS
38	Y	5	GLN
38	Y	104	GLN
44	e	25	GLN
44	e	31	GLN
45	f	20	HIS
45	f	49	ASN

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Mol	Chain	Res	Type
46	g	33	ASN
47	h	53	HIS
47	h	90	ASN
48	i	6	ASN
49	j	173	GLN
50	k	19	HIS
51	l	92	HIS
51	l	156	ASN
51	l	163	ASN
52	m	29	GLN
53	n	5	HIS
53	n	81	GLN
54	o	24	HIS
54	o	28	ASN
56	q	13	ASN
57	r	133	GLN
58	s	86	GLN
58	s	132	HIS
61	v	13	HIS
61	v	45	GLN
61	v	97	GLN
62	w	18	GLN
63	x	19	GLN
63	x	29	HIS
63	x	38	GLN
64	y	10	GLN
64	y	77	HIS
65	z	37	GLN
65	z	72	ASN
65	z	81	ASN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
10	A	75/76 (98%)	29 (38%)	8 (10%)
10	B	75/76 (98%)	29 (38%)	8 (10%)
17	D	1515/1542 (98%)	290 (19%)	21 (1%)
40	a	2859/2904 (98%)	512 (17%)	0
43	d	119/120 (99%)	15 (12%)	0
8	7	36/41 (87%)	26 (72%)	5 (13%)
All	All	4679/4759 (98%)	901 (19%)	42 (0%)

All (901) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
8	7	3	G
8	7	4	U
8	7	5	U
8	7	7	U
8	7	8	U
8	7	9	U
8	7	10	U
8	7	11	U
8	7	12	U
8	7	13	U
8	7	14	U
8	7	15	U
8	7	16	U
8	7	17	U
8	7	18	U
8	7	19	U
8	7	20	U
8	7	21	U
8	7	22	U
8	7	23	U
8	7	29	A
8	7	30	U
8	7	31	U
8	7	32	U
8	7	35	U
8	7	37	A
10	A	2	G
10	A	6	G
10	A	7	G
10	A	8	U
10	A	10	G
10	A	13	C
10	A	14	A
10	A	16	C
10	A	17	C
10	A	18	G
10	A	19	G
10	A	20	U
10	A	21	A
10	A	22	G
10	A	23	C
10	A	30	G

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Mol	Chain	Res	Type
10	A	46	G
10	A	47	U
10	A	48	C
10	A	49	G
10	A	52	G
10	A	57	A
10	A	58	A
10	A	59	A
10	A	61	C
10	A	66	C
10	A	69	C
10	A	71	C
10	A	73	A
10	B	2	G
10	B	6	G
10	B	7	G
10	B	8	U
10	B	10	G
10	B	13	C
10	B	14	A
10	B	16	C
10	B	17	C
10	B	18	G
10	B	19	G
10	B	20	U
10	B	21	A
10	B	22	G
10	B	23	C
10	B	30	G
10	B	46	G
10	B	47	U
10	B	48	C
10	B	49	G
10	B	52	G
10	B	57	A
10	B	58	A
10	B	59	A
10	B	61	C
10	B	66	C
10	B	69	C
10	B	71	C
10	B	73	A

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Mol	Chain	Res	Type
17	D	4	U
17	D	5	U
17	D	9	G
17	D	22	G
17	D	29	U
17	D	32	A
17	D	39	G
17	D	47	C
17	D	48	C
17	D	50	A
17	D	51	A
17	D	52	C
17	D	54	C
17	D	68	G
17	D	69	G
17	D	71	A
17	D	72	A
17	D	74	A
17	D	76	G
17	D	82	G
17	D	83	C
17	D	84	U
17	D	87	C
17	D	90	C
17	D	94	G
17	D	95	C
17	D	96	U
17	D	108	G
17	D	120	A
17	D	121	U
17	D	122	G
17	D	131	A
17	D	141	G
17	D	144	G
17	D	148	G
17	D	149	A
17	D	160	A
17	D	164	G
17	D	173	U
17	D	181	A
17	D	182	A
17	D	183	C

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Mol	Chain	Res	Type
17	D	184	G
17	D	197	A
17	D	198	G
17	D	204	G
17	D	208	U
17	D	209	U
17	D	210	C
17	D	211	G
17	D	212	G
17	D	216	U
17	D	226	G
17	D	245	U
17	D	247	G
17	D	251	G
17	D	253	A
17	D	258	G
17	D	262	A
17	D	266	G
17	D	267	C
17	D	271	C
17	D	279	A
17	D	289	G
17	D	299	G
17	D	306	A
17	D	321	A
17	D	328	C
17	D	329	A
17	D	332	G
17	D	347	G
17	D	352	C
17	D	353	A
17	D	354	G
17	D	355	C
17	D	367	U
17	D	372	C
17	D	373	A
17	D	376	G
17	D	382	A
17	D	384	G
17	D	392	C
17	D	397	A
17	D	398	U

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Mol	Chain	Res	Type
17	D	406	G
17	D	411	A
17	D	412	A
17	D	413	G
17	D	414	A
17	D	421	U
17	D	422	C
17	D	424	G
17	D	429	U
17	D	446	G
17	D	451	A
17	D	457	G
17	D	458	U
17	D	463	U
17	D	464	U
17	D	467	U
17	D	468	A
17	D	469	C
17	D	478	A
17	D	479	U
17	D	481	G
17	D	484	G
17	D	485	U
17	D	486	U
17	D	496	A
17	D	497	G
17	D	505	G
17	D	511	C
17	D	518	C
17	D	519	C
17	D	526	C
17	D	531	U
17	D	532	A
17	D	533	A
17	D	542	G
17	D	547	A
17	D	559	A
17	D	564	C
17	D	568	G
17	D	572	A
17	D	573	A
17	D	576	C

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Mol	Chain	Res	Type
17	D	577	G
17	D	579	A
17	D	596	A
17	D	628	G
17	D	633	G
17	D	649	A
17	D	650	G
17	D	653	U
17	D	665	A
17	D	695	A
17	D	700	G
17	D	723	U
17	D	724	G
17	D	731	G
17	D	734	G
17	D	735	C
17	D	747	A
17	D	748	G
17	D	755	G
17	D	760	G
17	D	777	A
17	D	793	U
17	D	794	A
17	D	815	A
17	D	817	C
17	D	828	U
17	D	829	G
17	D	832	G
17	D	841	C
17	D	843	U
17	D	844	G
17	D	845	A
17	D	846	G
17	D	849	G
17	D	874	G
17	D	887	G
17	D	902	G
17	D	914	A
17	D	916	U
17	D	926	G
17	D	934	C
17	D	935	A

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Mol	Chain	Res	Type
17	D	960	U
17	D	963	G
17	D	965	U
17	D	969	A
17	D	972	C
17	D	975	A
17	D	976	G
17	D	987	G
17	D	991	U
17	D	992	U
17	D	993	G
17	D	996	A
17	D	1004	A
17	D	1008	U
17	D	1009	U
17	D	1017	U
17	D	1018	G
17	D	1021	A
17	D	1024	G
17	D	1026	G
17	D	1028	C
17	D	1030	U
17	D	1031	C
17	D	1037	C
17	D	1043	G
17	D	1044	A
17	D	1046	A
17	D	1065	U
17	D	1085	U
17	D	1094	G
17	D	1095	U
17	D	1099	G
17	D	1101	A
17	D	1108	G
17	D	1124	G
17	D	1133	G
17	D	1135	U
17	D	1136	C
17	D	1137	C
17	D	1139	G
17	D	1140	C
17	D	1141	C

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Mol	Chain	Res	Type
17	D	1142	G
17	D	1143	G
17	D	1145	A
17	D	1146	A
17	D	1151	A
17	D	1152	A
17	D	1159	U
17	D	1167	A
17	D	1171	A
17	D	1174	G
17	D	1175	G
17	D	1176	A
17	D	1184	G
17	D	1193	G
17	D	1196	A
17	D	1197	A
17	D	1206	G
17	D	1211	U
17	D	1212	U
17	D	1213	A
17	D	1214	C
17	D	1215	G
17	D	1226	C
17	D	1227	A
17	D	1228	C
17	D	1238	A
17	D	1257	A
17	D	1260	G
17	D	1275	A
17	D	1276	G
17	D	1278	G
17	D	1279	G
17	D	1280	A
17	D	1285	A
17	D	1286	U
17	D	1287	A
17	D	1299	A
17	D	1300	G
17	D	1302	C
17	D	1305	G
17	D	1312	G
17	D	1317	C

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Mol	Chain	Res	Type
17	D	1320	C
17	D	1323	G
17	D	1338	G
17	D	1340	A
17	D	1346	A
17	D	1347	G
17	D	1353	G
17	D	1363	A
17	D	1370	G
17	D	1378	C
17	D	1379	G
17	D	1381	U
17	D	1391	U
17	D	1396	A
17	D	1397	C
17	D	1398	A
17	D	1404	C
17	D	1419	G
17	D	1429	A
17	D	1441	A
17	D	1446	A
17	D	1447	A
17	D	1448	C
17	D	1452	C
17	D	1453	G
17	D	1475	G
17	D	1487	G
17	D	1491	G
17	D	1492	A
17	D	1493	A
17	D	1494	G
17	D	1497	G
17	D	1503	A
17	D	1506	U
17	D	1517	G
17	D	1529	G
17	D	1530	G
17	D	1534	A
40	a	4	U
40	a	10	A
40	a	15	G
40	a	23	G

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Mol	Chain	Res	Type
40	a	34	U
40	a	35	G
40	a	46	G
40	a	58	G
40	a	60	G
40	a	62	U
40	a	63	A
40	a	71	A
40	a	74	A
40	a	75	G
40	a	83	A
40	a	84	A
40	a	85	G
40	a	96	C
40	a	101	A
40	a	102	U
40	a	103	A
40	a	110	G
40	a	118	A
40	a	119	A
40	a	120	U
40	a	131	A
40	a	136	G
40	a	139	U
40	a	140	C
40	a	141	G
40	a	163	C
40	a	165	A
40	a	181	A
40	a	196	A
40	a	215	G
40	a	216	A
40	a	222	A
40	a	225	C
40	a	248	G
40	a	249	C
40	a	261	G
40	a	264	C
40	a	265	A
40	a	266	G
40	a	267	C
40	a	271	G

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Mol	Chain	Res	Type
40	a	272	A
40	a	275	C
40	a	276	U
40	a	278	A
40	a	285	G
40	a	291	G
40	a	311	A
40	a	329	G
40	a	330	A
40	a	353	C
40	a	361	G
40	a	362	A
40	a	371	A
40	a	372	G
40	a	373	U
40	a	375	G
40	a	383	C
40	a	386	G
40	a	396	G
40	a	405	U
40	a	411	G
40	a	412	A
40	a	420	C
40	a	424	G
40	a	451	U
40	a	457	A
40	a	477	A
40	a	481	G
40	a	491	G
40	a	501	A
40	a	503	A
40	a	504	A
40	a	505	A
40	a	509	C
40	a	522	A
40	a	529	A
40	a	531	C
40	a	532	A
40	a	537	G
40	a	543	G
40	a	545	U
40	a	546	U

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Mol	Chain	Res	Type
40	a	547	A
40	a	549	G
40	a	551	G
40	a	563	A
40	a	569	U
40	a	573	U
40	a	575	A
40	a	588	U
40	a	603	A
40	a	609	A
40	a	613	A
40	a	614	A
40	a	615	U
40	a	616	A
40	a	627	A
40	a	637	A
40	a	645	C
40	a	647	G
40	a	654	A
40	a	668	A
40	a	686	U
40	a	710	U
40	a	717	C
40	a	730	A
40	a	738	G
40	a	757	G
40	a	764	A
40	a	765	C
40	a	775	G
40	a	776	G
40	a	782	A
40	a	784	G
40	a	785	G
40	a	800	A
40	a	805	G
40	a	812	C
40	a	819	A
40	a	827	U
40	a	828	U
40	a	845	A
40	a	846	U
40	a	858	G

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Mol	Chain	Res	Type
40	a	859	G
40	a	869	G
40	a	878	A
40	a	881	G
40	a	884	U
40	a	885	C
40	a	888	C
40	a	891	G
40	a	895	U
40	a	896	A
40	a	897	C
40	a	899	A
40	a	907	G
40	a	910	A
40	a	914	G
40	a	915	C
40	a	931	U
40	a	941	A
40	a	945	A
40	a	946	C
40	a	953	G
40	a	961	C
40	a	974	G
40	a	983	A
40	a	995	C
40	a	996	A
40	a	999	U
40	a	1005	C
40	a	1012	U
40	a	1013	C
40	a	1022	G
40	a	1023	U
40	a	1026	G
40	a	1033	U
40	a	1041	G
40	a	1045	C
40	a	1046	A
40	a	1047	G
40	a	1060	U
40	a	1061	U
40	a	1064	C
40	a	1065	U

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Mol	Chain	Res	Type
40	a	1066	U
40	a	1067	A
40	a	1068	G
40	a	1070	A
40	a	1071	G
40	a	1073	A
40	a	1074	G
40	a	1079	C
40	a	1080	A
40	a	1081	U
40	a	1082	U
40	a	1083	U
40	a	1084	A
40	a	1087	G
40	a	1088	A
40	a	1090	A
40	a	1095	A
40	a	1101	U
40	a	1107	G
40	a	1110	G
40	a	1111	A
40	a	1112	G
40	a	1119	U
40	a	1122	G
40	a	1128	G
40	a	1132	U
40	a	1134	A
40	a	1135	C
40	a	1142	A
40	a	1169	A
40	a	1170	C
40	a	1173	U
40	a	1174	U
40	a	1175	A
40	a	1176	U
40	a	1177	G
40	a	1178	C
40	a	1179	G
40	a	1180	U
40	a	1186	G
40	a	1238	G
40	a	1248	G

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Mol	Chain	Res	Type
40	a	1253	A
40	a	1256	G
40	a	1266	G
40	a	1271	G
40	a	1272	A
40	a	1273	U
40	a	1300	G
40	a	1301	A
40	a	1321	A
40	a	1345	C
40	a	1352	U
40	a	1365	A
40	a	1368	G
40	a	1378	A
40	a	1379	U
40	a	1380	G
40	a	1383	A
40	a	1392	A
40	a	1395	A
40	a	1406	U
40	a	1408	G
40	a	1409	U
40	a	1414	C
40	a	1416	G
40	a	1417	C
40	a	1419	A
40	a	1420	A
40	a	1428	C
40	a	1452	G
40	a	1453	A
40	a	1460	U
40	a	1482	G
40	a	1490	A
40	a	1497	U
40	a	1503	A
40	a	1508	A
40	a	1509	A
40	a	1510	G
40	a	1515	A
40	a	1529	G
40	a	1534	U
40	a	1535	A

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Mol	Chain	Res	Type
40	a	1536	C
40	a	1537	G
40	a	1554	U
40	a	1559	U
40	a	1566	A
40	a	1569	A
40	a	1578	U
40	a	1580	A
40	a	1581	G
40	a	1582	C
40	a	1583	A
40	a	1584	U
40	a	1585	C
40	a	1589	U
40	a	1590	A
40	a	1608	A
40	a	1610	A
40	a	1613	G
40	a	1647	U
40	a	1648	U
40	a	1649	G
40	a	1651	G
40	a	1665	A
40	a	1674	G
40	a	1677	A
40	a	1703	G
40	a	1714	U
40	a	1715	G
40	a	1729	U
40	a	1730	C
40	a	1732	C
40	a	1738	G
40	a	1750	G
40	a	1758	U
40	a	1764	C
40	a	1773	A
40	a	1791	A
40	a	1800	C
40	a	1808	A
40	a	1811	G
40	a	1816	C
40	a	1829	A

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Mol	Chain	Res	Type
40	a	1833	C
40	a	1847	A
40	a	1848	A
40	a	1858	A
40	a	1859	U
40	a	1862	G
40	a	1864	U
40	a	1869	G
40	a	1870	C
40	a	1872	A
40	a	1873	G
40	a	1906	G
40	a	1907	G
40	a	1913	A
40	a	1914	C
40	a	1919	A
40	a	1920	C
40	a	1922	G
40	a	1923	U
40	a	1924	C
40	a	1925	C
40	a	1926	U
40	a	1929	G
40	a	1930	G
40	a	1936	A
40	a	1938	A
40	a	1955	U
40	a	1965	C
40	a	1967	C
40	a	1970	A
40	a	1971	U
40	a	1972	G
40	a	1987	A
40	a	1991	U
40	a	1992	G
40	a	1993	U
40	a	1997	C
40	a	2002	G
40	a	2020	A
40	a	2022	U
40	a	2023	C
40	a	2027	G

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Mol	Chain	Res	Type
40	a	2033	A
40	a	2043	C
40	a	2051	A
40	a	2052	A
40	a	2055	C
40	a	2056	G
40	a	2060	A
40	a	2061	G
40	a	2062	A
40	a	2063	C
40	a	2097	A
40	a	2099	U
40	a	2100	G
40	a	2108	A
40	a	2110	G
40	a	2111	U
40	a	2113	U
40	a	2115	G
40	a	2116	G
40	a	2117	A
40	a	2118	U
40	a	2121	G
40	a	2122	U
40	a	2124	G
40	a	2125	G
40	a	2126	A
40	a	2127	G
40	a	2128	G
40	a	2131	U
40	a	2132	U
40	a	2133	G
40	a	2134	A
40	a	2139	U
40	a	2141	G
40	a	2146	C
40	a	2147	A
40	a	2154	A
40	a	2157	G
40	a	2158	A
40	a	2159	G
40	a	2162	G
40	a	2163	A

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Mol	Chain	Res	Type
40	a	2164	C
40	a	2165	C
40	a	2169	A
40	a	2171	A
40	a	2172	U
40	a	2178	C
40	a	2182	U
40	a	2183	A
40	a	2185	U
40	a	2189	U
40	a	2190	G
40	a	2193	G
40	a	2194	U
40	a	2198	A
40	a	2204	G
40	a	2211	A
40	a	2212	A
40	a	2213	U
40	a	2225	A
40	a	2226	C
40	a	2229	U
40	a	2238	G
40	a	2239	G
40	a	2250	G
40	a	2268	A
40	a	2278	A
40	a	2283	C
40	a	2287	A
40	a	2288	A
40	a	2297	A
40	a	2305	U
40	a	2308	G
40	a	2309	A
40	a	2322	A
40	a	2325	G
40	a	2327	A
40	a	2333	A
40	a	2335	A
40	a	2339	C
40	a	2345	G
40	a	2347	C
40	a	2350	C

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Mol	Chain	Res	Type
40	a	2361	G
40	a	2372	U
40	a	2376	A
40	a	2383	G
40	a	2385	C
40	a	2402	U
40	a	2403	C
40	a	2406	A
40	a	2423	U
40	a	2424	C
40	a	2425	A
40	a	2426	A
40	a	2429	G
40	a	2430	A
40	a	2431	U
40	a	2434	A
40	a	2435	A
40	a	2441	U
40	a	2447	G
40	a	2448	A
40	a	2470	G
40	a	2474	U
40	a	2476	A
40	a	2478	A
40	a	2484	G
40	a	2491	U
40	a	2502	G
40	a	2506	U
40	a	2512	C
40	a	2513	A
40	a	2518	A
40	a	2520	C
40	a	2525	G
40	a	2529	G
40	a	2535	G
40	a	2554	U
40	a	2566	A
40	a	2567	G
40	a	2573	C
40	a	2574	G
40	a	2585	U
40	a	2586	U

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Mol	Chain	Res	Type
40	a	2602	A
40	a	2603	G
40	a	2609	U
40	a	2610	C
40	a	2611	C
40	a	2613	U
40	a	2629	U
40	a	2630	G
40	a	2663	G
40	a	2669	G
40	a	2671	G
40	a	2689	U
40	a	2690	U
40	a	2714	G
40	a	2716	C
40	a	2726	A
40	a	2744	G
40	a	2748	A
40	a	2758	A
40	a	2765	A
40	a	2777	G
40	a	2778	A
40	a	2791	G
40	a	2793	C
40	a	2796	U
40	a	2797	U
40	a	2798	U
40	a	2799	A
40	a	2801	G
40	a	2818	U
40	a	2820	A
40	a	2823	A
40	a	2825	G
40	a	2835	A
40	a	2849	U
40	a	2859	G
40	a	2861	U
40	a	2867	G
40	a	2873	A
40	a	2874	C
40	a	2880	C
40	a	2883	A

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Mol	Chain	Res	Type
40	a	2884	U
40	a	2885	G
40	a	2891	U
40	a	2902	C
43	d	2	G
43	d	13	G
43	d	16	G
43	d	17	C
43	d	35	C
43	d	45	A
43	d	51	G
43	d	56	G
43	d	57	A
43	d	66	A
43	d	88	C
43	d	89	U
43	d	90	C
43	d	99	A
43	d	109	A

All (42) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
8	7	4	U
8	7	7	U
8	7	10	U
8	7	18	U
8	7	28	G
10	A	6	G
10	A	7	G
10	A	9	G
10	A	12	G
10	A	21	A
10	A	22	G
10	A	57	A
10	A	60	U
10	B	6	G
10	B	7	G
10	B	9	G
10	B	12	G
10	B	21	A
10	B	22	G

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Mol	Chain	Res	Type
10	B	57	A
10	B	60	U
17	D	121	U
17	D	181	A
17	D	183	C
17	D	197	A
17	D	209	U
17	D	428	G
17	D	496	A
17	D	517	G
17	D	991	U
17	D	992	U
17	D	1109	C
17	D	1145	A
17	D	1196	A
17	D	1211	U
17	D	1212	U
17	D	1213	A
17	D	1214	C
17	D	1447	A
17	D	1491	G
17	D	1492	A
17	D	1493	A

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 3 ligands modelled in this entry, 3 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

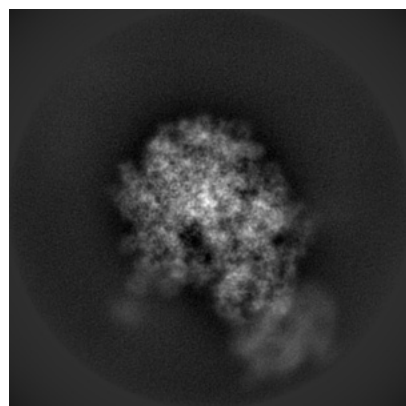
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-42473. These allow visual inspection of the internal detail of the map and identification of artifacts.

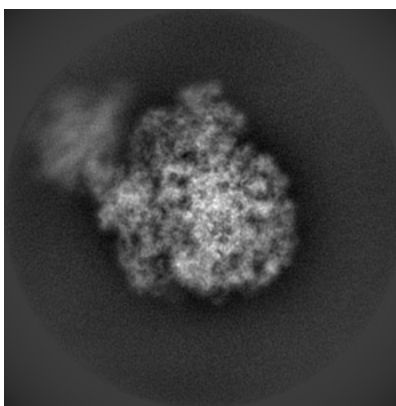
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

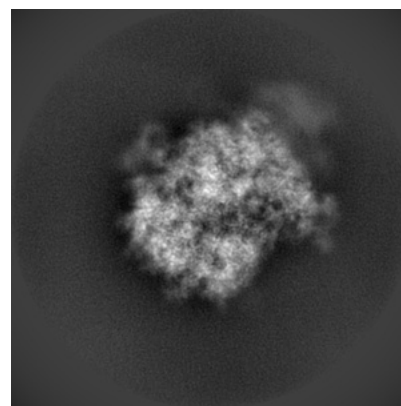
6.1.1 Primary map



X

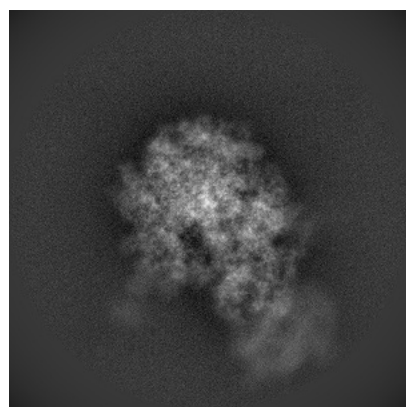


Y

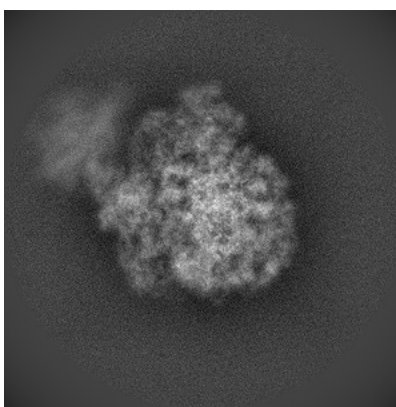


Z

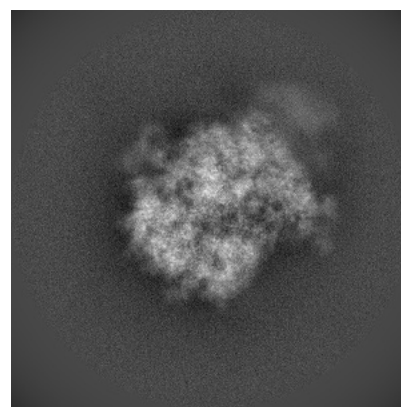
6.1.2 Raw map



X



Y

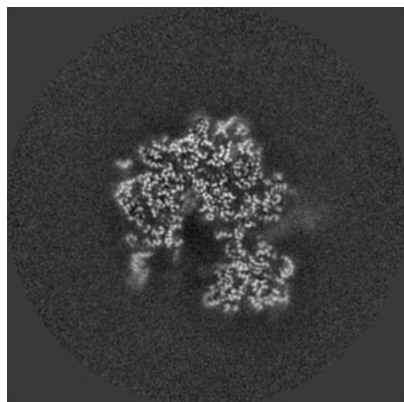


Z

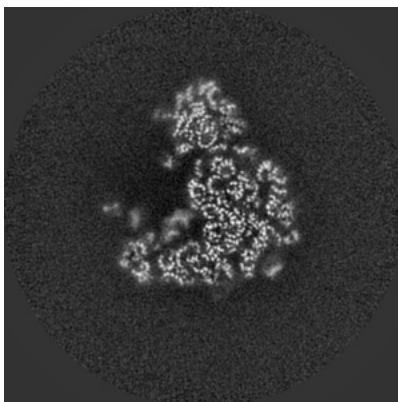
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

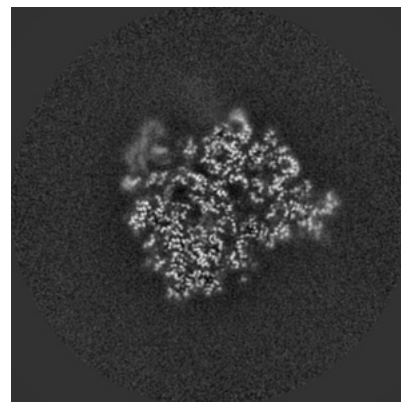
6.2.1 Primary map



X Index: 288

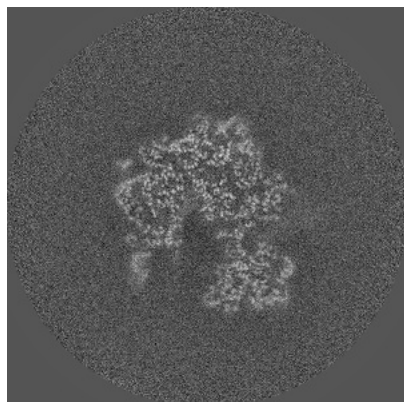


Y Index: 288

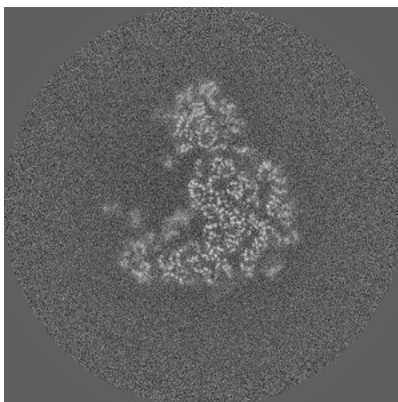


Z Index: 288

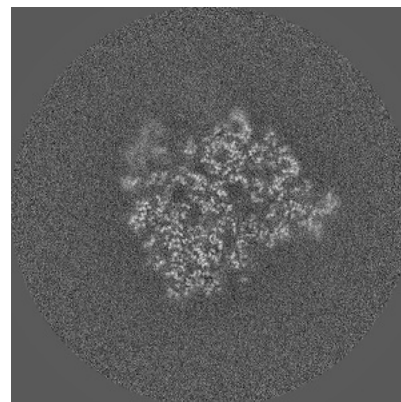
6.2.2 Raw map



X Index: 288



Y Index: 288

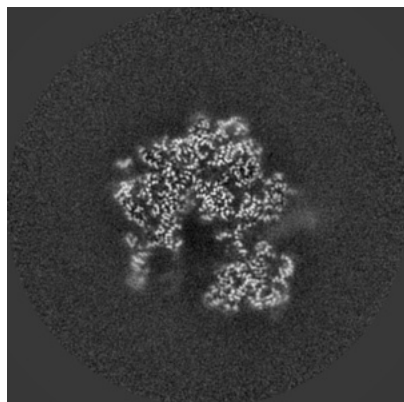


Z Index: 288

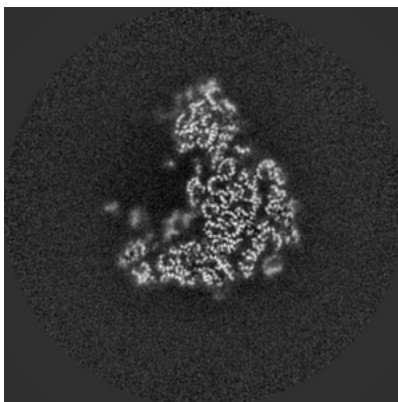
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

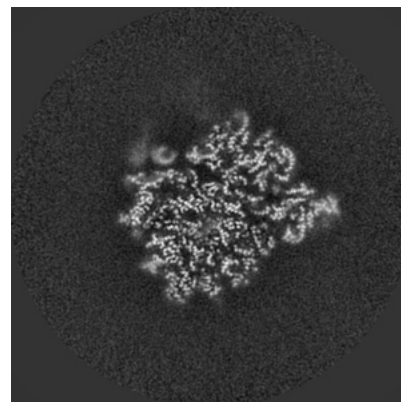
6.3.1 Primary map



X Index: 290

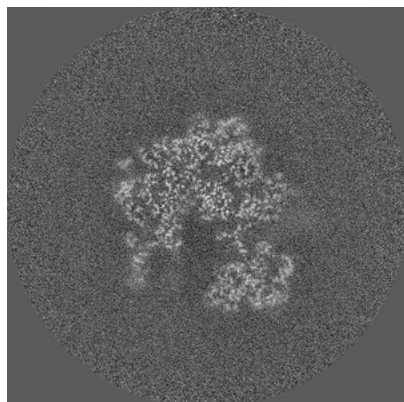


Y Index: 285

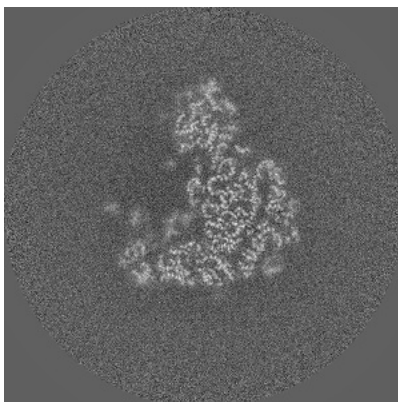


Z Index: 296

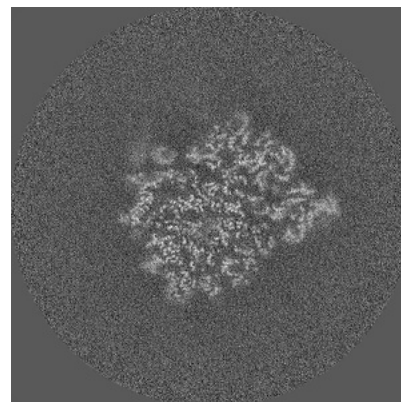
6.3.2 Raw map



X Index: 290



Y Index: 285

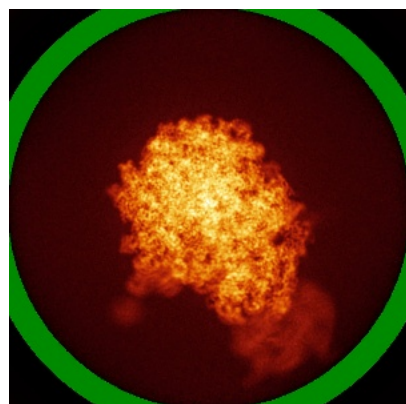


Z Index: 296

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

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

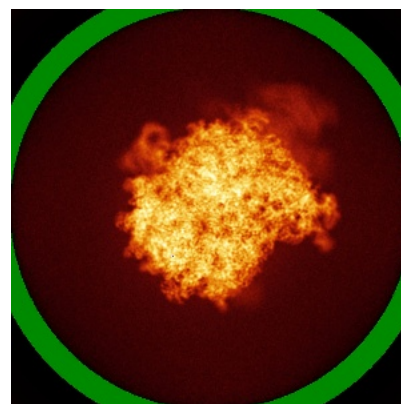
6.4.1 Primary map



X

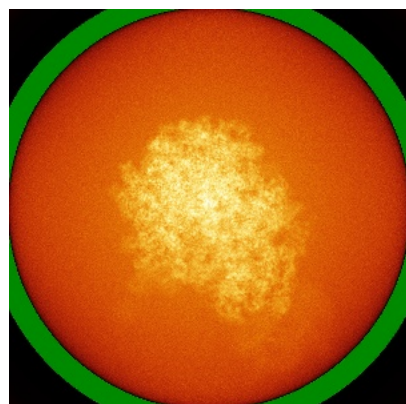


Y

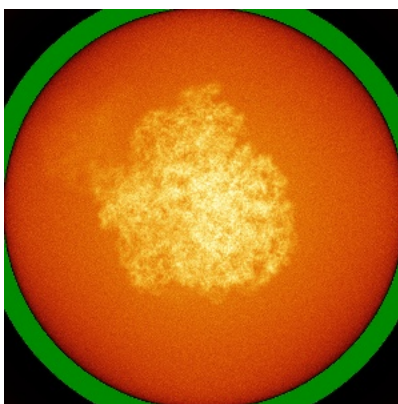


Z

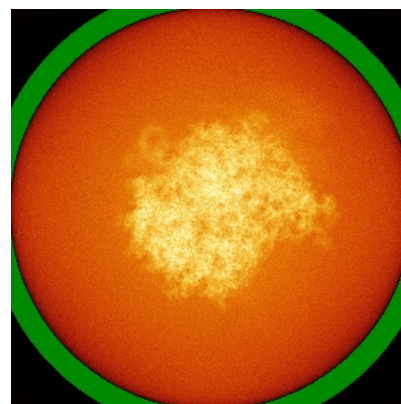
6.4.2 Raw map



X



Y

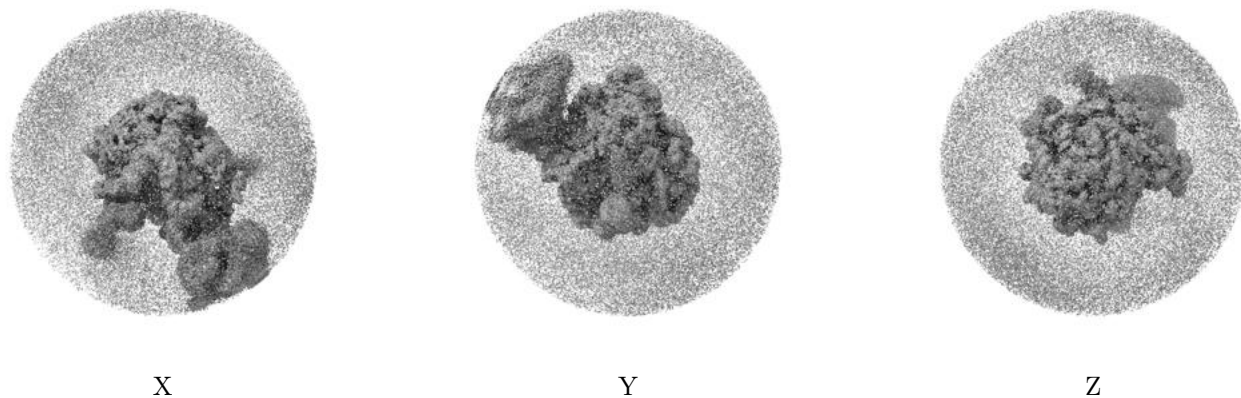


Z

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.

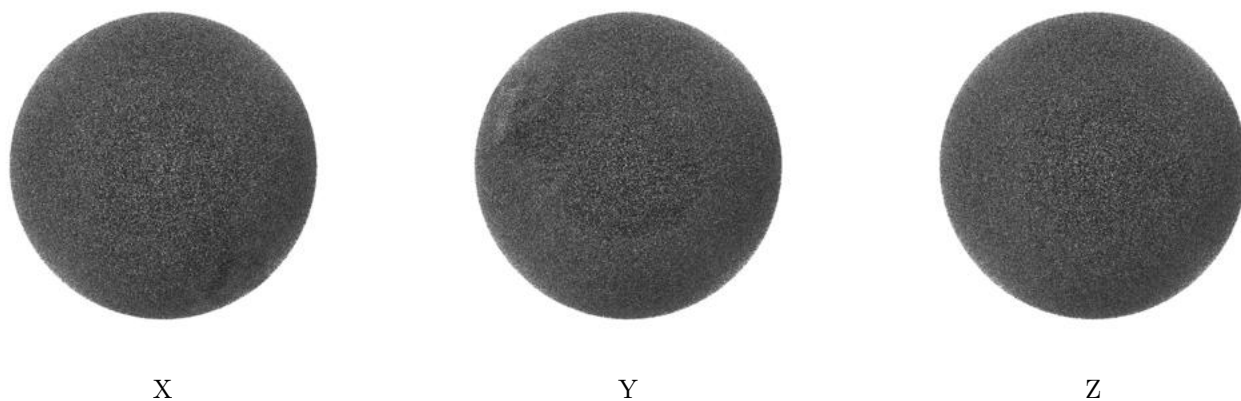
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.002. 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.

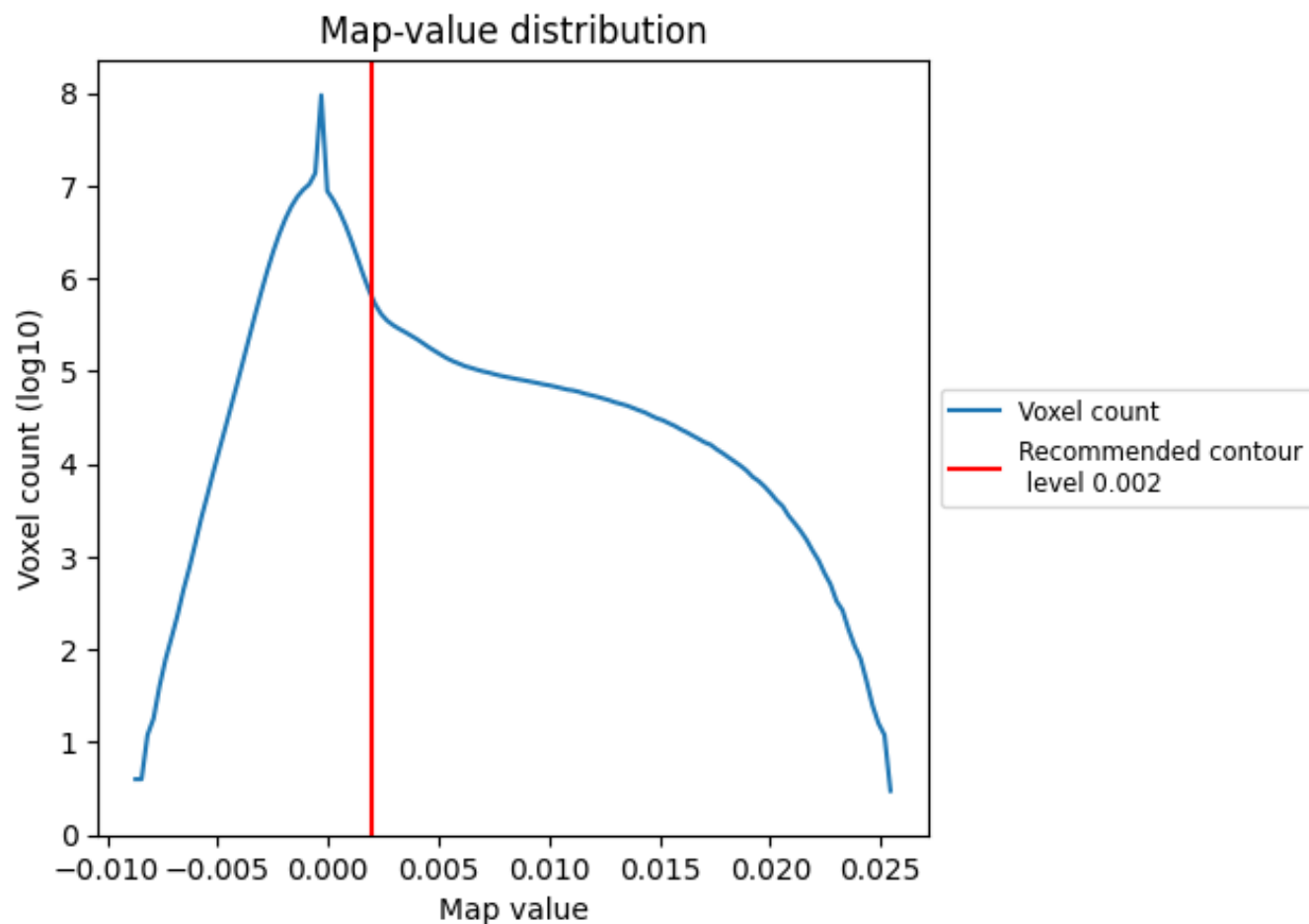
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

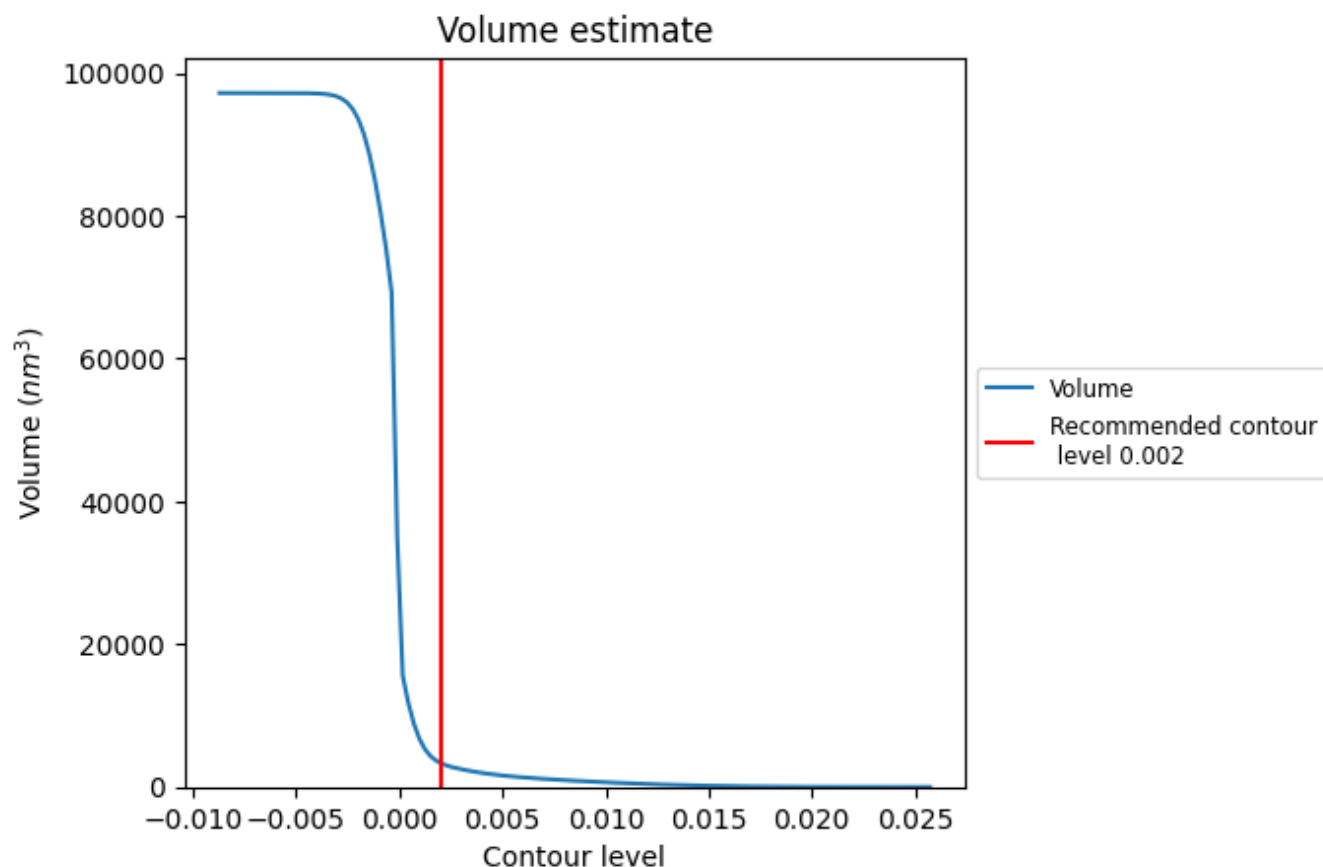
This section contains the results of statistical analysis of the map.

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.

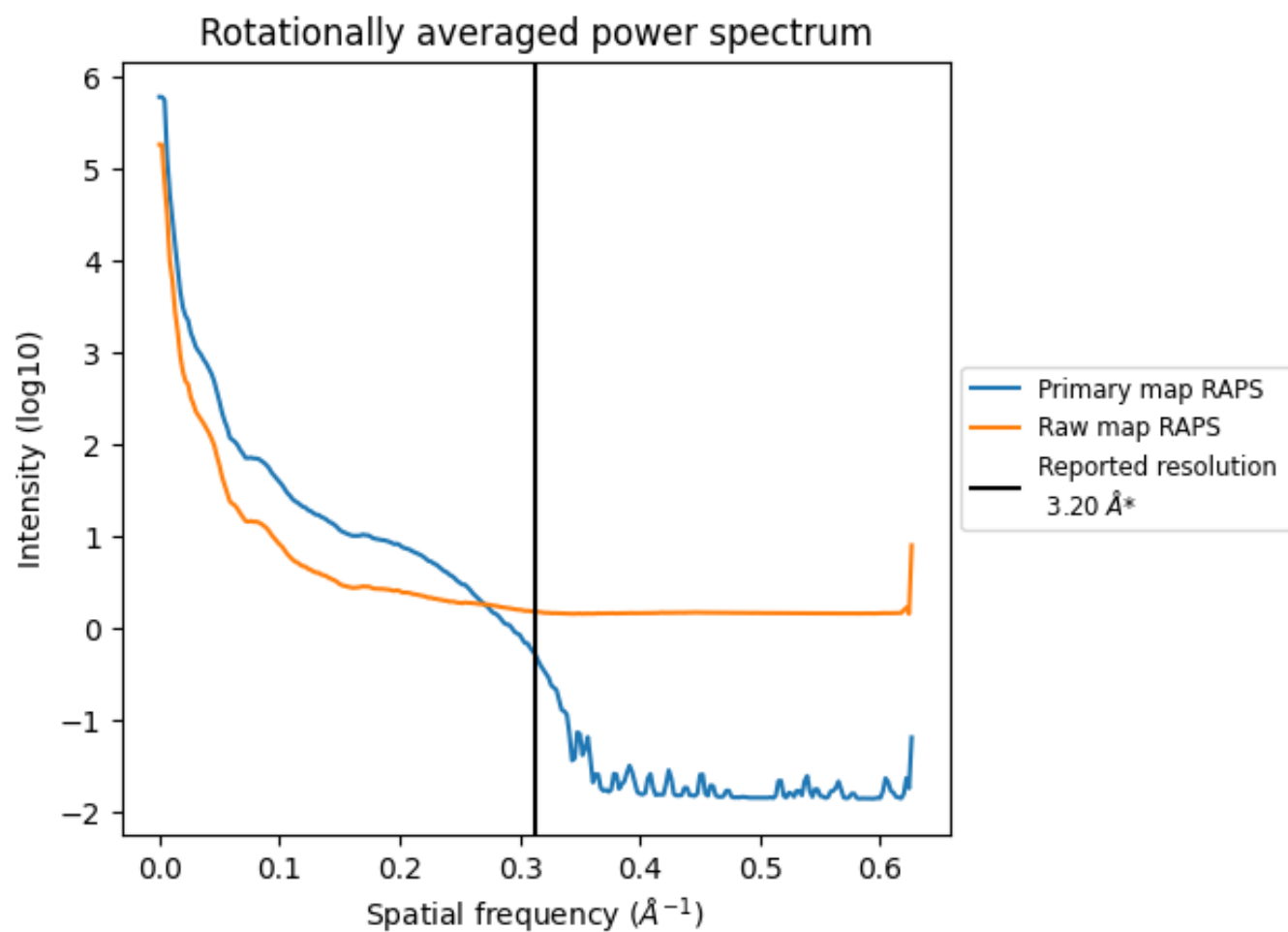
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 3357 nm^3 ; this corresponds to an approximate mass of 3032 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 ⓘ

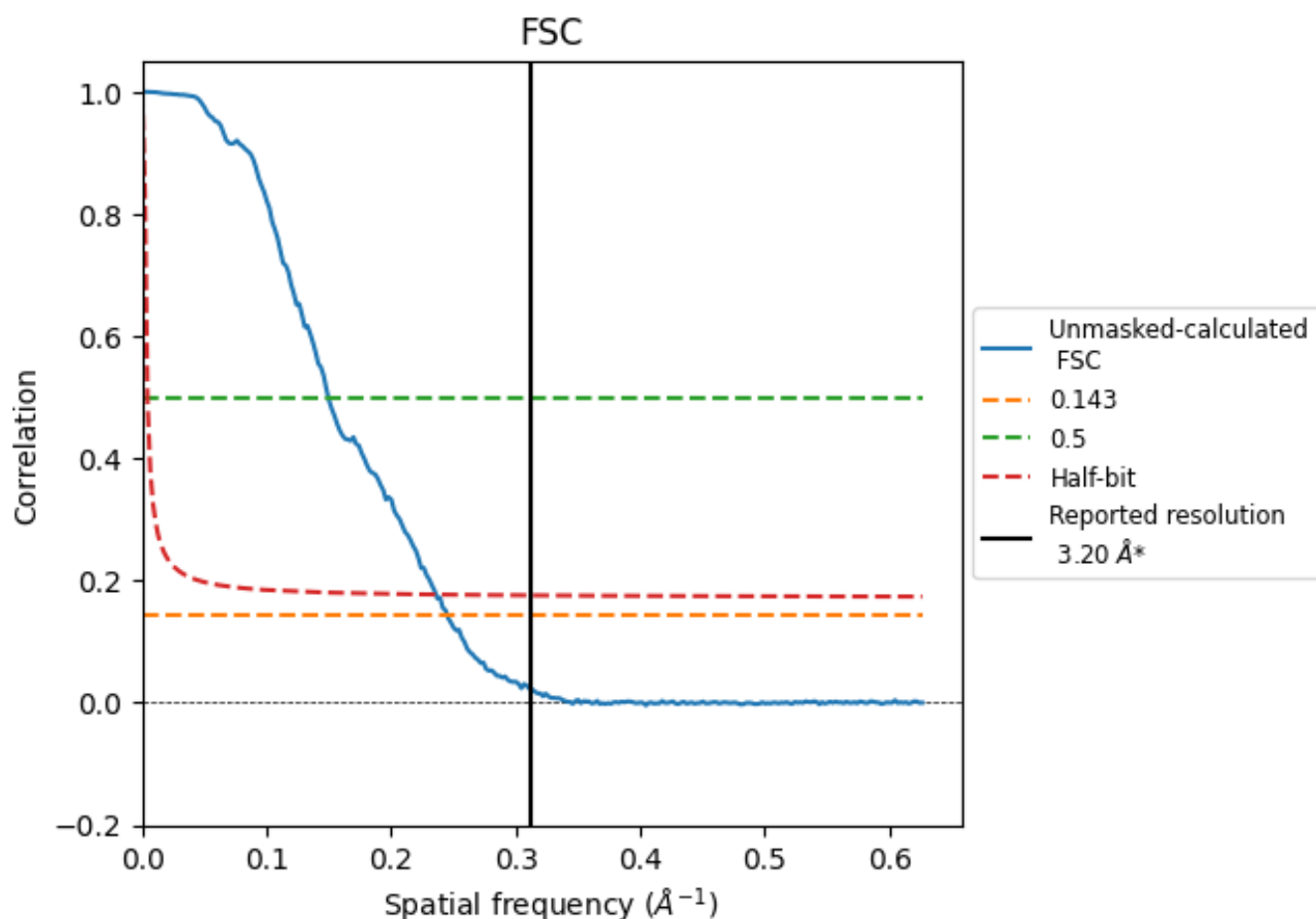


*Reported resolution corresponds to spatial frequency of 0.312 $\text{\AA}^{-1}$

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 0.312 $\text{\AA}^{-1}$

8.2 Resolution estimates [i](#)

Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.20	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	4.08	6.69	4.24

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 4.08 differs from the reported value 3.2 by more than 10 %

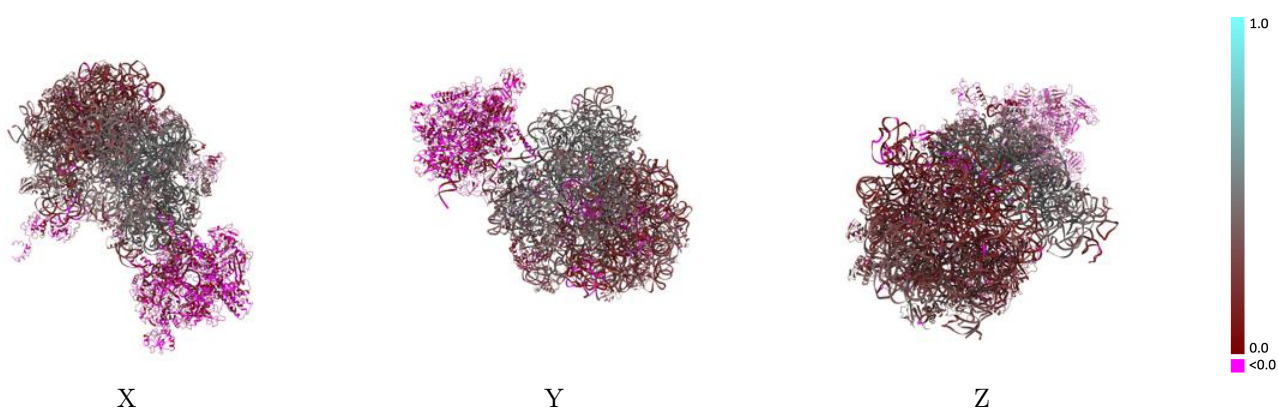
9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-42473 and PDB model 8UQL. Per-residue inclusion information can be found in section 3 on page 16.

9.1 Map-model overlay [i](#)

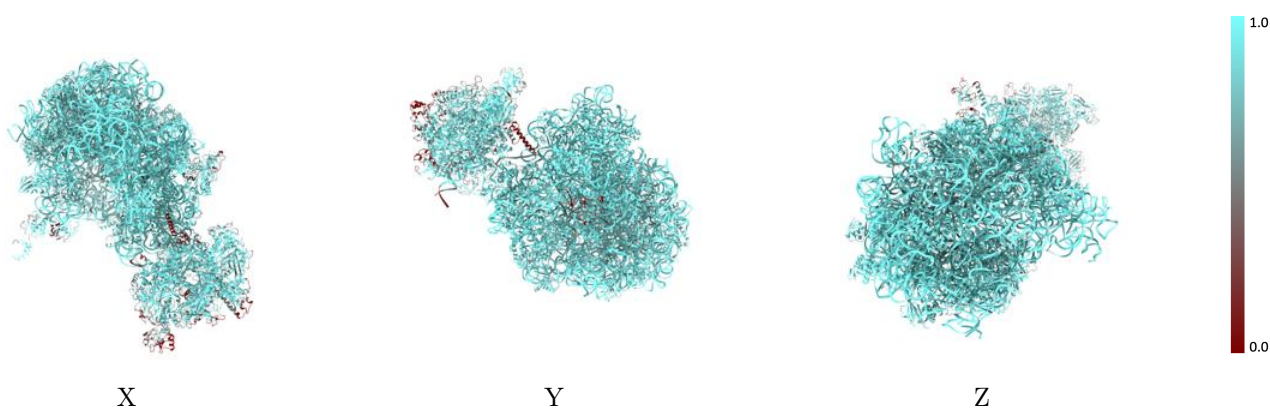
This section was not generated.

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



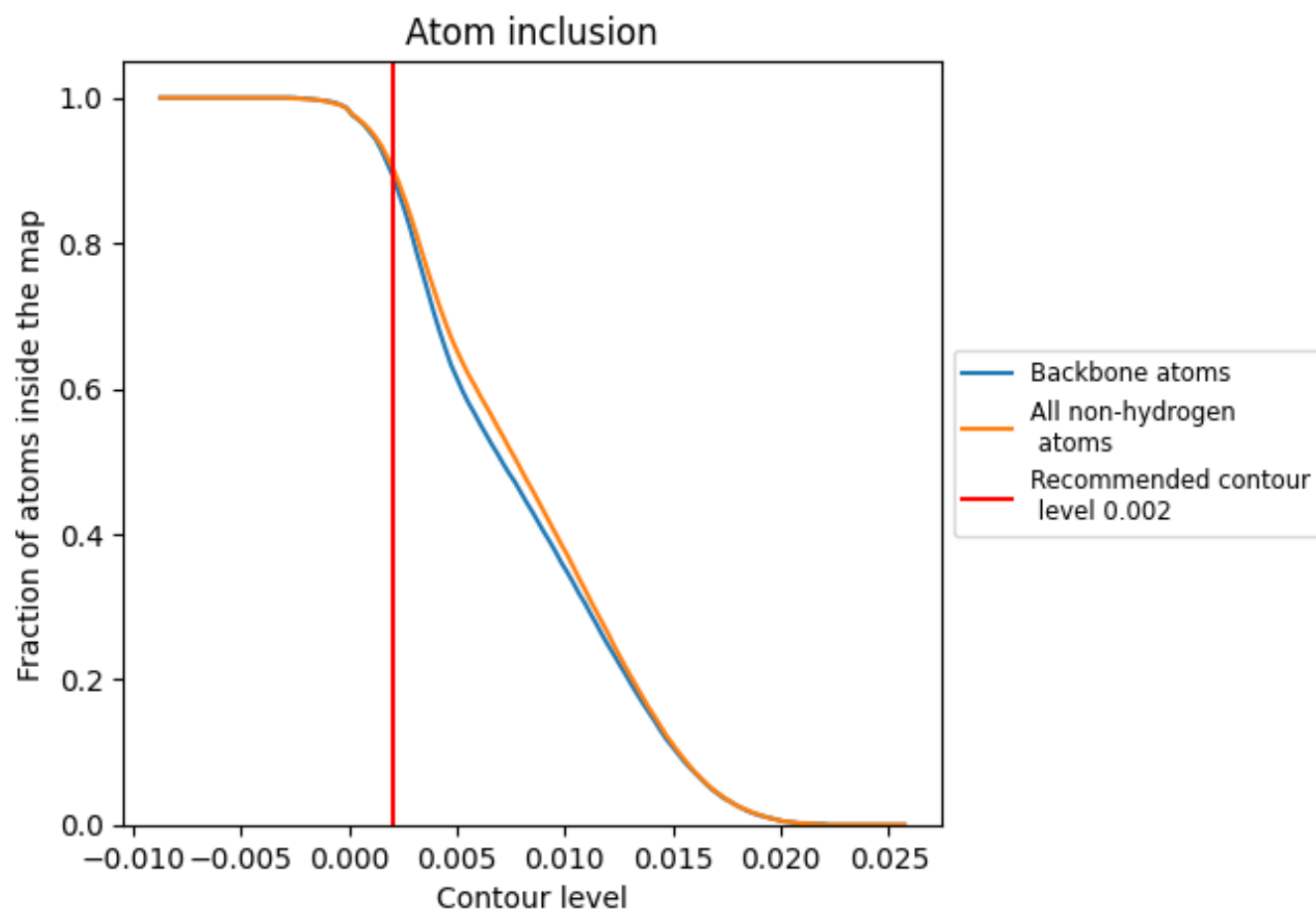
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

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



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.002).

9.4 Atom inclusion [i](#)



At the recommended contour level, 90% 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 (0.002) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.9060	 0.2520
0	 0.9270	 0.3450
1	 0.8620	 0.2530
2	 0.8740	 0.1910
3	 0.9320	 0.2560
4	 0.9530	 0.3450
5	 0.7740	 0.0840
6	 0.7780	 0.0820
7	 0.7420	 0.0560
9	 0.8640	 0.0440
A	 0.9620	 0.1960
AA	 0.7800	 0.0280
AB	 0.8900	 0.0950
AC	 0.8160	 0.0130
AD	 0.7720	 0.0320
AE	 0.8170	 0.0610
AF	 0.2570	 0.0360
B	 0.8070	 0.1170
C	 0.9540	 0.3960
D	 0.9950	 0.4430
E	 0.9630	 0.3750
F	 0.9110	 0.3380
G	 0.9530	 0.3760
H	 0.5670	 0.0380
I	 0.9400	 0.4160
J	 0.9640	 0.4040
K	 0.9490	 0.4450
L	 0.9490	 0.3490
M	 0.9340	 0.3530
N	 0.9650	 0.4390
O	 0.9750	 0.3940
P	 0.9350	 0.3580
Q	 0.9510	 0.3980
R	 0.9540	 0.4600
S	 0.9560	 0.3870



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Chain	Atom inclusion	Q-score
T	 0.9670	 0.3920
U	 0.9680	 0.4170
V	 0.9430	 0.4010
W	 0.8590	 0.1450
X	 0.8910	 0.1560
Y	 0.7140	 0.0510
Z	 0.8550	 -0.0160
a	 0.9550	 0.2310
b	 0.8940	 0.3040
c	 0.8370	 0.1670
d	 0.9920	 0.3040
e	 0.9200	 0.2190
f	 0.9290	 0.3320
g	 0.9220	 0.1420
h	 0.7910	 0.1260
i	 0.8810	 0.2110
j	 0.8760	 0.2230
k	 0.8830	 0.1770
l	 0.8700	 0.2490
m	 0.7830	 0.1730
n	 0.9120	 0.1740
o	 0.8290	 0.2540
p	 0.9500	 0.2990
q	 0.8970	 0.3200
r	 0.8100	 0.1190
s	 0.9230	 0.3470
t	 0.7970	 0.1690
u	 0.8790	 0.2510
v	 0.8950	 0.2770
w	 0.8810	 0.2030
x	 0.9460	 0.2400
y	 0.8670	 0.1740
z	 0.8920	 0.3060