



Full wwPDB EM Validation Report ⓘ

Mar 29, 2026 – 02:36 PM UTC

PDB ID : 8URH / pdb_00008urh
EMDB ID : EMD-42492
Title : Escherichia coli transcription-translation coupled complex class B (TTC-B) containing RfaH bound to ops signal, mRNA with a 27 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 : 2023-10-26
Resolution : 5.70 Å(reported)

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

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

A user guide is available at

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

The types of validation reports are described at

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

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

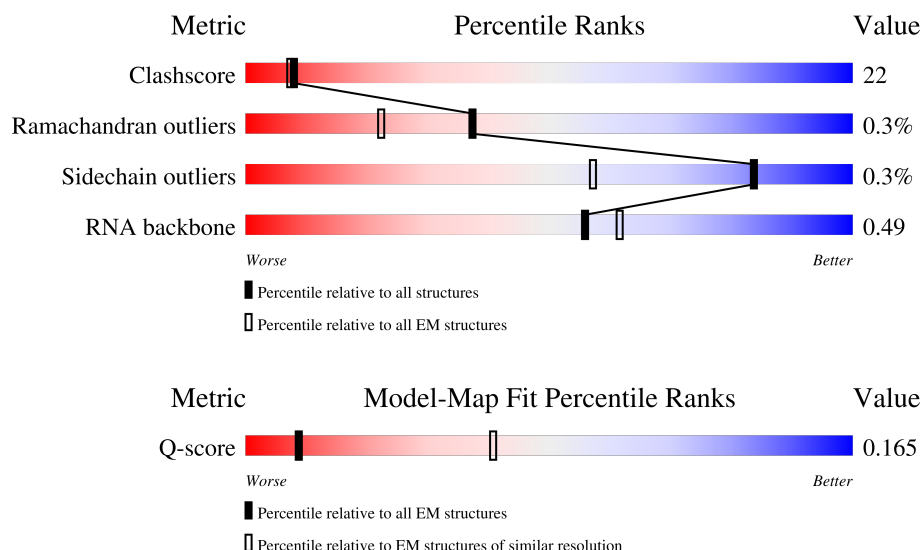
EMDB validation analysis : 0.0.1.dev132
MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh &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

1 Overall quality at a glance

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

The reported resolution of this entry is 5.70 Å.

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



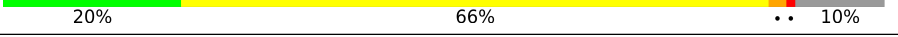
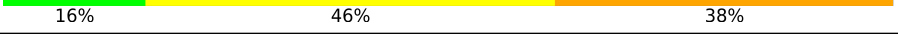
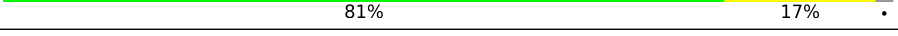
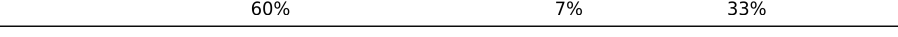
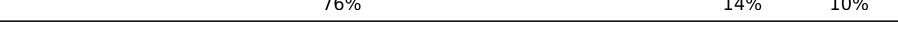
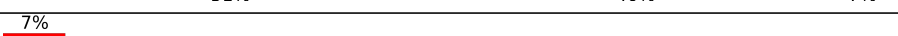
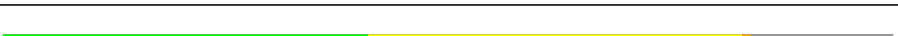
Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
RNA backbone	8273	3508	-
Q-score	-	25397	503 (5.20 - 6.20)

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

Mol	Chain	Length	Quality of chain
1	0	103	
2	1	110	
3	2	100	

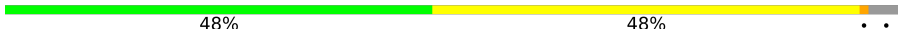
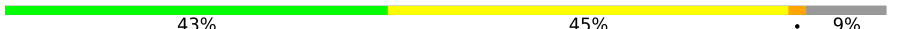
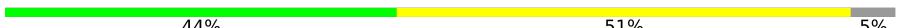
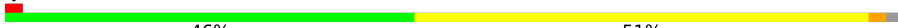
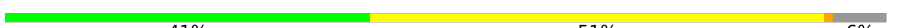
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Mol	Chain	Length	Quality of chain
4	3	104	
5	4	94	
6	5	38	
7	6	38	
8	7	44	
9	9	165	
10	A	76	
10	B	76	
11	AA	1342	
12	AB	162	
13	AC	329	
13	AD	329	
14	AE	1407	
15	AF	91	
16	C	75	
17	D	1542	
18	E	87	
19	F	71	
20	G	241	
21	H	557	
22	I	233	
23	J	206	
24	K	167	
25	L	135	
26	M	179	

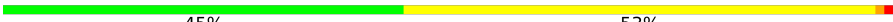
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Mol	Chain	Length	Quality of chain
27	N	130	
28	O	130	
29	P	103	
30	Q	129	
31	R	124	
32	S	101	
33	T	89	
34	U	82	
35	V	84	
36	W	92	
37	X	118	
38	Y	142	
39	Z	121	
40	a	2904	
41	b	85	
42	c	78	
43	d	120	
44	e	63	
45	f	59	
46	g	70	
47	h	273	
48	i	57	
49	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	 45% 53% ...
54	o	65	 58% 35% 5% .
55	p	177	 67% 32% .
56	q	38	 61% 39%
57	r	149	 68% 32%
58	s	142	 55% 44% ..
59	t	123	 46% 54% .
60	u	144	 62% 37% .
61	v	136	 49% 49% .
62	w	127	 44% 46% . 6%
63	x	117	 63% 36% .
64	y	115	 63% 36% .
65	z	118	 58% 41% ..

2 Entry composition [i](#)

There are 67 unique types of molecules in this entry. The entry contains 276038 atoms, of which 98638 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 ops.

Mol	Chain	Residues	Atoms						AltConf	Trace
6	5	35	Total	C	N	O	P		0	0
			726	342	141	208	35			

- Molecule 7 is a DNA chain called T DNA ops.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	6	35	Total	C	N	O	P	0	0
			703	336	117	215	35		

- Molecule 8 is a RNA chain called mRNA with 27 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 2433	C 723	H 813	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).

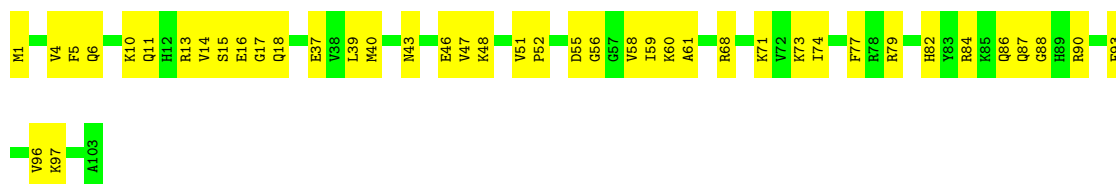
Mol	Chain	Residues	Atoms		AltConf
67	AE	2	Total	Zn	0
			2	2	

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: 



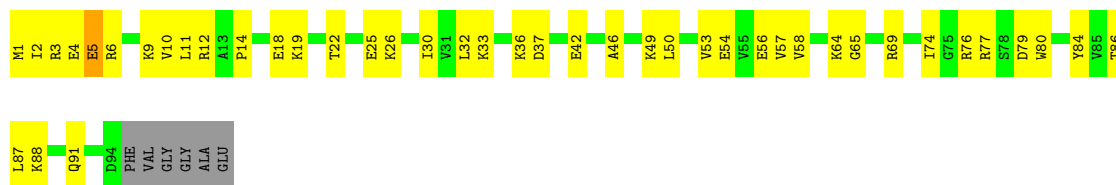
• Molecule 2: 50S ribosomal protein L22

Chain 1: 



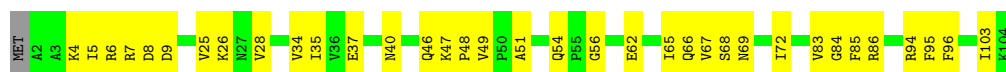
• Molecule 3: 50S ribosomal protein L23

Chain 2: 

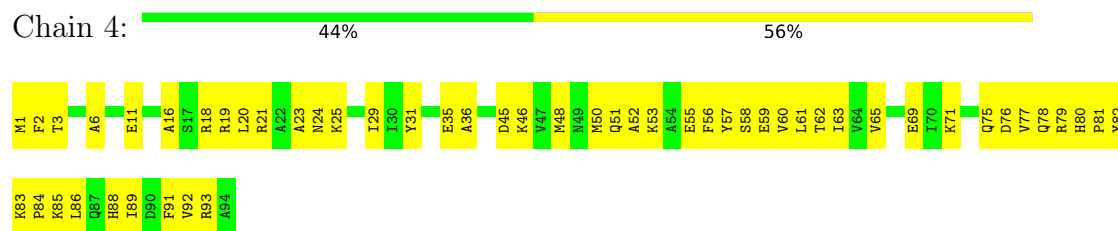


• Molecule 4: 50S ribosomal protein L24

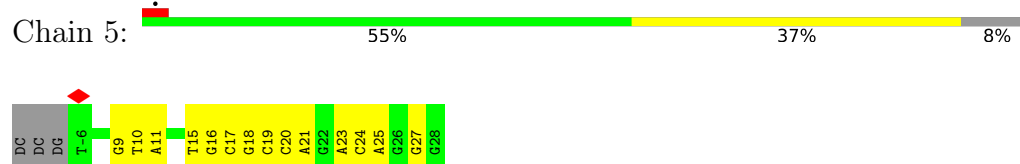
Chain 3: 



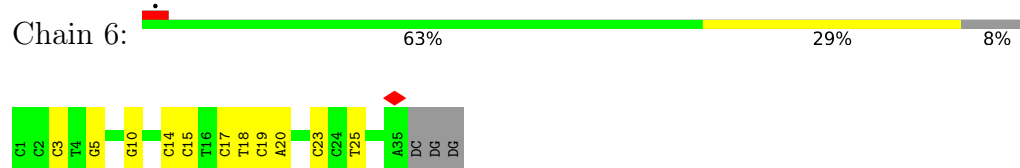
- Molecule 5: 50S ribosomal protein L25



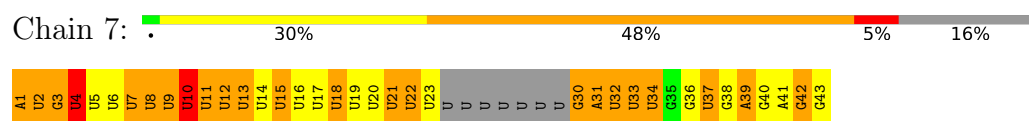
- Molecule 6: NT DNA ops



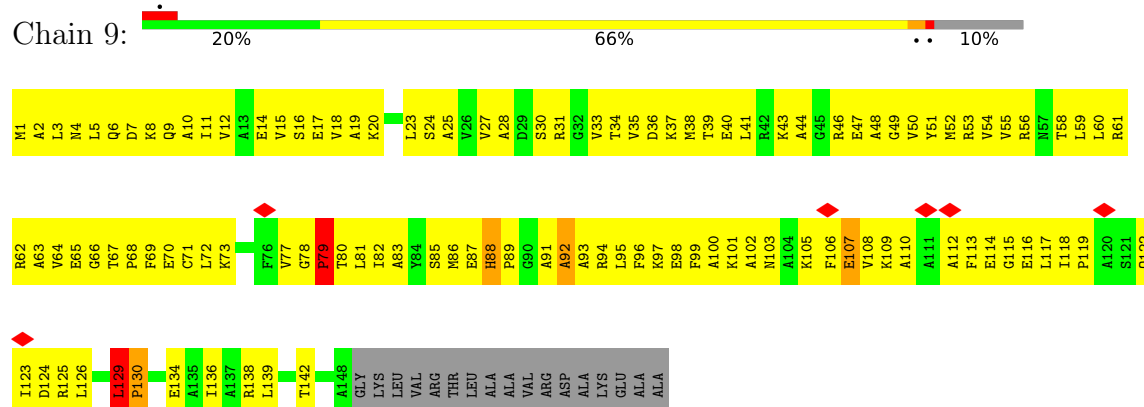
- Molecule 7: T DNA ops



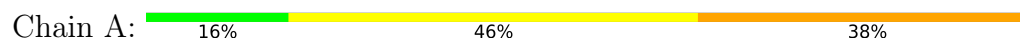
- Molecule 8: mRNA with 27 nt long spacer

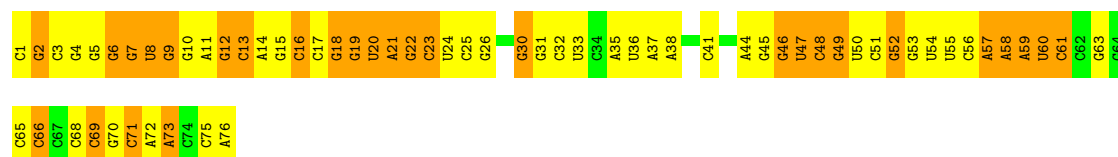


- Molecule 9: 50S ribosomal protein L10



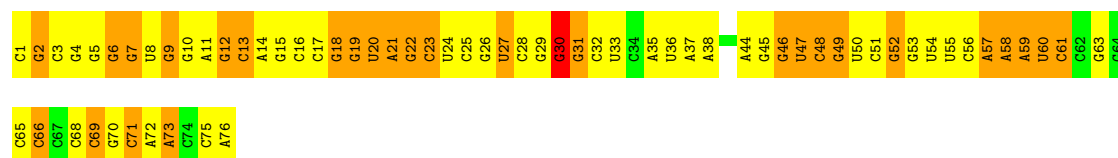
- Molecule 10: E-site and P-site fMet-tRNA





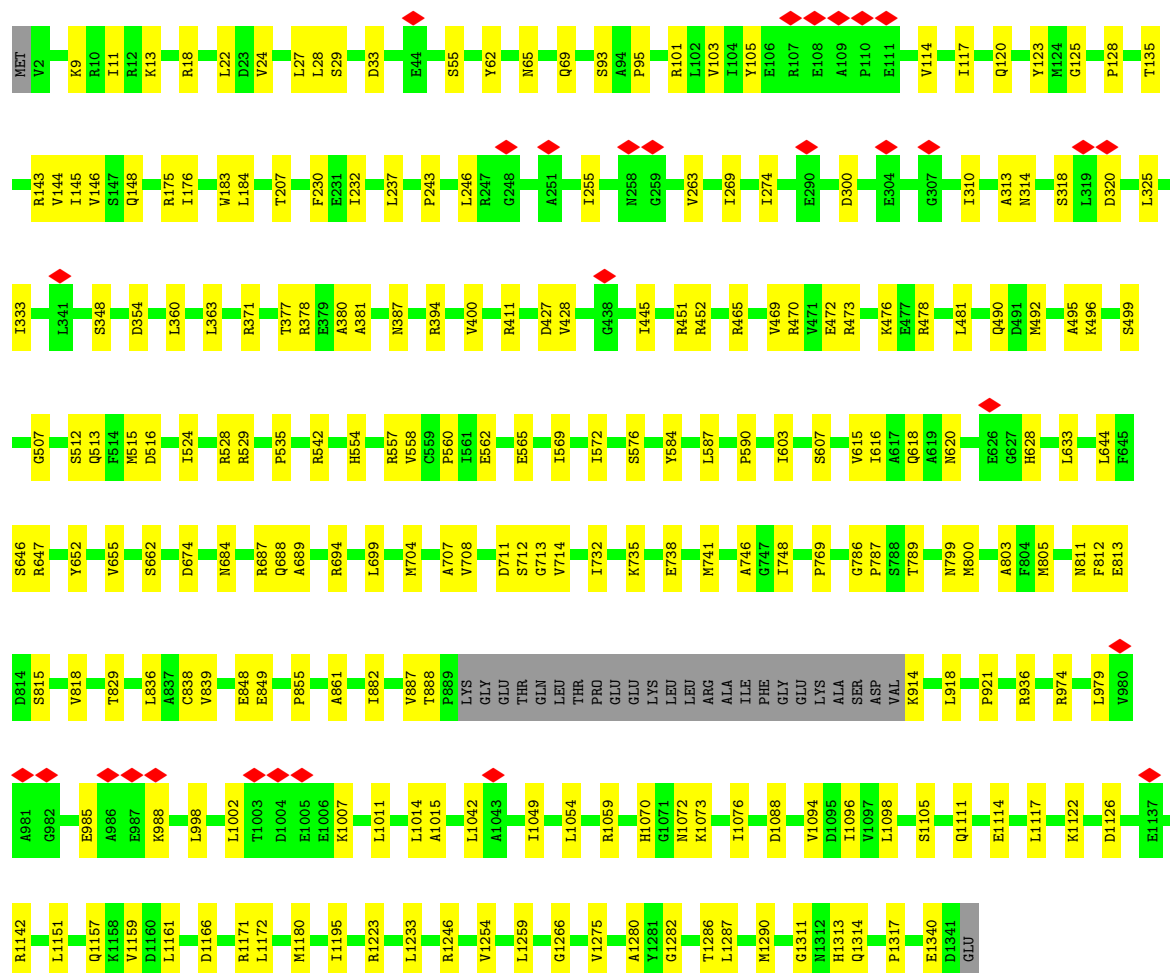
• Molecule 10: E-site and P-site fMet-tRNA

Chain B: 13% 49% 37%



• Molecule 11: DNA-directed RNA polymerase subunit beta

Chain AA: 81% 17%



• Molecule 12: Transcription antitermination protein RfaH

G135	A71	Q2	MET
E136	T72	S3	
A137	R73	W4	
R138	G74	Y5	
S139	W5	L6	
M140	S76	L7	
L141	H77	Y8	
L142	F78	C9	
M144	R80	K10	
L145	F81		
L146	G82	R16	
N147		A17	
K148	P85	Q18	
E149		E19	
I150	V88	H20	
K151	P89	L21	
H152	S90	E22	
S153	A91	R23	
V154	V92	Q24	
K155	I93	A25	
N156	H94	V26	
L157	Q95	W27	
E158	L96	C28	
F159	Y99	L29	
R160	K100	A30	
K161	P101	P31	
L162	K102	I33	
	D103	T34	
	V104	L35	
	I105	E36	
	D106	K37	
		I38	
	T109		
	P110	K42	
	P112	R43	
	G113		
	D114	S47	
	K115		
	V116	L50	
	I117	F51	
	I118	P52	
	T119	N53	
	E120	Y54	
	G121	L55	
	A122	F56	
	F123	V57	
	E124	E58	
	G125	F59	
	F126	D60	
	Q127	P61	
	A128	E62	
	I129		
	F130	H65	
	T131	T66	
	E132	T68	
	P133	T69	
	D134	V70	

[illegible]

Chain AD:

53%

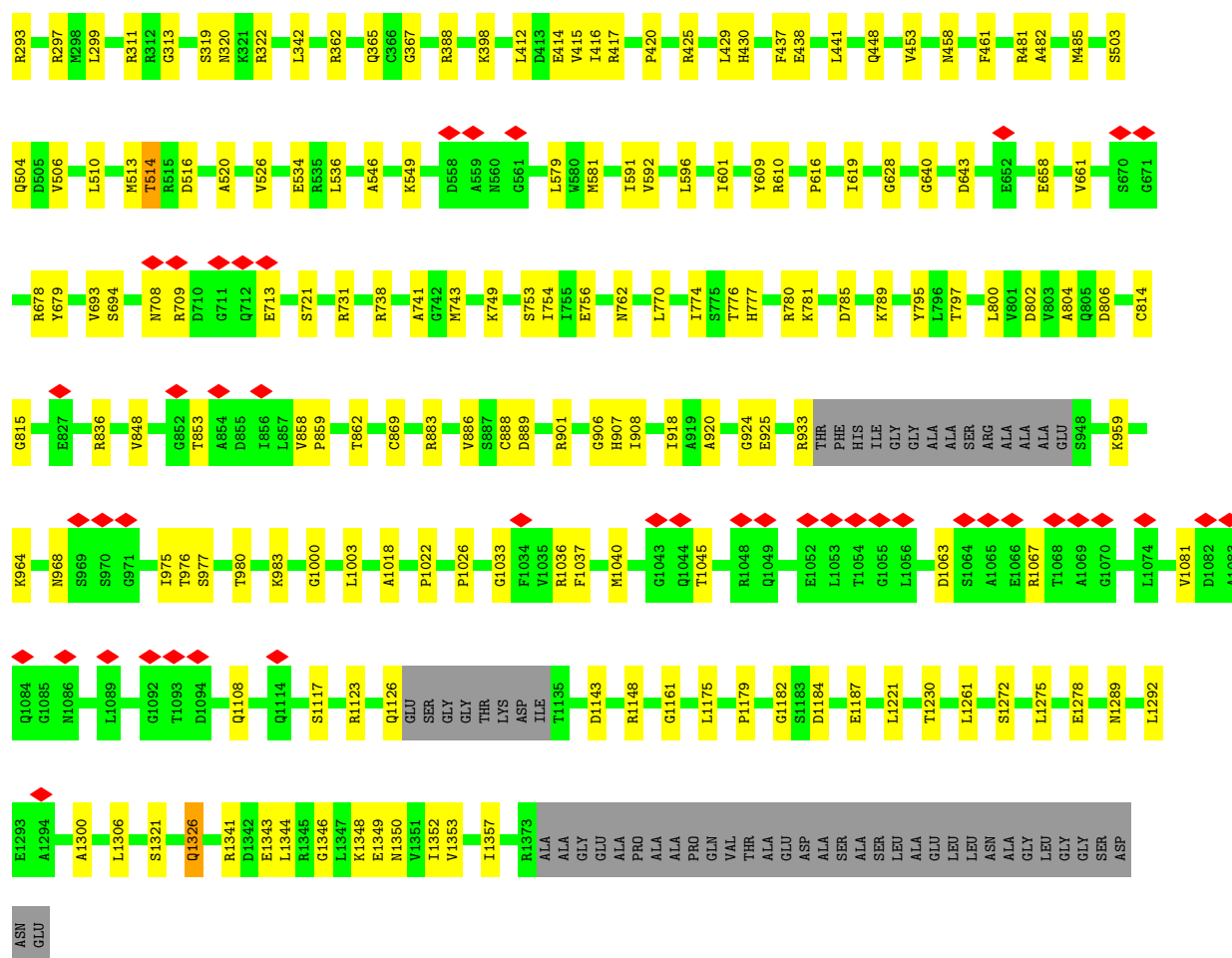
14%

34%

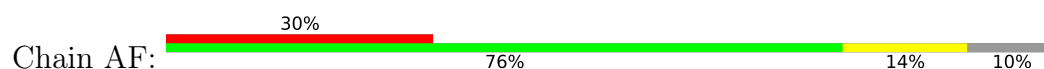
Chain AE:

78% 16% 5%

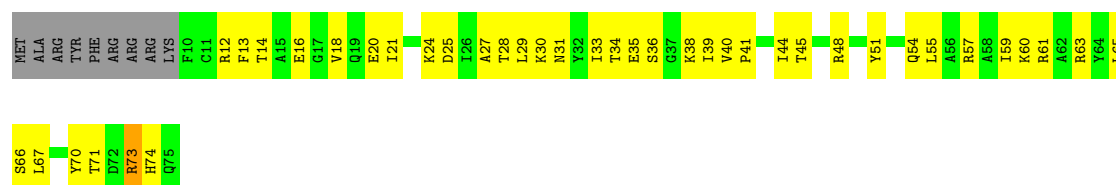
Model	Category
ME7	Grey
LVS	Green
ASP	Green
LEU	Green
LEU	Green
LVS	Green
PHE	Green
LEU	Green
LVS	Green
ALA	Green
GLN	Green
THR	Green
LVS	Green
THR	Green
E15	Green
A19	Yellow
P41	Yellow
R53	Yellow
D54	Yellow
C58	Yellow
A59	Green
P64	Green
V65	Green
K66	Green
E69	Yellow
C70	Yellow
L71	Yellow
C72	Yellow
G73	Yellow
K74	Yellow
Y75	Yellow
K76	Yellow
R77	Yellow
L78	Yellow
K79	Yellow
H80	Yellow
R81	Yellow
I84	Yellow
C85	Yellow
E86	Yellow
K87	Yellow
C88	Yellow
G89	Yellow
V90	Yellow
E91	Yellow
Y92	Yellow
T93	Yellow
V97	Yellow
R98	Yellow
R99	Yellow
E100	Yellow
E101	Yellow
L107	Green
L117	Green
K118	Green
S122	Green
L132	Green
R133	Green
D134	Green
F141	Green
E142	Green
S143	Green
Y144	Green
Q157	Green
Q158	Green
I159	Green
E175	Green
L188	Green
N209	Green
S210	Green
E211	Green
R214	Green
T218	Green
I221	Green
S230	Green
G231	Green
P246	Green
P247	Green
R250	Green
R259	Green
R270	Green
R278	Green
L282	Green
D284	Green
L285	Green
A286	Green
A287	Green
P288	Green
D289	Green
L290	Green
L291	Green
L292	Green



- Molecule 15: DNA-directed RNA polymerase subunit omega



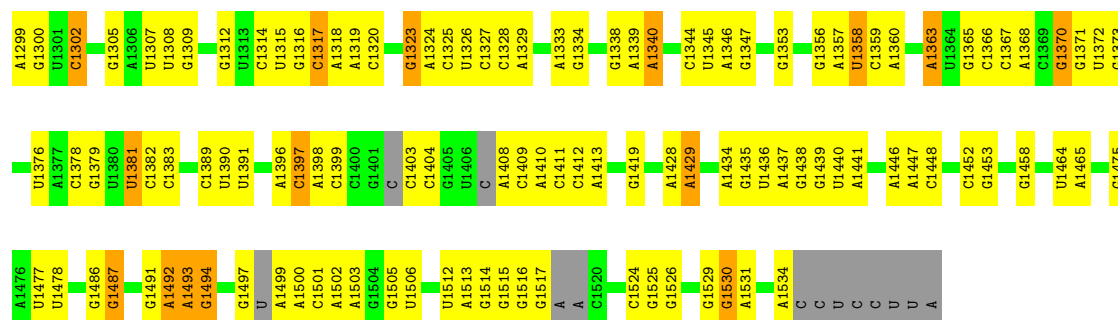
- Molecule 16: 30S ribosomal protein S18



- Molecule 17: 16S rRNA

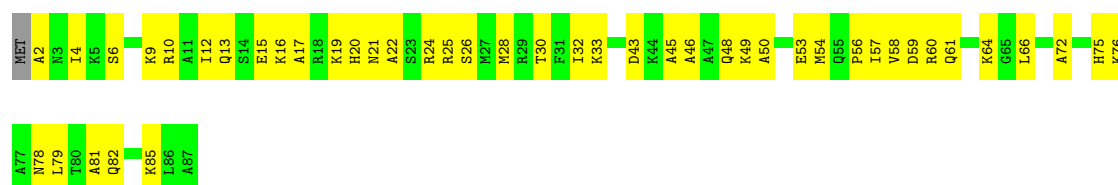


C1208	C1209	C1210	U1211	U1212	A1213	C1214	G1215	C1216	C1217	C1218	A1219	C1223	U1224	A1225	C1226	U1227	C1228	A1229	C1230	G1231	C1238	U1239	U1240	G1241	C1242	C1243	G1244	A1250	A1251	A1252	G1255	A1256	A1257	C1258	G1259	G1260	A1261	C1262	A1275	C1276	G1277	G1278	G1279	A1280	A1285	U1286	A1287	A1288	A1289	G1290	G1294	G
A1044	G1045	A1046	A1055	A1060	U1061	U1062	C1063	G1064	U1065	C1071	U1072	U1073	G1074	U1075	U1076	U1077	U1078	U1079	A1080	A1081	A1082	U1085	U1086	G1087	U1089	U1095	U1096	G1099	G1100	A1101	A1102	C1103	G1104	A1105	G1106	C1107	G1108	C1109	A1110	C1113	C1114	C1119	C1120	U1121	G1124	U1125	U1126	G1127	C1128	G		
C1132	G1133	U1135	C1136	C1137	G1138	G1139	C1140	C1141	G1142	G1143	G1144	A1145	A1146	C1147	U1148	U1149	A1150	A1151	C1152	A1157	C1158	U1159	G1160	C1161	A1167	U1168	A1169	A1170	A1171	C1172	U1173	G1174	A1175	A1176	G1177	G1181	G1184	G1185	G1186	U1189	G1190	G1193	U1194	C1195	A1196	A1197	U1202	C1203	G1206	G		
G963	A964	U965	G	C	A968	A969	C972	G973	A974	A975	G976	A977	C978	C979	U980	U981	U982	A983	C984	U985	U986	G987	U991	U992	G993	A996	U997	C998	A1004	G1005	U1006	U1007	U1008	U1009	U1017	G1018	A1021	G1024	U1025	G1026	C1028	U1029	C1031	G1032	A1035	A1036	C1037	G1043				
A878	C882	C883	U884	C887	U890	U891	U892	C893	G894	G902	A906	A907	A908	U909	U911	C912	A913	A914	A915	G916	U917	A918	U919	U920	U921	U922	A923	G924	G925	G926	G927	G928	G929	C932	G933	C934	A935	C936	A937	G945	A946	G947	G951	U952	G953	A958	U959	U960				
U692	A695	A696	U697	G700	U701	A704	C623	C624	U625	G543	C549	G550	U551	U552	A553	A554	U555	C556	A559	U562	A563	C564	G567	C568	U569	G570	U571	A572	A573	A574	G575	C576	G577	A579	C580	G581	C582	U583	G588	A596	U598	C599	U602	U603	G604	U605	A607					
U610	C611	G612	C613	U619	C620	A621	A622	C624	U625	G547	C549	G550	U551	U552	A553	A554	U555	C556	A559	U562	A563	C564	G567	C568	U569	G570	U571	A572	A573	A574	G575	C576	G577	A579	C580	G581	C582	U583	G588	A596	U598	C599	U602	U603	G604	U605	A607					
U692	A695	A696	U697	G700	U701	A704	C623	C624	U625	G547	C549	G550	U551	U552	A553	A554	U555	C556	A559	U562	A563	C564	G567	C568	U569	G570	U571	A572	A573	A574	G575	C576	G577	A579	C580	G581	C582	U583	G588	A596	U598	C599	U602	U603	G604	U605	A607					
A777	A790	C791	U792	U793	U794	C795	C796	C797	C808	G809	C812	A815	A816	C817	U820	U821	C822	A823	G824	A825	U827	A828	U829	U832	G836	C841	U842	U843	A844	A845	C846	G849	A860	G861	A864	A865	C868	C869	A872	U873	G874	U875	C876	G877								
A878	C882	C883	U884	C887	U890	U891	U892	C893	G894	G902	A906	A907	A908	U909	U911	C912	A913	A914	A915	G916	U917	A918	U919	U920	U921	U922	A923	G924	G925	G926	G927	G928	G929	C932	G933	C934	A935	C936	A937	G945	A946	G947	G951	U952	G953	A958	U959	U960				
G963	A964	U965	C	A968	A969	C972	G973	A974	A975	G976	A977	C978	C979	U980	U981	U982	A983	C984	U985	U986	G987	U991	U992	G993	A996	U997	C998	A1004	G1005	U1006	U1007	U1008	U1009	U1017	G1018	A1021	G1024	U1025	G1026	C1028	U1029	C1031	G1032	A1035	A1036	C1037	G1043					
A1044	G1045	A1046	A1055	U1060	U1061	U1062	C1063	G1064	U1065	C1071	U1072	U1073	G1074	U1075	U1076	U1077	U1078	U1079	A1080	A1081	A1082	U1085	U1086	G1087	U1089	U1095	U1096	G1099	G1100	A1101	A1102	C1103	G1104	A1105	G1106	C1107	G1108	C1109	A1110	C1113	C1114	C1119	C1120	U1121	G1124	U1125	U1126	G1127	C1128	G		



• Molecule 18: 30S ribosomal protein S20

Chain E: 47% 52%



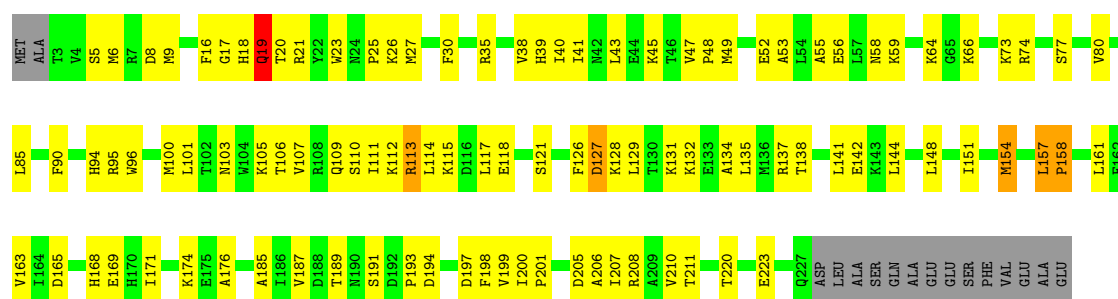
• Molecule 19: 30S ribosomal protein S21

Chain F: 41% 58%



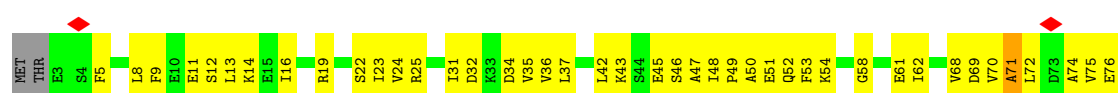
• Molecule 20: 30S ribosomal protein S2

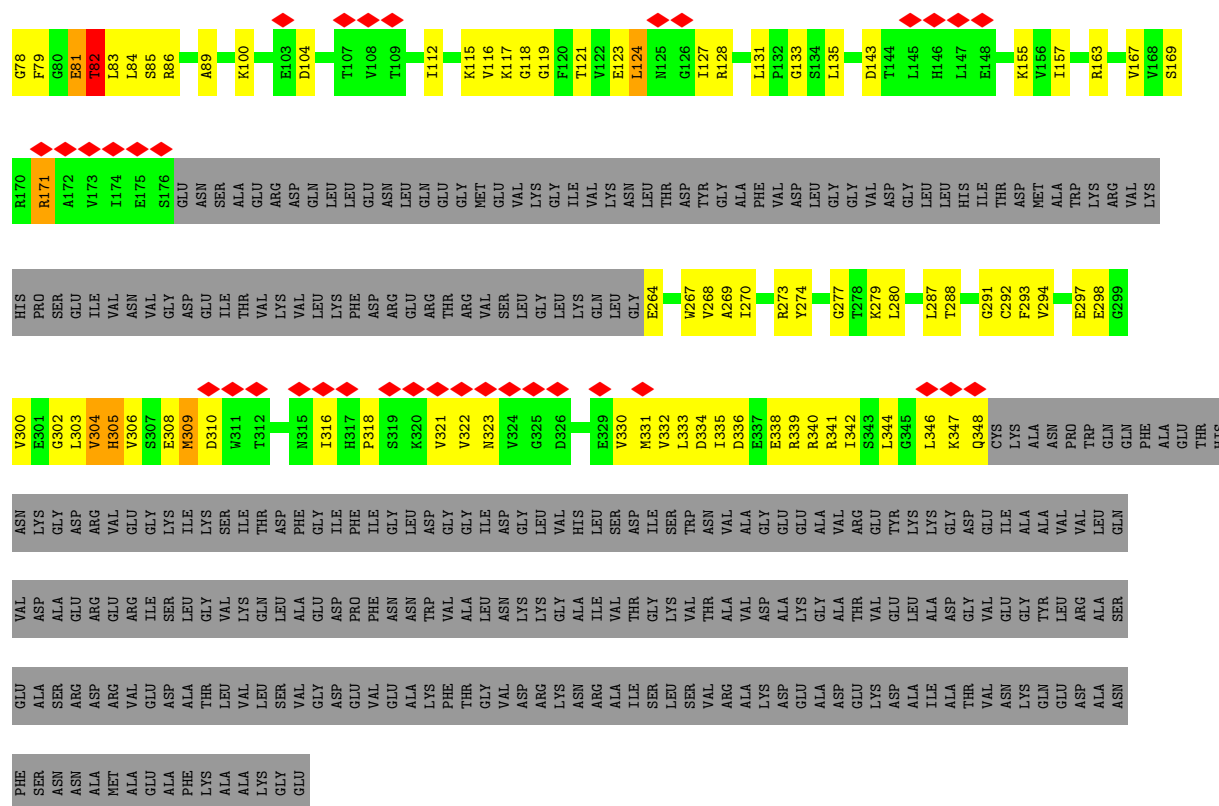
Chain G: 51% 40% 7%



• Molecule 21: 30S ribosomal protein S1

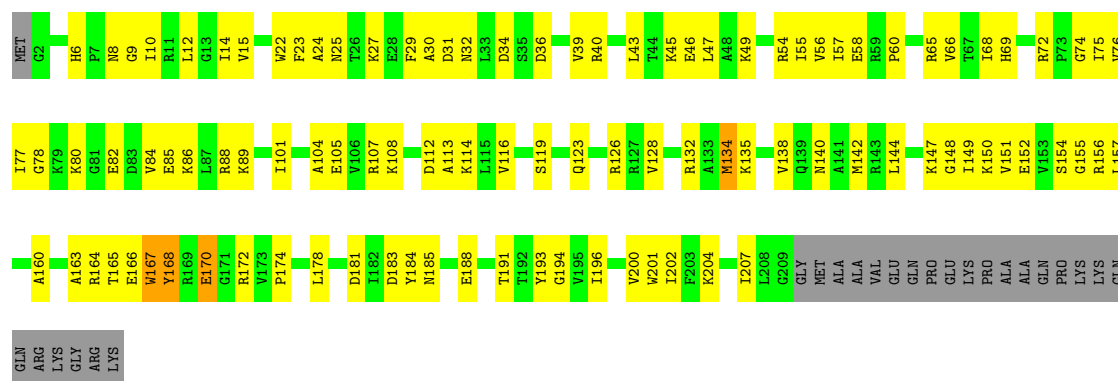
Chain H: 7% 25% 20% 54%





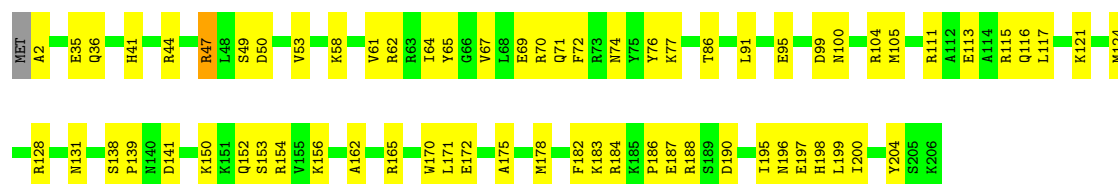
• Molecule 22: 30S ribosomal protein S3

Chain I:

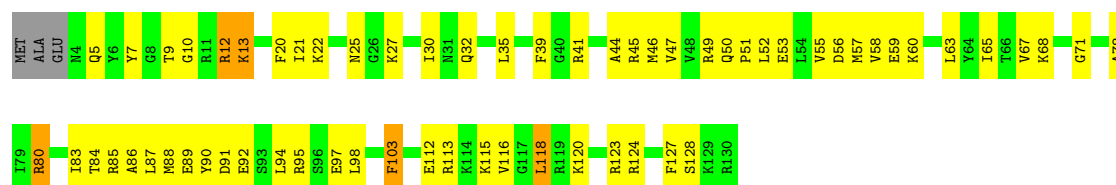


• Molecule 23: 30S ribosomal protein S4

Chain J:

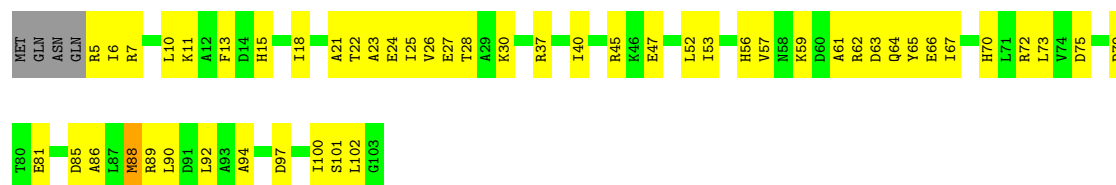


Chain O: 



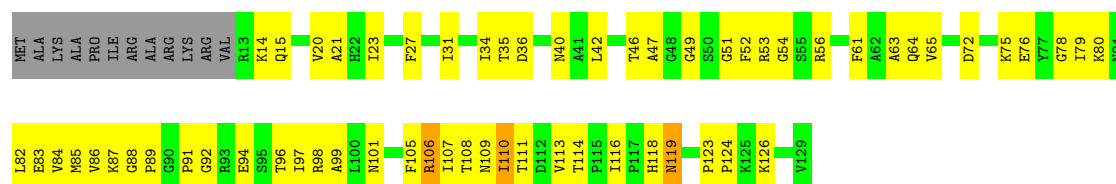
- Molecule 29: 30S ribosomal protein S10

Chain P: 



- Molecule 30: 30S ribosomal protein S11

Chain Q: 



- Molecule 31: 30S ribosomal protein S12

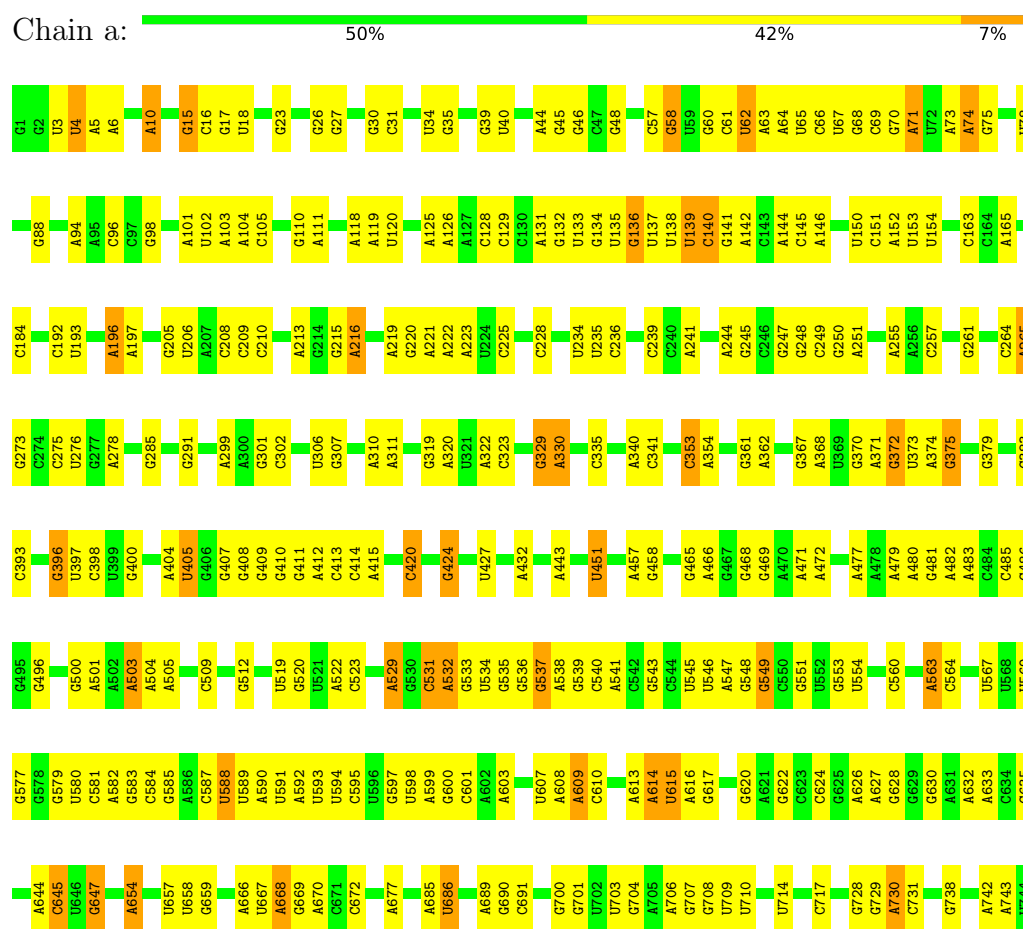
Chain R: 



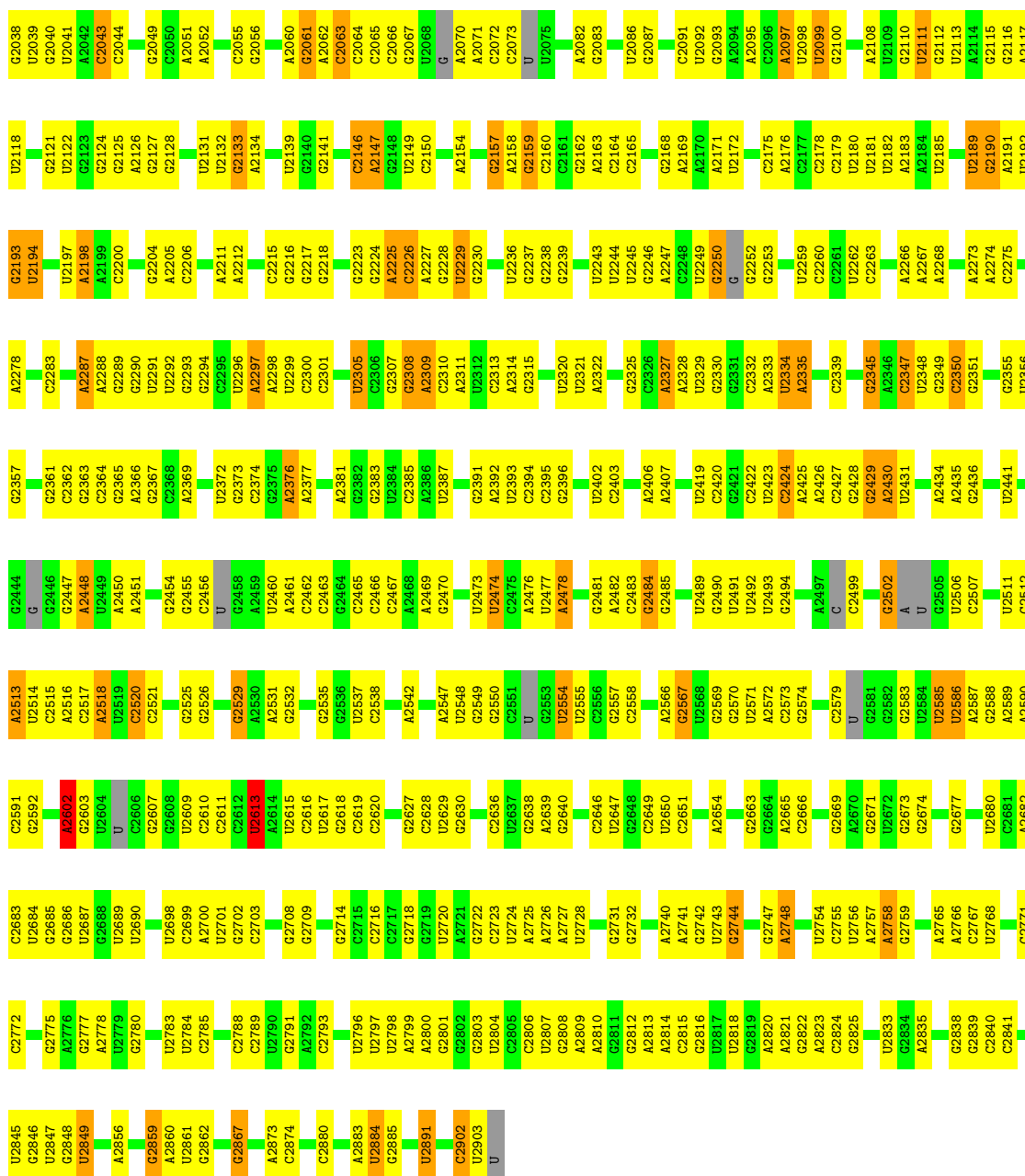
- Molecule 32: 30S ribosomal protein S14

Chain S: 





U1963	C1881	A1808	C1708	C1800	G1410	G1333	G1238	A1144	C1072	A1000	C922	A845	A750
G1964	U1862	G1811	U1709	G1801	U1411	G1334	G1243	C1145	A1073	A1001	G923	U846	A751
A1966	U1883	G1811	G1710	U1602	A1412	U1340	C1243	A1146	C1074	C1005	A927	C851	A752
C1967	A1885	G1814	U1714	U1513	C1414	G1341	A1246	C1147	C1075	C1006	A928	U852	A753
A1970	A1889	C1816	G1715	U1514	U1415	A1342	A1247	G1153	C1076	C1007	U929	U755	U754
U1971	A1890	G1817	U1720	A1609	C1416	G1343	U1248	G1154	C1077	A1008	G330	A756	A756
G1972	U1818	A1819	G1721	U1610	C1417	U1344	U1249	G1160	U1078	A1009	U931	G856	G757
G1980	U1820	A1919	U1729	G1613	U1418	G1345	G1250	G1161	A1080	U1012	G938	G857	G760
U1981	G1906	G1730	U1730	A1614	A1420	G1346	G1251	G1162	U1081	C1013	G939	G858	A761
G1982	G1907	G1731	G1731	U1536	G1421	A1347	C1252	G1163	U1082	A1014	G940	G859	A764
G1983	G1823	C1732	C1732	G1537	G1422	C1350	A1253	C1167	U1083	U1019	A941	G860	C765
A1987	U1825	G1738	G1738	A	A1427	C1351	G1256	G1168	A1085	U1019	A945	G862	A764
U1991	U1827	G1738	G1738	U1619	C1428	U1352	C1257	G1169	A1086	A1020	A946	G869	U773
G1992	G1828	A1746	A1746	G1622	G1429	A1353	A1262	C1170	G1087	A1021	C946	U870	U773
U1993	A1829	U1747	U1747	G1622	G1430	A1354	A1262	G1171	U1088	G1022	A947	U871	G775
C1996	C1830	G1750	G1750	U1647	A1431	G1355	G1266	U1173	A1089	U1023	C948	U872	G776
C1997	C1832	U1648	U1648	U1648	A1432	G1356	A1269	U1174	A1095	G1025	G952	G873	G780
A1998	C1833	G1649	G1649	U1649	A1433	G1360	C1270	A1175	A1096	G1026	G953	A781	A781
C1999	U1834	G1651	G1651	U1651	A1434	G1361	C1271	G1176	U1101	A1027	G954	A782	A782
A2000	G	A1755	A1755	U1652	G1435	C1362	U1272	C1177	C1102	A1028	G956	G879	A783
C2001	C1836	G1756	G1756	C1588	G1441	A1365	A1274	U1180	A1103	A1029	U958	G880	G784
C2002	G1839	U1758	U1758	U1559	U1442	A1366	A1274	U1181	A1106	U1033	A959	G881	G785
C2006	G1840	U1758	U1758	U1560	U1443	A1367	A1275	U1182	G1107	G1036	A960	U884	G786
U2007	U1941	C1764	C1764	C1656	G1445	A1368	G1277	U1183	G1108	G1037	G961	C885	C787
U2007	G1842	U1657	U1657	U1657	U1452	G1369	G1278	G1186	U1109	G1038	G962	U889	A789
C2008	C1843	G1658	G1658	U1563	G1453	C1370	G1279	G1187	G1110	A1039	U963	C888	A800
A2009	C1844	C1659	C1659	U1564	G1454	G1371	G1280	U1188	G1111	A1040	C964	C889	A800
G2010	G1845	A1664	A1664	C1565	U1460	A1378	G1281	U1189	A1111	G1041	C965	C890	C890
G2012	G1846	C1774	C1774	U1566	U1460	A1379	U1282	U1190	G1112	C1042	G966	G891	G805
A2013	A1947	U1778	U1778	G1667	U1467	G1380	G1283	G1196	U1113	C1043	C967	C892	C806
A2014	A1848	U1779	U1779	A1668	U1468	A1383	G1289	C1196	G1114	C1044	C968	C893	U807
A2015	A1853	A1783	A1783	U1674	A1469	A1384	C1290	G1197	U1119	A1045	G969	U894	U811
U2016	A1854	U1784	U1784	C1675	A1470	A1385	U1294	U1198	G1120	A1046	U970	A896	C812
U2017	U1856	A1785	A1785	A1676	U1477	C1386	G1296	U1199	C1121	G1047	A973	C897	U813
C2020	A1858	A1786	A1786	A1677	U1482	A1387	G1296	U1201	G1122	C1049	A975	A899	C815
U2022	U1859	A1789	A1789	G1681	G1482	A1392	G1300	A1204	G1125	A1054	A880	C901	A819
G2024	G1862	C1790	C1790	U1682	A1490	A1393	A1301	A1205	G1128	G1055	A983	G904	U826
C2025	G1863	G1792	G1792	U1683	A1494	A1395	G1310	U1206	U1131	G1056	A984	U907	U827
U2026	U1864	C1793	C1793	G1684	A1495	U1396	G1311	U1209	G1132	U1058	C985	C907	U828
G2027	A1794	A1794	A1794	U1688	A1496	U1397	U1312	G1212	A1133	U1059	C986	C908	A829
U2028	C1795	C1795	C1795	U1688	U1497	C1398	U1313	A1213	A1134	U1060	C987	A909	U832
G2029	U1870	U1796	U1796	U1693	C1498	U1400	G1315	A1214	U1135	U1061	A990	A910	U832
A	A1871	G1797	G1797	C1694	C1499	A1403	U1318	G1223	G1137	C1064	G993	C912	A833
U2031	A1872	U1798	U1798	G1695	G1500	U1404	C1319	U1224	U1065	U1066	G994	U913	G834
G2032	C1874	G1799	G1799	A1591	A1503	U1405	C1320	G1225	G1138	A1067	C995	C915	C837
A2033	C1874	C1800	C1800	A1700	A1503	U1406	A1321	A1226	G1139	A1068	A996	G916	C838
U2034	G1875	A1801	A1801	G1703	U1506	U1407	A1322	G1236	G1140	G1068	G997	U920	U839
C2035	A1802	A1802	A1802	U1507	U1507	G1408	C1323	A1237	U1141	A1069	C998	A920	C840
U2036	C1879	C1507	C1507	G1707	A1508	U1409	G1323	A1237	A1142	A1070	C999	G921	U842
A2037	U1880	G1707	G1707	G1707	A1508	U1409	G1323	A1237	A1143	G1071	U999	C921	U842



• Molecule 41: 50S ribosomal protein L27

Chain b: 59% 31% 11%



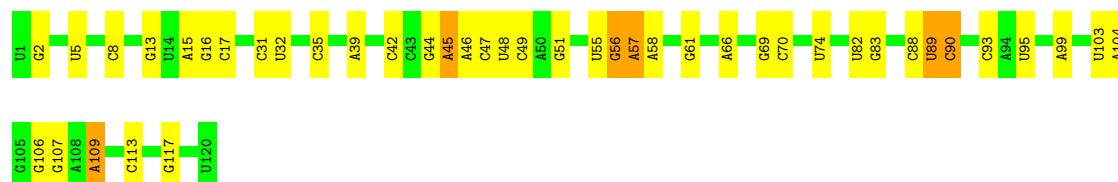
• Molecule 42: 50S ribosomal protein L28

Chain c: 67% 32%

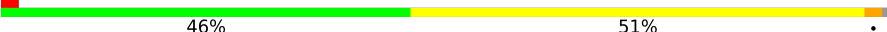


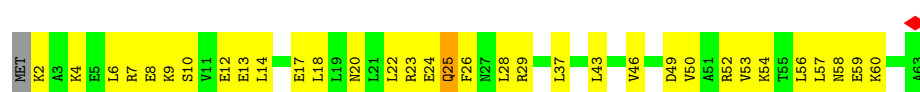
- Molecule 43: 5S rRNA

Chain d: 



- Molecule 44: 50S ribosomal protein L29

Chain e: 

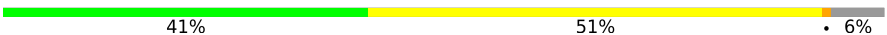


- Molecule 45: 50S ribosomal protein L30

Chain f: 



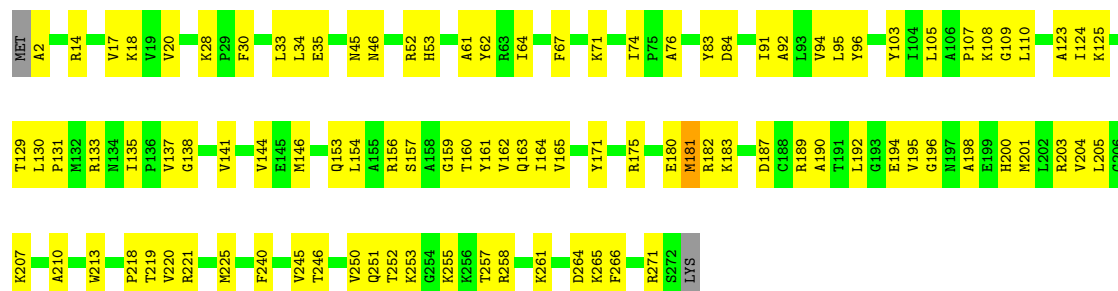
- Molecule 46: 50S ribosomal protein L31

Chain g: 



- Molecule 47: 50S ribosomal protein L2

Chain h: 

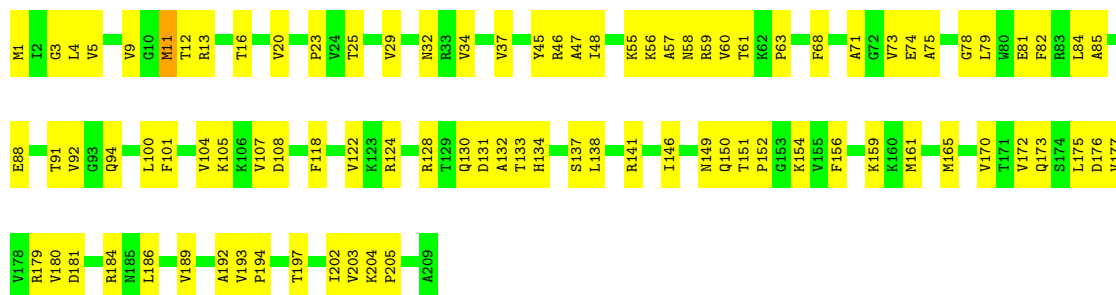


- Molecule 48: 50S ribosomal protein L32

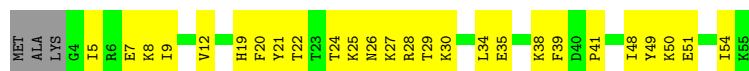
Chain i: 



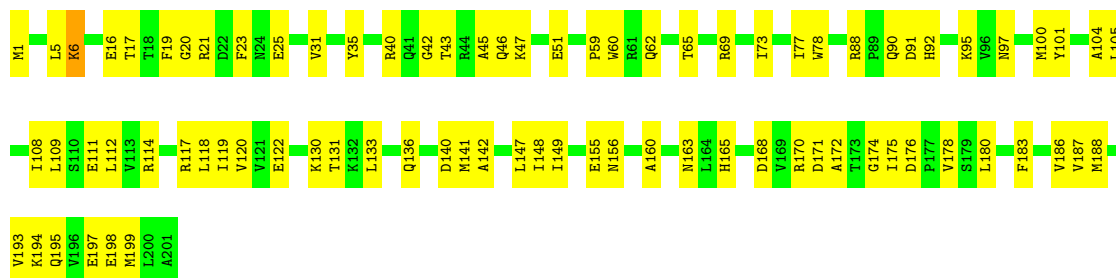
• Molecule 49: 50S ribosomal protein L3



• Molecule 50: 50S ribosomal protein L33



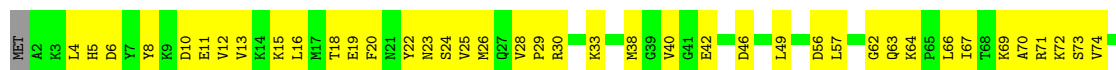
• Molecule 51: 50S ribosomal protein L4



• Molecule 52: 50S ribosomal protein L34



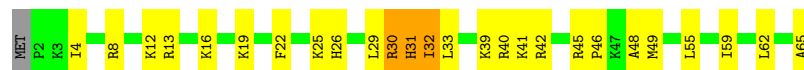
• Molecule 53: 50S ribosomal protein L5





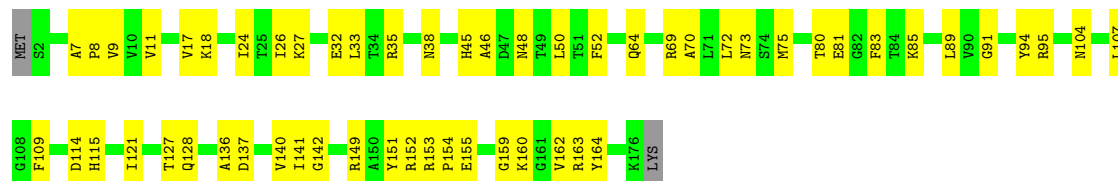
- Molecule 54: 50S ribosomal protein L35

Chain o: 58% 35% 5%



- Molecule 55: 50S ribosomal protein L6

Chain p: 67% 32%



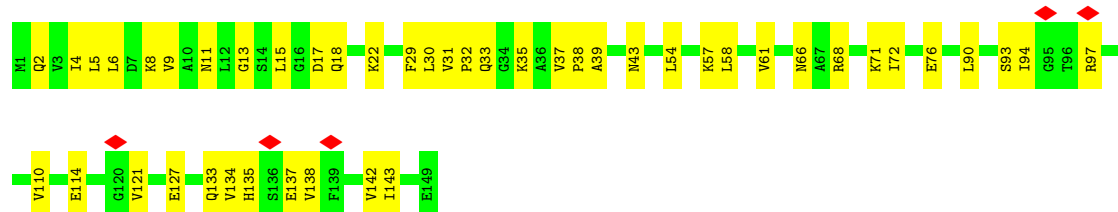
- Molecule 56: 50S ribosomal protein L36

Chain q: 61% 39%



- Molecule 57: 50S ribosomal protein L9

Chain r: 68% 32%



- Molecule 58: 50S ribosomal protein L13

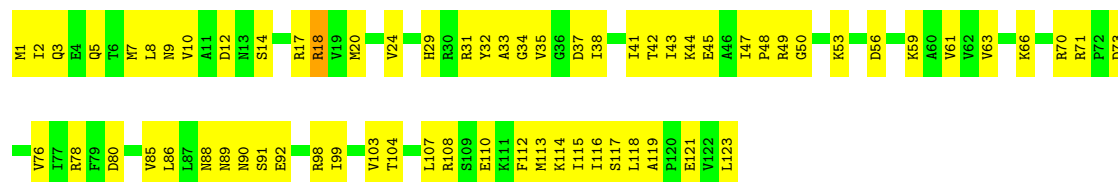
Chain s: 55% 44%





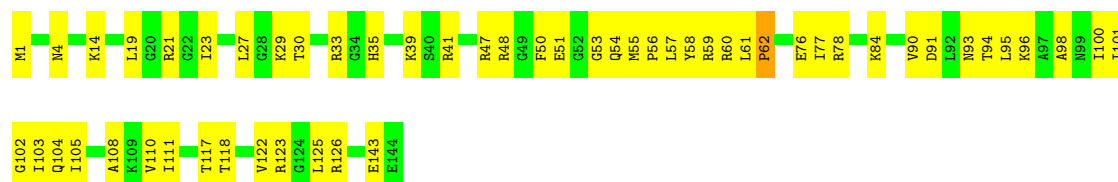
- Molecule 59: 50S ribosomal protein L14

Chain t: 46% 54%



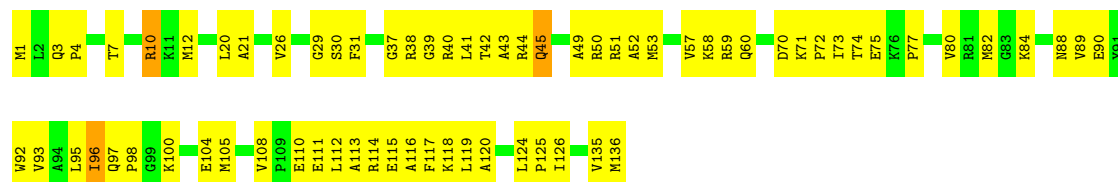
- Molecule 60: 50S ribosomal protein L15

Chain u: 62% 37%



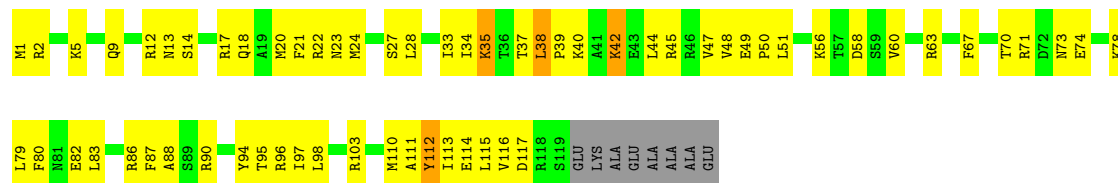
- Molecule 61: 50S ribosomal protein L16

Chain v: 49% 49%



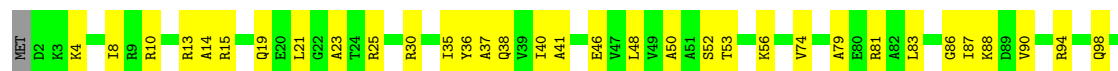
- Molecule 62: 50S ribosomal protein L17

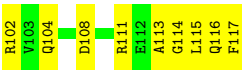
Chain w: 44% 46% 6%



- Molecule 63: 50S ribosomal protein L18

Chain x: 63% 36%

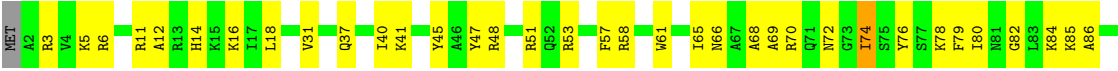




- Molecule 64: 50S ribosomal protein L19



- 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	6271	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	0.032	Depositor
Minimum map value	-0.007	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.002	Depositor
Recommended contour level	0.0042	Depositor
Map size (Å)	531.968, 531.968, 531.968	wwPDB
Map dimensions	512, 512, 512	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.039, 1.039, 1.039	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	0.48	0/1062
5	4	0.57	0/766	0.63	0/1025
6	5	0.56	0/816	0.77	0/1259
7	6	0.56	0/783	0.78	0/1203
8	7	0.56	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	0.31	1/1810 (0.1%)	0.63	2/2821 (0.1%)
11	AA	0.38	0/10547	0.62	0/14232
12	AB	0.46	0/1317	1.12	12/1786 (0.7%)
13	AC	0.37	0/1718	0.61	0/2328
13	AD	0.32	0/1696	0.60	0/2298
14	AE	0.38	0/10561	0.64	5/14258 (0.0%)
15	AF	0.29	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	0.60	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	4/2241 (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	0.65	3/1034 (0.3%)	0.79	3/1375 (0.2%)
29	P	0.49	0/800	0.65	1/1082 (0.1%)
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	0.53	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	0.13	0/227	0.40	0/304
40	a	0.30	0/69247	0.43	10/107985 (0.0%)
41	b	0.42	0/589	0.55	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	0.71	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%)	0.74	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	35/190707 (0.0%)	0.53	94/281021 (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
12	AB	0	10
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	36

All (35) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
62	w	35	LYS	CE-NZ	-12.74	1.11	1.49
28	O	80	ARG	CD-NE	-10.49	1.31	1.46
62	w	42	LYS	CD-CE	-9.39	1.24	1.52
24	K	45	ARG	CG-CD	7.75	1.75	1.52
8	7	42	G	C1'-N9	-7.60	1.36	1.48
65	z	74	ILE	CG1-CD1	7.59	1.81	1.51
20	G	19	GLN	CB-CG	-7.54	1.29	1.52
28	O	118	LEU	CG-CD2	-7.33	1.28	1.52
36	W	66	MET	CG-SD	-7.19	1.62	1.80
25	L	42	TRP	CB-CG	-7.18	1.28	1.50
58	s	74	TYR	CZ-OH	-7.12	1.23	1.38
44	e	46	VAL	CB-CG1	-7.10	1.29	1.52
8	7	2	U	C1'-N1	7.07	1.59	1.48
3	2	5	GLU	CG-CD	-6.97	1.34	1.52
30	Q	106	ARG	CD-NE	-6.41	1.37	1.46
20	G	158	PRO	CA-C	-6.29	1.44	1.52
28	O	80	ARG	CZ-NH2	6.27	1.41	1.33
20	G	158	PRO	CG-CD	6.05	1.71	1.50
65	z	74	ILE	CB-CG2	-6.02	1.32	1.52
47	h	181	MET	CG-SD	-6.01	1.65	1.80
38	Y	5	GLN	CB-CG	-6.00	1.34	1.52
58	s	92	MET	CG-SD	-5.94	1.66	1.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
24	K	45	ARG	CD-NE	5.86	1.54	1.46
20	G	157	LEU	C-O	-5.83	1.15	1.24
51	l	6	LYS	CE-NZ	-5.80	1.31	1.49
33	T	3	LEU	CG-CD2	-5.62	1.34	1.52
38	Y	5	GLN	CA-C	-5.51	1.45	1.52
46	g	62	LYS	CE-NZ	-5.51	1.32	1.49
10	B	27	U	O3'-P	5.47	1.69	1.61
44	e	25	GLN	CB-CG	-5.33	1.36	1.52
22	I	134	MET	CB-CG	-5.27	1.36	1.52
20	G	19	GLN	CD-NE2	-5.15	1.22	1.33
30	Q	119	ASN	CG-ND2	5.14	1.44	1.33
62	w	38	LEU	N-CA	-5.13	1.42	1.46
61	v	45	GLN	CB-CG	-5.09	1.37	1.52

All (94) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
24	K	71	MET	CG-SD-CE	-11.32	75.99	100.90
20	G	158	PRO	N-CD-CG	-10.99	86.72	103.20
12	AB	141	LEU	CA-C-N	-10.55	106.34	122.16
12	AB	141	LEU	C-N-CA	-10.55	106.34	122.16
25	L	102	MET	CA-CB-CG	-9.63	94.84	114.10
10	B	30	G	C2'-C3'-O3'	9.53	127.99	113.70
58	s	92	MET	CG-SD-CE	-9.37	80.28	100.90
20	G	113	ARG	NE-CZ-NH2	9.18	127.46	119.20
8	7	1	A	O3'-P-O5'	-8.66	91.02	104.00
24	K	78	ASN	N-CA-CB	-8.52	96.09	110.49
8	7	4	U	C2'-C3'-O3'	8.26	121.90	109.50
59	t	18	ARG	NE-CZ-NH2	8.02	126.42	119.20
54	o	30	ARG	NE-CZ-NH1	-7.62	113.88	121.50
16	C	73	ARG	NE-CZ-NH2	7.47	125.92	119.20
28	O	80	ARG	CG-CD-NE	7.41	128.31	112.00
62	w	112	TYR	CZ-CE2-CD2	-7.34	106.39	119.60
22	I	134	MET	CB-CG-SD	-7.19	91.14	112.70
61	v	96	ILE	CA-C-N	7.07	132.35	121.03
61	v	96	ILE	C-N-CA	7.07	132.35	121.03
20	G	158	PRO	CA-N-CD	-7.05	102.13	112.00
20	G	19	GLN	CA-CB-CG	7.00	128.09	114.10
59	t	18	ARG	NE-CZ-NH1	-6.99	114.52	121.50
40	a	2334	U	OP2-P-O3'	-6.94	87.19	108.00
28	O	80	ARG	CB-CG-CD	-6.92	95.38	111.30
17	D	37	U	N3-C4-O4	-6.61	99.57	119.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
62	w	112	TYR	OH-CZ-CE2	-6.56	100.22	119.90
17	D	718	A	P-O5'-C5'	-6.56	111.07	120.90
30	Q	110	ILE	N-CA-C	-6.45	99.08	108.11
17	D	827	U	N3-C4-O4	-6.39	100.21	119.40
40	a	1019	U	N3-C4-O4	-6.37	100.31	119.40
17	D	1358	U	N3-C4-O4	-6.34	100.38	119.40
36	W	40	ILE	CA-CB-CG1	-6.34	99.62	110.40
58	s	92	MET	CB-CG-SD	-6.31	93.78	112.70
12	AB	99	TYR	CA-C-N	6.30	137.17	121.80
12	AB	99	TYR	C-N-CA	6.30	137.17	121.80
40	a	1019	U	C5-C4-O4	6.12	144.26	125.90
28	O	103	PHE	CD1-CE1-CZ	-6.00	109.19	120.00
40	a	1082	U	N3-C4-O4	-5.94	101.57	119.40
40	a	1141	U	C5-C4-O4	5.93	143.69	125.90
40	a	2613	U	N3-C4-O4	-5.93	101.61	119.40
17	D	37	U	C5-C4-O4	5.88	143.55	125.90
20	G	157	LEU	C-N-CD	-5.87	100.92	125.00
53	n	176	PRO	N-CA-C	5.86	121.23	114.20
12	AB	129	ILE	CA-C-N	5.84	132.69	121.54
12	AB	129	ILE	C-N-CA	5.84	132.69	121.54
17	D	1358	U	C5-C4-O4	5.84	143.42	125.90
37	X	81	MET	CG-SD-CE	-5.82	88.10	100.90
22	I	168	TYR	N-CA-CB	5.81	120.17	110.59
17	D	884	U	N3-C4-O4	-5.78	102.06	119.40
26	M	55	GLY	CA-C-N	5.77	132.56	121.54
26	M	55	GLY	C-N-CA	5.77	132.56	121.54
8	7	30	G	C2'-C3'-O3'	5.76	122.35	113.70
14	AE	853	THR	CA-C-N	5.75	131.03	122.74
14	AE	853	THR	C-N-CA	5.75	131.03	122.74
20	G	154	MET	CA-CB-CG	-5.73	102.64	114.10
17	D	827	U	C5-C4-O4	5.71	143.04	125.90
22	I	134	MET	CG-SD-CE	-5.66	88.45	100.90
9	9	130	PRO	CA-N-CD	-5.65	104.09	112.00
24	K	45	ARG	CB-CG-CD	-5.63	98.34	111.30
20	G	154	MET	CG-SD-CE	-5.61	88.56	100.90
12	AB	125	GLY	CA-C-N	-5.60	115.55	122.84
12	AB	125	GLY	C-N-CA	-5.60	115.55	122.84
24	K	45	ARG	CA-C-N	5.59	130.29	122.23
24	K	45	ARG	C-N-CA	5.59	130.29	122.23
12	AB	151	LYS	CA-C-N	5.56	132.16	121.54
12	AB	151	LYS	C-N-CA	5.56	132.16	121.54
59	t	18	ARG	CG-CD-NE	-5.56	99.77	112.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
40	a	1141	U	N3-C4-O4	-5.54	102.79	119.40
49	j	11	MET	CB-CG-SD	-5.53	96.11	112.70
12	AB	123	PHE	N-CA-C	-5.48	100.18	108.67
14	AE	1184	ASP	N-CA-C	5.48	121.91	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
61	v	10	ARG	NE-CZ-NH1	-5.36	116.14	121.50
62	w	38	LEU	N-CA-C	-5.31	105.24	112.35
8	7	10	U	C2'-C3'-O3'	5.27	117.41	109.50
55	p	46	ALA	CA-C-N	5.25	131.57	121.54
55	p	46	ALA	C-N-CA	5.25	131.57	121.54
38	Y	5	GLN	CB-CA-C	-5.24	99.99	110.42
40	a	2613	U	C5-C4-O4	5.24	141.61	125.90
29	P	88	MET	CG-SD-CE	-5.22	89.41	100.90
24	K	45	ARG	O-C-N	-5.20	116.88	123.01
20	G	158	PRO	N-CA-CB	-5.20	97.92	103.38
38	Y	5	GLN	CA-CB-CG	5.16	124.43	114.10
22	I	170	GLU	CB-CG-CD	5.16	121.37	112.60
40	a	2334	U	C2'-C3'-O3'	-5.14	101.79	109.50
40	a	2602	A	C4'-C3'-O3'	5.14	117.11	109.40
44	e	25	GLN	CG-CD-NE2	-5.13	108.70	116.40
10	B	30	G	C4'-C3'-C2'	-5.11	97.49	102.60
17	D	884	U	C5-C4-O4	5.11	141.22	125.90
14	AE	709	ARG	CA-C-N	5.08	135.43	126.45
14	AE	709	ARG	C-N-CA	5.08	135.43	126.45
12	AB	159	PHE	CA-CB-CG	5.07	118.86	113.80
47	h	181	MET	CG-SD-CE	-5.00	89.89	100.90

There are no chirality outliers.

All (36) 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
12	AB	106	ASP	Peptide
12	AB	116	VAL	Peptide
12	AB	117	ILE	Peptide
12	AB	128	ALA	Peptide
12	AB	137	ALA	Peptide
12	AB	140	MET	Peptide
12	AB	143	LEU	Peptide

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Mol	Chain	Res	Type	Group
12	AB	151	LYS	Peptide
12	AB	159	PHE	Peptide
12	AB	160	ARG	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
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	54	0
2	1	857	922	922	69	0
3	2	746	811	811	61	0
4	3	788	844	844	46	0
5	4	753	780	780	87	0
6	5	726	0	392	111	0
7	6	703	0	396	34	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
8	7	772	0	382	117	0
9	9	1117	0	1155	256	0
10	A	1620	826	827	108	0
10	B	1620	813	827	114	0
11	AA	10381	0	10390	233	0
12	AB	1286	0	1302	331	0
13	AC	1698	0	1718	13	0
13	AD	1677	0	1713	29	0
14	AE	10404	0	10627	260	0
15	AF	650	0	658	11	0
16	C	544	559	560	109	0
17	D	32703	16423	16453	743	0
18	E	669	719	719	83	0
19	F	589	629	629	59	0
20	G	1760	1785	1787	154	0
21	H	1730	1454	1455	163	0
22	I	1636	1710	1710	153	0
23	J	1643	1707	1707	85	0
24	K	1152	1196	1196	114	0
25	L	848	846	846	106	0
26	M	1181	1235	1238	120	0
27	N	979	1031	1031	93	0
28	O	1022	1070	1070	92	0
29	P	790	831	831	138	0
30	Q	877	887	887	97	0
31	R	939	1001	1001	93	0
32	S	805	844	844	77	0
33	T	714	734	734	93	0
34	U	649	666	666	63	0
35	V	648	691	691	67	0
36	W	663	688	688	47	0
37	X	900	964	965	111	0
38	Y	1032	0	1088	212	0
39	Z	227	0	237	31	0
40	a	61841	31077	31120	1323	0
41	b	582	599	599	47	0
42	c	625	652	652	33	0
43	d	2569	1301	1301	42	0
44	e	501	531	531	45	0
45	f	448	488	488	38	0
46	g	522	520	520	67	0
47	h	2082	2154	2154	137	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
48	i	444	459	458	48	0
49	j	1565	1617	1616	119	0
50	k	426	464	464	41	0
51	l	1552	1619	1619	124	0
52	m	377	418	418	29	0
53	n	1410	1443	1444	154	0
54	o	504	572	572	51	0
55	p	1313	1358	1358	74	0
56	q	302	343	343	25	0
57	r	1111	1148	1148	52	0
58	s	1129	1162	1162	125	0
59	t	946	1023	1023	102	0
60	u	1053	1129	1129	80	0
61	v	1074	1157	1157	122	0
62	w	951	994	994	101	0
63	x	892	923	923	48	0
64	y	917	962	962	50	0
65	z	947	1020	1019	79	0
66	AE	1	0	0	0	0
67	AE	2	0	0	1	0
All	All	177400	98638	128790	6790	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 22.

All (6790) 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)
6:5:10:DT:C7	11:AA:62:TYR:CD2	1.84	1.60
6:5:9:DG:H5''	11:AA:473:ARG:CB	1.29	1.58
6:5:11:DA:C5'	12:AB:67:THR:HG22	1.20	1.57
24:K:45:ARG:CD	24:K:45:ARG:CG	1.75	1.56
6:5:9:DG:C5'	11:AA:473:ARG:HB3	1.34	1.55
6:5:10:DT:C5	11:AA:62:TYR:CD2	1.95	1.54
12:AB:147:ASN:CB	29:P:100:ILE:HG23	1.39	1.52
65:z:74:ILE:CG1	65:z:74:ILE:CD1	1.81	1.52
12:AB:147:ASN:HB2	29:P:100:ILE:CG2	1.39	1.50
6:5:10:DT:C6	11:AA:62:TYR:CE2	2.00	1.47
7:6:23:DC:C5'	14:AE:259:ARG:HH12	1.21	1.46
6:5:10:DT:C5	11:AA:62:TYR:CE2	2.04	1.45
14:AE:87:LYS:HZ3	29:P:89:ARG:CZ	1.27	1.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AB:81:PHE:CD2	14:AE:293:ARG:NH1	1.77	1.42
6:5:11:DA:P	12:AB:68:THR:HA	1.58	1.41
11:AA:380:ALA:N	12:AB:65:HIS:CE1	1.84	1.37
11:AA:377:THR:OG1	12:AB:62:GLU:HB3	1.20	1.36
14:AE:87:LYS:NZ	29:P:89:ARG:CZ	1.83	1.35
6:5:9:DG:OP2	11:AA:473:ARG:CB	1.73	1.35
12:AB:81:PHE:CE1	14:AE:293:ARG:HB3	1.32	1.33
14:AE:87:LYS:HZ3	29:P:89:ARG:NE	1.23	1.33
12:AB:82:GLY:CA	14:AE:142:GLU:HB2	1.62	1.30
6:5:11:DA:C5'	12:AB:67:THR:CG2	2.12	1.28
12:AB:51:PHE:HE2	14:AE:288:PRO:CG	1.44	1.28
14:AE:287:ALA:CB	14:AE:292:VAL:HG13	1.61	1.28
6:5:11:DA:C3'	12:AB:67:THR:HG21	1.63	1.28
12:AB:123:PHE:HD1	29:P:85:ASP:OD2	1.04	1.28
11:AA:377:THR:OG1	12:AB:62:GLU:CB	1.80	1.27
12:AB:81:PHE:CE1	14:AE:293:ARG:CB	1.92	1.27
11:AA:387:ASN:CG	11:AA:394:ARG:NH1	1.92	1.27
8:7:22:U:C5'	22:I:80:LYS:HG3	1.63	1.26
6:5:11:DA:OP2	12:AB:68:THR:CA	1.81	1.26
12:AB:123:PHE:HD1	29:P:85:ASP:CG	1.43	1.26
6:5:10:DT:C1'	12:AB:71:ALA:H	1.46	1.26
14:AE:288:PRO:HD2	14:AE:291:ILE:CG2	1.66	1.26
8:7:21:U:H5	22:I:80:LYS:O	1.17	1.25
8:7:11:U:H4'	24:K:20:ARG:NH2	1.50	1.23
12:AB:81:PHE:HA	14:AE:141:PHE:O	1.27	1.23
12:AB:123:PHE:CD1	29:P:85:ASP:OD2	1.91	1.23
14:AE:74:LYS:HE3	14:AE:86:GLU:OE1	1.33	1.23
12:AB:51:PHE:CE2	14:AE:288:PRO:CG	2.22	1.22
6:5:11:DA:OP2	12:AB:68:THR:HA	1.36	1.22
11:AA:481:LEU:CD2	12:AB:16:ARG:CD	2.02	1.21
6:5:10:DT:H71	11:AA:62:TYR:CG	1.75	1.20
7:6:25:DT:OP1	11:AA:496:LYS:CA	1.80	1.20
6:5:11:DA:OP2	12:AB:68:THR:N	1.73	1.19
7:6:23:DC:C5'	14:AE:259:ARG:NH1	2.05	1.19
6:5:10:DT:H1'	12:AB:71:ALA:N	1.21	1.18
6:5:9:DG:C5'	11:AA:473:ARG:CG	2.22	1.17
55:p:159:GLY:O	55:p:163:ARG:NH1	1.77	1.17
8:7:22:U:H5''	22:I:80:LYS:CG	1.71	1.17
57:r:135:HIS:ND1	57:r:137:GLU:OE1	1.77	1.17
11:AA:380:ALA:N	12:AB:65:HIS:HE1	1.29	1.16
8:7:21:U:C5	22:I:80:LYS:O	1.99	1.14

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:L:9:MET:HE1	25:L:85:ILE:HB	1.17	1.14
37:X:81:MET:HE1	37:X:92:ARG:HB3	1.20	1.14
14:AE:87:LYS:NZ	29:P:89:ARG:NE	1.89	1.14
6:5:9:DG:H5'	11:AA:473:ARG:CG	1.76	1.13
11:AA:387:ASN:CG	11:AA:394:ARG:HH11	1.55	1.13
40:a:2335:A:OP2	63:x:13:ARG:NE	1.81	1.13
6:5:10:DT:O3'	12:AB:67:THR:O	1.67	1.13
10:A:76:A:O2'	40:a:2394:C:N3	1.81	1.13
6:5:9:DG:OP2	11:AA:473:ARG:HB2	0.97	1.13
6:5:10:DT:C7	11:AA:62:TYR:CG	2.31	1.13
12:AB:82:GLY:HA2	14:AE:142:GLU:HB2	1.13	1.13
10:B:75:C:OP2	40:a:2602:A:O2'	1.67	1.12
36:W:40:ILE:HD13	36:W:66:MET:SD	1.89	1.12
12:AB:54:TYR:CE2	14:AE:291:ILE:HG23	1.84	1.12
7:6:25:DT:C3'	11:AA:496:LYS:HG3	1.74	1.12
12:AB:81:PHE:CE2	14:AE:293:ARG:NH1	1.88	1.12
14:AE:287:ALA:HB2	14:AE:292:VAL:CG1	1.78	1.12
12:AB:123:PHE:CD1	29:P:85:ASP:CG	2.26	1.11
35:V:7:THR:OG1	35:V:60:GLU:OE2	1.66	1.11
45:f:4:THR:OG1	45:f:37:GLU:OE2	1.68	1.11
12:AB:102:LYS:CE	14:AE:285:LEU:HG	1.79	1.11
6:5:10:DT:H73	11:AA:62:TYR:CD2	1.77	1.11
6:5:9:DG:C5'	11:AA:473:ARG:CB	2.02	1.10
12:AB:28:CYS:HA	12:AB:56:PHE:O	1.52	1.09
38:Y:5:GLN:HG2	38:Y:61:TYR:CE1	1.87	1.09
38:Y:96:LYS:HE3	38:Y:136:GLY:HA3	1.29	1.09
7:6:23:DC:H5''	14:AE:259:ARG:HH12	1.14	1.09
8:7:11:U:C4'	24:K:20:ARG:NH2	2.16	1.09
6:5:9:DG:H5'	11:AA:473:ARG:HG3	1.09	1.09
6:5:9:DG:C5'	11:AA:473:ARG:HG3	1.82	1.09
60:u:122:VAL:HG12	60:u:125:LEU:HD21	1.35	1.08
6:5:10:DT:H71	11:AA:62:TYR:CD2	1.77	1.08
11:AA:469:VAL:O	11:AA:473:ARG:HG2	1.53	1.08
12:AB:138:ARG:HA	12:AB:154:VAL:O	1.50	1.08
52:m:22:MET:O	52:m:28:ARG:NH1	1.87	1.08
12:AB:51:PHE:CZ	14:AE:288:PRO:HD3	1.87	1.08
7:6:23:DC:O5'	14:AE:259:ARG:NH1	1.87	1.07
12:AB:82:GLY:HA2	14:AE:142:GLU:CB	1.85	1.07
6:5:11:DA:H5'	12:AB:67:THR:HG22	1.14	1.07
14:AE:288:PRO:HD2	14:AE:291:ILE:HG21	1.10	1.07
17:D:1309:G:OP2	37:X:98:ARG:NE	1.88	1.06

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:M:4:ARG:HG3	26:M:5:ARG:HG3	1.33	1.06
9:9:46:ARG:HG3	9:9:94:ARG:HH21	1.12	1.06
14:AE:287:ALA:HB2	14:AE:292:VAL:HG13	1.08	1.06
6:5:11:DA:H3'	12:AB:67:THR:HG21	1.05	1.05
38:Y:56:VAL:HA	38:Y:71:LYS:HZ1	1.21	1.05
9:9:50:VAL:HG22	38:Y:119:ALA:HB3	1.33	1.05
8:7:11:U:O2'	24:K:33:PHE:CE1	2.10	1.04
7:6:18:DT:H3	8:7:39:A:N6	1.55	1.04
19:F:25:LYS:NZ	21:H:336:ASP:OD1	1.90	1.04
46:g:58:ASP:OD1	46:g:62:LYS:NZ	1.90	1.04
25:L:9:MET:HE1	25:L:85:ILE:CB	1.86	1.04
55:p:149:ARG:NH2	55:p:152:ARG:O	1.91	1.04
38:Y:14:ALA:HB1	38:Y:50:LYS:HD2	1.37	1.03
9:9:136:ILE:HD12	9:9:139:LEU:HD12	1.38	1.03
9:9:103:ASN:ND2	9:9:107:GLU:OE2	1.91	1.03
49:j:179:ARG:NH1	49:j:180:VAL:O	1.92	1.03
49:j:184:ARG:NH2	64:y:7:GLN:OE1	1.90	1.03
6:5:10:DT:C1'	12:AB:71:ALA:N	2.10	1.03
17:D:564:C:OP2	31:R:12:ARG:NH2	1.91	1.03
38:Y:93:ASN:HA	38:Y:135:MET:CE	1.88	1.03
64:y:51:ARG:NH1	64:y:56:HIS:O	1.91	1.03
19:F:37:PHE:HB2	30:Q:126:LYS:HE2	1.35	1.02
25:L:42:TRP:CH2	25:L:102:MET:HG3	1.94	1.02
9:9:31:ARG:NH1	40:a:1054:A:O4'	1.91	1.02
22:I:123:GLN:OE1	22:I:126:ARG:NH2	1.92	1.02
51:l:1:MET:HE2	51:l:16:GLU:HA	1.39	1.02
8:7:4:U:O2'	17:D:1403:C:O2	1.75	1.02
12:AB:81:PHE:CA	14:AE:141:PHE:O	2.06	1.02
58:s:72:LYS:HD3	58:s:74:TYR:OH	1.59	1.02
12:AB:102:LYS:HE2	14:AE:285:LEU:HG	1.08	1.02
22:I:152:GLU:OE2	22:I:154:SER:OG	1.77	1.01
8:7:3:G:H5''	17:D:1500:A:N6	1.75	1.01
9:9:3:LEU:HD12	9:9:4:ASN:H	1.25	1.01
9:9:48:ALA:HB3	9:9:51:TYR:HE1	1.20	1.01
12:AB:51:PHE:HE2	14:AE:288:PRO:HG2	1.21	1.01
9:9:43:LYS:HG3	9:9:46:ARG:HH12	1.22	1.01
12:AB:102:LYS:HE2	14:AE:285:LEU:CG	1.90	1.00
14:AE:70:CYS:SG	14:AE:88:CYS:SG	2.58	1.00
38:Y:60:VAL:HG22	38:Y:66:PHE:HB3	1.44	1.00
6:5:11:DA:H3'	12:AB:67:THR:CG2	1.90	1.00
9:9:30:SER:O	9:9:31:ARG:NE	1.95	1.00

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:9:88:HIS:HB3	9:9:89:PRO:HD3	1.44	1.00
51:l:1:MET:HE1	51:l:20:GLY:HA3	1.43	1.00
11:AA:481:LEU:HD23	12:AB:16:ARG:CD	1.87	0.99
7:6:18:DT:H3	8:7:39:A:H61	1.05	0.99
17:D:377:G:OP1	34:U:5:ARG:NH1	1.94	0.99
12:AB:82:GLY:CA	14:AE:142:GLU:CB	2.39	0.99
12:AB:148:LYS:CE	29:P:102:LEU:HB3	1.92	0.99
38:Y:93:ASN:HA	38:Y:135:MET:HE1	1.00	0.99
6:5:11:DA:P	12:AB:68:THR:CA	2.45	0.99
6:5:11:DA:H5''	12:AB:67:THR:CG2	1.86	0.99
14:AE:288:PRO:CD	14:AE:291:ILE:HG21	1.92	0.98
32:S:86:GLU:OE1	32:S:90:ARG:NH1	1.96	0.98
12:AB:51:PHE:CE2	14:AE:288:PRO:HG3	1.99	0.98
20:G:49:MET:HE1	20:G:201:PRO:HD3	1.42	0.98
12:AB:140:MET:N	12:AB:152:HIS:O	1.96	0.98
20:G:154:MET:HE2	20:G:158:PRO:HD3	1.44	0.98
25:L:42:TRP:HH2	25:L:102:MET:HG3	1.25	0.98
57:r:38:PRO:O	57:r:43:ASN:ND2	1.96	0.98
6:5:10:DT:O5'	11:AA:62:TYR:OH	1.80	0.98
7:6:25:DT:H3'	11:AA:496:LYS:HG3	1.41	0.97
32:S:92:GLU:OE1	32:S:92:GLU:N	1.97	0.97
58:s:12:LYS:NZ	58:s:14:ASP:OD1	1.96	0.97
38:Y:93:ASN:CA	38:Y:135:MET:HE1	1.94	0.97
6:5:11:DA:H5'	12:AB:67:THR:CG2	1.82	0.97
11:AA:481:LEU:HD21	12:AB:16:ARG:CD	1.60	0.97
9:9:95:LEU:HD13	9:9:98:GLU:OE2	1.65	0.97
8:7:11:U:H4'	24:K:20:ARG:HH22	1.18	0.97
12:AB:6:LEU:HD13	14:AE:291:ILE:HD11	1.46	0.97
40:a:2093:G:OP1	57:r:22:LYS:NZ	1.98	0.97
6:5:11:DA:C3'	12:AB:67:THR:CG2	2.42	0.96
14:AE:87:LYS:HZ3	29:P:89:ARG:CD	1.78	0.96
9:9:58:THR:HG21	9:9:81:LEU:HD23	1.48	0.96
11:AA:387:ASN:ND2	11:AA:394:ARG:HH12	1.61	0.96
8:7:2:U:P	17:D:1505:G:H8	1.88	0.96
12:AB:123:PHE:HE2	12:AB:141:LEU:HD23	1.28	0.96
14:AE:87:LYS:HE2	29:P:89:ARG:CG	1.94	0.96
59:t:20:MET:HB3	59:t:44:LYS:HZ3	1.31	0.96
17:D:562:U:O2'	31:R:14:ARG:NH1	1.98	0.96
63:x:111:ARG:NH2	63:x:117:PHE:OXT	1.99	0.96
14:AE:287:ALA:CB	14:AE:292:VAL:CG1	2.38	0.95
17:D:1344:C:OP1	28:O:124:ARG:NH1	1.98	0.95

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:7:22:U:H4'	22:I:80:LYS:CD	1.96	0.95
12:AB:51:PHE:CE2	14:AE:288:PRO:CD	2.48	0.95
38:Y:75:ALA:HB2	38:Y:112:LYS:HE3	1.48	0.95
6:5:10:DT:C6	11:AA:62:TYR:HE2	1.85	0.95
9:9:3:LEU:HD12	9:9:4:ASN:N	1.82	0.95
9:9:61:ARG:NH1	40:a:1047:G:N7	2.15	0.95
12:AB:82:GLY:N	14:AE:142:GLU:CB	2.30	0.95
38:Y:5:GLN:HG2	38:Y:61:TYR:HE1	1.32	0.95
6:5:11:DA:H5''	12:AB:67:THR:HG22	0.98	0.95
12:AB:122:ALA:CB	29:P:81:GLU:OE1	2.15	0.95
35:V:7:THR:OG1	35:V:61:ILE:O	1.85	0.95
11:AA:481:LEU:HD21	12:AB:16:ARG:HD3	1.48	0.94
8:7:22:U:H5''	22:I:80:LYS:HG3	0.95	0.94
9:9:23:LEU:HD13	9:9:92:ALA:CB	1.98	0.94
12:AB:148:LYS:HE3	29:P:102:LEU:HD23	1.49	0.94
40:a:30:G:OP2	65:z:5:LYS:NZ	2.00	0.94
7:6:25:DT:OP1	11:AA:496:LYS:HA	1.12	0.94
12:AB:148:LYS:HE2	29:P:102:LEU:HB3	1.50	0.94
22:I:164:ARG:NH2	22:I:166:GLU:OE2	1.99	0.94
8:7:22:U:H4'	22:I:80:LYS:HD2	1.48	0.94
9:9:31:ARG:HD2	40:a:1053:C:O2'	1.66	0.94
38:Y:33:ASN:HB3	38:Y:36:GLU:HG2	1.48	0.94
39:Z:14:MET:HB3	39:Z:17:MET:HG2	1.46	0.94
12:AB:122:ALA:HB3	29:P:81:GLU:OE1	1.68	0.94
55:p:38:ASN:ND2	55:p:64:GLN:OE1	2.00	0.94
9:9:23:LEU:HD13	9:9:92:ALA:HB1	1.49	0.93
38:Y:14:ALA:O	38:Y:50:LYS:HE3	1.68	0.93
9:9:88:HIS:HB3	9:9:89:PRO:CD	1.97	0.93
12:AB:148:LYS:NZ	29:P:102:LEU:O	2.00	0.93
17:D:526:C:OP2	31:R:88:LYS:NZ	2.01	0.93
25:L:9:MET:CE	25:L:85:ILE:HB	1.97	0.93
14:AE:87:LYS:HZ2	29:P:89:ARG:CZ	1.74	0.93
6:5:11:DA:OP2	12:AB:67:THR:C	2.11	0.93
12:AB:81:PHE:HD2	14:AE:293:ARG:NH1	1.35	0.93
14:AE:87:LYS:HE2	29:P:89:ARG:HG2	1.50	0.93
10:B:76:A:N3	40:a:2493:U:H4'	1.84	0.93
59:t:90:ASN:OD1	59:t:91:SER:N	2.02	0.92
1:0:18:GLN:N	1:0:18:GLN:OE1	2.01	0.92
11:AA:481:LEU:CD2	12:AB:16:ARG:HD3	1.99	0.92
8:7:21:U:H5''	22:I:80:LYS:H	1.35	0.92
9:9:50:VAL:HG22	38:Y:119:ALA:CB	1.98	0.92

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:5:9:DG:OP2	11:AA:473:ARG:CG	2.16	0.92
6:5:9:DG:P	11:AA:473:ARG:HB2	2.10	0.92
17:D:1526:G:N7	19:F:40:LYS:NZ	2.18	0.92
12:AB:140:MET:C	12:AB:152:HIS:O	2.13	0.91
40:a:2293:G:OP1	63:x:94:ARG:NH1	2.04	0.91
40:a:2682:A:O4'	49:j:11:MET:SD	2.29	0.91
40:a:1042:G:HO2'	40:a:1043:C:H6	1.10	0.91
8:7:2:U:P	17:D:1505:G:C8	2.64	0.91
30:Q:51:GLY:O	30:Q:56:ARG:NH2	2.03	0.91
9:9:92:ALA:O	9:9:129:LEU:HD13	1.70	0.91
26:M:50:LEU:HD21	26:M:121:ALA:HA	1.52	0.91
11:AA:380:ALA:H	12:AB:65:HIS:CE1	1.61	0.91
12:AB:123:PHE:CE2	12:AB:141:LEU:HD23	2.05	0.91
12:AB:3:SER:O	12:AB:58:GLU:HA	1.71	0.91
11:AA:387:ASN:ND2	11:AA:394:ARG:NH1	2.15	0.91
38:Y:79:LEU:HD21	38:Y:105:LEU:HD21	1.52	0.91
24:K:45:ARG:CD	24:K:45:ARG:CB	2.49	0.91
10:B:38:A:H4'	17:D:790:A:O4'	1.71	0.90
63:x:36:TYR:OH	63:x:38:GLN:NE2	2.05	0.90
35:V:27:ARG:NH1	35:V:42:THR:OG1	2.03	0.90
40:a:1818:U:OP2	47:h:156:ARG:NH1	2.03	0.90
64:y:89:ARG:NE	64:y:113:ARG:O	2.05	0.90
14:AE:87:LYS:CE	29:P:89:ARG:NE	2.34	0.90
16:C:38:LYS:NZ	17:D:718:A:N1	2.19	0.90
8:7:34:U:H5'	11:AA:1259:LEU:HD21	1.52	0.90
6:5:10:DT:H2''	12:AB:70:ASN:N	1.87	0.90
40:a:2393:U:OP1	54:o:30:ARG:NE	2.05	0.90
46:g:27:THR:OG1	53:n:140:GLU:OE1	1.88	0.90
44:e:23:ARG:NH1	44:e:24:GLU:OE2	2.06	0.89
61:v:111:GLU:O	61:v:114:ARG:HG2	1.71	0.89
12:AB:51:PHE:HE2	14:AE:288:PRO:CD	1.86	0.89
17:D:1439:G:OP1	18:E:33:LYS:NZ	2.05	0.89
30:Q:15:GLN:NE2	30:Q:76:GLU:O	2.06	0.89
10:B:30:G:O2'	17:D:1339:A:C2	2.26	0.89
19:F:31:GLU:OE2	19:F:35:ARG:NE	2.06	0.89
6:5:11:DA:P	12:AB:67:THR:O	2.30	0.89
26:M:66:LEU:HD13	26:M:101:MET:CE	2.02	0.89
16:C:60:LYS:NZ	17:D:735:C:O4'	2.06	0.89
46:g:16:CYS:HB2	46:g:37:CYS:HB3	1.54	0.89
60:u:93:ASN:OD1	60:u:94:THR:N	2.05	0.89
9:9:8:LYS:O	9:9:12:VAL:HG23	1.73	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AB:142:LEU:HA	12:AB:150:ILE:O	1.72	0.89
14:AE:74:LYS:CE	14:AE:86:GLU:OE1	2.20	0.89
38:Y:129:GLU:HB3	38:Y:133:ARG:NH1	1.87	0.89
3:2:54:GLU:OE1	3:2:91:GLN:NE2	2.06	0.89
7:6:25:DT:H2'	11:AA:496:LYS:HE3	1.51	0.89
10:A:76:A:N6	40:a:2422:C:O4'	2.06	0.89
14:AE:87:LYS:HZ3	29:P:89:ARG:NH2	1.69	0.89
40:a:585:G:N7	65:z:6:ARG:NH1	2.21	0.89
12:AB:82:GLY:N	14:AE:142:GLU:HB3	1.87	0.88
17:D:280:C:O2	35:V:40:ARG:CZ	2.21	0.88
38:Y:45:THR:CG2	38:Y:50:LYS:HD3	2.02	0.88
32:S:90:ARG:HG3	32:S:92:GLU:OE1	1.73	0.88
51:l:170:ARG:NH1	51:l:174:GLY:O	2.05	0.88
26:M:13:LEU:HD12	26:M:14:PRO:HD2	1.54	0.88
40:a:78:U:OP1	44:e:4:LYS:NZ	2.06	0.88
38:Y:100:ILE:HD12	38:Y:105:LEU:HD11	1.54	0.88
40:a:404:A:O2'	40:a:405:U:OP2	1.90	0.88
12:AB:81:PHE:CE1	14:AE:293:ARG:HB2	1.92	0.88
26:M:4:ARG:HG2	26:M:5:ARG:CZ	2.03	0.88
40:a:2756:U:OP2	56:q:19:ARG:NE	2.06	0.88
12:AB:123:PHE:CE2	12:AB:141:LEU:CD2	2.57	0.88
27:N:5:ASP:OD2	27:N:77:ARG:NH1	2.07	0.88
58:s:13:ARG:NH1	58:s:49:ASP:O	2.07	0.87
62:w:24:MET:HA	62:w:24:MET:HE3	1.54	0.87
16:C:27:ALA:O	16:C:30:LYS:HG2	1.74	0.87
11:AA:387:ASN:CG	11:AA:394:ARG:HH12	1.81	0.87
8:7:22:U:C4'	22:I:80:LYS:HG3	2.02	0.87
43:d:55:U:H1'	53:n:26:MET:HE2	1.57	0.87
51:l:170:ARG:NH1	51:l:176:ASP:OD1	2.08	0.87
12:AB:6:LEU:CD1	14:AE:291:ILE:HD11	2.05	0.87
17:D:545:C:H5'	23:J:69:GLU:HG3	1.55	0.87
23:J:67:VAL:HB	23:J:72:PHE:CZ	2.09	0.87
58:s:98:GLU:OE2	58:s:126:ALA:N	2.07	0.87
22:I:58:GLU:OE1	22:I:65:ARG:NH1	2.08	0.87
37:X:81:MET:HE2	40:a:888:C:C5	2.09	0.87
38:Y:129:GLU:HB3	38:Y:133:ARG:HH12	1.38	0.87
12:AB:123:PHE:HA	29:P:85:ASP:OD2	1.75	0.86
38:Y:99:LYS:HD2	38:Y:140:GLU:OE1	1.75	0.86
6:5:10:DT:O4'	11:AA:62:TYR:OH	1.93	0.86
35:V:77:ARG:NH2	35:V:78:VAL:O	2.08	0.86
14:AE:87:LYS:NZ	29:P:89:ARG:NH2	2.23	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:2780:G:OP2	58:s:120:ARG:NH1	2.07	0.86
38:Y:15:GLY:HA2	38:Y:50:LYS:HG3	1.57	0.86
38:Y:48:ILE:HG13	38:Y:49:GLU:H	1.41	0.86
58:s:37:ARG:HA	58:s:118:MET:HE3	1.54	0.86
12:AB:51:PHE:CE2	14:AE:288:PRO:HD3	2.08	0.86
25:L:102:MET:SD	25:L:102:MET:N	2.46	0.86
1:0:87:GLN:NE2	1:0:88:GLY:O	2.09	0.85
7:6:25:DT:C2'	11:AA:496:LYS:HG3	2.05	0.85
29:P:85:ASP:HA	29:P:88:MET:HE1	1.58	0.85
61:v:77:PRO:HG2	61:v:80:VAL:HG21	1.57	0.85
14:AE:81:ARG:HD2	14:AE:81:ARG:N	1.88	0.85
12:AB:141:LEU:HA	12:AB:153:SER:N	1.92	0.85
61:v:95:LEU:O	61:v:100:LYS:NZ	2.08	0.85
6:5:10:DT:C2	12:AB:72:THR:OG1	2.29	0.85
35:V:25:ILE:O	35:V:27:ARG:NH2	2.10	0.85
9:9:58:THR:CG2	9:9:81:LEU:HD23	2.06	0.85
12:AB:121:GLY:HA3	12:AB:162:LEU:HD12	1.57	0.85
62:w:38:LEU:HD13	62:w:111:ALA:HB2	1.59	0.85
38:Y:100:ILE:HD12	38:Y:105:LEU:CD1	2.05	0.84
46:g:26:SER:OG	53:n:140:GLU:OE2	1.94	0.84
41:b:36:ILE:HG21	41:b:39:ARG:HD3	1.59	0.84
53:n:23:ASN:OD1	53:n:24:SER:N	2.09	0.84
1:0:68:ARG:NH1	40:a:1223:G:OP1	2.10	0.84
38:Y:75:ALA:CB	38:Y:112:LYS:HE3	2.07	0.84
18:E:9:LYS:O	18:E:13:GLN:NE2	2.10	0.84
14:AE:287:ALA:HB1	14:AE:292:VAL:HG13	1.60	0.84
5:4:58:SER:OG	5:4:59:GLU:OE1	1.95	0.84
28:O:84:THR:HG21	28:O:103:PHE:HB3	1.59	0.84
60:u:90:VAL:HG13	60:u:95:LEU:HD21	1.57	0.84
12:AB:81:PHE:HE1	14:AE:293:ARG:CB	1.55	0.84
49:j:55:LYS:HZ3	49:j:59:ARG:HB3	1.43	0.84
37:X:81:MET:CE	37:X:92:ARG:HB3	2.06	0.84
38:Y:96:LYS:CE	38:Y:136:GLY:HA3	2.08	0.84
6:5:10:DT:C5	11:AA:62:TYR:HD2	1.81	0.83
12:AB:141:LEU:HB3	12:AB:143:LEU:HD12	1.60	0.83
47:h:175:ARG:HG3	47:h:181:MET:HE1	1.58	0.83
55:p:121:ILE:HD12	55:p:141:ILE:HG22	1.60	0.83
6:5:10:DT:C6	11:AA:62:TYR:CZ	2.66	0.83
17:D:742:G:OP1	33:T:58:ARG:NH2	2.12	0.83
6:5:9:DG:P	11:AA:473:ARG:CB	2.66	0.83
10:A:33:U:OP1	26:M:77:SER:OG	1.95	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:2682:A:O2'	49:j:13:ARG:NE	2.12	0.83
57:r:137:GLU:HG2	57:r:138:VAL:HG23	1.61	0.83
11:AA:481:LEU:HD23	12:AB:16:ARG:HD2	1.60	0.83
58:s:102:GLU:OE1	58:s:102:GLU:N	2.10	0.83
61:v:7:THR:OG1	61:v:10:ARG:NH1	2.11	0.83
6:5:11:DA:C2'	12:AB:67:THR:HG21	2.08	0.83
8:7:2:U:OP2	17:D:1505:G:C8	2.30	0.83
9:9:48:ALA:HB3	9:9:51:TYR:CE1	2.10	0.83
11:AA:380:ALA:H	12:AB:65:HIS:HE1	1.00	0.83
49:j:152:PRO:HG3	49:j:156:PHE:CZ	2.14	0.83
22:I:22:TRP:CZ3	22:I:24:ALA:HB2	2.14	0.83
65:z:78:LYS:HD3	65:z:117:LEU:CD2	2.09	0.83
9:9:43:LYS:HG3	9:9:46:ARG:NH1	1.94	0.82
12:AB:123:PHE:HE2	12:AB:141:LEU:CD2	1.91	0.82
40:a:2298:A:OP1	53:n:72:LYS:NZ	2.11	0.82
65:z:74:ILE:HD11	65:z:79:PHE:HA	1.60	0.82
8:7:3:G:C5'	17:D:1500:A:H62	1.92	0.82
38:Y:74:PRO:HG2	38:Y:77:VAL:HB	1.60	0.82
40:a:1257:C:H4'	51:l:78:TRP:CE2	2.14	0.82
40:a:2393:U:H5''	54:o:30:ARG:CZ	2.09	0.82
60:u:122:VAL:CG1	60:u:125:LEU:HD21	2.07	0.82
37:X:81:MET:HE1	37:X:92:ARG:CB	2.08	0.82
53:n:73:SER:OG	53:n:79:ILE:O	1.96	0.82
9:9:43:LYS:O	9:9:46:ARG:HG2	1.78	0.82
10:A:6:G:O2'	10:A:7:G:O5'	1.96	0.82
38:Y:116:MET:HG2	38:Y:124:MET:HG2	1.60	0.82
40:a:2356:U:H5''	41:b:20:ARG:HD2	1.61	0.82
11:AA:377:THR:CB	12:AB:62:GLU:HB3	2.08	0.82
12:AB:38:ILE:HG12	12:AB:43:ARG:HG2	1.61	0.82
12:AB:152:HIS:HB3	12:AB:154:VAL:HG12	1.62	0.82
10:B:6:G:O2'	10:B:7:G:O5'	1.96	0.82
59:t:7:MET:HG3	59:t:18:ARG:CZ	2.10	0.82
59:t:12:ASP:OD2	59:t:85:VAL:HG13	1.79	0.82
9:9:1:MET:HE1	9:9:7:ASP:HB3	1.61	0.82
12:AB:51:PHE:HZ	14:AE:288:PRO:HD3	1.40	0.82
55:p:104:ASN:ND2	55:p:114:ASP:OD1	2.12	0.82
20:G:105:LYS:O	20:G:109:GLN:NE2	2.12	0.82
38:Y:45:THR:HG22	38:Y:50:LYS:HD3	1.59	0.82
40:a:1613:G:O2'	52:m:3:ARG:NH2	2.12	0.82
6:5:9:DG:H5''	11:AA:473:ARG:CG	1.95	0.81
6:5:11:DA:C4'	12:AB:67:THR:HG22	2.10	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:7:31:A:H4'	8:7:31:A:OP1	1.80	0.81
9:9:129:LEU:H	9:9:130:PRO:HD2	1.45	0.81
12:AB:54:TYR:HE2	14:AE:291:ILE:HG23	1.44	0.81
55:p:7:ALA:O	55:p:69:ARG:NE	2.12	0.81
6:5:10:DT:C2	12:AB:71:ALA:HB3	1.84	0.81
9:9:3:LEU:HD11	9:9:5:LEU:HD23	1.62	0.81
40:a:2356:U:O3'	41:b:20:ARG:NH1	2.14	0.81
9:9:25:ALA:HB3	9:9:99:PHE:CD2	2.16	0.81
17:D:311:C:OP1	34:U:31:ARG:NH2	2.13	0.81
38:Y:14:ALA:HB3	38:Y:51:GLY:H	1.45	0.81
51:l:112:LEU:HD12	51:l:117:ARG:HB2	1.62	0.81
65:z:69:ALA:HB1	65:z:74:ILE:HG23	1.63	0.81
9:9:52:MET:HG2	9:9:95:LEU:HD11	1.62	0.81
11:AA:387:ASN:CB	11:AA:394:ARG:HH11	1.93	0.81
17:D:107:G:O6	18:E:10:ARG:NE	2.13	0.81
60:u:122:VAL:HG13	60:u:125:LEU:HD11	1.62	0.81
6:5:10:DT:C4	11:AA:62:TYR:CD2	2.68	0.81
8:7:22:U:H4'	22:I:80:LYS:CG	2.10	0.81
12:AB:141:LEU:HA	12:AB:152:HIS:C	2.06	0.81
51:l:1:MET:HE1	51:l:20:GLY:CA	2.11	0.80
8:7:21:U:H5	22:I:80:LYS:C	1.88	0.80
11:AA:377:THR:OG1	12:AB:62:GLU:CA	2.30	0.80
18:E:28:MET:HE1	18:E:58:VAL:HA	1.63	0.80
38:Y:58:ILE:HG22	38:Y:60:VAL:HG23	1.63	0.80
40:a:2682:A:C8	49:j:11:MET:CE	2.65	0.80
65:z:74:ILE:HD13	65:z:79:PHE:HD1	1.46	0.80
41:b:28:GLY:O	41:b:66:LYS:NZ	2.13	0.80
8:7:2:U:OP1	17:D:1505:G:C8	2.33	0.80
9:9:46:ARG:HG3	9:9:94:ARG:NH2	1.94	0.80
40:a:1655:A:H1'	49:j:118:PHE:HE2	1.46	0.80
38:Y:40:ALA:HB1	38:Y:68:PHE:CE1	2.16	0.80
1:0:86:GLN:OE1	40:a:1225:G:H4'	1.81	0.80
6:5:10:DT:C2	12:AB:71:ALA:CB	2.61	0.80
40:a:1818:U:O5'	47:h:156:ARG:NH2	2.14	0.80
12:AB:140:MET:CA	12:AB:152:HIS:O	2.29	0.80
4:3:46:GLN:OE1	4:3:56:GLY:HA2	1.81	0.80
40:a:2636:C:H4'	49:j:81:GLU:OE1	1.82	0.80
53:n:117:LEU:HD13	53:n:176:PRO:HG2	1.64	0.80
7:6:23:DC:H5'	14:AE:259:ARG:HH12	1.42	0.79
40:a:2393:U:P	54:o:30:ARG:HE	2.04	0.79
40:a:2393:U:H5''	54:o:30:ARG:NH1	1.97	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:9:112:ALA:O	9:9:123:ILE:HD11	1.83	0.79
47:h:258:ARG:NH1	47:h:264:ASP:OD1	2.14	0.79
9:9:77:VAL:HG13	9:9:114:GLU:OE1	1.81	0.79
10:B:30:G:O2'	17:D:1339:A:H2	1.61	0.79
19:F:37:PHE:HB2	30:Q:126:LYS:CE	2.10	0.79
47:h:53:HIS:HE2	47:h:219:THR:HA	1.45	0.79
59:t:98:ARG:NH2	59:t:118:LEU:O	2.15	0.79
2:1:98:LYS:HD2	40:a:2012:G:OP1	1.83	0.79
14:AE:87:LYS:CE	29:P:89:ARG:HG2	2.12	0.79
10:B:30:G:HO2'	17:D:1339:A:H2	0.82	0.79
47:h:130:LEU:HA	47:h:189:ARG:HH11	1.45	0.79
48:i:46:ASP:OD2	48:i:53:LYS:NZ	2.15	0.79
12:AB:54:TYR:CE2	14:AE:291:ILE:CG2	2.65	0.79
17:D:275:G:H4'	35:V:16:LYS:HD2	1.64	0.79
51:l:111:GLU:OE2	51:l:114:ARG:NH1	2.14	0.79
9:9:3:LEU:CD1	9:9:4:ASN:H	1.96	0.79
7:6:25:DT:H3'	11:AA:496:LYS:CG	2.13	0.79
12:AB:146:ILE:O	29:P:100:ILE:HG22	1.82	0.79
27:N:9:ASP:OD2	27:N:13:ARG:NH1	2.15	0.79
32:S:12:LYS:O	32:S:16:LEU:HD23	1.83	0.79
38:Y:9:LYS:HE2	38:Y:55:PRO:HB3	1.63	0.79
38:Y:81:LYS:HZ2	38:Y:86:LYS:HE2	1.47	0.79
25:L:70:VAL:O	25:L:74:LEU:HD23	1.81	0.79
40:a:1276:A:O2'	62:w:20:MET:CE	2.30	0.79
46:g:18:CYS:HB3	46:g:40:CYS:CB	2.13	0.79
63:x:104:GLN:NE2	63:x:108:ASP:OD2	2.16	0.79
6:5:10:DT:C2'	12:AB:71:ALA:H	1.95	0.78
8:7:3:G:C5'	17:D:1500:A:N6	2.46	0.78
14:AE:74:LYS:HE3	14:AE:86:GLU:CD	2.06	0.78
17:D:673:A:H2'	17:D:674:G:C8	2.18	0.78
38:Y:102:ARG:HD2	38:Y:141:ASP:CA	2.13	0.78
27:N:27:MET:N	27:N:58:GLU:OE2	2.16	0.78
53:n:142:ASP:HB3	53:n:145:LYS:HE2	1.65	0.78
9:9:5:LEU:O	9:9:9:GLN:NE2	2.15	0.78
9:9:34:THR:O	9:9:38:MET:HG2	1.83	0.78
21:H:306:VAL:HA	21:H:309:MET:SD	2.23	0.78
55:p:107:LEU:HB3	55:p:152:ARG:HE	1.47	0.78
26:M:20:SER:HB3	26:M:23:LEU:HD13	1.63	0.78
42:c:30:LEU:HD12	42:c:31:PRO:HD2	1.63	0.78
14:AE:81:ARG:HD2	14:AE:81:ARG:H	1.48	0.78
16:C:38:LYS:HE2	16:C:38:LYS:HA	1.64	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:M:40:GLU:OE2	28:O:41:ARG:NH2	2.17	0.78
28:O:56:ASP:O	28:O:60:LYS:NZ	2.16	0.78
9:9:118:ILE:HB	9:9:119:PRO:HD3	1.64	0.78
40:a:1453:A:N1	62:w:74:GLU:OE1	2.16	0.78
6:5:10:DT:C5	11:AA:62:TYR:HE2	1.97	0.78
14:AE:87:LYS:HE2	29:P:89:ARG:NE	1.96	0.78
23:J:62:ARG:NH1	23:J:69:GLU:OE2	2.16	0.78
34:U:3:THR:HG21	34:U:5:ARG:CZ	2.14	0.78
9:9:81:LEU:HD21	40:a:1107:G:H4'	1.64	0.78
8:7:32:U:OP2	14:AE:398:LYS:NZ	2.16	0.78
36:W:40:ILE:HG23	36:W:44:MET:SD	2.24	0.78
38:Y:9:LYS:HE2	38:Y:55:PRO:CG	2.14	0.78
59:t:20:MET:HB3	59:t:44:LYS:NZ	1.98	0.78
9:9:94:ARG:HB2	9:9:97:LYS:HE2	1.66	0.77
26:M:18:PHE:HE2	26:M:47:LEU:HD21	1.48	0.77
56:q:2:LYS:NZ	56:q:32:LYS:O	2.17	0.77
12:AB:110:PRO:HG3	12:AB:116:VAL:HG11	1.65	0.77
34:U:3:THR:HG21	34:U:5:ARG:NH1	1.99	0.77
59:t:8:LEU:C	59:t:18:ARG:HH12	1.92	0.77
38:Y:93:ASN:C	38:Y:94:LYS:HD2	2.10	0.77
8:7:2:U:OP1	17:D:1505:G:H8	1.65	0.77
9:9:60:LEU:HD23	9:9:64:VAL:HG21	1.65	0.77
30:Q:84:VAL:HG23	30:Q:107:ILE:HD11	1.67	0.77
58:s:37:ARG:HA	58:s:118:MET:CE	2.14	0.77
12:AB:51:PHE:CZ	14:AE:288:PRO:CD	2.66	0.77
12:AB:146:ILE:H	12:AB:146:ILE:HD12	1.50	0.77
17:D:1227:A:OP1	37:X:93:ARG:NH2	2.18	0.77
40:a:1801:A:P	47:h:146:MET:HE1	2.25	0.77
9:9:19:ALA:HA	9:9:70:GLU:HG2	1.66	0.77
16:C:60:LYS:HZ2	17:D:734:G:H2'	1.50	0.77
36:W:44:MET:SD	36:W:62:VAL:HG11	2.25	0.77
61:v:1:MET:HA	61:v:1:MET:HE3	1.67	0.77
10:B:18:G:N2	10:B:55:U:O2	2.17	0.77
17:D:375:U:OP2	34:U:70:ARG:NH2	2.17	0.77
17:D:375:U:P	34:U:70:ARG:HE	2.07	0.77
30:Q:87:LYS:CG	30:Q:113:VAL:HG23	2.15	0.77
39:Z:2:ILE:HG22	39:Z:4:LYS:H	1.50	0.76
40:a:1406:U:O2'	40:a:1407:G:O5'	2.02	0.76
40:a:2511:U:C4'	49:j:130:GLN:OE1	2.34	0.76
40:a:1405:U:H2'	40:a:1406:U:C6	2.20	0.76
12:AB:139:SER:O	12:AB:153:SER:HA	1.85	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:196:A:OP2	60:u:47:ARG:NH1	2.18	0.76
62:w:12:ARG:O	62:w:17:ARG:NH2	2.19	0.76
2:1:11:ARG:CZ	2:1:98:LYS:HE3	2.15	0.76
9:9:27:VAL:HG13	9:9:83:ALA:HB3	1.66	0.76
12:AB:9:CYS:H	12:AB:53:ASN:HB3	1.48	0.76
40:a:1828:G:O6	47:h:221:ARG:NH1	2.19	0.76
40:a:2335:A:OP2	63:x:13:ARG:CZ	2.34	0.76
58:s:15:TRP:CZ3	58:s:135:GLN:HA	2.21	0.76
39:Z:14:MET:HG3	39:Z:15:SER:H	1.48	0.76
5:4:50:MET:O	5:4:56:PHE:CE2	2.38	0.76
6:5:11:DA:C4'	12:AB:67:THR:CG2	2.64	0.76
14:AE:87:LYS:CE	29:P:89:ARG:CD	2.64	0.76
9:9:77:VAL:HG12	9:9:82:ILE:HG21	1.68	0.76
10:A:18:G:N2	10:A:55:U:O2	2.17	0.76
12:AB:141:LEU:O	12:AB:151:LYS:CA	2.34	0.76
12:AB:152:HIS:HB3	12:AB:154:VAL:CG1	2.15	0.76
14:AE:74:LYS:NZ	29:P:89:ARG:HA	2.01	0.76
20:G:30:PHE:CD1	20:G:201:PRO:HG3	2.21	0.76
40:a:686:U:O4	52:m:12:ARG:HD3	1.86	0.76
40:a:2297:A:N1	40:a:2321:U:C4	2.53	0.76
57:r:135:HIS:ND1	57:r:137:GLU:CD	2.44	0.76
17:D:550:G:O2'	31:R:116:LYS:NZ	2.18	0.76
20:G:49:MET:CE	20:G:201:PRO:HD3	2.16	0.76
40:a:2314:A:OP1	53:n:88:LYS:NZ	2.18	0.76
8:7:22:U:H4'	22:I:80:LYS:HG3	1.64	0.75
16:C:38:LYS:HD3	17:D:719:C:H1'	1.67	0.75
20:G:20:THR:HA	20:G:39:HIS:CE1	2.21	0.75
20:G:154:MET:CE	20:G:158:PRO:HD3	2.16	0.75
9:9:5:LEU:C	9:9:9:GLN:HE22	1.94	0.75
21:H:52:GLN:OE1	21:H:86:ARG:CB	2.34	0.75
53:n:4:LEU:HD11	53:n:101:GLU:CA	2.16	0.75
19:F:63:GLU:OE1	19:F:67:ARG:NH1	2.20	0.75
6:5:10:DT:H2''	12:AB:69:ILE:C	2.10	0.75
9:9:37:LYS:O	9:9:41:LEU:HG	1.86	0.75
9:9:134:GLU:OE2	9:9:136:ILE:HG22	1.85	0.75
23:J:58:LYS:NZ	23:J:69:GLU:OE2	2.15	0.75
40:a:742:A:H2'	40:a:743:A:C8	2.22	0.75
41:b:68:LYS:NZ	41:b:70:GLU:OE1	2.19	0.75
25:L:42:TRP:HZ3	25:L:45:ARG:HH22	1.32	0.75
26:M:103:TRP:CG	26:M:137:LYS:HZ2	2.05	0.75
40:a:1276:A:O2'	62:w:20:MET:HE2	1.87	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:24:ILE:HG21	2:1:36:LEU:HD11	1.68	0.75
26:M:18:PHE:CE2	26:M:47:LEU:HD21	2.21	0.75
43:d:42:C:O5'	53:n:64:LYS:NZ	2.20	0.75
49:j:46:ARG:NH2	49:j:88:GLU:O	2.19	0.75
14:AE:87:LYS:HE2	29:P:89:ARG:CD	2.17	0.75
17:D:1217:C:OP2	32:S:9:ARG:NH2	2.19	0.75
24:K:142:ASP:O	24:K:145:GLU:HG3	1.86	0.75
40:a:537:G:OP2	58:s:2:LYS:NZ	2.20	0.75
64:y:71:GLU:OE1	64:y:101:ARG:NE	2.19	0.75
37:X:57:ARG:NH2	46:g:35:ASP:OD1	2.19	0.74
51:l:90:GLN:NE2	51:l:91:ASP:O	2.20	0.74
37:X:28:THR:HG23	37:X:31:LYS:HE3	1.68	0.74
38:Y:126:ARG:NH2	40:a:1083:U:OP1	2.19	0.74
58:s:15:TRP:HZ3	58:s:135:GLN:HA	1.49	0.74
9:9:59:LEU:HD13	9:9:62:ARG:HD2	1.70	0.74
9:9:59:LEU:HD22	9:9:62:ARG:NE	2.02	0.74
53:n:56:ASP:OD2	53:n:150:ARG:NH1	2.20	0.74
17:D:739:C:O2'	33:T:42:HIS:ND1	2.18	0.74
33:T:64:ARG:CZ	33:T:89:ARG:HH22	2.00	0.74
57:r:6:LEU:HD11	57:r:37:VAL:HG23	1.69	0.74
2:1:25:ARG:HH22	40:a:520:G:P	2.10	0.74
5:4:57:TYR:HB3	61:v:136:MET:CE	2.16	0.74
12:AB:18:GLN:HG3	12:AB:21:LEU:HD12	1.69	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
23:J:105:MET:CE	23:J:171:LEU:HD13	2.18	0.74
38:Y:56:VAL:CA	38:Y:71:LYS:HZ1	1.99	0.74
9:9:36:ASP:O	9:9:39:THR:HG22	1.87	0.74
12:AB:89:PRO:HD2	14:AE:290:ILE:HG21	1.68	0.74
30:Q:87:LYS:HG2	30:Q:113:VAL:HG23	1.67	0.74
62:w:60:VAL:HG22	62:w:63:ARG:NH1	2.03	0.74
5:4:45:ASP:OD1	5:4:46:LYS:N	2.21	0.74
9:9:43:LYS:HZ2	9:9:98:GLU:HB2	1.51	0.74
5:4:75:GLN:HG3	5:4:92:VAL:HG23	1.70	0.74
17:D:376:G:H5''	34:U:5:ARG:HD2	1.68	0.74
21:H:303:LEU:O	21:H:305:HIS:N	2.20	0.74
38:Y:9:LYS:HE2	38:Y:55:PRO:CB	2.17	0.74
62:w:33:ILE:HD11	62:w:112:TYR:CD1	2.23	0.74
2:1:25:ARG:NH2	40:a:520:G:H5'	2.03	0.73
8:7:22:U:H5''	22:I:80:LYS:CB	2.18	0.73
11:AA:377:THR:CG2	12:AB:62:GLU:HB3	2.18	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:652:U:O3'	27:N:56:LYS:NZ	2.13	0.73
17:D:1158:C:O2'	20:G:132:LYS:NZ	2.21	0.73
9:9:23:LEU:HD11	9:9:96:PHE:CD2	2.23	0.73
12:AB:21:LEU:HB3	12:AB:26:VAL:HG11	1.70	0.73
12:AB:51:PHE:CE2	14:AE:288:PRO:HG2	2.06	0.73
16:C:60:LYS:HZ1	17:D:735:C:C4'	2.01	0.73
17:D:375:U:OP1	34:U:70:ARG:HG2	1.88	0.73
18:E:21:ASN:C	18:E:25:ARG:HE	1.96	0.73
40:a:1278:C:H4'	62:w:24:MET:HE1	1.70	0.73
38:Y:100:ILE:HD11	38:Y:139:VAL:HB	1.69	0.73
40:a:465:G:OP1	52:m:12:ARG:NH2	2.22	0.73
41:b:21:LEU:HD21	41:b:41:ARG:HE	1.51	0.73
9:9:43:LYS:NZ	9:9:98:GLU:HB2	2.04	0.73
9:9:56:ARG:O	9:9:56:ARG:HG2	1.88	0.73
9:9:129:LEU:HD12	9:9:130:PRO:HD3	1.70	0.73
14:AE:70:CYS:SG	14:AE:90:VAL:HB	2.29	0.73
61:v:97:GLN:N	61:v:100:LYS:HE3	2.03	0.73
39:Z:6:GLN:OE1	39:Z:10:ALA:HB2	1.88	0.73
55:p:69:ARG:NH1	55:p:73:ASN:OD1	2.21	0.73
6:5:10:DT:C4	11:AA:62:TYR:CE2	2.74	0.73
48:i:55:ILE:HD13	62:w:112:TYR:CZ	2.23	0.73
59:t:17:ARG:HB2	59:t:45:GLU:OE1	1.88	0.73
8:7:13:U:H3	23:J:47:ARG:HH11	1.37	0.73
16:C:38:LYS:NZ	17:D:718:A:C2	2.57	0.73
16:C:73:ARG:NH1	30:Q:113:VAL:HG12	2.02	0.73
33:T:76:ALA:O	33:T:80:GLN:NE2	2.22	0.73
6:5:10:DT:N3	12:AB:72:THR:OG1	2.20	0.73
12:AB:89:PRO:CD	14:AE:290:ILE:HG21	2.18	0.73
23:J:100:ASN:OD1	23:J:111:ARG:NH1	2.21	0.73
31:R:56:ARG:HG2	31:R:62:GLU:OE2	1.89	0.73
38:Y:100:ILE:HG13	38:Y:139:VAL:CG2	2.18	0.73
38:Y:102:ARG:CD	38:Y:141:ASP:HA	2.18	0.73
42:c:71:LEU:HB3	42:c:76:GLU:OE2	1.89	0.73
46:g:18:CYS:CB	46:g:40:CYS:HB3	2.17	0.73
10:B:76:A:C2	40:a:2493:U:H4'	2.24	0.73
22:I:147:LYS:NZ	22:I:204:LYS:O	2.22	0.73
28:O:47:VAL:HA	28:O:50:GLN:HG2	1.70	0.73
38:Y:14:ALA:CB	38:Y:50:LYS:HD2	2.16	0.72
2:1:23:LEU:HD11	48:i:24:ALA:HB2	1.70	0.72
25:L:36:ILE:CD1	25:L:64:VAL:HG22	2.19	0.72
38:Y:102:ARG:CZ	38:Y:139:VAL:HG11	2.19	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:o:25:LYS:HB3	60:u:62:PRO:HG2	1.71	0.72
55:p:85:LYS:HE3	55:p:164:TYR:CD1	2.24	0.72
61:v:50:ARG:HA	61:v:53:MET:SD	2.29	0.72
61:v:73:ILE:HD11	61:v:93:VAL:HG22	1.70	0.72
9:9:94:ARG:HB3	9:9:97:LYS:HZ3	1.54	0.72
10:B:53:G:C2	10:B:54:U:C5	2.77	0.72
17:D:13:U:C4	17:D:915:A:N6	2.57	0.72
22:I:142:MET:HE3	22:I:170:GLU:OE1	1.89	0.72
55:p:17:VAL:O	55:p:18:LYS:HE2	1.89	0.72
5:4:77:VAL:CG2	5:4:79:ARG:HE	2.03	0.72
33:T:21:ASP:O	33:T:22:THR:OG1	2.07	0.72
40:a:2884:U:OP2	48:i:40:ARG:NH2	2.23	0.72
9:9:78:GLY:N	9:9:79:PRO:HD2	2.04	0.72
11:AA:387:ASN:OD1	11:AA:394:ARG:NH1	2.21	0.72
14:AE:64:PRO:HG3	14:AE:90:VAL:CG1	2.20	0.72
17:D:311:C:P	34:U:31:ARG:HH22	2.13	0.72
17:D:636:U:H4'	35:V:6:ARG:CZ	2.19	0.72
46:g:18:CYS:CB	46:g:40:CYS:CB	2.67	0.72
47:h:130:LEU:HA	47:h:189:ARG:NH1	2.03	0.72
8:7:18:U:C6	8:7:18:U:H5''	2.24	0.72
37:X:81:MET:HE2	40:a:888:C:C6	2.24	0.72
19:F:32:VAL:HG12	19:F:36:GLU:OE1	1.90	0.72
65:z:92:ARG:HG3	65:z:95:LEU:HD12	1.71	0.72
16:C:18:VAL:O	16:C:51:TYR:OH	2.06	0.72
17:D:973:G:O4'	29:P:57:VAL:HG22	1.90	0.72
20:G:19:GLN:NE2	21:H:75:VAL:O	2.23	0.72
23:J:184:ARG:NH1	23:J:187:GLU:OE1	2.22	0.72
29:P:47:GLU:N	29:P:47:GLU:OE1	2.23	0.72
8:7:11:U:O2'	24:K:33:PHE:HE1	1.70	0.72
9:9:56:ARG:NH2	40:a:1084:A:O4'	2.23	0.72
12:AB:154:VAL:HG11	12:AB:159:PHE:HB3	1.72	0.72
14:AE:87:LYS:NZ	29:P:89:ARG:CD	2.46	0.72
10:B:13:C:OP2	40:a:1907:G:N2	2.23	0.72
18:E:75:HIS:CE1	18:E:79:LEU:HD11	2.25	0.72
47:h:123:ALA:HB1	47:h:125:LYS:NZ	2.04	0.72
53:n:127:ASN:OD1	53:n:158:THR:N	2.18	0.72
6:5:10:DT:H73	11:AA:62:TYR:HD2	1.28	0.72
17:D:653:U:C6	27:N:56:LYS:HE3	2.25	0.72
19:F:13:ASP:OD1	19:F:14:VAL:N	2.22	0.72
22:I:166:GLU:OE1	22:I:166:GLU:N	2.23	0.72
29:P:18:ILE:O	29:P:22:THR:HG23	1.90	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:T:63:ARG:O	33:T:67:LEU:HD23	1.90	0.72
12:AB:141:LEU:N	12:AB:153:SER:HB3	2.05	0.71
17:D:13:U:O4	17:D:21:G:C2	2.43	0.71
24:K:69:ARG:CZ	24:K:69:ARG:HA	2.20	0.71
30:Q:72:ASP:O	30:Q:75:LYS:NZ	2.21	0.71
6:5:9:DG:OP2	11:AA:470:ARG:HA	1.89	0.71
9:9:47:GLU:HB3	9:9:51:TYR:CZ	2.24	0.71
10:A:53:G:C2	10:A:54:U:C5	2.77	0.71
12:AB:24:GLN:HB2	12:AB:26:VAL:HG23	1.71	0.71
17:D:1328:C:O2'	37:X:29:ARG:NH2	2.24	0.71
40:a:987:C:O3'	45:f:11:ARG:NH1	2.23	0.71
46:g:5:ILE:HD12	53:n:64:LYS:HE3	1.72	0.71
9:9:31:ARG:HD2	40:a:1053:C:HO2'	1.52	0.71
12:AB:126:PHE:O	12:AB:128:ALA:N	2.22	0.71
22:I:142:MET:HE1	22:I:148:GLY:HA2	1.72	0.71
58:s:15:TRP:CZ3	58:s:135:GLN:HG3	2.25	0.71
11:AA:377:THR:OG1	12:AB:62:GLU:CG	2.37	0.71
12:AB:141:LEU:H	12:AB:153:SER:HB3	1.56	0.71
14:AE:74:LYS:HZ3	29:P:89:ARG:HA	1.53	0.71
22:I:39:VAL:O	22:I:43:LEU:HD23	1.90	0.71
22:I:74:GLY:O	22:I:78:GLY:N	2.24	0.71
51:l:6:LYS:NZ	51:l:120:VAL:O	2.24	0.71
59:t:8:LEU:C	59:t:18:ARG:NH1	2.49	0.71
1:0:10:LYS:HE2	40:a:994:C:O2'	1.90	0.71
9:9:122:GLN:HG2	9:9:123:ILE:N	2.06	0.71
17:D:1208:C:H2'	17:D:1209:C:H6	1.55	0.71
22:I:22:TRP:HZ3	22:I:24:ALA:HB2	1.54	0.71
40:a:1825:U:OP2	47:h:52:ARG:NH1	2.23	0.71
40:a:2469:A:N6	40:a:2481:G:O2'	2.23	0.71
10:B:27:U:H2'	10:B:28:C:C6	2.26	0.71
23:J:76:TYR:CE2	23:J:204:TYR:HB2	2.24	0.71
26:M:55:GLY:O	26:M:56:LYS:O	2.07	0.71
33:T:64:ARG:NH1	33:T:64:ARG:HA	2.05	0.71
40:a:1824:G:OP1	47:h:52:ARG:NH2	2.23	0.71
51:l:6:LYS:NZ	51:l:120:VAL:N	2.39	0.71
53:n:134:GLU:HG2	53:n:137:ILE:HG23	1.72	0.71
9:9:6:GLN:HA	9:9:9:GLN:NE2	2.06	0.71
9:9:27:VAL:CG1	9:9:83:ALA:HB3	2.20	0.71
38:Y:81:LYS:HD2	38:Y:81:LYS:N	2.05	0.71
40:a:871:U:H2'	40:a:872:U:C6	2.26	0.71
40:a:2328:A:H2'	40:a:2329:U:C6	2.25	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:46:GLN:NE2	4:3:47:LYS:O	2.24	0.71
12:AB:146:ILE:HD11	29:P:88:MET:HG3	1.71	0.71
24:K:93:ARG:HB3	24:K:93:ARG:CZ	2.21	0.71
17:D:375:U:OP1	34:U:70:ARG:NE	2.24	0.70
31:R:5:ASN:OD1	35:V:36:LYS:NZ	2.24	0.70
40:a:2780:G:P	58:s:120:ARG:HH11	2.13	0.70
2:1:86:MET:HE1	2:1:88:ARG:HD3	1.71	0.70
17:D:564:C:P	31:R:12:ARG:NH2	2.64	0.70
38:Y:57:VAL:O	38:Y:69:VAL:HG22	1.91	0.70
11:AA:481:LEU:CD2	12:AB:16:ARG:HD2	2.12	0.70
26:M:16:PRO:HB3	28:O:46:MET:HG3	1.73	0.70
28:O:7:TYR:N	28:O:89:GLU:OE2	2.24	0.70
28:O:112:GLU:OE2	28:O:115:LYS:NZ	2.23	0.70
32:S:90:ARG:HG3	32:S:92:GLU:CD	2.15	0.70
38:Y:19:PRO:HG2	38:Y:23:VAL:HG23	1.73	0.70
2:1:83:LYS:HB2	2:1:95:ARG:HD3	1.72	0.70
62:w:42:LYS:N	62:w:42:LYS:HD3	2.05	0.70
12:AB:6:LEU:HD13	14:AE:291:ILE:CD1	2.21	0.70
27:N:87:LYS:HD2	27:N:91:GLU:HB3	1.74	0.70
30:Q:52:PHE:HD2	30:Q:56:ARG:HG2	1.56	0.70
46:g:16:CYS:CB	46:g:37:CYS:HB3	2.21	0.70
17:D:736:C:C5'	25:L:90:MET:HE2	2.21	0.70
37:X:66:GLU:OE1	37:X:66:GLU:N	2.23	0.70
40:a:1012:U:O4	58:s:30:THR:HG21	1.92	0.70
58:s:15:TRP:NE1	58:s:53:TYR:HD2	1.90	0.70
3:2:56:GLU:OE2	3:2:88:LYS:HA	1.91	0.70
22:I:24:ALA:HB3	22:I:29:PHE:CE2	2.27	0.70
58:s:73:VAL:C	58:s:74:TYR:CD2	2.70	0.70
12:AB:148:LYS:CE	29:P:102:LEU:HD23	2.21	0.70
17:D:1376:U:OP2	26:M:25:LYS:NZ	2.24	0.70
21:H:332:VAL:HG22	21:H:342:ILE:HD11	1.73	0.70
38:Y:19:PRO:O	38:Y:24:GLY:HA2	1.92	0.70
47:h:180:GLU:C	47:h:181:MET:HE2	2.17	0.70
55:p:107:LEU:O	55:p:152:ARG:NH1	2.25	0.70
17:D:636:U:H4'	35:V:6:ARG:NH2	2.06	0.70
24:K:111:MET:O	24:K:115:LEU:HD23	1.91	0.70
40:a:1190:G:OP1	60:u:30:THR:OG1	2.10	0.70
57:r:33:GLN:OE1	57:r:35:LYS:NZ	2.24	0.70
12:AB:81:PHE:HE1	14:AE:293:ARG:HB3	0.85	0.70
14:AE:87:LYS:CE	29:P:89:ARG:CG	2.70	0.70
47:h:133:ARG:NE	47:h:187:ASP:OD2	2.25	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:A:6:G:HO2'	10:A:7:G:C5'	2.05	0.69
56:q:25:VAL:HB	56:q:35:GLN:OE1	1.92	0.69
60:u:123:ARG:NH2	60:u:143:GLU:OE2	2.25	0.69
61:v:53:MET:HE3	61:v:120:ALA:HB2	1.74	0.69
20:G:26:LYS:HD2	20:G:193:PRO:HG2	1.74	0.69
38:Y:91:LYS:NZ	38:Y:97:VAL:HG21	2.07	0.69
40:a:2350:C:OP1	54:o:45:ARG:NH2	2.25	0.69
61:v:39:GLY:N	61:v:96:ILE:O	2.22	0.69
61:v:105:MET:SD	61:v:117:PHE:CZ	2.85	0.69
62:w:45:ARG:O	62:w:49:GLU:OE1	2.10	0.69
9:9:142:THR:OG1	39:Z:7:ILE:HG21	1.90	0.69
14:AE:1033:GLY:HA3	14:AE:1081:VAL:O	1.93	0.69
10:B:38:A:O2'	17:D:790:A:OP1	2.09	0.69
20:G:126:PHE:O	20:G:127:ASP:O	2.10	0.69
26:M:66:LEU:HG	26:M:70:ARG:HE	1.57	0.69
51:l:17:THR:HA	51:l:21:ARG:HH21	1.57	0.69
2:l:25:ARG:HH22	40:a:520:G:C5'	2.04	0.69
17:D:274:A:H4'	35:V:16:LYS:CE	2.22	0.69
25:L:42:TRP:CH2	25:L:102:MET:CG	2.74	0.69
29:P:86:ALA:O	29:P:90:LEU:HD13	1.93	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
16:C:57:ARG:HE	16:C:61:ARG:HH12	1.37	0.69
26:M:4:ARG:HG2	26:M:5:ARG:NH1	2.08	0.69
38:Y:100:ILE:CG1	38:Y:139:VAL:HB	2.22	0.69
40:a:2356:U:H5''	41:b:20:ARG:CD	2.21	0.69
20:G:27:MET:SD	20:G:30:PHE:HB2	2.33	0.69
23:J:76:TYR:HE2	23:J:204:TYR:HB2	1.57	0.69
33:T:28:GLN:O	33:T:32:LEU:HG	1.93	0.69
38:Y:100:ILE:HG13	38:Y:139:VAL:HG23	1.74	0.69
47:h:205:LEU:HD12	47:h:210:ALA:HB1	1.75	0.69
12:AB:103:ASP:HB3	12:AB:105:VAL:HG23	1.75	0.69
12:AB:123:PHE:HE1	29:P:88:MET:CE	2.06	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
38:Y:116:MET:CG	38:Y:124:MET:HG2	2.21	0.69
2:l:25:ARG:HH22	40:a:520:G:H5'	1.58	0.69
5:4:63:ILE:HD11	5:4:91:PHE:CD2	2.28	0.69
9:9:50:VAL:CG2	38:Y:119:ALA:HB3	2.20	0.69
12:AB:104:ILE:O	12:AB:111:TYR:OH	2.10	0.69
12:AB:123:PHE:CD2	12:AB:141:LEU:HD22	2.28	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:E:45:ALA:O	18:E:48:GLN:HG3	1.93	0.69
31:R:7:LEU:HD21	31:R:12:ARG:NH2	2.07	0.69
32:S:20:TYR:HE2	32:S:52:PRO:HG2	1.58	0.69
36:W:40:ILE:CD1	36:W:66:MET:SD	2.77	0.69
37:X:71:ARG:CZ	37:X:72:GLU:HG3	2.22	0.69
39:Z:2:ILE:HG22	39:Z:5:ASP:H	1.58	0.69
46:g:5:ILE:HB	53:n:64:LYS:HD3	1.75	0.69
58:s:72:LYS:HD3	58:s:74:TYR:HH	1.58	0.69
60:u:55:MET:HE1	60:u:60:ARG:HG2	1.75	0.69
12:AB:113:GLY:H	12:AB:133:PRO:HD2	1.58	0.69
38:Y:99:LYS:NZ	38:Y:140:GLU:OE2	2.26	0.69
40:a:2682:A:C8	49:j:11:MET:HE2	2.26	0.69
5:4:53:LYS:HD2	5:4:56:PHE:CE2	2.28	0.69
12:AB:123:PHE:HE1	29:P:88:MET:HE3	1.58	0.69
17:D:1344:C:P	28:O:124:ARG:HH11	2.16	0.69
18:E:25:ARG:CD	18:E:66:LEU:HD11	2.22	0.69
40:a:1655:A:H1'	49:j:118:PHE:CE2	2.28	0.69
40:a:2742:G:OP1	56:q:36:ARG:NH1	2.25	0.69
51:l:101:TYR:CE2	51:l:105:LEU:HD11	2.28	0.69
53:n:69:LYS:HD3	53:n:84:PRO:HA	1.74	0.69
17:D:1308:U:OP1	37:X:100:GLN:NE2	2.26	0.68
24:K:111:MET:CE	24:K:125:ALA:HB1	2.23	0.68
24:K:115:LEU:HD12	24:K:120:VAL:HG11	1.75	0.68
38:Y:102:ARG:HD2	38:Y:141:ASP:HA	1.75	0.68
39:Z:14:MET:HB3	39:Z:17:MET:CG	2.21	0.68
45:f:16:ARG:NE	45:f:54:MET:SD	2.66	0.68
59:t:103:VAL:HG22	59:t:104:THR:H	1.58	0.68
61:v:1:MET:HE1	61:v:43:ALA:C	2.18	0.68
2:1:19:LEU:HD21	48:i:22:LEU:HB2	1.75	0.68
7:6:18:DT:N3	8:7:39:A:N6	2.36	0.68
7:6:20:DA:N6	8:7:38:G:N1	2.42	0.68
8:7:8:U:OP2	17:D:1397:C:N3	2.26	0.68
9:9:43:LYS:HA	9:9:46:ARG:CZ	2.24	0.68
40:a:1653:G:H3'	62:w:2:ARG:HD2	1.74	0.68
40:a:2314:A:H1'	53:n:155:THR:HG21	1.74	0.68
9:9:44:ALA:HB1	9:9:52:MET:HB3	1.74	0.68
10:B:58:A:O2'	10:B:59:A:H3'	1.93	0.68
25:L:35:LYS:NZ	25:L:36:ILE:O	2.26	0.68
38:Y:118:GLY:O	38:Y:124:MET:HE3	1.93	0.68
53:n:56:ASP:HB3	53:n:150:ARG:NH2	2.07	0.68
61:v:111:GLU:O	61:v:115:GLU:OE1	2.11	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:w:38:LEU:HD13	62:w:111:ALA:CB	2.24	0.68
5:4:50:MET:HA	5:4:56:PHE:CZ	2.29	0.68
11:AA:65:ASN:HB3	11:AA:105:TYR:HB2	1.73	0.68
12:AB:123:PHE:CD2	12:AB:141:LEU:CD2	2.77	0.68
12:AB:130:PHE:HA	12:AB:152:HIS:NE2	2.08	0.68
19:F:8:GLU:OE2	19:F:9:ASN:ND2	2.26	0.68
26:M:111:ARG:O	26:M:119:ARG:NH2	2.27	0.68
40:a:2511:U:H4'	49:j:130:GLN:OE1	1.92	0.68
7:6:25:DT:H2'	11:AA:496:LYS:HG3	1.73	0.68
9:9:52:MET:HE1	9:9:85:SER:C	2.17	0.68
18:E:9:LYS:C	18:E:13:GLN:HE22	2.00	0.68
18:E:78:ASN:O	18:E:82:GLN:OE1	2.10	0.68
59:t:5:GLN:HA	59:t:20:MET:HE2	1.74	0.68
1:0:52:PRO:HB3	65:z:89:GLU:OE2	1.94	0.68
5:4:77:VAL:HG23	5:4:89:ILE:HG12	1.76	0.68
10:B:37:A:O2'	10:B:38:A:H5'	1.93	0.68
21:H:22:SER:N	21:H:69:ASP:OD2	2.26	0.68
31:R:27:CYS:HB2	31:R:30:LYS:HE2	1.75	0.68
34:U:45:GLU:HG3	34:U:46:LYS:HD3	1.76	0.68
40:a:1056:G:O2'	40:a:1103:A:N6	2.27	0.68
53:n:94:GLU:HA	53:n:97:TRP:HE3	1.59	0.68
2:1:7:HIS:CD2	2:1:10:ALA:HB2	2.27	0.68
9:9:47:GLU:HG3	9:9:94:ARG:CZ	2.24	0.68
10:A:58:A:O2'	10:A:59:A:H3'	1.93	0.68
17:D:673:A:H5''	25:L:86:ARG:NH1	2.09	0.68
25:L:9:MET:HE1	25:L:85:ILE:CG2	2.22	0.68
33:T:27:VAL:O	33:T:31:LEU:HD23	1.93	0.68
4:3:72:ILE:HD12	4:3:83:VAL:HG21	1.76	0.68
8:7:11:U:H4'	24:K:20:ARG:HH21	1.53	0.68
9:9:92:ALA:HB1	9:9:129:LEU:HD22	1.74	0.68
22:I:134:MET:HE3	22:I:151:VAL:HG23	1.75	0.68
35:V:16:LYS:HD3	35:V:16:LYS:C	2.17	0.68
17:D:1151:A:HO2'	17:D:1152:A:P	2.17	0.68
21:H:23:ILE:N	21:H:69:ASP:OD2	2.27	0.68
30:Q:80:LYS:HB3	30:Q:106:ARG:NH1	2.09	0.68
33:T:76:ALA:C	33:T:80:GLN:HE22	2.00	0.68
59:t:9:ASN:OD1	59:t:10:VAL:N	2.27	0.68
12:AB:18:GLN:HA	12:AB:21:LEU:HB2	1.74	0.68
12:AB:102:LYS:HE2	14:AE:285:LEU:HA	1.74	0.68
17:D:588:G:H4'	27:N:3:MET:HE1	1.76	0.68
18:E:79:LEU:HA	18:E:82:GLN:OE1	1.94	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:M:20:SER:CB	26:M:23:LEU:HD13	2.24	0.68
40:a:1800:C:OP2	47:h:182:ARG:NH1	2.27	0.68
57:r:37:VAL:HG12	57:r:43:ASN:ND2	2.09	0.68
9:9:44:ALA:HA	9:9:47:GLU:OE1	1.95	0.67
9:9:139:LEU:HD21	39:Z:11:VAL:HG22	1.76	0.67
12:AB:34:THR:HA	12:AB:47:SER:HA	1.76	0.67
10:B:6:G:HO2'	10:B:7:G:C5'	2.06	0.67
32:S:42:TRP:CZ3	46:g:66:ILE:HG23	2.29	0.67
61:v:1:MET:HE1	61:v:44:ARG:N	2.09	0.67
5:4:75:GLN:HG3	5:4:92:VAL:CG2	2.24	0.67
16:C:60:LYS:HZ2	17:D:734:G:C2'	2.06	0.67
17:D:564:C:OP1	31:R:12:ARG:NH1	2.27	0.67
20:G:100:MET:HE1	20:G:101:LEU:HD21	1.75	0.67
21:H:304:VAL:O	21:H:304:VAL:HG12	1.94	0.67
37:X:90:ARG:CD	37:X:97:VAL:HA	2.23	0.67
38:Y:116:MET:HG2	38:Y:124:MET:CG	2.24	0.67
40:a:1816:C:N4	47:h:35:GLU:OE2	2.20	0.67
9:9:43:LYS:NZ	9:9:101:LYS:HE2	2.09	0.67
9:9:73:LYS:HG2	9:9:117:LEU:HD12	1.76	0.67
10:B:24:U:O2'	40:a:1922:G:O3'	2.12	0.67
22:I:134:MET:HE1	22:I:167:TRP:HA	1.76	0.67
25:L:18:VAL:HA	25:L:21:MET:HE2	1.75	0.67
25:L:42:TRP:HZ2	25:L:102:MET:SD	2.17	0.67
39:Z:20:VAL:O	39:Z:20:VAL:HG12	1.94	0.67
40:a:2420:C:H5''	50:k:8:LYS:CE	2.25	0.67
51:l:118:LEU:HD11	51:l:188:MET:SD	2.35	0.67
59:t:42:THR:CG2	59:t:44:LYS:HZ1	2.06	0.67
61:v:1:MET:HE1	61:v:44:ARG:HA	1.76	0.67
12:AB:27:ASN:CG	12:AB:58:GLU:HB2	2.20	0.67
16:C:13:PHE:HB3	16:C:51:TYR:CE1	2.30	0.67
17:D:274:A:H4'	35:V:16:LYS:HE3	1.76	0.67
19:F:12:PHE:CE1	30:Q:107:ILE:HG22	2.29	0.67
23:J:121:LYS:HG2	23:J:131:ASN:HD21	1.59	0.67
38:Y:32:VAL:HG22	38:Y:60:VAL:HG21	1.76	0.67
38:Y:85:ILE:H	38:Y:85:ILE:HD12	1.59	0.67
65:z:79:PHE:HE1	65:z:110:VAL:HA	1.60	0.67
16:C:60:LYS:NZ	17:D:734:G:O3'	2.20	0.67
18:E:81:ALA:C	18:E:85:LYS:HZ3	2.03	0.67
21:H:308:GLU:O	21:H:310:ASP:N	2.26	0.67
26:M:109:ARG:HD2	26:M:116:MET:HE1	1.76	0.67
40:a:1665:A:O5'	59:t:66:LYS:NZ	2.28	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:h:76:ALA:HB1	47:h:94:VAL:HG12	1.76	0.67
62:w:24:MET:HE2	62:w:34:ILE:CD1	2.24	0.67
9:9:24:SER:CB	9:9:116:GLU:HG3	2.24	0.67
62:w:49:GLU:OE1	62:w:49:GLU:N	2.26	0.67
36:W:36:ARG:NH2	36:W:75:ALA:O	2.26	0.67
40:a:111:A:O3'	44:e:58:ASN:ND2	2.28	0.67
40:a:927:A:H2'	40:a:928:A:C8	2.30	0.67
40:a:2682:A:C8	49:j:11:MET:HE1	2.30	0.67
65:z:68:ALA:HB1	65:z:106:PHE:CE2	2.29	0.67
5:4:89:ILE:HG21	5:4:91:PHE:CE1	2.29	0.67
17:D:876:C:H1'	27:N:12:THR:HG21	1.76	0.67
17:D:945:G:C2	17:D:946:A:C8	2.83	0.67
17:D:1308:U:P	37:X:100:GLN:HE22	2.16	0.67
25:L:38:ARG:NH1	25:L:99:ALA:HB2	2.09	0.67
40:a:1802:A:H2'	40:a:1803:A:C8	2.30	0.67
47:h:129:THR:HG22	47:h:189:ARG:HD2	1.77	0.67
55:p:85:LYS:CE	55:p:164:TYR:HD1	2.07	0.67
8:7:8:U:H5'	17:D:1397:C:N3	2.10	0.67
10:B:75:C:OP2	40:a:2602:A:C2'	2.43	0.67
32:S:19:LYS:HG3	32:S:20:TYR:CD1	2.29	0.67
37:X:81:MET:CE	40:a:888:C:C5	2.78	0.67
40:a:2682:A:O4'	49:j:11:MET:HE1	1.95	0.67
5:4:56:PHE:O	5:4:61:LEU:HD11	1.95	0.67
17:D:43:C:OP1	34:U:12:LYS:NZ	2.28	0.67
33:T:80:GLN:O	33:T:83:GLU:HG3	1.95	0.67
38:Y:23:VAL:HG23	38:Y:24:GLY:H	1.59	0.67
40:a:666:A:H1'	54:o:4:ILE:HD12	1.76	0.67
45:f:41:THR:O	45:f:44:ILE:HG22	1.94	0.67
51:l:6:LYS:HE3	51:l:119:ILE:HG23	1.75	0.67
58:s:13:ARG:HH22	58:s:50:THR:HA	1.60	0.67
12:AB:89:PRO:CG	14:AE:290:ILE:HG21	2.24	0.66
13:AD:48:LEU:HB2	13:AD:183:ILE:HD11	1.76	0.66
19:F:31:GLU:OE1	19:F:34:ARG:NH2	2.28	0.66
24:K:156:LYS:HE3	27:N:71:VAL:HG13	1.76	0.66
37:X:90:ARG:HD2	37:X:97:VAL:HA	1.77	0.66
49:j:3:GLY:O	49:j:4:LEU:HD12	1.95	0.66
16:C:70:TYR:CE2	17:D:674:G:H4'	2.30	0.66
40:a:2420:C:H5''	50:k:8:LYS:NZ	2.10	0.66
5:4:84:PRO:O	5:4:85:LYS:HE2	1.96	0.66
17:D:1228:C:OP2	37:X:110:LYS:NZ	2.28	0.66
18:E:25:ARG:HD2	18:E:66:LEU:HD11	1.75	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:N:67:GLN:OE1	27:N:67:GLN:N	2.28	0.66
32:S:42:TRP:HH2	46:g:66:ILE:HA	1.61	0.66
36:W:62:VAL:HG13	36:W:66:MET:HE3	1.77	0.66
38:Y:37:PHE:CZ	38:Y:56:VAL:HG11	2.30	0.66
42:c:71:LEU:HB3	42:c:76:GLU:CD	2.20	0.66
16:C:51:TYR:CD1	16:C:54:GLN:NE2	2.63	0.66
26:M:23:LEU:HD21	26:M:59:LEU:HD21	1.76	0.66
26:M:46:ALA:CB	26:M:120:LEU:HD22	2.25	0.66
40:a:1454:C:O4'	62:w:63:ARG:NE	2.28	0.66
20:G:101:LEU:HD22	20:G:157:LEU:CD1	2.26	0.66
45:f:40:ASP:C	45:f:45:ARG:HH22	2.03	0.66
53:n:93:GLY:O	53:n:96:MET:N	2.29	0.66
9:9:14:GLU:O	9:9:18:VAL:HG23	1.96	0.66
9:9:139:LEU:CD2	39:Z:11:VAL:HG22	2.26	0.66
19:F:58:LYS:O	19:F:62:ARG:HG2	1.96	0.66
21:H:163:ARG:N	21:H:298:GLU:OE2	2.28	0.66
38:Y:102:ARG:NE	38:Y:102:ARG:HA	2.11	0.66
59:t:42:THR:HG23	59:t:44:LYS:HZ1	1.61	0.66
10:A:32:C:H4'	26:M:86:GLN:NE2	2.10	0.66
12:AB:129:ILE:O	12:AB:142:LEU:CB	2.44	0.66
18:E:21:ASN:C	18:E:25:ARG:NE	2.54	0.66
6:5:9:DG:O5'	11:AA:473:ARG:HB3	1.95	0.66
6:5:10:DT:C7	11:AA:62:TYR:CB	2.74	0.66
8:7:21:U:OP1	22:I:80:LYS:HG2	1.96	0.66
14:AE:58:CYS:SG	14:AE:59:ALA:N	2.69	0.66
17:D:375:U:P	34:U:70:ARG:NE	2.69	0.66
20:G:53:ALA:HA	20:G:56:GLU:OE1	1.96	0.66
47:h:52:ARG:HE	47:h:53:HIS:HE1	1.43	0.66
51:l:40:ARG:HD2	51:l:92:HIS:ND1	2.11	0.66
59:t:1:MET:HE1	59:t:32:TYR:CG	2.31	0.66
6:5:10:DT:H73	11:AA:62:TYR:CB	2.25	0.66
9:9:28:ALA:H	9:9:110:ALA:HA	1.61	0.66
12:AB:129:ILE:H	12:AB:142:LEU:HB3	1.60	0.66
14:AE:70:CYS:SG	14:AE:71:LEU:N	2.69	0.66
17:D:280:C:H1'	35:V:40:ARG:NH2	2.11	0.66
40:a:752:A:OP1	52:m:1:MET:HE1	1.95	0.66
59:t:112:PHE:HD2	59:t:115:ILE:HD12	1.59	0.66
9:9:25:ALA:HB3	9:9:99:PHE:HD2	1.61	0.65
16:C:73:ARG:HH12	30:Q:113:VAL:CB	2.09	0.65
20:G:90:PHE:CD2	20:G:154:MET:HE3	2.31	0.65
20:G:134:ALA:O	20:G:137:ARG:HG2	1.96	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:Y:79:LEU:HD21	38:Y:105:LEU:CD2	2.24	0.65
38:Y:102:ARG:HG3	38:Y:140:GLU:O	1.96	0.65
40:a:2355:G:C2'	40:a:2356:U:H5'	2.26	0.65
59:t:38:ILE:HD11	59:t:112:PHE:HZ	1.60	0.65
1:0:55:ASP:OD1	1:0:56:GLY:N	2.27	0.65
9:9:24:SER:OG	9:9:86:MET:HE2	1.96	0.65
10:A:71:C:H3'	10:A:72:A:C8	2.31	0.65
12:AB:9:CYS:HB3	12:AB:74:GLY:HA2	1.79	0.65
20:G:90:PHE:CE2	20:G:154:MET:HE3	2.31	0.65
23:J:196:ASN:OD1	23:J:198:HIS:CE1	2.48	0.65
26:M:26:PHE:HD1	26:M:101:MET:SD	2.19	0.65
31:R:30:LYS:HB3	31:R:57:LEU:HD11	1.78	0.65
56:q:1:MET:HE1	56:q:35:GLN:CA	2.25	0.65
59:t:1:MET:HE1	59:t:32:TYR:CD1	2.31	0.65
9:9:47:GLU:HG2	9:9:95:LEU:HD21	1.78	0.65
17:D:246:A:C2	17:D:282:A:C5	2.84	0.65
18:E:54:MET:HE1	18:E:75:HIS:CE1	2.31	0.65
37:X:28:THR:HA	37:X:31:LYS:HE3	1.78	0.65
40:a:1596:A:H2'	40:a:1597:A:C8	2.32	0.65
40:a:2334:U:H4'	40:a:2335:A:OP2	1.95	0.65
43:d:55:U:H1'	53:n:26:MET:CE	2.26	0.65
58:s:15:TRP:NE1	58:s:53:TYR:CD2	2.63	0.65
61:v:45:GLN:NE2	61:v:125:PRO:HD3	2.10	0.65
8:7:43:G:OP1	11:AA:1073:LYS:NZ	2.24	0.65
9:9:23:LEU:HD13	9:9:92:ALA:HB2	1.77	0.65
14:AE:84:ILE:HG22	14:AE:91:GLU:HG3	1.78	0.65
22:I:151:VAL:HG12	22:I:200:VAL:HG23	1.77	0.65
28:O:83:ILE:O	28:O:87:LEU:HD23	1.96	0.65
38:Y:81:LYS:NZ	38:Y:86:LYS:HE2	2.12	0.65
51:l:45:ALA:HB1	51:l:88:ARG:NH2	2.12	0.65
54:o:30:ARG:HH12	60:u:62:PRO:CB	2.10	0.65
58:s:43:GLU:OE1	58:s:43:GLU:N	2.29	0.65
61:v:45:GLN:NE2	61:v:125:PRO:CD	2.59	0.65
8:7:34:U:C5'	11:AA:1259:LEU:HD21	2.27	0.65
10:A:76:A:N6	40:a:2422:C:O5'	2.29	0.65
12:AB:155:LYS:HG3	12:AB:156:ASN:H	1.62	0.65
38:Y:20:SER:HB2	38:Y:21:PRO:HD3	1.79	0.65
55:p:52:PHE:CD1	55:p:69:ARG:HD3	2.32	0.65
59:t:99:ILE:HD13	59:t:118:LEU:HB2	1.77	0.65
61:v:111:GLU:HG2	61:v:112:LEU:HD12	1.78	0.65
65:z:41:LYS:HG3	65:z:45:TYR:CE2	2.32	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:26:LYS:HB2	4:3:35:ILE:HG23	1.78	0.65
5:4:57:TYR:OH	5:4:79:ARG:NH2	2.24	0.65
17:D:1308:U:P	37:X:100:GLN:NE2	2.70	0.65
20:G:26:LYS:NZ	20:G:193:PRO:HG2	2.12	0.65
21:H:308:GLU:HG2	21:H:309:MET:H	1.61	0.65
38:Y:5:GLN:HG2	38:Y:61:TYR:CD1	2.31	0.65
38:Y:24:GLY:O	38:Y:27:LEU:HG	1.96	0.65
51:l:62:GLN:O	51:l:69:ARG:NE	2.30	0.65
51:l:149:ILE:HD11	51:l:188:MET:HG2	1.78	0.65
12:AB:129:ILE:O	12:AB:142:LEU:HB2	1.97	0.65
10:B:27:U:H2'	10:B:28:C:H6	1.60	0.65
10:B:75:C:P	40:a:2602:A:HO2'	2.13	0.65
19:F:58:LYS:O	19:F:62:ARG:CG	2.45	0.65
28:O:86:ALA:O	28:O:89:GLU:HG2	1.95	0.65
39:Z:22:LEU:O	39:Z:26:MET:HE1	1.97	0.65
40:a:614:A:O2'	40:a:615:U:OP2	2.12	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
46:g:58:ASP:C	46:g:62:LYS:HZ3	2.05	0.65
46:g:58:ASP:C	46:g:62:LYS:NZ	2.55	0.65
61:v:31:PHE:N	61:v:104:GLU:OE2	2.29	0.65
3:2:9:LYS:O	3:2:12:ARG:NH1	2.30	0.65
5:4:50:MET:HB3	5:4:56:PHE:CE1	2.31	0.65
10:B:71:C:H3'	10:B:72:A:C8	2.30	0.65
17:D:1158:C:O2'	20:G:132:LYS:CE	2.45	0.65
23:J:74:ASN:HA	23:J:77:LYS:HZ3	1.61	0.65
40:a:1839:G:H1'	40:a:1927:A:C8	2.32	0.65
55:p:107:LEU:O	55:p:152:ARG:CZ	2.45	0.65
60:u:122:VAL:CG1	60:u:125:LEU:HD11	2.27	0.65
6:5:11:DA:H5'	12:AB:67:THR:CB	2.27	0.65
8:7:21:U:O4	22:I:82:GLU:HB2	1.97	0.65
12:AB:136:GLU:O	12:AB:156:ASN:HA	1.97	0.65
18:E:28:MET:SD	18:E:61:GLN:HG3	2.36	0.65
21:H:277:GLY:HA2	21:H:331:MET:CE	2.27	0.65
24:K:61:GLN:HA	24:K:64:MET:CE	2.27	0.65
33:T:64:ARG:NH1	33:T:89:ARG:HH22	1.94	0.65
40:a:2356:U:O3'	41:b:20:ARG:CZ	2.45	0.65
51:l:194:LYS:O	51:l:198:GLU:OE1	2.15	0.65
57:r:137:GLU:HG2	57:r:138:VAL:N	2.11	0.65
59:t:42:THR:HG23	59:t:44:LYS:NZ	2.12	0.65
2:1:71:VAL:HB	2:1:74:ILE:HD11	1.79	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:2:3:ARG:NH1	3:2:5:GLU:OE2	2.30	0.65
6:5:16:DG:H1	11:AA:451:ARG:NH2	1.94	0.65
8:7:11:U:C4'	24:K:20:ARG:HH22	1.93	0.65
9:9:129:LEU:N	9:9:130:PRO:HD2	2.12	0.65
12:AB:148:LYS:HE3	29:P:102:LEU:CD2	2.24	0.65
10:B:22:G:H2'	10:B:23:C:C6	2.32	0.65
23:J:138:SER:O	23:J:141:ASP:CG	2.40	0.65
35:V:60:GLU:OE1	35:V:76:VAL:CG2	2.45	0.65
38:Y:45:THR:HG21	38:Y:50:LYS:HD3	1.76	0.65
40:a:617:G:H4'	51:l:199:MET:HE1	1.78	0.65
58:s:53:TYR:CE1	58:s:121:LYS:HD2	2.32	0.65
61:v:105:MET:CE	61:v:108:VAL:HG21	2.27	0.65
9:9:25:ALA:HB2	9:9:96:PHE:CE1	2.31	0.64
12:AB:139:SER:C	12:AB:152:HIS:O	2.40	0.64
23:J:150:LYS:HE2	23:J:178:MET:HE2	1.79	0.64
28:O:5:GLN:NE2	28:O:20:PHE:HB3	2.11	0.64
31:R:80:ILE:HD12	31:R:104:CYS:HB2	1.79	0.64
40:a:998:C:OP2	65:z:92:ARG:NH2	2.29	0.64
40:a:1824:G:OP1	47:h:52:ARG:CZ	2.44	0.64
40:a:2175:C:H2'	40:a:2176:A:C8	2.31	0.64
16:C:34:THR:N	16:C:38:LYS:O	2.30	0.64
20:G:23:TRP:CD1	20:G:39:HIS:HE1	2.14	0.64
20:G:114:LEU:HD13	20:G:144:LEU:CB	2.28	0.64
24:K:148:ASN:OD1	27:N:96:MET:CE	2.45	0.64
32:S:87:ALA:CA	32:S:90:ARG:NH1	2.60	0.64
33:T:53:ARG:O	33:T:57:LEU:HD23	1.96	0.64
34:U:5:ARG:HG2	34:U:68:SER:HB2	1.79	0.64
40:a:1278:C:C4'	62:w:24:MET:HE1	2.27	0.64
42:c:66:THR:HG22	42:c:70:GLU:OE2	1.97	0.64
51:l:147:LEU:HB2	51:l:183:PHE:HD2	1.62	0.64
59:t:42:THR:O	59:t:44:LYS:NZ	2.19	0.64
17:D:675:A:H1'	30:Q:118:HIS:CD2	2.32	0.64
17:D:1323:G:H2'	17:D:1324:A:C8	2.33	0.64
26:M:23:LEU:HD21	26:M:59:LEU:CD2	2.27	0.64
26:M:23:LEU:HD12	26:M:23:LEU:N	2.13	0.64
32:S:10:GLU:O	32:S:14:VAL:HG23	1.97	0.64
37:X:16:VAL:HG23	37:X:17:ILE:HD12	1.80	0.64
38:Y:14:ALA:C	38:Y:50:LYS:HE3	2.22	0.64
38:Y:102:ARG:HD2	38:Y:141:ASP:CB	2.27	0.64
8:7:9:U:N3	17:D:1196:A:N7	2.45	0.64
10:A:22:G:H2'	10:A:23:C:C6	2.32	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:J:62:ARG:HG2	23:J:72:PHE:CZ	2.33	0.64
27:N:10:MET:HG3	27:N:27:MET:HE1	1.78	0.64
38:Y:5:GLN:HE22	38:Y:60:VAL:N	1.96	0.64
38:Y:14:ALA:HB3	38:Y:51:GLY:N	2.12	0.64
38:Y:102:ARG:NE	38:Y:139:VAL:HG21	2.13	0.64
38:Y:126:ARG:NH2	40:a:1083:U:P	2.70	0.64
65:z:85:LYS:HD2	65:z:116:ALA:HB1	1.79	0.64
9:9:43:LYS:HD3	9:9:98:GLU:HG3	1.78	0.64
12:AB:115:LYS:HD3	12:AB:129:ILE:HD12	1.77	0.64
21:H:70:VAL:HG12	21:H:83:LEU:O	1.98	0.64
21:H:119:GLY:HA2	21:H:133:GLY:HA2	1.80	0.64
32:S:53:ARG:HB3	32:S:59:ARG:NH1	2.11	0.64
55:p:149:ARG:CZ	55:p:162:VAL:O	2.45	0.64
10:A:19:G:C2	40:a:2112:G:O4'	2.50	0.64
12:AB:123:PHE:HD2	12:AB:141:LEU:HD22	1.62	0.64
19:F:10:GLU:OE2	19:F:18:ARG:NE	2.30	0.64
20:G:27:MET:HG2	20:G:189:THR:HA	1.78	0.64
21:H:303:LEU:O	21:H:303:LEU:HG	1.96	0.64
32:S:87:ALA:HA	32:S:90:ARG:CZ	2.28	0.64
63:x:114:GLY:O	63:x:116:GLN:NE2	2.31	0.64
10:A:54:U:H3	10:A:58:A:N6	1.96	0.64
32:S:77:PHE:HE1	32:S:93:ILE:HG21	1.63	0.64
40:a:196:A:C2	60:u:50:PHE:HZ	2.16	0.64
40:a:1067:A:O2'	40:a:1068:G:O4'	2.16	0.64
40:a:2308:G:C5	53:n:77:PHE:CZ	2.85	0.64
47:h:53:HIS:NE2	47:h:219:THR:HA	2.11	0.64
62:w:35:LYS:HZ2	62:w:112:TYR:HE2	1.45	0.64
9:9:56:ARG:H	9:9:56:ARG:HD3	1.63	0.64
9:9:100:ALA:HB2	9:9:125:ARG:NE	2.13	0.64
11:AA:387:ASN:HB3	11:AA:394:ARG:HH11	1.63	0.64
18:E:16:LYS:O	18:E:19:LYS:HG2	1.97	0.64
24:K:111:MET:HE1	24:K:125:ALA:HB1	1.80	0.64
25:L:2:ARG:CZ	25:L:68:GLN:NE2	2.60	0.64
38:Y:21:PRO:HB2	38:Y:22:PRO:HD3	1.80	0.64
38:Y:99:LYS:HD2	38:Y:140:GLU:CD	2.22	0.64
40:a:2723:C:H5''	62:w:1:MET:HE3	1.79	0.64
53:n:117:LEU:HD13	53:n:176:PRO:CG	2.26	0.64
9:9:24:SER:OG	9:9:116:GLU:HG3	1.98	0.64
9:9:47:GLU:HB3	9:9:51:TYR:OH	1.97	0.64
9:9:117:LEU:O	9:9:117:LEU:HD23	1.98	0.64
10:A:32:C:H4'	26:M:86:GLN:HE21	1.62	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AB:31:PRO:HB2	12:AB:50:LEU:HB3	1.80	0.64
20:G:49:MET:HE1	20:G:201:PRO:CD	2.23	0.64
22:I:132:ARG:O	22:I:135:LYS:HG2	1.97	0.64
25:L:25:TYR:O	25:L:29:ILE:HD12	1.97	0.64
38:Y:86:LYS:HD3	38:Y:86:LYS:C	2.23	0.64
1:O:51:VAL:HG23	65:z:86:ALA:O	1.98	0.64
4:3:34:VAL:HG13	4:3:67:VAL:HG22	1.78	0.64
10:B:54:U:H3	10:B:58:A:N6	1.96	0.64
10:B:76:A:H1'	40:a:2494:G:OP1	1.98	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
22:I:156:ARG:HH11	22:I:193:TYR:HB3	1.63	0.64
33:T:3:LEU:HD22	33:T:8:THR:CG2	2.27	0.64
35:V:31:HIS:CD2	35:V:34:TYR:H	2.15	0.64
38:Y:79:LEU:CD2	38:Y:105:LEU:HD21	2.27	0.64
12:AB:129:ILE:HB	12:AB:142:LEU:CD2	2.28	0.63
20:G:19:GLN:HG3	21:H:76:GLU:HB3	1.78	0.63
40:a:2013:A:N1	40:a:2613:U:O4	2.31	0.63
40:a:2419:U:H4'	50:k:22:THR:HG21	1.79	0.63
3:2:36:LYS:HE3	3:2:79:ASP:OD2	1.98	0.63
16:C:13:PHE:CE2	16:C:21:ILE:HD11	2.34	0.63
40:a:2335:A:P	63:x:13:ARG:CZ	2.87	0.63
40:a:2682:A:O5'	49:j:11:MET:HE1	1.98	0.63
48:i:17:ARG:HA	48:i:20:ASP:OD1	1.99	0.63
51:l:112:LEU:HG	51:l:118:LEU:HB2	1.79	0.63
53:n:135:GLN:HG3	53:n:150:ARG:NH2	2.12	0.63
60:u:84:LYS:HZ2	60:u:98:ALA:C	2.04	0.63
64:y:31:TRP:CZ3	64:y:38:LYS:HD3	2.33	0.63
9:9:73:LYS:NZ	9:9:115:GLY:O	2.31	0.63
11:AA:1282:GLY:HA3	15:AF:17:PHE:HE1	1.63	0.63
17:D:1226:C:H2'	37:X:102:THR:OG1	1.98	0.63
38:Y:55:PRO:HB2	38:Y:71:LYS:HE2	1.80	0.63
38:Y:102:ARG:HG3	38:Y:141:ASP:HA	1.80	0.63
51:l:69:ARG:NH1	51:l:69:ARG:HA	2.13	0.63
31:R:25:GLU:CD	31:R:59:ASN:HD22	2.05	0.63
33:T:88:ARG:NH2	40:a:714:U:OP2	2.31	0.63
38:Y:9:LYS:HG2	38:Y:55:PRO:HB3	1.80	0.63
38:Y:31:GLY:C	38:Y:60:VAL:HG11	2.23	0.63
40:a:2393:U:P	54:o:30:ARG:NE	2.70	0.63
45:f:10:THR:HB	45:f:56:LYS:HZ2	1.64	0.63
47:h:251:GLN:HE22	47:h:253:LYS:C	2.07	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:84:ARG:NH1	40:a:813:U:OP1	2.31	0.63
8:7:21:U:O4	22:I:82:GLU:OE1	2.17	0.63
9:9:77:VAL:HG12	9:9:77:VAL:O	1.99	0.63
12:AB:117:ILE:O	12:AB:118:ILE:HG13	1.98	0.63
38:Y:37:PHE:CE1	38:Y:56:VAL:HG11	2.33	0.63
38:Y:48:ILE:HG13	38:Y:49:GLU:N	2.10	0.63
38:Y:100:ILE:CD1	38:Y:139:VAL:HB	2.29	0.63
40:a:537:G:OP1	58:s:2:LYS:HE2	1.98	0.63
51:l:6:LYS:HE3	51:l:119:ILE:CG2	2.28	0.63
59:t:8:LEU:N	59:t:18:ARG:NH1	2.46	0.63
5:4:80:HIS:CE1	5:4:82:TYR:H	2.17	0.63
8:7:21:U:H5'	8:7:22:U:H5''	1.81	0.63
16:C:73:ARG:HH12	30:Q:113:VAL:HA	1.62	0.63
23:J:99:ASP:OD1	23:J:100:ASN:N	2.31	0.63
24:K:61:GLN:HA	24:K:64:MET:HE3	1.81	0.63
44:e:13:GLU:O	44:e:17:GLU:OE1	2.16	0.63
64:y:64:ILE:HG13	64:y:64:ILE:O	1.97	0.63
1:0:82:HIS:CG	1:0:82:HIS:O	2.52	0.63
9:9:7:ASP:O	9:9:11:ILE:HD12	1.98	0.63
14:AE:288:PRO:HD2	14:AE:291:ILE:HG22	1.74	0.63
28:O:123:ARG:HG2	28:O:123:ARG:O	1.99	0.63
29:P:24:GLU:HA	29:P:27:GLU:OE1	1.98	0.63
40:a:2311:A:N3	53:n:85:ILE:HD11	2.13	0.63
51:l:23:PHE:HB2	51:l:111:GLU:OE2	1.99	0.63
61:v:88:ASN:OD1	61:v:89:VAL:N	2.32	0.63
5:4:50:MET:O	5:4:52:ALA:N	2.32	0.63
12:AB:80:ARG:HB3	12:AB:82:GLY:O	1.99	0.63
17:D:1228:C:OP1	37:X:107:ARG:NH1	2.32	0.63
53:n:33:LYS:HA	53:n:96:MET:SD	2.39	0.63
11:AA:120:GLN:NE2	11:AA:490:GLN:OE1	2.32	0.63
12:AB:146:ILE:HD12	12:AB:146:ILE:N	2.14	0.63
17:D:522:C:OP2	31:R:66:TYR:OH	2.17	0.63
36:W:66:MET:SD	36:W:66:MET:O	2.57	0.63
63:x:90:VAL:HG21	63:x:115:LEU:HD21	1.81	0.63
2:1:25:ARG:NH2	40:a:520:G:C5'	2.60	0.62
11:AA:314:ASN:HD21	11:AA:348:SER:HA	1.62	0.62
12:AB:114:ASP:O	12:AB:130:PHE:HB2	1.99	0.62
17:D:13:U:O2	17:D:914:A:C8	2.52	0.62
17:D:718:A:H5'	30:Q:119:ASN:ND2	2.13	0.62
21:H:19:ARG:O	21:H:72:LEU:HB2	1.98	0.62
24:K:140:THR:O	24:K:144:LEU:HD23	1.99	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:S:13:ARG:HB3	32:S:60:GLN:HG3	1.81	0.62
16:C:33:ILE:O	21:H:338:GLU:CD	2.42	0.62
20:G:126:PHE:O	20:G:126:PHE:CD1	2.53	0.62
26:M:66:LEU:HD13	26:M:101:MET:HE1	1.81	0.62
40:a:2725:A:C4	40:a:2727:A:C8	2.87	0.62
62:w:37:THR:OG1	62:w:40:LYS:HD2	1.99	0.62
4:3:68:SER:OG	40:a:335:C:O2	2.15	0.62
8:7:9:U:N3	17:D:1196:A:C8	2.66	0.62
8:7:11:U:O2'	24:K:33:PHE:CZ	2.52	0.62
9:9:113:PHE:O	9:9:123:ILE:HG13	1.99	0.62
12:AB:141:LEU:O	12:AB:151:LYS:C	2.42	0.62
10:B:31:G:O3'	17:D:1340:A:O2'	2.17	0.62
20:G:118:GLU:O	20:G:121:SER:OG	2.15	0.62
31:R:75:GLN:OE1	31:R:75:GLN:N	2.32	0.62
50:k:21:TYR:CE2	50:k:38:LYS:HG2	2.34	0.62
6:5:10:DT:H1'	12:AB:71:ALA:H	0.83	0.62
12:AB:148:LYS:HE3	29:P:102:LEU:HB3	1.80	0.62
17:D:932:C:H5'	26:M:4:ARG:HH11	1.63	0.62
21:H:135:LEU:O	21:H:169:SER:HA	2.00	0.62
38:Y:60:VAL:HG22	38:Y:66:PHE:CB	2.23	0.62
38:Y:80:LYS:HG3	38:Y:86:LYS:O	2.00	0.62
40:a:2307:G:O4'	40:a:2308:G:C5	2.52	0.62
40:a:2682:A:O4'	49:j:11:MET:CE	2.47	0.62
53:n:38:MET:SD	53:n:150:ARG:HD2	2.40	0.62
57:r:5:LEU:HD12	57:r:17:ASP:O	2.00	0.62
58:s:37:ARG:NH2	58:s:44:TYR:OH	2.32	0.62
62:w:33:ILE:CG1	62:w:112:TYR:HD1	2.11	0.62
5:4:76:ASP:OD1	5:4:77:VAL:N	2.32	0.62
6:5:10:DT:H73	11:AA:62:TYR:CG	2.18	0.62
9:9:23:LEU:HD11	9:9:96:PHE:CE2	2.34	0.62
12:AB:118:ILE:HD11	12:AB:159:PHE:HA	1.81	0.62
20:G:49:MET:HE3	20:G:199:VAL:O	1.99	0.62
26:M:17:LYS:HG3	26:M:18:PHE:CD1	2.35	0.62
3:2:56:GLU:OE2	3:2:87:LEU:C	2.42	0.62
17:D:406:G:H21	23:J:116:GLN:HE22	1.46	0.62
17:D:1152:A:OP1	29:P:70:HIS:ND1	2.29	0.62
24:K:137:VAL:O	24:K:140:THR:OG1	2.15	0.62
62:w:42:LYS:HE2	62:w:97:ILE:HG21	1.82	0.62
8:7:15:U:O2	15:AF:83:VAL:HG12	2.00	0.62
26:M:18:PHE:HD2	26:M:59:LEU:HD21	1.65	0.62
34:U:18:GLN:OE1	34:U:37:GLY:O	2.17	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:X:28:THR:CG2	37:X:31:LYS:HE3	2.30	0.62
40:a:1824:G:C3'	47:h:52:ARG:HH12	2.13	0.62
54:o:32:ILE:HG13	54:o:32:ILE:O	2.00	0.62
5:4:77:VAL:HG11	5:4:79:ARG:HH21	1.64	0.62
8:7:9:U:O4	17:D:1196:A:N9	2.32	0.62
12:AB:141:LEU:HB3	12:AB:143:LEU:CD1	2.29	0.62
17:D:337:G:H2'	17:D:338:A:C8	2.34	0.62
20:G:19:GLN:OE1	20:G:21:ARG:HG2	2.00	0.62
21:H:16:ILE:HG22	21:H:25:ARG:NH2	2.14	0.62
26:M:4:ARG:CG	26:M:5:ARG:CZ	2.75	0.62
29:P:23:ALA:O	29:P:27:GLU:OE1	2.18	0.62
36:W:12:ASP:OD2	36:W:35:SER:OG	2.14	0.62
37:X:16:VAL:HG12	37:X:34:LEU:HD12	1.80	0.62
40:a:1138:G:N3	58:s:108:MET:HE2	2.14	0.62
58:s:98:GLU:O	58:s:102:GLU:OE1	2.18	0.62
59:t:20:MET:CB	59:t:44:LYS:HZ3	2.09	0.62
6:5:11:DA:H2'	12:AB:67:THR:HG21	1.82	0.62
8:7:7:U:H6	8:7:7:U:H5''	1.64	0.62
8:7:11:U:O4'	24:K:20:ARG:NH2	2.32	0.62
9:9:50:VAL:HG23	38:Y:120:ASP:OD2	1.98	0.62
12:AB:102:LYS:HE2	14:AE:285:LEU:CB	2.29	0.62
17:D:562:U:C2'	31:R:14:ARG:HH11	2.13	0.62
17:D:1157:A:C2	17:D:1181:G:C4	2.88	0.62
32:S:19:LYS:HG3	32:S:20:TYR:CE1	2.35	0.62
40:a:2315:G:H4'	53:n:127:ASN:ND2	2.14	0.62
6:5:11:DA:P	12:AB:67:THR:C	2.80	0.62
12:AB:123:PHE:CE1	29:P:88:MET:HE3	2.34	0.62
17:D:1309:G:P	37:X:98:ARG:HE	2.20	0.62
24:K:69:ARG:HA	24:K:69:ARG:NE	2.15	0.62
38:Y:99:LYS:NZ	38:Y:138:VAL:HG13	2.13	0.62
40:a:754:U:H2'	40:a:755:U:C6	2.34	0.62
40:a:985:C:C2	40:a:986:C:C5	2.88	0.62
40:a:1839:G:C8	40:a:1927:A:H1'	2.35	0.62
3:2:1:MET:N	40:a:142:A:O2'	2.33	0.61
6:5:10:DT:C5'	11:AA:62:TYR:OH	2.48	0.61
10:A:5:G:H2'	10:A:6:G:H5'	1.82	0.61
37:X:22:ILE:HB	37:X:25:VAL:HG12	1.80	0.61
38:Y:9:LYS:HE2	38:Y:55:PRO:HG3	1.82	0.61
49:j:1:MET:HE2	49:j:100:LEU:HD11	1.82	0.61
9:9:136:ILE:CD1	9:9:139:LEU:HD12	2.25	0.61
21:H:61:GLU:HG2	21:H:62:ILE:HG23	1.81	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:I:58:GLU:OE2	29:P:94:ALA:CB	2.48	0.61
38:Y:102:ARG:HA	38:Y:102:ARG:HE	1.64	0.61
47:h:141:VAL:HG23	47:h:162:VAL:CG1	2.30	0.61
58:s:11:VAL:HG11	58:s:13:ARG:NH1	2.15	0.61
62:w:47:VAL:O	62:w:51:LEU:HD23	2.00	0.61
2:l:98:LYS:NZ	40:a:2011:U:O3'	2.34	0.61
8:7:31:A:H2'	8:7:31:A:N3	2.13	0.61
13:AC:45:ARG:HD3	13:AD:38:THR:HB	1.82	0.61
57:r:114:GLU:OE2	57:r:134:VAL:N	2.33	0.61
61:v:1:MET:HE1	61:v:44:ARG:CA	2.30	0.61
16:C:60:LYS:NZ	17:D:734:G:C2'	2.64	0.61
40:a:1406:U:C2	40:a:1407:G:C8	2.88	0.61
40:a:2682:A:H8	49:j:11:MET:HE1	1.65	0.61
6:5:9:DG:P	11:AA:473:ARG:CG	2.88	0.61
9:9:47:GLU:HA	9:9:94:ARG:HH22	1.65	0.61
11:AA:472:GLU:HG3	11:AA:473:ARG:HD3	1.82	0.61
17:D:1124:G:O2'	17:D:1145:A:N6	2.33	0.61
27:N:43:GLU:CD	27:N:101:ILE:HG21	2.25	0.61
38:Y:79:LEU:CD1	38:Y:132:ALA:HA	2.29	0.61
50:k:34:LEU:HB3	50:k:51:GLU:HG3	1.82	0.61
10:B:5:G:H2'	10:B:6:G:H5'	1.83	0.61
17:D:563:A:C2	17:D:567:G:C5	2.89	0.61
21:H:135:LEU:CB	21:H:167:VAL:CB	2.78	0.61
22:I:45:LYS:NZ	22:I:46:GLU:OE1	2.29	0.61
30:Q:84:VAL:HG23	30:Q:107:ILE:CD1	2.30	0.61
33:T:67:LEU:HD12	33:T:78:TYR:CE1	2.35	0.61
36:W:67:VAL:HG21	46:g:57:VAL:HG22	1.82	0.61
54:o:13:ARG:HD3	60:u:58:TYR:O	2.00	0.61
59:t:8:LEU:N	59:t:18:ARG:HH12	1.98	0.61
12:AB:102:LYS:CD	14:AE:285:LEU:HA	2.31	0.61
26:M:103:TRP:O	26:M:106:GLU:HG3	2.01	0.61
39:Z:8:ILE:HG13	39:Z:9:GLU:N	2.15	0.61
1:0:73:LYS:NZ	40:a:1225:G:OP1	2.34	0.61
11:AA:55:SER:OG	11:AA:465:ARG:NH1	2.33	0.61
14:AE:785:ASP:O	14:AE:789:LYS:HB2	2.01	0.61
10:B:36:U:H2'	10:B:37:A:C8	2.35	0.61
16:C:45:THR:HA	21:H:340:ARG:NH2	2.15	0.61
17:D:1006:G:H2'	17:D:1007:U:C6	2.36	0.61
20:G:30:PHE:CD1	20:G:201:PRO:CG	2.83	0.61
22:I:14:ILE:HG22	22:I:15:VAL:HG13	1.82	0.61
38:Y:91:LYS:HZ1	38:Y:97:VAL:HG21	1.65	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:g:65:ASN:OD1	46:g:66:ILE:N	2.30	0.61
50:k:34:LEU:HB3	50:k:51:GLU:CG	2.31	0.61
61:v:111:GLU:HA	61:v:114:ARG:HE	1.66	0.61
3:2:56:GLU:OE2	3:2:87:LEU:O	2.18	0.61
11:AA:528:ARG:NH2	11:AA:576:SER:O	2.30	0.61
12:AB:35:LEU:HB3	12:AB:37:LYS:HD3	1.82	0.61
14:AE:888:CYS:SG	14:AE:889:ASP:N	2.74	0.61
17:D:687:A:C2	17:D:704:A:C5	2.88	0.61
36:W:45:ILE:HA	36:W:62:VAL:CG1	2.31	0.61
47:h:164:ILE:HG23	47:h:164:ILE:O	2.01	0.61
2:1:31:GLN:OE1	2:1:31:GLN:N	2.28	0.61
5:4:77:VAL:HG22	5:4:79:ARG:HE	1.64	0.61
9:9:23:LEU:HA	9:9:118:ILE:CG1	2.31	0.61
9:9:61:ARG:NE	40:a:1046:A:O5'	2.34	0.61
10:A:65:C:H2'	10:A:66:C:H5'	1.83	0.61
12:AB:31:PRO:O	12:AB:50:LEU:N	2.31	0.61
10:B:65:C:H2'	10:B:66:C:H5'	1.83	0.61
17:D:739:C:HO2'	33:T:42:HIS:CE1	2.14	0.61
24:K:81:LEU:HG	24:K:96:MET:HE1	1.83	0.61
27:N:88:ARG:HB2	27:N:91:GLU:OE1	2.00	0.61
28:O:55:VAL:O	28:O:57:MET:N	2.34	0.61
28:O:94:LEU:HB3	28:O:97:GLU:OE2	2.01	0.61
29:P:26:VAL:HG12	29:P:30:LYS:NZ	2.16	0.61
35:V:60:GLU:OE1	35:V:76:VAL:HG23	2.01	0.61
35:V:61:ILE:HG13	35:V:73:TRP:CZ3	2.36	0.61
53:n:122:PHE:CZ	53:n:170:LEU:HD12	2.36	0.61
58:s:13:ARG:HH22	58:s:50:THR:CA	2.14	0.61
6:5:11:DA:C2'	12:AB:67:THR:CG2	2.77	0.60
9:9:14:GLU:OE1	9:9:62:ARG:O	2.19	0.60
9:9:25:ALA:HB2	9:9:96:PHE:CD1	2.36	0.60
9:9:52:MET:C	9:9:52:MET:HE3	2.25	0.60
12:AB:140:MET:HA	12:AB:153:SER:HA	1.83	0.60
20:G:114:LEU:HD13	20:G:144:LEU:HB2	1.83	0.60
24:K:45:ARG:HB3	24:K:71:MET:HE2	1.82	0.60
28:O:57:MET:HA	28:O:60:LYS:HE2	1.83	0.60
38:Y:19:PRO:O	38:Y:24:GLY:CA	2.48	0.60
6:5:10:DT:C4	11:AA:62:TYR:HD2	2.12	0.60
10:A:33:U:O3'	26:M:84:THR:OG1	2.16	0.60
16:C:60:LYS:HZ3	17:D:735:C:P	2.24	0.60
17:D:1160:G:C2	17:D:1161:C:C6	2.89	0.60
20:G:38:VAL:CG2	21:H:75:VAL:HG21	2.30	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:G:110:SER:HA	20:G:113:ARG:HE	1.65	0.60
25:L:102:MET:HG2	25:L:103:VAL:N	2.06	0.60
26:M:137:LYS:O	26:M:141:VAL:HG23	2.01	0.60
46:g:1:MET:HE2	46:g:6:HIS:CD2	2.35	0.60
60:u:51:GLU:OE1	60:u:51:GLU:N	2.34	0.60
61:v:38:ARG:HA	61:v:96:ILE:O	2.00	0.60
7:6:25:DT:OP1	11:AA:496:LYS:C	2.43	0.60
12:AB:129:ILE:HB	12:AB:142:LEU:HD22	1.83	0.60
17:D:1169:A:H2'	17:D:1170:A:C8	2.36	0.60
26:M:111:ARG:O	26:M:119:ARG:NH1	2.34	0.60
27:N:24:ALA:HB1	27:N:60:GLU:OE2	2.00	0.60
28:O:56:ASP:O	28:O:57:MET:HE2	2.02	0.60
32:S:87:ALA:HA	32:S:90:ARG:NH1	2.15	0.60
34:U:5:ARG:HH22	34:U:24:SER:HA	1.66	0.60
34:U:76:LYS:C	34:U:80:LYS:HZ3	2.09	0.60
40:a:548:G:H3'	40:a:549:G:O4'	2.01	0.60
40:a:1277:G:N3	62:w:23:ASN:ND2	2.47	0.60
65:z:74:ILE:HD13	65:z:79:PHE:CD1	2.33	0.60
12:AB:82:GLY:HA2	14:AE:142:GLU:OE1	2.01	0.60
14:AE:814:CYS:SG	14:AE:883:ARG:NH2	2.74	0.60
20:G:73:LYS:O	20:G:74:ARG:HG2	2.00	0.60
24:K:112:ARG:O	24:K:116:GLU:OE1	2.19	0.60
26:M:50:LEU:HD21	26:M:121:ALA:CA	2.28	0.60
38:Y:36:GLU:HG3	38:Y:66:PHE:CE1	2.36	0.60
45:f:40:ASP:C	45:f:45:ARG:NH2	2.60	0.60
47:h:84:ASP:HB2	47:h:91:ILE:HD12	1.84	0.60
61:v:75:GLU:HG3	61:v:90:GLU:OE1	2.01	0.60
61:v:77:PRO:HG2	61:v:80:VAL:CG2	2.31	0.60
65:z:74:ILE:CD1	65:z:74:ILE:CB	2.76	0.60
12:AB:92:VAL:HA	12:AB:96:LEU:HB2	1.84	0.60
12:AB:147:ASN:CG	29:P:100:ILE:HG23	2.19	0.60
14:AE:78:LEU:C	14:AE:78:LEU:HD12	2.27	0.60
14:AE:87:LYS:HZ3	29:P:89:ARG:HD3	1.65	0.60
17:D:718:A:O2'	19:F:34:ARG:NH2	2.34	0.60
19:F:49:LYS:O	19:F:53:VAL:HG23	2.02	0.60
25:L:42:TRP:CZ2	25:L:102:MET:HG3	2.36	0.60
37:X:55:THR:O	37:X:59:GLU:OE1	2.18	0.60
48:i:22:LEU:HG	48:i:23:THR:N	2.17	0.60
1:0:51:VAL:O	1:0:51:VAL:HG13	2.02	0.60
6:5:9:DG:O5'	11:AA:473:ARG:CB	2.49	0.60
9:9:98:GLU:HA	9:9:101:LYS:HG2	1.83	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:9:123:ILE:O	9:9:123:ILE:HG23	2.02	0.60
14:AE:64:PRO:HG3	14:AE:90:VAL:HG12	1.83	0.60
14:AE:92:VAL:HG22	14:AE:92:VAL:O	2.01	0.60
38:Y:72:THR:OG1	38:Y:73:PRO:HD2	2.01	0.60
40:a:271:G:C4	40:a:272:A:C8	2.89	0.60
40:a:753:A:C2	40:a:754:U:C6	2.89	0.60
40:a:1257:C:H4'	51:l:78:TRP:CD2	2.37	0.60
40:a:2191:A:H2'	40:a:2192:U:C6	2.36	0.60
58:s:73:VAL:HG13	58:s:86:GLN:HG2	1.84	0.60
62:w:60:VAL:HA	62:w:63:ARG:NH1	2.17	0.60
12:AB:90:SER:HB3	12:AB:93:ILE:HB	1.84	0.60
13:AD:112:ALA:HB3	13:AD:126:PRO:HA	1.83	0.60
14:AE:1275:LEU:HB3	14:AE:1278:GLU:HB2	1.83	0.60
18:E:28:MET:SD	18:E:57:ILE:HG22	2.42	0.60
24:K:159:LYS:NZ	27:N:44:GLY:HA3	2.16	0.60
27:N:104:VAL:HG23	27:N:125:ILE:HD13	1.84	0.60
40:a:413:C:H2'	40:a:414:C:H6	1.66	0.60
40:a:1070:A:N7	40:a:1096:A:O2'	2.35	0.60
40:a:2780:G:P	58:s:120:ARG:NH1	2.74	0.60
53:n:25:VAL:O	53:n:28:VAL:HG12	2.02	0.60
58:s:13:ARG:NH2	58:s:49:ASP:O	2.34	0.60
60:u:76:GLU:HG3	60:u:111:ILE:CD1	2.31	0.60
65:z:74:ILE:HD11	65:z:79:PHE:CA	2.30	0.60
6:5:11:DA:H2'	12:AB:67:THR:CG2	2.32	0.60
9:9:47:GLU:HG3	9:9:94:ARG:NH1	2.16	0.60
11:AA:69:GLN:HE21	11:AA:101:ARG:HD2	1.67	0.60
12:AB:89:PRO:CG	14:AE:290:ILE:CG2	2.79	0.60
14:AE:86:GLU:OE1	14:AE:86:GLU:N	2.34	0.60
17:D:1145:A:O2'	17:D:1146:A:O5'	2.18	0.60
24:K:113:ALA:HA	24:K:116:GLU:OE1	2.00	0.60
35:V:10:GLY:HA3	35:V:25:ILE:HD13	1.83	0.60
40:a:468:G:N7	52:m:39:ARG:NH2	2.42	0.60
2:1:1:MET:SD	2:1:3:THR:OG1	2.59	0.60
12:AB:142:LEU:HA	12:AB:151:LYS:HA	1.83	0.60
14:AE:741:ALA:O	14:AE:762:ASN:ND2	2.32	0.60
27:N:106:THR:HB	27:N:121:LEU:HD13	1.83	0.60
47:h:67:PHE:CE1	47:h:156:ARG:HD2	2.37	0.60
58:s:102:GLU:HB3	58:s:119:PHE:HZ	1.66	0.60
59:t:5:GLN:HA	59:t:20:MET:CE	2.32	0.60
12:AB:140:MET:HB3	12:AB:150:ILE:HD12	1.84	0.60
17:D:652:U:H4'	27:N:56:LYS:NZ	2.17	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:J:62:ARG:HG2	23:J:72:PHE:CE1	2.37	0.60
40:a:563:A:OP1	65:z:41:LYS:NZ	2.35	0.60
40:a:1322:A:C5	40:a:1323:C:C5	2.90	0.60
40:a:2298:A:C4	40:a:2321:U:C5	2.90	0.60
40:a:2363:G:OP2	54:o:40:ARG:HD2	2.01	0.60
49:j:25:THR:HG21	49:j:193:VAL:HG22	1.84	0.60
53:n:38:MET:HG3	53:n:57:LEU:HD21	1.83	0.60
54:o:30:ARG:HH12	60:u:62:PRO:CA	2.14	0.60
59:t:8:LEU:CA	59:t:18:ARG:HH12	2.15	0.60
62:w:33:ILE:CG1	62:w:112:TYR:CD1	2.85	0.60
3:2:56:GLU:OE1	3:2:86:THR:O	2.19	0.59
9:9:97:LYS:NZ	9:9:130:PRO:HA	2.17	0.59
10:A:36:U:H2'	10:A:37:A:C8	2.36	0.59
10:A:69:C:H2'	10:A:70:G:O4'	2.02	0.59
10:B:69:C:H2'	10:B:70:G:O4'	2.02	0.59
17:D:496:A:N3	17:D:496:A:H2'	2.16	0.59
17:D:890:G:O2'	17:D:906:A:N6	2.35	0.59
17:D:1290:G:H4'	26:M:35:LYS:HZ3	1.66	0.59
29:P:86:ALA:C	29:P:90:LEU:HD13	2.27	0.59
38:Y:5:GLN:CG	38:Y:61:TYR:CE1	2.76	0.59
40:a:575:A:C2	40:a:576:U:C5	2.90	0.59
46:g:5:ILE:HD12	53:n:64:LYS:CE	2.31	0.59
50:k:19:HIS:ND1	50:k:41:PRO:CD	2.65	0.59
58:s:55:ILE:HG13	58:s:123:LYS:NZ	2.17	0.59
8:7:31:A:H5'	8:7:32:U:H5''	1.84	0.59
9:9:7:ASP:OD1	9:9:8:LYS:N	2.35	0.59
11:AA:1072:ASN:ND2	11:AA:1111:GLN:OE1	2.34	0.59
14:AE:1221:LEU:HD22	14:AE:1306:LEU:HB2	1.85	0.59
17:D:1125:U:C2	17:D:1127:G:C8	2.89	0.59
27:N:47:GLU:OE2	27:N:64:LYS:HA	2.02	0.59
29:P:25:ILE:O	29:P:28:THR:OG1	2.19	0.59
40:a:639:U:H2'	40:a:640:C:C6	2.36	0.59
40:a:1277:G:H5'	62:w:20:MET:HE2	1.84	0.59
40:a:1432:G:H2'	40:a:1433:A:C8	2.37	0.59
9:9:23:LEU:HD21	9:9:96:PHE:CG	2.36	0.59
9:9:54:VAL:HG13	9:9:54:VAL:O	2.03	0.59
14:AE:1161:GLY:HA3	14:AE:1179:PRO:HA	1.83	0.59
16:C:29:LEU:HD23	16:C:59:ILE:HD13	1.83	0.59
17:D:13:U:N3	17:D:915:A:N6	2.51	0.59
17:D:1290:G:H4'	26:M:35:LYS:NZ	2.17	0.59
25:L:9:MET:HE2	25:L:51:ILE:HD11	1.83	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:R:7:LEU:CD2	31:R:12:ARG:NH2	2.65	0.59
38:Y:126:ARG:HH22	40:a:1083:U:P	2.25	0.59
40:a:323:C:H2'	51:l:163:ASN:OD1	2.02	0.59
40:a:1817:G:H3'	47:h:156:ARG:HH22	1.67	0.59
60:u:76:GLU:HG3	60:u:111:ILE:HD13	1.84	0.59
2:1:86:MET:CE	2:1:88:ARG:HD3	2.32	0.59
9:9:17:GLU:HG2	9:9:88:HIS:NE2	2.18	0.59
13:AD:211:ILE:HG12	13:AD:219:ARG:HH12	1.65	0.59
16:C:14:THR:HG21	16:C:48:ARG:NE	2.17	0.59
21:H:81:GLU:O	21:H:82:THR:HG23	2.02	0.59
22:I:54:ARG:NH2	22:I:56:VAL:HG21	2.18	0.59
40:a:2189:U:P	40:a:2189:U:O4'	2.60	0.59
40:a:2460:U:C2	40:a:2461:A:C8	2.91	0.59
47:h:30:PHE:O	47:h:34:LEU:HD23	2.02	0.59
1:0:68:ARG:HH12	40:a:1223:G:P	2.24	0.59
8:7:9:U:O4	17:D:1196:A:C8	2.55	0.59
12:AB:117:ILE:O	12:AB:160:ARG:O	2.20	0.59
16:C:73:ARG:CZ	30:Q:113:VAL:HG12	2.31	0.59
17:D:657:U:C4'	33:T:28:GLN:HE22	2.15	0.59
17:D:718:A:C4	30:Q:118:HIS:ND1	2.71	0.59
20:G:26:LYS:CD	20:G:193:PRO:HG2	2.32	0.59
40:a:567:U:OP2	60:u:29:LYS:NZ	2.35	0.59
40:a:1798:U:OP2	47:h:271:ARG:NH2	2.36	0.59
43:d:42:C:P	53:n:64:LYS:HZ1	2.25	0.59
64:y:7:GLN:CD	64:y:7:GLN:C	2.71	0.59
8:7:18:U:C6	8:7:18:U:C5'	2.85	0.59
17:D:921:U:H4'	24:K:23:LYS:NZ	2.18	0.59
17:D:1055:A:C2'	22:I:156:ARG:HH21	2.15	0.59
20:G:106:THR:HA	20:G:109:GLN:NE2	2.18	0.59
26:M:50:LEU:HD11	26:M:124:LEU:HB2	1.84	0.59
39:Z:8:ILE:HG13	39:Z:9:GLU:H	1.67	0.59
40:a:1172:C:H2'	40:a:1173:U:O4'	2.02	0.59
1:0:61:ALA:HB1	1:0:96:VAL:HG22	1.84	0.59
7:6:25:DT:H2'	11:AA:496:LYS:CE	2.28	0.59
10:A:70:G:H2'	10:A:71:C:H5''	1.85	0.59
12:AB:99:TYR:O	12:AB:100:LYS:HG2	2.03	0.59
16:C:51:TYR:HD1	16:C:54:GLN:NE2	2.00	0.59
17:D:736:C:O2'	25:L:88:MET:HE1	2.02	0.59
17:D:878:A:OP2	27:N:80:ARG:NH1	2.35	0.59
17:D:978:A:C5	17:D:1319:A:C2	2.90	0.59
18:E:32:ILE:HG12	18:E:75:HIS:CE1	2.37	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:H:333:LEU:O	21:H:334:ASP:OD1	2.19	0.59
23:J:74:ASN:HA	23:J:77:LYS:NZ	2.17	0.59
38:Y:5:GLN:HE22	38:Y:60:VAL:C	2.10	0.59
40:a:15:G:O2'	48:i:15:MET:CE	2.51	0.59
40:a:685:A:O2'	40:a:773:U:O4	2.17	0.59
40:a:856:G:H2'	40:a:857:G:C8	2.37	0.59
40:a:947:A:H2'	40:a:948:C:C6	2.37	0.59
40:a:993:G:OP2	65:z:51:ARG:NH2	2.36	0.59
40:a:2225:A:H4'	40:a:2226:C:O5'	2.03	0.59
40:a:2815:C:C2	40:a:2816:G:C8	2.91	0.59
45:f:41:THR:O	45:f:44:ILE:N	2.30	0.59
51:l:1:MET:CE	51:l:16:GLU:HA	2.25	0.59
51:l:119:ILE:O	51:l:187:VAL:HA	2.03	0.59
55:p:85:LYS:NZ	55:p:164:TYR:HD1	2.01	0.59
32:S:20:TYR:HD2	32:S:55:SER:OG	1.85	0.59
33:T:60:VAL:O	33:T:64:ARG:HG2	2.03	0.59
37:X:25:VAL:HG23	37:X:29:ARG:CB	2.32	0.59
37:X:25:VAL:HG23	37:X:29:ARG:HB2	1.85	0.59
37:X:81:MET:HE1	37:X:92:ARG:HD3	1.83	0.59
38:Y:23:VAL:HG23	38:Y:24:GLY:N	2.17	0.59
38:Y:70:THR:O	38:Y:71:LYS:HG3	2.03	0.59
7:6:20:DA:C6	8:7:38:G:C2	2.91	0.59
9:9:94:ARG:CB	9:9:97:LYS:HE2	2.32	0.59
11:AA:371:ARG:NH1	12:AB:67:THR:OG1	2.34	0.59
14:AE:506:VAL:HG23	14:AE:628:GLY:HA3	1.83	0.59
16:C:73:ARG:HH12	30:Q:113:VAL:CA	2.16	0.59
20:G:23:TRP:HZ3	20:G:25:PRO:HA	1.67	0.59
23:J:91:LEU:HD21	23:J:195:ILE:HD12	1.84	0.59
38:Y:56:VAL:HA	38:Y:71:LYS:NZ	2.08	0.59
38:Y:99:LYS:HD3	38:Y:138:VAL:O	2.02	0.59
40:a:654:A:H61	54:o:19:LYS:HD2	1.68	0.59
47:h:181:MET:HE2	47:h:181:MET:N	2.18	0.59
3:2:56:GLU:OE1	3:2:87:LEU:C	2.46	0.59
8:7:9:U:O4	17:D:1196:A:O4'	2.21	0.59
9:9:33:VAL:HG22	9:9:36:ASP:CG	2.27	0.59
11:AA:707:ALA:O	11:AA:711:ASP:HB2	2.03	0.59
12:AB:19:GLU:O	12:AB:23:ARG:HB2	2.03	0.59
16:C:73:ARG:NH1	30:Q:113:VAL:HA	2.18	0.59
20:G:35:ARG:HD2	21:H:14:LYS:HE3	1.84	0.59
20:G:128:LYS:HD2	20:G:128:LYS:O	2.03	0.59
21:H:155:LYS:O	21:H:169:SER:N	2.35	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:I:85:GLU:OE2	22:I:88:ARG:NH1	2.26	0.59
26:M:18:PHE:HB3	26:M:59:LEU:HD11	1.84	0.59
38:Y:109:ALA:HB2	38:Y:128:ILE:HG13	1.85	0.59
52:m:1:MET:HE3	52:m:3:ARG:HH11	1.67	0.59
53:n:122:PHE:O	53:n:123:ASP:OD1	2.19	0.59
57:r:68:ARG:O	57:r:72:ILE:HD12	2.03	0.59
59:t:88:ASN:ND2	59:t:90:ASN:OD1	2.36	0.59
8:7:15:U:OP1	22:I:132:ARG:NH2	2.35	0.58
9:9:103:ASN:HA	9:9:107:GLU:OE2	2.02	0.58
12:AB:158:GLU:HB3	12:AB:162:LEU:HD22	1.85	0.58
17:D:588:G:H4'	27:N:3:MET:CE	2.33	0.58
21:H:273:ARG:CZ	21:H:297:GLU:HG3	2.33	0.58
21:H:291:GLY:HA2	21:H:305:HIS:HA	1.85	0.58
24:K:148:ASN:OD1	27:N:96:MET:HE1	2.03	0.58
30:Q:51:GLY:O	30:Q:56:ARG:CZ	2.51	0.58
33:T:11:ILE:HG21	33:T:31:LEU:HD13	1.85	0.58
34:U:19:VAL:HG12	34:U:37:GLY:C	2.28	0.58
35:V:11:ARG:HE	35:V:58:VAL:CG2	2.16	0.58
37:X:22:ILE:HG23	37:X:66:GLU:OE2	2.03	0.58
44:e:2:LYS:CE	44:e:52:ARG:HE	2.15	0.58
50:k:35:GLU:OE2	50:k:48:ILE:HG23	2.03	0.58
53:n:4:LEU:HD11	53:n:101:GLU:HA	1.84	0.58
58:s:102:GLU:CD	58:s:124:VAL:HG11	2.28	0.58
6:5:10:DT:N1	11:AA:62:TYR:CE2	2.65	0.58
9:9:51:TYR:HB2	9:9:88:HIS:CB	2.32	0.58
11:AA:838:CYS:HB2	11:AA:918:LEU:HD22	1.85	0.58
11:AA:1142:ARG:NH1	11:AA:1161:LEU:O	2.36	0.58
20:G:35:ARG:HB3	21:H:14:LYS:HZ3	1.68	0.58
21:H:131:LEU:CB	21:H:167:VAL:HA	2.32	0.58
24:K:16:ILE:HD11	24:K:38:VAL:HG12	1.83	0.58
32:S:42:TRP:CH2	46:g:66:ILE:HA	2.38	0.58
38:Y:116:MET:HG2	38:Y:124:MET:CB	2.34	0.58
40:a:1028:A:H2'	40:a:1029:A:C8	2.37	0.58
40:a:1197:G:H2'	40:a:1198:U:H6	1.68	0.58
40:a:1406:U:O2'	40:a:1407:G:O4'	2.20	0.58
46:g:37:CYS:N	46:g:40:CYS:SG	2.71	0.58
57:r:37:VAL:HG12	57:r:43:ASN:HD21	1.68	0.58
58:s:74:TYR:CD2	58:s:74:TYR:N	2.69	0.58
65:z:82:GLY:CA	65:z:117:LEU:CD1	2.81	0.58
6:5:10:DT:O3'	12:AB:68:THR:CA	2.51	0.58
10:A:60:U:H4'	10:A:61:C:OP2	2.04	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AB:77:HIS:NE2	14:AE:297:ARG:NH2	2.51	0.58
16:C:12:ARG:CG	21:H:264:GLU:CB	2.80	0.58
17:D:1107:C:P	22:I:172:ARG:HG3	2.43	0.58
17:D:1439:G:P	18:E:33:LYS:HZ1	2.24	0.58
20:G:96:TRP:CH2	20:G:100:MET:HE3	2.38	0.58
22:I:142:MET:HE2	22:I:149:ILE:HG22	1.83	0.58
24:K:12:GLN:HB3	24:K:14:LYS:NZ	2.18	0.58
29:P:22:THR:O	29:P:26:VAL:HG23	2.03	0.58
30:Q:20:VAL:CG1	30:Q:85:MET:HE1	2.33	0.58
40:a:2243:U:H2'	40:a:2244:U:C6	2.38	0.58
40:a:2547:A:H2'	40:a:2548:U:C6	2.38	0.58
45:f:10:THR:HG22	45:f:54:MET:C	2.27	0.58
51:l:170:ARG:CZ	51:l:175:ILE:HA	2.33	0.58
53:n:46:ASP:OD1	53:n:49:LEU:HD13	2.03	0.58
58:s:39:LYS:HA	58:s:44:TYR:CD1	2.39	0.58
3:2:56:GLU:OE1	3:2:56:GLU:N	2.33	0.58
9:9:60:LEU:HA	9:9:64:VAL:HB	1.84	0.58
10:B:15:G:N1	10:B:20:U:O2	2.37	0.58
17:D:972:C:O2'	29:P:57:VAL:HG13	2.03	0.58
27:N:43:GLU:HG2	27:N:101:ILE:HD13	1.84	0.58
28:O:49:ARG:HB3	28:O:53:GLU:OE2	2.02	0.58
29:P:26:VAL:HG12	29:P:30:LYS:HZ2	1.68	0.58
33:T:64:ARG:CZ	33:T:64:ARG:HB3	2.32	0.58
40:a:2335:A:OP2	63:x:13:ARG:CD	2.51	0.58
50:k:7:GLU:CD	50:k:7:GLU:H	2.11	0.58
51:l:62:GLN:O	51:l:69:ARG:HD3	2.04	0.58
55:p:149:ARG:NH2	55:p:162:VAL:N	2.52	0.58
61:v:49:ALA:O	61:v:52:ALA:N	2.37	0.58
2:1:7:HIS:HD2	2:1:10:ALA:HB2	1.68	0.58
8:7:10:U:H5''	8:7:10:U:O2	2.03	0.58
17:D:736:C:H5''	25:L:90:MET:HE2	1.85	0.58
17:D:915:A:N6	17:D:916:U:C4	2.72	0.58
19:F:16:LEU:C	19:F:20:LYS:HZ3	2.11	0.58
24:K:10:GLU:OE1	24:K:10:GLU:N	2.35	0.58
40:a:2259:U:N3	40:a:2260:C:C5	2.71	0.58
40:a:2682:A:H8	49:j:11:MET:CE	2.15	0.58
57:r:97:ARG:NH1	57:r:101:ASP:OD2	2.37	0.58
60:u:55:MET:CE	60:u:60:ARG:HG2	2.33	0.58
2:1:11:ARG:NH1	2:1:98:LYS:HE3	2.19	0.58
9:9:46:ARG:CG	9:9:94:ARG:HH21	2.02	0.58
9:9:73:LYS:CG	9:9:117:LEU:HD12	2.32	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:A:15:G:N1	10:A:20:U:O2	2.37	0.58
12:AB:6:LEU:H	12:AB:88:VAL:HG21	1.69	0.58
26:M:24:ALA:O	26:M:27:VAL:HG22	2.04	0.58
33:T:32:LEU:HD11	33:T:62:GLN:OE1	2.04	0.58
38:Y:102:ARG:CG	38:Y:141:ASP:HA	2.33	0.58
47:h:62:TYR:CE2	47:h:64:ILE:HD13	2.38	0.58
53:n:4:LEU:HD11	53:n:101:GLU:N	2.18	0.58
4:3:7:ARG:HH22	40:a:98:G:N2	2.00	0.58
5:4:63:ILE:HD11	5:4:91:PHE:CE2	2.37	0.58
8:7:7:U:H5'	8:7:7:U:C6	2.39	0.58
9:9:23:LEU:N	9:9:118:ILE:HD11	2.19	0.58
18:E:61:GLN:NE2	18:E:66:LEU:HD22	2.18	0.58
21:H:75:VAL:HG23	21:H:81:GLU:OE2	2.04	0.58
22:I:24:ALA:C	22:I:29:PHE:HE2	2.11	0.58
24:K:93:ARG:HB3	24:K:93:ARG:NH2	2.18	0.58
27:N:52:GLU:OE1	27:N:53:GLY:N	2.37	0.58
30:Q:87:LYS:HG3	30:Q:113:VAL:HG23	1.85	0.58
38:Y:33:ASN:HB3	38:Y:36:GLU:CG	2.30	0.58
40:a:70:G:H4'	40:a:71:A:OP1	2.02	0.58
40:a:1065:U:O2'	40:a:1066:U:O5'	2.16	0.58
40:a:2189:U:O4'	40:a:2189:U:OP1	2.21	0.58
49:j:46:ARG:NH1	49:j:85:ALA:O	2.32	0.58
51:l:148:ILE:HD13	51:l:187:VAL:HB	1.85	0.58
60:u:61:LEU:HB3	60:u:62:PRO:HD2	1.85	0.58
9:9:24:SER:HB2	9:9:86:MET:HA	1.86	0.58
16:C:13:PHE:HB3	16:C:51:TYR:CD1	2.39	0.58
17:D:439:U:O2	17:D:440:C:C5	2.56	0.58
17:D:829:G:O3'	20:G:23:TRP:CZ2	2.56	0.58
27:N:7:ILE:HB	27:N:77:ARG:NH1	2.18	0.58
37:X:93:ARG:HG2	37:X:95:LEU:HD23	1.84	0.58
40:a:1021:A:N1	40:a:1141:U:O4	2.37	0.58
44:e:18:LEU:HD11	44:e:54:LYS:HE3	1.86	0.58
58:s:53:TYR:CD1	58:s:121:LYS:HD2	2.39	0.58
58:s:133:ALA:C	58:s:135:GLN:N	2.60	0.58
60:u:91:ASP:O	60:u:95:LEU:HD23	2.03	0.58
6:5:9:DG:P	11:AA:470:ARG:HA	2.43	0.58
9:9:78:GLY:N	9:9:79:PRO:CD	2.66	0.58
11:AA:1254:VAL:O	14:AE:99:ARG:NH2	2.37	0.58
24:K:146:ASN:OD1	24:K:147:MET:N	2.37	0.58
26:M:66:LEU:HD11	26:M:100:ALA:HB3	1.85	0.58
28:O:94:LEU:O	28:O:98:LEU:HD13	2.04	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:607:U:C5	40:a:620:G:C4	2.91	0.58
40:a:832:U:H2'	40:a:833:A:H8	1.69	0.58
40:a:2189:U:O2'	40:a:2190:G:O4'	2.22	0.58
40:a:2349:G:C6	40:a:2369:A:C6	2.92	0.58
45:f:40:ASP:OD1	45:f:45:ARG:NH2	2.37	0.58
58:s:132:HIS:O	58:s:135:GLN:HB2	2.03	0.58
9:9:4:ASN:HB3	9:9:8:LYS:NZ	2.19	0.58
20:G:66:LYS:HB3	20:G:154:MET:CE	2.34	0.58
21:H:273:ARG:HD3	21:H:280:LEU:HD11	1.85	0.58
35:V:4:LYS:HD2	35:V:5:ILE:HG23	1.85	0.58
40:a:2816:G:O4'	48:i:41:HIS:CE1	2.57	0.58
57:r:30:LEU:HD23	57:r:35:LYS:HE2	1.85	0.58
4:3:6:ARG:NH1	40:a:84:A:O2'	2.36	0.57
16:C:16:GLU:OE1	16:C:18:VAL:N	2.36	0.57
17:D:1082:A:OP1	24:K:23:LYS:NZ	2.34	0.57
17:D:1308:U:P	37:X:98:ARG:HG3	2.43	0.57
24:K:136:VAL:O	24:K:140:THR:HG23	2.04	0.57
30:Q:52:PHE:CD2	30:Q:56:ARG:HG2	2.39	0.57
31:R:110:ARG:NE	31:R:117:TYR:HD2	2.02	0.57
38:Y:32:VAL:HG22	38:Y:60:VAL:CG2	2.34	0.57
40:a:5:A:H2'	40:a:6:A:C8	2.39	0.57
40:a:2395:C:H2'	40:a:2396:G:O4'	2.03	0.57
40:a:2683:C:H4'	49:j:13:ARG:CZ	2.34	0.57
50:k:8:LYS:HZ1	50:k:54:ILE:HG12	1.67	0.57
58:s:120:ARG:CZ	58:s:120:ARG:HB2	2.34	0.57
61:v:26:VAL:HG13	61:v:104:GLU:CD	2.29	0.57
1:0:16:GLU:C	1:0:18:GLN:OE1	2.46	0.57
4:3:94:ARG:HB3	4:3:103:ILE:HD12	1.86	0.57
6:5:25:DA:C2	7:6:5:DG:C2	2.92	0.57
12:AB:89:PRO:HG2	14:AE:290:ILE:CG2	2.33	0.57
12:AB:141:LEU:O	12:AB:151:LYS:HA	2.03	0.57
18:E:61:GLN:HE21	18:E:66:LEU:HD22	1.69	0.57
20:G:35:ARG:HD2	21:H:14:LYS:CE	2.34	0.57
22:I:82:GLU:O	22:I:86:LYS:HD3	2.04	0.57
26:M:28:ASN:HA	26:M:31:MET:HE3	1.85	0.57
33:T:28:GLN:HB2	33:T:66:LEU:HD21	1.86	0.57
40:a:500:G:N1	40:a:503:A:OP2	2.37	0.57
40:a:811:U:H2'	60:u:21:ARG:HA	1.86	0.57
41:b:55:ARG:NE	41:b:55:ARG:HA	2.20	0.57
43:d:106:G:H2'	43:d:107:G:O4'	2.04	0.57
59:t:121:GLU:OE2	64:y:41:GLN:NE2	2.37	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:7:21:U:C4	22:I:82:GLU:HB2	2.40	0.57
9:9:98:GLU:HA	9:9:101:LYS:HZ3	1.69	0.57
16:C:60:LYS:HZ1	17:D:735:C:C5'	2.16	0.57
17:D:695:A:H8	17:D:695:A:H5''	1.68	0.57
20:G:52:GLU:O	20:G:56:GLU:OE1	2.23	0.57
22:I:25:ASN:N	22:I:29:PHE:HE2	2.01	0.57
24:K:156:LYS:HA	27:N:66:PHE:CD2	2.39	0.57
27:N:8:ALA:O	27:N:12:THR:HG23	2.03	0.57
40:a:782:A:C2	47:h:225:MET:HE2	2.39	0.57
40:a:1198:U:H2'	40:a:1199:U:C6	2.40	0.57
40:a:1869:G:N2	40:a:1871:A:O2'	2.37	0.57
43:d:48:U:H2'	43:d:49:C:C6	2.40	0.57
44:e:2:LYS:HD2	44:e:6:LEU:HD11	1.85	0.57
50:k:34:LEU:H	50:k:51:GLU:CD	2.12	0.57
52:m:12:ARG:NE	52:m:44:VAL:HG21	2.19	0.57
54:o:55:LEU:HD21	54:o:59:ILE:HD11	1.87	0.57
58:s:31:GLU:OE2	58:s:35:ARG:NH1	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
11:AA:1223:ARG:NH2	14:AE:721:SER:OG	2.38	0.57
20:G:107:VAL:O	20:G:111:ILE:HG12	2.04	0.57
26:M:26:PHE:CD1	26:M:101:MET:SD	2.97	0.57
28:O:5:GLN:NE2	28:O:20:PHE:CB	2.67	0.57
40:a:628:G:C6	40:a:636:G:C2	2.92	0.57
40:a:1682:G:H2'	40:a:1683:U:C6	2.39	0.57
51:l:17:THR:HA	51:l:21:ARG:NH2	2.19	0.57
61:v:49:ALA:C	61:v:53:MET:HE1	2.30	0.57
3:2:56:GLU:CD	3:2:87:LEU:C	2.73	0.57
5:4:48:MET:HE3	5:4:84:PRO:O	2.05	0.57
9:9:38:MET:SD	38:Y:117:THR:HG22	2.45	0.57
12:AB:137:ALA:HA	12:AB:156:ASN:HA	1.86	0.57
10:B:60:U:H4'	10:B:61:C:OP2	2.04	0.57
23:J:196:ASN:ND2	23:J:199:LEU:HG	2.20	0.57
25:L:14:GLN:OE1	25:L:83:ALA:HA	2.05	0.57
26:M:23:LEU:HD12	26:M:23:LEU:H	1.70	0.57
32:S:90:ARG:C	32:S:92:GLU:OE1	2.47	0.57
34:U:12:LYS:CD	34:U:13:LYS:HG2	2.33	0.57
40:a:580:U:H2'	40:a:581:C:H6	1.69	0.57
40:a:1824:G:H5''	47:h:52:ARG:HH22	1.69	0.57
52:m:24:THR:HG23	52:m:27:GLY:H	1.68	0.57
61:v:97:GLN:H	61:v:100:LYS:HZ1	1.51	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:v:105:MET:HE2	61:v:108:VAL:HG21	1.87	0.57
62:w:9:GLN:O	62:w:17:ARG:HD3	2.05	0.57
5:4:2:PHE:HE2	5:4:55:GLU:HG2	1.69	0.57
8:7:12:U:H3'	8:7:12:U:H6	1.70	0.57
10:B:70:G:H2'	10:B:71:C:H5''	1.85	0.57
17:D:562:U:C3'	31:R:14:ARG:HH11	2.18	0.57
29:P:86:ALA:O	29:P:90:LEU:CD1	2.53	0.57
34:U:14:ARG:HD3	34:U:42:ILE:HG21	1.86	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
49:j:55:LYS:HZ1	49:j:59:ARG:C	2.11	0.57
65:z:53:ARG:CG	65:z:57:PHE:HE2	2.17	0.57
10:A:75:C:O2'	10:A:76:A:C8	2.58	0.57
17:D:280:C:O2	35:V:40:ARG:NH2	2.37	0.57
25:L:95:ALA:O	25:L:96:VAL:C	2.47	0.57
29:P:63:ASP:OD2	29:P:64:GLN:N	2.38	0.57
38:Y:116:MET:HB3	38:Y:124:MET:HE2	1.86	0.57
40:a:64:A:H2'	40:a:65:U:C6	2.40	0.57
61:v:41:LEU:CD2	61:v:45:GLN:HE22	2.18	0.57
65:z:74:ILE:HG12	65:z:79:PHE:HB2	1.86	0.57
3:2:54:GLU:OE1	3:2:54:GLU:N	2.38	0.57
7:6:23:DC:H5''	14:AE:259:ARG:NH1	1.92	0.57
17:D:974:A:OP1	32:S:69:ARG:NH1	2.37	0.57
17:D:1356:G:H2'	17:D:1357:A:C8	2.40	0.57
38:Y:45:THR:HG21	38:Y:50:LYS:HZ2	1.70	0.57
38:Y:58:ILE:HG23	38:Y:66:PHE:CE2	2.40	0.57
40:a:228:C:N4	40:a:2407:A:N3	2.52	0.57
40:a:372:G:O2'	40:a:400:G:O6	2.16	0.57
40:a:1442:U:H2'	40:a:1443:U:C6	2.40	0.57
40:a:2483:C:O2	61:v:51:ARG:NH2	2.38	0.57
1:0:15:SER:HB2	1:0:18:GLN:NE2	2.19	0.57
11:AA:1122:LYS:NZ	11:AA:1126:ASP:OD1	2.38	0.57
14:AE:1143:ASP:OD1	14:AE:1148:ARG:NH1	2.37	0.57
16:C:55:LEU:O	16:C:59:ILE:HG12	2.04	0.57
17:D:439:U:O2	17:D:440:C:C6	2.58	0.57
33:T:32:LEU:CD1	33:T:62:GLN:OE1	2.53	0.57
35:V:11:ARG:HE	35:V:58:VAL:HG22	1.69	0.57
35:V:42:THR:HG22	35:V:44:LEU:CD1	2.34	0.57
40:a:659:G:H1'	51:l:100:MET:HE1	1.87	0.57
40:a:1360:G:N7	40:a:1361:G:C8	2.73	0.57
40:a:2514:U:H2'	40:a:2515:C:C6	2.40	0.57

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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	0.57
51:l:136:GLN:NE2	51:l:140:ASP:OD2	2.37	0.57
61:v:1:MET:HE3	61:v:1:MET:CA	2.34	0.57
11:AA:13:LYS:HB2	11:AA:1180:MET:HE2	1.86	0.57
14:AE:87:LYS:HZ2	29:P:89:ARG:NH1	2.03	0.57
17:D:193:C:O2'	18:E:59:ASP:OD2	2.23	0.57
20:G:131:LYS:HG3	20:G:132:LYS:HD2	1.87	0.57
26:M:68:ASN:ND2	26:M:130:ASN:OD1	2.38	0.57
27:N:66:PHE:CG	27:N:67:GLN:OE1	2.57	0.57
36:W:40:ILE:HG21	36:W:66:MET:SD	2.45	0.57
40:a:1278:C:O2'	62:w:27:SER:OG	2.16	0.57
40:a:1818:U:OP2	47:h:156:ARG:CZ	2.53	0.57
57:r:6:LEU:HD11	57:r:37:VAL:CG2	2.33	0.57
5:4:60:VAL:HG12	5:4:71:LYS:HE2	1.86	0.56
9:9:122:GLN:HG2	9:9:123:ILE:H	1.70	0.56
10:B:5:G:H2'	10:B:6:G:C5'	2.35	0.56
17:D:911:U:H2'	17:D:912:C:C6	2.39	0.56
29:P:21:ALA:O	29:P:24:GLU:HG3	2.04	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
59:t:20:MET:HB3	59:t:44:LYS:CE	2.35	0.56
61:v:70:ASP:C	61:v:92:TRP:HZ3	2.13	0.56
12:AB:102:LYS:CE	14:AE:285:LEU:HA	2.34	0.56
14:AE:144:TYR:OH	14:AE:293:ARG:NH2	2.36	0.56
17:D:512:U:OP1	23:J:44:ARG:NH1	2.38	0.56
21:H:51:GLU:OE1	21:H:51:GLU:N	2.38	0.56
29:P:15:HIS:HA	29:P:18:ILE:HG22	1.88	0.56
33:T:10:LYS:O	33:T:14:GLU:OE1	2.23	0.56
40:a:78:U:H5''	44:e:4:LYS:NZ	2.19	0.56
40:a:593:U:H2'	40:a:594:U:C6	2.39	0.56
40:a:1047:G:HO2'	40:a:1110:G:H1	1.53	0.56
40:a:1565:C:OP1	47:h:18:LYS:NZ	2.26	0.56
60:u:84:LYS:NZ	60:u:98:ALA:O	2.20	0.56
8:7:6:U:C2	17:D:1493:A:H2	2.24	0.56
10:A:5:G:H2'	10:A:6:G:C5'	2.35	0.56
11:AA:839:VAL:HG12	11:AA:1049:ILE:HG12	1.87	0.56
12:AB:102:LYS:HE2	14:AE:285:LEU:CA	2.34	0.56
12:AB:130:PHE:CD2	12:AB:152:HIS:HE1	2.23	0.56
20:G:19:GLN:HG3	21:H:76:GLU:CB	2.35	0.56
20:G:35:ARG:HG2	20:G:40:ILE:HG13	1.86	0.56
21:H:117:LYS:CB	21:H:279:LYS:O	2.54	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:H:297:GLU:HG2	21:H:300:VAL:HG21	1.86	0.56
23:J:62:ARG:HA	23:J:72:PHE:CE1	2.41	0.56
24:K:148:ASN:ND2	24:K:153:VAL:HG12	2.20	0.56
25:L:42:TRP:CZ2	25:L:102:MET:CG	2.89	0.56
26:M:66:LEU:HD23	26:M:70:ARG:HH21	1.69	0.56
28:O:118:LEU:CD2	28:O:124:ARG:HA	2.35	0.56
30:Q:15:GLN:OE1	30:Q:78:GLY:HA3	2.05	0.56
30:Q:87:LYS:HG3	30:Q:113:VAL:CG2	2.35	0.56
33:T:35:GLN:CB	33:T:59:MET:HE1	2.36	0.56
34:U:39:PHE:HD1	34:U:50:THR:HG22	1.70	0.56
40:a:2192:U:H2'	40:a:2193:G:C8	2.40	0.56
40:a:2849:U:P	64:y:93:ARG:NH2	2.78	0.56
41:b:45:PHE:CD2	41:b:80:ILE:HD11	2.40	0.56
41:b:51:VAL:C	41:b:62:LYS:HZ3	2.12	0.56
41:b:51:VAL:C	41:b:62:LYS:NZ	2.63	0.56
44:e:4:LYS:HZ2	44:e:7:ARG:HH12	1.53	0.56
49:j:3:GLY:N	49:j:204:LYS:HE2	2.20	0.56
49:j:91:THR:HB	49:j:94:GLN:HG2	1.87	0.56
49:j:180:VAL:O	49:j:180:VAL:HG13	2.05	0.56
51:l:42:GLY:CA	51:l:92:HIS:HE1	2.18	0.56
55:p:109:PHE:CE1	55:p:152:ARG:NH1	2.74	0.56
58:s:37:ARG:HD3	58:s:39:LYS:HD2	1.88	0.56
61:v:37:GLY:C	61:v:126:ILE:HD11	2.30	0.56
5:4:53:LYS:HB2	5:4:56:PHE:CE2	2.40	0.56
5:4:55:GLU:O	5:4:59:GLU:OE1	2.24	0.56
14:AE:85:CYS:SG	67:AE:1502:ZN:ZN	1.79	0.56
17:D:692:U:N3	17:D:695:A:OP2	2.34	0.56
22:I:66:VAL:HB	22:I:101:ILE:HD12	1.88	0.56
23:J:121:LYS:HG2	23:J:131:ASN:ND2	2.20	0.56
26:M:134:ALA:O	26:M:137:LYS:HG2	2.06	0.56
36:W:64:ASP:OD2	46:g:57:VAL:HG23	2.06	0.56
37:X:28:THR:HG22	37:X:29:ARG:NH1	2.20	0.56
40:a:17:G:H2'	40:a:18:U:C6	2.41	0.56
40:a:2291:U:H2'	40:a:2292:U:C6	2.40	0.56
50:k:19:HIS:ND1	50:k:41:PRO:HD2	2.21	0.56
64:y:51:ARG:HD3	64:y:58:ALA:HB3	1.86	0.56
9:9:27:VAL:HG13	9:9:27:VAL:O	2.05	0.56
9:9:124:ASP:OD2	9:9:126:LEU:HD21	2.05	0.56
11:AA:516:ASP:OD1	11:AA:516:ASP:O	2.23	0.56
20:G:19:GLN:CG	21:H:76:GLU:HB3	2.34	0.56
22:I:6:HIS:HB3	32:S:89:MET:SD	2.45	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:1365:A:O2'	42:c:11:ARG:NH1	2.39	0.56
42:c:66:THR:O	42:c:70:GLU:OE1	2.23	0.56
43:d:42:C:C5'	53:n:64:LYS:HZ1	2.18	0.56
46:g:47:LYS:HG2	53:n:115:ARG:NH2	2.20	0.56
59:t:112:PHE:CD2	59:t:115:ILE:HD12	2.39	0.56
62:w:35:LYS:NZ	62:w:112:TYR:HE2	2.04	0.56
9:9:56:ARG:NH2	40:a:1084:A:C1'	2.69	0.56
13:AC:82:LEU:HD11	13:AC:171:LEU:HD23	1.86	0.56
16:C:60:LYS:HZ3	17:D:734:G:C3'	2.17	0.56
17:D:588:G:C5'	27:N:3:MET:HE1	2.36	0.56
17:D:827:U:O4	17:D:872:A:N1	2.39	0.56
23:J:138:SER:O	23:J:141:ASP:OD1	2.24	0.56
33:T:3:LEU:HB2	33:T:35:GLN:CD	2.31	0.56
40:a:3:U:H2'	40:a:4:U:H6	1.69	0.56
40:a:1693:U:O2'	47:h:14:ARG:NH2	2.38	0.56
40:a:1799:G:C2	47:h:154:LEU:HD23	2.41	0.56
41:b:21:LEU:HD21	41:b:41:ARG:NE	2.20	0.56
44:e:2:LYS:HE2	44:e:52:ARG:HE	1.71	0.56
46:g:18:CYS:HB3	46:g:40:CYS:HB2	1.85	0.56
53:n:62:GLY:C	53:n:95:ARG:NH2	2.63	0.56
53:n:163:ASP:OD1	53:n:164:GLU:N	2.39	0.56
54:o:30:ARG:HH12	60:u:62:PRO:HB3	1.70	0.56
55:p:85:LYS:HE3	55:p:164:TYR:CE1	2.41	0.56
9:9:43:LYS:HD3	9:9:98:GLU:CG	2.35	0.56
12:AB:26:VAL:HA	12:AB:58:GLU:OE1	2.05	0.56
10:B:75:C:O2'	10:B:76:A:C8	2.58	0.56
17:D:1366:C:O2'	29:P:62:ARG:NH2	2.38	0.56
19:F:26:ALA:HB3	19:F:28:VAL:HG23	1.88	0.56
21:H:116:VAL:HA	21:H:279:LYS:HD2	1.88	0.56
24:K:74:VAL:HG11	24:K:144:LEU:HD12	1.88	0.56
40:a:2093:G:P	57:r:22:LYS:HZ2	2.20	0.56
55:p:94:TYR:CE1	55:p:107:LEU:O	2.59	0.56
62:w:67:PHE:O	62:w:71:ARG:N	2.39	0.56
63:x:21:LEU:HD22	63:x:23:ALA:HB2	1.87	0.56
5:4:57:TYR:CD2	61:v:136:MET:HE2	2.40	0.56
5:4:77:VAL:HG11	5:4:79:ARG:NH2	2.21	0.56
10:A:22:G:H2'	10:A:23:C:H6	1.70	0.56
12:AB:138:ARG:HD2	12:AB:154:VAL:O	2.05	0.56
17:D:521:G:O5'	31:R:70:GLU:OE1	2.23	0.56
17:D:1515:G:H2'	17:D:1516:G:H8	1.70	0.56
32:S:63:ARG:NH2	32:S:68:GLY:O	2.32	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:X:16:VAL:CG2	37:X:17:ILE:HD12	2.35	0.56
39:Z:2:ILE:HB	39:Z:5:ASP:HB3	1.88	0.56
40:a:16:C:C4'	48:i:15:MET:HE3	2.35	0.56
40:a:589:U:H2'	40:a:590:A:H8	1.71	0.56
40:a:2299:U:H2'	40:a:2300:C:H6	1.71	0.56
40:a:2720:U:OP1	64:y:53:ARG:NH2	2.39	0.56
43:d:45:A:H5'	53:n:92:ARG:NH1	2.20	0.56
45:f:7:ILE:CG2	45:f:55:VAL:HG21	2.35	0.56
4:3:6:ARG:CZ	40:a:84:A:H2'	2.35	0.56
8:7:18:U:O2	8:7:18:U:H2'	2.06	0.56
11:AA:818:VAL:HG22	11:AA:1096:ILE:HG12	1.87	0.56
17:D:280:C:H1'	35:V:40:ARG:NH1	2.21	0.56
17:D:440:C:C4	17:D:441:A:N7	2.73	0.56
17:D:502:A:O3'	31:R:116:LYS:HE2	2.06	0.56
17:D:1145:A:HO2'	17:D:1146:A:P	2.28	0.56
17:D:1329:A:OP1	37:X:28:THR:HB	2.06	0.56
21:H:116:VAL:CA	21:H:279:LYS:HD2	2.35	0.56
22:I:150:LYS:HE3	22:I:201:TRP:CZ3	2.41	0.56
22:I:151:VAL:HG12	22:I:200:VAL:CG2	2.35	0.56
27:N:7:ILE:O	27:N:10:MET:HB3	2.05	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
59:t:12:ASP:CG	59:t:85:VAL:HG13	2.30	0.56
61:v:96:ILE:HA	61:v:100:LYS:NZ	2.21	0.56
63:x:36:TYR:CD2	63:x:52:SER:HB2	2.41	0.56
9:9:47:GLU:O	9:9:51:TYR:CE1	2.59	0.56
17:D:375:U:OP1	34:U:70:ARG:CG	2.54	0.56
40:a:1289:C:C2	40:a:1290:C:C5	2.94	0.56
40:a:2071:A:H2'	40:a:2072:C:C6	2.40	0.56
47:h:183:LYS:HE2	47:h:266:PHE:HA	1.88	0.56
10:B:18:G:H1'	10:B:58:A:C2	2.41	0.55
10:B:22:G:H2'	10:B:23:C:H6	1.70	0.55
17:D:276:G:H5'	35:V:17:MET:CE	2.35	0.55
17:D:946:A:H2'	17:D:947:G:C8	2.41	0.55
17:D:1381:U:C2	17:D:1382:C:C6	2.94	0.55
21:H:163:ARG:CB	21:H:298:GLU:HG3	2.35	0.55
22:I:31:ASP:HA	32:S:65:ARG:HH22	1.72	0.55
40:a:784:G:H5'	40:a:785:G:OP1	2.06	0.55
40:a:1857:G:O2'	40:a:1884:G:N2	2.38	0.55
44:e:23:ARG:HG3	44:e:24:GLU:N	2.21	0.55
49:j:11:MET:SD	49:j:11:MET:C	2.89	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:w:24:MET:HE2	62:w:34:ILE:HD13	1.87	0.55
4:3:47:LYS:HE3	40:a:483:A:OP1	2.07	0.55
5:4:80:HIS:CE1	5:4:83:LYS:HG3	2.41	0.55
8:7:8:U:H5'	17:D:1397:C:C2	2.41	0.55
21:H:280:LEU:N	21:H:330:VAL:O	2.31	0.55
22:I:156:ARG:NH1	22:I:193:TYR:O	2.39	0.55
32:S:87:ALA:HB1	32:S:93:ILE:HG13	1.87	0.55
37:X:95:LEU:O	37:X:109:ARG:NH2	2.39	0.55
40:a:64:A:H2'	40:a:65:U:H6	1.71	0.55
40:a:84:A:N1	40:a:98:G:O2'	2.37	0.55
40:a:1570:A:H2'	40:a:1571:A:C8	2.41	0.55
40:a:2335:A:OP2	63:x:13:ARG:HB3	2.06	0.55
44:e:53:VAL:O	44:e:57:LEU:HD23	2.07	0.55
47:h:67:PHE:CE1	47:h:105:LEU:HD11	2.42	0.55
47:h:175:ARG:CG	47:h:181:MET:HE1	2.34	0.55
48:i:40:ARG:HG3	48:i:41:HIS:ND1	2.21	0.55
57:r:54:LEU:HA	57:r:57:LYS:NZ	2.21	0.55
58:s:73:VAL:C	58:s:74:TYR:HD2	2.14	0.55
59:t:59:LYS:HD2	59:t:89:ASN:HA	1.87	0.55
60:u:125:LEU:HD23	60:u:125:LEU:N	2.21	0.55
5:4:80:HIS:ND1	5:4:83:LYS:N	2.55	0.55
9:9:98:GLU:HA	9:9:101:LYS:NZ	2.22	0.55
18:E:6:SER:O	18:E:10:ARG:HG2	2.07	0.55
18:E:61:GLN:HE21	18:E:66:LEU:CD2	2.18	0.55
21:H:100:LYS:O	21:H:104:ASP:N	2.38	0.55
21:H:268:VAL:HG23	21:H:269:ALA:H	1.72	0.55
30:Q:61:PHE:O	30:Q:64:GLN:HG2	2.06	0.55
39:Z:14:MET:HG3	39:Z:15:SER:N	2.17	0.55
40:a:2189:U:O2'	40:a:2190:G:C5'	2.54	0.55
58:s:73:VAL:HG12	58:s:74:TYR:N	2.20	0.55
64:y:106:LYS:HA	64:y:109:ARG:NH2	2.20	0.55
6:5:15:DT:C2	11:AA:183:TRP:CD1	2.94	0.55
8:7:1:A:H2'	8:7:2:U:H6	1.70	0.55
12:AB:4:TRP:CD2	12:AB:27:ASN:ND2	2.75	0.55
12:AB:8:TYR:OH	14:AE:278:ARG:NH2	2.40	0.55
12:AB:116:VAL:HG23	12:AB:130:PHE:CE2	2.41	0.55
17:D:110:C:O2'	34:U:25:ARG:O	2.21	0.55
17:D:671:G:O3'	25:L:79:ARG:NH2	2.39	0.55
17:D:1071:C:H2'	17:D:1072:G:H8	1.71	0.55
17:D:1076:U:OP1	20:G:174:LYS:NZ	2.40	0.55
27:N:7:ILE:O	27:N:11:LEU:HD13	2.06	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:P:47:GLU:OE1	29:P:67:ILE:O	2.24	0.55
32:S:27:LEU:HD21	32:S:48:LEU:N	2.21	0.55
40:a:608:A:H2'	40:a:609:A:C8	2.41	0.55
40:a:1038:G:H2'	40:a:1039:A:C8	2.42	0.55
40:a:1349:C:C2	40:a:1350:C:C5	2.95	0.55
40:a:2517:C:C2	40:a:2542:A:N6	2.74	0.55
44:e:56:LEU:O	44:e:59:GLU:HG3	2.06	0.55
46:g:2:LYS:HB2	46:g:5:ILE:HD11	1.88	0.55
49:j:78:GLY:C	49:j:79:LEU:HD22	2.32	0.55
56:q:1:MET:HE1	56:q:35:GLN:C	2.32	0.55
58:s:13:ARG:CZ	58:s:49:ASP:O	2.54	0.55
59:t:59:LYS:CD	59:t:89:ASN:HA	2.36	0.55
3:2:2:ILE:HG21	3:2:42:GLU:OE1	2.06	0.55
3:2:56:GLU:CD	3:2:88:LYS:HA	2.31	0.55
5:4:80:HIS:CD2	5:4:81:PRO:HD2	2.41	0.55
6:5:10:DT:O3'	12:AB:68:THR:HA	2.03	0.55
9:9:112:ALA:O	9:9:123:ILE:CD1	2.54	0.55
10:A:56:C:H1'	40:a:2112:G:C6	2.41	0.55
19:F:19:PHE:CE2	30:Q:110:ILE:HG22	2.42	0.55
20:G:5:SER:OG	20:G:8:ASP:OD2	2.24	0.55
33:T:80:GLN:O	33:T:84:ARG:HG2	2.05	0.55
37:X:71:ARG:NE	46:g:50:ASP:O	2.39	0.55
37:X:95:LEU:HB3	37:X:96:PRO:CD	2.37	0.55
38:Y:15:GLY:HA2	38:Y:50:LYS:CG	2.33	0.55
40:a:537:G:OP2	58:s:2:LYS:CE	2.55	0.55
40:a:851:C:H2'	40:a:852:U:H6	1.72	0.55
40:a:960:A:H61	61:v:82:MET:HE1	1.71	0.55
2:1:43:ALA:O	2:1:47:VAL:HG12	2.07	0.55
10:A:37:A:H2'	10:A:38:A:O4'	2.07	0.55
11:AA:985:GLU:HB3	11:AA:988:LYS:HB2	1.89	0.55
12:AB:112:PRO:HB3	12:AB:132:GLU:OE1	2.07	0.55
17:D:1078:U:O3'	24:K:138:ARG:NH2	2.40	0.55
20:G:27:MET:CE	20:G:187:VAL:HG12	2.37	0.55
20:G:187:VAL:HG21	20:G:199:VAL:HG23	1.89	0.55
26:M:71:PRO:HG3	26:M:103:TRP:CH2	2.42	0.55
27:N:7:ILE:O	27:N:11:LEU:CD1	2.55	0.55
29:P:26:VAL:O	29:P:30:LYS:HG3	2.07	0.55
37:X:28:THR:O	37:X:31:LYS:HG2	2.07	0.55
40:a:1720:U:H2'	40:a:1721:G:O4'	2.06	0.55
40:a:2557:G:H2'	40:a:2558:C:C6	2.42	0.55
40:a:2803:G:H2'	40:a:2804:U:C6	2.41	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
3:2:19:LYS:NZ	40:a:1340:U:OP1	2.34	0.55
4:3:69:ASN:ND2	40:a:329:G:OP2	2.37	0.55
10:B:37:A:H2'	10:B:38:A:O4'	2.07	0.55
17:D:672:U:O2'	17:D:673:A:H5'	2.06	0.55
17:D:750:C:N3	17:D:751:U:C5	2.75	0.55
21:H:268:VAL:HG23	21:H:269:ALA:N	2.22	0.55
26:M:95:ARG:O	26:M:99:LEU:HG	2.05	0.55
31:R:4:VAL:HG13	31:R:5:ASN:N	2.20	0.55
40:a:150:U:H2'	40:a:151:C:H6	1.72	0.55
40:a:1059:G:H2'	40:a:1060:U:C5	2.41	0.55
40:a:1708:C:C2	40:a:1709:U:C5	2.95	0.55
40:a:1774:C:O2	40:a:1774:C:H2'	2.07	0.55
40:a:2742:G:P	56:q:36:ARG:NH1	2.80	0.55
44:e:20:ASN:O	44:e:23:ARG:HG2	2.06	0.55
54:o:16:LYS:HD2	54:o:65:ALA:HB1	1.88	0.55
8:7:11:U:O2	8:7:11:U:H2'	2.06	0.55
10:B:22:G:O2'	10:B:23:C:P	2.65	0.55
16:C:39:ILE:HD12	17:D:719:C:O2	2.07	0.55
17:D:50:A:O2'	17:D:360:G:N2	2.40	0.55
17:D:1370:G:C2	17:D:1371:G:C8	2.95	0.55
21:H:5:PHE:O	21:H:9:PHE:HD1	1.90	0.55
40:a:857:G:H5''	41:b:78:LYS:HZ2	1.72	0.55
40:a:1433:A:H2'	40:a:1434:A:O4'	2.07	0.55
40:a:1469:A:H2'	40:a:1470:A:C8	2.42	0.55
40:a:1665:A:O3'	59:t:66:LYS:HD3	2.07	0.55
40:a:2376:A:N3	63:x:111:ARG:NH1	2.54	0.55
40:a:2591:C:H2'	40:a:2592:G:C8	2.42	0.55
44:e:2:LYS:HE2	44:e:49:ASP:HA	1.88	0.55
47:h:157:SER:O	47:h:195:VAL:HG11	2.07	0.55
51:l:62:GLN:HA	51:l:69:ARG:NH2	2.20	0.55
59:t:35:VAL:HG23	59:t:63:VAL:HA	1.89	0.55
4:3:26:LYS:HE2	4:3:26:LYS:HA	1.89	0.55
9:9:24:SER:CB	9:9:86:MET:HE2	2.36	0.55
10:A:16:C:O2	40:a:2181:U:H5'	2.06	0.55
10:A:76:A:N1	40:a:2422:C:C6	2.75	0.55
11:AA:143:ARG:NH2	11:AA:512:SER:O	2.40	0.55
14:AE:287:ALA:CB	14:AE:292:VAL:HG22	2.37	0.55
17:D:713:G:H2'	17:D:714:G:C8	2.42	0.55
22:I:140:ASN:O	22:I:144:LEU:HD23	2.06	0.55
25:L:99:ALA:HB3	25:L:104:LYS:NZ	2.22	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:R:27:CYS:SG	31:R:30:LYS:NZ	2.68	0.55
38:Y:77:VAL:HG13	38:Y:81:LYS:HZ3	1.72	0.55
38:Y:123:ALA:O	38:Y:126:ARG:HG3	2.07	0.55
40:a:589:U:H2'	40:a:590:A:C8	2.42	0.55
40:a:2315:G:H4'	53:n:127:ASN:HD22	1.71	0.55
40:a:2683:C:H4'	49:j:13:ARG:NH2	2.22	0.55
40:a:2741:A:O3'	56:q:36:ARG:NH1	2.40	0.55
41:b:68:LYS:HZ2	41:b:70:GLU:CD	2.13	0.55
49:j:156:PHE:CD2	58:s:81:ILE:HD13	2.42	0.55
51:l:147:LEU:HD11	51:l:170:ARG:HD2	1.89	0.55
2:1:33:LEU:HD23	2:1:51:LEU:HD23	1.89	0.55
4:3:48:PRO:HG3	4:3:56:GLY:HA3	1.89	0.55
9:9:23:LEU:HD21	9:9:96:PHE:CD1	2.42	0.55
9:9:73:LYS:HD2	9:9:73:LYS:O	2.06	0.55
10:A:22:G:O2'	10:A:23:C:P	2.65	0.55
11:AA:633:LEU:HD13	11:AA:644:LEU:HD23	1.89	0.55
12:AB:78:PHE:CD1	12:AB:85:PRO:HB3	2.42	0.55
17:D:564:C:P	31:R:12:ARG:HH22	2.30	0.55
18:E:32:ILE:HG23	18:E:75:HIS:NE2	2.22	0.55
19:F:19:PHE:CE1	19:F:23:CYS:SG	3.00	0.55
24:K:157:ARG:NE	27:N:43:GLU:O	2.40	0.55
37:X:93:ARG:CG	37:X:95:LEU:HD23	2.35	0.55
38:Y:45:THR:HG21	38:Y:50:LYS:CD	2.36	0.55
40:a:1353:A:H2'	40:a:1354:A:C8	2.42	0.55
51:l:1:MET:HE1	51:l:20:GLY:N	2.21	0.55
53:n:134:GLU:N	53:n:134:GLU:OE1	2.40	0.55
57:r:33:GLN:HB3	57:r:35:LYS:HZ3	1.72	0.55
1:0:10:LYS:HE2	40:a:996:A:OP1	2.07	0.54
5:4:57:TYR:CB	61:v:136:MET:CE	2.84	0.54
6:5:10:DT:O3'	12:AB:68:THR:C	2.47	0.54
8:7:6:U:C2	17:D:1493:A:C2	2.95	0.54
10:A:18:G:H1'	10:A:58:A:C2	2.41	0.54
10:A:60:U:P	10:A:61:C:H41	2.30	0.54
11:AA:103:VAL:HB	11:AA:114:VAL:HG11	1.89	0.54
16:C:13:PHE:CZ	16:C:21:ILE:HG12	2.42	0.54
17:D:324:G:N1	17:D:327:A:OP2	2.39	0.54
20:G:30:PHE:CD1	20:G:45:LYS:NZ	2.75	0.54
29:P:5:ARG:HG3	29:P:7:ARG:NH1	2.22	0.54
33:T:3:LEU:HD22	33:T:8:THR:HG22	1.88	0.54
40:a:728:G:C4	40:a:730:A:C8	2.95	0.54
40:a:923:G:O4'	41:b:29:GLU:OE2	2.24	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:930:G:H1'	45:f:25:LEU:HD21	1.88	0.54
40:a:1980:G:O2'	40:a:1982:U:OP2	2.23	0.54
40:a:2638:G:O2'	40:a:2775:G:N2	2.37	0.54
45:f:10:THR:HB	45:f:56:LYS:NZ	2.22	0.54
47:h:107:PRO:HD2	47:h:110:LEU:HD22	1.89	0.54
55:p:149:ARG:NE	55:p:162:VAL:O	2.40	0.54
57:r:4:ILE:HD12	57:r:17:ASP:O	2.05	0.54
58:s:74:TYR:CE2	58:s:92:MET:HE1	2.42	0.54
9:9:94:ARG:CB	9:9:97:LYS:HZ3	2.19	0.54
17:D:73:C:O2	17:D:73:C:H2'	2.07	0.54
17:D:321:A:N7	17:D:328:C:O2'	2.38	0.54
21:H:118:GLY:O	21:H:133:GLY:HA2	2.06	0.54
23:J:162:ALA:HA	23:J:165:ARG:CZ	2.36	0.54
24:K:14:LYS:HD3	24:K:117:VAL:CG1	2.38	0.54
24:K:45:ARG:C	24:K:71:MET:HE2	2.32	0.54
24:K:112:ARG:HG3	24:K:116:GLU:OE2	2.06	0.54
26:M:79:ARG:O	26:M:79:ARG:HD2	2.06	0.54
34:U:23:ASP:HB3	34:U:26:ASN:OD1	2.07	0.54
40:a:888:C:N4	40:a:889:C:N4	2.55	0.54
40:a:1082:U:O4	40:a:1086:A:N1	2.39	0.54
40:a:1266:G:OP1	48:i:16:ARG:NE	2.35	0.54
40:a:1321:A:C4	40:a:1322:A:C8	2.95	0.54
40:a:1817:G:C6	40:a:1818:U:C5	2.95	0.54
40:a:2297:A:C2	40:a:2320:U:O4'	2.61	0.54
43:d:5:U:OP1	43:d:61:G:O2'	2.16	0.54
50:k:5:ILE:HG23	50:k:28:ARG:NH1	2.21	0.54
59:t:41:ILE:HD11	59:t:86:LEU:HD22	1.89	0.54
60:u:57:LEU:HA	60:u:60:ARG:HD2	1.89	0.54
65:z:78:LYS:CD	65:z:117:LEU:CD2	2.84	0.54
6:5:9:DG:OP2	11:AA:473:ARG:HG2	2.05	0.54
7:6:20:DA:N6	8:7:38:G:C2	2.76	0.54
9:9:36:ASP:N	9:9:36:ASP:OD1	2.40	0.54
13:AC:28:LEU:HD22	13:AC:201:LEU:HD23	1.88	0.54
14:AE:1346:GLY:O	14:AE:1350:ASN:ND2	2.41	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:695:A:OP1	30:Q:53:ARG:HD3	2.07	0.54
18:E:25:ARG:HD3	18:E:66:LEU:HD11	1.90	0.54
20:G:19:GLN:CD	21:H:76:GLU:HB3	2.33	0.54
23:J:175:ALA:O	23:J:178:MET:SD	2.65	0.54
24:K:131:THR:O	24:K:131:THR:HG22	2.08	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:O:88:MET:HE1	28:O:95:ARG:HA	1.89	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
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
47:h:62:TYR:CD2	47:h:64:ILE:HD13	2.41	0.54
49:j:55:LYS:NZ	49:j:60:VAL:N	2.55	0.54
50:k:9:ILE:CG2	50:k:27:LYS:HZ1	2.19	0.54
51:l:60:TRP:CD1	51:l:65:THR:HG21	2.42	0.54
53:n:5:HIS:HD2	53:n:97:TRP:CE2	2.24	0.54
57:r:143:ILE:O	57:r:143:ILE:HG13	2.08	0.54
64:y:31:TRP:CZ3	64:y:40:LEU:HD11	2.43	0.54
2:1:62:ASP:OD1	2:1:62:ASP:O	2.24	0.54
5:4:6:ALA:HB3	5:4:65:VAL:CG2	2.37	0.54
5:4:35:GLU:OE1	5:4:93:ARG:CZ	2.56	0.54
9:9:61:ARG:NH2	40:a:1045:C:O3'	2.40	0.54
12:AB:122:ALA:HB1	29:P:81:GLU:OE1	2.05	0.54
17:D:17:U:H2'	17:D:18:C:C6	2.42	0.54
18:E:78:ASN:C	18:E:82:GLN:OE1	2.50	0.54
21:H:9:PHE:O	21:H:13:LEU:HD23	2.06	0.54
24:K:77:ASN:HB2	24:K:82:GLN:HG3	1.89	0.54
26:M:103:TRP:HB3	26:M:137:LYS:HD3	1.89	0.54
32:S:42:TRP:CH2	46:g:66:ILE:HG23	2.42	0.54
40:a:1000:A:H2'	40:a:1001:A:C8	2.43	0.54
40:a:2328:A:H2'	40:a:2329:U:H6	1.68	0.54
40:a:2351:G:O6	54:o:39:LYS:CE	2.55	0.54
40:a:2838:G:C4	40:a:2839:G:C8	2.95	0.54
46:g:5:ILE:CD1	53:n:64:LYS:HE3	2.36	0.54
4:3:7:ARG:HB3	40:a:85:G:OP2	2.07	0.54
6:5:16:DG:OP1	11:AA:175:ARG:NH2	2.39	0.54
7:6:20:DA:C6	8:7:38:G:N2	2.76	0.54
8:7:3:G:C3'	17:D:1500:A:N6	2.71	0.54
11:AA:684:ASN:OD1	11:AA:687:ARG:NH2	2.41	0.54
12:AB:141:LEU:CA	12:AB:152:HIS:C	2.80	0.54
10:B:31:G:O2'	17:D:1340:A:H4'	2.08	0.54
10:B:32:C:H5'	17:D:1340:A:O3'	2.06	0.54
10:B:60:U:P	10:B:61:C:H41	2.30	0.54
17:D:106:C:N4	18:E:10:ARG:NH2	2.56	0.54
17:D:280:C:H1'	35:V:40:ARG:CZ	2.37	0.54
18:E:24:ARG:O	18:E:28:MET:HG2	2.08	0.54
19:F:31:GLU:O	19:F:34:ARG:HG2	2.08	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:F:63:GLU:HG2	19:F:67:ARG:NH2	2.23	0.54
24:K:99:ALA:HB2	24:K:124:LEU:HG	1.88	0.54
25:L:39:LEU:HB3	25:L:62:MET:HE1	1.89	0.54
26:M:4:ARG:HG3	26:M:5:ARG:CG	2.22	0.54
26:M:23:LEU:O	26:M:27:VAL:HG13	2.07	0.54
27:N:78:VAL:HG12	27:N:85:ILE:HG21	1.89	0.54
46:g:61:ASN:OD1	46:g:65:ASN:ND2	2.40	0.54
51:l:175:ILE:CG2	51:l:180:LEU:HD11	2.38	0.54
60:u:76:GLU:CG	60:u:111:ILE:HD13	2.37	0.54
62:w:94:TYR:C	62:w:116:VAL:HG23	2.32	0.54
64:y:9:GLU:OE2	64:y:55:LEU:N	2.37	0.54
1:0:10:LYS:CE	40:a:996:A:OP1	2.56	0.54
2:1:25:ARG:NH2	40:a:519:U:O3'	2.40	0.54
8:7:1:A:C4	8:7:2:U:C5	2.95	0.54
9:9:129:LEU:HD12	9:9:129:LEU:C	2.32	0.54
13:AC:100:LEU:HD23	13:AC:115:ILE:HG21	1.90	0.54
10:B:30:G:OP1	17:D:1230:C:H5'	2.07	0.54
16:C:54:GLN:HG3	16:C:55:LEU:N	2.21	0.54
27:N:50:LYS:HE2	27:N:50:LYS:HA	1.89	0.54
38:Y:44:LYS:O	38:Y:44:LYS:HD2	2.07	0.54
40:a:588:U:H2'	40:a:589:U:C6	2.43	0.54
40:a:1084:A:N7	40:a:1085:A:C6	2.76	0.54
40:a:1656:C:OP1	49:j:141:ARG:CD	2.56	0.54
40:a:2020:A:C2	40:a:2022:U:O4'	2.61	0.54
40:a:2833:U:O2	49:j:58:ASN:ND2	2.41	0.54
49:j:4:LEU:HG	49:j:32:ASN:OD1	2.08	0.54
59:t:2:ILE:CG2	59:t:8:LEU:HD11	2.38	0.54
1:0:13:ARG:NH2	65:z:97:ASP:OD1	2.40	0.54
5:4:57:TYR:HB3	61:v:136:MET:HE3	1.87	0.54
9:9:31:ARG:CD	40:a:1053:C:O2'	2.47	0.54
16:C:60:LYS:HD2	17:D:734:G:O2'	2.07	0.54
17:D:679:C:C2	17:D:680:C:C5	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:148:LEU:HD22	20:G:151:ILE:HD11	1.89	0.54
21:H:71:ALA:C	21:H:72:LEU:HD12	2.32	0.54
22:I:164:ARG:CZ	22:I:166:GLU:OE2	2.54	0.54
25:L:39:LEU:O	25:L:39:LEU:HD12	2.07	0.54
31:R:74:LEU:HD11	31:R:80:ILE:HD11	1.90	0.54
35:V:31:HIS:ND1	35:V:32:PRO:HD2	2.23	0.54
40:a:2064:C:H2'	40:a:2065:C:C6	2.42	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:2649:C:H2'	40:a:2650:U:H6	1.73	0.54
40:a:2766:A:C2	40:a:2767:C:C6	2.96	0.54
44:e:28:LEU:HD23	44:e:43:LEU:HD22	1.89	0.54
53:n:16:LEU:HD11	53:n:169:LEU:CD1	2.38	0.54
58:s:15:TRP:HE3	58:s:135:GLN:O	1.90	0.54
59:t:73:ASP:OD2	64:y:80:VAL:HG11	2.08	0.54
61:v:45:GLN:HE21	61:v:124:LEU:HD23	1.72	0.54
62:w:35:LYS:NZ	62:w:112:TYR:CE2	2.76	0.54
2:1:31:GLN:O	2:1:35:ILE:HG12	2.07	0.54
9:9:3:LEU:HD12	9:9:4:ASN:CA	2.37	0.54
11:AA:29:SER:O	11:AA:33:ASP:HB2	2.07	0.54
11:AA:377:THR:HB	12:AB:65:HIS:NE2	2.23	0.54
21:H:279:LYS:HA	21:H:331:MET:HB3	1.90	0.54
21:H:332:VAL:HG12	21:H:334:ASP:H	1.73	0.54
22:I:85:GLU:HG3	22:I:89:LYS:NZ	2.23	0.54
22:I:132:ARG:HA	22:I:135:LYS:HE3	1.89	0.54
24:K:86:LYS:N	24:K:86:LYS:HD2	2.23	0.54
30:Q:46:THR:OG1	30:Q:49:GLY:N	2.34	0.54
31:R:56:ARG:HA	31:R:62:GLU:OE2	2.08	0.54
40:a:151:C:C2	40:a:152:A:C8	2.95	0.54
40:a:151:C:H2'	40:a:152:A:H8	1.72	0.54
40:a:2191:A:H2'	40:a:2192:U:H6	1.71	0.54
63:x:48:LEU:CD2	63:x:87:ILE:HD11	2.38	0.54
3:2:56:GLU:OE1	3:2:87:LEU:CA	2.56	0.54
9:9:3:LEU:CG	9:9:4:ASN:H	2.21	0.54
11:AA:1070:HIS:NE2	11:AA:1114:GLU:OE1	2.36	0.54
12:AB:5:TYR:HA	12:AB:88:VAL:HG22	1.90	0.54
12:AB:119:THR:HA	12:AB:125:GLY:H	1.73	0.54
14:AE:72:CYS:SG	14:AE:73:GLY:N	2.81	0.54
17:D:662:U:O2'	17:D:836:G:OP1	2.21	0.54
18:E:9:LYS:C	18:E:13:GLN:NE2	2.62	0.54
18:E:22:ALA:CA	18:E:25:ARG:HH21	2.21	0.54
29:P:6:ILE:HG21	29:P:100:ILE:HD11	1.89	0.54
30:Q:20:VAL:HB	30:Q:35:THR:HG23	1.89	0.54
40:a:3:U:H2'	40:a:4:U:C6	2.42	0.54
40:a:1386:C:H2'	40:a:1387:A:C8	2.42	0.54
54:o:30:ARG:NH1	60:u:62:PRO:HB3	2.21	0.54
64:y:27:GLU:HB3	64:y:87:LYS:NZ	2.22	0.54
65:z:92:ARG:HA	65:z:95:LEU:HD12	1.88	0.54
6:5:9:DG:H2'	12:AB:71:ALA:HA	1.90	0.54
6:5:10:DT:C7	11:AA:62:TYR:HB3	2.37	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AB:147:ASN:HD21	29:P:101:SER:CB	2.20	0.54
10:B:75:C:P	40:a:2602:A:O2'	2.60	0.54
17:D:1399:C:O2	17:D:1502:A:N6	2.40	0.54
23:J:61:VAL:HG21	23:J:200:ILE:HD11	1.90	0.54
25:L:3:HIS:CG	25:L:65:GLU:OE1	2.61	0.54
27:N:87:LYS:HD2	27:N:91:GLU:CB	2.37	0.54
28:O:67:VAL:C	28:O:68:LYS:HD2	2.33	0.54
30:Q:79:ILE:O	30:Q:105:PHE:HE1	1.91	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:16:C:O4'	48:i:15:MET:CE	2.55	0.54
49:j:124:ARG:NH1	49:j:161:MET:O	2.41	0.54
63:x:38:GLN:HG2	63:x:50:ALA:CB	2.38	0.54
3:2:30:ILE:HG22	3:2:32:LEU:CD2	2.38	0.53
10:A:41:C:O4'	26:M:143:ARG:NH1	2.41	0.53
12:AB:54:TYR:HE2	14:AE:291:ILE:CG2	2.13	0.53
16:C:40:VAL:HG13	21:H:339:ARG:HD3	1.89	0.53
17:D:197:A:H1'	17:D:198:G:OP2	2.08	0.53
17:D:750:C:C2	17:D:751:U:C5	2.96	0.53
27:N:87:LYS:HG2	27:N:92:LEU:HA	1.90	0.53
28:O:5:GLN:NE2	28:O:22:LYS:NZ	2.56	0.53
37:X:81:MET:CE	37:X:92:ARG:HD3	2.38	0.53
40:a:581:C:H2'	40:a:582:A:H8	1.73	0.53
40:a:1779:U:H5	40:a:1784:A:N7	2.06	0.53
40:a:1830:C:C2	40:a:1831:G:C8	2.96	0.53
47:h:17:VAL:HB	47:h:204:VAL:HG12	1.89	0.53
47:h:74:ILE:CG2	47:h:96:TYR:HD1	2.21	0.53
55:p:33:LEU:HD11	55:p:136:ALA:HB1	1.89	0.53
58:s:133:ALA:C	58:s:135:GLN:H	2.16	0.53
59:t:18:ARG:HB3	59:t:45:GLU:HB3	1.89	0.53
60:u:111:ILE:HD12	60:u:111:ILE:N	2.23	0.53
61:v:97:GLN:H	61:v:100:LYS:CE	2.21	0.53
3:2:6:ARG:NH2	3:2:10:VAL:HG22	2.23	0.53
11:AA:243:PRO:HB2	11:AA:274:ILE:HG23	1.90	0.53
11:AA:1142:ARG:NH2	11:AA:1166:ASP:OD1	2.38	0.53
14:AE:1000:GLY:HA3	14:AE:1026:PRO:HG2	1.90	0.53
14:AE:1175:LEU:O	14:AE:1187:GLU:HA	2.08	0.53
17:D:76:G:C4	17:D:77:A:C8	2.95	0.53
17:D:552:U:O2'	31:R:83:ARG:O	2.18	0.53
25:L:36:ILE:O	25:L:36:ILE:HG23	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:M:79:ARG:HB2	26:M:84:THR:HG23	1.90	0.53
31:R:25:GLU:OE1	31:R:59:ASN:ND2	2.42	0.53
31:R:110:ARG:NE	31:R:117:TYR:CD2	2.76	0.53
38:Y:77:VAL:O	38:Y:77:VAL:HG12	2.07	0.53
40:a:2747:G:O6	40:a:2755:C:H5''	2.08	0.53
49:j:48:ILE:HG12	49:j:84:LEU:HD21	1.91	0.53
50:k:29:THR:HG23	50:k:30:LYS:HG2	1.90	0.53
55:p:85:LYS:CE	55:p:164:TYR:CD1	2.86	0.53
59:t:14:SER:OG	59:t:86:LEU:HD12	2.08	0.53
2:l:41:LYS:HZ2	40:a:2009:A:P	2.30	0.53
2:l:41:LYS:HE3	40:a:2010:G:P	2.48	0.53
4:3:26:LYS:HE3	4:3:37:GLU:HB2	1.90	0.53
7:6:14:DC:H2'	7:6:15:DC:C6	2.43	0.53
9:9:97:LYS:HD3	9:9:130:PRO:HG3	1.89	0.53
14:AE:526:VAL:HG12	14:AE:549:LYS:HB2	1.90	0.53
17:D:1329:A:P	37:X:28:THR:HB	2.48	0.53
28:O:10:GLY:HA3	28:O:78:ALA:O	2.08	0.53
29:P:27:GLU:HA	29:P:30:LYS:NZ	2.23	0.53
31:R:35:THR:OG1	31:R:56:ARG:HG3	2.08	0.53
38:Y:116:MET:HG2	38:Y:124:MET:HB3	1.91	0.53
40:a:134:G:H2'	40:a:135:U:C6	2.43	0.53
40:a:1278:C:H5'	62:w:24:MET:SD	2.49	0.53
40:a:2259:U:C2	40:a:2260:C:C6	2.96	0.53
40:a:2454:G:C4	40:a:2455:G:C8	2.96	0.53
51:l:60:TRP:NE1	51:l:69:ARG:HH12	2.07	0.53
53:n:46:ASP:CG	53:n:49:LEU:HD13	2.33	0.53
55:p:89:LEU:HD22	55:p:162:VAL:HG22	1.91	0.53
56:q:9:LYS:HZ3	56:q:11:CYS:C	2.16	0.53
59:t:1:MET:CE	59:t:32:TYR:CB	2.87	0.53
61:v:45:GLN:NE2	61:v:125:PRO:HD2	2.22	0.53
62:w:44:LEU:HD22	62:w:113:ILE:HD13	1.90	0.53
1:0:10:LYS:CE	40:a:994:C:O2'	2.56	0.53
5:4:80:HIS:ND1	5:4:83:LYS:HB2	2.23	0.53
17:D:37:U:O4	17:D:397:A:N1	2.40	0.53
17:D:399:G:H2'	17:D:400:C:C6	2.43	0.53
18:E:32:ILE:CG2	18:E:75:HIS:NE2	2.71	0.53
20:G:53:ALA:CA	20:G:56:GLU:OE1	2.57	0.53
20:G:58:ASN:OD1	20:G:223:GLU:OE1	2.26	0.53
24:K:137:VAL:O	24:K:141:ILE:HG12	2.09	0.53
26:M:4:ARG:CG	26:M:5:ARG:NH1	2.71	0.53
26:M:31:MET:SD	26:M:36:LYS:HA	2.48	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
38:Y:78:LEU:HD13	38:Y:108:ILE:HG12	1.90	0.53
40:a:839:U:H2'	40:a:840:C:H6	1.73	0.53
40:a:1412:U:C4	40:a:1413:A:N7	2.77	0.53
40:a:1567:G:OP2	47:h:83:TYR:OH	2.19	0.53
40:a:2849:U:O5'	64:y:93:ARG:NH2	2.42	0.53
49:j:55:LYS:HZ1	49:j:60:VAL:N	2.06	0.53
51:l:62:GLN:O	51:l:69:ARG:CD	2.56	0.53
61:v:96:ILE:HA	61:v:100:LYS:CE	2.38	0.53
5:4:19:ARG:NH1	43:d:95:U:OP2	2.41	0.53
5:4:35:GLU:OE1	5:4:36:ALA:O	2.27	0.53
12:AB:36:GLU:H	12:AB:106:ASP:CG	2.16	0.53
15:AF:3:ARG:NH1	15:AF:55:GLU:OE2	2.40	0.53
17:D:274:A:H4'	35:V:16:LYS:NZ	2.24	0.53
17:D:1358:U:O4	17:D:1363:A:N1	2.41	0.53
23:J:105:MET:HE1	23:J:171:LEU:HB3	1.89	0.53
26:M:85:TYR:CD2	26:M:151:PHE:CZ	2.97	0.53
30:Q:84:VAL:CG2	30:Q:107:ILE:HD11	2.37	0.53
40:a:78:U:H2'	40:a:79:C:C6	2.44	0.53
40:a:372:G:O2'	42:c:54:LYS:HE3	2.09	0.53
40:a:2038:G:H2'	40:a:2039:U:O4'	2.08	0.53
46:g:47:LYS:HD3	53:n:178:ARG:HH22	1.74	0.53
51:l:69:ARG:HA	51:l:69:ARG:CZ	2.37	0.53
53:n:42:GLU:HG3	53:n:49:LEU:HD23	1.91	0.53
53:n:72:LYS:HA	53:n:81:GLN:HE22	1.74	0.53
53:n:132:VAL:CG2	53:n:152:LEU:HD23	2.39	0.53
61:v:97:GLN:N	61:v:100:LYS:CE	2.72	0.53
8:7:3:G:H3'	17:D:1500:A:N6	2.24	0.53
9:9:52:MET:HE1	9:9:85:SER:CA	2.38	0.53
12:AB:123:PHE:CE1	29:P:88:MET:CE	2.89	0.53
13:AC:43:LEU:HD13	13:AC:217:ILE:HD11	1.90	0.53
14:AE:122:SER:HB2	14:AE:132:LEU:HD12	1.91	0.53
17:D:1208:C:H2'	17:D:1209:C:C6	2.40	0.53
18:E:56:PRO:HG2	18:E:57:ILE:HD12	1.90	0.53
22:I:85:GLU:O	22:I:89:LYS:HE2	2.09	0.53
22:I:142:MET:SD	22:I:170:GLU:OE1	2.67	0.53
22:I:155:GLY:O	22:I:196:ILE:HG12	2.08	0.53
37:X:96:PRO:HG3	37:X:102:THR:HG22	1.89	0.53
39:Z:18:ASP:HB3	39:Z:22:LEU:CD1	2.39	0.53
40:a:67:U:N3	40:a:74:A:C6	2.77	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:414:C:H2'	40:a:415:A:C8	2.44	0.53
40:a:813:U:H2'	40:a:814:C:H6	1.73	0.53
40:a:1167:C:C2	40:a:1168:G:C8	2.97	0.53
40:a:1348:C:C4	40:a:1349:C:C6	2.97	0.53
40:a:1820:U:C4	47:h:159:GLY:HA3	2.44	0.53
40:a:2063:C:O2	40:a:2063:C:H2'	2.07	0.53
51:l:60:TRP:NE1	51:l:69:ARG:NH1	2.56	0.53
53:n:94:GLU:HA	53:n:97:TRP:CE3	2.43	0.53
61:v:21:ALA:HB2	61:v:100:LYS:HG3	1.90	0.53
61:v:111:GLU:OE1	61:v:111:GLU:N	2.32	0.53
62:w:14:SER:HA	62:w:17:ARG:CZ	2.39	0.53
14:AE:886:VAL:HG11	14:AE:1230:THR:HG21	1.89	0.53
14:AE:968:ASN:HA	14:AE:1117:SER:HB2	1.90	0.53
17:D:736:C:H2'	17:D:737:C:C6	2.43	0.53
26:M:27:VAL:HG12	26:M:43:VAL:HG21	1.90	0.53
30:Q:84:VAL:HG21	30:Q:97:ILE:CD1	2.39	0.53
33:T:11:ILE:HA	33:T:14:GLU:OE1	2.09	0.53
38:Y:78:LEU:HD12	38:Y:112:LYS:HZ1	1.73	0.53
38:Y:102:ARG:HG3	38:Y:140:GLU:C	2.33	0.53
40:a:590:A:H2'	40:a:591:U:C6	2.44	0.53
40:a:2002:G:OP1	62:w:17:ARG:NH2	2.26	0.53
40:a:2473:U:O2	40:a:2473:U:H2'	2.09	0.53
49:j:4:LEU:HD23	49:j:29:VAL:HG11	1.89	0.53
3:2:53:VAL:HG21	3:2:87:LEU:HD23	1.91	0.53
8:7:9:U:C4	17:D:1196:A:C8	2.97	0.53
8:7:13:U:H6	8:7:13:U:H5''	1.73	0.53
13:AD:16:ILE:HG23	13:AD:26:VAL:HG22	1.91	0.53
13:AD:28:LEU:HD12	13:AD:201:LEU:HD23	1.91	0.53
14:AE:87:LYS:NZ	29:P:89:ARG:HD3	2.20	0.53
10:B:38:A:O2'	17:D:790:A:O5'	2.27	0.53
20:G:23:TRP:HB3	20:G:39:HIS:CE1	2.44	0.53
22:I:49:LYS:NZ	22:I:75:ILE:HD11	2.24	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:38:THR:O	26:M:42:ILE:HG12	2.08	0.53
27:N:83:LEU:HD21	31:R:4:VAL:HG11	1.89	0.53
40:a:15:G:H2'	48:i:15:MET:HE1	1.90	0.53
40:a:537:G:P	58:s:2:LYS:HE2	2.49	0.53
40:a:1295:C:C2	40:a:1296:G:C8	2.97	0.53
40:a:1665:A:C3'	59:t:66:LYS:HZ2	2.22	0.53
40:a:1790:C:H2'	40:a:1791:A:C5	2.43	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:2308:G:C5	53:n:77:PHE:HZ	2.26	0.53
40:a:2387:U:O4'	41:b:41:ARG:NH1	2.41	0.53
50:k:8:LYS:NZ	50:k:54:ILE:HG12	2.23	0.53
12:AB:27:ASN:ND2	12:AB:58:GLU:HB2	2.24	0.53
12:AB:121:GLY:HA3	12:AB:162:LEU:CD1	2.33	0.53
16:C:12:ARG:NH2	16:C:13:PHE:CE1	2.77	0.53
17:D:769:G:H4'	17:D:1513:A:H4'	1.90	0.53
19:F:17:ARG:HA	19:F:20:LYS:NZ	2.24	0.53
23:J:67:VAL:HB	23:J:72:PHE:CE1	2.43	0.53
30:Q:86:VAL:O	30:Q:113:VAL:HG22	2.08	0.53
36:W:66:MET:HG2	36:W:74:PHE:CZ	2.44	0.53
37:X:28:THR:CA	37:X:31:LYS:HE3	2.37	0.53
38:Y:16:MET:HG2	38:Y:16:MET:O	2.09	0.53
40:a:2867:G:C6	64:y:21:ARG:NH1	2.76	0.53
51:l:188:MET:HE2	51:l:193:VAL:HA	1.89	0.53
52:m:25:LYS:HG3	52:m:29:GLN:HE22	1.73	0.53
53:n:93:GLY:HA2	53:n:97:TRP:CZ3	2.44	0.53
58:s:9:GLU:HG2	58:s:10:THR:HG23	1.90	0.53
59:t:1:MET:CE	59:t:32:TYR:HB3	2.38	0.53
65:z:108:ALA:O	65:z:111:GLU:HG3	2.09	0.53
1:0:4:VAL:HG22	1:0:40:MET:HB3	1.91	0.53
7:6:19:DC:H2'	7:6:20:DA:H8	1.74	0.53
14:AE:514:THR:HG21	14:AE:596:LEU:HD12	1.90	0.53
17:D:1308:U:H3'	37:X:98:ARG:CZ	2.39	0.53
20:G:18:HIS:HA	21:H:43:LYS:HD2	1.90	0.53
40:a:2847:U:H2'	40:a:2848:G:O4'	2.09	0.53
53:n:29:PRO:HB2	53:n:169:LEU:HD22	1.91	0.53
59:t:2:ILE:HG23	59:t:8:LEU:HD11	1.91	0.53
2:1:61:ASN:OD1	40:a:496:G:H1'	2.09	0.52
8:7:3:G:C4'	17:D:1500:A:H62	2.22	0.52
10:B:38:A:O2'	17:D:790:A:P	2.66	0.52
29:P:47:GLU:OE1	29:P:67:ILE:HG23	2.09	0.52
31:R:102:LEU:O	31:R:103:ASP:OD1	2.26	0.52
33:T:3:LEU:HD22	33:T:8:THR:HG23	1.92	0.52
38:Y:126:ARG:NH1	40:a:1082:U:C5'	2.72	0.52
40:a:1657:U:O2'	49:j:138:LEU:HD22	2.08	0.52
40:a:1818:U:O2'	47:h:153:GLN:O	2.23	0.52
40:a:2315:G:O2'	53:n:125:ARG:HD3	2.09	0.52
40:a:2537:U:H2'	40:a:2538:C:C6	2.43	0.52
46:g:11:GLU:HA	46:g:25:ARG:HA	1.90	0.52
47:h:108:LYS:HD3	47:h:194:GLU:HB2	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:j:131:ASP:OD2	49:j:132:ALA:N	2.42	0.52
52:m:26:ASN:O	52:m:30:VAL:HG23	2.08	0.52
60:u:54:GLN:NE2	60:u:60:ARG:HH12	2.07	0.52
61:v:1:MET:CE	61:v:44:ARG:HA	2.38	0.52
11:AA:524:ILE:HG21	11:AA:708:VAL:HG13	1.92	0.52
17:D:1175:G:N3	17:D:1176:A:C8	2.77	0.52
21:H:45:GLU:OE1	21:H:45:GLU:N	2.41	0.52
22:I:24:ALA:C	22:I:29:PHE:CE2	2.87	0.52
24:K:158:GLY:C	24:K:159:LYS:HD2	2.34	0.52
28:O:47:VAL:O	28:O:80:ARG:HD2	2.09	0.52
36:W:47:LEU:O	36:W:62:VAL:HG23	2.08	0.52
40:a:271:G:C4	40:a:272:A:N7	2.77	0.52
40:a:2308:G:C6	53:n:77:PHE:CZ	2.97	0.52
40:a:2356:U:C5'	41:b:20:ARG:HD2	2.36	0.52
45:f:10:THR:HG23	45:f:11:ARG:HG2	1.90	0.52
51:l:62:GLN:HA	51:l:69:ARG:HH21	1.73	0.52
55:p:32:GLU:C	55:p:33:LEU:HD12	2.34	0.52
3:2:33:LYS:HG3	3:2:80:TRP:CE3	2.44	0.52
7:6:23:DC:H5'	14:AE:259:ARG:NH1	2.11	0.52
8:7:22:U:C5'	22:I:80:LYS:CG	2.51	0.52
14:AE:795:TYR:OH	14:AE:1326:GLN:NE2	2.42	0.52
14:AE:901:ARG:HH21	14:AE:906:GLY:HA2	1.73	0.52
17:D:339:C:H2'	17:D:340:U:H6	1.73	0.52
20:G:23:TRP:HZ3	20:G:25:PRO:CA	2.22	0.52
32:S:79:LEU:HB2	32:S:84:VAL:HG22	1.91	0.52
40:a:1024:G:OP2	40:a:1025:G:O2'	2.25	0.52
40:a:1666:G:OP1	59:t:66:LYS:HD3	2.10	0.52
40:a:1668:A:O2'	40:a:1674:G:N7	2.32	0.52
40:a:2093:G:OP2	57:r:22:LYS:HE3	2.09	0.52
49:j:131:ASP:OD1	49:j:134:HIS:HB2	2.10	0.52
56:q:25:VAL:CB	56:q:35:GLN:OE1	2.56	0.52
58:s:25:LEU:CD1	58:s:101:ILE:HD13	2.39	0.52
59:t:38:ILE:HD11	59:t:112:PHE:CZ	2.43	0.52
61:v:1:MET:HA	61:v:1:MET:CE	2.38	0.52
8:7:8:U:OP2	17:D:1397:C:C2	2.62	0.52
9:9:93:ALA:O	9:9:129:LEU:O	2.27	0.52
10:A:16:C:O2	40:a:2181:U:C5'	2.57	0.52
11:AA:360:LEU:HD13	11:AA:378:ARG:HH11	1.72	0.52
12:AB:21:LEU:HB3	12:AB:26:VAL:CG1	2.38	0.52
13:AD:182:ARG:NH1	14:AE:534:GLU:OE1	2.42	0.52
17:D:73:C:O2	17:D:73:C:C2'	2.58	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:G:168:HIS:HB3	20:G:169:GLU:OE1	2.10	0.52
28:O:112:GLU:HG3	28:O:115:LYS:HZ3	1.74	0.52
38:Y:9:LYS:CG	38:Y:55:PRO:HB3	2.39	0.52
40:a:995:C:N4	58:s:2:LYS:HG3	2.24	0.52
40:a:1818:U:C6	47:h:156:ARG:NH2	2.77	0.52
40:a:2649:C:C2	40:a:2650:U:C5	2.97	0.52
54:o:25:LYS:HB3	60:u:62:PRO:CG	2.40	0.52
59:t:99:ILE:HD13	59:t:118:LEU:CB	2.39	0.52
60:u:56:PRO:O	60:u:60:ARG:HG3	2.10	0.52
60:u:90:VAL:CG1	60:u:95:LEU:HD21	2.33	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
6:5:17:DC:H5''	6:5:17:DC:H6	1.75	0.52
9:9:61:ARG:NE	40:a:1046:A:P	2.83	0.52
17:D:842:U:H3'	17:D:843:U:C5'	2.39	0.52
17:D:1371:G:O3'	28:O:71:GLY:HA3	2.10	0.52
19:F:37:PHE:HB3	30:Q:124:PRO:O	2.10	0.52
20:G:127:ASP:O	20:G:128:LYS:HB3	2.09	0.52
24:K:111:MET:HE2	24:K:125:ALA:HB1	1.90	0.52
26:M:111:ARG:N	26:M:119:ARG:NH2	2.58	0.52
33:T:15:PHE:CD2	33:T:30:ALA:CB	2.92	0.52
37:X:68:ASP:O	37:X:71:ARG:HG3	2.09	0.52
38:Y:78:LEU:HD12	38:Y:112:LYS:NZ	2.25	0.52
40:a:617:G:C4'	51:l:199:MET:HE1	2.39	0.52
40:a:645:C:H2'	40:a:647:G:C8	2.45	0.52
40:a:998:C:OP1	65:z:84:LYS:NZ	2.39	0.52
40:a:2287:A:C8	40:a:2289:G:C8	2.96	0.52
40:a:2822:G:O2'	40:a:2824:C:OP2	2.20	0.52
47:h:34:LEU:HD12	47:h:61:ALA:HB1	1.92	0.52
53:n:71:ARG:O	53:n:81:GLN:NE2	2.40	0.52
57:r:71:LYS:HZ2	57:r:72:ILE:HA	1.73	0.52
58:s:15:TRP:CE3	58:s:135:GLN:O	2.63	0.52
61:v:115:GLU:O	61:v:119:LEU:HD23	2.09	0.52
65:z:78:LYS:HD3	65:z:117:LEU:HD23	1.88	0.52
3:2:19:LYS:O	3:2:22:THR:OG1	2.23	0.52
9:9:43:LYS:HZ2	9:9:101:LYS:HE2	1.73	0.52
9:9:87:GLU:OE2	9:9:95:LEU:HG	2.09	0.52
11:AA:246:LEU:HB3	11:AA:269:ILE:HD13	1.91	0.52
12:AB:135:GLY:O	12:AB:137:ALA:N	2.43	0.52
17:D:936:C:C2	17:D:937:A:C8	2.98	0.52
21:H:321:VAL:HG13	21:H:322:VAL:HG23	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:I:142:MET:CE	22:I:170:GLU:OE1	2.58	0.52
23:J:74:ASN:O	23:J:77:LYS:HG2	2.10	0.52
28:O:9:THR:HB	28:O:85:ARG:NH1	2.25	0.52
28:O:21:ILE:HD11	28:O:87:LEU:HD22	1.90	0.52
40:a:125:A:OP2	52:m:19:ARG:NH2	2.38	0.52
40:a:632:A:H2'	40:a:633:A:C8	2.44	0.52
40:a:1145:C:C2	40:a:1146:C:C5	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:1801:A:OP2	47:h:146:MET:HE1	2.09	0.52
47:h:52:ARG:NE	47:h:53:HIS:HE1	2.07	0.52
51:l:170:ARG:CZ	51:l:176:ASP:OD1	2.58	0.52
53:n:71:ARG:C	53:n:81:GLN:HE22	2.17	0.52
61:v:112:LEU:HA	61:v:115:GLU:OE1	2.10	0.52
1:0:5:PHE:HB3	1:0:59:ILE:HD12	1.91	0.52
5:4:63:ILE:CD1	5:4:91:PHE:CD2	2.93	0.52
7:6:17:DC:H42	8:7:40:G:H1	1.58	0.52
11:AA:811:ASN:HA	11:AA:815:SER:HB2	1.90	0.52
13:AD:100:LEU:HD21	13:AD:121:VAL:HG11	1.90	0.52
13:AD:205:MET:HE3	13:AD:213:PRO:HB3	1.90	0.52
10:B:76:A:H1'	40:a:2494:G:P	2.50	0.52
21:H:36:VAL:O	21:H:48:ILE:HB	2.10	0.52
22:I:105:GLU:OE1	22:I:107:ARG:NE	2.42	0.52
23:J:50:ASP:O	23:J:53:VAL:HG22	2.09	0.52
30:Q:20:VAL:HG13	30:Q:85:MET:HE1	1.89	0.52
33:T:64:ARG:NH2	33:T:89:ARG:HH22	2.07	0.52
38:Y:58:ILE:HG23	38:Y:66:PHE:CD2	2.44	0.52
38:Y:139:VAL:HG22	38:Y:140:GLU:N	2.25	0.52
40:a:265:A:N1	40:a:427:U:O2'	2.40	0.52
40:a:743:A:O2'	40:a:1659:G:OP1	2.25	0.52
40:a:858:G:OP2	41:b:78:LYS:NZ	2.35	0.52
40:a:1009:A:OP2	58:s:39:LYS:NZ	2.37	0.52
40:a:1145:C:N3	40:a:1146:C:C5	2.77	0.52
40:a:1379:U:H4'	40:a:1380:G:OP1	2.09	0.52
40:a:2049:G:N2	49:j:161:MET:HE1	2.24	0.52
40:a:2727:A:O2'	59:t:70:ARG:NH2	2.43	0.52
50:k:21:TYR:CE2	50:k:49:TYR:CD2	2.98	0.52
60:u:122:VAL:HG13	60:u:125:LEU:CD1	2.34	0.52
61:v:20:LEU:H	61:v:20:LEU:HD23	1.73	0.52
8:7:13:U:H5''	8:7:13:U:C6	2.45	0.52
9:9:43:LYS:O	9:9:47:GLU:OE1	2.28	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:9:59:LEU:HB2	9:9:62:ARG:HG3	1.92	0.52
9:9:136:ILE:HG13	9:9:136:ILE:O	2.09	0.52
12:AB:129:ILE:N	12:AB:142:LEU:HB3	2.24	0.52
17:D:925:G:C2	17:D:927:G:C8	2.98	0.52
17:D:1151:A:O2'	17:D:1152:A:O5'	2.13	0.52
22:I:23:PHE:HD2	29:P:97:ASP:HB2	1.74	0.52
24:K:134:ILE:HG23	24:K:135:ASN:N	2.24	0.52
27:N:79:SER:HB2	27:N:85:ILE:HG22	1.92	0.52
28:O:57:MET:HA	28:O:60:LYS:CE	2.40	0.52
28:O:118:LEU:HD23	28:O:124:ARG:HA	1.91	0.52
28:O:123:ARG:O	28:O:123:ARG:CG	2.57	0.52
30:Q:23:ILE:N	30:Q:87:LYS:HZ1	2.08	0.52
38:Y:99:LYS:HZ3	38:Y:138:VAL:HG13	1.73	0.52
38:Y:126:ARG:NH1	40:a:1083:U:P	2.83	0.52
40:a:150:U:H2'	40:a:151:C:C6	2.44	0.52
40:a:833:A:H2'	40:a:834:G:C8	2.44	0.52
40:a:1198:U:C2	40:a:1199:U:C5	2.98	0.52
40:a:1996:C:H4'	49:j:128:ARG:HH12	1.75	0.52
47:h:123:ALA:HB1	47:h:125:LYS:HZ1	1.75	0.52
50:k:19:HIS:CE1	50:k:41:PRO:HD3	2.45	0.52
51:l:6:LYS:CE	51:l:119:ILE:HG23	2.40	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
59:t:71:ARG:NH2	59:t:123:LEU:O	2.42	0.52
60:u:58:TYR:CE2	60:u:59:ARG:HG2	2.44	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	0.52
11:AA:855:PRO:HD2	11:AA:887:VAL:HG11	1.91	0.52
11:AA:1117:LEU:HD12	11:AA:1195:ILE:HG12	1.90	0.52
11:AA:1287:LEU:HD13	14:AE:1357:ILE:HD11	1.91	0.52
12:AB:10:LYS:HB2	12:AB:73:ARG:HB3	1.91	0.52
14:AE:342:LEU:HD23	14:AE:1352:ILE:HG23	1.90	0.52
14:AE:1045:THR:O	14:AE:1067:ARG:NH2	2.41	0.52
10:B:48:C:C5	10:B:59:A:C8	2.98	0.52
16:C:60:LYS:CE	17:D:735:C:C4'	2.88	0.52
17:D:62:U:H2'	17:D:63:C:C6	2.44	0.52
17:D:932:C:C5'	26:M:4:ARG:HH11	2.22	0.52
17:D:978:A:C4	17:D:1319:A:C2	2.98	0.52
20:G:17:GLY:HA3	20:G:41:ILE:HD11	1.92	0.52
22:I:183:ASP:HB3	22:I:204:LYS:NZ	2.25	0.52
30:Q:52:PHE:CZ	30:Q:65:VAL:HG21	2.45	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:Q:61:PHE:CD1	30:Q:64:GLN:NE2	2.78	0.52
40:a:65:U:H2'	40:a:66:C:H6	1.75	0.52
40:a:1707:G:C8	40:a:1756:G:C5	2.98	0.52
57:r:2:GLN:HG3	57:r:39:ALA:CB	2.40	0.52
57:r:29:PHE:CE2	57:r:35:LYS:HE3	2.45	0.52
58:s:31:GLU:HG2	58:s:142:ILE:HG12	1.92	0.52
62:w:24:MET:HE3	62:w:24:MET:CA	2.34	0.52
62:w:37:THR:OG1	62:w:40:LYS:CD	2.57	0.52
2:1:24:ILE:O	2:1:71:VAL:HG21	2.08	0.52
5:4:2:PHE:CE2	5:4:55:GLU:HG2	2.45	0.52
9:9:51:TYR:HB2	9:9:88:HIS:HB2	1.90	0.52
9:9:55:VAL:HG12	9:9:56:ARG:N	2.25	0.52
11:AA:628:HIS:HB3	11:AA:647:ARG:HH21	1.74	0.52
12:AB:123:PHE:CD1	29:P:85:ASP:OD1	2.62	0.52
16:C:70:TYR:CE2	25:L:49:TYR:CZ	2.98	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:1086:U:C2	17:D:1087:G:C8	2.97	0.52
17:D:1227:A:H5'	37:X:110:LYS:HZ1	1.75	0.52
28:O:88:MET:HE1	28:O:95:ARG:HG3	1.91	0.52
29:P:73:LEU:HD21	29:P:75:ASP:OD2	2.10	0.52
31:R:62:GLU:OE2	31:R:62:GLU:HA	2.10	0.52
32:S:54:ASP:HA	32:S:59:ARG:HD2	1.90	0.52
33:T:63:ARG:HD2	33:T:67:LEU:CD2	2.40	0.52
37:X:96:PRO:CG	37:X:102:THR:HG22	2.39	0.52
40:a:414:C:H2'	40:a:415:A:H8	1.75	0.52
40:a:963:U:C2	40:a:964:C:C5	2.97	0.52
40:a:1204:A:O4'	40:a:1206:G:C8	2.63	0.52
40:a:2473:U:C4	40:a:2474:U:C5	2.97	0.52
43:d:15:A:O4'	43:d:109:A:C8	2.63	0.52
47:h:76:ALA:HB1	47:h:94:VAL:CG1	2.39	0.52
60:u:14:LYS:HE2	60:u:14:LYS:HA	1.91	0.52
61:v:115:GLU:HA	61:v:118:LYS:NZ	2.25	0.52
65:z:74:ILE:HG13	65:z:78:LYS:CE	2.40	0.52
1:0:71:LYS:HG3	1:0:73:LYS:HE3	1.92	0.51
9:9:58:THR:HG21	9:9:81:LEU:CD2	2.31	0.51
11:AA:125:GLY:HA2	11:AA:499:SER:HB2	1.92	0.51
12:AB:141:LEU:O	12:AB:150:ILE:C	2.53	0.51
17:D:58:C:O2	17:D:58:C:H2'	2.09	0.51
17:D:1176:A:H2'	17:D:1177:G:C8	2.45	0.51
17:D:1240:U:C5	26:M:116:MET:HE2	2.44	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:N:66:PHE:CD2	27:N:67:GLN:OE1	2.62	0.51
32:S:87:ALA:N	32:S:90:ARG:NH1	2.58	0.51
33:T:24:SER:O	33:T:28:GLN:HG2	2.09	0.51
35:V:62:ARG:CA	35:V:73:TRP:CZ3	2.93	0.51
36:W:17:LYS:HB3	36:W:21:LYS:HZ3	1.75	0.51
37:X:13:LYS:HE3	37:X:17:ILE:HG21	1.91	0.51
39:Z:26:MET:HA	39:Z:30:PHE:CD1	2.45	0.51
40:a:628:G:C5	40:a:636:G:N2	2.79	0.51
40:a:872:U:H2'	40:a:873:C:H6	1.75	0.51
40:a:1138:G:C2	58:s:108:MET:HE2	2.45	0.51
40:a:2086:U:H2'	40:a:2087:G:C8	2.46	0.51
40:a:2723:C:H4'	62:w:1:MET:HE3	1.92	0.51
54:o:19:LYS:HE2	54:o:19:LYS:HA	1.91	0.51
57:r:6:LEU:CD1	57:r:37:VAL:HG23	2.39	0.51
4:3:66:GLN:OE1	4:3:69:ASN:ND2	2.44	0.51
10:A:6:G:C4	10:A:7:G:C8	2.98	0.51
11:AA:974:ARG:HD2	11:AA:1014:LEU:HD21	1.92	0.51
14:AE:959:LYS:HB3	14:AE:983:LYS:HB2	1.92	0.51
10:B:6:G:C4	10:B:7:G:C8	2.98	0.51
10:B:31:G:H2'	10:B:32:C:O4'	2.10	0.51
16:C:71:THR:H	16:C:74:HIS:HE1	1.58	0.51
17:D:452:A:H2'	17:D:453:G:O4'	2.10	0.51
17:D:868:C:H2'	17:D:869:G:O4'	2.10	0.51
17:D:1158:C:O2'	20:G:132:LYS:HE2	2.09	0.51
20:G:165:ASP:O	20:G:169:GLU:OE1	2.28	0.51
29:P:7:ARG:HD3	29:P:75:ASP:OD1	2.10	0.51
29:P:24:GLU:O	29:P:28:THR:HG23	2.10	0.51
40:a:1314:C:C2	40:a:1315:C:C5	2.98	0.51
40:a:2355:G:H2'	40:a:2356:U:H5'	1.91	0.51
40:a:2758:A:H1'	55:p:38:ASN:HD21	1.74	0.51
47:h:18:LYS:HE3	47:h:20:VAL:CG2	2.41	0.51
53:n:30:ARG:HB2	53:n:30:ARG:NH2	2.25	0.51
61:v:105:MET:HE2	61:v:108:VAL:CG2	2.40	0.51
1:0:17:GLY:HA2	1:0:97:LYS:HE2	1.92	0.51
2:1:25:ARG:NH1	40:a:519:U:O3'	2.43	0.51
9:9:88:HIS:O	9:9:89:PRO:C	2.51	0.51
12:AB:89:PRO:HG2	14:AE:290:ILE:HG22	1.91	0.51
17:D:512:U:P	23:J:44:ARG:HH12	2.33	0.51
17:D:679:C:H2'	17:D:680:C:H6	1.74	0.51
17:D:718:A:H5'	30:Q:119:ASN:HD22	1.76	0.51
17:D:934:C:C4	17:D:1345:U:C5	2.99	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:E:75:HIS:CE1	18:E:79:LEU:CD1	2.93	0.51
20:G:9:MET:HE1	20:G:47:VAL:CG2	2.40	0.51
20:G:16:PHE:HB3	21:H:43:LYS:HA	1.93	0.51
20:G:23:TRP:CD1	20:G:39:HIS:CE1	2.97	0.51
20:G:26:LYS:HE3	20:G:194:ASP:OD1	2.10	0.51
21:H:32:ASP:OD1	21:H:35:VAL:CG2	2.58	0.51
21:H:335:ILE:HG12	21:H:342:ILE:HD12	1.92	0.51
25:L:33:GLU:HG3	25:L:33:GLU:O	2.10	0.51
33:T:21:ASP:OD1	33:T:22:THR:N	2.34	0.51
37:X:22:ILE:HB	37:X:25:VAL:CG1	2.39	0.51
38:Y:55:PRO:C	38:Y:71:LYS:HE2	2.36	0.51
38:Y:129:GLU:CB	38:Y:133:ARG:HH12	2.16	0.51
40:a:139:U:OP2	40:a:140:C:N4	2.43	0.51
40:a:626:A:N3	60:u:78:ARG:CZ	2.74	0.51
40:a:1095:A:H2'	40:a:1096:A:C8	2.45	0.51
40:a:1453:A:C8	62:w:73:ASN:OD1	2.64	0.51
40:a:2420:C:H5''	50:k:8:LYS:HE2	1.92	0.51
40:a:2428:G:H21	60:u:60:ARG:CZ	2.23	0.51
50:k:21:TYR:CE2	50:k:49:TYR:CE2	2.99	0.51
53:n:134:GLU:CG	53:n:137:ILE:HG23	2.40	0.51
59:t:103:VAL:HG21	59:t:107:LEU:CD2	2.41	0.51
61:v:45:GLN:HE21	61:v:124:LEU:HA	1.75	0.51
9:9:94:ARG:HB2	9:9:97:LYS:CE	2.36	0.51
10:A:23:C:H2'	10:A:24:U:C6	2.45	0.51
16:C:38:LYS:HE2	16:C:38:LYS:CA	2.37	0.51
17:D:500:G:H2'	17:D:501:C:C6	2.46	0.51
25:L:45:ARG:HA	25:L:45:ARG:NE	2.26	0.51
28:O:7:TYR:H	28:O:89:GLU:CD	2.19	0.51
35:V:7:THR:CB	35:V:60:GLU:OE2	2.56	0.51
40:a:888:C:C4	40:a:889:C:C4	2.97	0.51
40:a:1791:A:C2	40:a:1829:A:C4'	2.94	0.51
40:a:2812:G:H2'	40:a:2813:A:C8	2.45	0.51
46:g:47:LYS:HE2	53:n:115:ARG:NE	2.25	0.51
53:n:114:PHE:O	53:n:115:ARG:NE	2.34	0.51
58:s:98:GLU:O	58:s:99:ARG:C	2.53	0.51
62:w:82:GLU:OE1	62:w:82:GLU:N	2.43	0.51
63:x:53:THR:HG23	63:x:74:VAL:HG21	1.92	0.51
10:B:56:C:H2'	10:B:57:A:H5''	1.93	0.51
17:D:107:G:C6	18:E:10:ARG:NH2	2.79	0.51
22:I:108:LYS:N	22:I:108:LYS:HD2	2.26	0.51
22:I:178:LEU:HD23	22:I:178:LEU:C	2.35	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:L:67:PRO:O	25:L:70:VAL:HG22	2.11	0.51
37:X:31:LYS:HG3	37:X:32:ALA:N	2.25	0.51
40:a:413:C:C2	40:a:414:C:C5	2.99	0.51
40:a:1154:G:OP2	65:z:58:ARG:CZ	2.58	0.51
40:a:1394:U:H4'	40:a:1603:A:H4'	1.92	0.51
40:a:1681:G:H2'	40:a:1757:A:N1	2.25	0.51
40:a:2133:G:O2'	40:a:2157:G:N2	2.44	0.51
40:a:2311:A:C5	53:n:77:PHE:CD2	2.98	0.51
40:a:2588:G:O6	40:a:2607:G:C6	2.64	0.51
49:j:68:PHE:CD2	49:j:75:ALA:HA	2.46	0.51
49:j:122:VAL:HG21	49:j:141:ARG:HG3	1.92	0.51
49:j:152:PRO:CG	49:j:156:PHE:CZ	2.91	0.51
1:0:37:GLU:O	1:0:37:GLU:HG3	2.11	0.51
3:2:3:ARG:NH2	3:2:4:GLU:HB2	2.26	0.51
5:4:2:PHE:CE1	5:4:56:PHE:CE1	2.99	0.51
8:7:2:U:H2'	8:7:3:G:C8	2.45	0.51
11:AA:714:VAL:HB	11:AA:787:PRO:HD2	1.92	0.51
12:AB:141:LEU:HA	12:AB:152:HIS:HA	1.92	0.51
12:AB:141:LEU:HA	12:AB:152:HIS:CA	2.39	0.51
10:B:27:U:C2	10:B:28:C:C5	2.99	0.51
16:C:12:ARG:HG3	21:H:264:GLU:CB	2.41	0.51
17:D:107:G:C5	18:E:10:ARG:NH2	2.79	0.51
17:D:501:C:H2'	17:D:502:A:H8	1.75	0.51
21:H:279:LYS:HA	21:H:331:MET:CB	2.41	0.51
24:K:36:LEU:HD13	24:K:134:ILE:CD1	2.41	0.51
31:R:24:LEU:C	31:R:25:GLU:OE1	2.52	0.51
31:R:54:ARG:HH11	31:R:62:GLU:HG3	1.76	0.51
32:S:10:GLU:OE2	32:S:63:ARG:HD2	2.11	0.51
34:U:39:PHE:CD1	34:U:50:THR:HG22	2.45	0.51
40:a:2093:G:OP2	57:r:22:LYS:HG2	2.11	0.51
40:a:2329:U:H2'	40:a:2330:G:C8	2.45	0.51
44:e:20:ASN:HA	44:e:23:ARG:HE	1.76	0.51
58:s:35:ARG:HA	58:s:40:HIS:CE1	2.46	0.51
61:v:53:MET:HE3	61:v:120:ALA:CB	2.40	0.51
65:z:65:ILE:HB	65:z:76:TYR:HE1	1.75	0.51
65:z:82:GLY:HA3	65:z:117:LEU:CD1	2.41	0.51
3:2:11:LEU:HD12	3:2:11:LEU:N	2.26	0.51
10:A:48:C:C5	10:A:59:A:C8	2.98	0.51
14:AE:679:TYR:OH	14:AE:754:ILE:O	2.23	0.51
14:AE:1179:PRO:HB2	14:AE:1182:GLY:H	1.75	0.51
10:B:48:C:O2'	10:B:49:G:OP2	2.27	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:678:U:H2'	17:D:679:C:H6	1.76	0.51
19:F:36:GLU:OE2	19:F:36:GLU:HA	2.11	0.51
21:H:48:ILE:HG22	21:H:49:PRO:O	2.10	0.51
22:I:68:ILE:HG13	22:I:101:ILE:HD11	1.93	0.51
25:L:4:TYR:OH	25:L:68:GLN:HG2	2.11	0.51
25:L:88:MET:HE2	25:L:90:MET:HE3	1.91	0.51
29:P:15:HIS:HB3	29:P:70:HIS:CE1	2.46	0.51
29:P:22:THR:O	29:P:25:ILE:HG22	2.10	0.51
37:X:71:ARG:HH12	46:g:52:ALA:HB3	1.75	0.51
40:a:607:U:C5	40:a:620:G:C5	2.97	0.51
40:a:2466:C:N3	40:a:2467:C:C5	2.78	0.51
40:a:2682:A:C2	49:j:23:PRO:HB3	2.46	0.51
40:a:2698:U:H2'	40:a:2699:C:C6	2.46	0.51
47:h:124:ILE:O	47:h:125:LYS:HD3	2.10	0.51
55:p:127:THR:HG22	55:p:128:GLN:N	2.26	0.51
55:p:149:ARG:CZ	55:p:154:PRO:HD3	2.40	0.51
59:t:17:ARG:NH2	59:t:47:ILE:HG23	2.25	0.51
62:w:24:MET:HA	62:w:24:MET:CE	2.33	0.51
5:4:50:MET:CA	5:4:56:PHE:CZ	2.94	0.51
6:5:9:DG:P	11:AA:473:ARG:HG3	2.51	0.51
9:9:55:VAL:CG1	9:9:56:ARG:N	2.74	0.51
10:A:19:G:N2	40:a:2112:G:O4'	2.44	0.51
10:A:33:U:H5''	26:M:84:THR:HG21	1.93	0.51
14:AE:510:LEU:HD22	14:AE:601:ILE:HD12	1.91	0.51
17:D:49:U:C2	17:D:361:G:N2	2.79	0.51
17:D:564:C:H5'	35:V:34:TYR:HE1	1.76	0.51
17:D:754:C:OP1	33:T:72:ARG:NH1	2.44	0.51
40:a:532:A:H4'	40:a:533:G:C8	2.46	0.51
40:a:560:C:O2	65:z:48:ARG:NH1	2.37	0.51
40:a:703:U:H2'	40:a:704:G:O4'	2.10	0.51
40:a:960:A:H61	61:v:82:MET:CE	2.24	0.51
40:a:1656:C:OP1	49:j:141:ARG:HD3	2.10	0.51
40:a:1853:A:H2'	40:a:1854:A:C8	2.46	0.51
40:a:2252:G:H2'	40:a:2253:G:H8	1.76	0.51
49:j:154:LYS:HE3	49:j:156:PHE:CE1	2.46	0.51
51:l:168:ASP:HB3	51:l:183:PHE:HE2	1.75	0.51
53:n:8:TYR:HE2	53:n:30:ARG:HE	1.58	0.51
53:n:15:LYS:O	53:n:18:THR:N	2.43	0.51
61:v:114:ARG:C	61:v:118:LYS:HZ3	2.18	0.51
64:y:9:GLU:CG	64:y:55:LEU:HB2	2.40	0.51
65:z:53:ARG:HG3	65:z:57:PHE:HE2	1.75	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
65:z:65:ILE:HB	65:z:76:TYR:CE1	2.45	0.51
4:3:85:PHE:CE1	4:3:94:ARG:HG2	2.46	0.51
9:9:47:GLU:O	9:9:49:GLY:N	2.43	0.51
9:9:106:PHE:CG	9:9:106:PHE:O	2.63	0.51
12:AB:78:PHE:CG	12:AB:85:PRO:HB3	2.46	0.51
12:AB:136:GLU:HA	12:AB:159:PHE:CZ	2.46	0.51
10:B:23:C:H2'	10:B:24:U:C6	2.45	0.51
17:D:61:G:N7	18:E:6:SER:OG	2.33	0.51
17:D:564:C:H5'	35:V:34:TYR:CE1	2.46	0.51
17:D:728:A:H2'	17:D:729:A:C8	2.46	0.51
22:I:132:ARG:HG3	22:I:135:LYS:HE3	1.92	0.51
29:P:66:GLU:CG	32:S:99:ALA:HB2	2.41	0.51
33:T:3:LEU:HD23	33:T:3:LEU:C	2.36	0.51
38:Y:126:ARG:HD2	38:Y:127:SER:N	2.26	0.51
40:a:251:A:OP1	60:u:58:TYR:OH	2.23	0.51
40:a:372:G:C8	42:c:61:LYS:HD2	2.46	0.51
40:a:910:A:C8	61:v:12:MET:CE	2.93	0.51
40:a:1666:G:P	59:t:66:LYS:HD3	2.50	0.51
40:a:1790:C:C3'	40:a:1791:A:C8	2.94	0.51
40:a:1824:G:O2'	47:h:252:THR:HG21	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
40:a:2813:A:C4	40:a:2814:A:C8	2.99	0.51
40:a:2814:A:H2'	40:a:2815:C:H6	1.75	0.51
46:g:7:PRO:HD2	53:n:62:GLY:O	2.11	0.51
47:h:130:LEU:HD21	47:h:192:LEU:HD21	1.93	0.51
48:i:30:VAL:HG22	48:i:37:LYS:CD	2.41	0.51
53:n:5:HIS:HD2	53:n:97:TRP:CZ2	2.29	0.51
55:p:162:VAL:O	55:p:162:VAL:HG12	2.11	0.51
5:4:48:MET:HE2	5:4:86:LEU:HG	1.93	0.51
5:4:80:HIS:CD2	5:4:83:LYS:HZ3	2.29	0.51
6:5:9:DG:H5''	11:AA:473:ARG:HB3	0.54	0.51
12:AB:27:ASN:OD1	12:AB:58:GLU:HB2	2.11	0.51
12:AB:142:LEU:HD12	12:AB:150:ILE:O	2.11	0.51
17:D:1226:C:C2'	37:X:102:THR:OG1	2.58	0.51
20:G:26:LYS:HD2	20:G:193:PRO:CG	2.39	0.51
22:I:142:MET:HE3	22:I:170:GLU:C	2.36	0.51
29:P:24:GLU:CA	29:P:27:GLU:OE1	2.59	0.51
31:R:3:THR:O	31:R:6:GLN:N	2.44	0.51
39:Z:18:ASP:HB3	39:Z:22:LEU:HD12	1.92	0.51
40:a:413:C:H2'	40:a:414:C:C6	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:580:U:H2'	40:a:581:C:C6	2.46	0.51
40:a:993:G:C6	40:a:1162:G:C6	2.99	0.51
40:a:2006:C:C2	40:a:2007:U:C5	2.99	0.51
40:a:2266:A:H4'	40:a:2267:A:N3	2.26	0.51
40:a:2298:A:O3'	53:n:72:LYS:HE2	2.11	0.51
41:b:55:ARG:HA	41:b:55:ARG:CZ	2.41	0.51
58:s:84:ILE:HG23	58:s:84:ILE:O	2.11	0.51
61:v:31:PHE:O	61:v:104:GLU:CD	2.54	0.51
64:y:106:LYS:HD3	64:y:109:ARG:NH2	2.26	0.51
8:7:3:G:C4'	17:D:1500:A:N6	2.74	0.50
8:7:12:U:H5''	24:K:56:VAL:HG21	1.93	0.50
10:A:56:C:C5	40:a:2168:G:C6	2.98	0.50
18:E:54:MET:CE	18:E:75:HIS:HE1	2.24	0.50
20:G:35:ARG:HB3	21:H:14:LYS:NZ	2.26	0.50
20:G:187:VAL:HG13	20:G:191:SER:HB2	1.93	0.50
21:H:163:ARG:CA	21:H:298:GLU:HG3	2.41	0.50
28:O:88:MET:SD	28:O:95:ARG:CZ	2.99	0.50
30:Q:63:ALA:HB1	30:Q:96:THR:CG2	2.42	0.50
31:R:109:ASP:C	31:R:111:LYS:HZ3	2.18	0.50
31:R:110:ARG:HE	31:R:117:TYR:HD2	1.57	0.50
39:Z:15:SER:O	39:Z:19:VAL:HG23	2.11	0.50
40:a:813:U:H2'	40:a:814:C:C6	2.46	0.50
40:a:1598:A:C5	40:a:1599:U:C5	2.99	0.50
40:a:1999:C:O3'	40:a:2722:G:N2	2.44	0.50
40:a:2230:G:H5'	42:c:30:LEU:HD23	1.94	0.50
45:f:41:THR:N	45:f:45:ARG:HH22	2.09	0.50
51:l:155:GLU:HG2	51:l:156:ASN:N	2.26	0.50
61:v:105:MET:SD	61:v:113:ALA:HB1	2.51	0.50
5:4:6:ALA:HB3	5:4:65:VAL:HG22	1.93	0.50
6:5:9:DG:OP2	11:AA:470:ARG:O	2.28	0.50
10:A:23:C:H2'	10:A:24:U:H6	1.77	0.50
10:A:31:G:H2'	10:A:32:C:O4'	2.10	0.50
11:AA:255:ILE:HB	11:AA:263:VAL:HB	1.92	0.50
12:AB:81:PHE:CB	14:AE:141:PHE:O	2.58	0.50
16:C:51:TYR:O	16:C:54:GLN:HG3	2.11	0.50
17:D:21:G:C2	17:D:22:G:C5	2.99	0.50
17:D:580:C:H2'	17:D:581:G:O4'	2.12	0.50
17:D:612:C:C2	17:D:613:C:C5	2.99	0.50
20:G:90:PHE:CD2	20:G:154:MET:CE	2.94	0.50
21:H:273:ARG:NH1	21:H:297:GLU:HB2	2.25	0.50
24:K:62:LYS:HA	24:K:62:LYS:HE3	1.92	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:K:111:MET:O	24:K:114:VAL:HG12	2.11	0.50
24:K:156:LYS:NZ	27:N:71:VAL:O	2.42	0.50
28:O:30:ILE:HD13	28:O:39:PHE:HE2	1.75	0.50
30:Q:27:PHE:CE2	30:Q:89:PRO:HG2	2.46	0.50
36:W:41:PHE:O	36:W:44:MET:HG3	2.11	0.50
40:a:1318:U:C2	40:a:1319:C:C5	2.99	0.50
40:a:1346:G:C6	40:a:1601:G:C6	2.98	0.50
40:a:1996:C:H5''	49:j:128:ARG:NH1	2.26	0.50
40:a:2230:G:C5'	42:c:30:LEU:HD23	2.41	0.50
42:c:71:LEU:HB3	42:c:76:GLU:CG	2.41	0.50
49:j:184:ARG:HH12	64:y:7:GLN:NE2	2.09	0.50
52:m:25:LYS:C	52:m:29:GLN:HE22	2.20	0.50
58:s:15:TRP:CZ3	58:s:135:GLN:CA	2.93	0.50
59:t:34:GLY:N	59:t:37:ASP:OD2	2.40	0.50
60:u:58:TYR:CD2	60:u:59:ARG:HG2	2.46	0.50
63:x:4:LYS:N	63:x:4:LYS:HD3	2.26	0.50
11:AA:93:SER:HA	11:AA:128:PRO:HA	1.93	0.50
14:AE:157:GLN:HE22	14:AE:188:LEU:HD22	1.76	0.50
17:D:767:A:H2'	17:D:768:A:O4'	2.11	0.50
17:D:864:A:H2'	17:D:865:A:C8	2.46	0.50
19:F:6:VAL:HG12	30:Q:108:THR:O	2.11	0.50
20:G:169:GLU:OE1	20:G:169:GLU:N	2.44	0.50
28:O:51:PRO:HA	28:O:103:PHE:HE2	1.76	0.50
33:T:3:LEU:HD12	33:T:35:GLN:OE1	2.10	0.50
33:T:11:ILE:HD11	33:T:30:ALA:C	2.36	0.50
36:W:45:ILE:HA	36:W:62:VAL:HG11	1.92	0.50
38:Y:57:VAL:HG23	38:Y:71:LYS:HD3	1.94	0.50
40:a:65:U:C2	40:a:66:C:C6	3.00	0.50
40:a:271:G:H4'	40:a:272:A:OP1	2.10	0.50
40:a:780:G:C2	40:a:782:A:C2	3.00	0.50
40:a:851:C:C2	40:a:852:U:C5	3.00	0.50
40:a:1799:G:N2	47:h:154:LEU:HD23	2.26	0.50
40:a:2063:C:O2	40:a:2450:A:N1	2.45	0.50
40:a:2305:U:H4'	53:n:133:ARG:NH2	2.25	0.50
43:d:42:C:P	53:n:64:LYS:NZ	2.83	0.50
48:i:26:THR:HG23	48:i:27:SER:N	2.25	0.50
62:w:12:ARG:NE	62:w:20:MET:HE1	2.26	0.50
10:A:68:C:C3'	10:A:69:C:H5''	2.42	0.50
16:C:51:TYR:HD1	16:C:54:GLN:HE22	1.58	0.50
17:D:160:A:H2'	17:D:161:A:O4'	2.12	0.50
17:D:276:G:C5'	35:V:17:MET:CE	2.89	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:653:U:O5'	27:N:56:LYS:HE2	2.12	0.50
17:D:1073:U:O2'	20:G:105:LYS:HE3	2.11	0.50
17:D:1359:C:OP2	32:S:75:ARG:NE	2.42	0.50
35:V:15:ASP:OD1	35:V:55:ILE:HD11	2.11	0.50
36:W:49:ILE:HG23	36:W:49:ILE:O	2.12	0.50
40:a:69:C:O2	40:a:73:A:O2'	2.26	0.50
40:a:125:A:C5	52:m:10:LEU:HD13	2.46	0.50
40:a:1801:A:OP1	47:h:146:MET:HE1	2.11	0.50
40:a:2259:U:C6	40:a:2427:C:C4	2.99	0.50
40:a:2391:G:P	54:o:32:ILE:HD12	2.50	0.50
40:a:2848:G:O2'	40:a:2867:G:N2	2.37	0.50
58:s:74:TYR:N	58:s:74:TYR:HD2	2.10	0.50
61:v:73:ILE:HD12	61:v:73:ILE:N	2.26	0.50
2:1:36:LEU:HD23	2:1:48:LYS:HB2	1.93	0.50
5:4:51:GLN:OE1	5:4:57:TYR:OH	2.27	0.50
9:9:10:ALA:O	9:9:14:GLU:HG3	2.11	0.50
9:9:30:SER:O	9:9:31:ARG:CZ	2.59	0.50
12:AB:19:GLU:HG2	12:AB:23:ARG:CZ	2.42	0.50
13:AC:140:ILE:HD12	13:AC:142:MET:HE3	1.91	0.50
16:C:66:SER:HA	25:L:49:TYR:CE1	2.47	0.50
17:D:10:A:OP2	24:K:131:THR:HG21	2.12	0.50
17:D:280:C:H1'	35:V:40:ARG:HH22	1.75	0.50
17:D:501:C:H2'	17:D:502:A:C8	2.46	0.50
17:D:1106:G:O3'	22:I:172:ARG:HG3	2.11	0.50
22:I:82:GLU:O	22:I:86:LYS:CD	2.60	0.50
26:M:35:LYS:HE3	26:M:38:THR:OG1	2.11	0.50
27:N:106:THR:HB	27:N:121:LEU:CD1	2.41	0.50
33:T:5:THR:HG23	33:T:6:GLU:N	2.25	0.50
37:X:65:VAL:HG23	37:X:66:GLU:OE1	2.12	0.50
38:Y:126:ARG:CZ	40:a:1083:U:P	3.00	0.50
40:a:4:U:C2	40:a:5:A:C8	3.00	0.50
40:a:995:C:O2	58:s:3:THR:OG1	2.17	0.50
40:a:2082:A:H2'	40:a:2083:G:O4'	2.12	0.50
40:a:2636:C:O2'	49:j:45:TYR:OH	1.99	0.50
42:c:65:ASP:CG	42:c:66:THR:N	2.70	0.50
50:k:34:LEU:CB	50:k:51:GLU:OE2	2.60	0.50
51:l:170:ARG:HH12	51:l:176:ASP:N	2.09	0.50
55:p:24:ILE:HG22	55:p:35:ARG:O	2.11	0.50
58:s:15:TRP:CH2	58:s:135:GLN:HG3	2.46	0.50
59:t:59:LYS:HZ3	59:t:92:GLU:HG2	1.76	0.50
60:u:55:MET:HE1	60:u:60:ARG:HA	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:w:58:ASP:OD1	62:w:63:ARG:NH2	2.44	0.50
62:w:87:PHE:HZ	62:w:115:LEU:HG	1.77	0.50
3:2:49:LYS:HE2	3:2:49:LYS:HA	1.93	0.50
9:9:52:MET:HG2	9:9:95:LEU:CD1	2.39	0.50
12:AB:158:GLU:HB3	12:AB:162:LEU:CD2	2.42	0.50
16:C:60:LYS:HE3	17:D:735:C:C4'	2.42	0.50
17:D:335:C:C2	17:D:336:A:C8	2.99	0.50
19:F:25:LYS:HE3	21:H:336:ASP:OD2	2.11	0.50
21:H:303:LEU:O	21:H:303:LEU:CG	2.59	0.50
21:H:304:VAL:HG11	21:H:346:LEU:HB2	1.93	0.50
34:U:73:ALA:HA	34:U:76:LYS:CE	2.41	0.50
40:a:1956:U:C4	40:a:1957:C:C5	2.99	0.50
40:a:2063:C:C4	40:a:2064:C:C5	3.00	0.50
40:a:2065:C:H2'	40:a:2066:C:H6	1.77	0.50
58:s:15:TRP:CD1	58:s:53:TYR:HB2	2.45	0.50
61:v:50:ARG:CA	61:v:53:MET:SD	3.00	0.50
3:2:10:VAL:HG12	3:2:11:LEU:HD12	1.93	0.50
4:3:6:ARG:HG2	4:3:7:ARG:H	1.77	0.50
5:4:31:TYR:OH	43:d:103:U:O2'	2.20	0.50
8:7:33:U:O2	8:7:33:U:H2'	2.11	0.50
16:C:41:PRO:HD2	21:H:339:ARG:NE	2.26	0.50
17:D:36:C:C4	17:D:37:U:C5	3.00	0.50
17:D:109:A:H2'	17:D:326:G:N2	2.27	0.50
17:D:136:C:C2	17:D:137:U:C6	3.00	0.50
17:D:339:C:C2	17:D:340:U:C5	2.99	0.50
17:D:744:C:H2'	17:D:745:G:C8	2.47	0.50
17:D:1492:A:O2'	17:D:1493:A:H5''	2.11	0.50
20:G:38:VAL:HG22	21:H:75:VAL:HG21	1.92	0.50
24:K:157:ARG:HH12	27:N:43:GLU:CD	2.20	0.50
25:L:11:HIS:HB3	25:L:14:GLN:OE1	2.11	0.50
27:N:35:ALA:O	27:N:39:VAL:HG23	2.12	0.50
33:T:33:THR:OG1	33:T:63:ARG:NH1	2.45	0.50
37:X:71:ARG:HD2	37:X:72:GLU:N	2.26	0.50
38:Y:37:PHE:HE1	38:Y:58:ILE:HD11	1.77	0.50
40:a:234:U:C2	40:a:235:U:C6	3.00	0.50
40:a:1823:G:O2'	40:a:1824:G:H5'	2.12	0.50
45:f:4:THR:CB	45:f:37:GLU:OE2	2.58	0.50
51:l:97:ASN:ND2	51:l:100:MET:HE2	2.27	0.50
51:l:194:LYS:O	51:l:197:GLU:N	2.45	0.50
58:s:13:ARG:HH22	58:s:49:ASP:C	2.20	0.50
59:t:114:LYS:O	59:t:118:LEU:HD23	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
64:y:25:THR:OG1	64:y:88:ARG:HB3	2.12	0.50
3:2:12:ARG:HH21	44:e:29:ARG:CZ	2.25	0.50
3:2:14:PRO:HA	3:2:32:LEU:HD13	1.94	0.50
6:5:16:DG:O6	11:AA:451:ARG:NH1	2.45	0.50
11:AA:146:VAL:HG21	11:AA:513:GLN:HE21	1.77	0.50
12:AB:130:PHE:CD2	12:AB:152:HIS:CE1	2.99	0.50
12:AB:134:ASP:OD1	12:AB:135:GLY:N	2.37	0.50
12:AB:146:ILE:O	29:P:100:ILE:CG2	2.58	0.50
14:AE:287:ALA:HB3	14:AE:292:VAL:HG22	1.93	0.50
17:D:626:G:O3'	34:U:51:ARG:NH1	2.45	0.50
17:D:1017:U:O2'	17:D:1018:G:O4'	2.30	0.50
20:G:109:GLN:C	20:G:113:ARG:HE	2.19	0.50
20:G:109:GLN:O	20:G:113:ARG:NE	2.45	0.50
21:H:342:ILE:HG12	21:H:344:LEU:HD12	1.93	0.50
25:L:66:ALA:HB1	25:L:67:PRO:HD2	1.94	0.50
33:T:33:THR:HG21	33:T:85:LEU:HD12	1.94	0.50
40:a:594:U:H2'	40:a:595:C:C6	2.47	0.50
40:a:672:C:O2'	51:l:77:ILE:HD11	2.11	0.50
40:a:1607:C:N4	40:a:1622:G:OP2	2.35	0.50
40:a:1945:G:C4	40:a:1946:U:C5	3.00	0.50
40:a:2884:U:H3	48:i:40:ARG:NH1	2.09	0.50
46:g:58:ASP:CG	46:g:62:LYS:NZ	2.67	0.50
49:j:55:LYS:NZ	49:j:59:ARG:C	2.70	0.50
53:n:122:PHE:CE2	53:n:128:TYR:CD1	3.00	0.50
55:p:26:ILE:HG22	55:p:75:MET:HE2	1.93	0.50
55:p:137:ASP:OD2	55:p:140:VAL:HG23	2.12	0.50
57:r:90:LEU:HD21	57:r:94:ILE:CD1	2.42	0.50
5:4:2:PHE:HB2	5:4:61:LEU:HG	1.94	0.50
9:9:78:GLY:H	9:9:79:PRO:HD2	1.75	0.50
10:A:15:G:H2'	10:A:15:G:N3	2.27	0.50
11:AA:786:GLY:N	11:AA:789:THR:OG1	2.41	0.50
12:AB:102:LYS:NZ	14:AE:285:LEU:HG	2.27	0.50
14:AE:412:LEU:HD22	14:AE:441:LEU:HD21	1.94	0.50
14:AE:430:HIS:HB3	14:AE:925:GLU:HG3	1.93	0.50
16:C:25:ASP:O	16:C:29:LEU:HD13	2.11	0.50
16:C:60:LYS:NZ	17:D:735:C:C5'	2.75	0.50
17:D:736:C:H2'	17:D:737:C:H6	1.77	0.50
17:D:1071:C:H2'	17:D:1072:G:C8	2.47	0.50
26:M:103:TRP:CD1	26:M:137:LYS:HZ2	2.29	0.50
26:M:111:ARG:NH2	26:M:126:ASP:OD2	2.43	0.50
29:P:37:ARG:HB3	29:P:75:ASP:HB2	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:Y:126:ARG:HD2	38:Y:126:ARG:C	2.36	0.50
40:a:2063:C:C2	40:a:2064:C:C6	3.00	0.50
40:a:2547:A:H2'	40:a:2548:U:H6	1.77	0.50
46:g:36:VAL:HG21	46:g:41:HIS:ND1	2.27	0.50
48:i:40:ARG:NH1	48:i:41:HIS:CD2	2.80	0.50
54:o:31:HIS:O	54:o:32:ILE:C	2.54	0.50
59:t:121:GLU:HG3	59:t:123:LEU:HD12	1.94	0.50
62:w:58:ASP:CG	62:w:80:PHE:CZ	2.89	0.50
5:4:62:THR:OG1	5:4:71:LYS:HE3	2.11	0.49
12:AB:29:LEU:HB3	12:AB:56:PHE:HD2	1.76	0.49
14:AE:74:LYS:HZ3	29:P:89:ARG:CA	2.21	0.49
14:AE:107:LEU:HD22	14:AE:299:LEU:HD21	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
14:AE:749:LYS:HD3	14:AE:753:SER:HB2	1.94	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
17:D:653:U:O4'	27:N:56:LYS:CE	2.60	0.49
17:D:953:G:O6	37:X:103:LYS:CE	2.60	0.49
17:D:1439:G:P	18:E:33:LYS:NZ	2.82	0.49
22:I:77:ILE:HA	22:I:84:VAL:HG13	1.94	0.49
26:M:71:PRO:HG3	26:M:103:TRP:HH2	1.76	0.49
26:M:74:GLU:OE1	26:M:75:VAL:O	2.30	0.49
27:N:110:VAL:C	27:N:111:MET:SD	2.95	0.49
38:Y:77:VAL:HG13	38:Y:81:LYS:NZ	2.27	0.49
40:a:16:C:O4'	48:i:15:MET:HE3	2.12	0.49
40:a:57:C:H2'	40:a:58:G:O4'	2.12	0.49
40:a:756:A:H2'	40:a:757:G:O4'	2.11	0.49
40:a:851:C:H2'	40:a:852:U:C6	2.46	0.49
40:a:1141:U:H5	58:s:68:LYS:HZ1	1.59	0.49
40:a:1199:U:H2'	40:a:1200:C:H6	1.77	0.49
40:a:2179:C:C2	40:a:2180:U:C5	3.00	0.49
40:a:2193:G:O2'	40:a:2194:U:OP1	2.28	0.49
47:h:261:LYS:HA	47:h:264:ASP:OD2	2.12	0.49
62:w:103:ARG:HA	62:w:110:MET:HE2	1.93	0.49
9:9:52:MET:CE	9:9:85:SER:HB2	2.42	0.49
9:9:67:THR:N	9:9:68:PRO:CD	2.75	0.49
11:AA:232:ILE:HG12	11:AA:237:LEU:HG	1.93	0.49
10:B:32:C:H2'	10:B:33:U:H5'	1.94	0.49
16:C:13:PHE:CB	16:C:51:TYR:CD1	2.95	0.49
16:C:24:LYS:HB3	25:L:102:MET:HE1	1.93	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:555:U:H2'	17:D:556:C:C6	2.46	0.49
17:D:958:A:O4'	36:W:55:ARG:NH1	2.45	0.49
24:K:113:ALA:CA	24:K:116:GLU:OE1	2.60	0.49
24:K:159:LYS:HZ3	27:N:44:GLY:HA3	1.76	0.49
25:L:99:ALA:HB3	25:L:104:LYS:HZ1	1.77	0.49
26:M:66:LEU:CD1	26:M:101:MET:CE	2.84	0.49
32:S:87:ALA:HA	32:S:90:ARG:HG2	1.94	0.49
40:a:44:A:H2'	40:a:45:G:O4'	2.12	0.49
40:a:1205:A:C2	51:l:165:HIS:CE1	3.00	0.49
40:a:2290:G:H2'	40:a:2291:U:C6	2.47	0.49
40:a:2489:U:H2'	40:a:2490:G:O4'	2.12	0.49
40:a:2646:C:OP2	40:a:2732:G:O2'	2.25	0.49
46:g:47:LYS:NZ	53:n:115:ARG:HA	2.27	0.49
58:s:55:ILE:CG1	58:s:123:LYS:HE2	2.42	0.49
17:D:657:U:C1'	33:T:28:GLN:HE22	2.24	0.49
17:D:925:G:C6	17:D:927:G:N7	2.80	0.49
19:F:63:GLU:O	19:F:67:ARG:HD2	2.12	0.49
20:G:110:SER:CA	20:G:113:ARG:HE	2.25	0.49
23:J:104:ARG:NE	23:J:104:ARG:HA	2.27	0.49
23:J:170:TRP:CD2	23:J:186:PRO:HB3	2.47	0.49
25:L:35:LYS:HG3	25:L:36:ILE:N	2.27	0.49
40:a:537:G:P	58:s:2:LYS:CE	3.00	0.49
40:a:1791:A:C2	40:a:1829:A:O4'	2.65	0.49
40:a:2362:C:O5'	54:o:40:ARG:NH2	2.45	0.49
47:h:131:PRO:HD3	47:h:189:ARG:NH1	2.27	0.49
58:s:30:THR:HG23	58:s:31:GLU:N	2.26	0.49
2:1:71:VAL:O	2:1:71:VAL:HG23	2.13	0.49
9:9:6:GLN:HA	9:9:9:GLN:HE22	1.74	0.49
9:9:43:LYS:HA	9:9:46:ARG:NH1	2.27	0.49
9:9:87:GLU:OE2	9:9:95:LEU:HB2	2.12	0.49
11:AA:400:VAL:HG21	11:AA:452:ARG:HE	1.77	0.49
13:AD:100:LEU:HB2	13:AD:144:ILE:HG23	1.94	0.49
14:AE:814:CYS:SG	14:AE:815:GLY:N	2.85	0.49
17:D:35:G:H2'	17:D:36:C:C6	2.48	0.49
17:D:376:G:OP2	34:U:70:ARG:HD3	2.13	0.49
17:D:718:A:C8	30:Q:118:HIS:HB3	2.48	0.49
17:D:821:G:H2'	17:D:822:U:C6	2.47	0.49
17:D:1218:C:H2'	17:D:1219:A:C8	2.48	0.49
20:G:111:ILE:HD13	20:G:148:LEU:HD13	1.95	0.49
20:G:114:LEU:HD13	20:G:144:LEU:HB3	1.94	0.49
24:K:34:THR:HG22	24:K:52:LYS:HD3	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:K:134:ILE:O	24:K:137:VAL:HG12	2.12	0.49
37:X:3:ARG:HH22	46:g:36:VAL:HG12	1.77	0.49
37:X:92:ARG:HD2	40:a:888:C:OP1	2.12	0.49
40:a:3:U:C2	40:a:4:U:C5	3.00	0.49
40:a:132:G:H2'	40:a:133:U:C6	2.47	0.49
40:a:583:G:OP1	65:z:11:ARG:NH2	2.46	0.49
40:a:840:C:C2	40:a:841:G:C8	3.01	0.49
40:a:1199:U:H2'	40:a:1200:C:C6	2.47	0.49
40:a:1342:A:O2'	40:a:1344:U:OP2	2.31	0.49
40:a:1790:C:H2'	40:a:1791:A:C8	2.48	0.49
40:a:2014:A:H2'	40:a:2015:A:C8	2.47	0.49
40:a:2159:G:H2'	40:a:2160:C:C6	2.47	0.49
40:a:2485:G:O3'	61:v:125:PRO:HB3	2.12	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
55:p:94:TYR:CE1	55:p:152:ARG:HD2	2.48	0.49
58:s:98:GLU:HB3	58:s:102:GLU:OE2	2.12	0.49
61:v:70:ASP:C	61:v:92:TRP:CZ3	2.90	0.49
2:1:23:LEU:HD21	2:1:35:ILE:HG22	1.94	0.49
5:4:35:GLU:OE1	5:4:93:ARG:NH2	2.46	0.49
11:AA:812:PHE:O	14:AE:504:GLN:NE2	2.40	0.49
12:AB:123:PHE:CE1	29:P:85:ASP:CG	2.89	0.49
12:AB:129:ILE:O	12:AB:142:LEU:HB3	2.12	0.49
12:AB:143:LEU:HD22	12:AB:145:LEU:HG	1.94	0.49
17:D:373:A:C2	17:D:374:A:C8	3.01	0.49
24:K:88:VAL:HG12	24:K:93:ARG:HA	1.93	0.49
27:N:83:LEU:HD11	31:R:4:VAL:HB	1.94	0.49
28:O:52:LEU:O	28:O:55:VAL:O	2.31	0.49
31:R:38:TYR:HE2	31:R:40:THR:CG2	2.25	0.49
31:R:80:ILE:HG22	31:R:81:LEU:N	2.27	0.49
34:U:12:LYS:HD3	34:U:13:LYS:HG2	1.93	0.49
35:V:62:ARG:HA	35:V:73:TRP:CZ3	2.47	0.49
38:Y:20:SER:CB	38:Y:21:PRO:HD3	2.43	0.49
38:Y:86:LYS:HD3	38:Y:86:LYS:O	2.11	0.49
40:a:235:U:C2	40:a:236:C:C5	3.00	0.49
40:a:272:A:N3	40:a:273:G:C8	2.80	0.49
40:a:1036:G:C6	40:a:1120:G:C5	3.01	0.49
40:a:1590:A:H2'	40:a:1591:A:C8	2.48	0.49
40:a:2349:G:O6	40:a:2369:A:N6	2.46	0.49
40:a:2682:A:C5'	49:j:11:MET:HE1	2.42	0.49
40:a:2849:U:OP2	64:y:93:ARG:CZ	2.60	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:c:6:GLN:CD	42:c:49:LEU:HD22	2.38	0.49
51:l:195:GLN:HA	51:l:198:GLU:OE1	2.13	0.49
53:n:70:ALA:O	53:n:81:GLN:OE1	2.31	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
59:t:7:MET:SD	59:t:18:ARG:NE	2.85	0.49
64:y:9:GLU:HG3	64:y:55:LEU:CB	2.42	0.49
4:3:6:ARG:NH1	40:a:84:A:H2'	2.27	0.49
5:4:1:MET:SD	5:4:3:THR:OG1	2.71	0.49
10:A:56:C:H2'	10:A:57:A:H5''	1.93	0.49
11:AA:400:VAL:HG11	11:AA:452:ARG:HD2	1.94	0.49
11:AA:529:ARG:HH11	11:AA:572:ILE:HG22	1.77	0.49
11:AA:1340:GLU:HB2	14:AE:19:ALA:HB3	1.94	0.49
12:AB:50:LEU:HD21	14:AE:285:LEU:HB3	1.94	0.49
10:B:68:C:C3'	10:B:69:C:H5''	2.42	0.49
17:D:311:C:O5'	17:D:311:C:H6	1.94	0.49
17:D:406:G:C5	17:D:495:A:C5	3.01	0.49
17:D:537:G:OP1	31:R:110:ARG:NH2	2.38	0.49
17:D:1215:G:C2	17:D:1216:A:C8	3.01	0.49
20:G:126:PHE:C	20:G:127:ASP:O	2.55	0.49
38:Y:126:ARG:HH12	40:a:1082:U:C3'	2.26	0.49
40:a:299:A:N1	40:a:322:A:O2'	2.42	0.49
40:a:1348:C:O2	40:a:1348:C:H2'	2.11	0.49
40:a:1843:C:C2	40:a:1844:C:C5	3.00	0.49
40:a:2040:G:OP1	58:s:106:LYS:NZ	2.38	0.49
40:a:2392:A:C8	40:a:2429:G:C2	3.00	0.49
45:f:3:LYS:HE2	45:f:3:LYS:HA	1.95	0.49
46:g:63:ARG:HG3	46:g:64:PHE:CD1	2.48	0.49
51:l:5:LEU:HD23	51:l:122:GLU:HG3	1.95	0.49
51:l:6:LYS:HZ2	51:l:119:ILE:HA	1.77	0.49
56:q:10:LEU:HD23	56:q:33:HIS:CD2	2.47	0.49
58:s:125:TYR:HE2	58:s:130:HIS:HB2	1.78	0.49
58:s:131:ASN:OD1	58:s:131:ASN:O	2.30	0.49
61:v:29:GLY:HA3	61:v:104:GLU:HG3	1.94	0.49
61:v:41:LEU:HD22	61:v:45:GLN:NE2	2.27	0.49
63:x:90:VAL:HG22	63:x:115:LEU:HD11	1.94	0.49
9:9:24:SER:HB3	9:9:116:GLU:HG3	1.94	0.49
10:A:47:U:O2'	10:A:50:U:P	2.70	0.49
12:AB:155:LYS:HG3	12:AB:156:ASN:N	2.25	0.49
16:C:73:ARG:HH12	30:Q:113:VAL:HB	1.76	0.49
17:D:56:U:H2'	17:D:57:G:C8	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:816:A:OP1	17:D:1526:G:O2'	2.27	0.49
17:D:922:G:H2'	17:D:923:A:C8	2.47	0.49
17:D:1227:A:H5'	37:X:110:LYS:NZ	2.28	0.49
20:G:23:TRP:CZ3	20:G:25:PRO:HA	2.47	0.49
21:H:267:TRP:CE3	21:H:340:ARG:HG3	2.47	0.49
22:I:183:ASP:HB3	22:I:204:LYS:HZ2	1.78	0.49
23:J:113:GLU:O	23:J:117:LEU:HG	2.13	0.49
25:L:9:MET:O	25:L:84:VAL:HA	2.12	0.49
30:Q:31:ILE:HD12	30:Q:46:THR:HG22	1.94	0.49
34:U:18:GLN:NE2	34:U:35:ARG:HE	2.10	0.49
35:V:17:MET:HG3	35:V:20:SER:HB2	1.95	0.49
37:X:81:MET:HG2	40:a:888:C:C4	2.48	0.49
38:Y:60:VAL:CG2	38:Y:66:PHE:HB3	2.28	0.49
40:a:145:C:H2'	40:a:146:A:H8	1.77	0.49
40:a:1454:C:H4'	62:w:63:ARG:NH1	2.27	0.49
40:a:2313:C:H5''	53:n:88:LYS:HD2	1.95	0.49
40:a:2684:U:C4	40:a:2685:G:N7	2.81	0.49
40:a:2740:A:H2'	40:a:2741:A:C8	2.47	0.49
40:a:2754:U:O3'	56:q:19:ARG:NH2	2.46	0.49
51:l:141:MET:O	51:l:142:ALA:HB3	2.13	0.49
53:n:8:TYR:HA	53:n:12:VAL:HB	1.95	0.49
59:t:88:ASN:OD1	59:t:89:ASN:N	2.46	0.49
60:u:77:ILE:HD11	60:u:108:ALA:HB1	1.95	0.49
61:v:57:VAL:HG22	61:v:60:GLN:O	2.13	0.49
65:z:51:ARG:N	65:z:51:ARG:HD2	2.28	0.49
65:z:74:ILE:HG13	65:z:78:LYS:HE3	1.94	0.49
9:9:25:ALA:CB	9:9:99:PHE:HD2	2.25	0.49
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
29:P:7:ARG:HD3	29:P:75:ASP:CG	2.36	0.49
30:Q:98:ARG:HG2	30:Q:98:ARG:HH11	1.77	0.49
33:T:5:THR:O	33:T:8:THR:OG1	2.27	0.49
35:V:42:THR:HG22	35:V:44:LEU:HD12	1.95	0.49
40:a:15:G:C2'	48:i:15:MET:HE1	2.42	0.49
40:a:1792:G:H5''	47:h:204:VAL:HG23	1.95	0.49
40:a:1932:A:H2'	40:a:1933:G:O4'	2.13	0.49
40:a:2093:G:N7	40:a:2225:A:H2'	2.28	0.49
40:a:2809:A:H2'	40:a:2810:A:C8	2.48	0.49
40:a:2902:C:N4	40:a:2903:U:O4	2.45	0.49
47:h:52:ARG:HG3	47:h:53:HIS:ND1	2.27	0.49
47:h:141:VAL:HG23	47:h:162:VAL:HG12	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:p:94:TYR:C	55:p:95:ARG:HD2	2.38	0.49
58:s:54:ILE:O	58:s:123:LYS:HG2	2.12	0.49
59:t:1:MET:HE3	59:t:32:TYR:HB3	1.95	0.49
65:z:79:PHE:CE1	65:z:110:VAL:HG22	2.48	0.49
2:1:95:ARG:NH1	2:1:97:LEU:HG	2.28	0.49
8:7:3:G:H5''	17:D:1501:C:N4	2.27	0.49
11:AA:411:ARG:NH2	11:AA:427:ASP:OD2	2.44	0.49
14:AE:81:ARG:CD	14:AE:81:ARG:C	2.86	0.49
14:AE:209:ASN:HB3	14:AE:214:ARG:HH21	1.77	0.49
14:AE:520:ALA:HB3	14:AE:546:ALA:HB2	1.95	0.49
10:B:23:C:H2'	10:B:24:U:H6	1.77	0.49
10:B:72:A:H2'	10:B:73:A:H5''	1.95	0.49
17:D:377:G:OP1	34:U:5:ARG:CZ	2.60	0.49
17:D:1439:G:OP1	18:E:33:LYS:CE	2.61	0.49
24:K:13:GLU:C	24:K:14:LYS:HD2	2.38	0.49
29:P:64:GLN:OE1	29:P:65:TYR:O	2.31	0.49
40:a:636:G:N2	60:u:76:GLU:OE2	2.45	0.49
40:a:1142:A:C4	40:a:1144:A:N7	2.80	0.49
40:a:1385:A:O2'	40:a:1396:U:O2	2.31	0.49
40:a:1571:A:H2'	40:a:1572:A:C8	2.47	0.49
40:a:1808:A:O2'	42:c:3:ARG:NH1	2.46	0.49
40:a:2351:G:O6	54:o:39:LYS:HE3	2.13	0.49
45:f:41:THR:CA	45:f:45:ARG:HH22	2.25	0.49
46:g:47:LYS:HE2	53:n:115:ARG:HA	1.95	0.49
56:q:2:LYS:CE	56:q:35:GLN:HE21	2.25	0.49
58:s:1:MET:HE2	65:z:97:ASP:OD2	2.13	0.49
6:5:10:DT:C7	11:AA:62:TYR:HD2	1.69	0.49
9:9:31:ARG:HH22	40:a:1106:G:N2	2.10	0.49
9:9:67:THR:O	9:9:72:LEU:HG	2.12	0.49
11:AA:380:ALA:HA	12:AB:65:HIS:ND1	2.28	0.49
12:AB:32:MET:HE2	12:AB:32:MET:HA	1.95	0.49
12:AB:51:PHE:CZ	14:AE:288:PRO:HG3	2.47	0.49
12:AB:117:ILE:HG23	12:AB:160:ARG:O	2.13	0.49
12:AB:123:PHE:CA	29:P:85:ASP:OD2	2.57	0.49
16:C:60:LYS:NZ	17:D:734:G:C3'	2.76	0.49
17:D:71:A:N1	17:D:100:G:C8	2.81	0.49
17:D:610:U:O2	17:D:610:U:H2'	2.12	0.49
17:D:718:A:C5	30:Q:118:HIS:ND1	2.81	0.49
17:D:908:A:H2'	17:D:909:A:C8	2.48	0.49
17:D:1175:G:HO2'	17:D:1176:A:P	2.35	0.49
22:I:142:MET:HG3	22:I:170:GLU:OE1	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:K:46:VAL:N	24:K:71:MET:HE2	2.27	0.49
24:K:157:ARG:CZ	27:N:43:GLU:HG3	2.42	0.49
26:M:109:ARG:O	26:M:119:ARG:NH2	2.46	0.49
28:O:12:ARG:HD3	28:O:13:LYS:H	1.78	0.49
28:O:32:GLN:HG3	28:O:32:GLN:O	2.13	0.49
33:T:64:ARG:HA	33:T:64:ARG:HH11	1.75	0.49
35:V:42:THR:HG22	35:V:44:LEU:HD11	1.95	0.49
38:Y:21:PRO:CB	38:Y:22:PRO:HD3	2.41	0.49
40:a:2189:U:O2'	40:a:2190:G:O5'	2.31	0.49
40:a:2677:G:C6	40:a:2731:G:C6	3.01	0.49
40:a:2771:C:C2	40:a:2772:C:C5	3.01	0.49
44:e:2:LYS:HZ1	44:e:49:ASP:C	2.21	0.49
50:k:21:TYR:CE2	50:k:38:LYS:CG	2.96	0.49
51:l:119:ILE:O	51:l:188:MET:N	2.35	0.49
61:v:58:LYS:O	61:v:59:ARG:HG3	2.13	0.49
62:w:73:ASN:C	62:w:73:ASN:HD22	2.17	0.49
64:y:7:GLN:NE2	64:y:10:GLN:HE21	2.11	0.49
64:y:40:LEU:HD12	64:y:40:LEU:N	2.28	0.49
5:4:89:ILE:CG2	5:4:91:PHE:CE1	2.95	0.48
8:7:21:U:H5'	22:I:80:LYS:CG	2.43	0.48
9:9:108:VAL:O	9:9:109:LYS:HB3	2.12	0.48
11:AA:732:ILE:HD11	11:AA:769:PRO:HB3	1.95	0.48
12:AB:6:LEU:O	12:AB:7:LEU:HD23	2.13	0.48
17:D:123:U:H5''	17:D:311:C:O2'	2.13	0.48
17:D:563:A:N1	17:D:884:U:O4	2.46	0.48
17:D:739:C:O2	33:T:42:HIS:HE1	1.95	0.48
17:D:1324:A:H2'	17:D:1325:C:H6	1.78	0.48
18:E:54:MET:HE1	18:E:75:HIS:HE1	1.77	0.48
24:K:112:ARG:C	24:K:116:GLU:OE1	2.56	0.48
26:M:108:ALA:O	26:M:119:ARG:NH2	2.45	0.48
26:M:132:GLY:O	26:M:136:LYS:NZ	2.45	0.48
26:M:138:ARG:HG2	26:M:142:HIS:CE1	2.48	0.48
29:P:63:ASP:OD1	29:P:65:TYR:CZ	2.66	0.48
33:T:35:GLN:HB3	33:T:59:MET:HE1	1.95	0.48
40:a:379:G:N1	40:a:396:G:C6	2.82	0.48
40:a:807:U:OP2	60:u:41:ARG:NH1	2.42	0.48
40:a:1664:A:C2'	40:a:1665:A:H5'	2.43	0.48
41:b:45:PHE:HD2	41:b:80:ILE:HD11	1.77	0.48
44:e:14:LEU:HD13	44:e:57:LEU:HD22	1.95	0.48
45:f:41:THR:N	45:f:45:ARG:NH2	2.61	0.48
49:j:101:PHE:CZ	49:j:203:VAL:HG12	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:n:67:ILE:HD13	53:n:87:CYS:HB3	1.95	0.48
55:p:69:ARG:NH1	55:p:73:ASN:HD21	2.11	0.48
1:0:73:LYS:HE2	1:0:73:LYS:HA	1.95	0.48
2:1:17:VAL:HG12	2:1:76:VAL:HG21	1.94	0.48
2:1:35:ILE:O	2:1:39:THR:HG23	2.12	0.48
3:2:2:ILE:HG12	3:2:42:GLU:CD	2.37	0.48
6:5:10:DT:N1	11:AA:62:TYR:HE2	2.07	0.48
7:6:19:DC:H2'	7:6:20:DA:C8	2.48	0.48
9:9:3:LEU:CD1	9:9:4:ASN:N	2.63	0.48
9:9:77:VAL:CG1	9:9:82:ILE:HG21	2.41	0.48
10:A:21:A:H4'	10:A:21:A:OP1	2.13	0.48
10:A:22:G:O2'	10:A:23:C:O5'	2.31	0.48
10:A:70:G:C3'	10:A:71:C:H5''	2.43	0.48
12:AB:141:LEU:O	12:AB:151:LYS:N	2.46	0.48
10:B:30:G:O2'	17:D:1339:A:N1	2.36	0.48
17:D:43:C:P	34:U:12:LYS:NZ	2.86	0.48
17:D:331:G:H2'	18:E:4:ILE:HD11	1.95	0.48
17:D:429:U:N3	17:D:431:A:N6	2.61	0.48
17:D:1319:A:C8	17:D:1323:G:C6	3.01	0.48
19:F:4:ILE:CD1	19:F:19:PHE:HA	2.43	0.48
33:T:71:LYS:HE2	33:T:78:TYR:CE2	2.48	0.48
36:W:44:MET:SD	36:W:62:VAL:CG1	2.99	0.48
38:Y:99:LYS:NZ	38:Y:138:VAL:O	2.44	0.48
41:b:47:ALA:HB2	41:b:59:LEU:HD11	1.94	0.48
62:w:82:GLU:O	62:w:86:ARG:HG2	2.13	0.48
4:3:94:ARG:CB	4:3:103:ILE:HD12	2.43	0.48
10:A:72:A:H2'	10:A:73:A:H5''	1.95	0.48
11:AA:9:LYS:HG2	11:AA:1171:ARG:HH12	1.77	0.48
12:AB:92:VAL:HG13	12:AB:96:LEU:O	2.13	0.48
14:AE:1289:ASN:ND2	14:AE:1300:ALA:O	2.46	0.48
10:B:22:G:O2'	10:B:23:C:O5'	2.31	0.48
10:B:47:U:O2'	10:B:50:U:P	2.70	0.48
17:D:674:G:P	25:L:86:ARG:HH22	2.35	0.48
17:D:1127:G:C2	17:D:1128:C:C6	3.01	0.48
22:I:134:MET:HE2	22:I:168:TYR:CG	2.49	0.48
22:I:164:ARG:HD2	22:I:166:GLU:OE2	2.12	0.48
25:L:42:TRP:CZ2	25:L:102:MET:SD	3.01	0.48
28:O:52:LEU:HB3	28:O:58:VAL:HG12	1.94	0.48
33:T:64:ARG:CZ	33:T:64:ARG:CB	2.91	0.48
37:X:16:VAL:HG23	37:X:17:ILE:N	2.28	0.48
40:a:26:G:H2'	40:a:27:G:O4'	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:39:G:H1'	51:l:43:THR:HG21	1.95	0.48
40:a:1921:G:C2'	40:a:1922:G:H5'	2.43	0.48
40:a:2061:G:C2	40:a:2063:C:C5	3.01	0.48
40:a:2591:C:H2'	40:a:2592:G:H8	1.78	0.48
49:j:55:LYS:NZ	49:j:59:ARG:HB3	2.23	0.48
51:l:147:LEU:HD11	51:l:170:ARG:CD	2.43	0.48
53:n:22:TYR:HE2	53:n:29:PRO:HD3	1.79	0.48
62:w:33:ILE:HD11	62:w:112:TYR:CE1	2.48	0.48
62:w:114:GLU:N	62:w:114:GLU:OE1	2.46	0.48
64:y:9:GLU:HG3	64:y:55:LEU:HB2	1.95	0.48
5:4:77:VAL:HG13	5:4:77:VAL:O	2.14	0.48
9:9:97:LYS:HZ1	9:9:130:PRO:HA	1.77	0.48
11:AA:554:HIS:HD2	11:AA:558:VAL:HB	1.77	0.48
10:B:21:A:H4'	10:B:21:A:OP1	2.13	0.48
16:C:21:ILE:HG13	16:C:54:GLN:NE2	2.29	0.48
16:C:60:LYS:CD	17:D:734:G:O2'	2.62	0.48
17:D:429:U:O2	17:D:430:A:C8	2.66	0.48
17:D:877:G:H5''	27:N:80:ARG:HD2	1.94	0.48
17:D:1314:C:H2'	17:D:1315:U:H6	1.78	0.48
18:E:22:ALA:HA	18:E:25:ARG:HE	1.78	0.48
20:G:49:MET:CE	20:G:201:PRO:CD	2.87	0.48
22:I:119:SER:O	22:I:123:GLN:HG2	2.13	0.48
23:J:62:ARG:CZ	23:J:69:GLU:HG2	2.44	0.48
23:J:76:TYR:HE2	23:J:204:TYR:CB	2.26	0.48
25:L:65:GLU:OE1	25:L:65:GLU:HA	2.12	0.48
28:O:86:ALA:HA	28:O:89:GLU:HG2	1.95	0.48
31:R:74:LEU:HD11	31:R:80:ILE:CD1	2.43	0.48
35:V:50:ASN:HB2	35:V:52:GLU:OE2	2.13	0.48
37:X:9:ILE:HG13	37:X:10:PRO:HD2	1.95	0.48
38:Y:99:LYS:CD	38:Y:138:VAL:O	2.61	0.48
40:a:1800:C:HO2'	40:a:1818:U:H3	1.61	0.48
40:a:2420:C:C5'	50:k:8:LYS:NZ	2.76	0.48
40:a:2515:C:H2'	40:a:2516:A:H8	1.78	0.48
44:e:10:SER:OG	44:e:13:GLU:HG2	2.13	0.48
62:w:37:THR:HG21	62:w:40:LYS:HZ2	1.79	0.48
3:2:11:LEU:HD11	3:2:46:ALA:HB3	1.95	0.48
4:3:84:GLY:HA3	4:3:95:PHE:CZ	2.48	0.48
5:4:1:MET:O	5:4:1:MET:HE3	2.13	0.48
11:AA:18:ARG:HE	11:AA:620:ASN:HA	1.77	0.48
14:AE:429:LEU:HB3	14:AE:925:GLU:HG2	1.95	0.48
14:AE:693:VAL:HG21	14:AE:743:MET:HE3	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:404:G:O2'	17:D:498:A:N1	2.37	0.48
17:D:500:G:H2'	17:D:501:C:H6	1.77	0.48
17:D:1314:C:H2'	17:D:1315:U:C6	2.48	0.48
22:I:156:ARG:HG2	22:I:193:TYR:HB2	1.95	0.48
23:J:61:VAL:HA	23:J:64:ILE:HD12	1.96	0.48
25:L:38:ARG:HD2	25:L:40:GLU:OE2	2.13	0.48
27:N:96:MET:HG2	27:N:96:MET:O	2.13	0.48
31:R:7:LEU:HD23	35:V:34:TYR:OH	2.12	0.48
39:Z:29:LYS:HG3	39:Z:30:PHE:CE2	2.49	0.48
40:a:208:C:H2'	40:a:209:C:H6	1.78	0.48
40:a:624:C:O2'	40:a:657:U:OP1	2.29	0.48
40:a:1021:A:H3'	40:a:1021:A:N3	2.27	0.48
40:a:1321:A:C5	40:a:1322:A:C8	3.02	0.48
40:a:2455:G:H2'	40:a:2456:C:C6	2.48	0.48
51:l:149:ILE:CG2	51:l:175:ILE:HD11	2.43	0.48
53:n:16:LEU:HD12	53:n:28:VAL:CG2	2.43	0.48
57:r:137:GLU:CG	57:r:138:VAL:HG23	2.39	0.48
58:s:88:THR:O	58:s:92:MET:HE2	2.13	0.48
62:w:60:VAL:HG22	62:w:63:ARG:HH12	1.78	0.48
64:y:13:MET:HG3	64:y:77:HIS:CE1	2.49	0.48
65:z:72:ASN:ND2	65:z:106:PHE:CE2	2.81	0.48
9:9:99:PHE:O	9:9:103:ASN:OD1	2.32	0.48
12:AB:2:GLN:HB2	12:AB:60:ASP:HB2	1.95	0.48
12:AB:126:PHE:C	12:AB:128:ALA:N	2.71	0.48
14:AE:977:SER:OG	14:AE:980:THR:OG1	2.31	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:65:LEU:HD23	16:C:67:LEU:HD11	1.96	0.48
17:D:123:U:C2	17:D:124:C:C5	3.01	0.48
17:D:126:G:OP1	17:D:605:U:O2'	2.19	0.48
17:D:562:U:O3'	31:R:14:ARG:NH1	2.46	0.48
17:D:744:C:H2'	17:D:745:G:H8	1.78	0.48
23:J:170:TRP:CZ3	23:J:190:ASP:HB3	2.48	0.48
24:K:16:ILE:H	24:K:16:ILE:HD12	1.79	0.48
24:K:157:ARG:NH1	27:N:43:GLU:HA	2.29	0.48
25:L:70:VAL:O	25:L:74:LEU:CD2	2.56	0.48
37:X:86:TYR:HE2	37:X:90:ARG:NH2	2.11	0.48
40:a:6:A:O3'	58:s:132:HIS:CE1	2.67	0.48
40:a:272:A:C2	40:a:273:G:C5	3.02	0.48
40:a:920:A:C5	40:a:921:C:C5	3.01	0.48
40:a:2259:U:C2	40:a:2260:C:C5	3.01	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:c:67:VAL:HA	42:c:70:GLU:OE1	2.14	0.48
48:i:40:ARG:NH1	48:i:41:HIS:CG	2.81	0.48
50:k:7:GLU:HG2	50:k:27:LYS:NZ	2.29	0.48
60:u:117:THR:HG23	60:u:118:THR:N	2.28	0.48
61:v:29:GLY:H	61:v:104:GLU:HG2	1.78	0.48
65:z:58:ARG:HA	65:z:61:TRP:CE3	2.48	0.48
8:7:32:U:O2	8:7:32:U:H3'	2.14	0.48
11:AA:143:ARG:NH1	11:AA:507:GLY:O	2.33	0.48
11:AA:618:GLN:HG3	14:AE:770:LEU:HD13	1.95	0.48
11:AA:836:LEU:HD13	11:AA:1054:LEU:HD13	1.95	0.48
13:AD:182:ARG:O	13:AD:205:MET:HA	2.14	0.48
17:D:110:C:H2'	17:D:111:G:O4'	2.14	0.48
19:F:62:ARG:HD2	19:F:63:GLU:N	2.29	0.48
22:I:134:MET:HG3	22:I:151:VAL:CG2	2.44	0.48
23:J:62:ARG:NE	23:J:72:PHE:CE2	2.81	0.48
23:J:139:PRO:N	23:J:182:PHE:HE2	2.12	0.48
26:M:129:GLU:O	26:M:130:ASN:HB2	2.13	0.48
30:Q:94:GLU:O	30:Q:97:ILE:HG22	2.13	0.48
37:X:94:GLY:C	37:X:95:LEU:HD22	2.38	0.48
38:Y:126:ARG:NH1	40:a:1082:U:O5'	2.46	0.48
40:a:67:U:N3	40:a:74:A:N6	2.62	0.48
40:a:1042:G:C4	40:a:1043:C:C6	3.02	0.48
40:a:1830:C:N3	40:a:1831:G:N7	2.61	0.48
40:a:2012:G:H8	40:a:2012:G:O5'	1.96	0.48
40:a:2043:C:C2	40:a:2044:C:C5	3.02	0.48
40:a:2884:U:N3	48:i:40:ARG:NH1	2.62	0.48
43:d:117:G:OP1	63:x:56:LYS:HD3	2.14	0.48
51:l:40:ARG:HD2	51:l:92:HIS:CE1	2.48	0.48
1:0:68:ARG:NH2	1:0:90:ARG:HD3	2.29	0.48
5:4:69:GLU:H	5:4:69:GLU:CD	2.22	0.48
14:AE:291:ILE:O	14:AE:293:ARG:N	2.46	0.48
17:D:1428:A:H2'	17:D:1429:A:O4'	2.13	0.48
22:I:49:LYS:HZ3	22:I:75:ILE:HD11	1.78	0.48
25:L:62:MET:HE3	25:L:62:MET:CA	2.43	0.48
28:O:118:LEU:HD22	28:O:123:ARG:C	2.39	0.48
29:P:15:HIS:O	29:P:18:ILE:HG22	2.14	0.48
40:a:760:G:H2'	40:a:761:A:O4'	2.14	0.48
40:a:984:A:N3	40:a:984:A:H2'	2.29	0.48
40:a:1858:A:N6	40:a:1884:G:H1'	2.29	0.48
40:a:2373:G:H2'	40:a:2374:C:C6	2.49	0.48
40:a:2685:G:OP1	59:t:78:ARG:NH2	2.47	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:j:124:ARG:HA	49:j:165:MET:CE	2.44	0.48
51:l:6:LYS:HZ1	51:l:120:VAL:N	2.12	0.48
51:l:112:LEU:CD1	51:l:117:ARG:HB2	2.39	0.48
55:p:94:TYR:HD1	55:p:107:LEU:HD23	1.79	0.48
58:s:15:TRP:HD1	58:s:53:TYR:HB2	1.78	0.48
61:v:95:LEU:HD23	61:v:95:LEU:H	1.78	0.48
63:x:41:ALA:HB2	63:x:48:LEU:HD11	1.95	0.48
1:0:61:ALA:HB1	1:0:96:VAL:CG2	2.43	0.48
2:1:1:MET:CG	2:1:62:ASP:OD2	2.61	0.48
6:5:17:DC:C5	11:AA:542:ARG:HD3	2.48	0.48
9:9:24:SER:O	9:9:116:GLU:HB2	2.14	0.48
10:A:65:C:C2'	10:A:66:C:H5'	2.44	0.48
12:AB:112:PRO:HA	12:AB:133:PRO:HG2	1.96	0.48
17:D:106:C:N4	18:E:10:ARG:HH22	2.12	0.48
17:D:652:U:C3'	27:N:56:LYS:HZ1	2.19	0.48
17:D:1530:G:H2'	17:D:1531:A:C8	2.49	0.48
20:G:131:LYS:HE3	20:G:132:LYS:NZ	2.29	0.48
23:J:124:MET:HE2	23:J:128:ARG:CA	2.43	0.48
24:K:157:ARG:NH2	27:N:43:GLU:OE2	2.46	0.48
27:N:34:VAL:HG22	27:N:59:LEU:HD21	1.96	0.48
29:P:5:ARG:HG3	29:P:7:ARG:HH12	1.78	0.48
32:S:12:LYS:HD2	32:S:16:LEU:CD2	2.44	0.48
35:V:11:ARG:HD2	35:V:56:GLY:C	2.39	0.48
36:W:9:PRO:HD3	46:g:64:PHE:CD2	2.49	0.48
38:Y:19:PRO:HG2	38:Y:24:GLY:H	1.79	0.48
40:a:1141:U:H4'	40:a:1142:A:O5'	2.13	0.48
40:a:1666:G:H1'	59:t:3:GLN:NE2	2.29	0.48
40:a:2193:G:O2'	40:a:2194:U:P	2.72	0.48
40:a:2297:A:N1	40:a:2321:U:O4	2.47	0.48
40:a:2327:A:H2'	40:a:2328:A:C8	2.49	0.48
58:s:39:LYS:HA	58:s:44:TYR:HD1	1.78	0.48
58:s:123:LYS:HD2	58:s:132:HIS:HD2	1.78	0.48
60:u:59:ARG:HH11	60:u:59:ARG:HG3	1.78	0.48
62:w:38:LEU:N	62:w:39:PRO:CD	2.76	0.48
2:1:23:LEU:HD21	2:1:35:ILE:CG2	2.44	0.48
2:1:25:ARG:HH12	40:a:520:G:P	2.37	0.48
3:2:69:ARG:HG3	3:2:74:ILE:HD13	1.96	0.48
4:3:28:VAL:HG23	4:3:34:VAL:HG12	1.96	0.48
7:6:10:DG:OP1	14:AE:311:ARG:NH2	2.47	0.48
9:9:103:ASN:HA	9:9:107:GLU:HG3	1.96	0.48
10:A:26:G:H1	10:A:44:A:N6	2.12	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:AE:290:ILE:O	14:AE:290:ILE:HG12	2.14	0.48
10:B:65:C:C2'	10:B:66:C:H5'	2.44	0.48
17:D:636:U:H5'	35:V:6:ARG:NE	2.29	0.48
17:D:893:C:C2	17:D:894:G:C8	3.01	0.48
17:D:1149:C:H2'	17:D:1150:A:H8	1.79	0.48
17:D:1172:C:H2'	17:D:1173:U:C6	2.49	0.48
17:D:1307:U:H2'	17:D:1308:U:C6	2.49	0.48
20:G:110:SER:CA	20:G:113:ARG:HH21	2.27	0.48
23:J:138:SER:O	23:J:139:PRO:C	2.57	0.48
23:J:195:ILE:HG13	23:J:195:ILE:O	2.14	0.48
26:M:142:HIS:O	26:M:146:GLU:HG2	2.13	0.48
27:N:40:LEU:O	27:N:44:GLY:N	2.47	0.48
28:O:49:ARG:O	28:O:53:GLU:OE1	2.32	0.48
31:R:99:ARG:NE	31:R:104:CYS:SG	2.87	0.48
32:S:74:LEU:HD23	32:S:77:PHE:CD2	2.49	0.48
33:T:77:ARG:HH21	33:T:80:GLN:NE2	2.11	0.48
35:V:31:HIS:HD2	35:V:34:TYR:H	1.62	0.48
37:X:86:TYR:CE2	37:X:90:ARG:NE	2.82	0.48
40:a:962:G:C5	40:a:963:U:C5	3.01	0.48
40:a:1825:U:P	47:h:52:ARG:NH1	2.86	0.48
40:a:2298:A:C4	40:a:2321:U:H5	2.31	0.48
40:a:2299:U:P	53:n:72:LYS:HE2	2.54	0.48
40:a:2419:U:O2'	40:a:2420:C:H5'	2.14	0.48
41:b:26:PHE:H	41:b:29:GLU:HG3	1.78	0.48
48:i:28:LEU:O	48:i:37:LYS:NZ	2.46	0.48
56:q:1:MET:CA	56:q:1:MET:HE3	2.43	0.48
61:v:42:THR:HA	61:v:93:VAL:HG12	1.95	0.48
63:x:115:LEU:HD23	63:x:117:PHE:CE1	2.48	0.48
5:4:59:GLU:OE1	5:4:59:GLU:N	2.47	0.47
9:9:52:MET:HE2	9:9:85:SER:HB2	1.95	0.47
10:A:32:C:H2'	10:A:33:U:H5'	1.94	0.47
12:AB:7:LEU:HD22	12:AB:78:PHE:HA	1.96	0.47
14:AE:804:ALA:O	14:AE:806:ASP:N	2.47	0.47
17:D:72:A:C5	17:D:73:C:C5	3.02	0.47
25:L:9:MET:HE2	25:L:51:ILE:CD1	2.44	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
34:U:26:ASN:ND2	34:U:31:ARG:HE	2.11	0.47
40:a:247:G:H4'	40:a:386:G:C5	2.49	0.47
40:a:654:A:N6	54:o:19:LYS:HD2	2.29	0.47
51:l:42:GLY:HA3	51:l:92:HIS:CE1	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:s:13:ARG:NH2	58:s:50:THR:HA	2.27	0.47
58:s:98:GLU:OE1	58:s:124:VAL:HG13	2.13	0.47
61:v:53:MET:SD	61:v:53:MET:N	2.86	0.47
61:v:53:MET:HB2	61:v:116:ALA:HB1	1.96	0.47
2:1:28:LYS:HB2	2:1:31:GLN:OE1	2.14	0.47
2:1:95:ARG:NH1	2:1:97:LEU:CD2	2.77	0.47
5:4:11:GLU:OE2	5:4:19:ARG:NH2	2.47	0.47
9:9:31:ARG:NE	9:9:31:ARG:HA	2.28	0.47
9:9:95:LEU:HD12	9:9:99:PHE:CZ	2.48	0.47
11:AA:1286:THR:O	11:AA:1290:MET:HB2	2.14	0.47
11:AA:1314:GLN:HB2	15:AF:28:ARG:HH12	1.79	0.47
12:AB:50:LEU:HD21	14:AE:285:LEU:CB	2.44	0.47
12:AB:111:TYR:HB3	12:AB:112:PRO:HD2	1.96	0.47
12:AB:155:LYS:CG	12:AB:156:ASN:H	2.26	0.47
14:AE:678:ARG:NH1	14:AE:756:GLU:OE1	2.46	0.47
10:B:35:A:H2'	10:B:36:U:C6	2.49	0.47
17:D:109:A:C6	17:D:326:G:C6	3.02	0.47
17:D:1176:A:H2'	17:D:1177:G:O4'	2.14	0.47
17:D:1412:C:H2'	17:D:1413:A:C8	2.49	0.47
20:G:26:LYS:O	20:G:26:LYS:HD3	2.14	0.47
23:J:74:ASN:CA	23:J:77:LYS:HZ3	2.27	0.47
24:K:157:ARG:NH1	27:N:43:GLU:CD	2.72	0.47
38:Y:52:LEU:O	38:Y:54:ILE:HG12	2.14	0.47
38:Y:74:PRO:O	38:Y:78:LEU:HG	2.13	0.47
38:Y:126:ARG:NH1	40:a:1083:U:OP2	2.47	0.47
40:a:208:C:C2	40:a:209:C:C5	3.01	0.47
40:a:689:A:H2'	40:a:690:G:C8	2.49	0.47
40:a:783:A:N3	40:a:783:A:H2'	2.29	0.47
40:a:880:G:C2	40:a:881:G:C8	3.02	0.47
40:a:1333:G:C2	40:a:1334:G:C8	3.03	0.47
40:a:2298:A:H5''	53:n:72:LYS:CE	2.45	0.47
40:a:2814:A:C4	40:a:2815:C:C5	3.03	0.47
50:k:19:HIS:CD2	50:k:20:PHE:N	2.82	0.47
50:k:25:LYS:HD3	50:k:51:GLU:OE2	2.15	0.47
51:l:6:LYS:HZ1	51:l:119:ILE:C	2.23	0.47
53:n:93:GLY:C	53:n:97:TRP:CZ3	2.92	0.47
59:t:20:MET:HB3	59:t:44:LYS:HE2	1.95	0.47
61:v:41:LEU:HG	61:v:96:ILE:HG13	1.95	0.47
65:z:78:LYS:CD	65:z:117:LEU:HD21	2.43	0.47
2:1:20:VAL:O	2:1:23:LEU:HB3	2.13	0.47
4:3:40:ASN:OD1	4:3:65:ILE:HB	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:A:19:G:C6	40:a:2112:G:O5'	2.67	0.47
10:A:35:A:H2'	10:A:36:U:C6	2.49	0.47
10:A:75:C:O2'	10:A:76:A:N7	2.48	0.47
11:AA:565:GLU:HA	11:AA:569:ILE:HG12	1.95	0.47
12:AB:130:PHE:HA	12:AB:152:HIS:HE2	1.77	0.47
17:D:61:G:O6	18:E:10:ARG:NH2	2.47	0.47
17:D:1227:A:C2	17:D:1228:C:C6	3.02	0.47
17:D:1308:U:H3'	37:X:98:ARG:NH2	2.29	0.47
19:F:25:LYS:NZ	21:H:336:ASP:CG	2.68	0.47
19:F:33:ARG:O	19:F:36:GLU:HG2	2.15	0.47
24:K:57:PRO:HA	24:K:60:ILE:HG12	1.96	0.47
26:M:71:PRO:O	26:M:96:ARG:NH1	2.47	0.47
26:M:109:ARG:C	26:M:119:ARG:HH21	2.23	0.47
26:M:135:VAL:HG23	26:M:136:LYS:HD2	1.96	0.47
32:S:63:ARG:HD3	32:S:68:GLY:O	2.15	0.47
33:T:29:VAL:HG22	33:T:66:LEU:HD23	1.96	0.47
35:V:62:ARG:C	35:V:73:TRP:CE3	2.92	0.47
37:X:5:ALA:HB3	37:X:66:GLU:OE2	2.14	0.47
39:Z:26:MET:O	39:Z:30:PHE:HB2	2.14	0.47
40:a:576:U:H2'	40:a:577:G:C8	2.48	0.47
40:a:2070:A:H2'	40:a:2071:A:O4'	2.14	0.47
40:a:2091:C:O2	42:c:34:HIS:CE1	2.67	0.47
40:a:2246:G:H2'	40:a:2247:A:C8	2.49	0.47
40:a:2537:U:H2'	40:a:2538:C:H6	1.79	0.47
46:g:47:LYS:HE2	53:n:115:ARG:CZ	2.44	0.47
47:h:130:LEU:HG	47:h:135:ILE:HG13	1.96	0.47
53:n:38:MET:HE3	53:n:57:LEU:HG	1.96	0.47
57:r:18:GLN:HE22	57:r:39:ALA:HB2	1.78	0.47
5:4:21:ARG:HA	5:4:25:LYS:O	2.14	0.47
10:A:12:G:C2'	10:A:13:C:OP1	2.61	0.47
14:AE:1108:GLN:HE21	14:AE:1123:ARG:HH12	1.62	0.47
10:B:70:G:C3'	10:B:71:C:H5''	2.44	0.47
17:D:330:C:O2	17:D:330:C:H2'	2.14	0.47
17:D:378:G:H2'	17:D:379:C:C6	2.49	0.47
17:D:864:A:H5'	24:K:90:THR:O	2.14	0.47
17:D:975:A:H8	17:D:1357:A:HO2'	1.60	0.47
18:E:19:LYS:CG	18:E:20:HIS:N	2.76	0.47
20:G:112:LYS:HE2	20:G:112:LYS:HA	1.95	0.47
21:H:5:PHE:CE1	21:H:9:PHE:HE1	2.31	0.47
28:O:21:ILE:HD12	28:O:86:ALA:HB1	1.96	0.47
32:S:57:PRO:HA	32:S:60:GLN:OE1	2.13	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:W:33:THR:HG21	36:W:49:ILE:HD11	1.94	0.47
40:a:600:G:H2'	40:a:601:C:C6	2.49	0.47
40:a:1349:C:N3	40:a:1350:C:C5	2.83	0.47
40:a:1818:U:H6	47:h:156:ARG:NH2	2.13	0.47
44:e:24:GLU:O	44:e:25:GLN:C	2.57	0.47
46:g:45:THR:O	46:g:49:ARG:CZ	2.62	0.47
47:h:108:LYS:HZ3	47:h:194:GLU:N	2.12	0.47
47:h:205:LEU:HD12	47:h:210:ALA:CB	2.44	0.47
52:m:25:LYS:HE2	52:m:28:ARG:HH21	1.78	0.47
55:p:9:VAL:HG23	55:p:69:ARG:HD2	1.95	0.47
55:p:18:LYS:HE2	55:p:18:LYS:HA	1.96	0.47
61:v:59:ARG:CZ	61:v:59:ARG:O	2.63	0.47
5:4:2:PHE:CE1	5:4:56:PHE:CZ	3.03	0.47
8:7:22:U:H5''	22:I:80:LYS:HB2	1.95	0.47
9:9:51:TYR:CD2	9:9:88:HIS:HB2	2.49	0.47
10:A:33:U:H4'	26:M:84:THR:HB	1.97	0.47
17:D:306:A:C5	17:D:307:C:C5	3.02	0.47
17:D:808:C:OP1	33:T:48:LYS:HE3	2.14	0.47
17:D:977:A:H1'	17:D:982:U:O4	2.15	0.47
17:D:1308:U:P	37:X:98:ARG:CG	3.03	0.47
20:G:117:LEU:HD21	20:G:141:LEU:HB2	1.96	0.47
21:H:70:VAL:HA	21:H:85:SER:HA	1.95	0.47
30:Q:85:MET:HB3	30:Q:113:VAL:HG11	1.95	0.47
40:a:1385:A:C4	40:a:1386:C:C5	3.02	0.47
40:a:1429:G:H2'	40:a:1430:G:H8	1.79	0.47
40:a:1794:A:H2'	40:a:1795:C:H6	1.80	0.47
40:a:1841:U:C2	40:a:1842:G:C8	3.02	0.47
40:a:2296:U:H4'	40:a:2297:A:OP1	2.14	0.47
40:a:2788:C:H2'	40:a:2789:C:C6	2.50	0.47
41:b:51:VAL:N	41:b:62:LYS:HZ3	2.13	0.47
45:f:41:THR:O	45:f:42:PRO:C	2.58	0.47
51:l:23:PHE:CE2	51:l:25:GLU:HA	2.50	0.47
61:v:57:VAL:HG22	61:v:57:VAL:O	2.14	0.47
2:1:105:VAL:HG13	2:1:105:VAL:O	2.14	0.47
6:5:10:DT:C4'	11:AA:62:TYR:OH	2.61	0.47
9:9:16:SER:HB2	9:9:20:LYS:NZ	2.29	0.47
11:AA:848:GLU:HG2	11:AA:888:THR:HG22	1.96	0.47
14:AE:70:CYS:SG	14:AE:85:CYS:SG	3.12	0.47
14:AE:437:PHE:HZ	14:AE:453:VAL:HG11	1.79	0.47
10:B:70:G:C2'	10:B:71:C:H5''	2.45	0.47
17:D:375:U:H1'	34:U:28:ARG:HH22	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:1149:C:C2	17:D:1150:A:C8	3.03	0.47
17:D:1397:C:OP1	17:D:1397:C:H2'	2.13	0.47
26:M:18:PHE:CD2	26:M:59:LEU:HD21	2.46	0.47
31:R:18:LYS:NZ	31:R:19:SER:O	2.47	0.47
33:T:77:ARG:NH2	33:T:80:GLN:NE2	2.62	0.47
35:V:30:LYS:HD3	35:V:35:GLY:HA2	1.97	0.47
40:a:591:U:C2	40:a:592:A:C8	3.03	0.47
40:a:1197:G:C4	40:a:1198:U:C5	3.02	0.47
40:a:1708:C:H2'	40:a:1709:U:H6	1.79	0.47
40:a:1770:G:C6	40:a:1983:G:C5	3.03	0.47
40:a:2243:U:H2'	40:a:2244:U:H6	1.80	0.47
44:e:20:ASN:HA	44:e:23:ARG:NE	2.30	0.47
46:g:5:ILE:CD1	53:n:64:LYS:CE	2.92	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
61:v:97:GLN:H	61:v:100:LYS:NZ	2.13	0.47
63:x:90:VAL:HG13	63:x:115:LEU:HD11	1.96	0.47
65:z:53:ARG:HG2	65:z:57:PHE:CE2	2.49	0.47
1:0:6:GLN:OE1	1:0:11:GLN:HG2	2.14	0.47
1:0:82:HIS:CD2	60:u:23:ILE:HG12	2.50	0.47
3:2:1:MET:HE1	40:a:139:U:C4	2.50	0.47
5:4:48:MET:HE3	5:4:85:LYS:HA	1.97	0.47
8:7:8:U:OP2	17:D:1397:C:O2	2.33	0.47
9:9:3:LEU:O	9:9:4:ASN:OD1	2.33	0.47
9:9:38:MET:SD	38:Y:117:THR:CG2	3.02	0.47
11:AA:560:PRO:O	14:AE:780:ARG:NH2	2.47	0.47
11:AA:562:GLU:OE1	11:AA:662:SER:OG	2.28	0.47
12:AB:131:THR:HG23	12:AB:142:LEU:HD22	1.97	0.47
13:AC:64:VAL:HG11	13:AC:78:ILE:HG21	1.97	0.47
14:AE:74:LYS:HG2	14:AE:75:TYR:CD1	2.50	0.47
14:AE:86:GLU:CD	14:AE:86:GLU:N	2.73	0.47
10:B:52:G:C6	10:B:63:G:O6	2.68	0.47
16:C:16:GLU:OE1	16:C:18:VAL:HB	2.14	0.47
16:C:60:LYS:HE3	17:D:735:C:H4'	1.97	0.47
17:D:307:C:O2	17:D:307:C:H2'	2.15	0.47
17:D:309:A:O2'	17:D:607:A:N1	2.45	0.47
17:D:611:C:C2	17:D:612:C:C5	3.02	0.47
17:D:687:A:C2	17:D:704:A:C4	3.02	0.47
17:D:1325:C:C2	17:D:1326:U:C5	3.02	0.47
17:D:1382:C:N3	17:D:1383:C:C5	2.83	0.47
18:E:9:LYS:O	18:E:12:ILE:HG12	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:G:19:GLN:OE1	20:G:21:ARG:CG	2.63	0.47
21:H:277:GLY:CA	21:H:331:MET:CE	2.93	0.47
22:I:107:ARG:HB3	22:I:108:LYS:HD2	1.97	0.47
22:I:132:ARG:CA	22:I:135:LYS:HE3	2.44	0.47
23:J:76:TYR:CE2	23:J:204:TYR:CB	2.95	0.47
24:K:148:ASN:ND2	24:K:153:VAL:CG1	2.77	0.47
24:K:156:LYS:HE3	27:N:71:VAL:CG1	2.41	0.47
26:M:17:LYS:HZ2	26:M:18:PHE:HE1	1.57	0.47
27:N:3:MET:O	27:N:3:MET:HE3	2.14	0.47
32:S:63:ARG:NH2	32:S:70:PRO:HD3	2.30	0.47
35:V:27:ARG:HH12	35:V:42:THR:CB	2.26	0.47
40:a:6:A:N3	58:s:135:GLN:NE2	2.58	0.47
40:a:257:C:O2	60:u:104:GLN:NE2	2.48	0.47
40:a:581:C:C2	40:a:582:A:C8	3.02	0.47
40:a:871:U:H2'	40:a:872:U:H6	1.78	0.47
40:a:872:U:H2'	40:a:873:C:C6	2.50	0.47
40:a:879:G:H2'	40:a:880:G:O4'	2.14	0.47
40:a:909:A:H2'	40:a:912:C:H5	1.80	0.47
40:a:1048:A:C4	40:a:1049:C:C5	3.02	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:1790:C:O3'	40:a:1791:A:C8	2.68	0.47
40:a:1844:C:C2	40:a:1845:G:C8	3.02	0.47
40:a:2294:G:OP1	63:x:10:ARG:HD3	2.15	0.47
40:a:2297:A:C6	40:a:2321:U:O4	2.68	0.47
40:a:2314:A:P	53:n:88:LYS:NZ	2.87	0.47
40:a:2345:G:C5	40:a:2347:C:C5	3.03	0.47
40:a:2513:A:H2'	40:a:2514:U:C6	2.50	0.47
40:a:2520:C:C6	40:a:2567:G:H1'	2.50	0.47
40:a:2700:A:H2'	40:a:2701:U:C6	2.50	0.47
40:a:2702:G:C5	40:a:2703:C:C5	3.03	0.47
40:a:2803:G:H2'	40:a:2804:U:C5	2.50	0.47
47:h:181:MET:HE2	47:h:181:MET:CA	2.45	0.47
49:j:9:VAL:O	49:j:197:THR:HG23	2.15	0.47
51:l:59:PRO:HB2	51:l:60:TRP:CE3	2.50	0.47
51:l:168:ASP:HB3	51:l:183:PHE:CE2	2.49	0.47
53:n:12:VAL:O	53:n:16:LEU:HG	2.14	0.47
54:o:62:LEU:HG	54:o:65:ALA:HA	1.96	0.47
56:q:14:CYS:SG	56:q:33:HIS:HB3	2.53	0.47
63:x:83:LEU:HD23	63:x:88:LYS:HE3	1.97	0.47
2:1:11:ARG:CZ	2:1:11:ARG:HB3	2.45	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:B:68:C:H3'	10:B:69:C:H5''	1.97	0.47
16:C:12:ARG:CZ	16:C:13:PHE:CE1	2.97	0.47
17:D:13:U:C4	17:D:21:G:C2	3.03	0.47
17:D:22:G:C5	17:D:23:C:C5	3.03	0.47
17:D:35:G:H2'	17:D:36:C:H6	1.79	0.47
17:D:520:A:O2'	31:R:70:GLU:CD	2.57	0.47
17:D:1189:U:OP1	32:S:98:LYS:NZ	2.48	0.47
23:J:62:ARG:HA	23:J:72:PHE:CZ	2.50	0.47
24:K:165:LEU:HD12	27:N:114:ARG:NH1	2.30	0.47
31:R:2:ALA:N	31:R:7:LEU:HD11	2.30	0.47
33:T:11:ILE:HG21	33:T:31:LEU:CD1	2.45	0.47
38:Y:102:ARG:HH11	38:Y:141:ASP:CG	2.23	0.47
40:a:592:A:C2	54:o:4:ILE:HD11	2.49	0.47
40:a:626:A:C2	60:u:78:ARG:CZ	2.98	0.47
40:a:2193:G:HO2'	40:a:2194:U:P	2.37	0.47
40:a:2300:C:H2'	40:a:2301:C:H6	1.79	0.47
40:a:2517:C:O2	40:a:2542:A:N6	2.48	0.47
40:a:2748:A:C2	40:a:2757:A:C5	3.03	0.47
61:v:41:LEU:HD22	61:v:45:GLN:HE22	1.78	0.47
65:z:108:ALA:O	65:z:112:LYS:HG2	2.14	0.47
1:0:4:VAL:CG2	1:0:40:MET:HB3	2.45	0.47
1:0:4:VAL:HG23	1:0:39:LEU:HB2	1.97	0.47
3:2:18:GLU:O	3:2:22:THR:HG23	2.15	0.47
3:2:56:GLU:OE2	3:2:88:LYS:CA	2.61	0.47
4:3:47:LYS:NZ	40:a:482:A:O5'	2.48	0.47
4:3:96:PHE:CE1	4:3:103:ILE:HG12	2.50	0.47
10:A:47:U:H2'	10:A:48:C:H4'	1.97	0.47
10:A:70:G:C2'	10:A:71:C:H5''	2.45	0.47
11:AA:363:LEU:HB3	11:AA:381:ALA:HB1	1.96	0.47
11:AA:1280:ALA:HB1	14:AE:918:ILE:HG22	1.96	0.47
14:AE:616:PRO:HA	14:AE:619:ILE:HG22	1.96	0.47
10:B:26:G:H1	10:B:44:A:N6	2.12	0.47
10:B:47:U:H2'	10:B:48:C:H4'	1.97	0.47
17:D:436:C:C2	17:D:437:U:C5	3.02	0.47
17:D:745:G:H2'	17:D:746:A:C8	2.50	0.47
17:D:1225:A:H2'	17:D:1226:C:C5	2.49	0.47
17:D:1363:A:C5	17:D:1365:G:C6	3.03	0.47
19:F:64:ASN:HA	19:F:67:ARG:HD3	1.97	0.47
20:G:110:SER:HA	20:G:113:ARG:NE	2.29	0.47
21:H:277:GLY:HA2	21:H:331:MET:HE3	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:K:96:MET:HG2	24:K:125:ALA:HB2	1.97	0.47
25:L:17:GLN:C	25:L:21:MET:HE1	2.40	0.47
26:M:69:VAL:HA	26:M:138:ARG:HD3	1.97	0.47
28:O:89:GLU:O	28:O:92:GLU:OE1	2.32	0.47
28:O:127:PHE:CD1	28:O:128:SER:N	2.83	0.47
29:P:13:PHE:CE1	29:P:67:ILE:HD11	2.50	0.47
33:T:71:LYS:HZ3	33:T:78:TYR:HD2	1.61	0.47
38:Y:96:LYS:HD2	38:Y:136:GLY:O	2.15	0.47
40:a:858:G:P	41:b:78:LYS:HZ1	2.36	0.47
40:a:921:C:C2	40:a:922:C:C5	3.03	0.47
40:a:1791:A:C2	40:a:1829:A:H4'	2.49	0.47
40:a:1936:A:N7	40:a:1945:G:C8	2.83	0.47
40:a:2013:A:C2	40:a:2613:U:O4	2.68	0.47
40:a:2250:G:OP1	61:v:84:LYS:NZ	2.48	0.47
40:a:2294:G:OP1	63:x:98:GLN:OE1	2.33	0.47
40:a:2766:A:C5	40:a:2767:C:C5	3.03	0.47
41:b:51:VAL:HG12	41:b:59:LEU:HD12	1.96	0.47
41:b:53:CYS:SG	41:b:57:HIS:HA	2.55	0.47
46:g:18:CYS:HB2	46:g:40:CYS:HB3	1.96	0.47
51:l:42:GLY:HA3	51:l:92:HIS:HE1	1.80	0.47
58:s:56:VAL:O	58:s:124:VAL:HA	2.14	0.47
60:u:19:LEU:CD2	60:u:27:LEU:HD12	2.45	0.47
65:z:69:ALA:HA	65:z:106:PHE:HZ	1.80	0.47
5:4:53:LYS:O	5:4:56:PHE:HD2	1.97	0.47
8:7:7:U:C6	8:7:7:U:C3'	2.97	0.47
11:AA:1311:GLY:O	15:AF:31:GLN:NE2	2.47	0.47
13:AC:102:LEU:HD12	13:AC:115:ILE:HG12	1.96	0.47
14:AE:218:THR:HA	14:AE:221:ILE:HG22	1.96	0.47
17:D:311:C:P	34:U:31:ARG:NH2	2.85	0.47
19:F:19:PHE:HE2	30:Q:110:ILE:C	2.23	0.47
22:I:22:TRP:CZ2	22:I:32:ASN:HB2	2.50	0.47
22:I:25:ASN:O	22:I:27:LYS:N	2.47	0.47
23:J:41:HIS:ND1	23:J:44:ARG:NH1	2.63	0.47
26:M:17:LYS:HZ2	26:M:18:PHE:HD1	1.58	0.47
26:M:69:VAL:HG23	26:M:100:ALA:HB1	1.97	0.47
36:W:77:THR:OG1	36:W:78:ARG:HD2	2.15	0.47
40:a:963:U:H2'	40:a:964:C:H6	1.79	0.47
40:a:1200:C:C2	40:a:1201:U:C5	3.03	0.47
40:a:1790:C:H2'	40:a:1791:A:N7	2.29	0.47
40:a:2299:U:H2'	40:a:2300:C:C6	2.49	0.47
40:a:2362:C:OP2	54:o:40:ARG:CZ	2.63	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:2784:U:H2'	40:a:2785:C:H6	1.80	0.47
49:j:91:THR:HB	49:j:94:GLN:CG	2.44	0.47
55:p:52:PHE:CZ	55:p:72:LEU:HD22	2.50	0.47
59:t:50:GLY:O	59:t:53:LYS:NZ	2.47	0.47
60:u:110:VAL:HG23	60:u:125:LEU:HD12	1.97	0.47
62:w:24:MET:HG3	62:w:44:LEU:HD12	1.97	0.47
63:x:115:LEU:HD23	63:x:117:PHE:HE1	1.79	0.47
9:9:18:VAL:CG1	9:9:71:CYS:HB2	2.45	0.46
14:AE:797:THR:HG22	14:AE:924:GLY:HA3	1.97	0.46
16:C:12:ARG:NH1	16:C:13:PHE:CE1	2.84	0.46
16:C:38:LYS:HA	16:C:38:LYS:CE	2.37	0.46
17:D:983:A:H5'	17:D:984:C:OP2	2.15	0.46
19:F:37:PHE:HA	30:Q:123:PRO:HB2	1.97	0.46
20:G:18:HIS:CE1	20:G:205:ASP:OD1	2.69	0.46
20:G:110:SER:HA	20:G:113:ARG:HH21	1.79	0.46
20:G:197:ASP:OD2	20:G:198:PHE:CE2	2.68	0.46
25:L:43:GLY:HA2	25:L:58:HIS:CE1	2.51	0.46
26:M:74:GLU:CG	26:M:91:VAL:CG1	2.94	0.46
26:M:111:ARG:O	26:M:119:ARG:CZ	2.63	0.46
28:O:7:TYR:O	28:O:89:GLU:CD	2.58	0.46
29:P:10:LEU:C	29:P:11:LYS:HD3	2.40	0.46
29:P:13:PHE:CZ	29:P:67:ILE:HD11	2.50	0.46
31:R:74:LEU:HD11	31:R:80:ILE:HG13	1.96	0.46
32:S:79:LEU:HB2	32:S:84:VAL:CG2	2.45	0.46
40:a:104:A:C5	40:a:105:C:C5	3.02	0.46
40:a:1006:C:C2	40:a:1138:G:N2	2.83	0.46
40:a:1278:C:H2'	40:a:1279:G:H8	1.80	0.46
40:a:1441:G:H2'	40:a:1442:U:C6	2.50	0.46
40:a:2646:C:O5'	40:a:2646:C:H6	1.98	0.46
40:a:2840:C:C2	40:a:2841:C:C5	3.03	0.46
51:l:148:ILE:CD1	51:l:187:VAL:HB	2.44	0.46
59:t:42:THR:HG22	59:t:44:LYS:HZ1	1.80	0.46
61:v:31:PHE:O	61:v:104:GLU:OE1	2.33	0.46
3:2:57:VAL:HG12	3:2:86:THR:OG1	2.15	0.46
5:4:23:ALA:O	5:4:24:ASN:OD1	2.33	0.46
5:4:53:LYS:HB3	5:4:55:GLU:OE1	2.16	0.46
9:9:40:GLU:CD	9:9:54:VAL:HG11	2.39	0.46
9:9:69:PHE:C	9:9:72:LEU:HD11	2.40	0.46
12:AB:9:CYS:N	12:AB:53:ASN:HB3	2.24	0.46
12:AB:119:THR:HB	12:AB:125:GLY:HA2	1.97	0.46
14:AE:1350:ASN:HA	14:AE:1353:VAL:HG12	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:C:21:ILE:CD1	16:C:54:GLN:NE2	2.79	0.46
17:D:216:U:H2'	17:D:217:C:C6	2.50	0.46
17:D:821:G:H2'	17:D:822:U:H6	1.80	0.46
17:D:1238:A:H2	17:D:1241:G:N3	2.13	0.46
17:D:1368:A:OP1	28:O:113:ARG:NH2	2.48	0.46
17:D:1458:G:H5''	18:E:26:SER:OG	2.14	0.46
21:H:287:LEU:HG	21:H:292:CYS:HA	1.97	0.46
22:I:134:MET:HE2	22:I:168:TYR:CB	2.46	0.46
28:O:63:LEU:HD13	28:O:65:ILE:HD11	1.97	0.46
33:T:48:LYS:O	33:T:50:HIS:N	2.48	0.46
36:W:63:THR:HG22	36:W:64:ASP:N	2.30	0.46
40:a:396:G:C6	40:a:397:U:C4	3.04	0.46
40:a:2200:C:OP2	42:c:37:ARG:NH2	2.48	0.46
40:a:2236:U:H2'	40:a:2237:G:O4'	2.15	0.46
40:a:2351:G:O6	54:o:39:LYS:NZ	2.48	0.46
40:a:2700:A:H2'	40:a:2701:U:H6	1.80	0.46
47:h:2:ALA:N	47:h:20:VAL:O	2.48	0.46
49:j:11:MET:HE3	49:j:11:MET:HB3	1.63	0.46
61:v:30:SER:N	61:v:104:GLU:OE2	2.48	0.46
9:9:38:MET:HA	9:9:41:LEU:HD12	1.96	0.46
10:A:52:G:C6	10:A:63:G:O6	2.68	0.46
11:AA:103:VAL:HG12	11:AA:117:ILE:HG22	1.97	0.46
12:AB:6:LEU:CD1	14:AE:291:ILE:CD1	2.84	0.46
13:AD:212:ASP:OD1	13:AD:212:ASP:N	2.48	0.46
10:B:48:C:C2'	10:B:49:G:OP2	2.62	0.46
16:C:31:ASN:OD1	21:H:268:VAL:HG12	2.15	0.46
17:D:339:C:H2'	17:D:340:U:C6	2.50	0.46
17:D:737:C:C2	17:D:738:C:C5	3.03	0.46
17:D:1109:C:C2	17:D:1110:A:C8	3.04	0.46
20:G:207:ILE:HG23	20:G:208:ARG:N	2.30	0.46
21:H:37:LEU:HD11	21:H:47:ALA:HA	1.96	0.46
26:M:116:MET:HA	26:M:119:ARG:HD3	1.97	0.46
31:R:5:ASN:HB3	31:R:9:ARG:HH22	1.79	0.46
38:Y:106:GLN:OE1	38:Y:125:THR:HG21	2.15	0.46
40:a:57:C:C2	40:a:58:G:C8	3.04	0.46
40:a:78:U:OP1	44:e:4:LYS:CE	2.63	0.46
40:a:136:G:C6	40:a:144:A:C6	3.04	0.46
40:a:404:A:H4'	40:a:405:U:O5'	2.15	0.46
40:a:666:A:H4'	60:u:48:ARG:HD2	1.97	0.46
40:a:753:A:C6	40:a:754:U:C5	3.04	0.46
40:a:1477:A:N6	40:a:1514:G:O2'	2.45	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:1786:A:H1'	40:a:1938:A:N6	2.31	0.46
40:a:2454:G:C6	40:a:2499:C:N4	2.83	0.46
40:a:2683:C:H4'	49:j:13:ARG:NH1	2.31	0.46
42:c:71:LEU:O	42:c:76:GLU:HG3	2.16	0.46
47:h:138:GLY:H	47:h:164:ILE:HG23	1.79	0.46
51:l:1:MET:CE	51:l:20:GLY:N	2.79	0.46
56:q:2:LYS:HE2	56:q:35:GLN:HG3	1.97	0.46
57:r:135:HIS:CE1	57:r:137:GLU:OE1	2.62	0.46
58:s:25:LEU:HD11	58:s:101:ILE:HD13	1.97	0.46
65:z:69:ALA:O	65:z:74:ILE:HG22	2.15	0.46
1:0:71:LYS:HE2	1:0:90:ARG:HD2	1.97	0.46
10:A:24:U:H2'	10:A:25:C:C6	2.51	0.46
10:A:48:C:C2'	10:A:49:G:OP2	2.62	0.46
10:B:24:U:H2'	10:B:25:C:C6	2.51	0.46
16:C:60:LYS:NZ	17:D:735:C:C4'	2.74	0.46
17:D:771:G:C6	17:D:809:G:C6	3.03	0.46
17:D:1055:A:H1'	22:I:156:ARG:NH2	2.31	0.46
17:D:1324:A:H2'	17:D:1325:C:C6	2.51	0.46
17:D:1435:G:H2'	17:D:1436:U:C6	2.51	0.46
24:K:143:GLY:O	24:K:146:ASN:OD1	2.34	0.46
33:T:15:PHE:CD2	33:T:30:ALA:HB2	2.49	0.46
36:W:9:PRO:HB3	46:g:64:PHE:CZ	2.51	0.46
40:a:832:U:H2'	40:a:833:A:C8	2.50	0.46
40:a:1499:C:C2	40:a:1500:G:C8	3.03	0.46
40:a:1598:A:C4	40:a:1599:U:C6	3.03	0.46
40:a:1656:C:P	49:j:141:ARG:HD2	2.55	0.46
40:a:1688:U:O2'	40:a:1700:A:N7	2.44	0.46
40:a:1794:A:H2'	40:a:1795:C:C6	2.50	0.46
40:a:2190:G:H2'	40:a:2191:A:C8	2.50	0.46
40:a:2197:U:C5	40:a:2224:G:C6	3.03	0.46
40:a:2725:A:C4	40:a:2727:A:N7	2.83	0.46
43:d:42:C:C5	53:n:66:LEU:HD12	2.49	0.46
46:g:8:LYS:NZ	46:g:10:GLU:HB2	2.31	0.46
48:i:4:GLN:OE1	48:i:7:LYS:HA	2.16	0.46
48:i:55:ILE:HD13	62:w:112:TYR:CE1	2.50	0.46
49:j:1:MET:O	49:j:204:LYS:HD2	2.15	0.46
51:l:35:TYR:CD2	51:l:178:VAL:HG11	2.51	0.46
54:o:33:LEU:O	54:o:41:LYS:NZ	2.45	0.46
55:p:155:GLU:O	55:p:159:GLY:HA2	2.15	0.46
57:r:58:LEU:O	57:r:61:VAL:HG22	2.14	0.46
61:v:111:GLU:O	61:v:112:LEU:C	2.57	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
65:z:113:ALA:O	65:z:117:LEU:HD13	2.15	0.46
9:9:43:LYS:HE3	9:9:102:ALA:HB2	1.97	0.46
9:9:59:LEU:HB2	9:9:62:ARG:CG	2.45	0.46
9:9:60:LEU:O	9:9:64:VAL:HB	2.15	0.46
10:A:19:G:O6	40:a:2112:G:O5'	2.34	0.46
12:AB:147:ASN:CA	29:P:100:ILE:HG23	2.33	0.46
13:AD:15:ASP:OD1	13:AD:27:THR:OG1	2.30	0.46
14:AE:287:ALA:CB	14:AE:292:VAL:CG2	2.93	0.46
14:AE:287:ALA:HB3	14:AE:292:VAL:CG2	2.46	0.46
14:AE:1037:PHE:HB3	14:AE:1040:MET:HB2	1.97	0.46
10:B:75:C:O2'	10:B:76:A:N7	2.48	0.46
16:C:34:THR:HB	16:C:38:LYS:H	1.81	0.46
16:C:63:ARG:HB3	16:C:70:TYR:CE1	2.51	0.46
17:D:110:C:O4'	34:U:25:ARG:NH2	2.49	0.46
17:D:642:A:H2'	17:D:643:C:H6	1.80	0.46
17:D:829:G:O3'	20:G:23:TRP:HZ2	1.95	0.46
17:D:928:G:H2'	17:D:929:G:H8	1.81	0.46
21:H:302:GLY:HA3	21:H:344:LEU:HD13	1.96	0.46
21:H:304:VAL:O	21:H:304:VAL:CG1	2.63	0.46
22:I:181:ASP:HB2	22:I:207:ILE:HD11	1.97	0.46
25:L:29:ILE:HG21	25:L:64:VAL:HG13	1.97	0.46
27:N:112:THR:HG23	27:N:115:ALA:H	1.80	0.46
30:Q:116:ILE:HG13	30:Q:116:ILE:O	2.14	0.46
33:T:47:LYS:HD3	33:T:47:LYS:N	2.31	0.46
40:a:6:A:H5'	58:s:131:ASN:OD1	2.15	0.46
40:a:247:G:O6	54:o:12:LYS:NZ	2.39	0.46
40:a:374:A:C2	40:a:375:G:H1'	2.51	0.46
40:a:391:A:C5	40:a:392:U:C5	3.04	0.46
40:a:581:C:H2'	40:a:582:A:C8	2.50	0.46
40:a:1209:U:O2'	40:a:1237:A:N1	2.46	0.46
40:a:2393:U:C5'	54:o:30:ARG:NH1	2.76	0.46
53:n:171:ALA:O	53:n:174:ASP:N	2.47	0.46
57:r:72:ILE:O	57:r:72:ILE:HG22	2.16	0.46
59:t:1:MET:CE	59:t:32:TYR:CG	2.98	0.46
3:2:3:ARG:CZ	3:2:5:GLU:OE1	2.64	0.46
8:7:34:U:H3'	8:7:34:U:H6	1.80	0.46
12:AB:123:PHE:CE1	29:P:85:ASP:OD1	2.69	0.46
17:D:878:A:P	27:N:80:ARG:HH11	2.39	0.46
17:D:1328:C:O3'	37:X:28:THR:HB	2.16	0.46
19:F:12:PHE:CD1	30:Q:101:ASN:ND2	2.84	0.46
19:F:16:LEU:HD12	30:Q:98:ARG:HH21	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:K:16:ILE:HD11	24:K:38:VAL:CG1	2.46	0.46
26:M:95:ARG:CZ	26:M:99:LEU:HD21	2.45	0.46
27:N:114:ARG:HD2	27:N:114:ARG:C	2.41	0.46
28:O:58:VAL:HG23	28:O:59:GLU:N	2.31	0.46
36:W:32:ARG:NH2	36:W:34:TRP:CZ3	2.84	0.46
38:Y:59:THR:O	38:Y:66:PHE:HB2	2.16	0.46
40:a:15:G:O2'	48:i:15:MET:HE2	2.15	0.46
40:a:584:C:N4	40:a:585:G:C6	2.83	0.46
40:a:1405:U:H2'	40:a:1406:U:C5	2.49	0.46
40:a:2373:G:H2'	40:a:2374:C:H6	1.81	0.46
44:e:12:GLU:CG	44:e:13:GLU:N	2.78	0.46
48:i:28:LEU:HB2	48:i:37:LYS:HE3	1.97	0.46
49:j:74:GLU:HG2	49:j:75:ALA:N	2.31	0.46
50:k:34:LEU:HB2	50:k:51:GLU:OE2	2.16	0.46
51:l:130:LYS:HB2	51:l:133:LEU:HD12	1.97	0.46
51:l:195:GLN:CA	51:l:198:GLU:OE1	2.64	0.46
58:s:55:ILE:HG13	58:s:123:LYS:CE	2.46	0.46
58:s:136:GLN:N	58:s:137:PRO:CD	2.78	0.46
61:v:41:LEU:HD22	61:v:124:LEU:HD22	1.97	0.46
62:w:44:LEU:C	62:w:44:LEU:HD23	2.39	0.46
2:1:50:VAL:HG12	2:1:105:VAL:CG1	2.45	0.46
6:5:10:DT:OP1	11:AA:476:LYS:HD2	2.16	0.46
7:6:25:DT:H2'	11:AA:496:LYS:CG	2.45	0.46
9:9:25:ALA:HB3	9:9:99:PHE:CE2	2.51	0.46
10:A:32:C:C2'	10:A:33:U:H5'	2.46	0.46
11:AA:400:VAL:HG22	11:AA:584:TYR:HB3	1.96	0.46
12:AB:140:MET:O	12:AB:151:LYS:O	2.34	0.46
17:D:610:U:N3	17:D:611:C:C5	2.83	0.46
17:D:611:C:C2	17:D:612:C:C6	3.04	0.46
17:D:1226:C:H4'	17:D:1227:A:OP1	2.16	0.46
21:H:270:ILE:HG23	21:H:270:ILE:O	2.15	0.46
22:I:58:GLU:OE2	29:P:94:ALA:HB1	2.16	0.46
22:I:134:MET:HE1	22:I:167:TRP:CA	2.43	0.46
25:L:94:HIS:CG	25:L:95:ALA:H	2.34	0.46
25:L:96:VAL:O	25:L:96:VAL:HG23	2.16	0.46
26:M:16:PRO:CB	28:O:46:MET:HG3	2.42	0.46
27:N:6:PRO:O	27:N:33:LYS:NZ	2.48	0.46
30:Q:20:VAL:HB	30:Q:35:THR:CG2	2.45	0.46
32:S:6:MET:HE3	32:S:63:ARG:NH1	2.30	0.46
35:V:7:THR:CG2	35:V:60:GLU:OE2	2.63	0.46
36:W:32:ARG:NH2	36:W:34:TRP:HZ3	2.14	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:X:3:ARG:HB3	46:g:35:ASP:OD2	2.15	0.46
38:Y:19:PRO:HG2	38:Y:23:VAL:CG2	2.42	0.46
38:Y:126:ARG:HH12	40:a:1082:U:C5'	2.29	0.46
40:a:182:A:H2'	40:a:183:C:H6	1.81	0.46
40:a:644:A:H2'	40:a:645:C:O4'	2.15	0.46
40:a:1421:G:C2	40:a:1422:G:C8	3.03	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:2245:U:O2'	40:a:2436:G:OP2	2.27	0.46
40:a:2314:A:O2'	53:n:155:THR:HG21	2.15	0.46
40:a:2616:C:N3	40:a:2617:U:C5	2.84	0.46
40:a:2743:U:O2'	55:p:153:ARG:NH1	2.49	0.46
43:d:82:U:O2'	45:f:53:PHE:HE2	1.99	0.46
48:i:40:ARG:HH12	48:i:41:HIS:CD2	2.34	0.46
55:p:8:PRO:C	55:p:69:ARG:HH21	2.23	0.46
56:q:1:MET:HE1	56:q:35:GLN:HA	1.95	0.46
58:s:17:VAL:HG23	58:s:137:PRO:HB2	1.98	0.46
58:s:72:LYS:HD3	58:s:74:TYR:CZ	2.43	0.46
59:t:59:LYS:HZ3	59:t:92:GLU:CG	2.29	0.46
61:v:41:LEU:HG	61:v:96:ILE:CG1	2.45	0.46
62:w:56:LYS:NZ	62:w:90:ARG:O	2.47	0.46
62:w:115:LEU:HD23	62:w:117:ASP:N	2.30	0.46
5:4:53:LYS:HD2	5:4:56:PHE:HE2	1.77	0.46
5:4:53:LYS:HD2	5:4:56:PHE:CZ	2.50	0.46
10:A:46:G:H1'	10:A:47:U:C5	2.51	0.46
10:A:50:U:H2'	10:A:51:C:C6	2.51	0.46
14:AE:69:GLU:HG2	14:AE:76:LYS:HG2	1.98	0.46
14:AE:1341:ARG:NH1	14:AE:1343:GLU:OE2	2.49	0.46
17:D:35:G:N3	31:R:115:SER:OG	2.47	0.46
17:D:413:G:N2	17:D:428:G:H1'	2.31	0.46
17:D:440:C:C2	17:D:441:A:C8	3.04	0.46
17:D:826:C:O2	27:N:16:ASN:ND2	2.49	0.46
17:D:1209:C:C2	17:D:1210:C:C5	3.04	0.46
17:D:1512:U:H2'	17:D:1513:A:C8	2.51	0.46
19:F:12:PHE:CE1	30:Q:107:ILE:CG2	2.98	0.46
24:K:150:PRO:O	24:K:153:VAL:HG22	2.16	0.46
33:T:3:LEU:HD23	33:T:4:SER:O	2.15	0.46
35:V:61:ILE:C	35:V:73:TRP:HZ3	2.23	0.46
40:a:609:A:H3'	40:a:610:C:H6	1.80	0.46
40:a:1065:U:HO2'	40:a:1066:U:C5'	2.26	0.46
40:a:1068:G:O6	40:a:1069:A:N6	2.48	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:1069:A:O2'	40:a:1073:A:N6	2.38	0.46
40:a:1585:C:H2'	40:a:1586:A:O4'	2.15	0.46
40:a:1588:G:C6	40:a:1589:U:O4	2.69	0.46
40:a:2529:G:N7	56:q:32:LYS:NZ	2.63	0.46
42:c:76:GLU:OE1	42:c:77:LYS:O	2.34	0.46
43:d:44:G:H3'	53:n:92:ARG:HH22	1.81	0.46
44:e:10:SER:OG	44:e:12:GLU:HG2	2.15	0.46
46:g:47:LYS:CD	53:n:178:ARG:HH22	2.29	0.46
46:g:56:ARG:HH21	46:g:59:ARG:HH21	1.62	0.46
47:h:52:ARG:NE	47:h:53:HIS:CE1	2.83	0.46
59:t:76:VAL:HG12	64:y:73:VAL:HB	1.97	0.46
3:2:3:ARG:HH22	3:2:4:GLU:HB2	1.81	0.46
4:3:46:GLN:NE2	4:3:54:GLN:HG2	2.31	0.46
11:AA:712:SER:OG	11:AA:713:GLY:N	2.49	0.46
10:B:32:C:C2'	10:B:33:U:H5'	2.46	0.46
10:B:50:U:H2'	10:B:51:C:C6	2.51	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:HG	16:C:65:LEU:O	2.16	0.46
17:D:915:A:C5	17:D:916:U:C6	3.03	0.46
17:D:915:A:C6	17:D:916:U:C5	3.04	0.46
18:E:82:GLN:HA	18:E:85:LYS:NZ	2.30	0.46
19:F:63:GLU:HG2	19:F:67:ARG:CZ	2.46	0.46
21:H:115:LYS:HA	21:H:119:GLY:C	2.40	0.46
25:L:35:LYS:HD2	25:L:36:ILE:H	1.81	0.46
29:P:59:LYS:HE2	29:P:62:ARG:NH2	2.31	0.46
38:Y:59:THR:C	38:Y:66:PHE:HB2	2.41	0.46
38:Y:102:ARG:NE	38:Y:139:VAL:CG2	2.78	0.46
38:Y:102:ARG:HE	38:Y:139:VAL:HG21	1.79	0.46
40:a:67:U:N3	40:a:68:G:C5	2.84	0.46
40:a:306:U:H2'	40:a:307:G:O4'	2.16	0.46
40:a:1064:C:O2'	40:a:1065:U:C6	2.63	0.46
40:a:2357:G:P	41:b:20:ARG:CZ	3.04	0.46
41:b:26:PHE:O	41:b:29:GLU:HG2	2.15	0.46
44:e:12:GLU:HG2	44:e:13:GLU:H	1.81	0.46
46:g:1:MET:SD	46:g:3:LYS:HE2	2.56	0.46
49:j:5:VAL:HG22	49:j:202:ILE:CD1	2.46	0.46
61:v:39:GLY:O	61:v:96:ILE:N	2.33	0.46
62:w:48:VAL:CG1	62:w:49:GLU:OE1	2.64	0.46
63:x:90:VAL:CG2	63:x:115:LEU:HD21	2.46	0.46
64:y:106:LYS:CD	64:y:109:ARG:HH22	2.29	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:7:37:U:H4'	14:AE:322:ARG:CZ	2.46	0.46
9:9:11:ILE:HG12	9:9:65:GLU:HG2	1.98	0.46
11:AA:207:THR:OG1	11:AA:354:ASP:OD2	2.32	0.46
11:AA:230:PHE:HB2	11:AA:333:ILE:HB	1.97	0.46
13:AD:185:TYR:HA	13:AD:202:VAL:O	2.16	0.46
14:AE:81:ARG:H	14:AE:81:ARG:CD	2.25	0.46
14:AE:420:PRO:HA	14:AE:437:PHE:O	2.16	0.46
10:B:75:C:P	40:a:2602:A:H2'	2.55	0.46
17:D:197:A:C6	17:D:221:C:H4'	2.50	0.46
17:D:277:C:OP1	35:V:43:LYS:HD2	2.15	0.46
17:D:520:A:O3'	31:R:70:GLU:OE2	2.32	0.46
17:D:653:U:N1	27:N:56:LYS:HE3	2.30	0.46
25:L:47:LEU:HD13	25:L:51:ILE:HG12	1.98	0.46
26:M:31:MET:HE1	26:M:36:LYS:CD	2.46	0.46
26:M:134:ALA:HA	26:M:137:LYS:CD	2.46	0.46
29:P:10:LEU:HD22	29:P:22:THR:HG22	1.98	0.46
31:R:18:LYS:HD3	31:R:19:SER:O	2.16	0.46
31:R:68:GLY:O	31:R:99:ARG:NH1	2.48	0.46
33:T:15:PHE:CE2	33:T:30:ALA:HB1	2.51	0.46
40:a:493:G:H2'	40:a:494:G:O4'	2.16	0.46
40:a:923:G:H4'	41:b:29:GLU:OE1	2.16	0.46
40:a:1107:G:C5	40:a:1108:U:C5	3.04	0.46
40:a:1406:U:O2'	40:a:1407:G:P	2.74	0.46
40:a:1665:A:O3'	59:t:66:LYS:NZ	2.44	0.46
40:a:1707:G:C4	40:a:1708:C:C5	3.04	0.46
40:a:2756:U:N3	40:a:2758:A:N6	2.64	0.46
43:d:8:C:O3'	63:x:25:ARG:NH1	2.48	0.46
43:d:83:G:H1'	45:f:53:PHE:CE1	2.51	0.46
47:h:33:LEU:O	47:h:64:ILE:HG12	2.16	0.46
50:k:19:HIS:CE1	50:k:41:PRO:CD	2.99	0.46
51:l:149:ILE:CD1	51:l:188:MET:HG2	2.46	0.46
51:l:175:ILE:HG21	51:l:180:LEU:HD11	1.97	0.46
54:o:49:MET:H	54:o:49:MET:HE2	1.81	0.46
57:r:18:GLN:OE1	57:r:39:ALA:HB1	2.15	0.46
57:r:137:GLU:OE1	57:r:137:GLU:N	2.42	0.46
58:s:123:LYS:HD2	58:s:132:HIS:CD2	2.50	0.46
64:y:106:LYS:CD	64:y:109:ARG:NH2	2.79	0.46
9:9:94:ARG:CB	9:9:97:LYS:CE	2.94	0.45
10:A:6:G:O2'	10:A:7:G:H8	1.98	0.45
11:AA:689:ALA:HB2	11:AA:1233:LEU:HD23	1.97	0.45
11:AA:735:LYS:HA	11:AA:748:ILE:HG22	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AB:148:LYS:CE	29:P:102:LEU:CB	2.82	0.45
14:AE:516:ASP:OD1	14:AE:516:ASP:N	2.47	0.45
15:AF:25:ARG:NH1	15:AF:61:ASN:OD1	2.49	0.45
16:C:12:ARG:HB2	21:H:264:GLU:CB	2.46	0.45
17:D:371:A:H2'	17:D:372:C:O4'	2.15	0.45
17:D:1173:U:H2'	17:D:1174:G:O4'	2.17	0.45
17:D:1202:U:C5	17:D:1203:C:C5	3.04	0.45
17:D:1513:A:H2'	17:D:1514:G:C8	2.51	0.45
20:G:117:LEU:HD23	20:G:141:LEU:HA	1.98	0.45
21:H:24:VAL:HG23	21:H:24:VAL:O	2.16	0.45
24:K:145:GLU:CD	24:K:146:ASN:N	2.74	0.45
25:L:73:GLU:O	25:L:76:THR:OG1	2.33	0.45
26:M:66:LEU:HD13	26:M:101:MET:HE3	1.93	0.45
27:N:8:ALA:N	27:N:77:ARG:HH11	2.14	0.45
27:N:89:LYS:HG3	27:N:90:ASP:N	2.31	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
32:S:82:ILE:HG23	32:S:83:LYS:N	2.31	0.45
36:W:44:MET:HE1	36:W:62:VAL:CG2	2.46	0.45
38:Y:37:PHE:HZ	38:Y:56:VAL:HG11	1.79	0.45
38:Y:79:LEU:O	38:Y:83:ALA:HB3	2.16	0.45
38:Y:102:ARG:HH21	38:Y:105:LEU:HD12	1.81	0.45
40:a:396:G:C5	40:a:397:U:C5	3.03	0.45
40:a:607:U:C6	40:a:620:G:C5	3.04	0.45
40:a:669:G:H2'	40:a:670:A:N7	2.31	0.45
40:a:1223:G:N2	40:a:1226:A:OP2	2.43	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:2683:C:OP1	64:y:51:ARG:NH2	2.46	0.45
45:f:12:SER:C	45:f:54:MET:HE1	2.40	0.45
46:g:16:CYS:CB	46:g:37:CYS:CB	2.90	0.45
46:g:16:CYS:SG	46:g:37:CYS:N	2.89	0.45
53:n:142:ASP:CB	53:n:145:LYS:HE2	2.40	0.45
54:o:26:HIS:CE1	54:o:48:ALA:HB2	2.51	0.45
56:q:1:MET:HE3	56:q:1:MET:HA	1.97	0.45
9:9:3:LEU:HD12	9:9:5:LEU:H	1.82	0.45
9:9:23:LEU:HA	9:9:118:ILE:HD11	1.99	0.45
9:9:34:THR:HA	9:9:37:LYS:NZ	2.32	0.45
11:AA:557:ARG:NH2	11:AA:607:SER:O	2.50	0.45
12:AB:116:VAL:HG23	12:AB:130:PHE:CZ	2.50	0.45
12:AB:141:LEU:HB2	12:AB:153:SER:OG	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:AD:182:ARG:HD2	14:AE:581:MET:HE1	1.98	0.45
14:AE:781:LYS:HD2	14:AE:933:ARG:HH12	1.81	0.45
14:AE:802:ASP:OD1	14:AE:1348:LYS:NZ	2.42	0.45
17:D:377:G:H2'	17:D:378:G:H8	1.81	0.45
17:D:696:A:H2'	17:D:697:U:H6	1.81	0.45
17:D:765:G:C6	17:D:812:G:C4	3.04	0.45
17:D:1132:C:O2	17:D:1132:C:H2'	2.16	0.45
17:D:1287:A:H2'	17:D:1288:A:C8	2.51	0.45
18:E:54:MET:O	18:E:58:VAL:HG23	2.16	0.45
21:H:32:ASP:OD1	21:H:35:VAL:HG23	2.17	0.45
21:H:303:LEU:C	21:H:305:HIS:N	2.73	0.45
23:J:95:GLU:HG3	23:J:186:PRO:HG3	1.98	0.45
24:K:86:LYS:HE3	24:K:95:PHE:CD1	2.50	0.45
26:M:132:GLY:O	26:M:136:LYS:HD3	2.17	0.45
31:R:110:ARG:N	31:R:111:LYS:HZ3	2.15	0.45
33:T:75:VAL:HG13	33:T:76:ALA:N	2.31	0.45
40:a:644:A:C2	40:a:2369:A:H1'	2.51	0.45
40:a:1408:G:N3	40:a:1408:G:H2'	2.31	0.45
40:a:2065:C:C2	40:a:2066:C:C5	3.04	0.45
40:a:2723:C:H2'	40:a:2724:U:O4'	2.16	0.45
40:a:2814:A:C5	40:a:2815:C:C5	3.05	0.45
48:i:30:VAL:HG22	48:i:37:LYS:HD2	1.98	0.45
48:i:52:ARG:HA	48:i:52:ARG:NE	2.30	0.45
51:l:23:PHE:CD1	51:l:111:GLU:CD	2.95	0.45
51:l:60:TRP:CD1	51:l:69:ARG:HH12	2.33	0.45
56:q:1:MET:HE3	56:q:2:LYS:N	2.31	0.45
56:q:30:GLU:HB3	56:q:33:HIS:ND1	2.32	0.45
59:t:8:LEU:N	59:t:8:LEU:HD12	2.31	0.45
65:z:89:GLU:N	65:z:89:GLU:OE1	2.50	0.45
3:2:64:LYS:CE	40:a:1312:U:O4	2.64	0.45
3:2:64:LYS:HD2	40:a:1312:U:C4	2.51	0.45
5:4:50:MET:C	5:4:56:PHE:CZ	2.94	0.45
11:AA:812:PHE:HZ	14:AE:503:SER:HB2	1.81	0.45
14:AE:41:PRO:HB2	14:AE:270:ARG:HG3	1.99	0.45
17:D:13:U:O2	17:D:915:A:N7	2.49	0.45
17:D:269:C:H2'	17:D:270:A:C8	2.51	0.45
17:D:511:C:C2	17:D:512:U:C5	3.05	0.45
17:D:827:U:O4	17:D:872:A:C2	2.69	0.45
17:D:984:C:C2	17:D:985:C:C5	3.05	0.45
20:G:19:GLN:NE2	21:H:75:VAL:HG13	2.30	0.45
20:G:19:GLN:HE21	21:H:75:VAL:C	2.24	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:I:72:ARG:NE	22:I:75:ILE:HB	2.32	0.45
22:I:84:VAL:HG23	22:I:85:GLU:N	2.31	0.45
24:K:13:GLU:O	24:K:13:GLU:HG2	2.16	0.45
24:K:13:GLU:OE1	24:K:13:GLU:N	2.49	0.45
25:L:98:GLU:HA	25:L:98:GLU:OE1	2.16	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	2.47	0.45
28:O:113:ARG:HD2	32:S:101:TRP:CD1	2.52	0.45
34:U:73:ALA:HA	34:U:76:LYS:HE3	1.98	0.45
37:X:56:LEU:HA	37:X:59:GLU:OE1	2.16	0.45
38:Y:45:THR:HG22	38:Y:45:THR:O	2.16	0.45
38:Y:102:ARG:HD3	38:Y:141:ASP:OD1	2.16	0.45
40:a:219:A:H2'	40:a:220:G:C8	2.52	0.45
40:a:685:A:C8	40:a:773:U:C4	3.04	0.45
40:a:783:A:O2'	40:a:785:G:OP1	2.35	0.45
40:a:1019:U:O4	40:a:1142:A:C2	2.69	0.45
40:a:1406:U:O2	40:a:1407:G:C8	2.69	0.45
40:a:1613:G:O2'	52:m:3:ARG:CZ	2.64	0.45
40:a:1796:U:H2'	40:a:1797:G:H8	1.81	0.45
40:a:2049:G:N2	49:j:161:MET:CE	2.80	0.45
40:a:2848:G:C2	40:a:2867:G:C4	3.05	0.45
42:c:30:LEU:CD1	42:c:31:PRO:HD2	2.43	0.45
49:j:5:VAL:HB	49:j:32:ASN:ND2	2.31	0.45
49:j:48:ILE:CD1	49:j:84:LEU:HD11	2.46	0.45
50:k:7:GLU:OE2	50:k:27:LYS:HG3	2.16	0.45
51:l:108:ILE:HD11	51:l:180:LEU:HD13	1.98	0.45
51:l:194:LYS:HG3	51:l:198:GLU:OE2	2.16	0.45
55:p:11:VAL:HG13	55:p:11:VAL:O	2.17	0.45
55:p:69:ARG:NH1	55:p:73:ASN:CG	2.74	0.45
2:1:11:ARG:NH1	2:1:11:ARG:HB3	2.30	0.45
8:7:11:U:C4'	24:K:20:ARG:HH21	2.16	0.45
9:9:6:GLN:CA	9:9:9:GLN:NE2	2.78	0.45
9:9:24:SER:HG	9:9:85:SER:C	2.25	0.45
9:9:61:ARG:CD	40:a:1046:A:O5'	2.64	0.45
13:AD:59:VAL:HG22	13:AD:144:ILE:HA	1.97	0.45
16:C:12:ARG:NH2	16:C:28:THR:CG2	2.79	0.45
17:D:915:A:C5	17:D:916:U:C5	3.04	0.45
17:D:1315:U:O2	17:D:1360:A:H2	2.00	0.45
19:F:58:LYS:HD2	19:F:58:LYS:C	2.42	0.45
21:H:53:PHE:CE1	21:H:68:VAL:HG21	2.52	0.45
21:H:303:LEU:O	21:H:304:VAL:C	2.59	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:I:39:VAL:HG23	22:I:40:ARG:N	2.32	0.45
25:L:9:MET:C	25:L:9:MET:SD	3.00	0.45
29:P:47:GLU:HB2	29:P:67:ILE:HG22	1.99	0.45
31:R:2:ALA:CA	31:R:7:LEU:HD11	2.45	0.45
31:R:31:ARG:O	31:R:57:LEU:HD12	2.17	0.45
32:S:86:GLU:OE2	32:S:90:ARG:HD3	2.16	0.45
37:X:13:LYS:HZ2	37:X:17:ILE:HG21	1.81	0.45
37:X:104:THR:O	37:X:104:THR:HG22	2.16	0.45
38:Y:126:ARG:HH12	40:a:1083:U:P	2.40	0.45
40:a:392:U:C2	40:a:393:C:C5	3.04	0.45
40:a:985:C:N3	40:a:986:C:C5	2.84	0.45
40:a:1444:G:C4	40:a:1445:G:C8	3.04	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:1790:C:C2'	40:a:1791:A:C8	3.00	0.45
40:a:2093:G:O2'	40:a:2198:A:N1	2.41	0.45
40:a:2309:A:H2'	40:a:2310:C:O4'	2.16	0.45
40:a:2364:C:H2'	40:a:2365:G:O4'	2.15	0.45
49:j:71:ALA:HB3	49:j:73:VAL:HG22	1.98	0.45
55:p:85:LYS:HA	55:p:85:LYS:HD2	1.77	0.45
57:r:31:VAL:HB	57:r:32:PRO:HD3	1.97	0.45
58:s:73:VAL:CG1	58:s:86:GLN:HG2	2.46	0.45
59:t:17:ARG:NH2	59:t:47:ILE:CG2	2.80	0.45
59:t:24:VAL:HG23	59:t:33:ALA:HB2	1.97	0.45
59:t:108:ARG:CG	59:t:116:ILE:HD13	2.46	0.45
63:x:15:ARG:C	63:x:19:GLN:HE22	2.24	0.45
2:1:20:VAL:CG1	2:1:47:VAL:HG11	2.46	0.45
2:1:20:VAL:HG11	2:1:47:VAL:HG11	1.99	0.45
3:2:5:GLU:HA	44:e:22:LEU:CD2	2.45	0.45
4:3:47:LYS:HZ3	40:a:482:A:P	2.40	0.45
9:9:87:GLU:OE2	9:9:95:LEU:CG	2.64	0.45
11:AA:1314:GLN:HA	15:AF:28:ARG:HH22	1.80	0.45
14:AE:66:LYS:HE2	14:AE:66:LYS:HB2	1.71	0.45
14:AE:640:GLY:N	14:AE:643:ASP:OD2	2.42	0.45
10:B:6:G:O2'	10:B:7:G:H8	1.98	0.45
10:B:53:G:N3	10:B:54:U:C5	2.85	0.45
17:D:723:U:O2	19:F:49:LYS:HE3	2.16	0.45
17:D:736:C:H5'	25:L:90:MET:HE2	1.97	0.45
17:D:829:G:H4'	20:G:23:TRP:CH2	2.51	0.45
17:D:1366:C:HO2'	29:P:62:ARG:HH22	1.65	0.45
18:E:54:MET:C	18:E:54:MET:SD	3.00	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:F:12:PHE:CD1	30:Q:101:ASN:CG	2.95	0.45
20:G:128:LYS:C	20:G:129:LEU:HD12	2.42	0.45
21:H:37:LEU:HG	21:H:46:SER:O	2.16	0.45
22:I:85:GLU:O	22:I:89:LYS:CE	2.64	0.45
25:L:18:VAL:N	25:L:19:PRO:CD	2.80	0.45
26:M:44:TYR:C	26:M:44:TYR:CD2	2.94	0.45
26:M:78:ARG:CG	26:M:80:VAL:HG13	2.46	0.45
26:M:134:ALA:O	26:M:137:LYS:CG	2.65	0.45
26:M:138:ARG:HG2	26:M:142:HIS:HE1	1.81	0.45
28:O:88:MET:CE	28:O:95:ARG:HG3	2.46	0.45
30:Q:88:GLY:H	30:Q:114:THR:HG22	1.81	0.45
33:T:15:PHE:HE2	33:T:30:ALA:HB1	1.82	0.45
37:X:14:HIS:HB2	37:X:17:ILE:HD13	1.99	0.45
38:Y:126:ARG:NH2	40:a:1082:U:O3'	2.47	0.45
40:a:152:A:H2'	40:a:153:U:C6	2.51	0.45
40:a:532:A:OP1	65:z:45:TYR:OH	2.32	0.45
40:a:582:A:H5''	65:z:11:ARG:HH12	1.82	0.45
40:a:658:U:O2'	51:l:97:ASN:OD1	2.28	0.45
40:a:837:C:N3	40:a:941:A:N6	2.65	0.45
40:a:893:C:H2'	40:a:894:U:C5	2.52	0.45
40:a:1042:G:C5	40:a:1043:C:C5	3.05	0.45
40:a:1442:U:H2'	40:a:1443:U:H6	1.79	0.45
40:a:2149:U:H2'	40:a:2150:C:C6	2.52	0.45
40:a:2314:A:C1'	53:n:155:THR:HG21	2.42	0.45
40:a:2727:A:O3'	59:t:70:ARG:NH2	2.50	0.45
40:a:2755:C:H3'	56:q:19:ARG:NH2	2.31	0.45
52:m:12:ARG:CG	52:m:44:VAL:HG21	2.47	0.45
53:n:127:ASN:OD1	53:n:157:THR:HA	2.16	0.45
54:o:31:HIS:O	54:o:32:ILE:O	2.33	0.45
54:o:55:LEU:CD2	54:o:59:ILE:HD11	2.46	0.45
55:p:91:GLY:HA3	55:p:94:TYR:CD2	2.52	0.45
62:w:12:ARG:HE	62:w:20:MET:HE1	1.82	0.45
2:1:86:MET:HE1	2:1:88:ARG:CD	2.42	0.45
7:6:25:DT:OP1	11:AA:496:LYS:O	2.34	0.45
8:7:1:A:H2'	8:7:2:U:C6	2.50	0.45
8:7:22:U:C4'	22:I:80:LYS:CG	2.75	0.45
9:9:61:ARG:HE	40:a:1046:A:P	2.39	0.45
10:A:3:C:H2'	10:A:4:G:H8	1.82	0.45
10:A:68:C:H3'	10:A:69:C:H5''	1.97	0.45
12:AB:6:LEU:CD2	14:AE:291:ILE:HD11	2.46	0.45
13:AD:68:TYR:HE1	13:AD:79:LEU:HD13	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:653:U:O4'	27:N:56:LYS:HE3	2.16	0.45
17:D:983:A:H2	17:D:984:C:C6	2.34	0.45
20:G:27:MET:HG3	20:G:27:MET:O	2.16	0.45
21:H:288:THR:O	21:H:288:THR:HG22	2.16	0.45
22:I:72:ARG:HD3	22:I:75:ILE:HG22	1.99	0.45
25:L:38:ARG:NE	25:L:97:THR:O	2.49	0.45
28:O:80:ARG:NH2	28:O:103:PHE:CE1	2.85	0.45
36:W:13:LEU:O	36:W:17:LYS:HG2	2.17	0.45
37:X:55:THR:C	37:X:59:GLU:OE1	2.60	0.45
38:Y:60:VAL:HG22	38:Y:66:PHE:CD1	2.52	0.45
40:a:235:U:N3	40:a:236:C:C5	2.84	0.45
40:a:1250:G:OP2	60:u:21:ARG:NE	2.47	0.45
40:a:1370:C:H2'	40:a:1371:G:O4'	2.16	0.45
40:a:1589:U:O2'	40:a:1590:A:O5'	2.29	0.45
40:a:2061:G:N2	40:a:2063:C:C6	2.84	0.45
40:a:2095:A:O5'	57:r:11:ASN:OD1	2.35	0.45
40:a:2262:U:N3	40:a:2263:C:C5	2.85	0.45
40:a:2649:C:H2'	40:a:2650:U:C6	2.51	0.45
43:d:45:A:C5'	53:n:92:ARG:NH1	2.79	0.45
45:f:12:SER:CA	45:f:32:ILE:HD11	2.46	0.45
51:l:21:ARG:HA	51:l:21:ARG:NE	2.31	0.45
64:y:103:ARG:HD3	64:y:107:ALA:C	2.41	0.45
4:3:66:GLN:OE1	40:a:329:G:OP2	2.34	0.45
17:D:1108:G:C5	17:D:1109:C:C5	3.04	0.45
19:F:38:TYR:O	30:Q:126:LYS:HE3	2.17	0.45
20:G:66:LYS:HB3	20:G:154:MET:HE3	1.99	0.45
20:G:131:LYS:HE3	20:G:132:LYS:HZ3	1.82	0.45
27:N:26:THR:OG1	27:N:58:GLU:CG	2.65	0.45
28:O:51:PRO:CA	28:O:103:PHE:HE2	2.30	0.45
31:R:30:LYS:O	31:R:81:LEU:HD12	2.16	0.45
32:S:77:PHE:CE1	32:S:93:ILE:HD13	2.51	0.45
33:T:8:THR:O	33:T:11:ILE:HG22	2.16	0.45
33:T:11:ILE:HD13	33:T:31:LEU:HA	1.99	0.45
34:U:6:LEU:HD23	34:U:17:TYR:CB	2.47	0.45
40:a:372:G:O2'	42:c:54:LYS:CE	2.64	0.45
40:a:535:G:H2'	40:a:536:G:O4'	2.17	0.45
40:a:575:A:C2	40:a:576:U:C6	3.05	0.45
40:a:598:U:H2'	40:a:599:A:C8	2.52	0.45
40:a:952:G:C6	40:a:966:G:C6	3.04	0.45
40:a:1753:G:N2	40:a:1755:A:H3'	2.32	0.45
40:a:1797:G:O2'	47:h:257:THR:HG22	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:1856:U:H2'	40:a:1857:G:O4'	2.17	0.45
40:a:2572:A:OP2	49:j:149:ASN:O	2.35	0.45
40:a:2743:U:H2'	40:a:2744:G:O4'	2.17	0.45
40:a:2783:U:H2'	40:a:2784:U:C6	2.52	0.45
43:d:57:A:C5	53:n:26:MET:CE	2.99	0.45
44:e:24:GLU:O	44:e:28:LEU:HD13	2.17	0.45
49:j:55:LYS:NZ	49:j:56:LYS:O	2.49	0.45
51:l:95:LYS:HE2	51:l:97:ASN:OD1	2.17	0.45
53:n:22:TYR:CE2	53:n:28:VAL:HA	2.52	0.45
55:p:149:ARG:CZ	55:p:162:VAL:C	2.89	0.45
60:u:101:ILE:C	60:u:105:ILE:HD12	2.42	0.45
63:x:88:LYS:O	63:x:115:LEU:HD12	2.16	0.45
64:y:15:GLN:NE2	64:y:16:ASP:CG	2.75	0.45
2:1:24:ILE:HG21	2:1:36:LEU:CD1	2.42	0.45
3:2:65:GLY:H	3:2:76:ARG:HH12	1.64	0.45
5:4:57:TYR:HD2	61:v:136:MET:HE2	1.81	0.45
8:7:2:U:OP2	17:D:926:G:N2	2.50	0.45
9:9:23:LEU:O	9:9:87:GLU:CD	2.60	0.45
11:AA:674:ASP:OD2	11:AA:1070:HIS:ND1	2.50	0.45
12:AB:52:PRO:O	12:AB:54:TYR:N	2.50	0.45
12:AB:160:ARG:HG3	12:AB:161:LYS:N	2.32	0.45
14:AE:53:ARG:HA	14:AE:54:ASP:HA	1.59	0.45
14:AE:774:ILE:HA	14:AE:777:HIS:HD2	1.82	0.45
16:C:65:LEU:HD23	16:C:67:LEU:CD1	2.47	0.45
17:D:878:A:P	27:N:80:ARG:NH1	2.89	0.45
17:D:1060:U:H5''	29:P:53:ILE:HD12	1.99	0.45
17:D:1080:A:OP1	24:K:50:TYR:OH	2.29	0.45
21:H:32:ASP:OD1	21:H:35:VAL:HG22	2.17	0.45
21:H:54:LYS:HD3	21:H:58:GLY:C	2.42	0.45
22:I:114:LYS:HB2	22:I:185:ASN:ND2	2.32	0.45
26:M:138:ARG:O	26:M:142:HIS:ND1	2.46	0.45
29:P:90:LEU:HD12	29:P:90:LEU:N	2.31	0.45
37:X:2:ALA:HB1	37:X:9:ILE:CG2	2.47	0.45
40:a:78:U:P	44:e:4:LYS:NZ	2.89	0.45
40:a:590:A:H2'	40:a:591:U:H6	1.80	0.45
40:a:2064:C:H2'	40:a:2065:C:H6	1.80	0.45
40:a:2747:G:N2	40:a:2756:U:C6	2.85	0.45
51:l:198:GLU:OE1	51:l:198:GLU:N	2.43	0.45
53:n:16:LEU:HD11	53:n:169:LEU:HD13	1.99	0.45
55:p:11:VAL:HG12	55:p:48:ASN:O	2.17	0.45
58:s:35:ARG:HA	58:s:40:HIS:ND1	2.32	0.45

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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	0.45
2:1:78:GLU:OE2	40:a:1262:A:OP1	2.35	0.45
2:1:86:MET:SD	2:1:88:ARG:HD2	2.56	0.45
4:3:5:ILE:HG13	4:3:72:ILE:HD11	1.99	0.45
5:4:31:TYR:O	5:4:92:VAL:HA	2.17	0.45
5:4:50:MET:CB	5:4:56:PHE:CE1	2.98	0.45
11:AA:1002:LEU:HD21	11:AA:1007:LYS:HB2	1.98	0.45
11:AA:1246:ARG:HH11	11:AA:1266:GLY:HA2	1.82	0.45
12:AB:6:LEU:HD13	14:AE:291:ILE:CG1	2.46	0.45
12:AB:6:LEU:N	12:AB:88:VAL:HG21	2.31	0.45
12:AB:109:THR:HA	12:AB:110:PRO:HD3	1.83	0.45
14:AE:319:SER:HA	14:AE:320:ASN:HA	1.74	0.45
10:B:46:G:H1'	10:B:47:U:C5	2.51	0.45
16:C:70:TYR:C	16:C:71:THR:HG23	2.42	0.45
17:D:13:U:O4	17:D:20:U:O4	2.34	0.45
17:D:110:C:H1'	34:U:25:ARG:NH1	2.31	0.45
17:D:198:G:OP2	17:D:198:G:C8	2.70	0.45
17:D:636:U:H2'	17:D:637:C:C6	2.52	0.45
17:D:739:C:O2'	33:T:42:HIS:CE1	2.68	0.45
17:D:1436:U:H2'	17:D:1437:A:C8	2.52	0.45
20:G:77:SER:O	20:G:80:VAL:HG12	2.17	0.45
20:G:96:TRP:CZ2	20:G:100:MET:HE3	2.52	0.45
20:G:100:MET:SD	20:G:101:LEU:HD23	2.57	0.45
22:I:142:MET:HE3	22:I:170:GLU:HB3	1.98	0.45
25:L:9:MET:HE3	25:L:9:MET:HB3	1.85	0.45
25:L:85:ILE:HG22	25:L:86:ARG:HG2	1.99	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:3:LEU:CD2	33:T:8:THR:HG23	2.47	0.45
37:X:55:THR:HG22	37:X:59:GLU:OE2	2.17	0.45
40:a:132:G:H2'	40:a:133:U:H6	1.80	0.45
40:a:152:A:H2'	40:a:153:U:H6	1.82	0.45
40:a:607:U:C6	40:a:620:G:N7	2.85	0.45
40:a:730:A:C2	40:a:731:C:C5	3.05	0.45
40:a:782:A:N1	47:h:225:MET:HE2	2.32	0.45
40:a:980:A:N7	40:a:1136:G:H5'	2.32	0.45
40:a:1131:G:OP1	58:s:81:ILE:O	2.34	0.45
40:a:1398:C:C2	40:a:1399:C:C5	3.04	0.45
40:a:2356:U:H4'	41:b:20:ARG:HD2	1.99	0.45
40:a:2650:U:H2'	40:a:2651:C:H6	1.81	0.45
42:c:41:GLU:O	42:c:44:LYS:HD2	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:f:51:VAL:O	45:f:55:VAL:HG12	2.17	0.45
47:h:265:LYS:HG3	47:h:266:PHE:CD2	2.52	0.45
51:l:73:ILE:HG13	51:l:73:ILE:O	2.17	0.45
60:u:91:ASP:HB2	60:u:93:ASN:OD1	2.17	0.45
60:u:103:ILE:HG23	60:u:104:GLN:HG2	1.99	0.45
64:y:14:LYS:NZ	64:y:76:THR:O	2.49	0.45
65:z:76:TYR:O	65:z:80:ILE:HG12	2.16	0.45
5:4:16:ALA:O	5:4:20:LEU:HG	2.17	0.45
5:4:29:ILE:HD13	43:d:74:U:O2	2.17	0.45
9:9:58:THR:HG23	40:a:1108:U:OP1	2.17	0.45
12:AB:141:LEU:HD23	12:AB:143:LEU:HG	1.98	0.45
13:AD:29:GLU:HB3	13:AD:200:LYS:HG3	1.99	0.45
13:AD:35:PHE:HA	13:AD:38:THR:HG22	1.97	0.45
13:AD:192:VAL:HG12	13:AD:193:GLU:H	1.83	0.45
14:AE:482:ALA:HA	15:AF:6:VAL:HG21	1.98	0.45
10:B:18:G:N7	10:B:57:A:N6	2.65	0.45
17:D:151:A:C5	17:D:152:A:C8	3.04	0.45
17:D:604:G:H2'	17:D:605:U:O4'	2.17	0.45
17:D:958:A:C4	36:W:55:ARG:HD3	2.52	0.45
17:D:980:C:C5	17:D:981:U:C2	3.04	0.45
17:D:982:U:P	32:S:6:MET:HE2	2.56	0.45
17:D:1389:C:H2'	17:D:1390:U:O4'	2.17	0.45
20:G:109:GLN:C	20:G:113:ARG:NE	2.75	0.45
21:H:49:PRO:CD	21:H:84:LEU:HD21	2.47	0.45
21:H:332:VAL:O	21:H:344:LEU:HA	2.17	0.45
24:K:76:LEU:HD12	24:K:76:LEU:O	2.17	0.45
25:L:36:ILE:HD12	25:L:36:ILE:HA	1.82	0.45
25:L:72:ASP:O	25:L:76:THR:HG23	2.17	0.45
25:L:100:SER:HB2	25:L:101:PRO:HD2	1.98	0.45
29:P:26:VAL:C	29:P:30:LYS:HZ3	2.25	0.45
33:T:15:PHE:CE2	33:T:30:ALA:CB	3.00	0.45
33:T:71:LYS:HE2	33:T:78:TYR:CD2	2.52	0.45
34:U:45:GLU:HG3	34:U:46:LYS:CD	2.45	0.45
36:W:5:LEU:HD12	36:W:6:LYS:N	2.32	0.45
37:X:11:ASP:HA	37:X:45:ILE:HB	1.99	0.45
37:X:90:ARG:HD3	37:X:96:PRO:O	2.17	0.45
38:Y:93:ASN:O	38:Y:94:LYS:HD2	2.16	0.45
40:a:111:A:O2'	44:e:58:ASN:ND2	2.46	0.45
40:a:1182:G:H2'	40:a:1183:U:O4'	2.17	0.45
40:a:2478:A:C8	40:a:2529:G:C5	3.04	0.45
40:a:2646:C:H2'	40:a:2647:U:O4'	2.18	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:2766:A:C6	40:a:2767:C:C5	3.05	0.45
47:h:52:ARG:CD	47:h:53:HIS:CE1	3.00	0.45
47:h:123:ALA:HB1	47:h:125:LYS:CE	2.47	0.45
47:h:146:MET:HE2	47:h:153:GLN:OE1	2.17	0.45
49:j:172:VAL:HG11	49:j:175:LEU:HD11	1.99	0.45
51:l:23:PHE:CE2	51:l:25:GLU:HB2	2.52	0.45
51:l:90:GLN:OE1	51:l:92:HIS:CD2	2.70	0.45
53:n:4:LEU:HD21	53:n:101:GLU:HG3	1.98	0.45
54:o:39:LYS:HG2	54:o:42:ARG:HH12	1.82	0.45
60:u:55:MET:SD	60:u:60:ARG:N	2.90	0.45
63:x:35:ILE:HD11	63:x:102:ARG:HH21	1.81	0.45
9:9:14:GLU:OE1	9:9:63:ALA:HA	2.17	0.44
9:9:122:GLN:OE1	9:9:122:GLN:N	2.49	0.44
10:A:71:C:H2'	10:A:72:A:N9	2.32	0.44
10:A:71:C:H2'	10:A:72:A:C1'	2.47	0.44
12:AB:76:SER:O	12:AB:77:HIS:HB3	2.16	0.44
14:AE:388:ARG:NH2	14:AE:414:GLU:OE1	2.49	0.44
10:B:71:C:H2'	10:B:72:A:N9	2.32	0.44
19:F:26:ALA:CB	19:F:28:VAL:HG23	2.47	0.44
20:G:52:GLU:C	20:G:56:GLU:OE1	2.60	0.44
20:G:64:LYS:HE2	20:G:64:LYS:HA	1.99	0.44
28:O:5:GLN:HE21	28:O:20:PHE:HB3	1.81	0.44
28:O:86:ALA:O	28:O:89:GLU:CG	2.64	0.44
28:O:86:ALA:C	28:O:89:GLU:HG2	2.42	0.44
29:P:28:THR:HG22	29:P:90:LEU:HD23	1.98	0.44
29:P:63:ASP:OD2	29:P:63:ASP:C	2.59	0.44
29:P:64:GLN:HG2	32:S:101:TRP:CH2	2.52	0.44
38:Y:5:GLN:NE2	38:Y:60:VAL:C	2.74	0.44
40:a:564:C:H1'	65:z:37:GLN:NE2	2.32	0.44
40:a:1007:C:H5''	58:s:37:ARG:NE	2.31	0.44
40:a:1020:A:C2	40:a:1141:U:C2	3.06	0.44
40:a:1434:A:H2'	40:a:1435:G:C8	2.52	0.44
40:a:1441:G:H2'	40:a:1442:U:H6	1.82	0.44
40:a:2314:A:P	53:n:88:LYS:HZ2	2.39	0.44
47:h:164:ILE:O	47:h:164:ILE:CG2	2.65	0.44
49:j:3:GLY:O	49:j:82:PHE:CE2	2.69	0.44
58:s:28:LEU:HD12	58:s:142:ILE:CG2	2.47	0.44
58:s:31:GLU:HG2	58:s:142:ILE:HG23	1.98	0.44
60:u:101:ILE:HG13	60:u:102:GLY:H	1.82	0.44
1:0:13:ARG:CZ	65:z:97:ASP:CG	2.91	0.44
4:3:49:VAL:HG23	4:3:51:ALA:O	2.16	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:9:4:ASN:OD1	40:a:1046:A:N7	2.50	0.44
9:9:19:ALA:CB	9:9:69:PHE:HE2	2.31	0.44
9:9:68:PRO:O	9:9:72:LEU:HD21	2.16	0.44
11:AA:176:ILE:HD11	11:AA:428:VAL:HG21	1.98	0.44
11:AA:998:LEU:HG	11:AA:1011:LEU:HB3	1.99	0.44
14:AE:70:CYS:HG	14:AE:72:CYS:H	1.64	0.44
17:D:715:A:H2'	17:D:716:A:C8	2.52	0.44
17:D:918:A:H2'	17:D:919:A:C8	2.52	0.44
17:D:1240:U:OP1	26:M:116:MET:HB2	2.17	0.44
17:D:1333:A:H2'	17:D:1334:G:O4'	2.17	0.44
17:D:1486:G:H2'	17:D:1487:G:O4'	2.17	0.44
21:H:12:SER:O	21:H:16:ILE:HG13	2.17	0.44
21:H:308:GLU:C	21:H:310:ASP:H	2.25	0.44
22:I:24:ALA:HB3	22:I:29:PHE:CD2	2.51	0.44
22:I:135:LYS:O	22:I:138:VAL:HG12	2.17	0.44
30:Q:84:VAL:HG21	30:Q:97:ILE:HD11	1.99	0.44
31:R:30:LYS:CB	31:R:57:LEU:HD11	2.47	0.44
32:S:13:ARG:HB3	32:S:60:GLN:HE21	1.81	0.44
37:X:16:VAL:HG23	37:X:17:ILE:CD1	2.47	0.44
40:a:597:G:H2'	40:a:598:U:C6	2.52	0.44
40:a:1656:C:C2	40:a:1657:U:C5	3.05	0.44
40:a:1792:G:C5'	47:h:204:VAL:HG23	2.47	0.44
40:a:1889:A:H2'	40:a:1890:A:C8	2.51	0.44
40:a:2345:G:N3	40:a:2381:A:H2'	2.33	0.44
40:a:2839:G:C5	40:a:2840:C:C5	3.05	0.44
44:e:13:GLU:C	44:e:17:GLU:OE1	2.61	0.44
45:f:41:THR:C	45:f:45:ARG:NH2	2.75	0.44
51:l:23:PHE:CD1	51:l:111:GLU:CG	3.00	0.44
51:l:117:ARG:NH1	60:u:1:MET:HE2	2.32	0.44
53:n:10:ASP:OD1	53:n:11:GLU:HG3	2.17	0.44
54:o:31:HIS:C	54:o:33:LEU:HG	2.42	0.44
55:p:141:ILE:HG13	55:p:142:GLY:N	2.32	0.44
60:u:95:LEU:HD12	60:u:100:ILE:HG21	1.99	0.44
1:0:74:ILE:HD12	1:0:74:ILE:N	2.32	0.44
12:AB:17:ALA:O	12:AB:20:HIS:HB2	2.17	0.44
10:B:3:C:H2'	10:B:4:G:H8	1.83	0.44
10:B:18:G:C5	10:B:57:A:N6	2.85	0.44
16:C:34:THR:OG1	16:C:38:LYS:HB2	2.17	0.44
17:D:153:C:C2	17:D:154:U:C5	3.06	0.44
17:D:753:A:OP1	33:T:73:LYS:NZ	2.50	0.44
17:D:1146:A:C5	17:D:1147:C:C5	3.06	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:1436:U:H2'	17:D:1437:A:H8	1.82	0.44
22:I:14:ILE:HG13	22:I:178:LEU:HD21	1.99	0.44
22:I:58:GLU:OE1	22:I:65:ARG:CZ	2.65	0.44
22:I:151:VAL:CG1	22:I:200:VAL:HG23	2.47	0.44
23:J:49:SER:O	23:J:53:VAL:HG13	2.18	0.44
25:L:17:GLN:CB	25:L:21:MET:HE1	2.47	0.44
29:P:73:LEU:C	29:P:73:LEU:HD23	2.42	0.44
30:Q:51:GLY:O	30:Q:56:ARG:NH1	2.50	0.44
30:Q:52:PHE:CE1	30:Q:65:VAL:HG21	2.52	0.44
33:T:10:LYS:CD	33:T:14:GLU:OE2	2.65	0.44
33:T:26:GLU:HG3	33:T:27:VAL:N	2.33	0.44
36:W:44:MET:HE1	36:W:66:MET:HE1	1.98	0.44
36:W:79:THR:HG23	36:W:79:THR:O	2.18	0.44
40:a:15:G:O2'	48:i:15:MET:HE1	2.16	0.44
40:a:30:G:H2'	40:a:31:C:H6	1.81	0.44
40:a:145:C:H2'	40:a:146:A:C8	2.53	0.44
40:a:730:A:C2	40:a:731:C:C6	3.05	0.44
40:a:2718:G:O2'	40:a:2847:U:H5''	2.18	0.44
42:c:43:GLU:OE1	42:c:45:ARG:CB	2.65	0.44
47:h:220:VAL:HG23	47:h:225:MET:HE3	2.00	0.44
53:n:122:PHE:HZ	53:n:170:LEU:HD12	1.81	0.44
54:o:30:ARG:HH12	60:u:62:PRO:N	2.15	0.44
55:p:18:LYS:HG3	55:p:27:LYS:NZ	2.32	0.44
57:r:127:GLU:OE2	57:r:143:ILE:HB	2.17	0.44
59:t:18:ARG:NE	59:t:18:ARG:HA	2.33	0.44
59:t:48:PRO:HB2	59:t:49:ARG:HE	1.81	0.44
62:w:79:LEU:HD23	62:w:83:LEU:HD12	1.99	0.44
10:A:18:G:C5	10:A:57:A:N6	2.85	0.44
11:AA:560:PRO:HB2	14:AE:776:THR:HG21	2.00	0.44
12:AB:38:ILE:HA	12:AB:42:LYS:O	2.18	0.44
13:AC:218:ARG:NH1	13:AD:231:PHE:O	2.50	0.44
14:AE:848:VAL:HB	14:AE:858:VAL:HG22	1.99	0.44
10:B:3:C:H2'	10:B:4:G:C8	2.53	0.44
10:B:71:C:C3'	10:B:72:A:C8	2.99	0.44
16:C:41:PRO:HD2	21:H:339:ARG:CZ	2.47	0.44
16:C:70:TYR:CE2	25:L:49:TYR:CE1	3.05	0.44
17:D:375:U:OP2	34:U:70:ARG:NE	2.51	0.44
17:D:524:G:H2'	17:D:525:C:C6	2.52	0.44
17:D:1086:U:O2	17:D:1086:U:H2'	2.16	0.44
17:D:1408:A:H2'	17:D:1409:C:C6	2.52	0.44
18:E:16:LYS:HG3	18:E:19:LYS:HE3	1.98	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:E:49:LYS:O	18:E:53:GLU:HG2	2.16	0.44
20:G:101:LEU:HD22	20:G:157:LEU:HD12	1.99	0.44
20:G:171:ILE:H	20:G:171:ILE:HD12	1.82	0.44
21:H:49:PRO:HD3	21:H:84:LEU:HD21	1.99	0.44
21:H:294:VAL:HG11	21:H:330:VAL:HG21	2.00	0.44
21:H:332:VAL:O	21:H:333:LEU:HB2	2.18	0.44
22:I:55:ILE:HD12	22:I:68:ILE:HG12	1.99	0.44
22:I:165:THR:C	22:I:166:GLU:OE1	2.60	0.44
24:K:50:TYR:O	24:K:66:LYS:HE3	2.17	0.44
29:P:5:ARG:HE	29:P:7:ARG:CZ	2.30	0.44
29:P:40:ILE:HD12	29:P:73:LEU:CD2	2.48	0.44
33:T:63:ARG:HD2	33:T:67:LEU:HD21	2.00	0.44
34:U:8:ARG:H	34:U:28:ARG:HD3	1.81	0.44
37:X:106:ALA:HB3	37:X:110:LYS:CD	2.48	0.44
38:Y:14:ALA:O	38:Y:16:MET:N	2.51	0.44
40:a:65:U:N3	40:a:66:C:C5	2.86	0.44
40:a:66:C:N4	40:a:74:A:N6	2.66	0.44
40:a:957:C:H5'	61:v:75:GLU:OE1	2.18	0.44
40:a:966:G:O4'	40:a:2267:A:N6	2.51	0.44
40:a:1021:A:C2	40:a:1141:U:O4	2.71	0.44
40:a:1349:C:O2	40:a:1349:C:H2'	2.17	0.44
40:a:1997:C:OP1	49:j:128:ARG:NH1	2.50	0.44
40:a:2175:C:C2'	40:a:2176:A:C8	3.00	0.44
40:a:2492:U:C2'	40:a:2493:U:H5'	2.48	0.44
46:g:30:HIS:CG	46:g:31:ASP:N	2.85	0.44
51:l:1:MET:HE3	51:l:19:PHE:C	2.43	0.44
51:l:6:LYS:CE	51:l:119:ILE:CG2	2.94	0.44
51:l:147:LEU:HB2	51:l:183:PHE:CD2	2.48	0.44
53:n:117:LEU:N	53:n:177:PHE:O	2.50	0.44
62:w:13:ASN:O	62:w:17:ARG:HG3	2.17	0.44
62:w:87:PHE:HE2	62:w:115:LEU:HD11	1.83	0.44
62:w:98:LEU:N	62:w:112:TYR:O	2.50	0.44
64:y:7:GLN:HE21	64:y:10:GLN:HE21	1.65	0.44
8:7:9:U:OP2	8:7:9:U:C6	2.70	0.44
9:9:92:ALA:HB3	9:9:129:LEU:HB2	1.99	0.44
10:A:3:C:H2'	10:A:4:G:C8	2.52	0.44
10:A:53:G:N3	10:A:54:U:C5	2.85	0.44
11:AA:24:VAL:HG11	11:AA:704:MET:HE1	1.98	0.44
11:AA:28:LEU:HD21	11:AA:524:ILE:HG13	1.98	0.44
12:AB:16:ARG:C	12:AB:19:GLU:H	2.25	0.44
10:B:18:G:N2	10:B:58:A:N7	2.65	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:B:75:C:P	40:a:2602:A:C2'	3.06	0.44
17:D:33:A:H2'	17:D:34:C:C6	2.53	0.44
17:D:278:G:OP2	35:V:43:LYS:NZ	2.49	0.44
17:D:280:C:O2	35:V:40:ARG:NE	2.49	0.44
17:D:337:G:H2'	17:D:338:A:H8	1.80	0.44
17:D:376:G:C2	17:D:389:A:C2	3.06	0.44
17:D:414:A:C4	17:D:415:A:C8	3.05	0.44
17:D:598:U:C2	17:D:599:C:C5	3.06	0.44
17:D:704:A:C4	17:D:705:G:C8	3.06	0.44
17:D:735:C:C2	17:D:736:C:C5	3.05	0.44
17:D:1250:A:H2'	17:D:1251:A:C8	2.52	0.44
17:D:1323:G:H2'	17:D:1324:A:H8	1.78	0.44
18:E:58:VAL:HG12	18:E:72:ALA:HB1	1.99	0.44
20:G:163:VAL:CG1	20:G:185:ALA:HA	2.47	0.44
21:H:5:PHE:CZ	21:H:9:PHE:CE1	3.06	0.44
23:J:172:GLU:CD	23:J:183:LYS:HD2	2.42	0.44
24:K:50:TYR:C	24:K:66:LYS:HE3	2.43	0.44
25:L:5:GLU:CD	25:L:61:LEU:HD11	2.42	0.44
26:M:106:GLU:O	26:M:110:LYS:HG2	2.17	0.44
28:O:94:LEU:O	28:O:97:GLU:CD	2.60	0.44
29:P:24:GLU:OE2	29:P:92:LEU:CD2	2.66	0.44
32:S:13:ARG:HB3	32:S:60:GLN:CG	2.46	0.44
33:T:11:ILE:HD11	33:T:30:ALA:HB1	1.98	0.44
36:W:39:THR:HG22	36:W:40:ILE:N	2.33	0.44
38:Y:12:VAL:HG22	38:Y:54:ILE:O	2.17	0.44
38:Y:19:PRO:CG	38:Y:23:VAL:CG2	2.95	0.44
40:a:27:G:C4	40:a:512:G:N2	2.86	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	2.16	0.44
40:a:861:A:H2'	40:a:862:G:O4'	2.17	0.44
40:a:1084:A:N6	40:a:1085:A:N1	2.66	0.44
40:a:1310:G:N2	40:a:1313:U:C4	2.85	0.44
40:a:1432:G:H2'	40:a:1433:A:H8	1.79	0.44
40:a:2021:C:OP1	48:i:9:THR:HG21	2.18	0.44
40:a:2098:U:H2'	40:a:2099:U:O4'	2.18	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
45:f:41:THR:O	45:f:43:ALA:N	2.51	0.44
47:h:240:PHE:CD2	47:h:240:PHE:O	2.71	0.44
47:h:251:GLN:OE1	47:h:255:LYS:CB	2.65	0.44
55:p:27:LYS:HG2	55:p:32:GLU:HG3	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:s:98:GLU:O	58:s:100:VAL:N	2.51	0.44
59:t:44:LYS:N	59:t:44:LYS:HD2	2.33	0.44
1:0:73:LYS:HD3	1:0:86:GLN:HE21	1.82	0.44
4:3:6:ARG:CG	4:3:7:ARG:H	2.31	0.44
8:7:12:U:C3'	8:7:12:U:C6	3.00	0.44
8:7:13:U:H3	23:J:47:ARG:NH1	2.10	0.44
9:9:129:LEU:H	9:9:129:LEU:HG	1.72	0.44
10:A:18:G:N2	10:A:58:A:N7	2.65	0.44
10:A:18:G:N7	10:A:57:A:N6	2.65	0.44
10:A:72:A:C3'	10:A:73:A:H5''	2.47	0.44
12:AB:6:LEU:HD22	14:AE:291:ILE:HD11	1.99	0.44
12:AB:31:PRO:HG2	12:AB:51:PHE:CE2	2.53	0.44
14:AE:975:ILE:HG22	14:AE:977:SER:H	1.83	0.44
17:D:360:G:H2'	17:D:361:G:C8	2.53	0.44
17:D:429:U:O2	17:D:430:A:N7	2.50	0.44
17:D:675:A:C1'	30:Q:118:HIS:CD2	2.99	0.44
17:D:1062:U:H2'	17:D:1063:C:C6	2.53	0.44
17:D:1186:G:O2'	28:O:112:GLU:OE2	2.33	0.44
17:D:1308:U:H3'	37:X:98:ARG:NE	2.32	0.44
17:D:1437:A:C2	17:D:1438:G:C8	3.04	0.44
18:E:78:ASN:O	18:E:82:GLN:CD	2.61	0.44
21:H:19:ARG:O	21:H:72:LEU:HD13	2.18	0.44
21:H:53:PHE:HE1	21:H:68:VAL:HG21	1.82	0.44
21:H:76:GLU:OE1	21:H:79:PHE:HA	2.18	0.44
22:I:147:LYS:HE2	22:I:204:LYS:C	2.43	0.44
23:J:35:GLU:HG2	23:J:36:GLN:N	2.32	0.44
28:O:89:GLU:HG3	28:O:90:TYR:N	2.33	0.44
29:P:66:GLU:HG3	32:S:99:ALA:HB2	2.00	0.44
31:R:18:LYS:HD3	31:R:19:SER:N	2.33	0.44
31:R:38:TYR:CE2	31:R:40:THR:CG2	3.01	0.44
32:S:47:LYS:O	32:S:50:THR:OG1	2.25	0.44
35:V:30:LYS:HB2	35:V:37:PHE:CE1	2.52	0.44
36:W:62:VAL:HG13	36:W:66:MET:CE	2.44	0.44
38:Y:33:ASN:OD1	38:Y:35:MET:HE2	2.17	0.44
38:Y:82:ALA:HB3	38:Y:108:ILE:CD1	2.48	0.44
40:a:208:C:H2'	40:a:209:C:C6	2.53	0.44
40:a:221:A:C4	40:a:266:G:N7	2.85	0.44
40:a:400:G:OP2	42:c:57:ARG:NH1	2.46	0.44
40:a:479:A:H4'	40:a:480:A:OP1	2.18	0.44
40:a:677:A:O2'	40:a:2071:A:H5'	2.18	0.44
40:a:1013:C:C2	40:a:1014:A:C8	3.04	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:1386:C:H2'	40:a:1387:A:H8	1.82	0.44
40:a:1414:C:H2'	40:a:1415:U:C6	2.52	0.44
40:a:1565:C:O2'	40:a:1567:G:N7	2.47	0.44
40:a:1824:G:P	47:h:52:ARG:CZ	3.06	0.44
40:a:2063:C:N3	40:a:2064:C:C5	2.86	0.44
40:a:2093:G:P	57:r:22:LYS:HG2	2.58	0.44
40:a:2297:A:C2	40:a:2320:U:C1'	3.00	0.44
40:a:2347:C:C2	40:a:2348:U:C5	3.05	0.44
40:a:2747:G:C2	40:a:2756:U:C5	3.05	0.44
45:f:4:THR:CG2	45:f:37:GLU:OE2	2.65	0.44
47:h:108:LYS:HZ3	47:h:194:GLU:H	1.64	0.44
49:j:61:THR:OG1	49:j:63:PRO:HD2	2.18	0.44
53:n:63:GLN:HG3	53:n:95:ARG:HD3	1.99	0.44
53:n:175:PHE:CG	53:n:176:PRO:HD2	2.52	0.44
55:p:69:ARG:NH1	55:p:73:ASN:ND2	2.66	0.44
58:s:124:VAL:O	58:s:125:TYR:HD1	2.01	0.44
62:w:60:VAL:HA	62:w:63:ARG:CZ	2.48	0.44
64:y:31:TRP:CZ3	64:y:40:LEU:CD1	3.00	0.44
11:AA:694:ARG:HH22	13:AC:80:GLU:HG3	1.82	0.44
14:AE:283:LEU:HD23	14:AE:292:VAL:HG11	1.99	0.44
14:AE:596:LEU:HD23	14:AE:596:LEU:HA	1.89	0.44
16:C:18:VAL:HG13	16:C:51:TYR:HE1	1.83	0.44
17:D:284:C:C2	17:D:285:C:C5	3.06	0.44
17:D:622:A:C8	17:D:623:C:C5	3.06	0.44
17:D:642:A:C5	17:D:643:C:C5	3.06	0.44
17:D:824:G:C6	17:D:877:G:C6	3.05	0.44
17:D:1006:G:H2'	17:D:1007:U:H6	1.81	0.44
17:D:1434:A:H2'	17:D:1435:G:O4'	2.18	0.44
22:I:112:ASP:O	22:I:116:VAL:HG23	2.18	0.44
22:I:156:ARG:CG	22:I:193:TYR:HB2	2.47	0.44
23:J:69:GLU:HA	23:J:72:PHE:HD2	1.83	0.44
25:L:78:PHE:HD1	25:L:87:SER:HB3	1.83	0.44
31:R:24:LEU:HD23	31:R:95:TYR:HE1	1.83	0.44
31:R:74:LEU:HD11	31:R:80:ILE:CG1	2.48	0.44
32:S:87:ALA:CA	32:S:90:ARG:CZ	2.96	0.44
38:Y:44:LYS:HG2	38:Y:68:PHE:HE2	1.83	0.44
40:a:153:U:H2'	40:a:154:U:C6	2.53	0.44
40:a:1146:C:C2	40:a:1147:A:C8	3.05	0.44
40:a:1936:A:C8	40:a:1945:G:N7	2.86	0.44
40:a:2262:U:OP1	40:a:2387:U:O2'	2.33	0.44
40:a:2450:A:C2	40:a:2451:A:C4	3.06	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:2514:U:H2'	40:a:2515:C:H6	1.80	0.44
40:a:2616:C:C2	40:a:2617:U:C6	3.06	0.44
40:a:2617:U:C2	40:a:2618:G:C8	3.06	0.44
45:f:31:ARG:HG2	45:f:34:HIS:HB2	2.00	0.44
47:h:74:ILE:HB	47:h:96:TYR:CD1	2.53	0.44
48:i:17:ARG:CA	48:i:20:ASP:OD1	2.66	0.44
49:j:81:GLU:O	49:j:82:PHE:HD1	2.01	0.44
52:m:41:ARG:NE	52:m:41:ARG:HA	2.33	0.44
54:o:45:ARG:HD2	54:o:45:ARG:C	2.43	0.44
63:x:50:ALA:O	63:x:81:ARG:NH2	2.51	0.44
65:z:66:ASN:CG	65:z:76:TYR:HB2	2.42	0.44
1:0:60:LYS:N	1:0:60:LYS:HD3	2.33	0.44
6:5:11:DA:C5'	12:AB:67:THR:O	2.66	0.44
8:7:4:U:C5	17:D:1403:C:H1'	2.52	0.44
11:AA:1157:GLN:HG3	11:AA:1159:VAL:HG13	2.00	0.44
13:AD:31:LEU:HD21	13:AD:39:LEU:HD12	2.00	0.44
10:B:71:C:H2'	10:B:72:A:C1'	2.47	0.44
17:D:219:U:C2	17:D:220:G:C8	3.05	0.44
17:D:564:C:OP1	31:R:12:ARG:CZ	2.66	0.44
17:D:621:A:H2'	17:D:622:A:C8	2.53	0.44
17:D:986:U:H2'	17:D:987:G:C8	2.53	0.44
17:D:1120:C:C2	17:D:1121:U:C5	3.06	0.44
17:D:1120:C:H2'	17:D:1121:U:H6	1.83	0.44
17:D:1160:G:C6	17:D:1161:C:C5	3.06	0.44
18:E:25:ARG:O	18:E:28:MET:HB2	2.18	0.44
20:G:134:ALA:HA	20:G:137:ARG:HE	1.83	0.44
21:H:297:GLU:OE1	21:H:297:GLU:N	2.49	0.44
22:I:152:GLU:OE2	22:I:165:THR:HG23	2.18	0.44
24:K:12:GLN:HB3	24:K:14:LYS:HZ2	1.81	0.44
25:L:16:GLU:H	25:L:16:GLU:CD	2.26	0.44
27:N:35:ALA:HB1	27:N:110:VAL:HG11	1.99	0.44
27:N:84:ARG:HD2	27:N:124:GLU:OE1	2.17	0.44
27:N:110:VAL:O	27:N:111:MET:SD	2.75	0.44
28:O:91:ASP:HB3	28:O:94:LEU:HG	1.99	0.44
30:Q:14:LYS:HD3	30:Q:15:GLN:N	2.32	0.44
30:Q:83:GLU:OE1	30:Q:83:GLU:N	2.51	0.44
30:Q:91:PRO:HD2	30:Q:92:GLY:H	1.83	0.44
31:R:25:GLU:OE2	31:R:30:LYS:HE3	2.18	0.44
40:a:6:A:O2'	58:s:132:HIS:ND1	2.50	0.44
40:a:579:G:H2'	40:a:580:U:C6	2.53	0.44
40:a:1360:G:C8	40:a:1361:G:C8	3.06	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:1863:G:H2'	40:a:1864:U:H6	1.83	0.44
40:a:2484:G:OP1	61:v:44:ARG:HD2	2.18	0.44
40:a:2806:C:H2'	40:a:2807:U:O4'	2.18	0.44
45:f:27:LEU:O	45:f:38:ARG:NE	2.44	0.44
49:j:131:ASP:OD1	49:j:133:THR:O	2.36	0.44
49:j:204:LYS:HD3	49:j:205:PRO:HD2	2.00	0.44
50:k:7:GLU:CG	50:k:27:LYS:HZ3	2.31	0.44
54:o:45:ARG:HB3	54:o:46:PRO:CD	2.48	0.44
54:o:55:LEU:C	54:o:55:LEU:HD23	2.43	0.44
55:p:83:PHE:HB2	55:p:141:ILE:HD13	2.00	0.44
56:q:3:VAL:HG12	56:q:36:ARG:HB3	2.00	0.44
61:v:38:ARG:HB2	61:v:98:PRO:HD3	2.00	0.44
64:y:31:TRP:CH2	64:y:40:LEU:HD11	2.52	0.44
1:0:93:PHE:CD1	1:0:93:PHE:C	2.96	0.44
3:2:6:ARG:NE	3:2:42:GLU:CD	2.76	0.44
6:5:18:DG:C4	6:5:19:DC:C5	3.06	0.44
9:9:59:LEU:HD22	9:9:62:ARG:HE	1.81	0.44
9:9:138:ARG:NH1	39:Z:10:ALA:O	2.51	0.44
11:AA:800:MET:HB2	11:AA:800:MET:HE3	1.69	0.44
13:AC:48:LEU:HD23	13:AC:48:LEU:HA	1.86	0.44
13:AD:83:LEU:HD11	14:AE:526:VAL:HB	1.99	0.44
14:AE:117:LEU:HG	14:AE:118:LYS:HG3	2.00	0.44
16:C:40:VAL:HG22	21:H:339:ARG:HE	1.83	0.44
17:D:108:G:H5''	17:D:108:G:N3	2.33	0.44
17:D:262:A:H2'	17:D:263:A:C8	2.53	0.44
17:D:545:C:C5'	23:J:69:GLU:HG3	2.38	0.44
17:D:610:U:C2	17:D:611:C:C6	3.06	0.44
17:D:754:C:O5'	33:T:72:ARG:NH1	2.51	0.44
18:E:21:ASN:HB3	18:E:25:ARG:CZ	2.48	0.44
19:F:32:VAL:HG11	30:Q:89:PRO:HG3	1.99	0.44
20:G:9:MET:HE2	20:G:43:LEU:HD22	2.00	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
22:I:34:ASP:HB2	32:S:65:ARG:CZ	2.48	0.44
22:I:157:LEU:CD1	22:I:166:GLU:OE1	2.66	0.44
35:V:27:ARG:HH22	35:V:42:THR:N	2.16	0.44
37:X:71:ARG:NH1	37:X:72:GLU:HG3	2.33	0.44
38:Y:99:LYS:CE	38:Y:140:GLU:OE2	2.66	0.44
40:a:128:C:C2	40:a:129:C:C5	3.06	0.44
40:a:594:U:C2	40:a:595:C:C5	3.05	0.44
40:a:1144:A:C4	40:a:1145:C:C5	3.05	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:1657:U:C2	40:a:1658:C:C5	3.06	0.44
40:a:1996:C:OP1	59:t:31:ARG:NH2	2.51	0.44
40:a:2025:C:H2'	40:a:2026:U:C6	2.53	0.44
40:a:2175:C:H2'	40:a:2176:A:N7	2.33	0.44
40:a:2548:U:C2	40:a:2549:G:C8	3.06	0.44
40:a:2702:G:C4	40:a:2703:C:C5	3.06	0.44
43:d:69:G:C5	43:d:70:C:C6	3.06	0.44
44:e:59:GLU:CD	44:e:60:LYS:N	2.76	0.44
55:p:8:PRO:C	55:p:69:ARG:NH2	2.75	0.44
1:0:77:PHE:CD2	65:z:40:ILE:HG21	2.53	0.43
2:1:36:LEU:N	2:1:36:LEU:HD12	2.33	0.43
3:2:56:GLU:OE1	3:2:86:THR:C	2.61	0.43
8:7:41:A:O3'	11:AA:688:GLN:NE2	2.51	0.43
11:AA:746:ALA:O	11:AA:974:ARG:NH2	2.45	0.43
10:B:11:A:H2'	10:B:12:G:O4'	2.17	0.43
10:B:75:C:OP1	40:a:2602:A:C8	2.71	0.43
16:C:29:LEU:CD2	16:C:59:ILE:HD13	2.48	0.43
17:D:404:G:N7	23:J:2:ALA:HB3	2.33	0.43
17:D:1317:C:OP2	32:S:28:LYS:CE	2.66	0.43
18:E:16:LYS:HA	18:E:19:LYS:HE3	2.00	0.43
18:E:22:ALA:CA	18:E:25:ARG:HE	2.31	0.43
22:I:149:ILE:HG13	22:I:201:TRP:O	2.18	0.43
25:L:53:LYS:HD2	25:L:53:LYS:O	2.18	0.43
27:N:35:ALA:HB1	27:N:110:VAL:CG1	2.48	0.43
28:O:63:LEU:CD1	28:O:65:ILE:HD11	2.48	0.43
30:Q:21:ALA:HB3	30:Q:84:VAL:HG22	1.99	0.43
30:Q:63:ALA:CB	30:Q:92:GLY:HA3	2.48	0.43
31:R:23:ALA:O	31:R:25:GLU:OE1	2.36	0.43
35:V:28:PHE:CZ	35:V:37:PHE:HB3	2.53	0.43
40:a:536:G:H4'	65:z:57:PHE:CZ	2.53	0.43
40:a:782:A:C6	47:h:225:MET:HE2	2.53	0.43
40:a:910:A:H8	61:v:12:MET:CE	2.31	0.43
40:a:1820:U:C2	47:h:201:MET:HE2	2.53	0.43
40:a:1956:U:C2	40:a:1957:C:C6	3.06	0.43
40:a:2016:U:H2'	40:a:2017:U:C6	2.52	0.43
40:a:2092:U:C2	40:a:2225:A:O2'	2.71	0.43
40:a:2305:U:H5''	53:n:131:GLY:HA3	2.00	0.43
40:a:2313:C:O3'	53:n:88:LYS:NZ	2.48	0.43
46:g:59:ARG:HH11	46:g:63:ARG:CD	2.31	0.43
47:h:91:ILE:HG22	47:h:92:ALA:N	2.33	0.43
47:h:200:HIS:O	47:h:203:ARG:HG2	2.17	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:j:104:VAL:HG12	49:j:105:LYS:N	2.33	0.43
58:s:132:HIS:HA	58:s:135:GLN:OE1	2.17	0.43
60:u:95:LEU:HD13	60:u:100:ILE:HD12	2.00	0.43
61:v:3:GLN:OE1	61:v:4:PRO:O	2.35	0.43
5:4:31:TYR:HE2	43:d:104:A:O4'	2.01	0.43
5:4:55:GLU:OE1	5:4:55:GLU:N	2.42	0.43
10:A:32:C:O3'	26:M:86:GLN:NE2	2.51	0.43
10:A:35:A:H2'	10:A:36:U:O4'	2.18	0.43
10:A:49:G:H8	10:A:49:G:O5'	2.01	0.43
12:AB:130:PHE:HB3	12:AB:133:PRO:HD3	2.00	0.43
14:AE:658:GLU:HA	14:AE:661:VAL:HG22	2.00	0.43
14:AE:708:ASN:OD1	14:AE:708:ASN:N	2.50	0.43
10:B:30:G:C2'	17:D:1339:A:H2	2.31	0.43
17:D:562:U:C3'	31:R:14:ARG:NH1	2.81	0.43
17:D:877:G:H5''	27:N:80:ARG:CD	2.49	0.43
17:D:882:C:O2'	17:D:883:C:H5'	2.18	0.43
17:D:1152:A:OP1	29:P:72:ARG:NH1	2.43	0.43
26:M:4:ARG:HG2	26:M:5:ARG:NH2	2.32	0.43
28:O:21:ILE:CD1	28:O:86:ALA:CB	2.96	0.43
30:Q:84:VAL:HG11	30:Q:97:ILE:HD13	2.00	0.43
40:a:74:A:N7	40:a:88:G:C5	2.87	0.43
40:a:900:A:C5	40:a:901:C:C5	3.06	0.43
40:a:1839:G:C4	40:a:1840:G:C8	3.06	0.43
40:a:2179:C:H2'	40:a:2180:U:H6	1.83	0.43
40:a:2273:A:H2'	40:a:2274:A:C8	2.54	0.43
40:a:2387:U:C4'	41:b:41:ARG:NH1	2.81	0.43
40:a:2846:G:H2'	40:a:2847:U:O4'	2.18	0.43
53:n:132:VAL:CG2	53:n:152:LEU:CD2	2.97	0.43
57:r:6:LEU:C	57:r:15:LEU:HD13	2.43	0.43
59:t:1:MET:HE1	59:t:32:TYR:CB	2.49	0.43
61:v:104:GLU:OE1	61:v:104:GLU:HA	2.17	0.43
62:w:20:MET:HE3	62:w:20:MET:HB2	1.83	0.43
65:z:76:TYR:OH	65:z:92:ARG:HG2	2.19	0.43
2:1:19:LEU:HD23	2:1:19:LEU:C	2.43	0.43
3:2:56:GLU:CD	3:2:88:LYS:N	2.76	0.43
6:5:20:DC:H1'	6:5:21:DA:H5'	1.99	0.43
9:9:6:GLN:CA	9:9:9:GLN:HE22	2.30	0.43
9:9:18:VAL:HG13	9:9:71:CYS:HB2	2.00	0.43
9:9:118:ILE:HB	9:9:119:PRO:CD	2.42	0.43
12:AB:37:LYS:HE3	12:AB:109:THR:HG21	2.00	0.43
16:C:27:ALA:CA	16:C:30:LYS:HE3	2.49	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:C:34:THR:HG22	16:C:35:GLU:N	2.33	0.43
17:D:511:C:C2	17:D:512:U:C6	3.06	0.43
17:D:676:A:H2'	17:D:677:U:H6	1.82	0.43
17:D:678:U:H2'	17:D:679:C:C6	2.53	0.43
17:D:1240:U:H5	26:M:116:MET:HE2	1.83	0.43
17:D:1325:C:N3	17:D:1326:U:C5	2.86	0.43
17:D:1437:A:N3	17:D:1438:G:C8	2.86	0.43
19:F:51:SER:OG	19:F:55:ARG:NH2	2.52	0.43
20:G:9:MET:HE1	20:G:47:VAL:HG22	1.99	0.43
20:G:117:LEU:HD21	20:G:141:LEU:CA	2.48	0.43
20:G:206:ALA:O	20:G:210:VAL:HG23	2.18	0.43
21:H:8:LEU:HD12	21:H:11:GLU:OE2	2.18	0.43
21:H:163:ARG:N	21:H:298:GLU:CG	2.81	0.43
21:H:303:LEU:CD2	21:H:305:HIS:HB3	2.48	0.43
22:I:54:ARG:NH1	22:I:69:HIS:NE2	2.66	0.43
24:K:132:ASN:OD1	24:K:134:ILE:HG22	2.18	0.43
25:L:18:VAL:HA	25:L:21:MET:CE	2.47	0.43
28:O:56:ASP:OD1	28:O:56:ASP:N	2.50	0.43
32:S:20:TYR:CD2	32:S:55:SER:OG	2.67	0.43
33:T:10:LYS:HE2	33:T:10:LYS:HA	2.00	0.43
33:T:32:LEU:HD12	33:T:63:ARG:HA	1.98	0.43
34:U:9:HIS:O	34:U:16:PHE:HB3	2.18	0.43
37:X:3:ARG:NH2	53:n:110:ARG:HD2	2.33	0.43
37:X:79:ARG:NH1	46:g:56:ARG:NH1	2.66	0.43
37:X:90:ARG:NH1	37:X:96:PRO:O	2.51	0.43
38:Y:14:ALA:O	38:Y:15:GLY:C	2.61	0.43
40:a:61:C:C2	40:a:94:A:C2	3.06	0.43
40:a:234:U:C4	40:a:235:U:C5	3.06	0.43
40:a:841:G:C6	40:a:938:G:C6	3.06	0.43
40:a:841:G:H2'	40:a:842:U:C6	2.52	0.43
40:a:1141:U:H4'	40:a:1142:A:O4'	2.18	0.43
40:a:1319:C:O2'	40:a:1320:C:H5'	2.18	0.43
40:a:1406:U:O2'	40:a:1407:G:C5'	2.66	0.43
40:a:1409:U:C2	40:a:1410:G:C8	3.06	0.43
40:a:2216:G:H2'	40:a:2217:G:H8	1.82	0.43
40:a:2391:G:P	54:o:32:ILE:CD1	3.06	0.43
40:a:2466:C:C2	40:a:2467:C:C5	3.06	0.43
40:a:2768:U:OP1	58:s:85:LYS:HE3	2.19	0.43
43:d:55:U:O2'	53:n:26:MET:CE	2.67	0.43
45:f:6:LYS:HD3	45:f:6:LYS:N	2.33	0.43
45:f:10:THR:CB	45:f:56:LYS:NZ	2.81	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:r:90:LEU:HD21	57:r:94:ILE:HD11	2.00	0.43
62:w:96:ARG:O	62:w:113:ILE:HA	2.18	0.43
65:z:14:HIS:O	65:z:18:LEU:HD23	2.18	0.43
1:0:46:GLU:HG2	1:0:48:LYS:NZ	2.32	0.43
2:1:36:LEU:HD23	2:1:48:LYS:CA	2.48	0.43
4:3:7:ARG:NH2	40:a:84:A:O2'	2.51	0.43
9:9:23:LEU:HA	9:9:118:ILE:HG13	2.01	0.43
10:A:11:A:H2'	10:A:12:G:O4'	2.17	0.43
10:A:19:G:O6	40:a:2111:U:H3'	2.18	0.43
11:AA:811:ASN:ND2	11:AA:1098:LEU:O	2.51	0.43
12:AB:4:TRP:CE2	12:AB:27:ASN:ND2	2.87	0.43
14:AE:77:ARG:HD3	14:AE:77:ARG:HA	1.41	0.43
14:AE:708:ASN:HA	14:AE:713:GLU:HA	2.00	0.43
10:B:72:A:C3'	10:B:73:A:H5''	2.47	0.43
17:D:76:G:C5	17:D:77:A:C8	3.06	0.43
17:D:323:U:H4'	18:E:17:ALA:HB3	1.99	0.43
17:D:415:A:C6	17:D:416:G:C5	3.05	0.43
17:D:736:C:H4'	25:L:88:MET:HE2	1.99	0.43
17:D:746:A:H2'	17:D:747:A:C8	2.53	0.43
17:D:892:A:H2'	17:D:893:C:H6	1.83	0.43
17:D:1125:U:N3	17:D:1127:G:C8	2.86	0.43
17:D:1208:C:C2	17:D:1209:C:C6	3.07	0.43
20:G:110:SER:OG	20:G:113:ARG:NH2	2.47	0.43
25:L:2:ARG:HB2	25:L:4:TYR:CE1	2.53	0.43
27:N:31:LYS:N	27:N:31:LYS:HD2	2.34	0.43
29:P:45:ARG:HD3	29:P:47:GLU:OE2	2.18	0.43
31:R:30:LYS:C	31:R:81:LEU:HD12	2.42	0.43
33:T:10:LYS:HA	33:T:10:LYS:CE	2.49	0.43
33:T:15:PHE:HD2	33:T:30:ALA:CB	2.31	0.43
36:W:12:ASP:OD2	36:W:35:SER:CB	2.66	0.43
38:Y:82:ALA:HB3	38:Y:108:ILE:HD12	2.01	0.43
40:a:66:C:H42	40:a:74:A:H62	1.67	0.43
40:a:78:U:C5'	44:e:4:LYS:NZ	2.81	0.43
40:a:577:G:OP1	40:a:2502:G:O2'	2.36	0.43
40:a:870:U:N3	40:a:871:U:C5	2.86	0.43
40:a:1385:A:C4	40:a:1403:A:C2	3.07	0.43
49:j:107:VAL:HG13	49:j:177:VAL:HG11	2.01	0.43
50:k:9:ILE:HG22	50:k:27:LYS:HZ1	1.84	0.43
53:n:6:ASP:O	53:n:10:ASP:OD2	2.36	0.43
54:o:8:ARG:HA	54:o:8:ARG:HE	1.82	0.43
55:p:149:ARG:HD2	55:p:162:VAL:O	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1:MET:HE3	1:0:43:ASN:OD1	2.18	0.43
2:1:99:ARG:CZ	2:1:99:ARG:HB2	2.49	0.43
6:5:16:DG:N1	11:AA:451:ARG:NH2	2.66	0.43
9:9:3:LEU:CD1	9:9:5:LEU:H	2.31	0.43
9:9:70:GLU:HG3	9:9:71:CYS:N	2.34	0.43
14:AE:230:SER:OG	14:AE:231:GLY:N	2.49	0.43
16:C:54:GLN:HA	16:C:57:ARG:NH1	2.33	0.43
17:D:235:C:H2'	17:D:236:A:H8	1.84	0.43
17:D:1103:C:O2	20:G:106:THR:HG21	2.18	0.43
17:D:1149:C:N3	17:D:1150:A:N7	2.67	0.43
17:D:1408:A:H2'	17:D:1409:C:H6	1.84	0.43
20:G:23:TRP:CZ3	20:G:25:PRO:CA	3.01	0.43
21:H:52:GLN:OE1	21:H:52:GLN:HA	2.18	0.43
21:H:76:GLU:OE2	21:H:78:GLY:C	2.61	0.43
21:H:310:ASP:HB2	21:H:316:ILE:HD11	2.00	0.43
21:H:332:VAL:CG1	21:H:335:ILE:HG13	2.48	0.43
27:N:10:MET:HB2	27:N:33:LYS:HZ2	1.84	0.43
33:T:3:LEU:HD23	33:T:4:SER:N	2.33	0.43
34:U:7:ALA:HA	34:U:28:ARG:HD3	2.01	0.43
35:V:31:HIS:NE2	35:V:34:TYR:HD2	2.15	0.43
35:V:63:GLU:HB2	35:V:73:TRP:CZ2	2.53	0.43
36:W:68:GLY:HA3	46:g:59:ARG:HH22	1.82	0.43
37:X:22:ILE:HG23	37:X:66:GLU:CD	2.43	0.43
37:X:64:VAL:O	37:X:64:VAL:HG13	2.19	0.43
38:Y:102:ARG:NH1	38:Y:139:VAL:HG11	2.33	0.43
40:a:197:A:N6	40:a:2430:A:H2'	2.34	0.43
40:a:250:G:H2'	40:a:251:A:C8	2.54	0.43
40:a:271:G:C2	40:a:272:A:C5	3.07	0.43
40:a:598:U:H2'	40:a:599:A:H8	1.82	0.43
40:a:838:C:C2	40:a:839:U:C6	3.07	0.43
40:a:997:G:H5''	65:z:92:ARG:NH1	2.34	0.43
40:a:1074:G:C6	40:a:1075:C:N4	2.87	0.43
40:a:2884:U:O2	48:i:40:ARG:NH2	2.51	0.43
48:i:23:THR:O	48:i:23:THR:HG23	2.17	0.43
48:i:55:ILE:HD13	62:w:112:TYR:CE2	2.54	0.43
48:i:55:ILE:CD1	62:w:112:TYR:CD2	3.02	0.43
49:j:16:THR:HG23	49:j:20:VAL:O	2.19	0.43
52:m:26:ASN:HA	52:m:29:GLN:HE21	1.83	0.43
53:n:15:LYS:O	53:n:19:GLU:OE1	2.35	0.43
53:n:66:LEU:HD23	53:n:67:ILE:N	2.34	0.43
54:o:13:ARG:HG2	60:u:62:PRO:O	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:p:94:TYR:CE1	55:p:152:ARG:CD	3.02	0.43
60:u:122:VAL:CG1	60:u:125:LEU:CD2	2.90	0.43
61:v:53:MET:O	61:v:57:VAL:HG12	2.19	0.43
61:v:112:LEU:HD12	61:v:112:LEU:N	2.34	0.43
65:z:12:ALA:O	65:z:16:LYS:HG2	2.19	0.43
4:3:7:ARG:HG3	4:3:8:ASP:N	2.33	0.43
9:9:129:LEU:CD1	9:9:130:PRO:HD3	2.45	0.43
11:AA:557:ARG:HB3	11:AA:587:LEU:HD13	2.00	0.43
12:AB:33:ILE:HD11	12:AB:104:ILE:HA	2.00	0.43
12:AB:35:LEU:HA	12:AB:106:ASP:OD1	2.19	0.43
12:AB:140:MET:C	12:AB:152:HIS:C	2.85	0.43
14:AE:362:ARG:H	14:AE:365:GLN:HE21	1.66	0.43
14:AE:1036:ARG:HE	14:AE:1081:VAL:HG21	1.83	0.43
17:D:416:G:C4	17:D:417:G:C8	3.07	0.43
17:D:633:G:H2'	17:D:634:C:H6	1.82	0.43
17:D:1244:G:C6	17:D:1294:G:C6	3.06	0.43
17:D:1477:U:H2'	17:D:1478:U:C6	2.53	0.43
19:F:66:ARG:NH2	19:F:67:ARG:NH2	2.66	0.43
21:H:74:ALA:HB3	21:H:83:LEU:HD23	1.99	0.43
21:H:123:GLU:HA	21:H:128:ARG:HA	2.01	0.43
22:I:69:HIS:CD2	22:I:104:ALA:HB3	2.54	0.43
24:K:134:ILE:CG2	24:K:135:ASN:N	2.81	0.43
25:L:1:MET:HE2	25:L:67:PRO:N	2.34	0.43
25:L:9:MET:HE3	25:L:86:ARG:N	2.33	0.43
31:R:56:ARG:HG2	31:R:62:GLU:CD	2.41	0.43
40:a:30:G:O2'	40:a:1214:A:N3	2.49	0.43
40:a:39:G:H2'	40:a:40:U:H6	1.83	0.43
40:a:963:U:H2'	40:a:964:C:C6	2.53	0.43
40:a:2477:U:O2	56:q:4:ARG:NH2	2.51	0.43
44:e:56:LEU:C	44:e:59:GLU:HG3	2.44	0.43
51:l:112:LEU:HD23	51:l:118:LEU:HD13	1.99	0.43
53:n:92:ARG:CZ	53:n:92:ARG:HB3	2.47	0.43
53:n:126:GLY:HA2	53:n:163:ASP:HA	2.00	0.43
55:p:121:ILE:HD12	55:p:141:ILE:CG2	2.39	0.43
58:s:88:THR:OG1	58:s:91:GLU:HG3	2.18	0.43
59:t:59:LYS:NZ	59:t:92:GLU:CG	2.82	0.43
61:v:1:MET:SD	61:v:44:ARG:HA	2.59	0.43
62:w:12:ARG:NH1	62:w:20:MET:HE1	2.33	0.43
65:z:78:LYS:HG2	65:z:117:LEU:HD21	2.00	0.43
3:2:37:ASP:OD2	3:2:37:ASP:C	2.62	0.43
5:4:53:LYS:HB2	5:4:56:PHE:HE2	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:A:19:G:N2	40:a:2112:G:C1'	2.82	0.43
10:A:48:C:O2'	10:A:49:G:OP2	2.27	0.43
11:AA:11:ILE:HG22	11:AA:1172:LEU:HD11	2.00	0.43
11:AA:829:THR:HG23	11:AA:1059:ARG:HG2	1.99	0.43
12:AB:31:PRO:C	12:AB:50:LEU:H	2.22	0.43
12:AB:141:LEU:CA	12:AB:153:SER:N	2.75	0.43
12:AB:148:LYS:HZ1	29:P:102:LEU:HD23	1.83	0.43
14:AE:288:PRO:HD2	14:AE:291:ILE:CB	2.42	0.43
10:B:31:G:H5'	17:D:1339:A:C2	2.54	0.43
17:D:246:A:C2	17:D:282:A:C4	3.06	0.43
17:D:671:G:H4'	25:L:79:ARG:HH12	1.83	0.43
17:D:690:G:H2'	17:D:691:G:C8	2.54	0.43
17:D:953:G:O6	37:X:103:LYS:HE3	2.18	0.43
21:H:305:HIS:CG	21:H:306:VAL:H	2.36	0.43
22:I:134:MET:HG3	22:I:151:VAL:HG21	2.00	0.43
23:J:105:MET:HE3	23:J:171:LEU:HD13	1.97	0.43
24:K:15:LEU:HD23	24:K:15:LEU:H	1.83	0.43
24:K:68:ARG:O	24:K:69:ARG:NH1	2.52	0.43
27:N:10:MET:CG	27:N:27:MET:HE1	2.47	0.43
29:P:56:HIS:C	29:P:57:VAL:HG23	2.44	0.43
30:Q:85:MET:HG3	30:Q:111:THR:HB	2.00	0.43
32:S:86:GLU:O	32:S:90:ARG:HG2	2.18	0.43
34:U:8:ARG:HD3	34:U:17:TYR:CE1	2.54	0.43
38:Y:64:ARG:O	38:Y:64:ARG:HG3	2.17	0.43
39:Z:2:ILE:CG2	39:Z:5:ASP:H	2.28	0.43
39:Z:29:LYS:O	39:Z:30:PHE:HD2	2.02	0.43
40:a:150:U:C2	40:a:151:C:C5	3.06	0.43
40:a:471:A:H2'	40:a:472:A:O4'	2.19	0.43
40:a:533:G:H2'	40:a:534:U:C6	2.54	0.43
40:a:573:U:O2'	40:a:574:A:H3'	2.19	0.43
40:a:1169:A:N3	40:a:1169:A:O4'	2.51	0.43
40:a:1269:A:H2'	40:a:1270:C:C6	2.54	0.43
40:a:1709:U:H2'	40:a:1710:G:H8	1.82	0.43
40:a:1900:A:N1	40:a:1970:A:C6	2.87	0.43
40:a:2332:C:P	41:b:77:ARG:HH21	2.42	0.43
40:a:2579:C:O3'	49:j:137:SER:OG	2.32	0.43
40:a:2821:A:C2	40:a:2822:G:C4	3.07	0.43
43:d:48:U:P	63:x:30:ARG:HH22	2.41	0.43
48:i:17:ARG:CB	48:i:20:ASP:OD1	2.67	0.43
49:j:181:ASP:HB3	49:j:186:LEU:HB2	1.99	0.43
51:l:23:PHE:CE2	51:l:25:GLU:CB	3.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:l:131:THR:HG22	51:l:160:ALA:O	2.18	0.43
57:r:93:SER:OG	57:r:121:VAL:HG13	2.18	0.43
59:t:108:ARG:HG2	59:t:116:ILE:HD13	2.01	0.43
61:v:72:PRO:C	61:v:73:ILE:HD12	2.43	0.43
65:z:76:TYR:CZ	65:z:80:ILE:HD11	2.53	0.43
65:z:82:GLY:CA	65:z:117:LEU:HD11	2.48	0.43
1:0:58:VAL:HG13	1:0:60:LYS:HZ3	1.83	0.43
2:1:1:MET:SD	2:1:62:ASP:OD2	2.76	0.43
9:9:105:LYS:O	9:9:106:PHE:HB3	2.18	0.43
10:A:19:G:N3	10:A:57:A:C4	2.87	0.43
12:AB:138:ARG:HD2	12:AB:154:VAL:C	2.44	0.43
12:AB:144:ASN:HA	12:AB:149:GLU:CD	2.44	0.43
12:AB:146:ILE:O	12:AB:146:ILE:HG22	2.18	0.43
10:B:19:G:N3	10:B:57:A:C4	2.87	0.43
16:C:20:GLU:OE1	16:C:21:ILE:O	2.36	0.43
17:D:13:U:N3	17:D:915:A:C6	2.87	0.43
17:D:320:A:H2'	17:D:321:A:O4'	2.19	0.43
17:D:622:A:C8	17:D:623:C:C6	3.06	0.43
17:D:771:G:H2'	17:D:772:U:C6	2.54	0.43
17:D:1125:U:O2'	17:D:1126:U:O5'	2.32	0.43
20:G:26:LYS:CE	20:G:193:PRO:HG2	2.49	0.43
21:H:19:ARG:HD3	21:H:19:ARG:N	2.32	0.43
21:H:31:ILE:O	21:H:31:ILE:HG13	2.18	0.43
22:I:22:TRP:CZ2	22:I:32:ASN:CB	3.01	0.43
25:L:29:ILE:HD12	25:L:29:ILE:H	1.83	0.43
26:M:23:LEU:H	26:M:23:LEU:CD1	2.30	0.43
28:O:39:PHE:CD1	28:O:44:ALA:HB1	2.53	0.43
31:R:57:LEU:HD23	31:R:59:ASN:CG	2.43	0.43
33:T:63:ARG:HD2	33:T:67:LEU:HD23	2.01	0.43
34:U:14:ARG:CD	34:U:42:ILE:HG21	2.47	0.43
35:V:15:ASP:OD1	35:V:15:ASP:N	2.49	0.43
40:a:523:C:O2	40:a:554:U:O2'	2.37	0.43
40:a:685:A:N1	40:a:787:C:HI'	2.33	0.43
40:a:1095:A:O2'	40:a:1096:A:O4'	2.36	0.43
40:a:1144:A:C5	40:a:1145:C:C5	3.07	0.43
40:a:1587:G:H2'	40:a:1588:G:C8	2.54	0.43
40:a:1665:A:O3'	59:t:66:LYS:CD	2.67	0.43
40:a:1839:G:O4'	40:a:1927:A:O4'	2.37	0.43
40:a:2215:C:H2'	40:a:2216:G:C8	2.54	0.43
40:a:2665:A:C2	40:a:2666:C:C6	3.07	0.43
43:d:31:C:C2	43:d:32:U:C5	3.06	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:d:46:A:C5	43:d:47:C:C5	3.06	0.43
49:j:156:PHE:CE2	58:s:81:ILE:HD13	2.54	0.43
53:n:20:PHE:HB3	53:n:22:TYR:CE1	2.54	0.43
61:v:111:GLU:HG2	61:v:112:LEU:N	2.33	0.43
64:y:106:LYS:CA	64:y:109:ARG:NH2	2.81	0.43
64:y:106:LYS:CB	64:y:109:ARG:HH22	2.32	0.43
8:7:1:A:C6	10:B:37:A:N1	2.86	0.43
10:A:22:G:OP2	10:A:22:G:C8	2.72	0.43
12:AB:2:GLN:HA	12:AB:59:PHE:C	2.43	0.43
10:B:35:A:H2'	10:B:36:U:O4'	2.18	0.43
17:D:43:C:P	34:U:12:LYS:HE3	2.59	0.43
17:D:381:C:H2'	17:D:382:A:O4'	2.19	0.43
17:D:619:U:O4'	23:J:128:ARG:CZ	2.67	0.43
17:D:674:G:H2'	17:D:675:A:H8	1.84	0.43
17:D:682:G:C2	17:D:683:G:C8	3.06	0.43
17:D:1127:G:C6	17:D:1128:C:C5	3.07	0.43
17:D:1157:A:C2	17:D:1181:G:C5	3.06	0.43
17:D:1172:C:H2'	17:D:1173:U:H6	1.82	0.43
17:D:1194:U:H2'	17:D:1195:C:C6	2.54	0.43
18:E:60:ARG:HG3	18:E:64:LYS:NZ	2.34	0.43
20:G:208:ARG:NH1	20:G:211:THR:CG2	2.82	0.43
21:H:124:LEU:O	21:H:127:ILE:O	2.36	0.43
21:H:336:ASP:HB2	21:H:341:ARG:H	1.84	0.43
34:U:5:ARG:HA	34:U:71:VAL:HG21	2.01	0.43
36:W:45:ILE:HA	36:W:62:VAL:HG12	2.01	0.43
38:Y:14:ALA:C	38:Y:50:LYS:HD2	2.44	0.43
39:Z:14:MET:CG	39:Z:15:SER:H	2.26	0.43
40:a:192:C:C5	40:a:193:U:C6	3.07	0.43
40:a:307:G:N1	40:a:310:A:OP2	2.47	0.43
40:a:1139:G:O3'	58:s:26:GLY:HA3	2.19	0.43
40:a:1141:U:O2	40:a:1142:A:N6	2.52	0.43
40:a:1683:U:H2'	40:a:1684:G:H8	1.83	0.43
40:a:1695:G:N7	47:h:14:ARG:NH2	2.66	0.43
40:a:2298:A:P	53:n:72:LYS:HZ3	2.37	0.43
40:a:2332:C:OP1	41:b:77:ARG:NH2	2.52	0.43
40:a:2462:C:C2	40:a:2463:C:C5	3.07	0.43
40:a:2547:A:H5'	59:t:29:HIS:NE2	2.34	0.43
40:a:2557:G:H2'	40:a:2558:C:H6	1.84	0.43
43:d:57:A:N7	53:n:26:MET:CE	2.82	0.43
43:d:89:U:O2'	43:d:90:C:P	2.76	0.43
47:h:45:ASN:OD1	47:h:46:ASN:N	2.51	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:h:130:LEU:CD2	47:h:192:LEU:HD21	2.48	0.43
47:h:144:VAL:HG21	47:h:162:VAL:HG11	2.01	0.43
49:j:151:THR:HG23	49:j:151:THR:O	2.19	0.43
50:k:34:LEU:HB3	50:k:51:GLU:OE2	2.19	0.43
53:n:40:VAL:HG13	53:n:42:GLU:CD	2.43	0.43
53:n:93:GLY:O	53:n:94:GLU:C	2.61	0.43
55:p:115:HIS:HD1	55:p:151:TYR:HE2	1.65	0.43
58:s:1:MET:SD	58:s:2:LYS:C	3.02	0.43
61:v:96:ILE:HA	61:v:100:LYS:HE3	2.00	0.43
62:w:33:ILE:CD1	62:w:112:TYR:HD1	2.32	0.43
62:w:58:ASP:HB2	62:w:80:PHE:CE1	2.54	0.43
4:3:4:LYS:O	4:3:94:ARG:NH2	2.40	0.43
9:9:15:VAL:HG22	9:9:66:GLY:HA3	2.00	0.43
10:A:47:U:O2'	10:A:50:U:OP1	2.37	0.43
10:A:57:A:O5'	10:A:58:A:P	2.77	0.43
11:AA:300:ASP:OD1	11:AA:313:ALA:N	2.51	0.43
14:AE:210:SER:O	14:AE:214:ARG:N	2.43	0.43
14:AE:859:PRO:HD2	14:AE:862:THR:HG21	2.00	0.43
14:AE:1321:SER:OG	14:AE:1349:GLU:OE2	2.32	0.43
17:D:57:G:H2'	17:D:58:C:C6	2.54	0.43
17:D:316:C:C2	17:D:317:U:C5	3.06	0.43
17:D:384:G:H2'	17:D:385:C:C6	2.54	0.43
17:D:679:C:N3	17:D:680:C:C5	2.87	0.43
17:D:689:C:H2'	17:D:690:G:O4'	2.18	0.43
17:D:1184:G:C2	17:D:1185:G:C8	3.07	0.43
17:D:1318:A:OP1	36:W:7:LYS:NZ	2.52	0.43
17:D:1513:A:H2'	17:D:1514:G:H8	1.84	0.43
18:E:60:ARG:O	18:E:64:LYS:HD3	2.18	0.43
20:G:131:LYS:O	20:G:135:LEU:HD13	2.19	0.43
22:I:22:TRP:CH2	22:I:32:ASN:HB2	2.54	0.43
22:I:54:ARG:NH2	22:I:56:VAL:CG2	2.82	0.43
24:K:93:ARG:NH2	24:K:93:ARG:CB	2.80	0.43
28:O:113:ARG:HG3	28:O:115:LYS:HZ2	1.84	0.43
29:P:64:GLN:HG2	32:S:101:TRP:HH2	1.84	0.43
36:W:44:MET:HE1	36:W:62:VAL:HG22	2.01	0.43
36:W:69:HIS:ND1	36:W:74:PHE:HZ	2.17	0.43
40:a:39:G:H2'	40:a:40:U:C6	2.53	0.43
40:a:531:C:C5	40:a:2035:G:C2	3.07	0.43
40:a:538:A:H2'	40:a:539:G:O4'	2.18	0.43
40:a:1443:U:H2'	40:a:1444:G:C8	2.54	0.43
40:a:1565:C:OP1	47:h:18:LYS:HD2	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:1770:G:C5	40:a:1983:G:C6	3.07	0.43
40:a:1879:C:H2'	40:a:1880:U:O4'	2.18	0.43
40:a:2297:A:C2	40:a:2321:U:C5	3.07	0.43
40:a:2615:U:H2'	40:a:2616:C:H6	1.83	0.43
47:h:71:LYS:HB2	47:h:96:TYR:CZ	2.54	0.43
51:l:47:LYS:HA	51:l:51:GLU:CD	2.44	0.43
53:n:15:LYS:C	53:n:19:GLU:OE1	2.61	0.43
55:p:94:TYR:HE1	55:p:152:ARG:HD2	1.83	0.43
58:s:125:TYR:CD2	58:s:130:HIS:HB3	2.54	0.43
2:1:95:ARG:C	2:1:95:ARG:HD2	2.44	0.42
5:4:80:HIS:HE1	5:4:82:TYR:CG	2.37	0.42
6:5:10:DT:H73	11:AA:62:TYR:HB3	1.99	0.42
6:5:10:DT:C4	11:AA:62:TYR:HE2	2.27	0.42
9:9:80:THR:O	40:a:1108:U:OP1	2.37	0.42
11:AA:22:LEU:HB3	11:AA:655:VAL:HG11	2.01	0.42
11:AA:125:GLY:H	11:AA:495:ALA:HB1	1.84	0.42
11:AA:813:GLU:HB2	14:AE:461:PHE:HD2	1.83	0.42
11:AA:1275:VAL:HG13	11:AA:1287:LEU:HD11	2.01	0.42
13:AD:78:ILE:HA	13:AD:81:ILE:HG22	2.00	0.42
14:AE:78:LEU:HD12	14:AE:79:LYS:N	2.34	0.42
14:AE:412:LEU:HA	14:AE:415:VAL:HG22	2.01	0.42
10:B:30:G:C6	10:B:31:G:N7	2.88	0.42
17:D:34:C:H2'	17:D:35:G:H8	1.83	0.42
17:D:43:C:P	34:U:12:LYS:HZ2	2.42	0.42
17:D:553:A:H2'	17:D:554:A:H8	1.84	0.42
17:D:723:U:C2	19:F:49:LYS:HE3	2.54	0.42
17:D:792:A:H1'	17:D:794:A:N7	2.34	0.42
17:D:796:C:N3	17:D:797:C:C5	2.87	0.42
17:D:1107:C:OP1	22:I:172:ARG:HG3	2.19	0.42
17:D:1436:U:C2	17:D:1437:A:C8	3.07	0.42
18:E:66:LEU:HD12	18:E:66:LEU:HA	1.85	0.42
20:G:30:PHE:CG	20:G:45:LYS:NZ	2.87	0.42
22:I:14:ILE:HB	22:I:178:LEU:HD21	2.01	0.42
27:N:66:PHE:C	27:N:67:GLN:OE1	2.62	0.42
29:P:52:LEU:HB2	32:S:81:ARG:NH1	2.33	0.42
30:Q:47:ALA:O	30:Q:52:PHE:HB2	2.19	0.42
37:X:71:ARG:CZ	46:g:50:ASP:O	2.67	0.42
38:Y:81:LYS:N	38:Y:81:LYS:CD	2.79	0.42
40:a:125:A:C6	52:m:10:LEU:HD13	2.54	0.42
40:a:310:A:C2	40:a:330:A:C4	3.07	0.42
40:a:587:C:O2	60:u:33:ARG:NH2	2.52	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:635:C:OP1	60:u:126:ARG:CZ	2.67	0.42
40:a:1506:U:H2'	40:a:1507:C:C6	2.54	0.42
40:a:1789:A:OP2	47:h:221:ARG:NH1	2.52	0.42
40:a:1792:G:H5'	47:h:204:VAL:CG2	2.49	0.42
40:a:2037:A:H2'	40:a:2038:G:C8	2.54	0.42
40:a:2061:G:N3	40:a:2063:C:C5	2.87	0.42
40:a:2516:A:O2'	40:a:2517:C:H5'	2.18	0.42
40:a:2554:U:H2'	40:a:2555:U:C6	2.55	0.42
40:a:2615:U:C2	48:i:4:GLN:HA	2.53	0.42
41:b:21:LEU:HD23	41:b:40:GLN:HA	2.00	0.42
43:d:82:U:O2	45:f:53:PHE:HZ	2.02	0.42
46:g:47:LYS:CE	53:n:115:ARG:HA	2.49	0.42
46:g:62:LYS:HE2	46:g:62:LYS:HB2	1.87	0.42
50:k:21:TYR:CE2	50:k:38:LYS:HB3	2.54	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
53:n:33:LYS:CA	53:n:96:MET:SD	3.07	0.42
53:n:79:ILE:O	53:n:79:ILE:HG13	2.18	0.42
59:t:43:ILE:HD12	59:t:56:ASP:HB2	2.01	0.42
61:v:74:THR:HA	61:v:88:ASN:O	2.19	0.42
65:z:79:PHE:CE1	65:z:110:VAL:HA	2.46	0.42
1:0:77:PHE:CD1	1:0:77:PHE:C	2.97	0.42
4:3:7:ARG:O	4:3:25:VAL:O	2.36	0.42
11:AA:699:LEU:HG	11:AA:799:ASN:HD22	1.85	0.42
11:AA:861:ALA:HB1	11:AA:882:ILE:HD13	2.01	0.42
12:AB:81:PHE:CD1	14:AE:141:PHE:O	2.72	0.42
14:AE:70:CYS:HG	14:AE:85:CYS:HG	1.66	0.42
14:AE:513:MET:HE1	14:AE:579:LEU:HD13	2.01	0.42
15:AF:58:LEU:HD12	15:AF:59:ILE:HG12	2.00	0.42
17:D:119:A:C2	17:D:240:G:C8	3.07	0.42
17:D:323:U:H2'	17:D:324:G:O4'	2.19	0.42
17:D:563:A:C2	17:D:567:G:C6	3.07	0.42
17:D:611:C:O2	17:D:611:C:H2'	2.18	0.42
17:D:684:U:H2'	17:D:685:G:O4'	2.19	0.42
17:D:1328:C:H5''	37:X:28:THR:HG21	2.01	0.42
17:D:1499:A:H2'	17:D:1500:A:H8	1.85	0.42
19:F:3:VAL:HG22	30:Q:111:THR:HG23	2.01	0.42
19:F:5:LYS:HD3	30:Q:109:ASN:OD1	2.20	0.42
22:I:72:ARG:O	22:I:75:ILE:HG22	2.19	0.42
22:I:156:ARG:O	22:I:156:ARG:HG3	2.19	0.42
23:J:117:LEU:HD23	23:J:154:ARG:HH21	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:J:139:PRO:N	23:J:182:PHE:CE2	2.88	0.42
25:L:24:ARG:O	25:L:25:TYR:C	2.62	0.42
26:M:78:ARG:HG3	26:M:80:VAL:HG13	1.99	0.42
31:R:3:THR:O	31:R:4:VAL:C	2.62	0.42
34:U:12:LYS:HD2	34:U:13:LYS:HG2	2.00	0.42
38:Y:9:LYS:CE	38:Y:55:PRO:HB3	2.43	0.42
40:a:68:G:N2	40:a:74:A:OP2	2.51	0.42
40:a:196:A:C5	40:a:805:G:C6	3.07	0.42
40:a:407:G:C2	40:a:408:G:C8	3.07	0.42
40:a:607:U:N3	40:a:608:A:N7	2.66	0.42
40:a:639:U:H2'	40:a:640:C:H6	1.82	0.42
40:a:814:C:C2	40:a:815:C:C5	3.07	0.42
40:a:973:A:O4'	40:a:1188:U:C6	2.73	0.42
40:a:1008:A:OP2	58:s:37:ARG:NH1	2.52	0.42
40:a:1028:A:N6	40:a:1125:G:H2'	2.34	0.42
40:a:1282:U:H2'	40:a:1283:G:O4'	2.18	0.42
40:a:1361:G:H2'	40:a:1362:C:C6	2.54	0.42
40:a:1824:G:H3'	47:h:52:ARG:HH12	1.84	0.42
40:a:2228:G:H2'	40:a:2229:U:C6	2.54	0.42
40:a:2249:U:H3'	40:a:2250:G:C5'	2.49	0.42
40:a:2392:A:N3	60:u:55:MET:HE2	2.34	0.42
40:a:2465:C:O2	40:a:2465:C:H2'	2.18	0.42
40:a:2469:A:C6	40:a:2482:A:C8	3.07	0.42
40:a:2590:A:H2'	40:a:2591:C:H6	1.83	0.42
47:h:183:LYS:CE	47:h:265:LYS:O	2.67	0.42
53:n:30:ARG:C	53:n:158:THR:HG1	2.28	0.42
53:n:104:ILE:HD11	53:n:174:ASP:O	2.19	0.42
62:w:73:ASN:C	62:w:73:ASN:ND2	2.76	0.42
64:y:55:LEU:HA	64:y:77:HIS:CD2	2.54	0.42
65:z:47:TYR:CZ	65:z:51:ARG:NH2	2.87	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
8:7:7:U:H6	8:7:7:U:H3'	1.84	0.42
9:9:24:SER:O	9:9:96:PHE:CE1	2.72	0.42
9:9:94:ARG:N	9:9:94:ARG:HD3	2.34	0.42
10:A:11:A:H2'	10:A:12:G:C8	2.54	0.42
11:AA:590:PRO:HB2	11:AA:655:VAL:HG21	2.01	0.42
11:AA:1313:HIS:CD2	15:AF:31:GLN:HE22	2.37	0.42
14:AE:907:HIS:ND1	14:AE:908:ILE:O	2.48	0.42
10:B:22:G:C8	10:B:22:G:OP2	2.71	0.42
16:C:60:LYS:CE	17:D:735:C:O4'	2.65	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:283:U:C2	17:D:284:C:C6	3.06	0.42
17:D:662:U:H2'	17:D:663:A:C8	2.55	0.42
17:D:687:A:C2	17:D:704:A:C6	3.07	0.42
17:D:1071:C:C5'	24:K:54:ARG:HH21	2.33	0.42
17:D:1329:A:OP1	37:X:28:THR:CB	2.66	0.42
17:D:1410:A:H2'	17:D:1411:C:C6	2.54	0.42
17:D:1464:U:C2	17:D:1465:A:C8	3.07	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	2.20	0.42
19:F:31:GLU:CD	19:F:34:ARG:NH2	2.77	0.42
20:G:134:ALA:HA	20:G:137:ARG:NE	2.35	0.42
23:J:41:HIS:ND1	23:J:44:ARG:CZ	2.82	0.42
24:K:77:ASN:O	24:K:80:THR:O	2.37	0.42
24:K:157:ARG:HG2	24:K:159:LYS:HD3	2.01	0.42
32:S:63:ARG:HH22	32:S:70:PRO:HD3	1.84	0.42
36:W:17:LYS:O	36:W:21:LYS:HD3	2.19	0.42
37:X:101:ARG:C	37:X:103:LYS:H	2.26	0.42
40:a:133:U:H2'	40:a:134:G:C8	2.54	0.42
40:a:580:U:C2	40:a:581:C:C5	3.07	0.42
40:a:969:G:H2'	40:a:970:U:C6	2.53	0.42
40:a:1443:U:H2'	40:a:1444:G:H8	1.83	0.42
40:a:1707:G:C5	40:a:1708:C:C5	3.07	0.42
40:a:1709:U:H2'	40:a:1710:G:C8	2.55	0.42
40:a:1913:A:OP2	40:a:1913:A:H3'	2.18	0.42
40:a:2093:G:P	57:r:22:LYS:CG	3.07	0.42
40:a:2377:A:O2'	63:x:117:PHE:O	2.36	0.42
42:c:76:GLU:CD	42:c:76:GLU:C	2.87	0.42
44:e:20:ASN:O	44:e:24:GLU:HG2	2.20	0.42
47:h:94:VAL:HG12	47:h:95:LEU:N	2.34	0.42
49:j:68:PHE:CE1	49:j:79:LEU:HD21	2.54	0.42
49:j:152:PRO:HG3	49:j:156:PHE:CE1	2.53	0.42
57:r:8:LYS:NZ	57:r:9:VAL:O	2.52	0.42
62:w:60:VAL:CG2	62:w:63:ARG:NH1	2.78	0.42
63:x:14:ALA:O	63:x:15:ARG:C	2.61	0.42
64:y:106:LYS:HB3	64:y:109:ARG:HH22	1.84	0.42
65:z:111:GLU:OE2	65:z:112:LYS:HD2	2.19	0.42
3:2:9:LYS:O	3:2:12:ARG:NH2	2.52	0.42
9:9:69:PHE:O	9:9:72:LEU:HD11	2.20	0.42
10:A:18:G:H2'	10:A:57:A:C2	2.55	0.42
11:AA:27:LEU:O	11:AA:528:ARG:NH1	2.43	0.42
11:AA:318:SER:OG	11:AA:320:ASP:OD1	2.31	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:741:MET:HE3	11:AA:974:ARG:HH12	1.85	0.42
14:AE:87:LYS:HE2	29:P:89:ARG:HE	1.81	0.42
14:AE:964:LYS:O	14:AE:976:THR:OG1	2.35	0.42
10:B:49:G:O5'	10:B:49:G:H8	2.01	0.42
16:C:27:ALA:HB1	16:C:30:LYS:HE3	2.00	0.42
16:C:30:LYS:HA	16:C:33:ILE:HG12	2.01	0.42
16:C:44:ILE:CG2	21:H:340:ARG:HB2	2.50	0.42
17:D:611:C:N3	17:D:612:C:C5	2.87	0.42
17:D:619:U:H1'	23:J:128:ARG:NH1	2.34	0.42
17:D:1060:U:OP1	32:S:85:ARG:NH1	2.48	0.42
17:D:1261:A:C5	17:D:1262:C:C6	3.07	0.42
17:D:1381:U:C4	17:D:1382:C:C5	3.07	0.42
17:D:1439:G:H2'	17:D:1440:U:O4'	2.20	0.42
21:H:74:ALA:HB3	21:H:83:LEU:CD2	2.50	0.42
21:H:135:LEU:CB	21:H:157:ILE:CB	2.97	0.42
22:I:72:ARG:HD3	22:I:75:ILE:H	1.84	0.42
23:J:76:TYR:HE1	23:J:86:THR:HG21	1.84	0.42
25:L:2:ARG:C	25:L:65:GLU:OE1	2.62	0.42
25:L:94:HIS:CG	25:L:95:ALA:N	2.88	0.42
29:P:7:ARG:HA	29:P:75:ASP:OD1	2.20	0.42
38:Y:32:VAL:HG13	38:Y:58:ILE:HG21	2.00	0.42
38:Y:99:LYS:CE	38:Y:138:VAL:O	2.67	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:780:G:O2'	40:a:783:A:N6	2.53	0.42
40:a:938:G:C2	40:a:939:G:C8	3.08	0.42
40:a:996:A:N6	40:a:1160:G:C6	2.87	0.42
40:a:1114:C:H2'	40:a:1115:G:C8	2.54	0.42
40:a:1145:C:H2'	40:a:1146:C:H6	1.84	0.42
40:a:1509:A:N3	40:a:1510:G:C8	2.87	0.42
40:a:1657:U:H2'	40:a:1658:C:H6	1.83	0.42
40:a:1906:G:C8	40:a:1929:G:C5	3.08	0.42
40:a:2072:C:C2	40:a:2073:C:C5	3.08	0.42
40:a:2783:U:H2'	40:a:2784:U:H6	1.85	0.42
40:a:2856:A:C6	40:a:2862:G:C6	3.08	0.42
40:a:2859:G:H2'	40:a:2860:A:C8	2.54	0.42
43:d:39:A:C2	43:d:44:G:C2	3.07	0.42
44:e:2:LYS:HZ1	44:e:49:ASP:CA	2.32	0.42
44:e:25:GLN:OE1	44:e:50:VAL:HG21	2.19	0.42
49:j:61:THR:HG23	49:j:63:PRO:HD2	2.00	0.42
51:l:193:VAL:O	51:l:194:LYS:C	2.62	0.42

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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	0.42
59:t:110:GLU:OE1	59:t:110:GLU:HA	2.19	0.42
59:t:118:LEU:O	59:t:119:ALA:C	2.62	0.42
61:v:31:PHE:C	61:v:104:GLU:OE1	2.62	0.42
62:w:38:LEU:HD12	62:w:38:LEU:HA	1.72	0.42
62:w:38:LEU:HB3	62:w:39:PRO:HD3	2.02	0.42
64:y:27:GLU:HB3	64:y:87:LYS:HZ3	1.84	0.42
2:1:75:PHE:HE2	2:1:77:ASP:OD2	2.02	0.42
3:2:6:ARG:HE	3:2:42:GLU:CD	2.27	0.42
3:2:42:GLU:OE1	3:2:42:GLU:HA	2.19	0.42
5:4:2:PHE:CD1	5:4:56:PHE:CE1	3.08	0.42
8:7:12:U:H4'	24:K:56:VAL:HG11	2.02	0.42
11:AA:148:GLN:NE2	11:AA:535:PRO:O	2.40	0.42
11:AA:805:MET:HB2	11:AA:805:MET:HE3	1.86	0.42
12:AB:90:SER:HB2	12:AB:94:HIS:NE2	2.34	0.42
14:AE:287:ALA:HB2	14:AE:292:VAL:HG11	1.85	0.42
16:C:38:LYS:NZ	17:D:718:A:C6	2.79	0.42
16:C:60:LYS:NZ	17:D:735:C:O5'	2.52	0.42
17:D:197:A:N6	17:D:221:C:H4'	2.35	0.42
17:D:393:A:C2	17:D:394:G:C8	3.07	0.42
17:D:505:G:C2	17:D:506:G:C5	3.07	0.42
17:D:588:G:C4'	27:N:3:MET:HE1	2.48	0.42
17:D:745:G:H2'	17:D:746:A:H8	1.84	0.42
17:D:1104:G:H4'	20:G:113:ARG:HH22	1.83	0.42
17:D:1255:G:O2'	17:D:1258:G:N3	2.48	0.42
17:D:1526:G:P	19:F:42:THR:HG23	2.59	0.42
20:G:55:ALA:O	20:G:59:LYS:HG2	2.19	0.42
21:H:309:MET:HE1	21:H:318:PRO:HG3	2.02	0.42
22:I:149:ILE:HG13	22:I:202:ILE:HG12	2.01	0.42
23:J:170:TRP:CD1	23:J:171:LEU:HG	2.54	0.42
26:M:23:LEU:N	26:M:23:LEU:CD1	2.81	0.42
26:M:99:LEU:O	26:M:103:TRP:CG	2.73	0.42
28:O:35:LEU:CD2	28:O:45:ARG:HG2	2.49	0.42
28:O:51:PRO:HB3	28:O:103:PHE:HD2	1.83	0.42
31:R:66:TYR:CE2	31:R:68:GLY:HA2	2.55	0.42
31:R:80:ILE:CG2	31:R:81:LEU:N	2.82	0.42
37:X:3:ARG:CZ	53:n:110:ARG:HD2	2.49	0.42
40:a:6:A:O3'	58:s:132:HIS:HE1	2.03	0.42
40:a:136:G:H2'	40:a:137:U:C6	2.54	0.42
40:a:858:G:OP1	41:b:78:LYS:HE3	2.18	0.42
40:a:874:G:C6	40:a:904:G:C6	3.08	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:1064:C:H2'	40:a:1065:U:C6	2.55	0.42
40:a:1289:C:H2'	40:a:1290:C:H6	1.84	0.42
40:a:1399:C:C2	40:a:1400:U:C5	3.08	0.42
40:a:2002:G:OP1	62:w:13:ASN:HA	2.19	0.42
40:a:2585:U:O2	40:a:2585:U:O4'	2.37	0.42
40:a:2723:C:C5'	62:w:1:MET:HE3	2.49	0.42
40:a:2838:G:C6	40:a:2839:G:C5	3.08	0.42
42:c:66:THR:O	42:c:69:ALA:N	2.52	0.42
43:d:83:G:O4'	45:f:53:PHE:CE2	2.72	0.42
46:g:58:ASP:C	46:g:62:LYS:HZ1	2.28	0.42
49:j:37:VAL:HG13	49:j:48:ILE:CD1	2.49	0.42
62:w:70:THR:O	62:w:71:ARG:HB2	2.20	0.42
9:9:23:LEU:CA	9:9:118:ILE:HD11	2.50	0.42
12:AB:145:LEU:C	12:AB:147:ASN:H	2.28	0.42
14:AE:134:ASP:HB3	14:AE:159:ILE:HG21	2.02	0.42
10:B:18:G:H2'	10:B:57:A:C2	2.55	0.42
16:C:33:ILE:O	21:H:338:GLU:HB3	2.20	0.42
16:C:60:LYS:NZ	17:D:735:C:P	2.92	0.42
17:D:21:G:H2'	17:D:22:G:C8	2.54	0.42
17:D:414:A:C2	17:D:415:A:H1'	2.54	0.42
17:D:768:A:C5	17:D:769:G:C8	3.08	0.42
17:D:946:A:C2	17:D:947:G:C5	3.08	0.42
17:D:964:A:C2	17:D:969:A:N3	2.87	0.42
17:D:1315:U:H2'	17:D:1316:G:O4'	2.19	0.42
18:E:9:LYS:CG	18:E:13:GLN:NE2	2.82	0.42
19:F:14:VAL:O	19:F:18:ARG:HG3	2.19	0.42
23:J:67:VAL:C	23:J:72:PHE:CE2	2.98	0.42
23:J:76:TYR:HE1	23:J:86:THR:CG2	2.33	0.42
24:K:97:GLN:NE2	24:K:98:PRO:O	2.52	0.42
24:K:111:MET:O	24:K:112:ARG:C	2.63	0.42
24:K:123:VAL:C	24:K:124:LEU:HD23	2.45	0.42
33:T:70:LEU:CD2	33:T:78:TYR:HA	2.49	0.42
33:T:71:LYS:NZ	33:T:78:TYR:CD2	2.87	0.42
34:U:67:ILE:O	34:U:67:ILE:HG13	2.20	0.42
37:X:71:ARG:NH1	46:g:51:VAL:O	2.52	0.42
40:a:16:C:O4'	48:i:15:MET:HE1	2.20	0.42
40:a:136:G:H2'	40:a:137:U:H6	1.85	0.42
40:a:320:A:N3	51:l:163:ASN:ND2	2.67	0.42
40:a:532:A:N7	40:a:2021:C:O2'	2.43	0.42
40:a:729:G:C8	47:h:207:LYS:HD2	2.54	0.42
40:a:751:A:C6	40:a:789:A:C5	3.08	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:1076:C:H2'	40:a:1077:A:C8	2.54	0.42
40:a:1223:G:N1	40:a:1226:A:OP2	2.49	0.42
40:a:2287:A:N7	40:a:2289:G:C8	2.87	0.42
40:a:2845:U:H5''	64:y:52:ASN:O	2.19	0.42
42:c:4:VAL:HG22	42:c:11:ARG:HG2	2.00	0.42
49:j:91:THR:HG22	49:j:92:VAL:N	2.35	0.42
49:j:100:LEU:O	49:j:100:LEU:HD12	2.19	0.42
51:l:105:LEU:O	51:l:109:LEU:HG	2.18	0.42
51:l:170:ARG:NH1	51:l:175:ILE:HA	2.34	0.42
53:n:38:MET:HE3	53:n:57:LEU:HD23	2.01	0.42
59:t:7:MET:C	59:t:18:ARG:NH1	2.77	0.42
61:v:105:MET:HE1	61:v:113:ALA:HA	2.01	0.42
2:1:36:LEU:CD2	2:1:48:LYS:HA	2.48	0.42
3:2:3:ARG:HG3	3:2:5:GLU:OE1	2.19	0.42
3:2:26:LYS:CE	3:2:26:LYS:HA	2.50	0.42
3:2:57:VAL:HG22	3:2:58:VAL:N	2.35	0.42
6:5:10:DT:C2	11:AA:62:TYR:HE2	2.37	0.42
9:9:33:VAL:H	9:9:36:ASP:CG	2.28	0.42
12:AB:111:TYR:N	12:AB:114:ASP:OD2	2.51	0.42
14:AE:211:GLU:HA	14:AE:214:ARG:HD2	2.01	0.42
14:AE:1022:PRO:O	14:AE:1126:GLN:NE2	2.45	0.42
17:D:673:A:H2'	17:D:674:G:H8	1.79	0.42
17:D:1152:A:P	29:P:72:ARG:HH22	2.43	0.42
17:D:1241:G:H2'	17:D:1242:G:H8	1.85	0.42
17:D:1437:A:C4	17:D:1438:G:C8	3.08	0.42
21:H:308:GLU:HB2	21:H:347:LYS:HB3	2.02	0.42
22:I:105:GLU:CD	22:I:107:ARG:HH21	2.28	0.42
24:K:80:THR:OG1	24:K:81:LEU:N	2.53	0.42
25:L:25:TYR:O	25:L:26:THR:C	2.61	0.42
25:L:38:ARG:HA	25:L:38:ARG:HD3	1.93	0.42
26:M:74:GLU:HG3	26:M:91:VAL:CG1	2.50	0.42
28:O:80:ARG:O	28:O:84:THR:HG23	2.19	0.42
28:O:116:VAL:HG11	29:P:62:ARG:HD3	2.02	0.42
29:P:59:LYS:HE2	29:P:62:ARG:CZ	2.50	0.42
30:Q:20:VAL:CG1	30:Q:21:ALA:N	2.82	0.42
31:R:4:VAL:CG1	31:R:5:ASN:N	2.83	0.42
31:R:116:LYS:O	31:R:117:TYR:HD1	2.03	0.42
33:T:77:ARG:HA	33:T:77:ARG:NE	2.35	0.42
34:U:4:ILE:N	34:U:4:ILE:HD12	2.34	0.42
35:V:48:ASP:HB3	35:V:75:LEU:CD2	2.49	0.42
38:Y:79:LEU:HD11	38:Y:132:ALA:HA	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:Y:96:LYS:CD	38:Y:136:GLY:HA3	2.50	0.42
38:Y:99:LYS:HD2	38:Y:140:GLU:OE2	2.19	0.42
40:a:239:C:O2'	40:a:622:G:O2'	2.32	0.42
40:a:859:G:O2'	40:a:916:G:O6	2.37	0.42
40:a:1511:G:H2'	40:a:1512:C:H6	1.83	0.42
40:a:2218:G:C5'	42:c:45:ARG:HH12	2.33	0.42
40:a:2759:G:O2'	55:p:35:ARG:NH1	2.52	0.42
43:d:39:A:C2	43:d:44:G:C4	3.07	0.42
44:e:8:GLU:O	44:e:9:LYS:HD3	2.19	0.42
44:e:14:LEU:HA	44:e:17:GLU:OE1	2.20	0.42
47:h:18:LYS:HE3	47:h:20:VAL:HG21	2.02	0.42
51:l:23:PHE:CD1	51:l:111:GLU:HG3	2.55	0.42
53:n:4:LEU:HD11	53:n:101:GLU:CB	2.50	0.42
58:s:28:LEU:HD12	58:s:142:ILE:HG21	2.01	0.42
61:v:49:ALA:O	61:v:50:ARG:C	2.62	0.42
61:v:104:GLU:CD	61:v:105:MET:H	2.28	0.42
63:x:36:TYR:CD2	63:x:37:ALA:N	2.88	0.42
63:x:83:LEU:HD23	63:x:88:LYS:HD3	2.02	0.42
1:0:40:MET:HE1	65:z:105:ALA:HB1	2.01	0.42
1:0:73:LYS:HZ1	1:0:88:GLY:HA3	1.85	0.42
3:2:5:GLU:HA	44:e:22:LEU:HD21	2.02	0.42
3:2:9:LYS:C	3:2:12:ARG:HH22	2.28	0.42
3:2:11:LEU:HD11	3:2:46:ALA:CB	2.49	0.42
9:9:87:GLU:OE1	9:9:91:ALA:O	2.38	0.42
9:9:129:LEU:N	9:9:130:PRO:CD	2.81	0.42
10:A:59:A:C5	10:A:60:U:C5	3.08	0.42
12:AB:29:LEU:H	12:AB:56:PHE:HB2	1.84	0.42
12:AB:90:SER:HB2	12:AB:94:HIS:CE1	2.54	0.42
14:AE:87:LYS:HE3	29:P:89:ARG:HG2	1.97	0.42
14:AE:609:TYR:HD2	14:AE:610:ARG:HD2	1.85	0.42
10:B:11:A:H2'	10:B:12:G:C8	2.54	0.42
10:B:57:A:O5'	10:B:58:A:P	2.77	0.42
17:D:68:G:H3'	17:D:69:G:H5''	2.01	0.42
17:D:105:G:C5	17:D:106:C:C4	3.08	0.42
17:D:119:A:C4	17:D:240:G:N7	2.88	0.42
17:D:1217:C:P	32:S:9:ARG:HE	2.41	0.42
17:D:1276:G:O5'	17:D:1276:G:H8	2.02	0.42
17:D:1493:A:O2'	17:D:1494:G:P	2.77	0.42
21:H:309:MET:HE2	21:H:309:MET:HB3	1.93	0.42
22:I:36:ASP:OD1	22:I:57:ILE:HG21	2.19	0.42
22:I:172:ARG:NH1	22:I:174:PRO:HG3	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:I:184:TYR:O	22:I:185:ASN:CG	2.63	0.42
23:J:153:SER:OG	23:J:156:LYS:NZ	2.53	0.42
24:K:123:VAL:O	24:K:124:LEU:HD23	2.20	0.42
27:N:47:GLU:OE1	27:N:63:LEU:C	2.62	0.42
32:S:77:PHE:HE1	32:S:93:ILE:CG2	2.30	0.42
33:T:70:LEU:HG	33:T:78:TYR:HB2	2.02	0.42
34:U:26:ASN:ND2	34:U:31:ARG:CD	2.83	0.42
35:V:43:LYS:C	35:V:44:LEU:HD12	2.45	0.42
38:Y:139:VAL:HG22	38:Y:140:GLU:H	1.82	0.42
40:a:104:A:C4	40:a:105:C:C6	3.08	0.42
40:a:134:G:H2'	40:a:135:U:H6	1.85	0.42
40:a:299:A:C5	40:a:322:A:C2	3.07	0.42
40:a:367:G:C4	40:a:368:A:C8	3.07	0.42
40:a:404:A:O2'	40:a:405:U:P	2.78	0.42
40:a:579:G:H2'	40:a:580:U:H6	1.85	0.42
40:a:1281:G:H2'	40:a:1282:U:C6	2.55	0.42
40:a:1874:C:H2'	40:a:1875:G:O4'	2.20	0.42
40:a:2066:C:O2'	40:a:2067:G:H5'	2.20	0.42
40:a:2547:A:H4'	59:t:29:HIS:NE2	2.34	0.42
40:a:2673:G:C2	40:a:2674:G:C8	3.08	0.42
40:a:2708:G:O4'	62:w:71:ARG:NH1	2.53	0.42
40:a:2756:U:N3	40:a:2758:A:C6	2.87	0.42
53:n:38:MET:HE3	53:n:57:LEU:CG	2.49	0.42
53:n:136:ILE:HA	53:n:141:ILE:HG21	2.01	0.42
55:p:70:ALA:HA	55:p:73:ASN:HD22	1.84	0.42
55:p:109:PHE:CD1	55:p:152:ARG:NH1	2.88	0.42
59:t:7:MET:SD	59:t:18:ARG:HG3	2.59	0.42
61:v:45:GLN:HE22	61:v:125:PRO:HD2	1.84	0.42
61:v:71:LYS:C	61:v:92:TRP:CE3	2.97	0.42
61:v:105:MET:HG2	61:v:117:PHE:CZ	2.55	0.42
63:x:48:LEU:CD2	63:x:87:ILE:CD1	2.98	0.42
63:x:88:LYS:O	63:x:116:GLN:OE1	2.38	0.42
5:4:77:VAL:HG21	5:4:79:ARG:HE	1.84	0.42
8:7:12:U:H3'	8:7:12:U:C6	2.53	0.42
9:9:4:ASN:HB3	9:9:8:LYS:HZ2	1.83	0.42
10:A:68:C:C4	10:A:69:C:C5	3.08	0.42
14:AE:694:SER:OG	14:AE:738:ARG:NE	2.52	0.42
10:B:5:G:C2'	10:B:6:G:C5'	2.98	0.42
16:C:12:ARG:CB	21:H:264:GLU:CB	2.98	0.42
16:C:40:VAL:HG13	21:H:339:ARG:CD	2.49	0.42
17:D:36:C:N4	17:D:37:U:C4	2.88	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:250:A:O4'	17:D:252:U:C6	2.72	0.42
17:D:256:U:H2'	17:D:257:G:C8	2.55	0.42
17:D:539:A:H2'	17:D:540:G:C8	2.54	0.42
17:D:603:U:C2	17:D:604:G:C8	3.08	0.42
17:D:678:U:C2	17:D:679:C:C5	3.08	0.42
17:D:820:U:H4'	17:D:821:G:OP2	2.20	0.42
17:D:980:C:H2'	17:D:981:U:H5'	2.01	0.42
17:D:1202:U:N3	32:S:82:ILE:HD13	2.35	0.42
17:D:1381:U:N3	17:D:1382:C:C5	2.88	0.42
17:D:1524:C:H2'	17:D:1525:G:C8	2.55	0.42
19:F:5:LYS:CD	30:Q:109:ASN:OD1	2.68	0.42
19:F:39:GLU:OE2	19:F:44:GLU:HA	2.18	0.42
20:G:101:LEU:HD22	20:G:157:LEU:HD11	1.99	0.42
20:G:187:VAL:N	20:G:200:ILE:O	2.40	0.42
22:I:66:VAL:HB	22:I:101:ILE:CD1	2.50	0.42
22:I:132:ARG:CB	22:I:135:LYS:HE3	2.49	0.42
24:K:100:SER:O	24:K:103:THR:HG22	2.20	0.42
26:M:16:PRO:HB3	28:O:46:MET:CG	2.47	0.42
27:N:59:LEU:HD23	27:N:59:LEU:HA	1.93	0.42
29:P:45:ARG:CD	29:P:47:GLU:OE2	2.67	0.42
30:Q:87:LYS:CG	30:Q:113:VAL:CG2	2.89	0.42
31:R:3:THR:O	31:R:6:GLN:HB2	2.20	0.42
37:X:25:VAL:O	37:X:25:VAL:HG13	2.19	0.42
40:a:592:A:N3	54:o:4:ILE:HD11	2.35	0.42
40:a:667:U:H2'	40:a:668:A:O4'	2.20	0.42
40:a:789:A:N1	52:m:3:ARG:NH2	2.68	0.42
40:a:1065:U:O2'	40:a:1066:U:P	2.77	0.42
40:a:1080:A:C6	40:a:1081:U:C4	3.08	0.42
40:a:1212:G:O2'	40:a:1236:G:N2	2.47	0.42
40:a:1246:A:H2'	40:a:1247:A:O4'	2.20	0.42
40:a:1588:G:N1	40:a:1589:U:O4	2.53	0.42
40:a:1778:U:C4	40:a:1784:A:C4	3.07	0.42
40:a:1946:U:H2'	40:a:1947:C:H6	1.84	0.42
40:a:1964:G:H4'	40:a:1965:C:OP2	2.19	0.42
40:a:2571:U:O2'	49:j:151:THR:HG23	2.20	0.42
40:a:2586:U:H2'	40:a:2587:A:O4'	2.20	0.42
47:h:196:GLY:O	47:h:198:ALA:N	2.53	0.42
48:i:4:GLN:OE1	48:i:8:PRO:HD3	2.19	0.42
49:j:170:VAL:HG13	49:j:194:PRO:CG	2.50	0.42
49:j:175:LEU:HB3	49:j:189:VAL:CG1	2.50	0.42
52:m:25:LYS:O	52:m:28:ARG:N	2.52	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:r:114:GLU:OE2	57:r:133:GLN:N	2.53	0.42
58:s:123:LYS:CD	58:s:132:HIS:HD2	2.33	0.42
60:u:98:ALA:O	60:u:100:ILE:HG13	2.20	0.42
60:u:123:ARG:C	60:u:125:LEU:HD22	2.45	0.42
61:v:115:GLU:O	61:v:116:ALA:C	2.61	0.42
63:x:88:LYS:HB3	63:x:116:GLN:OE1	2.20	0.42
2:1:23:LEU:CD2	2:1:39:THR:HG21	2.50	0.42
6:5:10:DT:H2''	12:AB:69:ILE:CA	2.50	0.42
11:AA:524:ILE:HD12	11:AA:712:SER:HB2	2.02	0.42
14:AE:975:ILE:HD11	14:AE:1003:LEU:HG	2.02	0.42
17:D:299:G:H2'	17:D:300:A:C8	2.55	0.42
17:D:545:C:OP2	23:J:62:ARG:NH1	2.53	0.42
17:D:552:U:H2'	17:D:553:A:H8	1.85	0.42
17:D:1035:A:C6	17:D:1036:A:N7	2.88	0.42
17:D:1073:U:C2	17:D:1074:G:C8	3.07	0.42
17:D:1073:U:O2	20:G:103:ASN:ND2	2.52	0.42
17:D:1458:G:OP1	18:E:30:THR:OG1	2.30	0.42
21:H:330:VAL:HB	21:H:344:LEU:HD23	2.01	0.42
21:H:331:MET:SD	21:H:348:GLN:HG2	2.60	0.42
22:I:155:GLY:HA2	22:I:163:ALA:HB1	2.02	0.42
24:K:88:VAL:HG12	24:K:93:ARG:HG2	2.02	0.42
25:L:88:MET:SD	25:L:90:MET:HE3	2.60	0.42
26:M:37:SER:HA	28:O:41:ARG:HH22	1.85	0.42
28:O:97:GLU:HG2	28:O:98:LEU:N	2.35	0.42
33:T:26:GLU:CG	33:T:27:VAL:N	2.83	0.42
35:V:61:ILE:HA	35:V:75:LEU:HA	2.02	0.42
40:a:301:G:C4	40:a:302:C:C5	3.07	0.42
40:a:1172:C:C2'	40:a:1173:U:O4'	2.68	0.42
40:a:1597:A:H5''	40:a:1598:A:H5'	2.02	0.42
40:a:1906:G:C8	40:a:1929:G:C4	3.08	0.42
40:a:2040:G:H2'	40:a:2041:U:O4'	2.20	0.42
40:a:2049:G:H21	49:j:161:MET:HE2	1.84	0.42
40:a:2590:A:C2	40:a:2591:C:C5	3.08	0.42
43:d:57:A:C4	43:d:58:A:C8	3.07	0.42
47:h:71:LYS:CB	47:h:96:TYR:CZ	3.03	0.42
48:i:14:GLY:HA2	48:i:17:ARG:HG2	2.02	0.42
49:j:57:ALA:O	49:j:60:VAL:HG12	2.19	0.42
50:k:9:ILE:HD12	50:k:51:GLU:HG2	2.01	0.42
51:l:149:ILE:HG21	51:l:175:ILE:HD11	2.01	0.42
52:m:4:THR:HG23	52:m:5:PHE:N	2.34	0.42
52:m:25:LYS:HG3	52:m:29:GLN:NE2	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:r:8:LYS:HD2	57:r:13:GLY:O	2.20	0.42
57:r:135:HIS:ND1	57:r:137:GLU:OE2	2.53	0.42
59:t:116:ILE:HG13	59:t:117:SER:N	2.34	0.42
63:x:79:ALA:CB	63:x:113:ALA:HB3	2.49	0.42
64:y:110:ILE:O	64:y:110:ILE:HG13	2.19	0.42
2:1:74:ILE:HD12	2:1:74:ILE:N	2.34	0.41
3:2:22:THR:O	3:2:25:GLU:HG2	2.20	0.41
6:5:16:DG:N2	11:AA:445:ILE:HG21	2.34	0.41
8:7:36:G:C2'	8:7:37:U:H5'	2.49	0.41
9:9:11:ILE:O	9:9:15:VAL:HG23	2.20	0.41
9:9:35:VAL:O	9:9:35:VAL:HG22	2.19	0.41
9:9:118:ILE:CB	9:9:119:PRO:HD3	2.44	0.41
9:9:129:LEU:HD12	9:9:130:PRO:CD	2.43	0.41
11:AA:469:VAL:HA	11:AA:472:GLU:HG2	2.01	0.41
12:AB:5:TYR:HA	12:AB:88:VAL:CG2	2.49	0.41
12:AB:31:PRO:HG2	12:AB:51:PHE:CD2	2.55	0.41
12:AB:112:PRO:HA	12:AB:133:PRO:CG	2.49	0.41
13:AD:76:GLU:HB3	13:AD:80:GLU:HB3	2.01	0.41
14:AE:97:VAL:HG12	14:AE:101:ARG:HG3	2.02	0.41
16:C:70:TYR:HE2	25:L:49:TYR:CZ	2.38	0.41
17:D:13:U:C2	17:D:914:A:C8	3.08	0.41
17:D:21:G:N2	17:D:22:G:C6	2.88	0.41
17:D:76:G:C5	17:D:77:A:N7	2.88	0.41
17:D:407:U:C2	17:D:408:A:C8	3.08	0.41
17:D:687:A:C8	17:D:701:U:C4	3.08	0.41
17:D:1174:G:H2'	17:D:1175:G:H5'	2.01	0.41
18:E:48:GLN:CD	18:E:49:LYS:N	2.78	0.41
18:E:53:GLU:O	18:E:57:ILE:CD1	2.68	0.41
20:G:115:LYS:C	20:G:115:LYS:HD3	2.45	0.41
21:H:54:LYS:HD3	21:H:58:GLY:HA2	2.02	0.41
21:H:86:ARG:O	21:H:89:ALA:HB3	2.20	0.41
21:H:277:GLY:C	21:H:331:MET:HE3	2.45	0.41
22:I:191:THR:OG1	22:I:194:GLY:O	2.34	0.41
28:O:50:GLN:OE1	28:O:50:GLN:HA	2.20	0.41
30:Q:64:GLN:HB2	30:Q:99:ALA:HB2	2.01	0.41
31:R:79:VAL:O	31:R:103:ASP:HB2	2.20	0.41
33:T:18:ASP:O	33:T:19:ALA:HB3	2.20	0.41
33:T:76:ALA:C	33:T:80:GLN:NE2	2.68	0.41
36:W:40:ILE:HG22	36:W:67:VAL:HA	2.01	0.41
36:W:66:MET:SD	36:W:66:MET:C	3.03	0.41
38:Y:91:LYS:HZ3	38:Y:97:VAL:HG21	1.82	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:700:G:H2'	40:a:701:G:O4'	2.20	0.41
40:a:1128:G:C6	40:a:2518:A:C6	3.08	0.41
40:a:1252:G:H1	65:z:37:GLN:HE21	1.68	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:2291:U:H2'	40:a:2292:U:H6	1.85	0.41
40:a:2708:G:C2	40:a:2709:G:C8	3.08	0.41
40:a:2722:G:C2'	40:a:2723:C:H5'	2.50	0.41
49:j:34:VAL:HG13	49:j:48:ILE:CG2	2.50	0.41
51:l:46:GLN:O	51:l:88:ARG:NH2	2.53	0.41
53:n:38:MET:HE3	53:n:57:LEU:CD2	2.50	0.41
53:n:67:ILE:CD1	53:n:87:CYS:HB3	2.50	0.41
53:n:132:VAL:HG11	53:n:137:ILE:HD11	2.01	0.41
54:o:22:PHE:CE1	54:o:62:LEU:HD23	2.55	0.41
54:o:45:ARG:HB3	54:o:46:PRO:HD3	2.02	0.41
58:s:15:TRP:CE3	58:s:135:GLN:HB3	2.55	0.41
62:w:45:ARG:O	62:w:49:GLU:CD	2.62	0.41
2:1:49:LYS:NZ	40:a:491:G:O6	2.50	0.41
3:2:26:LYS:HA	3:2:26:LYS:HE3	2.02	0.41
4:3:6:ARG:HG2	4:3:7:ARG:N	2.35	0.41
6:5:10:DT:H2''	12:AB:71:ALA:H	1.79	0.41
9:9:88:HIS:CB	9:9:89:PRO:CD	2.81	0.41
9:9:94:ARG:HB3	9:9:97:LYS:NZ	2.32	0.41
10:A:9:G:O2'	10:A:45:G:H2'	2.20	0.41
10:A:12:G:H2'	10:A:13:C:OP1	2.20	0.41
11:AA:998:LEU:HD21	11:AA:1015:ALA:HB2	2.02	0.41
11:AA:1088:ASP:OD1	11:AA:1088:ASP:N	2.51	0.41
14:AE:1272:SER:HB2	14:AE:1292:LEU:HD11	2.02	0.41
17:D:122:G:C4	17:D:123:U:C6	3.08	0.41
17:D:255:G:H2'	17:D:256:U:C6	2.55	0.41
17:D:374:A:C6	17:D:375:U:C4	3.08	0.41
17:D:429:U:H3	17:D:431:A:N6	2.18	0.41
17:D:519:C:H2'	17:D:520:A:O4'	2.20	0.41
17:D:520:A:C2'	31:R:70:GLU:OE1	2.67	0.41
17:D:860:A:H2'	17:D:861:G:O4'	2.20	0.41
17:D:1189:U:H4'	22:I:10:ILE:CD1	2.50	0.41
17:D:1202:U:C2	32:S:82:ILE:HD13	2.55	0.41
17:D:1411:C:H2'	17:D:1412:C:H6	1.85	0.41
18:E:22:ALA:N	18:E:25:ARG:HE	2.17	0.41
20:G:30:PHE:HA	20:G:45:LYS:NZ	2.35	0.41
20:G:30:PHE:CE1	20:G:201:PRO:HG3	2.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:G:56:GLU:HG2	20:G:198:PHE:CZ	2.55	0.41
21:H:70:VAL:O	21:H:71:ALA:HB2	2.20	0.41
21:H:287:LEU:HD23	21:H:318:PRO:HB2	2.02	0.41
22:I:6:HIS:CD2	32:S:89:MET:HB3	2.55	0.41
26:M:17:LYS:NZ	26:M:18:PHE:CE1	2.78	0.41
30:Q:35:THR:HA	30:Q:42:LEU:HG	2.01	0.41
30:Q:85:MET:HB3	30:Q:113:VAL:HG21	2.01	0.41
31:R:57:LEU:HG	31:R:58:THR:N	2.35	0.41
32:S:10:GLU:OE1	32:S:63:ARG:HG3	2.21	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:826:U:OP1	40:a:2428:G:H3'	2.20	0.41
40:a:958:U:C4	61:v:40:ARG:NH1	2.88	0.41
40:a:1009:A:N3	40:a:1153:C:O2'	2.48	0.41
40:a:1773:A:C8	40:a:1829:A:C8	3.08	0.41
40:a:1820:U:C2	47:h:201:MET:CE	3.03	0.41
40:a:1827:U:O2'	40:a:1828:G:H5'	2.19	0.41
40:a:1996:C:OP1	59:t:31:ARG:NE	2.52	0.41
40:a:2259:U:C5	40:a:2427:C:N4	2.88	0.41
40:a:2310:C:O2'	53:n:74:VAL:HG12	2.20	0.41
40:a:2636:C:O2'	49:j:45:TYR:CZ	2.70	0.41
40:a:2756:U:C4	40:a:2759:G:O6	2.73	0.41
40:a:2884:U:C2	48:i:40:ARG:CZ	3.02	0.41
44:e:13:GLU:O	44:e:14:LEU:C	2.63	0.41
51:l:31:VAL:HG21	51:l:104:ALA:CB	2.50	0.41
57:r:66:ASN:CG	57:r:135:HIS:HB2	2.44	0.41
58:s:125:TYR:HE2	58:s:130:HIS:CB	2.32	0.41
58:s:133:ALA:O	58:s:134:ALA:C	2.62	0.41
59:t:113:MET:SD	59:t:113:MET:C	3.03	0.41
61:v:112:LEU:CA	61:v:115:GLU:OE1	2.68	0.41
63:x:86:GLY:HA2	63:x:88:LYS:HZ3	1.85	0.41
1:0:52:PRO:HB3	65:z:89:GLU:CD	2.44	0.41
3:2:30:ILE:HG22	3:2:32:LEU:HD22	2.02	0.41
4:3:6:ARG:N	4:3:9:ASP:OD2	2.49	0.41
5:4:48:MET:CE	5:4:85:LYS:HA	2.50	0.41
11:AA:310:ILE:HG21	11:AA:325:LEU:HB3	2.03	0.41
11:AA:849:GLU:HB2	11:AA:887:VAL:HG23	2.02	0.41
12:AB:155:LYS:HB3	12:AB:158:GLU:CD	2.45	0.41
13:AD:22:THR:OG1	13:AD:207:THR:OG1	2.36	0.41
14:AE:1003:LEU:HD23	14:AE:1018:ALA:HB2	2.02	0.41
16:C:13:PHE:CG	16:C:51:TYR:CD1	3.08	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:5:U:O2	17:D:5:U:O4'	2.37	0.41
17:D:112:G:N1	17:D:330:C:C5	2.88	0.41
17:D:338:A:C5	17:D:339:C:C5	3.08	0.41
17:D:415:A:C4	17:D:416:G:C8	3.07	0.41
17:D:997:U:O2'	17:D:998:C:H5'	2.21	0.41
17:D:1061:G:H5'	29:P:61:ALA:HB2	2.03	0.41
17:D:1113:C:C2	17:D:1114:C:C5	3.08	0.41
17:D:1186:G:H4'	28:O:112:GLU:OE2	2.21	0.41
18:E:79:LEU:CA	18:E:82:GLN:OE1	2.67	0.41
21:H:116:VAL:O	21:H:279:LYS:HG2	2.21	0.41
22:I:23:PHE:CD2	29:P:97:ASP:HB2	2.53	0.41
23:J:76:TYR:O	23:J:76:TYR:CD1	2.73	0.41
26:M:93:PRO:O	26:M:96:ARG:HG2	2.20	0.41
27:N:27:MET:CA	27:N:58:GLU:OE2	2.67	0.41
27:N:96:MET:HE2	27:N:99:LEU:HD12	2.03	0.41
40:a:126:A:OP1	52:m:45:SER:OG	2.37	0.41
40:a:235:U:C2	40:a:236:C:C6	3.08	0.41
40:a:340:A:H2'	40:a:341:C:O4'	2.19	0.41
40:a:920:A:H2'	40:a:921:C:H6	1.85	0.41
40:a:1069:A:C2	40:a:1073:A:C8	3.08	0.41
40:a:1343:G:C8	40:a:1597:A:C6	3.08	0.41
40:a:1560:G:C5	40:a:1561:C:C5	3.08	0.41
40:a:2244:U:O2'	40:a:2245:U:H5'	2.20	0.41
40:a:2461:A:H2'	40:a:2462:C:C6	2.55	0.41
40:a:2511:U:C5'	49:j:130:GLN:OE1	2.69	0.41
44:e:37:LEU:HD21	44:e:43:LEU:CD2	2.49	0.41
49:j:5:VAL:HB	49:j:32:ASN:HD21	1.86	0.41
49:j:55:LYS:HD3	49:j:55:LYS:C	2.45	0.41
51:l:194:LYS:C	51:l:198:GLU:OE1	2.63	0.41
54:o:29:LEU:O	54:o:29:LEU:HG	2.19	0.41
55:p:89:LEU:HD22	55:p:162:VAL:HA	2.02	0.41
55:p:91:GLY:HA2	55:p:160:LYS:CD	2.50	0.41
62:w:18:GLN:HE22	62:w:22:ARG:NE	2.18	0.41
62:w:28:LEU:HD23	62:w:48:VAL:HG21	2.03	0.41
65:z:111:GLU:OE2	65:z:112:LYS:HG2	2.19	0.41
5:4:18:ARG:NH1	43:d:93:C:OP2	2.53	0.41
6:5:23:DA:H2''	6:5:24:DC:C6	2.56	0.41
8:7:1:A:H61	10:B:37:A:N6	2.18	0.41
8:7:13:U:C6	8:7:13:U:C3'	3.03	0.41
9:9:117:LEU:O	9:9:117:LEU:CD2	2.67	0.41
11:AA:478:ARG:HD2	11:AA:492:MET:HA	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:AE:367:GLY:HA3	14:AE:448:GLN:HB2	2.03	0.41
10:B:12:G:H2'	10:B:13:C:OP1	2.20	0.41
16:C:73:ARG:NH1	30:Q:113:VAL:CG1	2.76	0.41
17:D:124:C:H2'	17:D:125:U:C6	2.56	0.41
17:D:501:C:H1'	17:D:549:C:H1'	2.01	0.41
17:D:671:G:O2'	25:L:79:ARG:NH1	2.54	0.41
17:D:1172:C:C2	17:D:1173:U:C5	3.08	0.41
17:D:1288:A:H2'	17:D:1289:A:O4'	2.21	0.41
17:D:1309:G:C8	37:X:98:ARG:NH2	2.88	0.41
19:F:39:GLU:OE1	19:F:44:GLU:OE1	2.38	0.41
20:G:96:TRP:CH2	20:G:100:MET:CE	3.03	0.41
21:H:34:ASP:OD1	21:H:50:ALA:HB3	2.20	0.41
21:H:309:MET:HE1	21:H:318:PRO:CA	2.51	0.41
21:H:322:VAL:HG12	21:H:323:ASN:HB2	2.02	0.41
23:J:65:TYR:CE1	23:J:100:ASN:CG	2.98	0.41
23:J:67:VAL:CG1	23:J:71:GLN:HB3	2.50	0.41
25:L:1:MET:CE	25:L:67:PRO:HD3	2.50	0.41
25:L:14:GLN:NE2	25:L:83:ALA:HB2	2.35	0.41
26:M:18:PHE:CD2	26:M:59:LEU:HG	2.56	0.41
37:X:16:VAL:HG12	37:X:34:LEU:CD1	2.50	0.41
40:a:138:U:C5	40:a:142:A:C6	3.08	0.41
40:a:209:C:N3	40:a:210:C:C5	2.87	0.41
40:a:320:A:H2'	51:l:131:THR:HG21	2.03	0.41
40:a:826:U:O2'	60:u:53:GLY:HA3	2.20	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
40:a:2226:C:H2'	40:a:2227:A:O4'	2.20	0.41
40:a:2507:C:C2	40:a:2583:G:C2	3.07	0.41
40:a:2650:U:C2	40:a:2651:C:C5	3.08	0.41
40:a:2813:A:H2'	40:a:2814:A:H8	1.84	0.41
47:h:108:LYS:CG	47:h:109:GLY:N	2.83	0.41
49:j:47:ALA:O	49:j:48:ILE:HD13	2.20	0.41
49:j:184:ARG:NH2	64:y:7:GLN:CD	2.72	0.41
51:l:6:LYS:NZ	51:l:119:ILE:CG2	2.83	0.41
51:l:170:ARG:CZ	51:l:174:GLY:O	2.66	0.41
53:n:138:PHE:O	53:n:141:ILE:HG22	2.20	0.41
55:p:137:ASP:OD2	55:p:140:VAL:N	2.45	0.41
55:p:149:ARG:HH12	55:p:154:PRO:HB3	1.85	0.41
57:r:5:LEU:CD1	57:r:17:ASP:HB3	2.50	0.41
1:0:74:ILE:HD13	1:0:87:GLN:OE1	2.20	0.41
3:2:19:LYS:HE2	3:2:84:TYR:OH	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:9:41:LEU:CD1	38:Y:117:THR:HG22	2.50	0.41
11:AA:741:MET:SD	11:AA:974:ARG:NH2	2.93	0.41
14:AE:836:ARG:HG3	14:AE:869:CYS:HB3	2.02	0.41
10:B:68:C:C4	10:B:69:C:C5	3.08	0.41
16:C:44:ILE:HG21	21:H:339:ARG:C	2.45	0.41
17:D:376:G:O3'	34:U:5:ARG:NE	2.54	0.41
17:D:517:G:O2'	17:D:530:G:H4'	2.21	0.41
17:D:951:G:C6	17:D:1231:G:C6	3.08	0.41
17:D:1251:A:H2'	17:D:1252:A:O4'	2.20	0.41
17:D:1382:C:O2	17:D:1382:C:H2'	2.19	0.41
20:G:20:THR:O	20:G:23:TRP:CD1	2.74	0.41
25:L:42:TRP:HB2	25:L:59:TYR:O	2.20	0.41
27:N:83:LEU:HD11	31:R:4:VAL:CB	2.51	0.41
28:O:50:GLN:HA	28:O:53:GLU:OE1	2.20	0.41
28:O:50:GLN:CA	28:O:53:GLU:OE1	2.69	0.41
30:Q:20:VAL:HG12	30:Q:21:ALA:N	2.35	0.41
31:R:59:ASN:C	31:R:59:ASN:OD1	2.62	0.41
32:S:91:GLY:C	32:S:92:GLU:OE1	2.62	0.41
38:Y:45:THR:HG21	38:Y:50:LYS:NZ	2.34	0.41
39:Z:29:LYS:C	39:Z:30:PHE:HD2	2.28	0.41
40:a:152:A:C6	40:a:153:U:C4	3.09	0.41
40:a:458:G:N2	40:a:469:G:H2'	2.36	0.41
40:a:967:U:H2'	40:a:968:C:C6	2.56	0.41
40:a:985:C:O2	40:a:986:C:C6	2.73	0.41
40:a:1170:C:O2	40:a:1170:C:H2'	2.18	0.41
40:a:1676:A:H2'	40:a:1677:A:C8	2.56	0.41
40:a:1829:A:C8	40:a:1830:C:C5	3.08	0.41
40:a:2526:G:O2'	56:q:1:MET:HG2	2.21	0.41
40:a:2531:A:C4	40:a:2532:G:C8	3.08	0.41
40:a:2686:G:H2'	40:a:2687:U:C6	2.56	0.41
41:b:30:SER:HA	41:b:66:LYS:HD2	2.03	0.41
42:c:3:ARG:CD	42:c:30:LEU:HD11	2.50	0.41
47:h:91:ILE:HG21	47:h:103:TYR:HB3	2.03	0.41
51:l:77:ILE:O	51:l:77:ILE:HG22	2.19	0.41
55:p:52:PHE:CE1	55:p:69:ARG:HD3	2.55	0.41
62:w:60:VAL:HG22	62:w:63:ARG:HH11	1.80	0.41
62:w:98:LEU:CD1	62:w:114:GLU:OE2	2.68	0.41
63:x:21:LEU:C	63:x:21:LEU:HD23	2.46	0.41
1:0:47:VAL:C	1:0:48:LYS:HD3	2.45	0.41
8:7:21:U:C5	22:I:80:LYS:C	2.80	0.41
9:9:6:GLN:HA	9:9:9:GLN:HE21	1.84	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:9:33:VAL:O	9:9:36:ASP:OD1	2.39	0.41
10:A:19:G:O6	40:a:2112:G:P	2.79	0.41
12:AB:6:LEU:HB2	12:AB:56:PHE:CE1	2.55	0.41
12:AB:143:LEU:HD13	12:AB:150:ILE:HD11	2.02	0.41
10:B:1:C:C5	10:B:2:G:N7	2.89	0.41
10:B:31:G:H2'	10:B:32:C:C6	2.55	0.41
17:D:643:C:C2	17:D:644:U:C5	3.08	0.41
17:D:960:U:O2'	17:D:1223:C:H4'	2.20	0.41
17:D:977:A:O2'	17:D:979:C:OP2	2.25	0.41
17:D:1064:G:O2'	17:D:1190:G:N2	2.53	0.41
17:D:1119:C:C2	17:D:1120:C:C5	3.09	0.41
19:F:66:ARG:NH2	19:F:67:ARG:HH22	2.19	0.41
20:G:6:MET:HA	20:G:9:MET:SD	2.61	0.41
21:H:293:PHE:HA	21:H:302:GLY:O	2.20	0.41
23:J:74:ASN:OD1	23:J:74:ASN:C	2.64	0.41
25:L:35:LYS:CG	25:L:36:ILE:N	2.84	0.41
29:P:22:THR:HG21	29:P:72:ARG:HG3	2.03	0.41
29:P:85:ASP:OD1	29:P:88:MET:CE	2.68	0.41
31:R:21:VAL:HG23	31:R:21:VAL:O	2.19	0.41
34:U:4:ILE:HG22	34:U:71:VAL:HG11	2.03	0.41
34:U:34:GLU:OE1	34:U:60:TRP:NE1	2.54	0.41
34:U:73:ALA:HA	34:U:76:LYS:HE2	2.03	0.41
35:V:7:THR:C	35:V:8:LEU:HD12	2.46	0.41
38:Y:100:ILE:HG13	38:Y:139:VAL:CB	2.51	0.41
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:465:G:H2'	40:a:466:A:C8	2.56	0.41
40:a:1365:A:H4'	42:c:11:ARG:HH12	1.85	0.41
40:a:1957:C:C2	40:a:1958:C:C5	3.09	0.41
40:a:2072:C:C2	40:a:2073:C:C6	3.08	0.41
40:a:2589:A:H2'	40:a:2590:A:H8	1.86	0.41
40:a:2649:C:C2	40:a:2650:U:C6	3.09	0.41
40:a:2884:U:P	48:i:40:ARG:NH2	2.93	0.41
45:f:4:THR:O	45:f:5:ILE:HD13	2.19	0.41
46:g:57:VAL:O	46:g:58:ASP:C	2.62	0.41
47:h:189:ARG:HG3	47:h:190:ALA:N	2.36	0.41
47:h:210:ALA:HA	47:h:213:TRP:CE3	2.56	0.41
49:j:68:PHE:CZ	49:j:79:LEU:HD21	2.56	0.41
49:j:146:ILE:HA	49:j:159:LYS:HZ1	1.86	0.41
53:n:16:LEU:HD11	53:n:169:LEU:HD12	2.03	0.41
58:s:1:MET:SD	58:s:2:LYS:O	2.79	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:v:57:VAL:CG2	61:v:60:GLN:O	2.69	0.41
61:v:111:GLU:HA	61:v:114:ARG:NE	2.35	0.41
62:w:78:LYS:HA	62:w:82:GLU:OE1	2.21	0.41
63:x:15:ARG:C	63:x:19:GLN:NE2	2.78	0.41
65:z:74:ILE:CD1	65:z:79:PHE:HA	2.40	0.41
65:z:91:ASP:O	65:z:95:LEU:HG	2.20	0.41
2:1:31:GLN:H	2:1:31:GLN:CD	2.22	0.41
5:4:78:GLN:OE1	5:4:88:HIS:HB3	2.21	0.41
8:7:34:U:C3'	8:7:34:U:C6	3.04	0.41
9:9:2:ALA:HB3	9:9:6:GLN:HB2	2.01	0.41
9:9:17:GLU:OE2	9:9:53:ARG:NH2	2.53	0.41
9:9:77:VAL:O	9:9:77:VAL:CG1	2.67	0.41
9:9:95:LEU:O	9:9:98:GLU:HG2	2.20	0.41
10:A:5:G:C2'	10:A:6:G:C5'	2.98	0.41
11:AA:979:LEU:HD11	11:AA:1011:LEU:HD11	2.03	0.41
12:AB:29:LEU:HA	12:AB:29:LEU:HD12	1.76	0.41
12:AB:72:THR:HG22	12:AB:73:ARG:N	2.36	0.41
12:AB:133:PRO:HA	12:AB:159:PHE:HE2	1.84	0.41
12:AB:160:ARG:HG3	12:AB:161:LYS:H	1.86	0.41
14:AE:291:ILE:HD13	14:AE:291:ILE:HA	1.85	0.41
16:C:12:ARG:NH1	16:C:13:PHE:CD1	2.89	0.41
17:D:18:C:C2	17:D:19:A:C8	3.09	0.41
17:D:718:A:C2	30:Q:118:HIS:CE1	3.09	0.41
17:D:986:U:H2'	17:D:987:G:O4'	2.20	0.41
18:E:28:MET:HE3	18:E:28:MET:HB3	1.94	0.41
20:G:58:ASN:HB2	20:G:220:THR:OG1	2.21	0.41
20:G:117:LEU:CD2	20:G:141:LEU:HA	2.51	0.41
20:G:137:ARG:HG3	20:G:138:THR:N	2.36	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:CD2	2.69	0.41
23:J:62:ARG:CG	23:J:72:PHE:CZ	3.02	0.41
24:K:115:LEU:O	24:K:120:VAL:HG12	2.20	0.41
25:L:9:MET:SD	25:L:57:ALA:HB1	2.60	0.41
28:O:21:ILE:HD12	28:O:86:ALA:CB	2.50	0.41
28:O:44:ALA:HA	28:O:47:VAL:HG22	2.03	0.41
29:P:40:ILE:HD12	29:P:73:LEU:HD22	2.02	0.41
29:P:79:PRO:HG2	29:P:102:LEU:HD11	2.03	0.41
29:P:85:ASP:CA	29:P:88:MET:HE1	2.42	0.41
29:P:88:MET:HE2	29:P:88:MET:HB2	1.89	0.41
30:Q:49:GLY:C	30:Q:51:GLY:H	2.29	0.41
30:Q:79:ILE:O	30:Q:105:PHE:CE1	2.72	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:S:10:GLU:CD	32:S:63:ARG:HD2	2.45	0.41
35:V:11:ARG:HD3	35:V:57:ASP:C	2.46	0.41
36:W:17:LYS:HB3	36:W:21:LYS:NZ	2.36	0.41
39:Z:6:GLN:CD	39:Z:10:ALA:HB2	2.45	0.41
40:a:209:C:C2	40:a:210:C:C6	3.09	0.41
40:a:272:A:C2	40:a:273:G:C8	3.09	0.41
40:a:370:G:C6	40:a:424:G:N7	2.89	0.41
40:a:485:C:N3	40:a:486:C:C5	2.89	0.41
40:a:749:A:H2'	40:a:749:A:N3	2.35	0.41
40:a:888:C:C4	40:a:889:C:N4	2.89	0.41
40:a:1651:G:P	62:w:40:LYS:NZ	2.94	0.41
40:a:2357:G:OP1	41:b:20:ARG:CZ	2.68	0.41
43:d:113:C:O2'	63:x:46:GLU:CD	2.64	0.41
47:h:161:TYR:HB3	47:h:194:GLU:HG2	2.03	0.41
47:h:165:VAL:HG12	47:h:175:ARG:NH2	2.35	0.41
47:h:220:VAL:CG2	47:h:225:MET:HE3	2.51	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:108:ILE:HD11	51:l:180:LEU:CD1	2.50	0.41
53:n:170:LEU:HB2	53:n:177:PHE:HZ	1.86	0.41
58:s:37:ARG:HA	58:s:118:MET:HE1	2.00	0.41
61:v:95:LEU:C	61:v:96:ILE:HD13	2.45	0.41
5:4:2:PHE:CZ	5:4:56:PHE:CZ	3.08	0.41
6:5:27:DG:N2	7:6:3:DC:O2	2.53	0.41
8:7:37:U:H4'	14:AE:322:ARG:NH1	2.35	0.41
9:9:94:ARG:O	9:9:98:GLU:HG2	2.21	0.41
11:AA:22:LEU:HD22	11:AA:603:ILE:HG21	2.02	0.41
11:AA:616:ILE:HG13	11:AA:652:TYR:HB2	2.02	0.41
12:AB:3:SER:HB3	12:AB:5:TYR:CE2	2.55	0.41
14:AE:247:PRO:HA	14:AE:250:ARG:HE	1.86	0.41
14:AE:282:LEU:HD23	14:AE:282:LEU:HA	1.92	0.41
10:B:59:A:C5	10:B:60:U:C5	3.08	0.41
16:C:44:ILE:HG22	21:H:340:ARG:HB2	2.02	0.41
17:D:218:U:H2'	17:D:219:U:O4'	2.20	0.41
17:D:575:G:O2'	17:D:821:G:OP2	2.33	0.41
17:D:1319:A:C8	17:D:1323:G:C5	3.08	0.41
17:D:1368:A:OP1	28:O:116:VAL:HG23	2.20	0.41
17:D:1515:G:H2'	17:D:1516:G:C8	2.54	0.41
20:G:49:MET:HB3	20:G:49:MET:HE2	1.79	0.41
22:I:72:ARG:CD	22:I:75:ILE:HB	2.51	0.41
26:M:47:LEU:HD21	26:M:58:GLU:HB3	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:R:24:LEU:CD2	31:R:95:TYR:CE1	3.04	0.41
31:R:57:LEU:HD23	31:R:59:ASN:OD1	2.20	0.41
33:T:67:LEU:CD1	33:T:78:TYR:CE1	3.04	0.41
38:Y:23:VAL:HG23	38:Y:27:LEU:HD23	2.01	0.41
38:Y:57:VAL:CG2	38:Y:71:LYS:HD3	2.50	0.41
38:Y:60:VAL:CG2	38:Y:66:PHE:CD1	3.03	0.41
38:Y:63:ASP:C	38:Y:65:SER:H	2.28	0.41
40:a:235:U:H2'	40:a:236:C:H6	1.86	0.41
40:a:271:G:C2	40:a:272:A:C4	3.08	0.41
40:a:638:G:H2'	40:a:639:U:C6	2.56	0.41
40:a:833:A:OP2	60:u:39:LYS:NZ	2.49	0.41
40:a:909:A:C4	40:a:912:C:C5	3.09	0.41
40:a:975:A:H1'	40:a:990:A:C2	2.56	0.41
40:a:1322:A:C4	40:a:1323:C:C6	3.08	0.41
40:a:2024:G:C5	40:a:2040:G:C2	3.09	0.41
41:b:40:GLN:NE2	41:b:59:LEU:HD23	2.35	0.41
43:d:55:U:H2'	43:d:56:G:C8	2.56	0.41
47:h:53:HIS:NE2	47:h:219:THR:HG23	2.36	0.41
47:h:245:VAL:HA	47:h:250:VAL:O	2.20	0.41
48:i:28:LEU:CB	48:i:37:LYS:HE3	2.51	0.41
52:m:26:ASN:HA	52:m:29:GLN:NE2	2.36	0.41
53:n:66:LEU:HD23	53:n:67:ILE:C	2.45	0.41
54:o:30:ARG:CZ	60:u:62:PRO:HB3	2.50	0.41
55:p:17:VAL:O	55:p:18:LYS:CE	2.65	0.41
55:p:45:HIS:HA	55:p:50:LEU:HD13	2.01	0.41
58:s:49:ASP:OD1	58:s:121:LYS:NZ	2.54	0.41
62:w:45:ARG:HB3	62:w:45:ARG:CZ	2.50	0.41
65:z:66:ASN:OD1	65:z:70:ARG:NE	2.54	0.41
8:7:21:U:C3'	8:7:21:U:C6	3.04	0.41
9:9:47:GLU:C	9:9:49:GLY:H	2.28	0.41
9:9:96:PHE:HB3	9:9:125:ARG:HH11	1.86	0.41
10:A:5:G:C2'	10:A:6:G:H5'	2.50	0.41
10:A:25:C:C4	10:A:26:G:C8	3.09	0.41
10:A:31:G:H2'	10:A:32:C:C6	2.55	0.41
11:AA:135:THR:HG22	11:AA:144:VAL:HG22	2.03	0.41
11:AA:144:VAL:HG23	11:AA:515:MET:HB2	2.02	0.41
12:AB:26:VAL:HG13	12:AB:58:GLU:H	1.84	0.41
12:AB:36:GLU:O	12:AB:37:LYS:HD2	2.21	0.41
12:AB:95:GLN:C	12:AB:96:LEU:HD12	2.46	0.41
12:AB:148:LYS:NZ	29:P:102:LEU:HD23	2.36	0.41
12:AB:152:HIS:HB3	12:AB:154:VAL:HG11	2.00	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:AC:57:THR:HG23	13:AC:158:ARG:HH21	1.86	0.41
13:AD:46:ILE:HD11	13:AD:224:LEU:HD13	2.02	0.41
14:AE:246:PRO:HA	14:AE:247:PRO:HD3	1.93	0.41
14:AE:438:GLU:HG3	14:AE:485:MET:HE1	2.03	0.41
14:AE:591:ILE:HG23	14:AE:592:VAL:HG13	2.03	0.41
14:AE:800:LEU:HB3	14:AE:920:ALA:HB1	2.02	0.41
10:B:9:G:O2'	10:B:45:G:H2'	2.20	0.41
16:C:70:TYR:CD2	17:D:674:G:H4'	2.55	0.41
17:D:71:A:C6	17:D:100:G:N7	2.89	0.41
17:D:104:G:C2	17:D:105:G:C5	3.09	0.41
17:D:124:C:H2'	17:D:125:U:H6	1.84	0.41
17:D:124:C:C2	17:D:125:U:C5	3.08	0.41
17:D:338:A:H2'	17:D:339:C:H6	1.86	0.41
17:D:356:A:C5	17:D:357:G:C8	3.08	0.41
17:D:375:U:H1'	34:U:28:ARG:NH2	2.36	0.41
17:D:414:A:C2	17:D:415:A:N9	2.89	0.41
17:D:502:A:H2'	17:D:503:C:H6	1.86	0.41
17:D:511:C:O3'	23:J:44:ARG:NH1	2.53	0.41
17:D:695:A:OP1	30:Q:54:GLY:HA3	2.21	0.41
17:D:695:A:O5'	30:Q:53:ARG:CZ	2.69	0.41
17:D:958:A:H5'	36:W:55:ARG:HH12	1.86	0.41
17:D:985:C:C2	17:D:986:U:C5	3.08	0.41
17:D:1411:C:H2'	17:D:1412:C:C6	2.56	0.41
18:E:54:MET:CE	18:E:75:HIS:CE1	2.99	0.41
20:G:47:VAL:N	20:G:48:PRO:HD2	2.35	0.41
21:H:303:LEU:O	21:H:305:HIS:HA	2.21	0.41
21:H:308:GLU:N	21:H:308:GLU:OE1	2.53	0.41
22:I:113:ALA:HB1	22:I:200:VAL:HG13	2.02	0.41
22:I:123:GLN:HB3	22:I:128:VAL:HG21	2.02	0.41
24:K:82:GLN:OE1	24:K:147:MET:SD	2.78	0.41
26:M:35:LYS:CE	26:M:38:THR:OG1	2.69	0.41
27:N:83:LEU:HD21	31:R:4:VAL:HG21	2.02	0.41
29:P:6:ILE:CG2	29:P:100:ILE:HG13	2.51	0.41
30:Q:75:LYS:HG3	30:Q:76:GLU:N	2.35	0.41
30:Q:76:GLU:OE1	30:Q:76:GLU:HA	2.21	0.41
31:R:7:LEU:HD21	31:R:12:ARG:HH21	1.82	0.41
31:R:25:GLU:CD	31:R:30:LYS:HE3	2.46	0.41
33:T:70:LEU:HD23	33:T:78:TYR:HD1	1.85	0.41
38:Y:34:ILE:O	38:Y:34:ILE:HG22	2.20	0.41
38:Y:99:LYS:HD3	38:Y:99:LYS:HA	1.86	0.41
40:a:16:C:C4'	48:i:15:MET:CE	2.99	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:30:G:H2'	40:a:31:C:C6	2.55	0.41
40:a:62:U:O2	40:a:62:U:H2'	2.20	0.41
40:a:126:A:O5'	52:m:19:ARG:HG3	2.21	0.41
40:a:319:G:H2'	40:a:320:A:O4'	2.20	0.41
40:a:630:G:N2	40:a:633:A:OP2	2.45	0.41
40:a:690:G:H2'	40:a:691:C:H6	1.85	0.41
40:a:841:G:H2'	40:a:842:U:H6	1.86	0.41
40:a:945:A:C4	40:a:2448:A:C2	3.09	0.41
40:a:1057:A:C2	40:a:1082:U:N3	2.89	0.41
40:a:1248:G:O2'	65:z:3:ARG:HA	2.21	0.41
40:a:1289:C:H2'	40:a:1290:C:C6	2.56	0.41
40:a:1398:C:H2'	40:a:1399:C:H6	1.86	0.41
40:a:1430:G:H2'	40:a:1431:A:C8	2.56	0.41
40:a:1571:A:H2'	40:a:1572:A:H8	1.86	0.41
40:a:1589:U:C2	40:a:1590:A:C8	3.09	0.41
40:a:1827:U:H2'	40:a:1828:G:O4'	2.20	0.41
40:a:1946:U:H2'	40:a:1947:C:C6	2.56	0.41
40:a:2097:A:H2'	40:a:2098:U:C6	2.55	0.41
40:a:2223:G:OP1	47:h:171:TYR:OH	2.37	0.41
40:a:2366:A:H2'	40:a:2367:G:O4'	2.21	0.41
40:a:2569:G:C2	40:a:2570:G:C8	3.09	0.41
40:a:2639:A:H2'	40:a:2640:G:O4'	2.21	0.41
40:a:2808:G:N1	40:a:2891:U:C5	2.89	0.41
47:h:53:HIS:CD2	47:h:218:PRO:O	2.74	0.41
49:j:37:VAL:HG22	49:j:48:ILE:HD12	2.02	0.41
49:j:146:ILE:HA	49:j:159:LYS:NZ	2.36	0.41
49:j:175:LEU:HB3	49:j:189:VAL:HG12	2.02	0.41
50:k:7:GLU:CG	50:k:27:LYS:NZ	2.84	0.41
50:k:8:LYS:HA	50:k:24:THR:HA	2.02	0.41
51:l:170:ARG:HH22	51:l:176:ASP:H	1.68	0.41
51:l:171:ASP:OD1	51:l:172:ALA:N	2.53	0.41
51:l:194:LYS:O	51:l:195:GLN:C	2.64	0.41
53:n:8:TYR:O	53:n:13:VAL:HG23	2.20	0.41
53:n:101:GLU:O	53:n:105:THR:OG1	2.23	0.41
55:p:80:THR:HG23	55:p:81:GLU:N	2.36	0.41
55:p:149:ARG:CZ	55:p:154:PRO:CD	2.98	0.41
57:r:54:LEU:HD12	57:r:57:LYS:HE2	2.03	0.41
59:t:20:MET:CB	59:t:44:LYS:HE2	2.51	0.41
59:t:61:VAL:HG11	59:t:112:PHE:CE2	2.56	0.41
59:t:80:ASP:OD1	64:y:68:GLU:OE2	2.39	0.41
60:u:123:ARG:HG3	60:u:143:GLU:OE2	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:v:112:LEU:HD12	61:v:112:LEU:H	1.86	0.41
62:w:17:ARG:O	62:w:21:PHE:HD2	2.04	0.41
64:y:37:LYS:CA	64:y:37:LYS:HE3	2.49	0.41
1:0:4:VAL:HG23	1:0:4:VAL:O	2.20	0.41
1:0:77:PHE:HE1	1:0:79:ARG:HA	1.85	0.41
4:3:6:ARG:NH1	40:a:84:A:C2'	2.84	0.41
4:3:84:GLY:C	4:3:95:PHE:CE2	2.99	0.41
10:A:8:U:O2'	10:A:47:U:O4	2.29	0.41
10:A:33:U:H5''	26:M:84:THR:CG2	2.50	0.41
10:A:71:C:C3'	10:A:72:A:C8	2.99	0.41
11:AA:646:SER:OG	11:AA:647:ARG:N	2.52	0.41
11:AA:803:ALA:HB2	11:AA:1094:VAL:HG21	2.03	0.41
12:AB:132:GLU:HB3	12:AB:151:LYS:HE3	2.02	0.41
13:AD:44:ARG:HA	13:AD:183:ILE:HD12	2.03	0.41
13:AD:205:MET:HE1	13:AD:217:ILE:HG13	2.03	0.41
14:AE:78:LEU:C	14:AE:78:LEU:CD1	2.93	0.41
17:D:120:A:O2'	17:D:122:G:N7	2.48	0.41
17:D:306:A:C4	17:D:307:C:C6	3.08	0.41
17:D:908:A:H2'	17:D:909:A:H8	1.85	0.41
18:E:9:LYS:HG2	18:E:13:GLN:NE2	2.36	0.41
20:G:85:LEU:HD23	20:G:85:LEU:C	2.46	0.41
20:G:90:PHE:CD2	20:G:154:MET:SD	3.14	0.41
20:G:94:HIS:O	20:G:95:ARG:C	2.64	0.41
21:H:42:LEU:HD23	21:H:81:GLU:HB3	2.03	0.41
22:I:6:HIS:CD2	22:I:9:GLY:H	2.39	0.41
23:J:188:ARG:NH2	23:J:195:ILE:HG13	2.36	0.41
23:J:197:GLU:HA	23:J:200:ILE:HD12	2.03	0.41
28:O:25:ASN:HB2	28:O:27:LYS:NZ	2.36	0.41
34:U:19:VAL:HG11	34:U:52:LEU:CD2	2.50	0.41
35:V:31:HIS:HD2	35:V:34:TYR:HB2	1.85	0.41
39:Z:6:GLN:O	39:Z:6:GLN:HG3	2.21	0.41
40:a:151:C:C2	40:a:152:A:N7	2.89	0.41
40:a:205:G:O2'	40:a:206:U:OP2	2.39	0.41
40:a:409:G:H2'	40:a:410:G:C8	2.55	0.41
40:a:451:U:H4'	51:l:47:LYS:HZ1	1.86	0.41
40:a:529:A:C4	40:a:2023:C:C5	3.09	0.41
40:a:1026:G:C8	40:a:1134:A:C4	3.08	0.41
40:a:1142:A:N3	40:a:1142:A:H2'	2.36	0.41
40:a:1558:C:O4'	40:a:1560:G:C8	2.74	0.41
40:a:1746:A:H2'	40:a:1747:U:C6	2.56	0.41
40:a:1858:A:C2	40:a:1885:A:C1'	3.04	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:1944:U:C5	40:a:1955:U:C2	3.09	0.41
40:a:1945:G:H2'	40:a:1946:U:C6	2.56	0.41
40:a:2065:C:N3	40:a:2066:C:C5	2.89	0.41
40:a:2205:A:H2'	40:a:2206:C:C6	2.56	0.41
40:a:2216:G:H2'	40:a:2217:G:C8	2.56	0.41
40:a:2314:A:O2'	53:n:155:THR:CG2	2.69	0.41
40:a:2454:G:C5	40:a:2455:G:C8	3.09	0.41
40:a:2619:C:O2'	40:a:2620:C:H5'	2.21	0.41
40:a:2848:G:N2	40:a:2867:G:C4	2.89	0.41
43:d:57:A:N7	53:n:26:MET:HE3	2.36	0.41
45:f:25:LEU:HD23	45:f:25:LEU:C	2.46	0.41
47:h:84:ASP:OD2	47:h:91:ILE:HD11	2.21	0.41
47:h:246:THR:N	47:h:250:VAL:O	2.49	0.41
49:j:108:ASP:OD1	49:j:173:GLN:HA	2.21	0.41
53:n:136:ILE:HA	53:n:141:ILE:CG2	2.51	0.41
61:v:31:PHE:CZ	61:v:110:GLU:HG3	2.56	0.41
61:v:115:GLU:HA	61:v:118:LYS:HE2	2.02	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
64:y:4:ILE:O	64:y:8:LEU:HD13	2.21	0.41
4:3:86:ARG:CZ	4:3:95:PHE:CD2	3.04	0.40
5:4:79:ARG:HA	5:4:79:ARG:HD3	1.83	0.40
9:9:31:ARG:HH11	40:a:1054:A:C4'	2.31	0.40
9:9:38:MET:SD	9:9:41:LEU:HD12	2.61	0.40
9:9:59:LEU:HD22	9:9:62:ARG:CD	2.51	0.40
11:AA:176:ILE:HD12	11:AA:184:LEU:HD23	2.03	0.40
10:B:47:U:O2'	10:B:50:U:OP1	2.37	0.40
16:C:34:THR:HB	16:C:38:LYS:N	2.35	0.40
17:D:105:G:H2'	17:D:106:C:C6	2.56	0.40
17:D:195:A:H5''	18:E:64:LYS:HZ1	1.85	0.40
17:D:602:A:H2'	17:D:603:U:H6	1.86	0.40
17:D:982:U:H4'	17:D:983:A:O4'	2.21	0.40
17:D:1302:C:OP1	37:X:13:LYS:NZ	2.30	0.40
20:G:138:THR:O	20:G:142:GLU:HG2	2.22	0.40
20:G:185:ALA:O	20:G:200:ILE:N	2.54	0.40
22:I:132:ARG:HA	22:I:135:LYS:HG2	2.03	0.40
25:L:3:HIS:CD2	25:L:95:ALA:HA	2.56	0.40
28:O:91:ASP:C	28:O:92:GLU:OE2	2.64	0.40
31:R:25:GLU:O	31:R:25:GLU:HG2	2.20	0.40
31:R:27:CYS:CB	31:R:30:LYS:HE2	2.47	0.40
32:S:20:TYR:HE2	32:S:52:PRO:CG	2.32	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:T:3:LEU:HB2	33:T:35:GLN:OE1	2.21	0.40
34:U:25:ARG:HA	34:U:25:ARG:HD2	1.95	0.40
37:X:13:LYS:CE	37:X:17:ILE:HG21	2.51	0.40
37:X:71:ARG:NH1	37:X:72:GLU:CG	2.84	0.40
38:Y:82:ALA:CB	38:Y:108:ILE:HD12	2.50	0.40
38:Y:102:ARG:CZ	38:Y:139:VAL:HG21	2.50	0.40
40:a:443:A:N1	51:l:40:ARG:NH2	2.69	0.40
40:a:829:A:N7	40:a:2247:A:O2'	2.52	0.40
40:a:1548:A:H2'	40:a:1549:A:C8	2.56	0.40
40:a:1814:G:OP2	40:a:1815:A:O2'	2.32	0.40
40:a:2065:C:C2	40:a:2066:C:C6	3.09	0.40
40:a:2393:U:H2'	40:a:2394:C:C6	2.56	0.40
40:a:2511:U:O4'	49:j:130:GLN:OE1	2.39	0.40
40:a:2520:C:O2'	40:a:2521:C:H5'	2.20	0.40
40:a:2728:U:H5'	59:t:70:ARG:HH22	1.85	0.40
40:a:2839:G:C4	40:a:2840:C:C6	3.09	0.40
42:c:67:VAL:CA	42:c:70:GLU:OE1	2.69	0.40
43:d:8:C:O2'	63:x:40:ILE:HD13	2.21	0.40
48:i:34:SER:OG	48:i:36:GLU:HG2	2.20	0.40
51:l:97:ASN:CG	51:l:100:MET:HE2	2.46	0.40
59:t:59:LYS:NZ	59:t:92:GLU:HG2	2.36	0.40
60:u:95:LEU:HD13	60:u:100:ILE:CD1	2.51	0.40
61:v:105:MET:HG2	61:v:117:PHE:HZ	1.86	0.40
62:w:47:VAL:C	62:w:50:PRO:HD2	2.46	0.40
1:0:13:ARG:NH2	65:z:97:ASP:CG	2.80	0.40
1:0:13:ARG:C	1:0:14:VAL:HG13	2.46	0.40
2:1:85:ILE:HG13	2:1:85:ILE:O	2.19	0.40
2:1:93:ALA:HB2	40:a:1614:A:C2	2.57	0.40
3:2:6:ARG:NH2	3:2:10:VAL:CG2	2.84	0.40
4:3:86:ARG:NH2	4:3:95:PHE:CB	2.84	0.40
6:5:25:DA:N3	7:6:5:DG:N2	2.68	0.40
8:7:10:U:O2	8:7:10:U:H3'	2.21	0.40
9:9:96:PHE:O	9:9:125:ARG:NH1	2.54	0.40
10:A:1:C:C5	10:A:2:G:N7	2.89	0.40
11:AA:936:ARG:HB2	11:AA:1042:LEU:HD12	2.03	0.40
11:AA:1105:SER:HB2	14:AE:731:ARG:HB3	2.03	0.40
12:AB:4:TRP:CZ3	12:AB:93:ILE:HG13	2.56	0.40
12:AB:32:MET:O	12:AB:50:LEU:HD12	2.22	0.40
12:AB:51:PHE:CD2	12:AB:54:TYR:HD2	2.39	0.40
14:AE:438:GLU:OE2	14:AE:481:ARG:NH1	2.44	0.40
14:AE:536:LEU:HA	14:AE:536:LEU:HD23	1.92	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:114:U:H2'	17:D:115:G:C8	2.56	0.40
17:D:407:U:O4'	23:J:116:GLN:OE1	2.39	0.40
17:D:436:C:N3	17:D:437:U:C5	2.89	0.40
17:D:570:G:H1'	17:D:820:U:C4	2.56	0.40
17:D:953:G:O6	37:X:103:LYS:HE2	2.22	0.40
17:D:1227:A:OP2	37:X:110:LYS:HE3	2.20	0.40
17:D:1228:C:OP1	37:X:107:ARG:CZ	2.69	0.40
17:D:1367:C:O3'	28:O:116:VAL:HG22	2.22	0.40
21:H:308:GLU:HG2	21:H:309:MET:N	2.31	0.40
22:I:147:LYS:CE	22:I:204:LYS:O	2.69	0.40
23:J:138:SER:C	23:J:182:PHE:CE2	3.00	0.40
25:L:9:MET:CE	25:L:86:ARG:HG2	2.51	0.40
28:O:5:GLN:NE2	28:O:22:LYS:HZ2	2.19	0.40
30:Q:20:VAL:HG13	30:Q:85:MET:CE	2.51	0.40
30:Q:36:ASP:OD1	30:Q:40:ASN:N	2.53	0.40
34:U:3:THR:HG22	34:U:22:ALA:O	2.21	0.40
37:X:3:ARG:NH2	46:g:35:ASP:HB2	2.36	0.40
38:Y:9:LYS:O	38:Y:10:LEU:HG	2.21	0.40
38:Y:28:GLY:HA3	38:Y:32:VAL:HB	2.03	0.40
40:a:181:A:H2'	40:a:182:A:C8	2.56	0.40
40:a:184:C:C2	40:a:213:A:N1	2.89	0.40
40:a:223:A:O2'	40:a:420:C:O2	2.36	0.40
40:a:241:A:N1	40:a:255:A:H5''	2.36	0.40
40:a:244:A:H2'	40:a:245:G:O4'	2.21	0.40
40:a:397:U:H2'	40:a:398:C:C6	2.56	0.40
40:a:708:G:H2'	40:a:709:U:H6	1.86	0.40
40:a:814:C:N3	40:a:815:C:C5	2.89	0.40
40:a:873:C:C2	40:a:874:G:C8	3.09	0.40
40:a:1144:A:C6	40:a:1145:C:C4	3.09	0.40
40:a:1177:G:O2'	40:a:1178:C:O4'	2.39	0.40
40:a:1294:U:C4	40:a:1295:C:C5	3.10	0.40
40:a:1607:C:H4'	40:a:1608:A:O5'	2.21	0.40
40:a:1709:U:C2	40:a:1710:G:C8	3.10	0.40
40:a:1824:G:O5'	47:h:52:ARG:NH1	2.53	0.40
40:a:1881:C:C4	40:a:1882:U:C5	3.09	0.40
40:a:2146:C:O2'	40:a:2147:A:O5'	2.34	0.40
40:a:2422:C:C4	40:a:2424:C:C4	3.09	0.40
40:a:2784:U:H2'	40:a:2785:C:C6	2.55	0.40
40:a:2839:G:H2'	40:a:2840:C:H6	1.86	0.40
41:b:55:ARG:NE	41:b:55:ARG:CA	2.84	0.40
41:b:55:ARG:CZ	41:b:55:ARG:CA	2.99	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:c:3:ARG:HD2	42:c:30:LEU:CD1	2.51	0.40
45:f:34:HIS:CD2	45:f:36:VAL:CG2	3.05	0.40
49:j:11:MET:SD	49:j:12:THR:N	2.94	0.40
50:k:12:VAL:HG12	50:k:50:LYS:O	2.22	0.40
52:m:12:ARG:HG3	52:m:44:VAL:HG21	2.03	0.40
55:p:149:ARG:NH1	55:p:154:PRO:CG	2.84	0.40
57:r:76:GLU:OE2	57:r:142:VAL:HA	2.21	0.40
57:r:110:VAL:HG21	57:r:114:GLU:OE1	2.21	0.40
58:s:99:ARG:O	58:s:100:VAL:C	2.63	0.40
59:t:1:MET:HE3	59:t:32:TYR:CB	2.50	0.40
60:u:96:LYS:HG2	60:u:102:GLY:O	2.21	0.40
62:w:18:GLN:CD	62:w:18:GLN:C	2.88	0.40
3:2:50:LEU:HD23	44:e:26:PHE:CE1	2.56	0.40
4:3:5:ILE:HA	4:3:72:ILE:HD11	2.03	0.40
4:3:47:LYS:NZ	40:a:482:A:H5''	2.37	0.40
10:A:16:C:O2	10:A:16:C:H2'	2.21	0.40
11:AA:738:GLU:HA	11:AA:741:MET:HE2	2.03	0.40
12:AB:2:GLN:HA	12:AB:59:PHE:O	2.21	0.40
12:AB:72:THR:HG22	12:AB:73:ARG:H	1.86	0.40
10:B:25:C:C4	10:B:26:G:C8	3.09	0.40
17:D:107:G:C6	17:D:108:G:C4	3.09	0.40
17:D:262:A:C4	17:D:263:A:C8	3.10	0.40
17:D:427:U:OP2	17:D:428:G:O2'	2.31	0.40
17:D:562:U:O3'	31:R:12:ARG:HD2	2.20	0.40
17:D:920:U:H2'	17:D:921:U:C6	2.56	0.40
17:D:963:G:C2	17:D:964:A:C8	3.09	0.40
17:D:1061:G:C6	17:D:1197:A:C6	3.09	0.40
17:D:1140:C:O2'	17:D:1141:C:O5'	2.39	0.40
17:D:1141:C:O2'	17:D:1142:G:P	2.79	0.40
17:D:1227:A:C8	37:X:116:ILE:HD11	2.56	0.40
17:D:1372:U:H2'	17:D:1373:G:O4'	2.22	0.40
18:E:15:GLU:CD	18:E:16:LYS:N	2.80	0.40
18:E:59:ASP:OD1	18:E:76:LYS:HE2	2.21	0.40
20:G:187:VAL:HG11	20:G:193:PRO:HB3	2.02	0.40
22:I:30:ALA:O	32:S:65:ARG:NH2	2.54	0.40
22:I:47:LEU:HD22	22:I:76:VAL:HG22	2.03	0.40
22:I:135:LYS:HA	22:I:138:VAL:HG12	2.04	0.40
28:O:35:LEU:HD21	28:O:45:ARG:HG2	2.03	0.40
30:Q:82:LEU:CD1	30:Q:105:PHE:CG	3.05	0.40
30:Q:94:GLU:O	30:Q:94:GLU:OE2	2.39	0.40
34:U:69:ASP:OD1	34:U:69:ASP:C	2.63	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:X:55:THR:CG2	37:X:59:GLU:OE2	2.69	0.40
37:X:65:VAL:CG2	37:X:66:GLU:OE1	2.69	0.40
39:Z:19:VAL:O	39:Z:23:ILE:HG12	2.21	0.40
40:a:151:C:H2'	40:a:152:A:C8	2.53	0.40
40:a:392:U:N3	40:a:393:C:C5	2.90	0.40
40:a:540:C:C2	40:a:541:A:C8	3.09	0.40
40:a:581:C:C2	40:a:582:A:N7	2.90	0.40
40:a:752:A:P	52:m:1:MET:HE1	2.62	0.40
40:a:1005:C:H1'	40:a:1012:U:N3	2.37	0.40
40:a:1048:A:C5	40:a:1049:C:C5	3.09	0.40
40:a:1275:A:N1	40:a:1295:C:O2'	2.50	0.40
40:a:1351:C:H2'	40:a:1352:U:O4'	2.21	0.40
40:a:1366:A:H2'	40:a:1367:A:O4'	2.21	0.40
40:a:1816:C:H3'	47:h:62:TYR:CE1	2.57	0.40
40:a:2000:C:OP1	62:w:5:LYS:NZ	2.38	0.40
40:a:2422:C:N4	40:a:2424:C:N4	2.70	0.40
40:a:2759:G:H1'	55:p:35:ARG:HH22	1.86	0.40
41:b:58:THR:O	41:b:58:THR:HG23	2.21	0.40
45:f:5:ILE:HG22	45:f:6:LYS:N	2.36	0.40
47:h:137:VAL:HA	47:h:164:ILE:HG23	2.03	0.40
49:j:55:LYS:HZ1	49:j:60:VAL:CA	2.35	0.40
49:j:176:ASP:OD2	49:j:176:ASP:C	2.65	0.40
53:n:141:ILE:HD11	53:n:146:VAL:CG1	2.51	0.40
59:t:1:MET:HE1	59:t:32:TYR:HB3	2.03	0.40
1:0:58:VAL:HG13	1:0:60:LYS:NZ	2.37	0.40
2:1:32:ALA:O	2:1:36:LEU:CD1	2.70	0.40
5:4:77:VAL:CG2	5:4:79:ARG:NE	2.78	0.40
5:4:77:VAL:HG21	5:4:79:ARG:HH21	1.86	0.40
9:9:43:LYS:HA	9:9:46:ARG:NH2	2.35	0.40
9:9:139:LEU:HD22	39:Z:11:VAL:HG22	2.02	0.40
11:AA:95:PRO:HB3	11:AA:123:TYR:HE1	1.87	0.40
12:AB:112:PRO:HA	12:AB:133:PRO:HD2	2.03	0.40
12:AB:140:MET:CB	12:AB:150:ILE:HD12	2.50	0.40
14:AE:513:MET:HE2	14:AE:513:MET:HB3	1.79	0.40
14:AE:1063:ASP:O	14:AE:1067:ARG:NH1	2.55	0.40
16:C:54:GLN:HG3	16:C:55:LEU:H	1.85	0.40
17:D:74:A:C4	17:D:75:G:C8	3.09	0.40
17:D:105:G:C6	17:D:106:C:C4	3.10	0.40
17:D:333:U:OP1	18:E:2:ALA:N	2.55	0.40
17:D:437:U:H5''	23:J:152:GLN:CD	2.46	0.40
17:D:520:A:O2'	31:R:70:GLU:OE1	2.39	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:983:A:C2	17:D:984:C:C6	3.10	0.40
17:D:1499:A:H3'	17:D:1499:A:OP2	2.22	0.40
17:D:1512:U:H2'	17:D:1513:A:H8	1.85	0.40
18:E:43:ASP:CG	18:E:46:ALA:HB3	2.46	0.40
18:E:54:MET:HB2	18:E:54:MET:HE2	1.86	0.40
19:F:4:ILE:HD12	19:F:19:PHE:HA	2.03	0.40
20:G:161:LEU:HD13	20:G:176:ALA:HB2	2.03	0.40
21:H:308:GLU:HG3	21:H:346:LEU:H	1.86	0.40
24:K:46:VAL:HG12	24:K:47:GLY:N	2.36	0.40
25:L:11:HIS:HE1	25:L:13:ASP:OD2	2.05	0.40
25:L:39:LEU:O	25:L:40:GLU:OE2	2.40	0.40
25:L:51:ILE:CG2	25:L:86:ARG:HH21	2.34	0.40
27:N:28:PRO:HD3	27:N:58:GLU:OE1	2.21	0.40
27:N:50:LYS:HA	27:N:50:LYS:CE	2.52	0.40
28:O:56:ASP:O	28:O:60:LYS:CE	2.69	0.40
32:S:63:ARG:HB3	32:S:68:GLY:HA2	2.04	0.40
34:U:18:GLN:CD	34:U:35:ARG:HE	2.30	0.40
36:W:34:TRP:O	36:W:36:ARG:N	2.54	0.40
38:Y:55:PRO:C	38:Y:71:LYS:CE	2.95	0.40
38:Y:102:ARG:NH2	38:Y:139:VAL:HG11	2.36	0.40
40:a:689:A:H2'	40:a:690:G:H8	1.86	0.40
40:a:706:A:C2	40:a:707:G:H1'	2.57	0.40
40:a:838:C:H2'	40:a:839:U:H6	1.87	0.40
40:a:1059:G:C6	40:a:1080:A:N1	2.90	0.40
40:a:1355:G:C2	40:a:1356:G:C8	3.09	0.40
40:a:1494:A:H2'	40:a:1495:A:C8	2.56	0.40
40:a:1843:C:H2'	40:a:1844:C:H6	1.85	0.40
40:a:1953:A:H2	40:a:2549:G:N3	2.18	0.40
40:a:2250:G:OP1	40:a:2275:C:O2'	2.25	0.40
40:a:2627:G:H2'	40:a:2628:C:C6	2.56	0.40
40:a:2654:A:N1	40:a:2665:A:H5''	2.37	0.40
40:a:2680:U:H1'	49:j:192:ALA:CB	2.52	0.40
41:b:70:GLU:HG3	41:b:72:LYS:HG2	2.03	0.40
47:h:163:GLN:HB3	47:h:175:ARG:HB3	2.02	0.40
50:k:19:HIS:CD2	50:k:20:PHE:H	2.39	0.40
59:t:7:MET:CE	59:t:20:MET:HB2	2.51	0.40
59:t:24:VAL:O	59:t:24:VAL:HG13	2.20	0.40
60:u:101:ILE:HG13	60:u:102:GLY:N	2.36	0.40
61:v:135:VAL:HG12	61:v:136:MET:CE	2.50	0.40
63:x:4:LYS:O	63:x:8:ILE:HG12	2.22	0.40
8:7:10:U:O2	8:7:10:U:C3'	2.69	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:7:42:G:P	11:AA:688:GLN:HE22	2.45	0.40
9:9:123:ILE:O	9:9:123:ILE:CG2	2.68	0.40
11:AA:836:LEU:HD21	11:AA:921:PRO:HD3	2.02	0.40
13:AC:104:LYS:HG2	13:AC:110:VAL:HG22	2.04	0.40
10:B:38:A:H4'	17:D:790:A:C1'	2.49	0.40
17:D:276:G:H5''	35:V:17:MET:HE3	2.03	0.40
17:D:582:C:C2	17:D:583:A:C8	3.10	0.40
17:D:619:U:C1'	23:J:128:ARG:NH1	2.85	0.40
17:D:624:C:H2'	17:D:625:U:O4'	2.22	0.40
17:D:680:C:C2	17:D:681:A:C8	3.09	0.40
17:D:932:C:OP1	26:M:4:ARG:NH1	2.55	0.40
17:D:1095:U:H2'	17:D:1096:C:C6	2.57	0.40
17:D:1326:U:H2'	17:D:1327:C:C6	2.56	0.40
19:F:12:PHE:O	19:F:16:LEU:HG	2.21	0.40
20:G:142:GLU:OE2	20:G:142:GLU:HA	2.21	0.40
22:I:156:ARG:HD3	22:I:160:ALA:O	2.21	0.40
24:K:86:LYS:HE3	24:K:95:PHE:HD1	1.86	0.40
25:L:4:TYR:CD2	25:L:91:ARG:HD2	2.57	0.40
28:O:118:LEU:HB3	28:O:120:LYS:O	2.21	0.40
29:P:47:GLU:N	29:P:47:GLU:CD	2.79	0.40
30:Q:21:ALA:HA	30:Q:34:ILE:HD13	2.02	0.40
32:S:37:SER:O	32:S:41:ARG:HG3	2.22	0.40
33:T:32:LEU:HD13	33:T:62:GLN:OE1	2.21	0.40
35:V:26:GLU:OE2	35:V:39:LYS:C	2.65	0.40
38:Y:100:ILE:CG1	38:Y:139:VAL:CB	2.97	0.40
39:Z:20:VAL:O	39:Z:20:VAL:CG1	2.65	0.40
40:a:10:A:C6	40:a:2800:A:C2	3.09	0.40
40:a:48:G:C2	40:a:178:G:C6	3.10	0.40
40:a:216:A:C8	40:a:432:A:C6	3.10	0.40
40:a:1196:C:H2'	40:a:1197:G:O4'	2.22	0.40
40:a:1406:U:C2	40:a:1407:G:N7	2.89	0.40
40:a:1589:U:O2'	40:a:1590:A:P	2.79	0.40
40:a:1783:A:C2	40:a:2587:A:C4	3.10	0.40
40:a:1792:G:C5'	47:h:204:VAL:CG2	2.99	0.40
40:a:1923:U:H2'	40:a:1923:U:OP2	2.21	0.40
40:a:1996:C:H4'	49:j:128:ARG:NH1	2.35	0.40
40:a:2364:C:O2'	41:b:58:THR:HG21	2.21	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
43:d:47:C:C4	43:d:48:U:C5	3.09	0.40
44:e:14:LEU:CA	44:e:17:GLU:OE1	2.70	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:g:2:LYS:HB2	46:g:5:ILE:CD1	2.52	0.40
46:g:7:PRO:CG	53:n:62:GLY:O	2.69	0.40
46:g:58:ASP:O	46:g:59:ARG:C	2.64	0.40
47:h:74:ILE:HG22	47:h:96:TYR:HD1	1.86	0.40
47:h:183:LYS:NZ	47:h:266:PHE:O	2.52	0.40
53:n:30:ARG:O	53:n:159:THR:HG23	2.21	0.40
58:s:9:GLU:HG2	58:s:10:THR:N	2.37	0.40
58:s:53:TYR:HD1	58:s:121:LYS:HB3	1.85	0.40
58:s:114:LEU:O	58:s:118:MET:HG3	2.22	0.40
60:u:57:LEU:HD12	60:u:60:ARG:HD2	2.04	0.40
61:v:73:ILE:HD13	61:v:93:VAL:HG13	2.04	0.40
62:w:87:PHE:O	62:w:88:ALA:C	2.64	0.40

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	0	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	29
11	AA	1312/1342 (98%)	1198 (91%)	113 (9%)	1 (0%)	48	83
12	AB	159/162 (98%)	109 (69%)	44 (28%)	6 (4%)	2	19
13	AC	217/329 (66%)	203 (94%)	12 (6%)	2 (1%)	14	50
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%)	1211 (91%)	115 (9%)	5 (0%)	30	67
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	67
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	59
25	L	102/135 (76%)	97 (95%)	4 (4%)	1 (1%)	12	48
26	M	149/179 (83%)	140 (94%)	8 (5%)	1 (1%)	18	55
27	N	127/130 (98%)	123 (97%)	4 (3%)	0	100	100
28	O	125/130 (96%)	116 (93%)	8 (6%)	1 (1%)	16	53
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	33
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%)	161 (92%)	13 (7%)	1 (1%)	21	59
54	o	62/65 (95%)	57 (92%)	4 (6%)	1 (2%)	7	37
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%)	8739 (92%)	714 (8%)	33 (0%)	37	72

All (33) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
12	AB	127	GLN
12	AB	141	LEU
12	AB	152	HIS
20	G	127	ASP
21	H	304	VAL
26	M	56	LYS
54	o	32	ILE
14	AE	92	VAL
14	AE	175	GLU
21	H	171	ARG
21	H	305	HIS
21	H	309	MET
24	K	78	ASN

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Mol	Chain	Res	Type
25	L	96	VAL
28	O	13	LYS
53	n	177	PHE
12	AB	160	ARG
13	AC	193	GLU
21	H	82	THR
12	AB	53	ASN
14	AE	286	ALA
21	H	71	ALA
21	H	143	ASP
37	X	6	GLY
37	X	66	GLU
9	9	79	PRO
9	9	88	HIS
12	AB	137	ALA
13	AC	192	VAL
14	AE	290	ILE
14	AE	292	VAL
9	9	129	LEU
11	AA	1317	PRO

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	0	84/84 (100%)	84 (100%)	0	100	100
2	1	93/93 (100%)	93 (100%)	0	100	100
3	2	81/84 (96%)	81 (100%)	0	100	100
4	3	84/85 (99%)	84 (100%)	0	100	100
5	4	78/78 (100%)	78 (100%)	0	100	100
9	9	112/123 (91%)	112 (100%)	0	100	100
11	AA	1135/1157 (98%)	1130 (100%)	5 (0%)	84	83
12	AB	141/142 (99%)	139 (99%)	2 (1%)	59	71

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
13	AC	186/286 (65%)	186 (100%)	0	100	100
13	AD	185/286 (65%)	185 (100%)	0	100	100
14	AE	1122/1168 (96%)	1111 (99%)	11 (1%)	68	77
15	AF	70/75 (93%)	69 (99%)	1 (1%)	59	71
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	82
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%)	86 (100%)	0	100	100
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

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
46	g	59/62 (95%)	59 (100%)	0	100	100
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	7890/8723 (90%)	7870 (100%)	20 (0%)	84	85

All (20) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
11	AA	145	ILE
11	AA	615	VAL
11	AA	914	LYS
11	AA	1076	ILE
11	AA	1151	LEU
12	AB	126	PHE
12	AB	146	ILE
14	AE	77	ARG
14	AE	81	ARG
14	AE	84	ILE

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Mol	Chain	Res	Type
14	AE	85	CYS
14	AE	92	VAL
14	AE	93	THR
14	AE	290	ILE
14	AE	291	ILE
14	AE	292	VAL
14	AE	514	THR
14	AE	1261	LEU
15	AF	63	ILE
23	J	47	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (109) such sidechains are listed below:

Mol	Chain	Res	Type
1	0	6	GLN
1	0	82	HIS
2	1	7	HIS
2	1	9	HIS
3	2	15	HIS
9	9	9	GLN
11	AA	69	GLN
11	AA	314	ASN
11	AA	330	HIS
11	AA	343	HIS
11	AA	387	ASN
11	AA	513	GLN
11	AA	554	HIS
11	AA	580	GLN
11	AA	688	GLN
11	AA	808	ASN
11	AA	1237	HIS
11	AA	1268	GLN
11	AA	1288	GLN
11	AA	1313	HIS
12	AB	27	ASN
12	AB	65	HIS
13	AC	23	HIS
13	AD	37	HIS
13	AD	66	HIS
13	AD	84	ASN
13	AD	117	HIS
13	AD	128	HIS

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Mol	Chain	Res	Type
13	AD	227	GLN
14	AE	80	HIS
14	AE	157	GLN
14	AE	164	GLN
14	AE	232	ASN
14	AE	365	GLN
14	AE	424	ASN
14	AE	450	HIS
14	AE	469	HIS
14	AE	777	HIS
14	AE	910	ASN
14	AE	1108	GLN
14	AE	1197	ASN
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
20	G	109	GLN
22	I	3	GLN
22	I	6	HIS
22	I	8	ASN
22	I	190	HIS
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

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Mol	Chain	Res	Type
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
46	g	33	ASN
47	h	53	HIS
47	h	90	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	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%)	31 (41%)	9 (12%)
17	D	1514/1542 (98%)	290 (19%)	20 (1%)
40	a	2859/2904 (98%)	511 (17%)	0
43	d	119/120 (99%)	15 (12%)	0
8	7	36/44 (81%)	26 (72%)	5 (13%)
All	All	4678/4762 (98%)	902 (19%)	42 (0%)

All (902) 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	31	A
8	7	32	U
8	7	33	U
8	7	34	U
8	7	37	U
8	7	39	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

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Mol	Chain	Res	Type
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
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	29	G
10	B	30	G
10	B	31	G
10	B	46	G

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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	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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
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
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	30	G
10	A	6	G
10	A	7	G
10	A	9	G

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Mol	Chain	Res	Type
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
10	B	30	G
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	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 ⓘ

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 [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

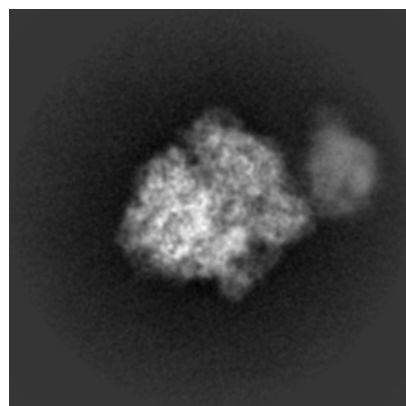
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-42492. These allow visual inspection of the internal detail of the map and identification of artifacts.

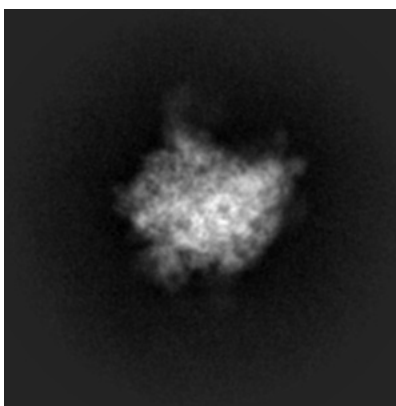
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

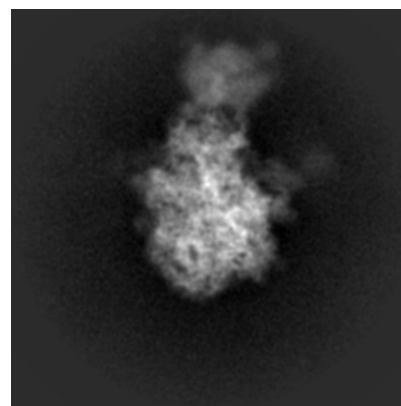
6.1.1 Primary map



X

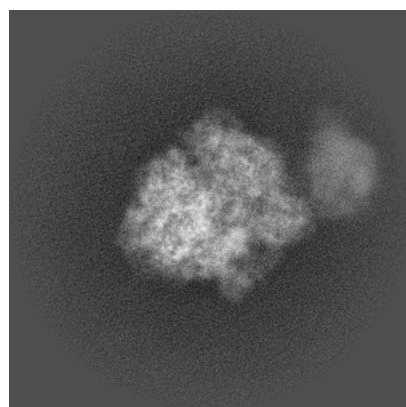


Y

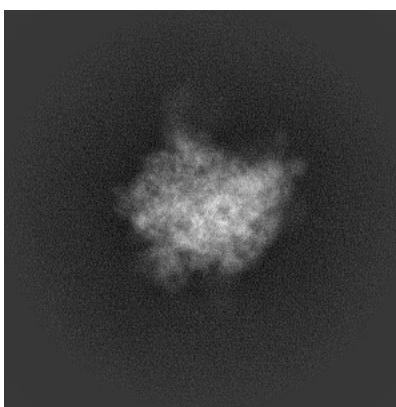


Z

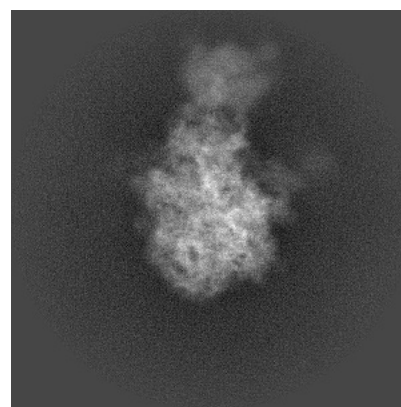
6.1.2 Raw map



X



Y

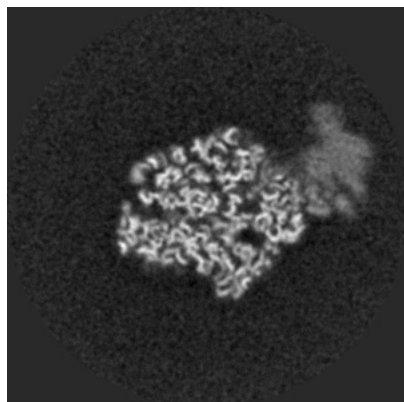


Z

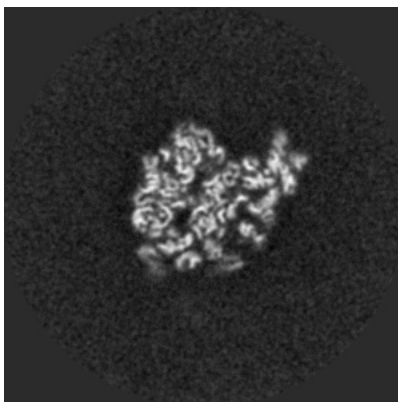
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

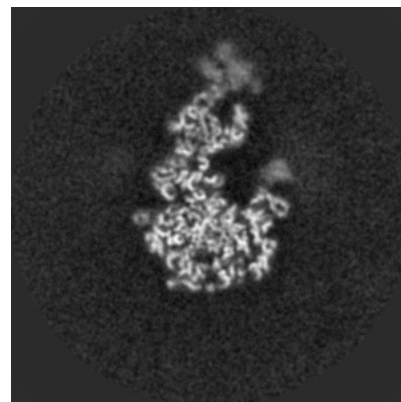
6.2.1 Primary map



X Index: 256

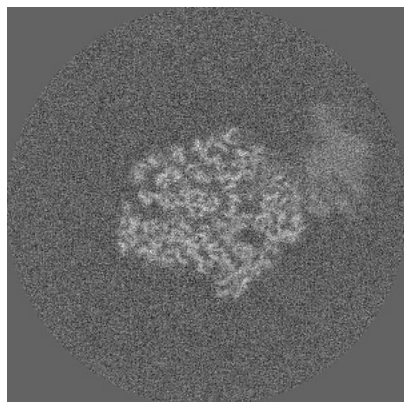


Y Index: 256

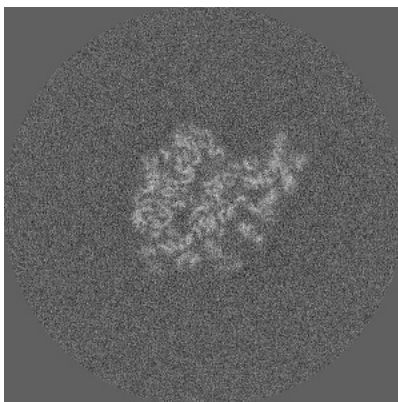


Z Index: 256

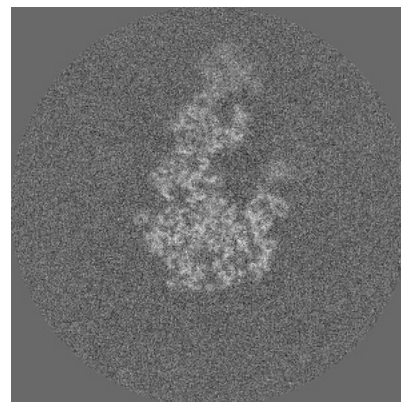
6.2.2 Raw map



X Index: 256



Y Index: 256

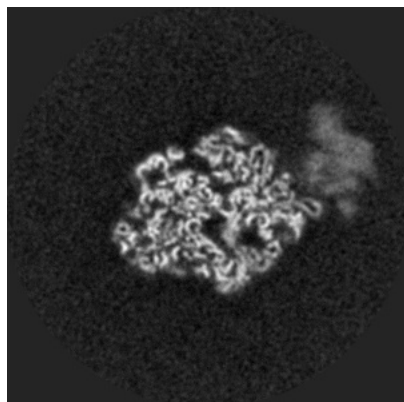


Z Index: 256

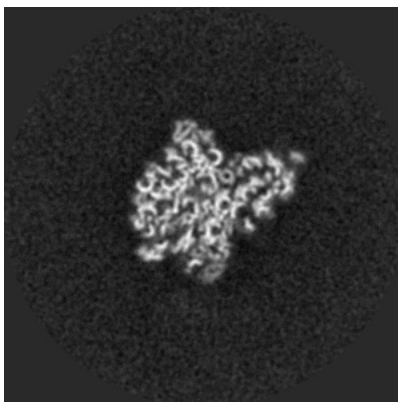
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

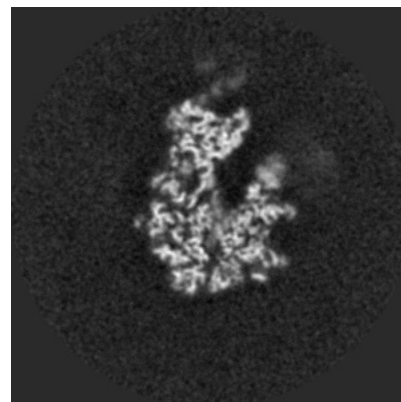
6.3.1 Primary map



X Index: 248

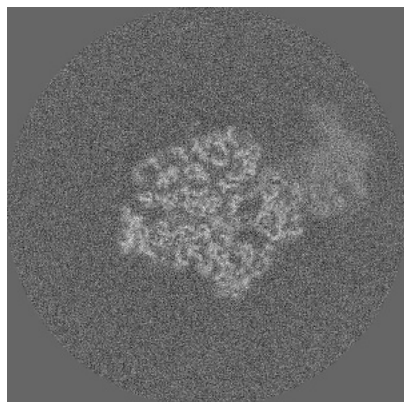


Y Index: 248

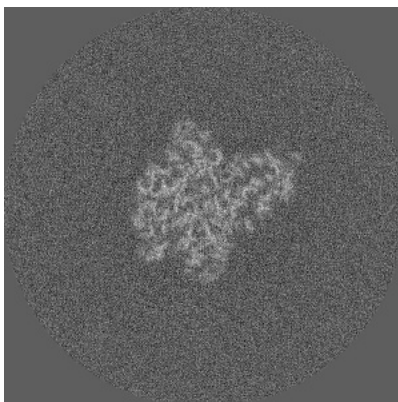


Z Index: 243

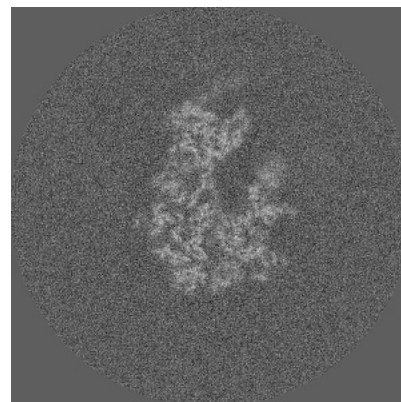
6.3.2 Raw map



X Index: 259



Y Index: 246

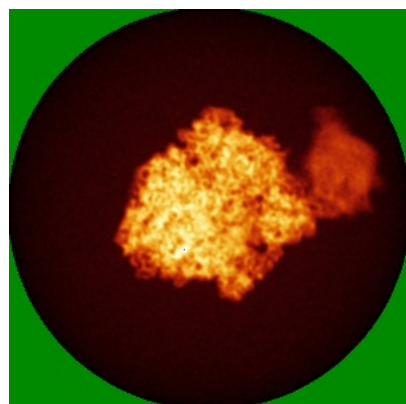


Z Index: 244

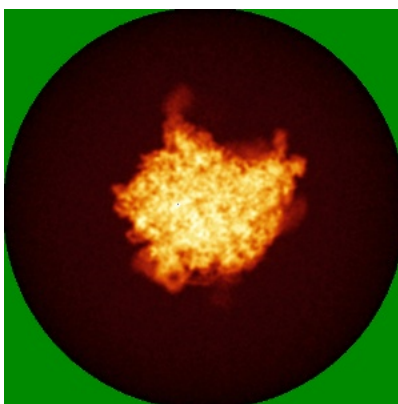
The images above show the largest variance slices of the map in three orthogonal directions.

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

6.4.1 Primary map



X

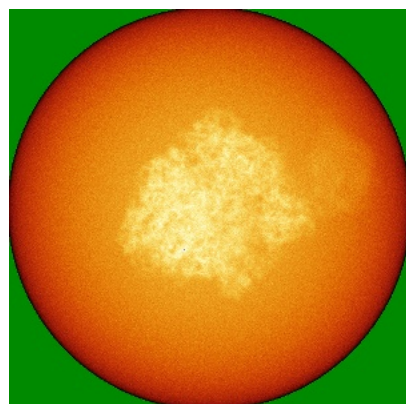


Y

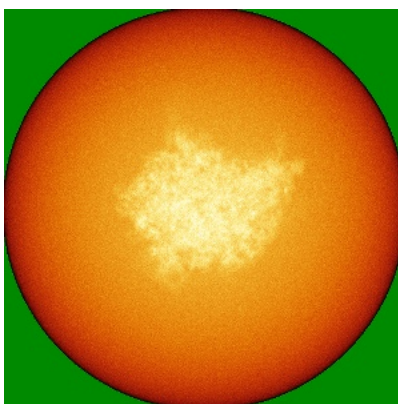


Z

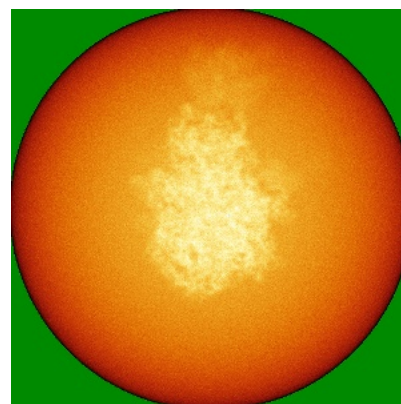
6.4.2 Raw map



X



Y

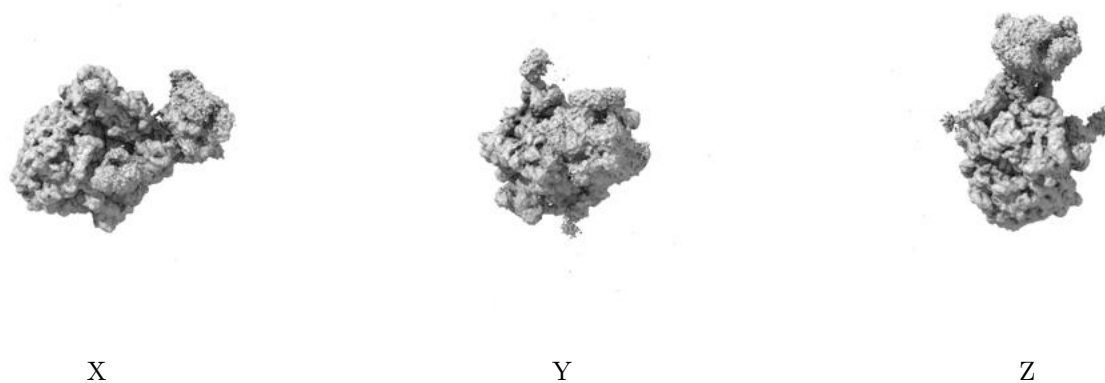


Z

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.

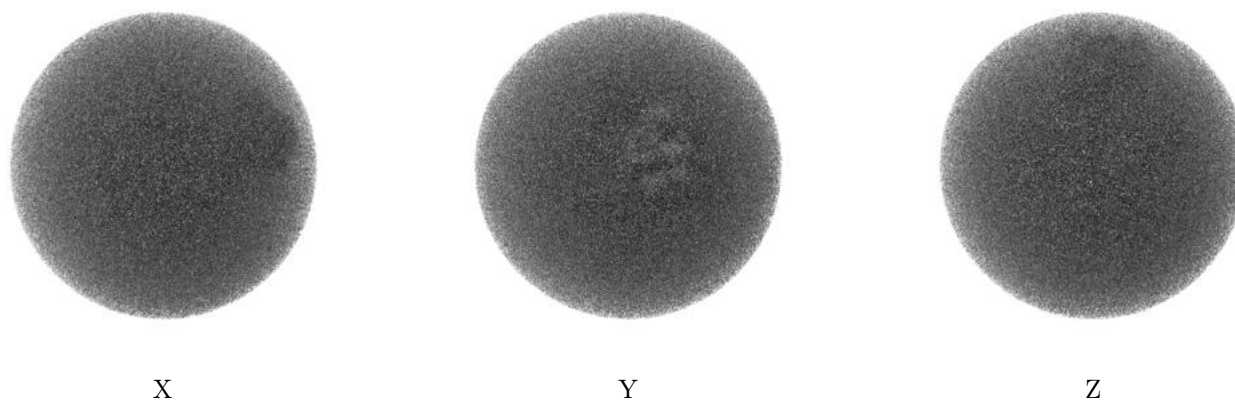
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.0042. 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.

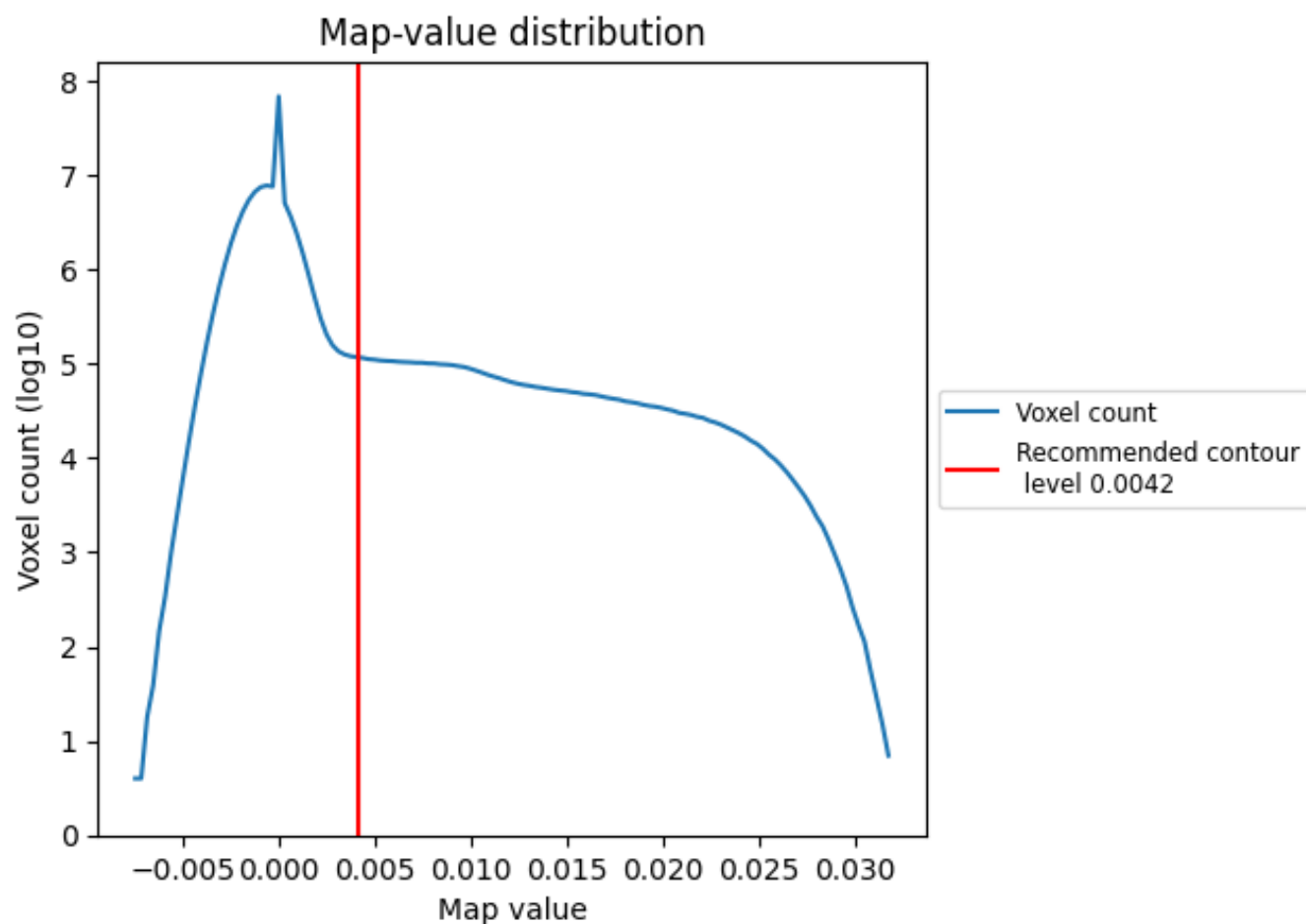
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

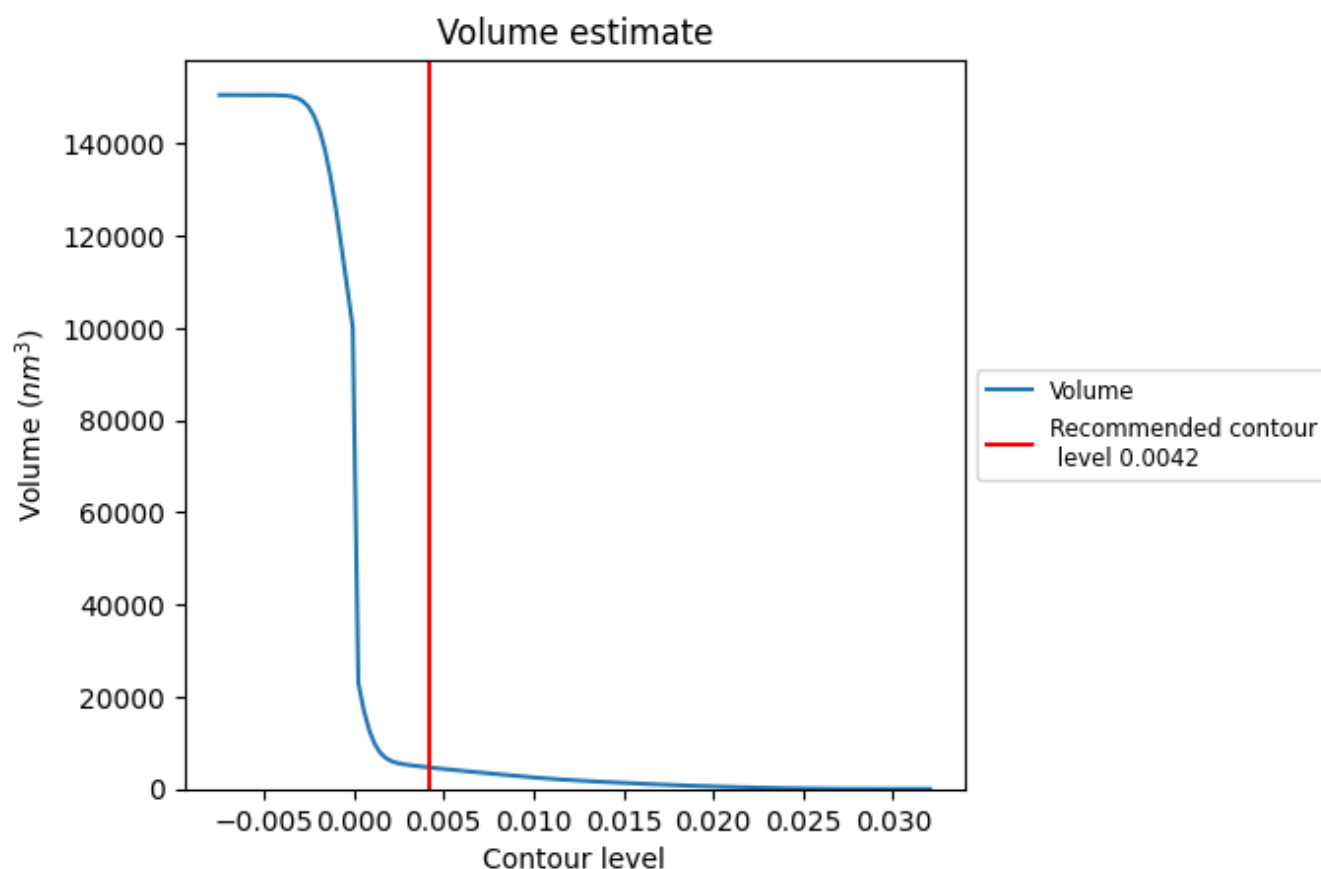
This section contains the results of statistical analysis of the map.

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.

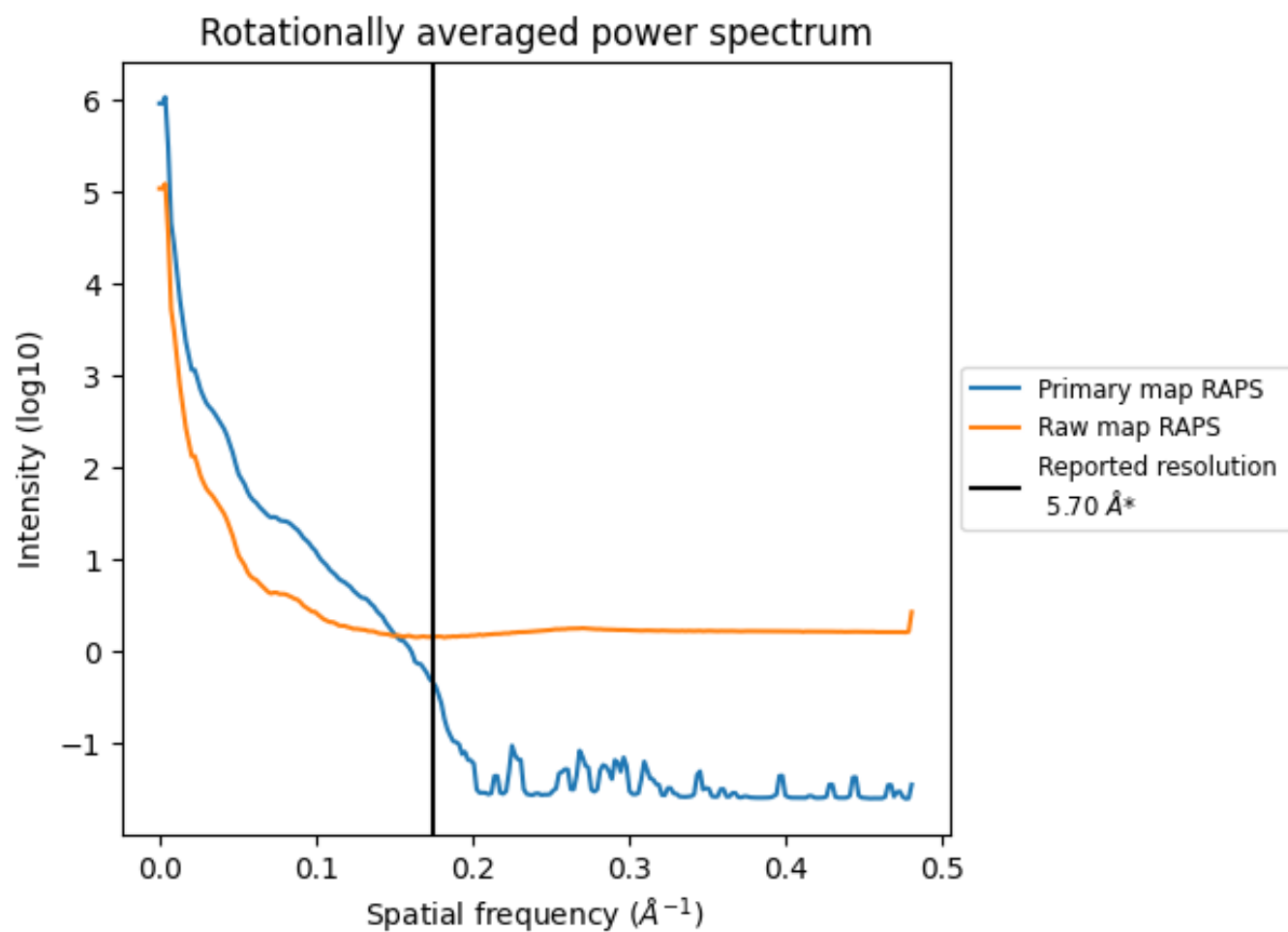
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 4667 nm^3 ; this corresponds to an approximate mass of 4216 kDa.

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

7.3 Rotationally averaged power spectrum [i](#)

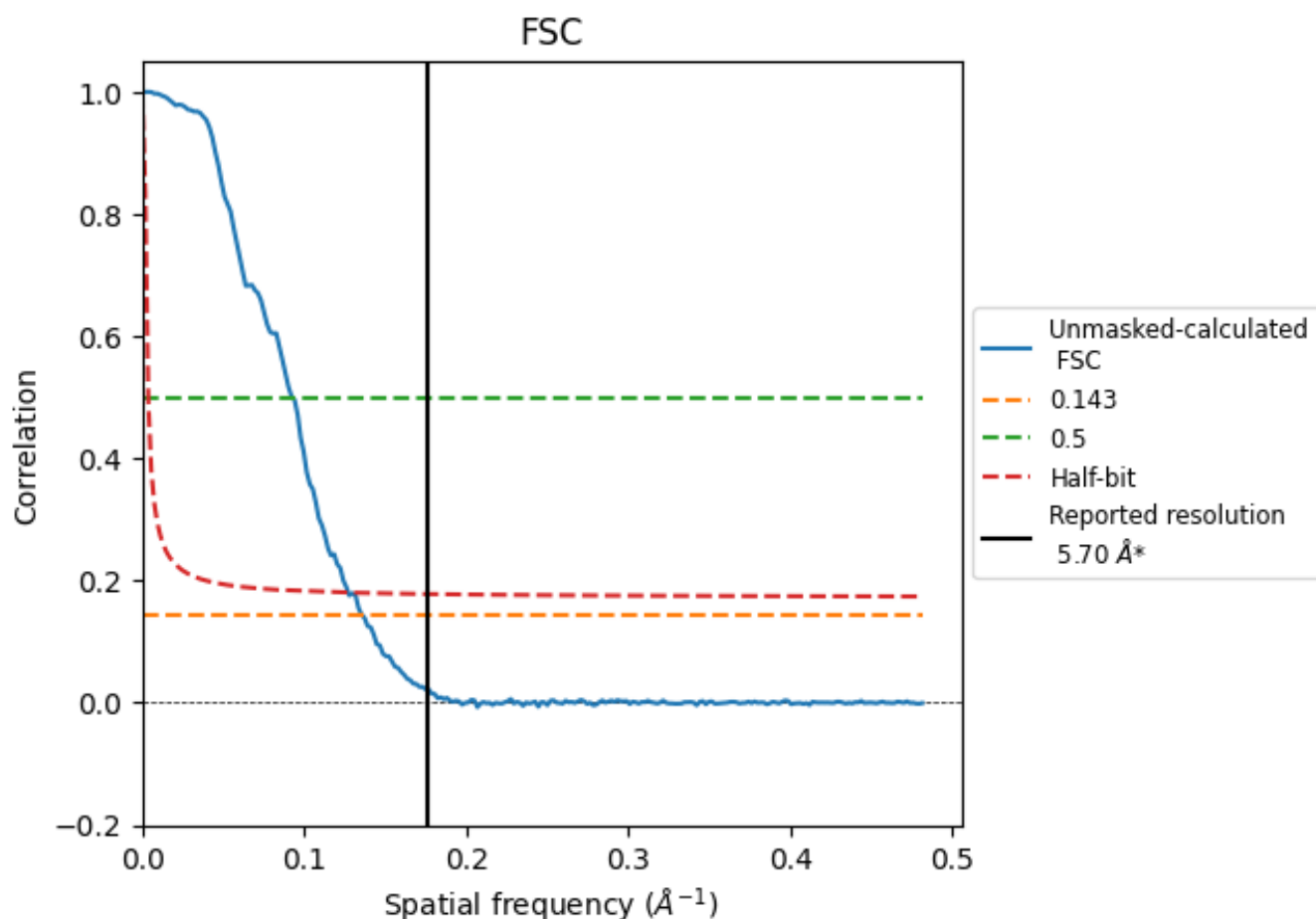


*Reported resolution corresponds to spatial frequency of 0.175 $\text{\AA}^{-1}$

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 0.175 $\text{\AA}^{-1}$

8.2 Resolution estimates [i](#)

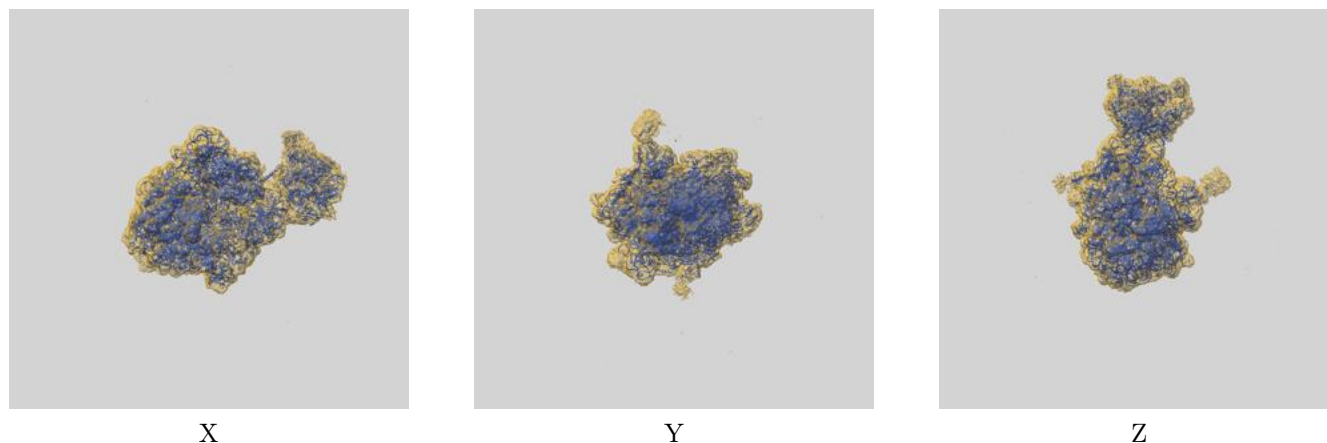
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	5.70	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	7.36	10.80	7.86

*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 7.36 differs from the reported value 5.7 by more than 10 %

9 Map-model fit [i](#)

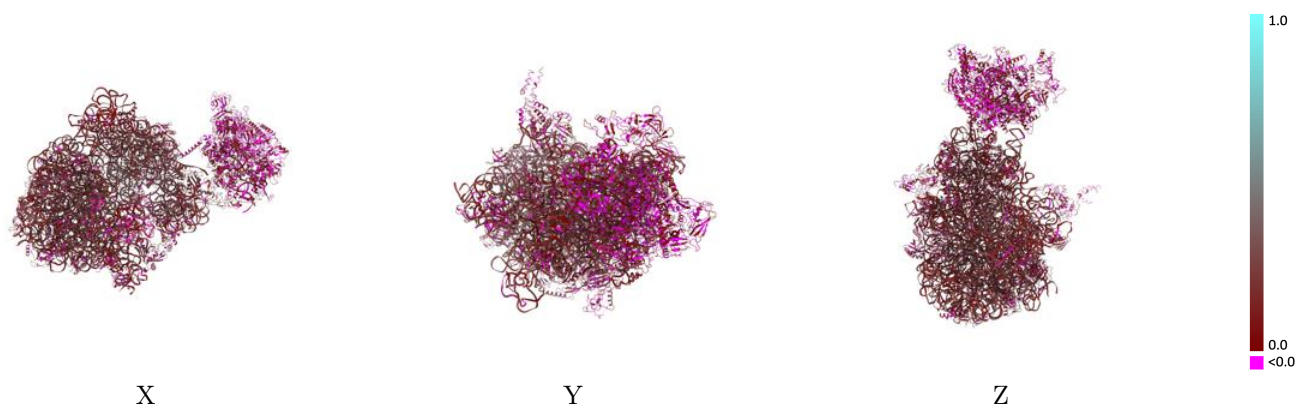
This section contains information regarding the fit between EMDB map EMD-42492 and PDB model 8URH. Per-residue inclusion information can be found in section [3](#) on page [16](#).

9.1 Map-model overlay [i](#)



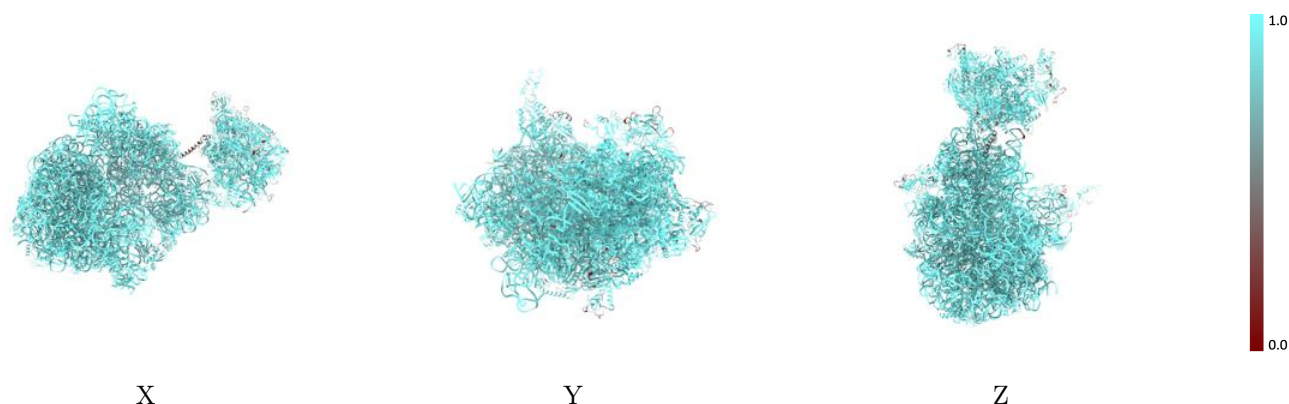
The images above show the 3D surface view of the map at the recommended contour level 0.0042 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



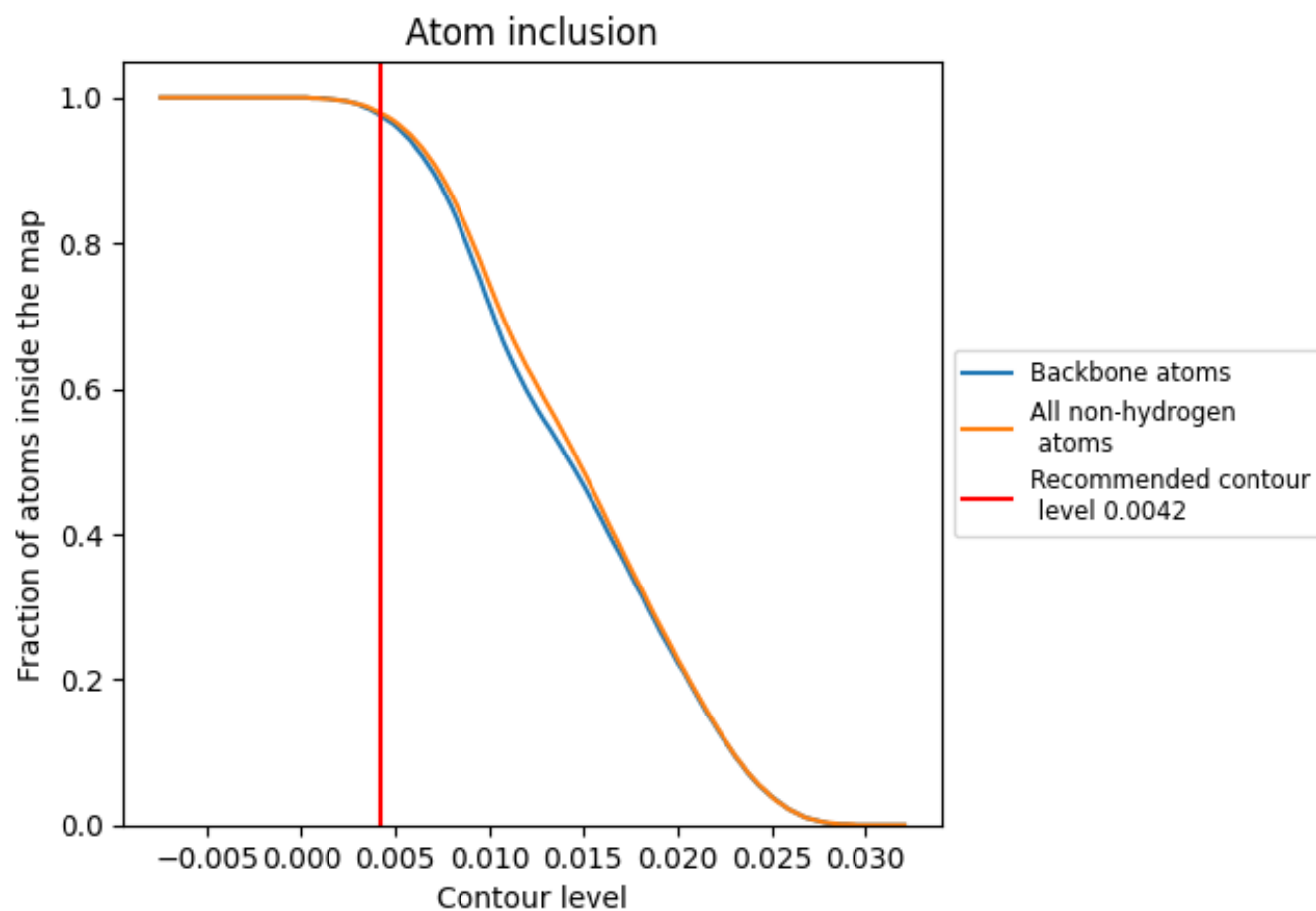
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

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



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.0042).

9.4 Atom inclusion ⓘ



At the recommended contour level, 98% of all backbone atoms, 98% 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 (0.0042) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.9790	 0.1650
0	 0.9850	 0.1450
1	 0.9750	 0.1600
2	 0.9750	 0.1360
3	 0.9910	 0.1240
4	 0.9840	 0.1400
5	 0.9530	 0.1190
6	 0.9430	 0.1080
7	 0.9830	 0.1160
9	 0.9520	 0.0690
A	 0.9980	 0.1590
AA	 0.9620	 0.0620
AB	 0.9870	 0.1090
AC	 0.9740	 0.0440
AD	 0.8920	 0.0340
AE	 0.9500	 0.0690
AF	 0.6140	 0.0150
B	 0.9680	 0.1150
C	 0.9960	 0.1410
D	 0.9970	 0.2140
E	 0.9910	 0.1500
F	 0.9750	 0.1620
G	 0.9770	 0.1540
H	 0.8170	 0.0580
I	 0.9840	 0.1840
J	 0.9960	 0.1740
K	 0.9950	 0.2000
L	 0.9920	 0.1540
M	 0.9910	 0.1530
N	 0.9770	 0.1690
O	 0.9860	 0.1330
P	 0.9800	 0.1570
Q	 0.9920	 0.1450
R	 0.9950	 0.2010
S	 0.9940	 0.1520



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Chain	Atom inclusion	Q-score
T	 0.9930	 0.1470
U	 0.9950	 0.1530
V	 0.9810	 0.1610
W	 0.9470	 0.1150
X	 0.9790	 0.1380
Y	 0.8410	 0.0650
Z	 0.9070	 0.0410
a	 0.9970	 0.2030
b	 0.9910	 0.1190
c	 0.9800	 0.1510
d	 0.9990	 0.1740
e	 0.9780	 0.1200
f	 0.9860	 0.1720
g	 0.9690	 0.0970
h	 0.9890	 0.1430
i	 0.9840	 0.1630
j	 0.9940	 0.1520
k	 0.9930	 0.1390
l	 0.9820	 0.1330
m	 0.9920	 0.1750
n	 0.9720	 0.1190
o	 0.9880	 0.1260
p	 0.9880	 0.1400
q	 1.0000	 0.1360
r	 0.9250	 0.1160
s	 0.9870	 0.1640
t	 0.9790	 0.1680
u	 0.9890	 0.1280
v	 0.9870	 0.1750
w	 0.9850	 0.1460
x	 0.9850	 0.0960
y	 0.9800	 0.1570
z	 0.9970	 0.1340