



Full wwPDB EM Validation Report ⓘ

Mar 29, 2026 – 05:19 AM UTC

PDB ID : 8UQP / pdb_00008uqp
EMDB ID : EMD-42477
Title : Escherichia coli transcription-translation coupled complex class B (TTC-B) containing RfaH bound to ops signal, mRNA with a 24 nt long spacer, and fMet-tRNAs in E-site and P-site of the ribosome
Authors : Molodtsov, V.; Wang, C.; Ebright, R.H.
Deposited on : 2023-10-24
Resolution : 3.80 Å(reported)

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

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

A user guide is available at

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

The types of validation reports are described at

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

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

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

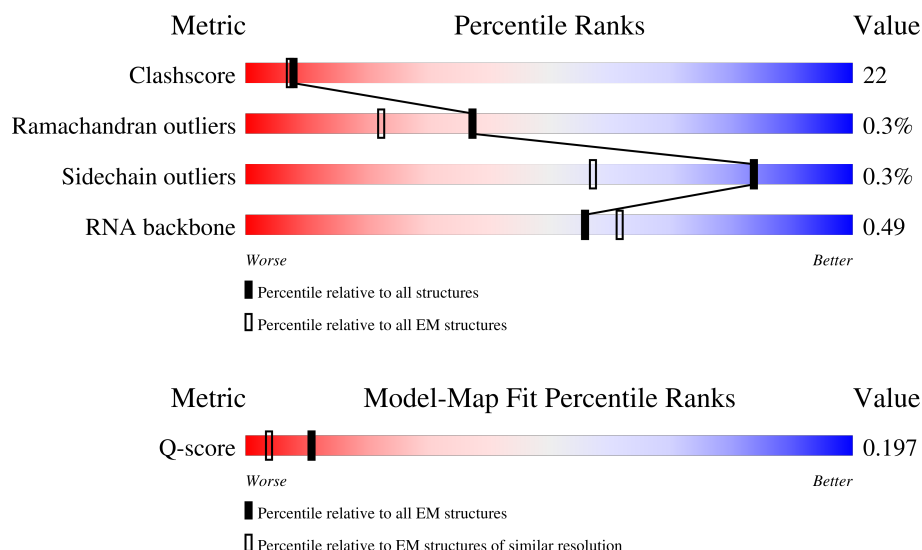
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.80 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.



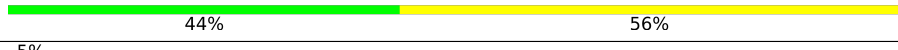
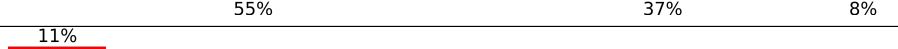
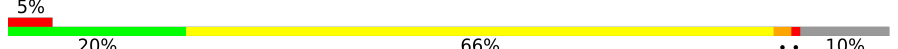
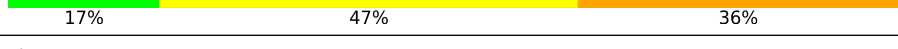
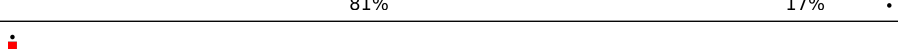
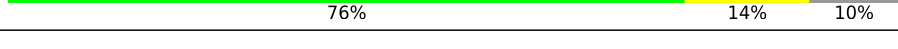
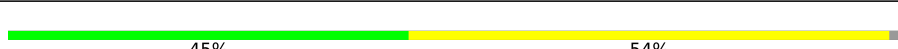
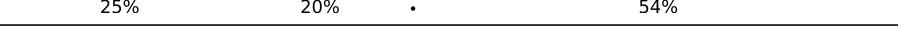
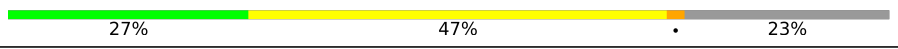
Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
RNA backbone	8273	3508	-
Q-score	-	25397	10198 (3.30 - 4.30)

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	

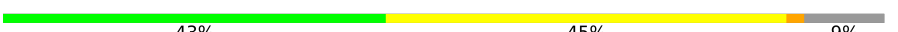
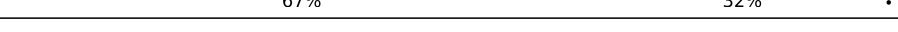
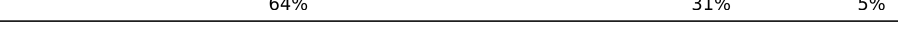
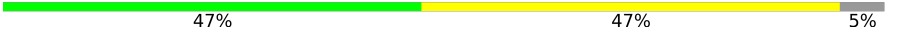
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Mol	Chain	Length	Quality of chain
4	3	104	
5	4	94	
6	5	38	
7	6	38	
8	7	41	
9	9	165	
10	A	76	
10	B	76	
11	AA	1342	
12	AB	162	
13	AC	329	
13	AD	329	
14	AE	1407	
15	AF	91	
16	C	75	
17	D	1542	
18	E	87	
19	F	71	
20	G	241	
21	H	557	
22	I	233	
23	J	206	
24	K	167	
25	L	135	
26	M	179	

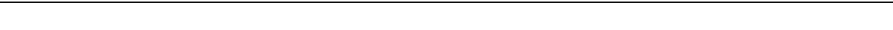
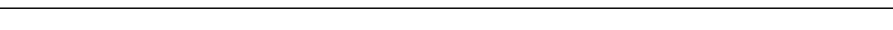
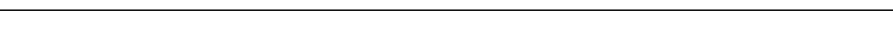
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Mol	Chain	Length	Quality of chain
27	N	130	
28	O	130	
29	P	103	
30	Q	129	
31	R	124	
32	S	101	
33	T	89	
34	U	82	
35	V	84	
36	W	92	
37	X	118	
38	Y	142	
39	Z	121	
40	a	2904	
41	b	85	
42	c	78	
43	d	120	
44	e	63	
45	f	59	
46	g	70	
47	h	273	
48	i	57	
49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

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Mol	Chain	Length	Quality of chain
52	m	46	 57% 43%
53	n	179	 44% 54% ...
54	o	65	 58% 35% 5% .
55	p	177	 67% 32% .
56	q	38	 61% 39%
57	r	149	 9% 68% 32%
58	s	142	 55% 44% ..
59	t	123	 45% 54% .
60	u	144	 62% 37% .
61	v	136	 49% 49% .
62	w	127	 45% 46% . 6%
63	x	117	 63% 36% .
64	y	115	 62% 37% .
65	z	118	 57% 42% ..

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

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

2 Entry composition [i](#)

There are 67 unique types of molecules in this entry. The entry contains 276039 atoms, of which 98639 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called Ribosomal protein L21.

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

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

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

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

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

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

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

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

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

- Molecule 6 is a DNA chain called NT DNA 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 24 nt long spacer.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

There is a discrepancy between the modelled and reference sequences:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

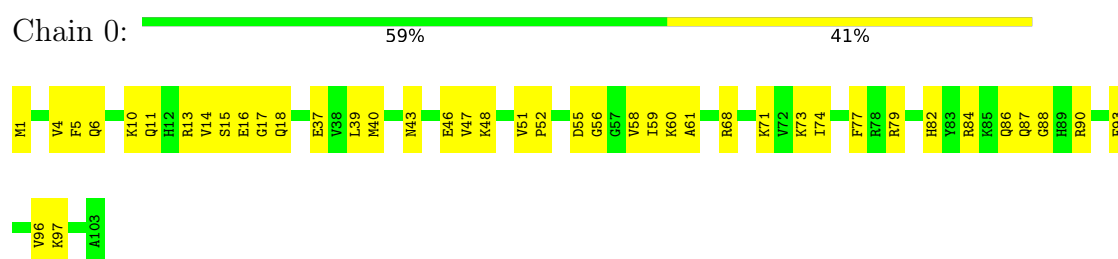
- Molecule 67 is ZINC ION (CCD ID: ZN) (formula: Zn).

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

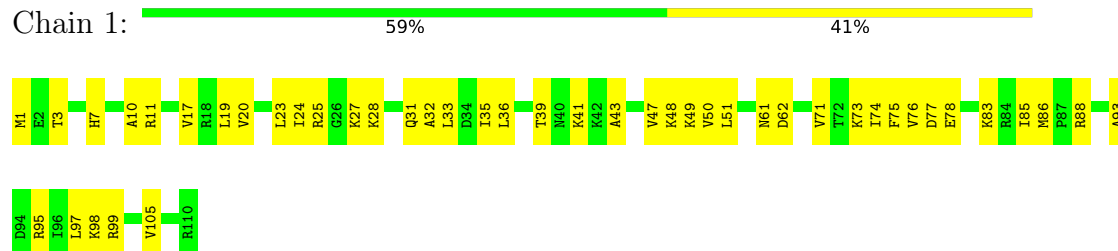
3 Residue-property plots [i](#)

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

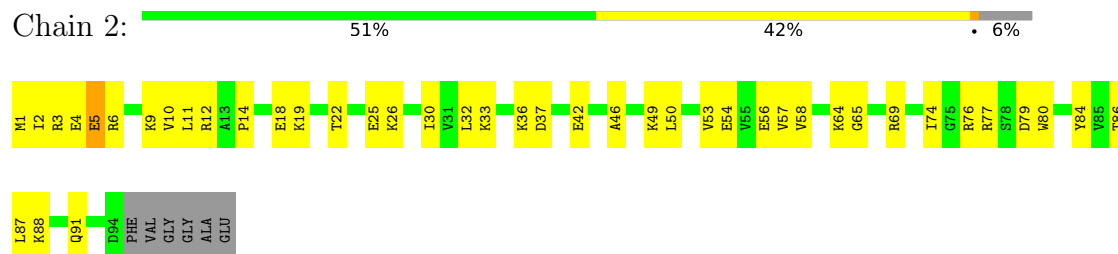
• Molecule 1: Ribosomal protein L21



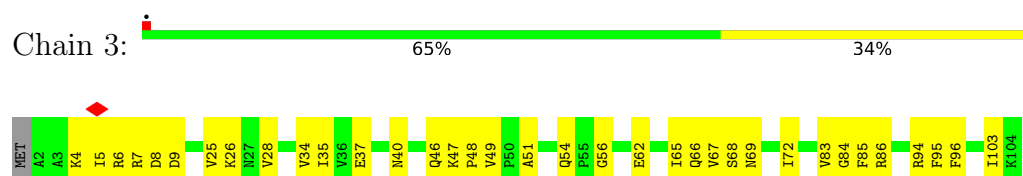
• Molecule 2: 50S ribosomal protein L22



• Molecule 3: 50S ribosomal protein L23

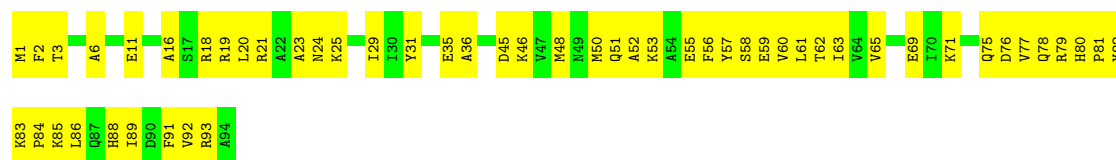


• Molecule 4: 50S ribosomal protein L24



- Molecule 5: 50S ribosomal protein L25

Chain 4: 



- Molecule 6: NT DNA ops

Chain 5: 



- Molecule 7: T DNA ops

Chain 6: 

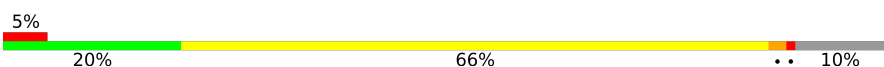


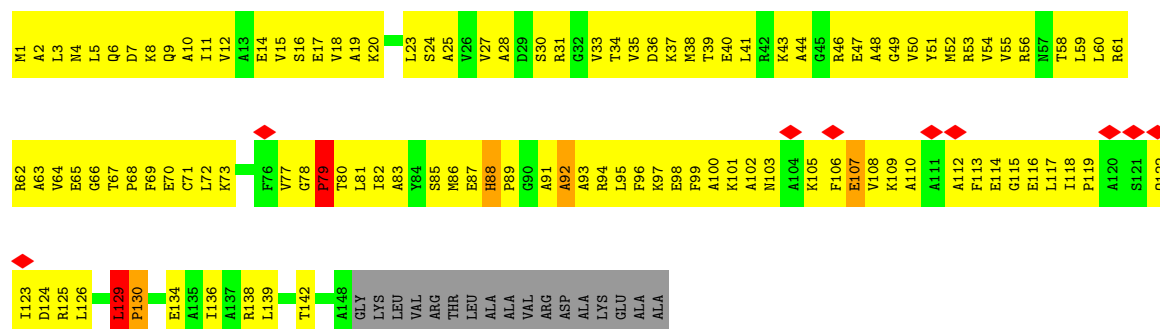
- Molecule 8: mRNA with 24 nt long spacer

Chain 7: 



- Molecule 9: 50S ribosomal protein L10

Chain 9: 

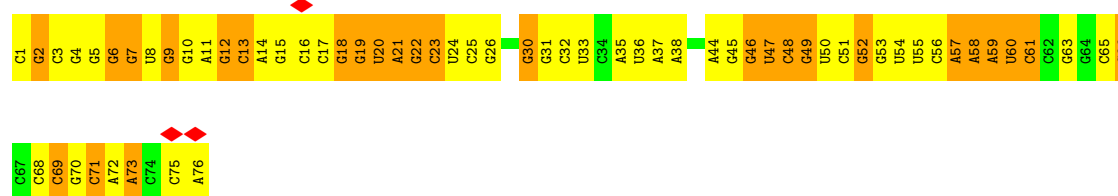
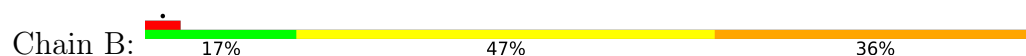


- Molecule 10: E-site and P-site fMet-tRNA

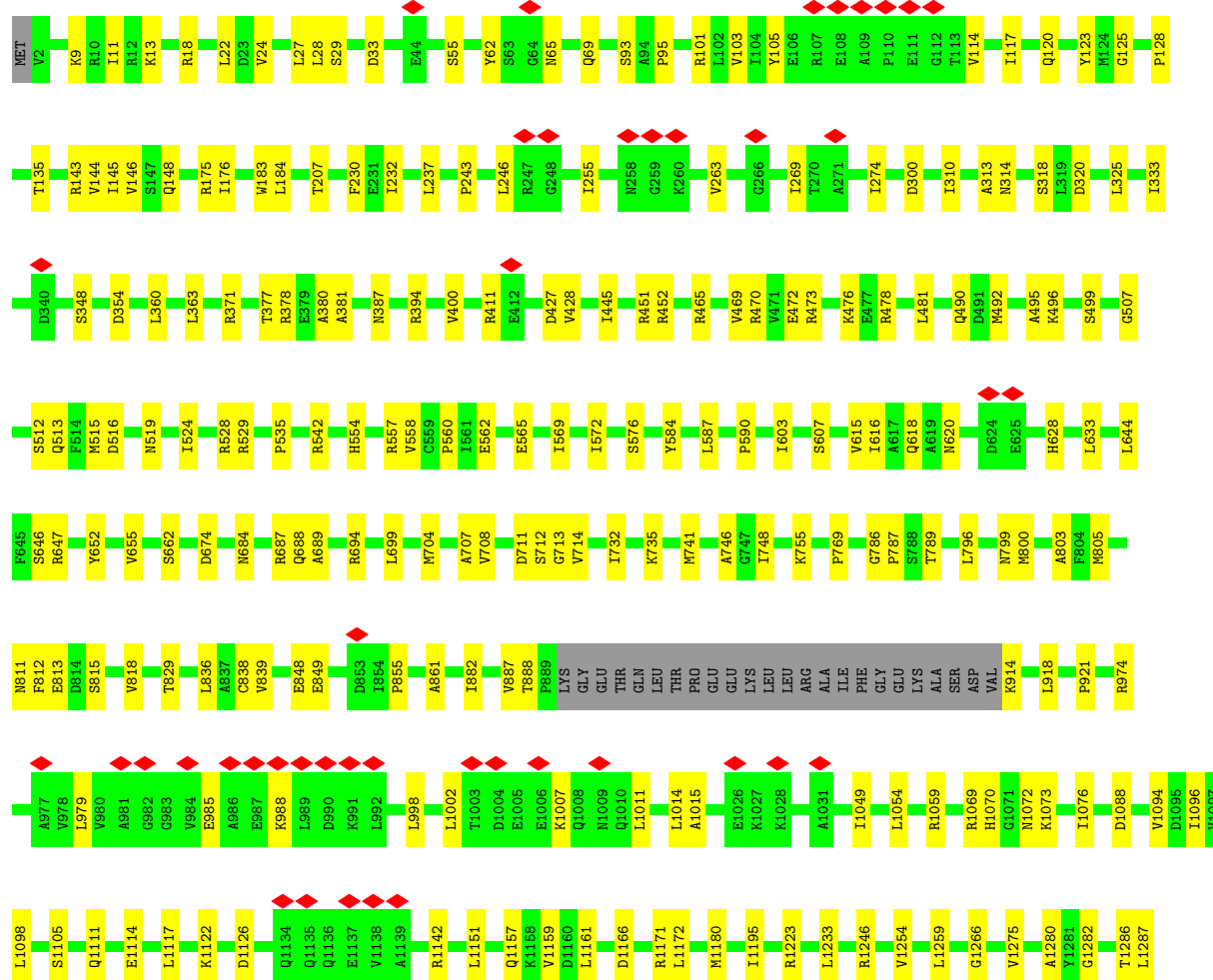
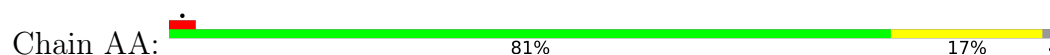
Chain A: 

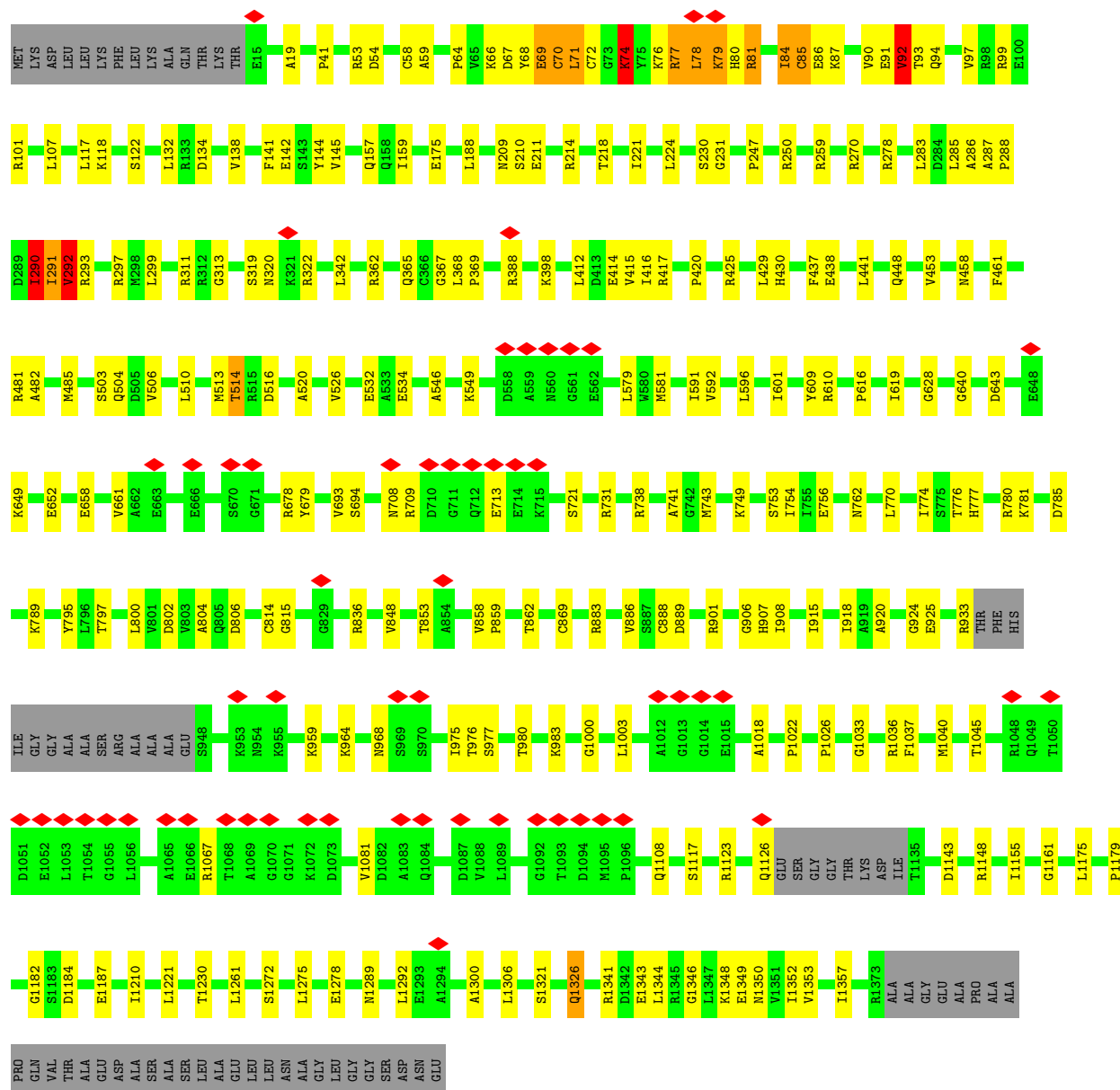


- Molecule 10: E-site and P-site fMet-tRNA

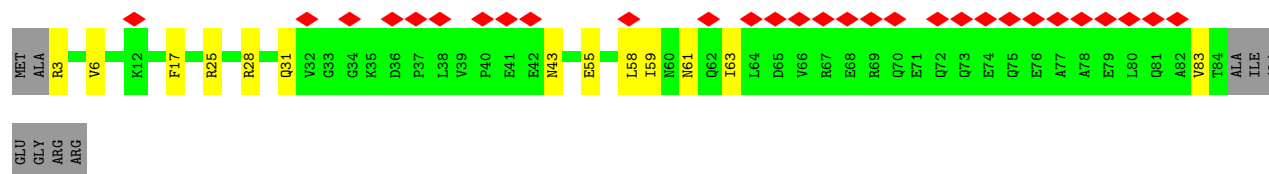
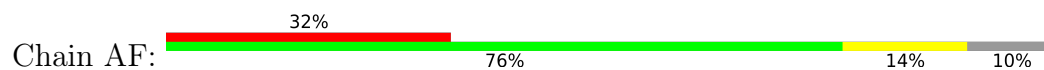


- Molecule 11: DNA-directed RNA polymerase subunit beta



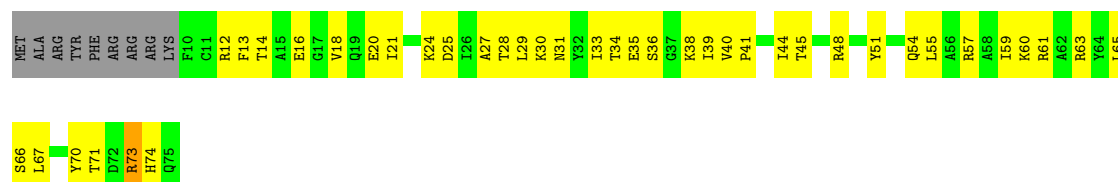


- Molecule 15: DNA-directed RNA polymerase subunit omega



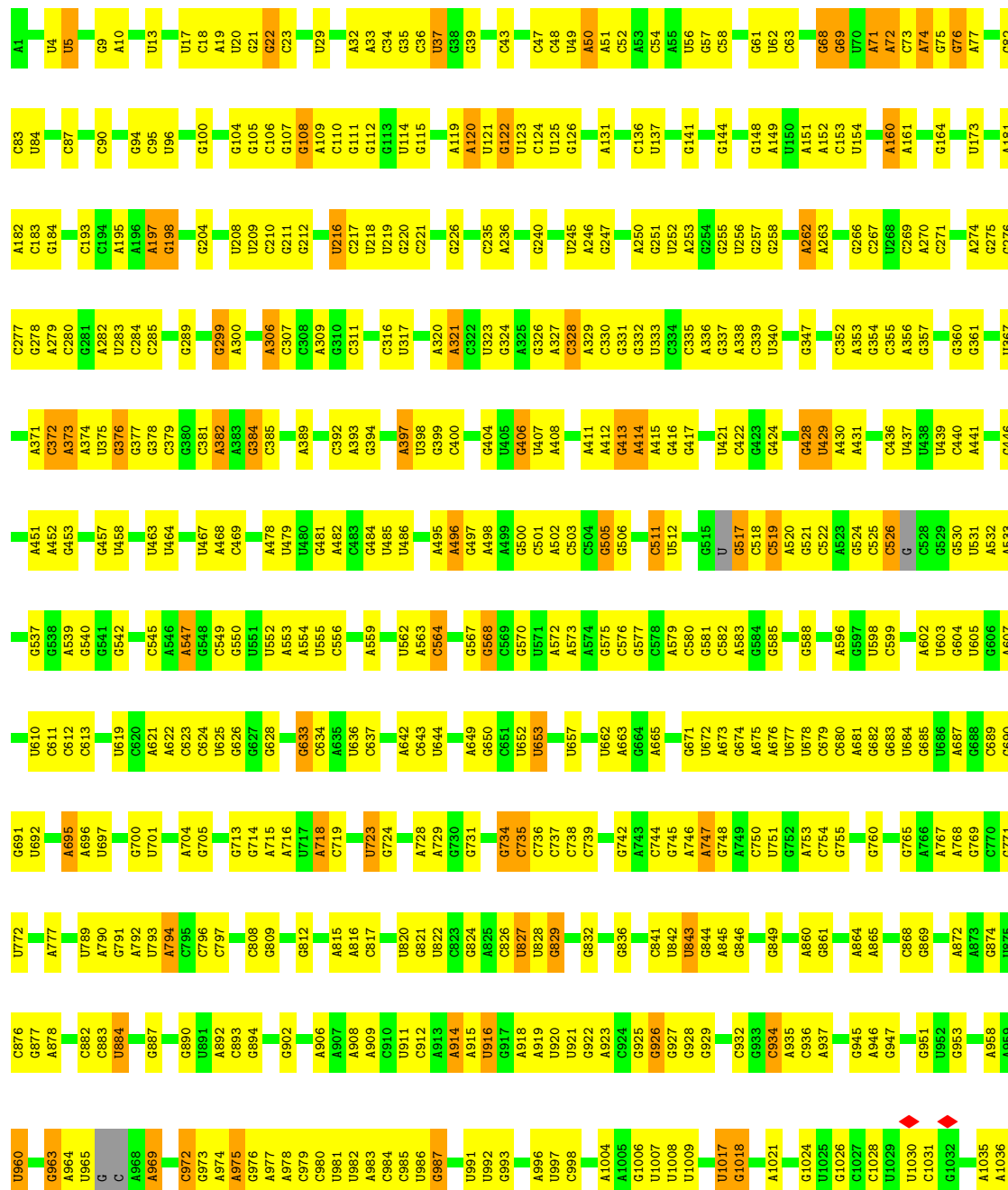
- Molecule 16: 30S ribosomal protein S18

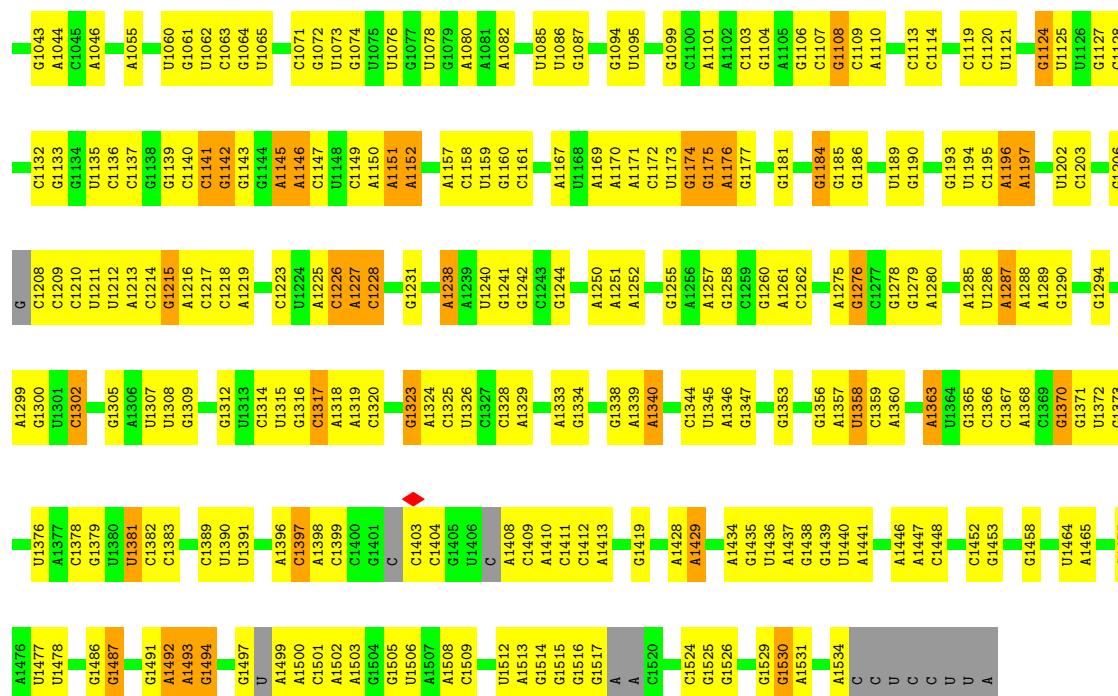




• Molecule 17: 16S rRNA

Chain D: 49% 43% 7%





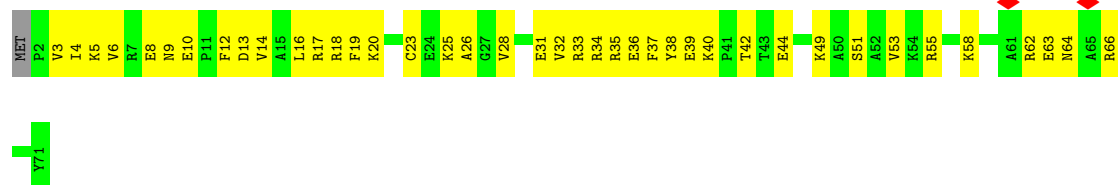
• Molecule 18: 30S ribosomal protein S20

Chain E: .



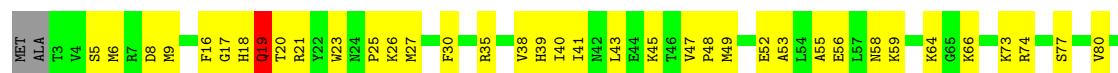
• Molecule 19: 30S ribosomal protein S21

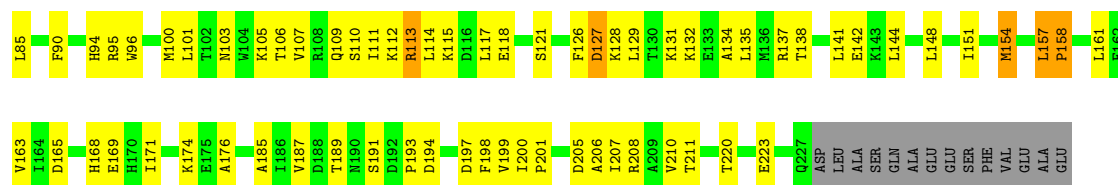
Chain F: .



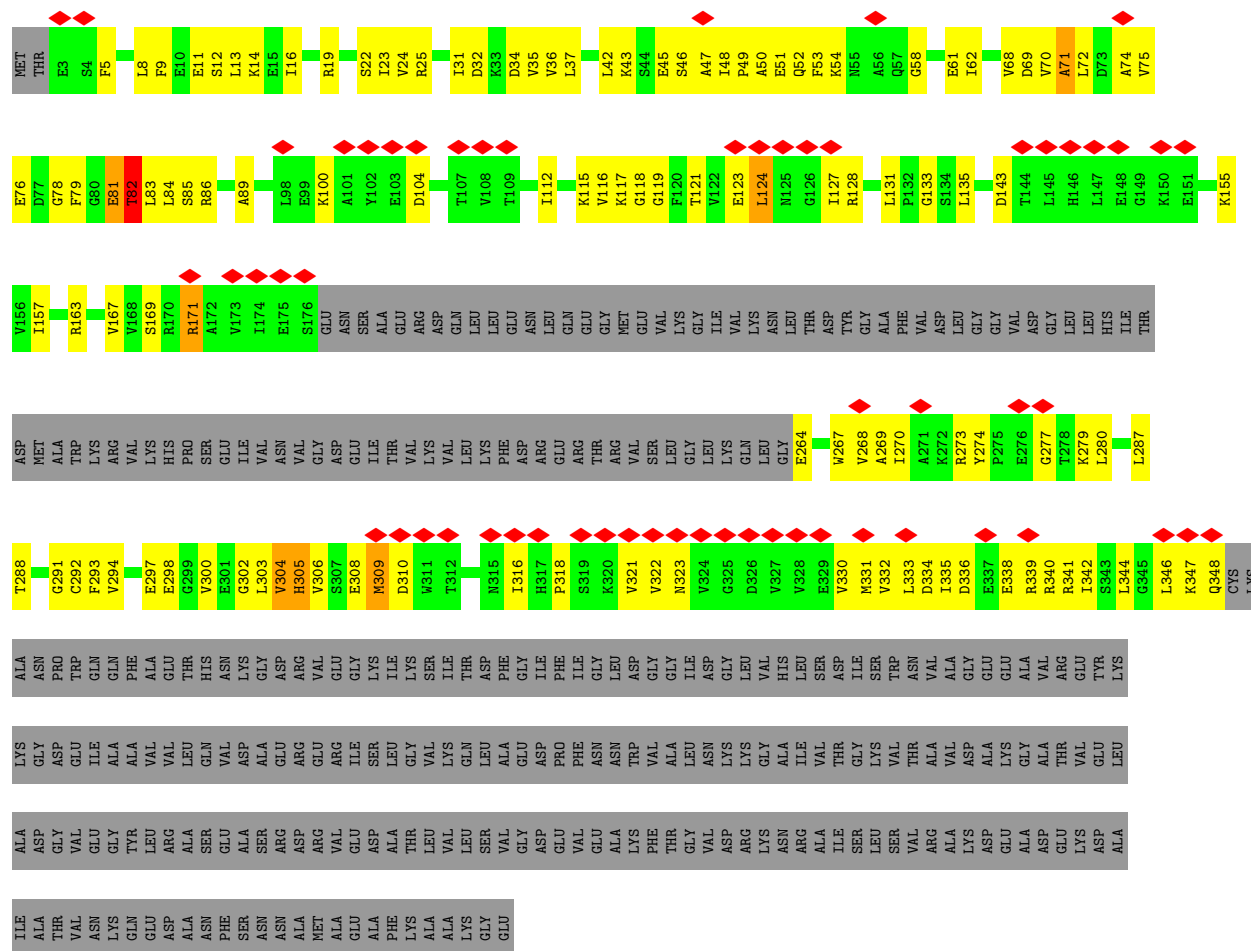
• Molecule 20: 30S ribosomal protein S2

Chain G: .

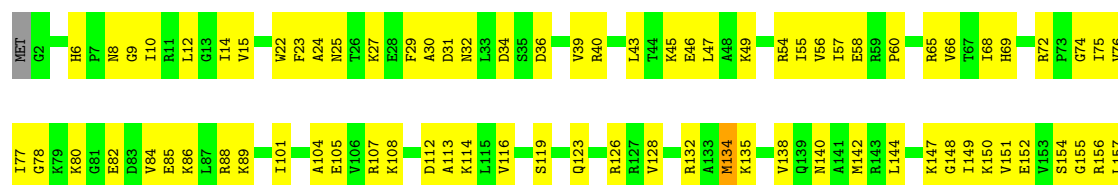


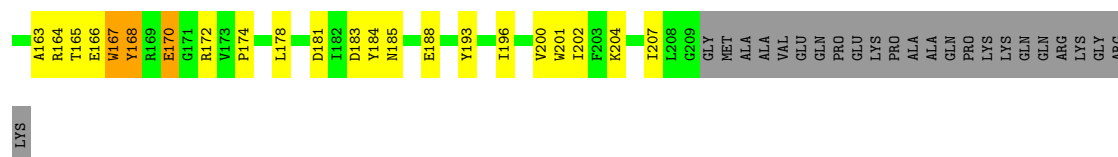


• Molecule 21: 30S ribosomal protein S1

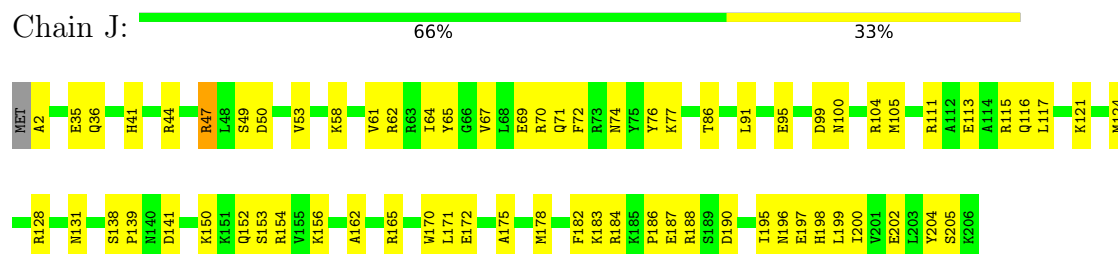


• Molecule 22: 30S ribosomal protein S3

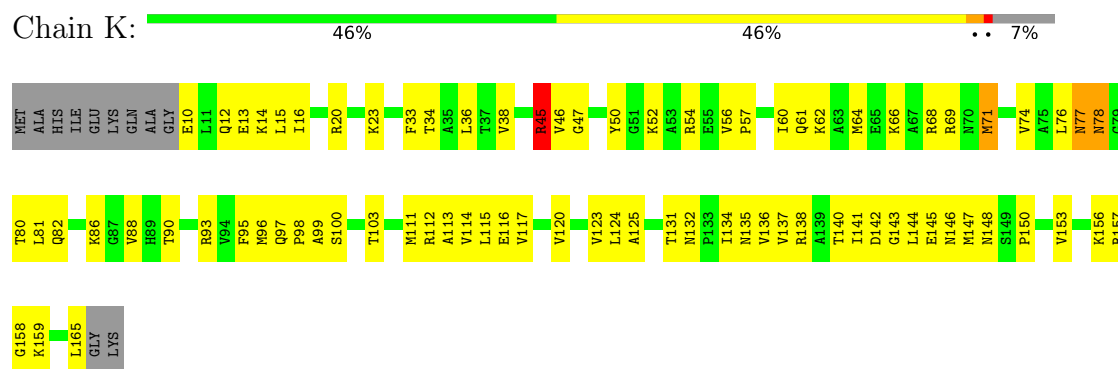




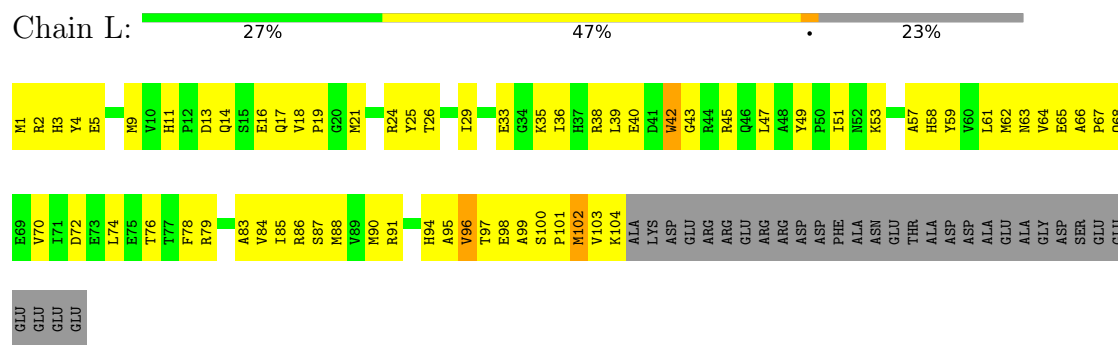
- Molecule 23: 30S ribosomal protein S4



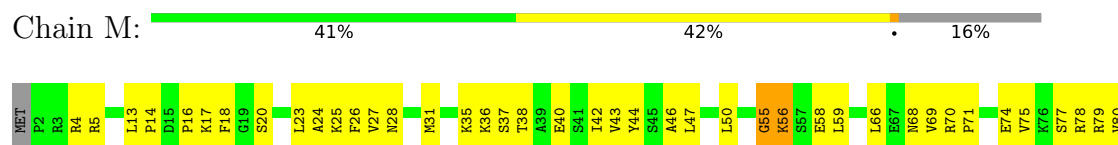
- Molecule 24: 30S ribosomal protein S5

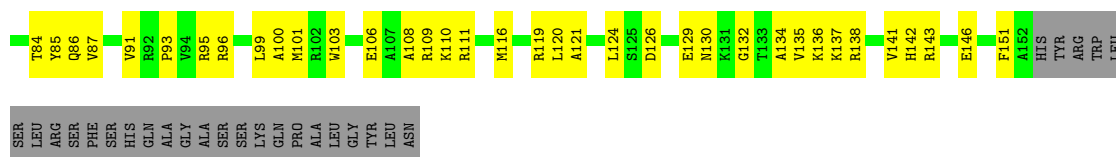


- Molecule 25: 30S ribosomal protein S6



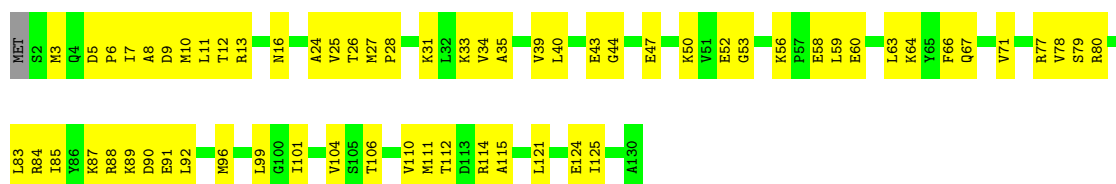
- Molecule 26: 30S ribosomal protein S7





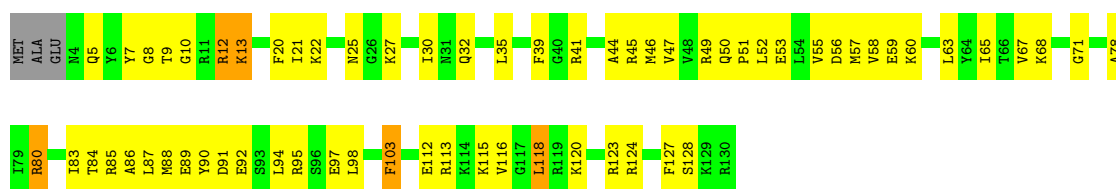
- Molecule 27: 30S ribosomal protein S8

Chain N: 51% 48%



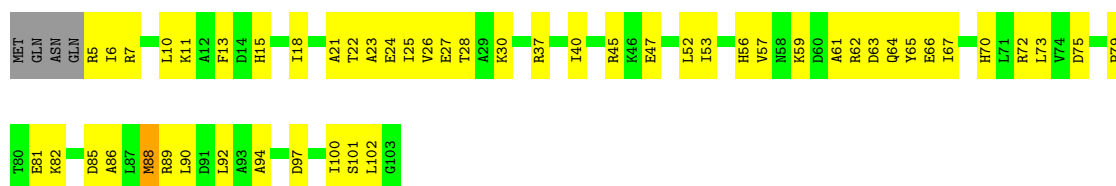
- Molecule 28: 30S ribosomal protein S9

Chain O: 48% 45%



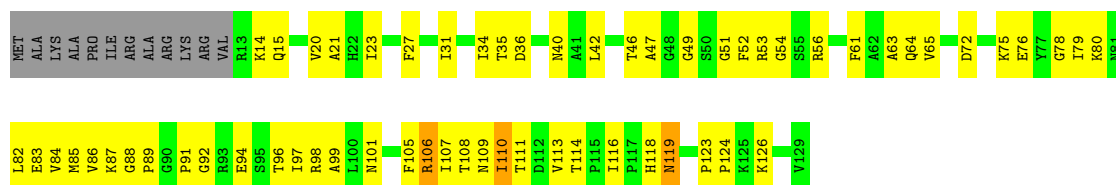
- Molecule 29: 30S ribosomal protein S10

Chain P: 47% 49%



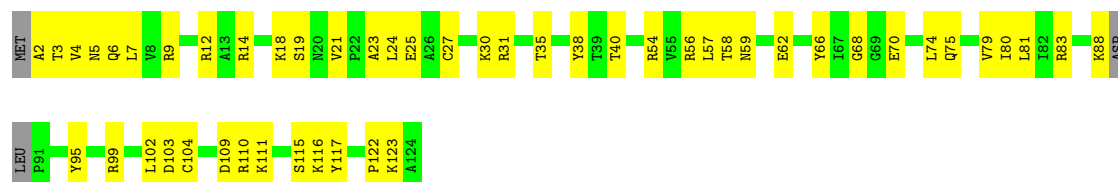
- Molecule 30: 30S ribosomal protein S11

Chain Q: 43% 45% 9%



- Molecule 31: 30S ribosomal protein S12

Chain R: 57% 40%



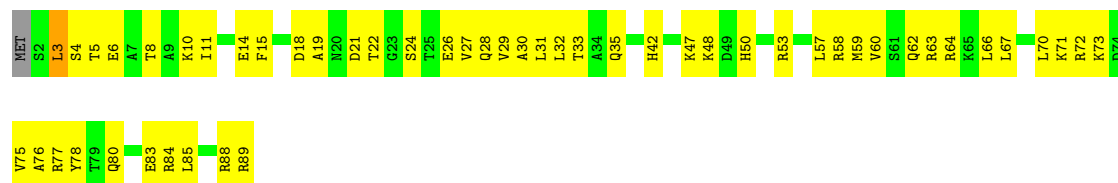
- Molecule 32: 30S ribosomal protein S14

Chain S: 51% 48%



- Molecule 33: 30S ribosomal protein S15

Chain T: 42% 56%



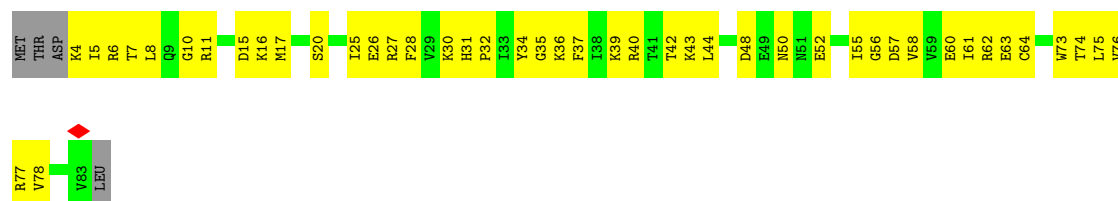
- Molecule 34: 30S ribosomal protein S16

Chain U: 51% 49%



- Molecule 35: 30S ribosomal protein S17

Chain V: 42% 54% 5%

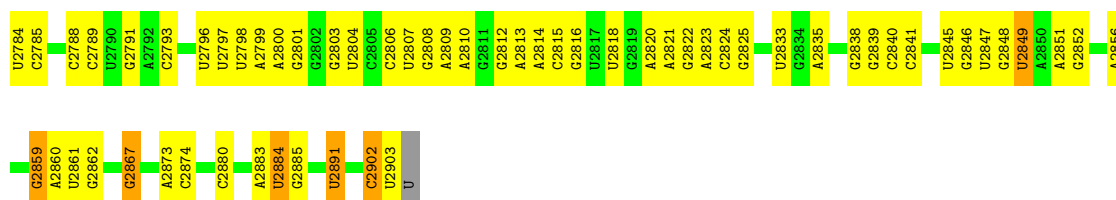


- Molecule 36: 30S ribosomal protein S19

Chain W: 54% 34% 10%



C2699	U2609	G2595	G2455	A2369	G2293	A2205	G2128	G2050	U1971	A1890	G1817	U1720	A1608	A1515
A2700	C2610	G2526	C2456	U2372	G2294	C2206	U2131	A2051	G1972	A1900	U1818	G1721	A1609	G1529
G2702	C2611	G2529	U	G2373	U2295	A2211	U2132	A2052	G1980	G1906	U1820	U1729	A1610	U1534
C2703	G2612	A2530	G2458	G2374	A2297	A2212	G2133	C2055	U1982	G1907	G1823	C1730	A1613	A1535
G2708	U2613	A2531	U2460	G2375	A2298	C2215	A2134	G2056	G1983	U	U1824	G1731	A1614	C1536
G2709	U2615	G2532	A2461	A2376	U2299	G2216	U2139	A2060	A1987	G1910	U1825	C1732	C1617	G1537
G2714	C2616	G2535	C2462	A2377	C2301	G2217	G2140	G2061	U	C	G1826	G1738	A	U1542
G2715	G2536	U2537	G2464	A2381	U2305	G2218	G2141	A2062	U1991	A1912	U1827	U1747	G1619	U1543
G2716	G2537	U2538	G2465	G2382	G2306	G2223	A2146	C2064	U1992	A1913	G1828	A1746	G1622	G1546
G2717	C2538	U2539	C2466	U2384	G2307	G2224	C2147	C2065	U1993	U	U1829	U1747	G1622	G1546
G2718	G2620	A2542	A2468	C2385	G2308	A2225	G2148	C2066	U1996	A1916	G1831	G1750	U1647	C1547
G2719	G2628	A2547	A2469	A2386	A2309	C2226	U2149	G2067	C1997	U	G1832	G1750	U1648	C1548
G2720	C2630	U2548	G2470	U2387	C2310	A2227	C2150	U2068	C1998	A1918	G1833	G1757	G1649	A1549
G2721	G2636	G2549	U2473	G2391	U2312	U2229	A2154	G	C1999	A1919	U1834	G1753	A1650	U1554
G2722	U2637	G2550	U2474	A2392	C2313	G2230	A2157	A2070	U	G1921	G	G1754	A1651	U1554
G2723	C2638	C2551	C2475	U2393	G2314	C2072	G2158	A2071	G2002	G1922	C1836	G1755	A1652	C1558
A2725	U2639	U	A2476	U2394	A2315	C2073	A2159	C2072	C2006	U1923	G1839	G1756	A1653	U1559
A2726	A2639	G2553	A2477	C2395	G2316	U	C2160	U	U2007	C1924	G1840	U1758	A1654	G1560
A2727	G2640	U2554	A2478	G2396	U2320	G2238	G2162	G2087	C2007	C1925	U1841	C1764	A1655	C1561
U2728	U2646	U2555	G2481	U2402	U2321	G2239	C2161	U2075	U2007	U1926	G1842	C1764	U1657	U1562
G2731	U2647	G2557	A2482	C2403	A2322	U2243	A2163	G2083	G2010	A1928	C1844	G1770	C1658	C1564
G2732	G2648	C2558	C2483	A2406	G2325	U2244	C2164	G2083	U2011	G1929	G1845	G1770	C1659	C1564
A2740	C2649	U2566	G2484	A2407	C2326	U2245	C2165	U2086	G2012	G1930	G1846	A1773	A1664	C1566
A2741	U2650	A2567	G2485	U2407	A2327	G2246	C2165	G2087	C2021	U1931	U1847	C1774	A1665	G1567
G2742	C2651	G2567	U2489	U2419	A2328	A2247	G2168	C2091	U2022	G1932	A1848	U1778	G1667	G1568
U2743	A2654	U2568	C2490	C2420	U2329	U2248	A2169	U2092	U2023	G1933	U1853	U1779	A1668	A1570
G2744	U2657	G2570	U2491	G2421	G2331	G	G2171	G2093	A2020	A1936	A1854	A1784	G1674	A1571
G2747	G2663	A2571	U2492	C2422	C2332	G2250	U2172	A2094	C2021	A1937	U1855	A1784	C1675	A1572
A2748	A2665	C2573	G2493	U2423	A2333	G2252	C2175	C2096	U2022	U	G1857	A1786	A1676	U1578
U2754	C2666	G2574	G2494	A2424	U2334	G2253	A2176	C2097	C2023	U1940	U1858	A1789	A1677	A1579
G2755	G2669	C2579	A2497	A2426	A2335	U2259	G2177	U2098	G2024	U1944	U1859	A1789	A1677	A1580
U2756	A2670	U	C	C2427	C2339	C2260	C2178	U2099	C2025	G1945	G1862	C1790	G1681	G1581
A2757	G2671	G2581	G2498	G2428	G2345	U2261	C2179	G2100	U2026	U1946	G1863	A1791	G1682	C1582
G2758	U2672	G2582	G2502	A2429	A2346	C2262	U2180	G2100	G2027	U1946	U1683	G1792	U1683	A1583
G2759	C2673	G2583	A	A2430	C2347	C2263	U2181	A2108	U2028	C1947	U1864	C1793	U1684	U1584
G2764	G2674	U2584	U	U2431	U2348	A2266	U2182	U2109	G2029	A	G1869	A1794	C1688	C1585
A2765	U2685	U2585	G2505	A2434	U2349	A2267	A2183	G2110	A	A1963	C1870	C1795	U1688	A1586
C2767	C2677	U2586	U2506	A2435	G2349	A2268	A2184	U2111	A2031	G1954	A1871	U1796	G1693	G1587
U2768	U2680	G2588	C2507	G2436	C2350	A2268	U2185	G2112	A2033	U1955	A1872	G1797	U1693	U1588
C2771	U2681	A2589	U2511	U2441	G2355	A2273	U2189	A2114	U2034	C1957	G1874	C1800	G1695	A1590
C2772	A2682	A2590	C2512	U2444	U2356	A2274	A2191	G2115	G2035	G1958	G1875	A1801	A1591	A1591
G2775	C2683	C2591	A2513	G	G2357	A2278	U2192	G2116	C2036	G1959	G1875	A1802	A1700	A1596
G2776	U2684	G2592	U2514	U2444	G2357	U2278	U2193	A2117	A2037	A1960	C1879	A1803	G1703	A1597
G2777	G2685	A2602	C2515	G2446	G2361	C2283	U2194	G2121	U2038	C	U1880	A1808	G1707	A1598
A2778	U2686	G2603	A2516	G2447	C2362	A2287	U2197	U2122	U2039	U1963	C1881	U1808	G1707	U1599
G2778	U2687	U2604	C2517	U2448	G2363	A2288	A2198	G2123	G2040	G1964	U1882	G1811	G1708	C1600
U2779	G2688	U	A2518	A2449	C2364	G2289	A2199	G2124	A2042	A1965	U1883	G1811	U1709	G1601
U2689	U2689	U2519	U2519	A2450	G2365	G2289	A2199	G2124	C2043	A1966	G1884	G1811	G1710	U1602
G2780	U2690	C2520	A2366	A2451	A2366	G2290	C2200	G2125	C2044	C1967	A1885	G1814	U1714	A1603
U2783	U2698	G2607	G2521	G2454	C2368	U2292	G2204	G2127	G2049	A1970	A1889	C1816	G1715	C1607



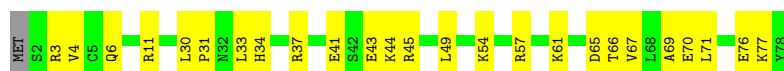
- Molecule 41: 50S ribosomal protein L27

Chain b: 59% 31% 11%



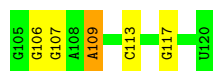
- Molecule 42: 50S ribosomal protein L28

Chain c: 67% 32%



- Molecule 43: 5S rRNA

Chain d: 64% 31% 5%



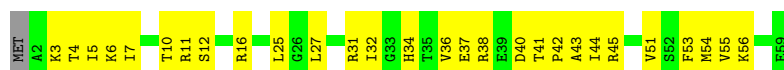
- Molecule 44: 50S ribosomal protein L29

Chain e: 46% 51% 3%



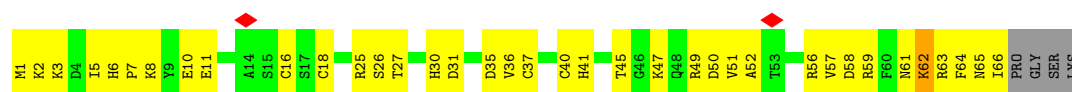
- Molecule 45: 50S ribosomal protein L30

Chain f: 51% 47%



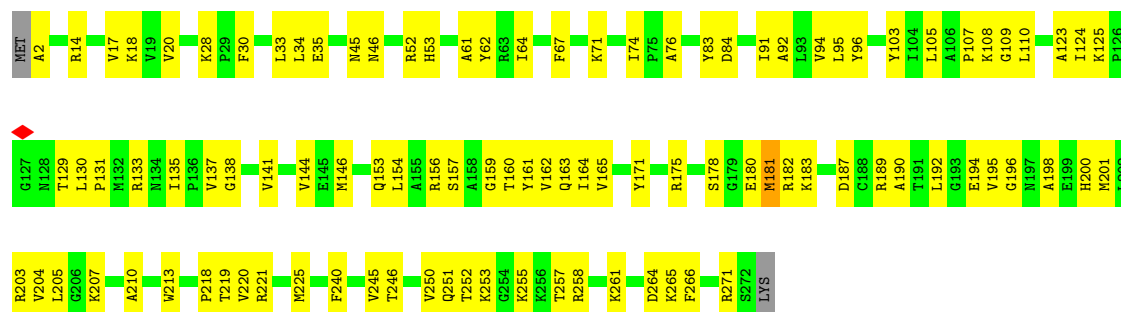
- Molecule 46: 50S ribosomal protein L31

Chain g: 41% 51% 6%



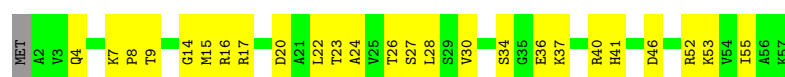
• Molecule 47: 50S ribosomal protein L2

Chain h: 62% 37%



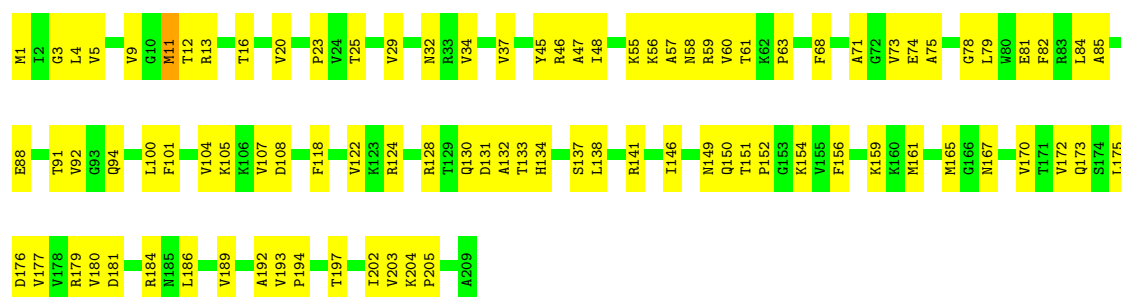
• Molecule 48: 50S ribosomal protein L32

Chain i: 54% 44%



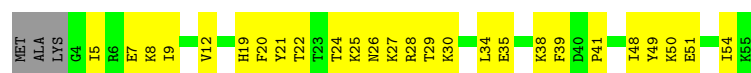
• Molecule 49: 50S ribosomal protein L3

Chain j: 56% 44%



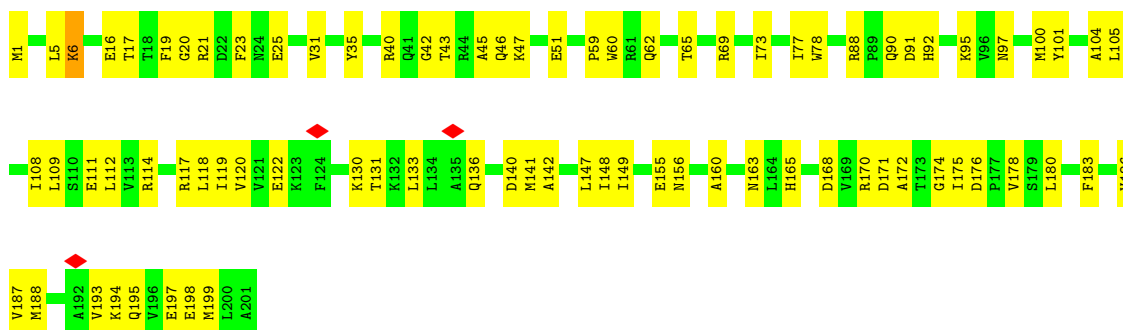
• Molecule 50: 50S ribosomal protein L33

Chain k: 47% 47% 5%



• Molecule 51: 50S ribosomal protein L4

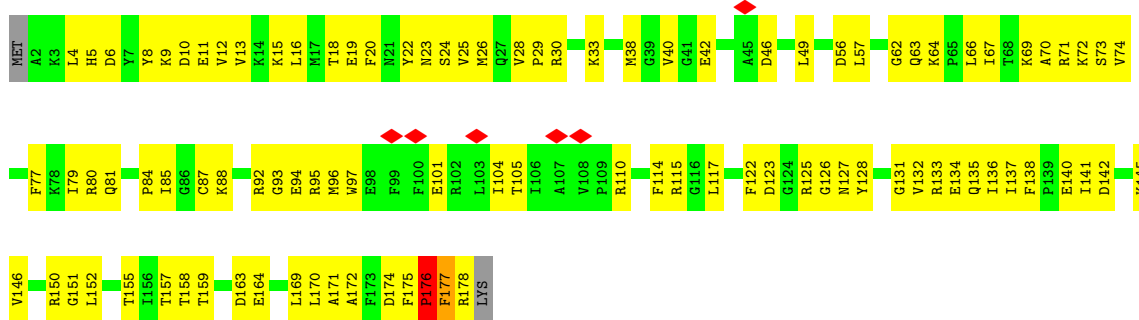
Chain l: 60% 40%



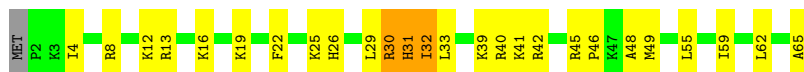
- Molecule 52: 50S ribosomal protein L34



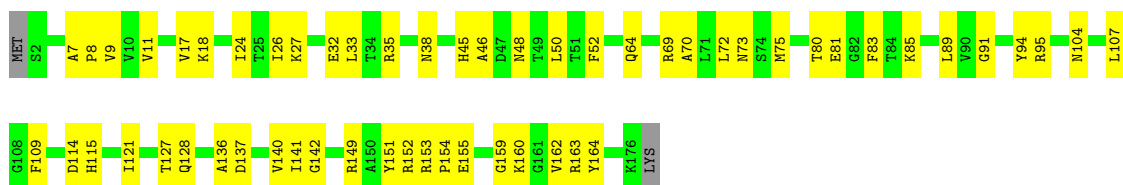
- Molecule 53: 50S ribosomal protein L5



- Molecule 54: 50S ribosomal protein L35



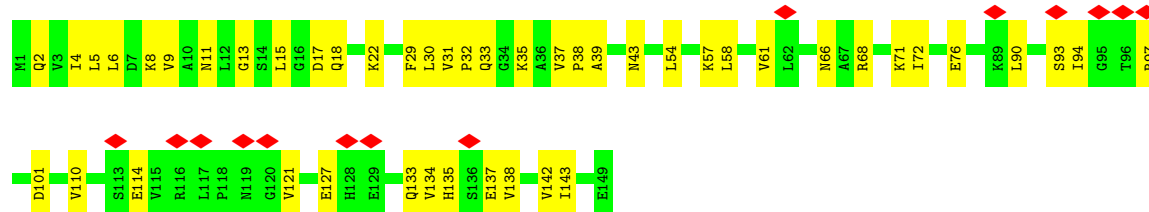
- Molecule 55: 50S ribosomal protein L6



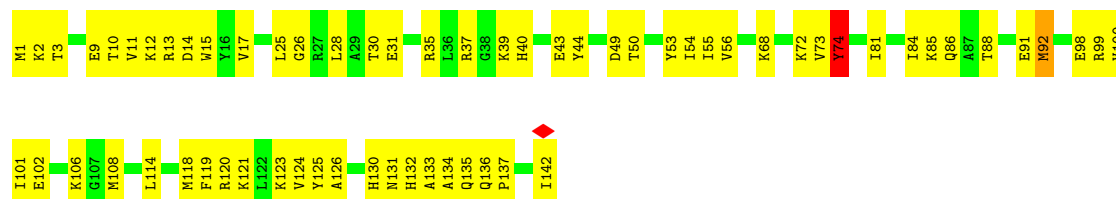
- Molecule 56: 50S ribosomal protein L36



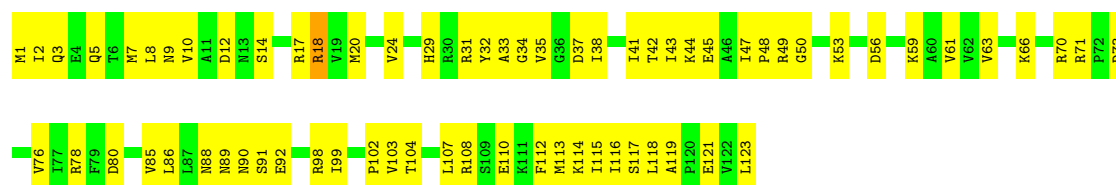
- Molecule 57: 50S ribosomal protein L9



- Molecule 58: 50S ribosomal protein L13



- Molecule 59: 50S ribosomal protein L14

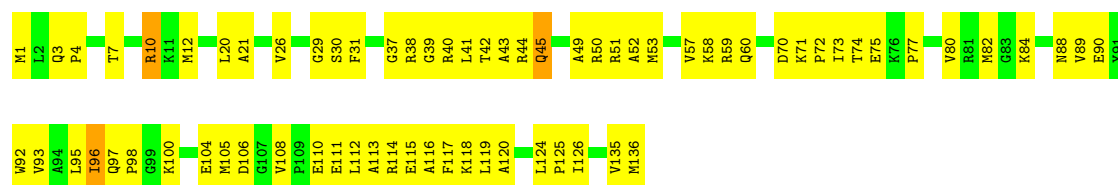


- Molecule 60: 50S ribosomal protein L15



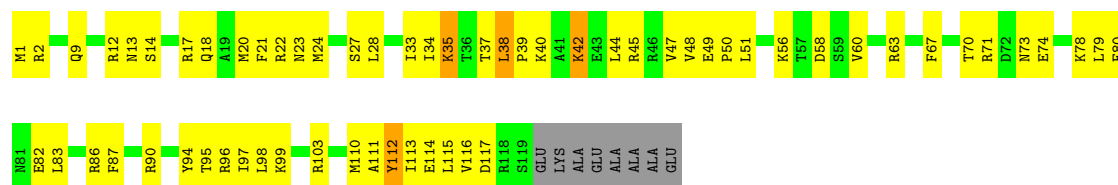
- Molecule 61: 50S ribosomal protein L16

Chain v: 



• Molecule 62: 50S ribosomal protein L17

Chain w: 



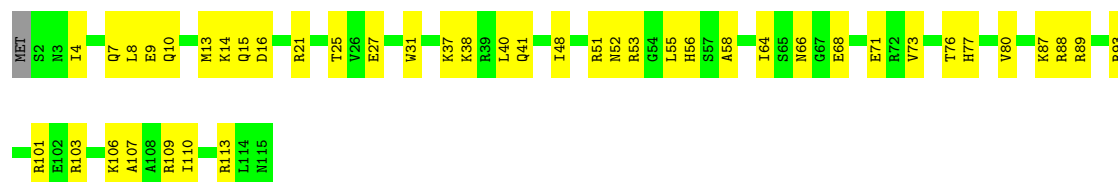
• Molecule 63: 50S ribosomal protein L18

Chain x: 



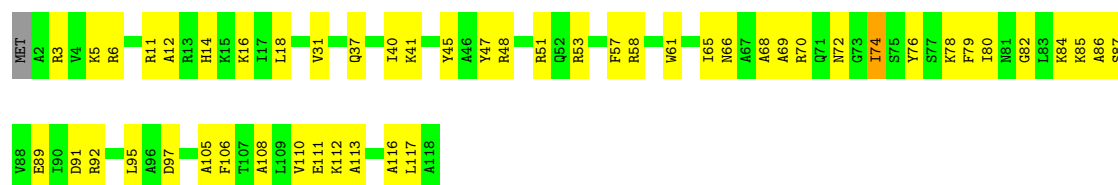
• Molecule 64: 50S ribosomal protein L19

Chain y: 



• Molecule 65: 50S ribosomal protein L20

Chain z: 



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	49622	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	0.034	Depositor
Minimum map value	-0.007	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.002	Depositor
Recommended contour level	0.0037	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: ZN, MG

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	0.42	0/829	0.51	0/1107
2	1	0.60	0/864	0.63	0/1156
3	2	0.55	1/752 (0.1%)	0.67	0/1005
4	3	0.35	0/796	0.49	0/1062
5	4	0.57	0/766	0.63	0/1025
6	5	0.56	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	0.36	0/1131	0.74	2/1524 (0.1%)
10	A	0.27	0/1810	0.58	0/2821
10	B	0.27	0/1810	0.58	0/2821
11	AA	0.37	0/10547	0.62	0/14232
12	AB	0.44	0/1317	1.10	9/1786 (0.5%)
13	AC	0.37	0/1718	0.61	0/2328
13	AD	0.32	0/1696	0.60	0/2298
14	AE	0.39	0/10561	0.64	5/14258 (0.0%)
15	AF	0.29	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	0.37	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	0.52	0/817	0.61	0/1088
33	T	0.57	1/722 (0.1%)	0.68	0/964
34	U	0.41	0/659	0.53	0/884
35	V	0.48	0/657	0.63	0/881
36	W	0.55	1/680 (0.1%)	0.62	1/915 (0.1%)
37	X	0.45	0/909	0.72	1/1215 (0.1%)
38	Y	0.38	2/1046 (0.2%)	0.66	2/1410 (0.1%)
39	Z	0.12	0/227	0.40	0/304
40	a	0.30	0/69247	0.43	10/107985 (0.0%)
41	b	0.41	0/589	0.55	0/779
42	c	0.51	0/635	0.61	0/848
43	d	0.25	0/2872	0.37	0/4478
44	e	0.68	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	0/2852
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	0.45	0/303	0.64	0/397
57	r	0.28	0/1122	0.48	0/1515
58	s	0.70	2/1152 (0.2%)	0.73	2/1551 (0.1%)
59	t	0.52	0/955	0.75	3/1279 (0.2%)
60	u	0.43	0/1062	0.59	0/1413
61	v	0.60	1/1093 (0.1%)	0.77	3/1460 (0.2%)
62	w	0.83	3/964 (0.3%)	0.80	3/1289 (0.2%)
63	x	0.34	0/902	0.50	0/1209
64	y	0.41	0/929	0.54	0/1242
65	z	0.61	2/960 (0.2%)	0.62	0/1278
All	All	0.38	34/190707 (0.0%)	0.53	88/281021 (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 (34) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
62	w	35	LYS	CE-NZ	-12.76	1.11	1.49
28	O	80	ARG	CD-NE	-10.48	1.31	1.46
62	w	42	LYS	CD-CE	-9.40	1.24	1.52
24	K	45	ARG	CG-CD	7.75	1.75	1.52
65	z	74	ILE	CG1-CD1	7.60	1.81	1.51
8	7	39	G	C1'-N9	-7.57	1.36	1.48
20	G	19	GLN	CB-CG	-7.54	1.29	1.52
28	O	118	LEU	CG-CD2	-7.32	1.28	1.52
36	W	66	MET	CG-SD	-7.19	1.62	1.80
25	L	42	TRP	CB-CG	-7.18	1.27	1.50
58	s	74	TYR	CZ-OH	-7.11	1.23	1.38
44	e	46	VAL	CB-CG1	-7.09	1.29	1.52
8	7	2	U	C1'-N1	7.05	1.59	1.48
3	2	5	GLU	CG-CD	-6.97	1.34	1.52
30	Q	106	ARG	CD-NE	-6.39	1.37	1.46
28	O	80	ARG	CZ-NH2	6.29	1.41	1.33
20	G	158	PRO	CA-C	-6.24	1.44	1.52
20	G	158	PRO	CG-CD	6.04	1.71	1.50
47	h	181	MET	CG-SD	-6.02	1.65	1.80
38	Y	5	GLN	CB-CG	-6.00	1.34	1.52
65	z	74	ILE	CB-CG2	-6.00	1.32	1.52
58	s	92	MET	CG-SD	-5.95	1.65	1.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
24	K	45	ARG	CD-NE	5.89	1.54	1.46
51	l	6	LYS	CE-NZ	-5.81	1.31	1.49
20	G	157	LEU	C-O	-5.80	1.15	1.24
33	T	3	LEU	CG-CD2	-5.62	1.34	1.52
38	Y	5	GLN	CA-C	-5.52	1.45	1.52
46	g	62	LYS	CE-NZ	-5.51	1.32	1.49
44	e	25	GLN	CB-CG	-5.33	1.36	1.52
22	I	134	MET	CB-CG	-5.29	1.36	1.52
20	G	19	GLN	CD-NE2	-5.15	1.22	1.33
30	Q	119	ASN	CG-ND2	5.15	1.44	1.33
61	v	45	GLN	CB-CG	-5.08	1.37	1.52
62	w	38	LEU	N-CA	-5.07	1.42	1.46

All (88) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
24	K	71	MET	CG-SD-CE	-11.33	75.98	100.90
20	G	158	PRO	N-CD-CG	-10.98	86.74	103.20
12	AB	141	LEU	CA-C-N	-10.58	106.29	122.16
12	AB	141	LEU	C-N-CA	-10.58	106.29	122.16
25	L	102	MET	CA-CB-CG	-9.61	94.88	114.10
58	s	92	MET	CG-SD-CE	-9.36	80.31	100.90
20	G	113	ARG	NE-CZ-NH2	9.21	127.48	119.20
8	7	1	A	O3'-P-O5'	-8.64	91.04	104.00
24	K	78	ASN	N-CA-CB	-8.51	96.11	110.49
8	7	4	U	C2'-C3'-O3'	8.27	121.90	109.50
59	t	18	ARG	NE-CZ-NH2	8.04	126.44	119.20
54	o	30	ARG	NE-CZ-NH1	-7.61	113.89	121.50
16	C	73	ARG	NE-CZ-NH2	7.50	125.95	119.20
28	O	80	ARG	CG-CD-NE	7.39	128.27	112.00
62	w	112	TYR	CZ-CE2-CD2	-7.37	106.34	119.60
22	I	134	MET	CB-CG-SD	-7.18	91.15	112.70
61	v	96	ILE	CA-C-N	7.07	132.34	121.03
61	v	96	ILE	C-N-CA	7.07	132.34	121.03
20	G	158	PRO	CA-N-CD	-7.06	102.12	112.00
59	t	18	ARG	NE-CZ-NH1	-7.02	114.48	121.50
20	G	19	GLN	CA-CB-CG	7.01	128.13	114.10
40	a	2334	U	OP2-P-O3'	-6.94	87.18	108.00
28	O	80	ARG	CB-CG-CD	-6.92	95.37	111.30
17	D	37	U	N3-C4-O4	-6.63	99.52	119.40
62	w	112	TYR	OH-CZ-CE2	-6.57	100.20	119.90
17	D	718	A	P-O5'-C5'	-6.56	111.07	120.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
30	Q	110	ILE	N-CA-C	-6.49	99.03	108.11
17	D	827	U	N3-C4-O4	-6.41	100.17	119.40
40	a	1019	U	N3-C4-O4	-6.37	100.29	119.40
17	D	1358	U	N3-C4-O4	-6.34	100.38	119.40
36	W	40	ILE	CA-CB-CG1	-6.32	99.66	110.40
58	s	92	MET	CB-CG-SD	-6.31	93.76	112.70
12	AB	99	TYR	CA-C-N	6.30	137.18	121.80
12	AB	99	TYR	C-N-CA	6.30	137.18	121.80
40	a	1019	U	C5-C4-O4	6.14	144.32	125.90
28	O	103	PHE	CD1-CE1-CZ	-6.02	109.17	120.00
40	a	1082	U	N3-C4-O4	-5.93	101.60	119.40
40	a	2613	U	N3-C4-O4	-5.92	101.62	119.40
40	a	1141	U	C5-C4-O4	5.92	143.65	125.90
17	D	37	U	C5-C4-O4	5.89	143.56	125.90
20	G	157	LEU	C-N-CD	-5.88	100.90	125.00
53	n	176	PRO	N-CA-C	5.86	121.23	114.20
17	D	1358	U	C5-C4-O4	5.84	143.43	125.90
12	AB	129	ILE	CA-C-N	5.83	132.69	121.54
12	AB	129	ILE	C-N-CA	5.83	132.69	121.54
22	I	168	TYR	N-CA-CB	5.83	120.20	110.59
37	X	81	MET	CG-SD-CE	-5.82	88.10	100.90
8	7	27	G	C2'-C3'-O3'	5.79	122.38	113.70
17	D	884	U	N3-C4-O4	-5.77	102.09	119.40
26	M	55	GLY	CA-C-N	5.76	132.55	121.54
26	M	55	GLY	C-N-CA	5.76	132.55	121.54
14	AE	853	THR	CA-C-N	5.74	131.01	122.74
14	AE	853	THR	C-N-CA	5.74	131.01	122.74
20	G	154	MET	CA-CB-CG	-5.73	102.63	114.10
17	D	827	U	C5-C4-O4	5.72	143.07	125.90
22	I	134	MET	CG-SD-CE	-5.67	88.43	100.90
9	9	130	PRO	CA-N-CD	-5.66	104.07	112.00
24	K	45	ARG	CB-CG-CD	-5.63	98.35	111.30
20	G	154	MET	CG-SD-CE	-5.62	88.53	100.90
24	K	45	ARG	CA-C-N	5.62	130.32	122.23
24	K	45	ARG	C-N-CA	5.62	130.32	122.23
12	AB	151	LYS	CA-C-N	5.56	132.15	121.54
12	AB	151	LYS	C-N-CA	5.56	132.15	121.54
59	t	18	ARG	CG-CD-NE	-5.56	99.78	112.00
40	a	1141	U	N3-C4-O4	-5.54	102.77	119.40
49	j	11	MET	CB-CG-SD	-5.52	96.14	112.70
14	AE	1184	ASP	N-CA-C	5.46	121.88	109.81
9	9	129	LEU	C-N-CD	-5.40	102.85	125.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
61	v	10	ARG	NE-CZ-NH1	-5.40	116.10	121.50
30	Q	106	ARG	NE-CZ-NH1	-5.39	116.11	121.50
62	w	38	LEU	N-CA-C	-5.32	105.22	112.35
38	Y	5	GLN	CB-CA-C	-5.27	99.94	110.42
8	7	10	U	C2'-C3'-O3'	5.26	117.39	109.50
24	K	45	ARG	O-C-N	-5.25	116.81	123.01
55	p	46	ALA	CA-C-N	5.24	131.55	121.54
55	p	46	ALA	C-N-CA	5.24	131.55	121.54
29	P	88	MET	CG-SD-CE	-5.23	89.39	100.90
40	a	2613	U	C5-C4-O4	5.22	141.58	125.90
20	G	158	PRO	N-CA-CB	-5.18	97.94	103.38
38	Y	5	GLN	CA-CB-CG	5.16	124.43	114.10
22	I	170	GLU	CB-CG-CD	5.15	121.35	112.60
40	a	2602	A	C4'-C3'-O3'	5.13	117.09	109.40
44	e	25	GLN	CG-CD-NE2	-5.12	108.72	116.40
40	a	2334	U	C2'-C3'-O3'	-5.12	101.82	109.50
17	D	884	U	C5-C4-O4	5.08	141.15	125.90
14	AE	709	ARG	CA-C-N	5.07	135.42	126.45
14	AE	709	ARG	C-N-CA	5.07	135.42	126.45
12	AB	159	PHE	CA-CB-CG	5.05	118.85	113.80

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
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

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Mol	Chain	Res	Type	Group
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	55	0
2	1	857	922	922	68	0
3	2	746	811	811	61	0
4	3	788	844	844	45	0
5	4	753	780	780	87	0
6	5	726	0	392	110	0
7	6	703	0	396	34	0
8	7	772	0	383	122	0
9	9	1117	0	1155	258	0
10	A	1620	826	827	108	0
10	B	1620	814	827	112	0
11	AA	10381	0	10390	233	0
12	AB	1286	0	1302	337	0
13	AC	1698	0	1718	11	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
13	AD	1677	0	1713	29	0
14	AE	10404	0	10626	271	0
15	AF	650	0	658	15	0
16	C	544	559	560	106	0
17	D	32703	16423	16453	736	0
18	E	669	719	719	83	0
19	F	589	629	629	58	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	86	0
24	K	1152	1196	1196	116	0
25	L	848	846	846	104	0
26	M	1181	1235	1238	122	0
27	N	979	1031	1031	93	0
28	O	1022	1070	1070	91	0
29	P	790	831	831	133	0
30	Q	877	887	887	97	0
31	R	939	1001	1001	91	0
32	S	805	844	844	77	0
33	T	714	734	734	92	0
34	U	649	666	666	63	0
35	V	648	691	691	69	0
36	W	663	688	688	46	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	1325	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	66	0
47	h	2082	2154	2154	137	0
48	i	444	459	458	49	0
49	j	1565	1617	1616	123	0
50	k	426	464	464	41	0
51	l	1552	1619	1619	124	0
52	m	377	418	418	30	0
53	n	1410	1443	1444	157	0
54	o	504	572	572	51	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
55	p	1313	1358	1358	74	0
56	q	302	343	343	25	0
57	r	1111	1148	1148	54	0
58	s	1129	1162	1162	123	0
59	t	946	1023	1023	103	0
60	u	1053	1129	1129	79	0
61	v	1074	1157	1157	123	0
62	w	951	994	994	103	0
63	x	892	923	923	48	0
64	y	917	962	962	53	0
65	z	947	1020	1019	80	0
66	AE	1	0	0	0	0
67	AE	2	0	0	3	0
All	All	177400	98639	128790	6808	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 (6808) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AB:147:ASN:CB	29:P:100:ILE:HG23	1.21	1.65
6:5:10:DT:C7	11:AA:62:TYR:CD2	1.84	1.58
14:AE:79:LYS:HA	14:AE:81:ARG:CZ	1.26	1.58
24:K:45:ARG:CD	24:K:45:ARG:CG	1.75	1.58
6:5:9:DG:C5'	11:AA:473:ARG:HB3	1.34	1.56
6:5:9:DG:H5''	11:AA:473:ARG:CB	1.29	1.56
6:5:11:DA:C5'	12:AB:67:THR:HG22	1.20	1.56
6:5:10:DT:C5	11:AA:62:TYR:CD2	1.95	1.55
65:z:74:ILE:CG1	65:z:74:ILE:CD1	1.81	1.52
14:AE:72:CYS:SG	67:AE:1502:ZN:ZN	1.03	1.47
7:6:23:DC:C5'	14:AE:259:ARG:HH12	1.21	1.47
6:5:10:DT:C6	11:AA:62:TYR:CE2	2.00	1.47
12:AB:81:PHE:CD2	14:AE:293:ARG:NH1	1.77	1.46
6:5:10:DT:C5	11:AA:62:TYR:CE2	2.04	1.46
14:AE:79:LYS:HA	14:AE:81:ARG:NH1	1.20	1.45
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	1.38
6:5:9:DG:OP2	11:AA:473:ARG:CB	1.73	1.35
11:AA:377:THR:OG1	12:AB:62:GLU:HB3	1.20	1.34
12:AB:81:PHE:CE1	14:AE:293:ARG:HB3	1.32	1.32

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:AE:79:LYS:CA	14:AE:81:ARG:CZ	2.06	1.32
14:AE:79:LYS:CA	14:AE:81:ARG:NH1	1.90	1.32
12:AB:147:ASN:CB	29:P:100:ILE:CG2	2.09	1.31
12:AB:81:PHE:CE1	14:AE:293:ARG:CB	1.92	1.30
12:AB:82:GLY:CA	14:AE:142:GLU:HB2	1.62	1.30
12:AB:51:PHE:HE2	14:AE:288:PRO:CG	1.44	1.29
6:5:11:DA:C3'	12:AB:67:THR:HG21	1.63	1.28
12:AB:147:ASN:HB3	29:P:100:ILE:CG2	1.61	1.28
6:5:11:DA:C5'	12:AB:67:THR:CG2	2.12	1.28
11:AA:377:THR:OG1	12:AB:62:GLU:CB	1.80	1.27
14:AE:287:ALA:CB	14:AE:292:VAL:HG13	1.61	1.27
6:5:11:DA:OP2	12:AB:68:THR:CA	1.81	1.27
8:7:22:U:C5'	22:I:80:LYS:HG3	1.63	1.27
12:AB:123:PHE:CE1	29:P:85:ASP:HB3	1.50	1.27
6:5:10:DT:C1'	12:AB:71:ALA:H	1.46	1.27
11:AA:387:ASN:CG	11:AA:394:ARG:NH1	1.92	1.27
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	1.24
12:AB:81:PHE:HA	14:AE:141:PHE:O	1.27	1.24
12:AB:123:PHE:CE1	29:P:85:ASP:CB	2.18	1.24
8:7:11:U:H4'	24:K:20:ARG:NH2	1.50	1.23
8:7:15:U:O2	15:AF:83:VAL:HG12	1.10	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
6:5:10:DT:H71	11:AA:62:TYR:CG	1.75	1.21
6:5:9:DG:C5'	11:AA:473:ARG:CB	2.02	1.21
11:AA:481:LEU:CD2	12:AB:16:ARG:CD	2.02	1.20
6:5:11:DA:OP2	12:AB:68:THR:N	1.73	1.20
7:6:25:DT:OP1	11:AA:496:LYS:CA	1.80	1.20
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	1.17
8:7:22:U:H5''	22:I:80:LYS:CG	1.71	1.17
55:p:159:GLY:O	55:p:163:ARG:NH1	1.77	1.17
11:AA:380:ALA:N	12:AB:65:HIS:HE1	1.29	1.17
6:5:9:DG:C5'	11:AA:473:ARG:CG	2.22	1.16
8:7:21:U:C5	22:I:80:LYS:O	1.99	1.15
57:r:135:HIS:ND1	57:r:137:GLU:OE1	1.77	1.15
6:5:9:DG:H5'	11:AA:473:ARG:CG	1.76	1.14
7:6:25:DT:C3'	11:AA:496:LYS:HG3	1.74	1.13
25:L:9:MET:HE1	25:L:85:ILE:HB	1.17	1.13
37:X:81:MET:HE1	37:X:92:ARG:HB3	1.20	1.13

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:A:76:A:O2'	40:a:2394:C:N3	1.81	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:C7	11:AA:62:TYR:CG	2.31	1.12
6:5:10:DT:O3'	12:AB:67:THR:O	1.67	1.12
6:5:10:DT:H73	11:AA:62:TYR:CD2	1.77	1.12
12:AB:82:GLY:HA2	14:AE:142:GLU:HB2	1.13	1.12
12:AB:54:TYR:CE2	14:AE:291:ILE:HG23	1.84	1.12
10:B:75:C:OP2	40:a:2602:A:O2'	1.67	1.12
12:AB:102:LYS:CE	14:AE:285:LEU:HG	1.79	1.12
36:W:40:ILE:HD13	36:W:66:MET:SD	1.89	1.12
6:5:9:DG:OP2	11:AA:473:ARG:HB2	0.97	1.12
12:AB:148:LYS:HZ1	29:P:102:LEU:HD23	1.07	1.12
12:AB:123:PHE:HZ	29:P:82:LYS:HA	1.10	1.11
14:AE:287:ALA:HB2	14:AE:292:VAL:CG1	1.78	1.11
45:f:4:THR:OG1	45:f:37:GLU:OE2	1.68	1.11
35:V:7:THR:OG1	35:V:60:GLU:OE2	1.66	1.11
57:r:135:HIS:HD1	57:r:137:GLU:CD	1.59	1.11
12:AB:123:PHE:CE2	29:P:81:GLU:HG2	1.86	1.10
38:Y:96:LYS:HE3	38:Y:136:GLY:HA3	1.29	1.10
12:AB:28:CYS:HA	12:AB:56:PHE:O	1.52	1.10
12:AB:81:PHE:CE2	14:AE:293:ARG:NH1	1.88	1.09
6:5:10:DT:H71	11:AA:62:TYR:CD2	1.77	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
14:AE:79:LYS:HA	14:AE:81:ARG:NH2	1.66	1.09
8:7:15:U:O2	15:AF:83:VAL:CG1	1.99	1.09
12:AB:138:ARG:HA	12:AB:154:VAL:O	1.50	1.09
12:AB:146:ILE:HD11	29:P:88:MET:HA	1.31	1.09
38:Y:5:GLN:HG2	38:Y:61:TYR:CE1	1.87	1.09
6:5:9:DG:H5'	11:AA:473:ARG:HG3	1.09	1.08
60:u:122:VAL:HG12	60:u:125:LEU:HD21	1.35	1.08
12:AB:51:PHE:CZ	14:AE:288:PRO:HD3	1.87	1.08
14:AE:288:PRO:HD2	14:AE:291:ILE:HG21	1.10	1.08
11:AA:469:VAL:O	11:AA:473:ARG:HG2	1.53	1.08
12:AB:123:PHE:HE2	29:P:81:GLU:HG2	1.03	1.08
52:m:22:MET:O	52:m:28:ARG:NH1	1.87	1.08
6:5:9:DG:C5'	11:AA:473:ARG:HG3	1.82	1.08
12:AB:147:ASN:HB2	29:P:100:ILE:CG2	1.80	1.07
6:5:11:DA:H5'	12:AB:67:THR:HG22	1.13	1.07
7:6:23:DC:O5'	14:AE:259:ARG:NH1	1.87	1.07

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AB:82:GLY:HA2	14:AE:142:GLU:CB	1.85	1.07
12:AB:147:ASN:HB2	29:P:100:ILE:HG23	1.08	1.07
14:AE:287:ALA:HB2	14:AE:292:VAL:HG13	1.08	1.06
17:D:1309:G:OP2	37:X:98:ARG:NE	1.88	1.06
12:AB:123:PHE:CZ	29:P:82:LYS:HA	1.89	1.06
12:AB:148:LYS:NZ	29:P:102:LEU:HD23	1.70	1.06
9:9:46:ARG:HG3	9:9:94:ARG:HH21	1.12	1.06
26:M:4:ARG:HG3	26:M:5:ARG:HG3	1.33	1.06
9:9:50:VAL:HG22	38:Y:119:ALA:HB3	1.33	1.05
38:Y:56:VAL:HA	38:Y:71:LYS:HZ1	1.21	1.05
6:5:11:DA:H3'	12:AB:67:THR:HG21	1.05	1.05
7:6:18:DT:H3	8:7:36:A:N6	1.55	1.04
8:7:11:U:O2'	24:K:33:PHE:CE1	2.10	1.04
38:Y:14:ALA:HB1	38:Y:50:LYS:HD2	1.37	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
9:9:136:ILE:HD12	9:9:139:LEU:HD12	1.38	1.03
55:p:149:ARG:NH2	55:p:152:ARG:O	1.91	1.03
7:6:25:DT:OP1	11:AA:496:LYS:HA	1.12	1.03
19:F:37:PHE:HB2	30:Q:126:LYS:HE2	1.35	1.03
49:j:179:ARG:NH1	49:j:180:VAL:O	1.92	1.03
9:9:103:ASN:ND2	9:9:107:GLU:OE2	1.91	1.03
49:j:184:ARG:NH2	64:y:7:GLN:OE1	1.90	1.03
51:l:1:MET:HE2	51:l:16:GLU:HA	1.39	1.03
64:y:51:ARG:NH1	64:y:56:HIS:O	1.91	1.03
17:D:564:C:OP2	31:R:12:ARG:NH2	1.91	1.02
25:L:42:TRP:CH2	25:L:102:MET:HG3	1.94	1.02
38:Y:93:ASN:HA	38:Y:135:MET:CE	1.88	1.02
8:7:4:U:O2'	17:D:1403:C:O2	1.75	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
12:AB:81:PHE:CA	14:AE:141:PHE:O	2.06	1.02
12:AB:102:LYS:HE2	14:AE:285:LEU:HG	1.08	1.02
58:s:72:LYS:HD3	58:s:74:TYR:OH	1.59	1.02
9:9:48:ALA:HB3	9:9:51:TYR:HE1	1.20	1.02
9:9:3:LEU:HD12	9:9:4:ASN:H	1.25	1.01
12:AB:102:LYS:HE2	14:AE:285:LEU:CG	1.90	1.01
22:I:152:GLU:OE2	22:I:154:SER:OG	1.77	1.01
6:5:10:DT:C1'	12:AB:71:ALA:N	2.10	1.01
8:7:3:G:H5''	17:D:1500:A:N6	1.75	1.01

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AB:51:PHE:HE2	14:AE:288:PRO:HG2	1.20	1.01
9:9:43:LYS:HG3	9:9:46:ARG:HH12	1.22	1.01
6:5:11:DA:P	12:AB:68:THR:CA	2.45	1.00
11:AA:481:LEU:HD23	12:AB:16:ARG:CD	1.87	1.00
38:Y:60:VAL:HG22	38:Y:66:PHE:HB3	1.44	1.00
14:AE:70:CYS:SG	14:AE:85:CYS:SG	2.60	1.00
6:5:11:DA:H3'	12:AB:67:THR:CG2	1.90	1.00
51:l:1:MET:HE1	51:l:20:GLY:HA3	1.43	1.00
9:9:88:HIS:HB3	9:9:89:PRO:HD3	1.44	1.00
9:9:30:SER:O	9:9:31:ARG:NE	1.95	1.00
6:5:11:DA:H5''	12:AB:67:THR:CG2	1.86	0.99
12:AB:82:GLY:CA	14:AE:142:GLU:CB	2.39	0.99
38:Y:93:ASN:HA	38:Y:135:MET:HE1	1.00	0.99
14:AE:70:CYS:SG	14:AE:72:CYS:SG	2.61	0.99
17:D:377:G:OP1	34:U:5:ARG:NH1	1.94	0.99
32:S:86:GLU:OE1	32:S:90:ARG:NH1	1.96	0.99
20:G:49:MET:HE1	20:G:201:PRO:HD3	1.42	0.98
7:6:25:DT:H3'	11:AA:496:LYS:HG3	1.41	0.98
57:r:38:PRO:O	57:r:43:ASN:ND2	1.96	0.98
12:AB:51:PHE:CE2	14:AE:288:PRO:HG3	1.99	0.98
25:L:42:TRP:HH2	25:L:102:MET:HG3	1.25	0.98
14:AE:288:PRO:CD	14:AE:291:ILE:HG21	1.92	0.98
20:G:154:MET:HE2	20:G:158:PRO:HD3	1.44	0.98
6:5:11:DA:H5'	12:AB:67:THR:CG2	1.81	0.97
12:AB:140:MET:N	12:AB:152:HIS:O	1.96	0.97
7:6:18:DT:H3	8:7:36:A:H61	1.05	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
8:7:11:U:H4'	24:K:20:ARG:HH22	1.18	0.97
6:5:11:DA:C3'	12:AB:67:THR:CG2	2.42	0.97
38:Y:93:ASN:CA	38:Y:135:MET:HE1	1.94	0.97
14:AE:287:ALA:CB	14:AE:292:VAL:CG1	2.38	0.97
6:5:10:DT:O5'	11:AA:62:TYR:OH	1.80	0.96
9:9:95:LEU:HD13	9:9:98:GLU:OE2	1.65	0.96
11:AA:387:ASN:ND2	11:AA:394:ARG:HH12	1.61	0.96
40:a:2093:G:OP1	57:r:22:LYS:NZ	1.98	0.96
9:9:58:THR:HG21	9:9:81:LEU:HD23	1.47	0.96
12:AB:6:LEU:HD13	14:AE:291:ILE:HD11	1.46	0.96
10:B:30:G:HO2'	17:D:1339:A:H2	1.07	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:7:2:U:P	17:D:1505:G:H8	1.88	0.96
12:AB:51:PHE:CE2	14:AE:288:PRO:CD	2.48	0.95
17:D:1344:C:OP1	28:O:124:ARG:NH1	1.98	0.95
8:7:22:U:H4'	22:I:80:LYS:CD	1.96	0.95
38:Y:75:ALA:HB2	38:Y:112:LYS:HE3	1.49	0.95
11:AA:481:LEU:HD21	12:AB:16:ARG:CD	1.60	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	0.94
11:AA:387:ASN:ND2	11:AA:394:ARG:NH1	2.15	0.94
35:V:7:THR:OG1	35:V:61:ILE:O	1.85	0.94
22:I:164:ARG:NH2	22:I:166:GLU:OE2	1.99	0.94
40:a:30:G:OP2	65:z:5:LYS:NZ	2.00	0.94
9:9:23:LEU:HD13	9:9:92:ALA:CB	1.98	0.94
8:7:22:U:H5''	22:I:80:LYS:HG3	0.95	0.94
12:AB:147:ASN:HB3	29:P:100:ILE:HG23	0.95	0.94
39:Z:14:MET:HB3	39:Z:17:MET:HG2	1.46	0.94
6:5:10:DT:C6	11:AA:62:TYR:HE2	1.85	0.94
8:7:22:U:H4'	22:I:80:LYS:HD2	1.48	0.94
38:Y:33:ASN:HB3	38:Y:36:GLU:HG2	1.48	0.94
55:p:38:ASN:ND2	55:p:64:GLN:OE1	2.00	0.94
9:9:31:ARG:HD2	40:a:1053:C:O2'	1.66	0.94
9:9:23:LEU:HD13	9:9:92:ALA:HB1	1.49	0.93
9:9:88:HIS:HB3	9:9:89:PRO:CD	1.97	0.93
11:AA:481:LEU:HD21	12:AB:16:ARG:HD3	1.48	0.93
38:Y:14:ALA:O	38:Y:50:LYS:HE3	1.67	0.93
14:AE:85:CYS:HG	67:AE:1502:ZN:ZN	0.75	0.93
25:L:9:MET:CE	25:L:85:ILE:HB	1.97	0.93
17:D:526:C:OP2	31:R:88:LYS:NZ	2.01	0.93
10:B:76:A:N3	40:a:2493:U:H4'	1.84	0.93
6:5:11:DA:OP2	12:AB:67:THR:C	2.11	0.93
11:AA:481:LEU:CD2	12:AB:16:ARG:HD3	1.99	0.93
59:t:90:ASN:OD1	59:t:91:SER:N	2.02	0.93
1:0:18:GLN:N	1:0:18:GLN:OE1	2.01	0.92
8:7:21:U:H5''	22:I:80:LYS:H	1.34	0.92
12:AB:81:PHE:CE1	14:AE:293:ARG:HB2	1.91	0.92
14:AE:59:ALA:CB	14:AE:71:LEU:HD21	1.99	0.92
9:9:50:VAL:HG22	38:Y:119:ALA:CB	1.98	0.92
6:5:9:DG:P	11:AA:473:ARG:HB2	2.10	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	0.91
12:AB:81:PHE:HD2	14:AE:293:ARG:NH1	1.35	0.91
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
17:D:1526:G:N7	19:F:40:LYS:NZ	2.18	0.91
40:a:2682:A:O4'	49:j:11:MET:SD	2.29	0.91
12:AB:123:PHE:HZ	29:P:82:LYS:CA	1.83	0.91
8:7:2:U:P	17:D:1505:G:C8	2.64	0.91
16:C:60:LYS:HZ2	17:D:734:G:C2'	1.84	0.91
26:M:50:LEU:HD21	26:M:121:ALA:HA	1.52	0.91
12:AB:3:SER:O	12:AB:58:GLU:HA	1.71	0.91
38:Y:79:LEU:HD21	38:Y:105:LEU:HD21	1.52	0.91
9:9:92:ALA:O	9:9:129:LEU:HD13	1.70	0.91
11:AA:380:ALA:H	12:AB:65:HIS:CE1	1.61	0.91
10:B:38:A:H4'	17:D:790:A:O4'	1.71	0.91
24:K:45:ARG:CD	24:K:45:ARG:CB	2.49	0.91
8:7:31:U:H5'	11:AA:1259:LEU:HD21	1.52	0.90
40:a:1042:G:HO2'	40:a:1043:C:H6	1.10	0.90
30:Q:51:GLY:O	30:Q:56:ARG:NH2	2.03	0.90
63:x:36:TYR:OH	63:x:38:GLN:NE2	2.05	0.90
7:6:25:DT:H2'	11:AA:496:LYS:HE3	1.51	0.90
35:V:27:ARG:NH1	35:V:42:THR:OG1	2.03	0.90
64:y:89:ARG:NE	64:y:113:ARG:O	2.05	0.90
40:a:1818:U:OP2	47:h:156:ARG:NH1	2.03	0.90
12:AB:123:PHE:CZ	29:P:85:ASP:HB3	2.06	0.90
40:a:404:A:O2'	40:a:405:U:OP2	1.90	0.90
61:v:111:GLU:O	61:v:114:ARG:HG2	1.71	0.90
6:5:10:DT:C7	11:AA:62:TYR:HD2	1.69	0.90
46:g:27:THR:OG1	53:n:140:GLU:OE1	1.88	0.90
6:5:11:DA:P	12:AB:67:THR:O	2.30	0.89
16:C:38:LYS:NZ	17:D:718:A:N1	2.19	0.89
40:a:2393:U:OP1	54:o:30:ARG:NE	2.05	0.89
44:e:23:ARG:NH1	44:e:24:GLU:OE2	2.06	0.89
12:AB:51:PHE:HE2	14:AE:288:PRO:CD	1.85	0.89
30:Q:15:GLN:NE2	30:Q:76:GLU:O	2.06	0.89
6:5:10:DT:H2''	12:AB:70:ASN:N	1.87	0.89
17:D:1439:G:OP1	18:E:33:LYS:NZ	2.05	0.89
12:AB:82:GLY:N	14:AE:142:GLU:HB3	1.87	0.89
12:AB:142:LEU:HA	12:AB:150:ILE:O	1.72	0.89
19:F:31:GLU:OE2	19:F:35:ARG:NE	2.06	0.89
46:g:16:CYS:HB2	46:g:37:CYS:HB3	1.54	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:M:66:LEU:HD13	26:M:101:MET:CE	2.02	0.89
60:u:93:ASN:OD1	60:u:94:THR:N	2.05	0.89
3:2:54:GLU:OE1	3:2:91:GLN:NE2	2.06	0.89
9:9:8:LYS:O	9:9:12:VAL:HG23	1.73	0.89
16:C:60:LYS:NZ	17:D:735:C:O4'	2.06	0.89
14:AE:59:ALA:CB	14:AE:71:LEU:CD2	2.51	0.89
38:Y:129:GLU:HB3	38:Y:133:ARG:NH1	1.87	0.89
17:D:280:C:O2	35:V:40:ARG:CZ	2.21	0.88
32:S:90:ARG:HG3	32:S:92:GLU:OE1	1.73	0.88
40:a:585:G:N7	65:z:6:ARG:NH1	2.21	0.88
10:A:76:A:N6	40:a:2422:C:O4'	2.06	0.88
38:Y:45:THR:CG2	38:Y:50:LYS:HD3	2.02	0.88
14:AE:78:LEU:C	14:AE:81:ARG:HH11	1.79	0.88
26:M:13:LEU:HD12	26:M:14:PRO:HD2	1.54	0.88
51:l:170:ARG:NH1	51:l:174:GLY:O	2.05	0.88
26:M:4:ARG:HG2	26:M:5:ARG:CZ	2.03	0.88
38:Y:100:ILE:HD12	38:Y:105:LEU:HD11	1.54	0.88
40:a:78:U:OP1	44:e:4:LYS:NZ	2.06	0.88
40:a:2756:U:OP2	56:q:19:ARG:NE	2.06	0.88
27:N:5:ASP:OD2	27:N:77:ARG:NH1	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
17:D:545:C:H5'	23:J:69:GLU:HG3	1.55	0.87
58:s:13:ARG:NH1	58:s:49:ASP:O	2.07	0.87
8:7:22:U:C4'	22:I:80:LYS:HG3	2.02	0.87
12:AB:6:LEU:CD1	14:AE:291:ILE:HD11	2.05	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	2.07	0.87
58:s:98:GLU:OE2	58:s:126:ALA:N	2.07	0.87
14:AE:79:LYS:HA	14:AE:81:ARG:HH12	1.32	0.87
22:I:58:GLU:OE1	22:I:65:ARG:NH1	2.08	0.87
23:J:67:VAL:HB	23:J:72:PHE:CZ	2.09	0.87
6:5:10:DT:O4'	11:AA:62:TYR:OH	1.93	0.86
37:X:81:MET:HE2	40:a:888:C:C5	2.09	0.86
38:Y:99:LYS:HD2	38:Y:140:GLU:OE1	1.75	0.86
38:Y:129:GLU:HB3	38:Y:133:ARG:HH12	1.38	0.86
7:6:25:DT:C2'	11:AA:496:LYS:HG3	2.05	0.86
12:AB:51:PHE:CE2	14:AE:288:PRO:HD3	2.08	0.86
14:AE:79:LYS:N	14:AE:81:ARG:NH1	2.22	0.86
35:V:77:ARG:NH2	35:V:78:VAL:O	2.08	0.86
40:a:2780:G:OP2	58:s:120:ARG:NH1	2.07	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:Y:48:ILE:HG13	38:Y:49:GLU:H	1.41	0.86
38:Y:15:GLY:HA2	38:Y:50:LYS:HG3	1.57	0.86
12:AB:81:PHE:HE1	14:AE:293:ARG:CB	1.55	0.85
58:s:37:ARG:HA	58:s:118:MET:HE3	1.54	0.85
29:P:85:ASP:HA	29:P:88:MET:HE1	1.58	0.85
25:L:102:MET:SD	25:L:102:MET:N	2.46	0.85
1:0:87:GLN:NE2	1:0:88:GLY:O	2.09	0.85
12:AB:121:GLY:HA3	12:AB:162:LEU:HD12	1.57	0.85
38:Y:100:ILE:HD12	38:Y:105:LEU:CD1	2.05	0.85
61:v:77:PRO:HG2	61:v:80:VAL:HG21	1.57	0.85
6:5:10:DT:C2	12:AB:72:THR:OG1	2.30	0.85
12:AB:123:PHE:CZ	29:P:81:GLU:O	2.30	0.85
35:V:25:ILE:O	35:V:27:ARG:NH2	2.10	0.85
61:v:95:LEU:O	61:v:100:LYS:NZ	2.08	0.85
9:9:58:THR:CG2	9:9:81:LEU:HD23	2.06	0.85
12:AB:141:LEU:HA	12:AB:153:SER:N	1.92	0.85
41:b:36:ILE:HG21	41:b:39:ARG:HD3	1.59	0.85
62:w:38:LEU:HD13	62:w:111:ALA:HB2	1.59	0.85
46:g:26:SER:OG	53:n:140:GLU:OE2	1.94	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
60:u:90:VAL:HG13	60:u:95:LEU:HD21	1.57	0.84
53:n:23:ASN:OD1	53:n:24:SER:N	2.09	0.84
14:AE:287:ALA:HB1	14:AE:292:VAL:HG13	1.60	0.84
18:E:9:LYS:O	18:E:13:GLN:NE2	2.10	0.84
28:O:84:THR:HG21	28:O:103:PHE:HB3	1.59	0.84
5:4:58:SER:OG	5:4:59:GLU:OE1	1.95	0.84
6:5:10:DT:C6	11:AA:62:TYR:CZ	2.65	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
6:5:9:DG:P	11:AA:473:ARG:CB	2.66	0.83
12:AB:141:LEU:HB3	12:AB:143:LEU:HD12	1.60	0.83
17:D:742:G:OP1	33:T:58:ARG:NH2	2.12	0.83
10:A:33:U:OP1	26:M:77:SER:OG	1.95	0.83
55:p:121:ILE:HD12	55:p:141:ILE:HG22	1.60	0.83
6:5:10:DT:C5	11:AA:62:TYR:HD2	1.81	0.83
40:a:2682:A:O2'	49:j:13:ARG:NE	2.12	0.83
47:h:175:ARG:HG3	47:h:181:MET:HE1	1.58	0.83
61:v:7:THR:OG1	61:v:10:ARG:NH1	2.11	0.83
8:7:2:U:OP2	17:D:1505:G:C8	2.30	0.83
11:AA:377:THR:CB	12:AB:62:GLU:HB3	2.08	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AB:51:PHE:HZ	14:AE:288:PRO:HD3	1.39	0.83
58:s:102:GLU:OE1	58:s:102:GLU:N	2.10	0.83
65:z:74:ILE:HD11	65:z:79:PHE:HA	1.60	0.83
8:7:3:G:C5'	17:D:1500:A:H62	1.92	0.83
57:r:137:GLU:HG2	57:r:138:VAL:HG23	1.61	0.83
9:9:43:LYS:O	9:9:46:ARG:HG2	1.78	0.83
22:I:22:TRP:CZ3	22:I:24:ALA:HB2	2.14	0.83
38:Y:74:PRO:HG2	38:Y:77:VAL:HB	1.60	0.83
65:z:78:LYS:HD3	65:z:117:LEU:CD2	2.09	0.83
12:AB:38:ILE:HG12	12:AB:43:ARG:HG2	1.61	0.83
49:j:152:PRO:HG3	49:j:156:PHE:CZ	2.14	0.83
6:5:11:DA:C2'	12:AB:67:THR:HG21	2.08	0.82
9:9:43:LYS:HG3	9:9:46:ARG:NH1	1.94	0.82
11:AA:380:ALA:H	12:AB:65:HIS:HE1	1.00	0.82
37:X:81:MET:HE1	37:X:92:ARG:CB	2.08	0.82
40:a:1257:C:H4'	51:l:78:TRP:CE2	2.14	0.82
12:AB:152:HIS:HB3	12:AB:154:VAL:HG12	1.62	0.82
60:u:122:VAL:CG1	60:u:125:LEU:HD21	2.07	0.82
9:9:48:ALA:HB3	9:9:51:TYR:CE1	2.09	0.82
12:AB:54:TYR:HE2	14:AE:291:ILE:HG23	1.44	0.82
40:a:2298:A:OP1	53:n:72:LYS:NZ	2.11	0.82
40:a:2393:U:H5''	54:o:30:ARG:CZ	2.09	0.82
38:Y:116:MET:HG2	38:Y:124:MET:HG2	1.59	0.82
40:a:2356:U:H5''	41:b:20:ARG:HD2	1.61	0.82
53:n:73:SER:OG	53:n:79:ILE:O	1.96	0.82
59:t:7:MET:HG3	59:t:18:ARG:CZ	2.10	0.82
14:AE:78:LEU:C	14:AE:81:ARG:NH1	2.24	0.82
9:9:1:MET:HE1	9:9:7:ASP:HB3	1.61	0.82
10:A:6:G:O2'	10:A:7:G:O5'	1.96	0.82
11:AA:481:LEU:HD23	12:AB:16:ARG:HD2	1.60	0.82
10:B:6:G:O2'	10:B:7:G:O5'	1.96	0.82
20:G:105:LYS:O	20:G:109:GLN:NE2	2.12	0.82
59:t:20:MET:HB3	59:t:44:LYS:HZ3	1.42	0.82
38:Y:45:THR:HG22	38:Y:50:LYS:HD3	1.59	0.82
55:p:104:ASN:ND2	55:p:114:ASP:OD1	2.12	0.82
59:t:12:ASP:OD2	59:t:85:VAL:HG13	1.80	0.82
9:9:3:LEU:HD11	9:9:5:LEU:HD23	1.62	0.82
14:AE:81:ARG:H	14:AE:81:ARG:HD2	1.45	0.81
6:5:11:DA:C4'	12:AB:67:THR:HG22	2.10	0.81
8:7:28:A:OP1	8:7:28:A:H4'	1.80	0.81
9:9:129:LEU:H	9:9:130:PRO:HD2	1.45	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:p:7:ALA:O	55:p:69:ARG:NE	2.12	0.81
11:AA:387:ASN:CB	11:AA:394:ARG:HH11	1.93	0.81
38:Y:14:ALA:HB3	38:Y:51:GLY:H	1.45	0.81
40:a:1613:G:O2'	52:m:3:ARG:NH2	2.12	0.81
40:a:2356:U:O3'	41:b:20:ARG:NH1	2.14	0.81
12:AB:147:ASN:ND2	29:P:101:SER:HA	1.96	0.81
9:9:25:ALA:HB3	9:9:99:PHE:CD2	2.16	0.81
9:9:52:MET:HG2	9:9:95:LEU:HD11	1.62	0.81
17:D:311:C:OP1	34:U:31:ARG:NH2	2.13	0.81
6:5:10:DT:C4	11:AA:62:TYR:CD2	2.68	0.81
65:z:69:ALA:HB1	65:z:74:ILE:HG23	1.63	0.81
12:AB:141:LEU:HA	12:AB:152:HIS:C	2.06	0.81
51:l:112:LEU:HD12	51:l:117:ARG:HB2	1.62	0.81
38:Y:58:ILE:HG22	38:Y:60:VAL:HG23	1.62	0.81
8:7:22:U:H4'	22:I:80:LYS:CG	2.10	0.81
17:D:107:G:O6	18:E:10:ARG:NE	2.13	0.81
65:z:74:ILE:HD13	65:z:79:PHE:HD1	1.46	0.81
6:5:9:DG:H5''	11:AA:473:ARG:CG	1.95	0.80
51:l:1:MET:HE1	51:l:20:GLY:CA	2.11	0.80
60:u:122:VAL:HG13	60:u:125:LEU:HD11	1.62	0.80
40:a:2682:A:C8	49:j:11:MET:CE	2.65	0.80
7:6:23:DC:H5'	14:AE:259:ARG:HH12	1.42	0.80
18:E:28:MET:HE1	18:E:58:VAL:HA	1.64	0.80
40:a:1655:A:H1'	49:j:118:PHE:HE2	1.46	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	2.29	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
38:Y:40:ALA:HB1	38:Y:68:PHE:CE1	2.16	0.80
40:a:1818:U:O5'	47:h:156:ARG:NH2	2.14	0.80
1:0:86:GLN:OE1	40:a:1225:G:H4'	1.81	0.80
41:b:28:GLY:O	41:b:66:LYS:NZ	2.13	0.80
12:AB:140:MET:CA	12:AB:152:HIS:O	2.29	0.80
16:C:60:LYS:HZ3	17:D:735:C:P	2.04	0.80
40:a:2636:C:H4'	49:j:81:GLU:OE1	1.82	0.80
12:AB:54:TYR:CE2	14:AE:291:ILE:CG2	2.65	0.80
40:a:2393:U:H5''	54:o:30:ARG:NH1	1.97	0.79
4:3:46:GLN:OE1	4:3:56:GLY:HA2	1.82	0.79
19:F:37:PHE:HB2	30:Q:126:LYS:CE	2.10	0.79
40:a:2393:U:P	54:o:30:ARG:HE	2.04	0.79
53:n:117:LEU:HD13	53:n:176:PRO:HG2	1.64	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:9:77:VAL:HG13	9:9:114:GLU:OE1	1.81	0.79
9:9:112:ALA:O	9:9:123:ILE:HD11	1.83	0.79
47:h:130:LEU:HA	47:h:189:ARG:HH11	1.45	0.79
47:h:258:ARG:NH1	47:h:264:ASP:OD1	2.14	0.79
59:t:98:ARG:NH2	59:t:118:LEU:O	2.14	0.79
38:Y:9:LYS:HE2	38:Y:55:PRO:HB3	1.63	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
47:h:53:HIS:HE2	47:h:219:THR:HA	1.45	0.79
2:1:98:LYS:HD2	40:a:2012:G:OP1	1.83	0.79
7:6:25:DT:H3'	11:AA:496:LYS:CG	2.13	0.79
17:D:275:G:H4'	35:V:16:LYS:HD2	1.64	0.79
25:L:70:VAL:O	25:L:74:LEU:HD23	1.81	0.79
38:Y:102:ARG:HD2	38:Y:141:ASP:CA	2.13	0.79
48:i:46:ASP:OD2	48:i:53:LYS:NZ	2.15	0.79
32:S:12:LYS:O	32:S:16:LEU:HD23	1.83	0.79
9:9:5:LEU:O	9:9:9:GLN:NE2	2.15	0.79
26:M:20:SER:HB3	26:M:23:LEU:HD13	1.63	0.79
27:N:27:MET:N	27:N:58:GLU:OE2	2.16	0.79
46:g:18:CYS:HB3	46:g:40:CYS:CB	2.13	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
17:D:673:A:H2'	17:D:674:G:C8	2.18	0.78
27:N:9:ASP:OD2	27:N:13:ARG:NH1	2.15	0.78
38:Y:81:LYS:HZ2	38:Y:86:LYS:HE2	1.48	0.78
53:n:142:ASP:HB3	53:n:145:LYS:HE2	1.65	0.78
63:x:104:GLN:NE2	63:x:108:ASP:OD2	2.16	0.78
9:9:118:ILE:HB	9:9:119:PRO:HD3	1.64	0.78
40:a:1276:A:O2'	62:w:20:MET:CE	2.30	0.78
55:p:107:LEU:HB3	55:p:152:ARG:HE	1.47	0.78
42:c:30:LEU:HD12	42:c:31:PRO:HD2	1.63	0.78
6:5:10:DT:C2	12:AB:71:ALA:CB	2.61	0.78
21:H:306:VAL:HA	21:H:309:MET:SD	2.23	0.78
28:O:56:ASP:O	28:O:60:LYS:NZ	2.16	0.78
40:a:1453:A:N1	62:w:74:GLU:OE1	2.16	0.78
9:9:34:THR:O	9:9:38:MET:HG2	1.83	0.78
23:J:62:ARG:NH1	23:J:69:GLU:OE2	2.16	0.78
26:M:40:GLU:OE2	28:O:41:ARG:NH2	2.17	0.78
16:C:38:LYS:HE2	16:C:38:LYS:HA	1.64	0.78
8:7:29:U:OP2	14:AE:398:LYS:NZ	2.16	0.78
12:AB:51:PHE:CZ	14:AE:288:PRO:CD	2.66	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:Y:9:LYS:HE2	38:Y:55:PRO:CG	2.14	0.78
9:9:81:LEU:HD21	40:a:1107:G:H4'	1.64	0.78
34:U:3:THR:HG21	34:U:5:ARG:CZ	2.14	0.78
36:W:40:ILE:HG23	36:W:44:MET:SD	2.24	0.78
26:M:18:PHE:HE2	26:M:47:LEU:HD21	1.48	0.78
56:q:2:LYS:NZ	56:q:32:LYS:O	2.17	0.78
9:9:94:ARG:HB2	9:9:97:LYS:HE2	1.67	0.77
59:t:20:MET:HB3	59:t:44:LYS:NZ	1.98	0.77
9:9:60:LEU:HD23	9:9:64:VAL:HG21	1.65	0.77
59:t:8:LEU:C	59:t:18:ARG:HH12	1.92	0.77
34:U:3:THR:HG21	34:U:5:ARG:NH1	1.99	0.77
38:Y:93:ASN:C	38:Y:94:LYS:HD2	2.10	0.77
17:D:652:U:O3'	27:N:56:LYS:NZ	2.13	0.77
8:7:2:U:OP1	17:D:1505:G:H8	1.65	0.77
9:9:19:ALA:HA	9:9:70:GLU:HG2	1.66	0.77
17:D:375:U:OP2	34:U:70:ARG:NH2	2.17	0.77
17:D:1227:A:OP1	37:X:93:ARG:NH2	2.18	0.77
30:Q:84:VAL:HG23	30:Q:107:ILE:HD11	1.67	0.77
40:a:1801:A:P	47:h:146:MET:HE1	2.25	0.77
58:s:37:ARG:HA	58:s:118:MET:CE	2.14	0.77
6:5:10:DT:C2	12:AB:71:ALA:HB3	1.84	0.77
12:AB:110:PRO:HG3	12:AB:116:VAL:HG11	1.65	0.77
10:B:18:G:N2	10:B:55:U:O2	2.17	0.77
30:Q:87:LYS:CG	30:Q:113:VAL:HG23	2.15	0.77
36:W:44:MET:SD	36:W:62:VAL:HG11	2.25	0.77
40:a:1405:U:H2'	40:a:1406:U:C6	2.20	0.77
39:Z:2:ILE:HG22	39:Z:4:LYS:H	1.50	0.76
40:a:2511:U:C4'	49:j:130:GLN:OE1	2.33	0.76
61:v:1:MET:HA	61:v:1:MET:HE3	1.67	0.76
12:AB:148:LYS:CE	29:P:102:LEU:HD23	2.13	0.76
17:D:375:U:P	34:U:70:ARG:HE	2.07	0.76
62:w:12:ARG:O	62:w:17:ARG:NH2	2.19	0.76
40:a:1406:U:O2'	40:a:1407:G:O5'	2.02	0.76
39:Z:14:MET:HG3	39:Z:15:SER:H	1.48	0.76
40:a:1828:G:O6	47:h:221:ARG:NH1	2.19	0.76
9:9:27:VAL:HG13	9:9:83:ALA:HB3	1.66	0.76
40:a:2335:A:OP2	63:x:13:ARG:CZ	2.33	0.76
2:1:11:ARG:CZ	2:1:98:LYS:HE3	2.15	0.76
6:5:11:DA:C4'	12:AB:67:THR:CG2	2.64	0.76
12:AB:139:SER:O	12:AB:153:SER:HA	1.85	0.76
40:a:196:A:OP2	60:u:47:ARG:NH1	2.18	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AB:9:CYS:H	12:AB:53:ASN:HB3	1.48	0.76
58:s:15:TRP:CZ3	58:s:135:GLN:HA	2.21	0.76
6:5:10:DT:C5	11:AA:62:TYR:HE2	1.97	0.76
9:9:77:VAL:HG12	9:9:82:ILE:HG21	1.68	0.76
20:G:49:MET:CE	20:G:201:PRO:HD3	2.16	0.76
40:a:686:U:O4	52:m:12:ARG:HD3	1.86	0.76
5:4:50:MET:O	5:4:56:PHE:CE2	2.38	0.76
12:AB:152:HIS:HB3	12:AB:154:VAL:CG1	2.15	0.76
20:G:30:PHE:CD1	20:G:201:PRO:HG3	2.21	0.76
10:A:18:G:N2	10:A:55:U:O2	2.17	0.76
40:a:2314:A:OP1	53:n:88:LYS:NZ	2.18	0.75
9:9:5:LEU:C	9:9:9:GLN:HE22	1.94	0.75
12:AB:141:LEU:O	12:AB:151:LYS:CA	2.34	0.75
40:a:2297:A:N1	40:a:2321:U:C4	2.53	0.75
20:G:20:THR:HA	20:G:39:HIS:CE1	2.21	0.75
23:J:58:LYS:NZ	23:J:69:GLU:OE2	2.15	0.75
53:n:4:LEU:HD11	53:n:101:GLU:CA	2.16	0.75
17:D:550:G:O2'	31:R:116:LYS:NZ	2.18	0.75
20:G:154:MET:CE	20:G:158:PRO:HD3	2.16	0.75
40:a:742:A:H2'	40:a:743:A:C8	2.22	0.75
2:1:24:ILE:HG21	2:1:36:LEU:HD11	1.68	0.75
16:C:38:LYS:HD3	17:D:719:C:H1'	1.67	0.75
21:H:52:GLN:OE1	21:H:86:ARG:CB	2.34	0.75
24:K:142:ASP:O	24:K:145:GLU:HG3	1.86	0.75
25:L:42:TRP:HZ3	25:L:45:ARG:HH22	1.32	0.75
8:7:22:U:H4'	22:I:80:LYS:HG3	1.64	0.75
19:F:63:GLU:OE1	19:F:67:ARG:NH1	2.20	0.75
9:9:134:GLU:OE2	9:9:136:ILE:HG22	1.85	0.75
14:AE:59:ALA:HB1	14:AE:71:LEU:CD2	2.15	0.75
41:b:68:LYS:NZ	41:b:70:GLU:OE1	2.19	0.75
64:y:71:GLU:OE1	64:y:101:ARG:NE	2.19	0.75
12:AB:18:GLN:HG3	12:AB:21:LEU:HD12	1.69	0.75
26:M:18:PHE:CE2	26:M:47:LEU:HD21	2.21	0.75
37:X:28:THR:HG23	37:X:31:LYS:HE3	1.68	0.75
37:X:57:ARG:NH2	46:g:35:ASP:OD1	2.19	0.75
49:j:46:ARG:NH2	49:j:88:GLU:O	2.19	0.75
9:9:37:LYS:O	9:9:41:LEU:HG	1.86	0.75
12:AB:51:PHE:CE2	14:AE:288:PRO:HG2	2.06	0.75
40:a:537:G:OP2	58:s:2:LYS:NZ	2.20	0.75
40:a:1276:A:O2'	62:w:20:MET:HE2	1.87	0.74
43:d:42:C:O5'	53:n:64:LYS:NZ	2.20	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:l:90:GLN:NE2	51:l:91:ASP:O	2.20	0.74
53:n:56:ASP:OD2	53:n:150:ARG:NH1	2.20	0.74
12:AB:89:PRO:HD2	14:AE:290:ILE:HG21	1.69	0.74
17:D:1217:C:OP2	32:S:9:ARG:NH2	2.20	0.74
38:Y:126:ARG:NH2	40:a:1083:U:OP1	2.19	0.74
2:1:25:ARG:HH22	40:a:520:G:P	2.10	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
16:C:60:LYS:HZ2	17:D:734:G:H2'	1.50	0.74
33:T:64:ARG:CZ	33:T:89:ARG:HH22	2.00	0.74
58:s:15:TRP:HZ3	58:s:135:GLN:HA	1.50	0.74
6:5:10:DT:C4	11:AA:62:TYR:CE2	2.74	0.74
16:C:60:LYS:NZ	17:D:734:G:O3'	2.20	0.74
17:D:404:G:OP1	23:J:115:ARG:NH1	2.19	0.74
5:4:57:TYR:HB3	61:v:136:MET:CE	2.16	0.74
17:D:739:C:O2'	33:T:42:HIS:ND1	2.18	0.74
57:r:6:LEU:HD11	57:r:37:VAL:HG23	1.69	0.74
6:5:10:DT:H2''	12:AB:69:ILE:C	2.11	0.74
9:9:43:LYS:HZ2	9:9:98:GLU:HB2	1.51	0.74
23:J:105:MET:CE	23:J:171:LEU:HD13	2.18	0.74
30:Q:87:LYS:HG2	30:Q:113:VAL:HG23	1.67	0.74
38:Y:56:VAL:CA	38:Y:71:LYS:HZ1	1.99	0.74
59:t:42:THR:O	59:t:44:LYS:NZ	2.19	0.74
5:4:45:ASP:OD1	5:4:46:LYS:N	2.21	0.74
21:H:36:VAL:O	21:H:37:LEU:HD12	1.87	0.74
9:9:36:ASP:O	9:9:39:THR:HG22	1.87	0.74
6:5:10:DT:N3	12:AB:72:THR:OG1	2.20	0.74
12:AB:148:LYS:HZ1	29:P:102:LEU:CD2	1.93	0.74
62:w:60:VAL:HG22	62:w:63:ARG:NH1	2.03	0.74
5:4:75:GLN:HG3	5:4:92:VAL:HG23	1.70	0.74
9:9:23:LEU:HD11	9:9:96:PHE:CD2	2.23	0.74
21:H:303:LEU:O	21:H:305:HIS:N	2.20	0.74
8:7:22:U:H5''	22:I:80:LYS:CB	2.18	0.73
17:D:376:G:H5''	34:U:5:ARG:HD2	1.67	0.73
62:w:33:ILE:HD11	62:w:112:TYR:CD1	2.23	0.73
2:1:25:ARG:NH2	40:a:520:G:H5'	2.03	0.73
17:D:1158:C:O2'	20:G:132:LYS:NZ	2.21	0.73
18:E:21:ASN:C	18:E:25:ARG:HE	1.96	0.73
11:AA:377:THR:CG2	12:AB:62:GLU:HB3	2.18	0.73
17:D:375:U:OP1	34:U:70:ARG:HG2	1.88	0.73
38:Y:9:LYS:HE2	38:Y:55:PRO:CB	2.17	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:Z:6:GLN:OE1	39:Z:10:ALA:HB2	1.88	0.73
41:b:21:LEU:HD21	41:b:41:ARG:HE	1.51	0.73
55:p:69:ARG:NH1	55:p:73:ASN:OD1	2.21	0.73
61:v:97:GLN:N	61:v:100:LYS:HE3	2.04	0.73
9:9:43:LYS:NZ	9:9:98:GLU:HB2	2.04	0.73
40:a:465:G:OP1	52:m:12:ARG:NH2	2.22	0.73
9:9:56:ARG:O	9:9:56:ARG:HG2	1.88	0.73
12:AB:21:LEU:HB3	12:AB:26:VAL:HG11	1.70	0.73
38:Y:102:ARG:CD	38:Y:141:ASP:HA	2.18	0.73
9:9:129:LEU:HD12	9:9:130:PRO:HD3	1.70	0.73
14:AE:81:ARG:HD2	14:AE:81:ARG:N	2.03	0.73
8:7:13:U:H3	23:J:47:ARG:HH11	1.37	0.73
12:AB:145:LEU:HD23	29:P:88:MET:SD	2.28	0.73
16:C:38:LYS:NZ	17:D:718:A:C2	2.57	0.73
33:T:76:ALA:O	33:T:80:GLN:NE2	2.22	0.73
38:Y:100:ILE:HD11	38:Y:139:VAL:HB	1.69	0.73
40:a:1278:C:H4'	62:w:24:MET:HE1	1.70	0.73
46:g:18:CYS:CB	46:g:40:CYS:HB3	2.17	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
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
12:AB:89:PRO:CD	14:AE:290:ILE:HG21	2.18	0.73
14:AE:74:LYS:HZ3	29:P:89:ARG:CB	2.01	0.73
16:C:73:ARG:NH1	30:Q:113:VAL:HG12	2.02	0.73
42:c:71:LEU:HB3	42:c:76:GLU:OE2	1.88	0.73
2:1:23:LEU:HD11	48:i:24:ALA:HB2	1.70	0.72
17:D:13:U:C4	17:D:915:A:N6	2.57	0.72
22:I:147:LYS:NZ	22:I:204:LYS:O	2.22	0.72
28:O:47:VAL:HA	28:O:50:GLN:HG2	1.71	0.72
47:h:130:LEU:HA	47:h:189:ARG:NH1	2.03	0.72
55:p:85:LYS:HE3	55:p:164:TYR:CD1	2.24	0.72
9:9:94:ARG:HB3	9:9:97:LYS:HZ3	1.54	0.72
12:AB:123:PHE:HE1	29:P:85:ASP:HB3	1.43	0.72
10:B:76:A:C2	40:a:2493:U:H4'	2.24	0.72
22:I:142:MET:HE3	22:I:170:GLU:OE1	1.89	0.72
25:L:36:ILE:CD1	25:L:64:VAL:HG22	2.18	0.72
33:T:21:ASP:O	33:T:22:THR:OG1	2.07	0.72
38:Y:102:ARG:CZ	38:Y:139:VAL:HG11	2.19	0.72
54:o:25:LYS:HB3	60:u:62:PRO:HG2	1.71	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:g:18:CYS:CB	46:g:40:CYS:CB	2.67	0.72
53:n:127:ASN:OD1	53:n:158:THR:N	2.18	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
17:D:311:C:P	34:U:31:ARG:HH22	2.13	0.72
5:4:77:VAL:CG2	5:4:79:ARG:HE	2.03	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
10:B:53:G:C2	10:B:54:U:C5	2.77	0.72
19:F:32:VAL:HG12	19:F:36:GLU:OE1	1.90	0.72
26:M:103:TRP:CG	26:M:137:LYS:HZ2	2.08	0.72
38:Y:14:ALA:CB	38:Y:50:LYS:HD2	2.16	0.72
55:p:17:VAL:O	55:p:18:LYS:HE2	1.89	0.72
23:J:184:ARG:NH1	23:J:187:GLU:OE1	2.22	0.72
40:a:2884:U:OP2	48:i:40:ARG:NH2	2.23	0.72
6:5:9:DG:OP2	11:AA:470:ARG:HA	1.90	0.72
8:7:3:G:H5''	17:D:1500:A:H62	1.49	0.72
8:7:18:U:C6	8:7:18:U:H5''	2.24	0.72
9:9:31:ARG:HD2	40:a:1053:C:HO2'	1.52	0.72
12:AB:154:VAL:HG11	12:AB:159:PHE:HB3	1.72	0.72
14:AE:59:ALA:HB1	14:AE:71:LEU:HD22	1.71	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
29:P:47:GLU:N	29:P:47:GLU:OE1	2.23	0.72
65:z:92:ARG:HG3	65:z:95:LEU:HD12	1.71	0.72
11:AA:387:ASN:CG	11:AA:394:ARG:HH12	1.81	0.72
12:AB:24:GLN:HB2	12:AB:26:VAL:HG23	1.71	0.72
12:AB:146:ILE:HD11	29:P:88:MET:CA	2.15	0.72
14:AE:77:ARG:NE	14:AE:77:ARG:HA	2.04	0.72
10:B:13:C:OP2	40:a:1907:G:N2	2.23	0.72
17:D:653:U:C6	27:N:56:LYS:HE3	2.25	0.72
18:E:75:HIS:CE1	18:E:79:LEU:HD11	2.25	0.72
37:X:81:MET:HE2	40:a:888:C:C6	2.24	0.72
6:5:10:DT:H73	11:AA:62:TYR:HD2	1.29	0.72
8:7:11:U:O2'	24:K:33:PHE:HE1	1.71	0.72
9:9:56:ARG:NH2	40:a:1084:A:O4'	2.23	0.72
14:AE:64:PRO:HG3	14:AE:90:VAL:CG1	2.20	0.72
16:C:18:VAL:O	16:C:51:TYR:OH	2.06	0.72
17:D:636:U:H4'	35:V:6:ARG:CZ	2.19	0.72
33:T:63:ARG:O	33:T:67:LEU:HD23	1.90	0.72
9:9:47:GLU:HB3	9:9:51:TYR:CZ	2.24	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:AE:68:TYR:HA	14:AE:92:VAL:HG23	1.72	0.71
47:h:123:ALA:HB1	47:h:125:LYS:NZ	2.04	0.71
10:A:53:G:C2	10:A:54:U:C5	2.77	0.71
17:D:13:U:O4	17:D:21:G:C2	2.43	0.71
17:D:1328:C:O2'	37:X:29:ARG:NH2	2.23	0.71
22:I:142:MET:HE1	22:I:148:GLY:HA2	1.72	0.71
22:I:166:GLU:OE1	22:I:166:GLU:N	2.23	0.71
29:P:18:ILE:O	29:P:22:THR:HG23	1.90	0.71
46:g:5:ILE:HD12	53:n:64:LYS:HE3	1.72	0.71
17:D:1208:C:H2'	17:D:1209:C:H6	1.55	0.71
19:F:13:ASP:OD1	19:F:14:VAL:N	2.22	0.71
24:K:69:ARG:CZ	24:K:69:ARG:HA	2.20	0.71
26:M:55:GLY:O	26:M:56:LYS:O	2.07	0.71
40:a:987:C:O3'	45:f:11:ARG:NH1	2.23	0.71
11:AA:377:THR:OG1	12:AB:62:GLU:CG	2.37	0.71
12:AB:141:LEU:N	12:AB:153:SER:HB3	2.05	0.71
30:Q:72:ASP:O	30:Q:75:LYS:NZ	2.21	0.71
38:Y:81:LYS:HD2	38:Y:81:LYS:N	2.05	0.71
14:AE:85:CYS:SG	67:AE:1502:ZN:ZN	1.79	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
33:T:64:ARG:NH1	33:T:64:ARG:HA	2.05	0.71
51:l:6:LYS:NZ	51:l:120:VAL:O	2.24	0.71
58:s:15:TRP:CZ3	58:s:135:GLN:HG3	2.25	0.71
59:t:8:LEU:C	59:t:18:ARG:NH1	2.48	0.71
23:J:76:TYR:CE2	23:J:204:TYR:HB2	2.24	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
40:a:1824:G:OP1	47:h:52:ARG:NH2	2.23	0.71
40:a:2328:A:H2'	40:a:2329:U:C6	2.25	0.71
9:9:27:VAL:CG1	9:9:83:ALA:HB3	2.20	0.71
40:a:2469:A:N6	40:a:2481:G:O2'	2.23	0.71
51:l:6:LYS:NZ	51:l:120:VAL:N	2.39	0.71
24:K:93:ARG:HB3	24:K:93:ARG:CZ	2.21	0.71
40:a:871:U:H2'	40:a:872:U:C6	2.26	0.71
40:a:1825:U:OP2	47:h:52:ARG:NH1	2.23	0.71
9:9:6:GLN:HA	9:9:9:GLN:NE2	2.06	0.71
17:D:375:U:OP1	34:U:70:ARG:NE	2.24	0.71
31:R:5:ASN:OD1	35:V:36:LYS:NZ	2.24	0.71
53:n:134:GLU:HG2	53:n:137:ILE:HG23	1.72	0.71
4:3:46:GLN:NE2	4:3:47:LYS:O	2.24	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AB:141:LEU:H	12:AB:153:SER:HB3	1.56	0.70
17:D:564:C:P	31:R:12:ARG:NH2	2.64	0.70
22:I:22:TRP:HZ3	22:I:24:ALA:HB2	1.54	0.70
32:S:90:ARG:HG3	32:S:92:GLU:CD	2.15	0.70
40:a:2780:G:P	58:s:120:ARG:HH11	2.12	0.70
2:1:83:LYS:HB2	2:1:95:ARG:HD3	1.72	0.70
2:1:86:MET:HE1	2:1:88:ARG:HD3	1.71	0.70
12:AB:6:LEU:HD13	14:AE:291:ILE:CD1	2.21	0.70
28:O:7:TYR:N	28:O:89:GLU:OE2	2.24	0.70
38:Y:57:VAL:O	38:Y:69:VAL:HG22	1.91	0.70
17:D:736:C:C5'	25:L:90:MET:HE2	2.21	0.70
26:M:16:PRO:HB3	28:O:46:MET:HG3	1.73	0.70
17:D:1376:U:OP2	26:M:25:LYS:NZ	2.24	0.70
28:O:112:GLU:OE2	28:O:115:LYS:NZ	2.23	0.70
3:2:56:GLU:OE2	3:2:88:LYS:HA	1.90	0.70
12:AB:81:PHE:HE1	14:AE:293:ARG:HB3	0.85	0.70
21:H:332:VAL:HG22	21:H:342:ILE:HD11	1.73	0.70
38:Y:19:PRO:HG2	38:Y:23:VAL:HG23	1.73	0.70
46:g:16:CYS:CB	46:g:37:CYS:HB3	2.21	0.70
58:s:15:TRP:NE1	58:s:53:TYR:HD2	1.90	0.70
62:w:42:LYS:N	62:w:42:LYS:HD3	2.05	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
10:A:6:G:HO2'	10:A:7:G:C5'	2.04	0.70
22:I:24:ALA:HB3	22:I:29:PHE:CE2	2.27	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
47:h:133:ARG:NE	47:h:187:ASP:OD2	2.25	0.70
58:s:73:VAL:C	58:s:74:TYR:CD2	2.70	0.70
61:v:39:GLY:N	61:v:96:ILE:O	2.22	0.70
14:AE:59:ALA:HB2	14:AE:71:LEU:HD21	1.74	0.70
24:K:111:MET:O	24:K:115:LEU:HD23	1.91	0.70
38:Y:19:PRO:O	38:Y:24:GLY:HA2	1.92	0.70
40:a:1190:G:OP1	60:u:30:THR:OG1	2.10	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
57:r:33:GLN:OE1	57:r:35:LYS:NZ	2.24	0.70
17:D:636:U:H4'	35:V:6:ARG:NH2	2.06	0.70
56:q:25:VAL:HB	56:q:35:GLN:OE1	1.92	0.70
61:v:53:MET:HE3	61:v:120:ALA:HB2	1.74	0.70
16:C:57:ARG:HE	16:C:61:ARG:HH12	1.37	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:G:126:PHE:O	20:G:127:ASP:O	2.10	0.69
60:u:123:ARG:NH2	60:u:143:GLU:OE2	2.25	0.69
61:v:105:MET:SD	61:v:117:PHE:CZ	2.85	0.69
2:l:25:ARG:HH22	40:a:520:G:C5'	2.04	0.69
12:AB:123:PHE:CE2	29:P:81:GLU:O	2.46	0.69
14:AE:1033:GLY:HA3	14:AE:1081:VAL:O	1.93	0.69
9:9:142:THR:OG1	39:Z:7:ILE:HG21	1.90	0.69
12:AB:147:ASN:HB3	29:P:100:ILE:HG21	1.69	0.69
29:P:86:ALA:O	29:P:90:LEU:HD13	1.93	0.69
38:Y:91:LYS:NZ	38:Y:97:VAL:HG21	2.07	0.69
38:Y:100:ILE:CG1	38:Y:139:VAL:HB	2.22	0.69
51:l:17:THR:HA	51:l:21:ARG:HH21	1.57	0.69
62:w:45:ARG:O	62:w:49:GLU:OE1	2.11	0.69
10:A:37:A:O2'	10:A:38:A:H5'	1.93	0.69
10:B:38:A:O2'	17:D:790:A:OP1	2.09	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
26:M:4:ARG:HG2	26:M:5:ARG:NH1	2.08	0.69
26:M:66:LEU:HG	26:M:70:ARG:HE	1.57	0.69
36:W:40:ILE:CD1	36:W:66:MET:SD	2.77	0.69
38:Y:100:ILE:HG13	38:Y:139:VAL:HG23	1.74	0.69
40:a:2350:C:OP1	54:o:45:ARG:NH2	2.25	0.69
20:G:26:LYS:HD2	20:G:193:PRO:HG2	1.74	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
47:h:205:LEU:HD12	47:h:210:ALA:HB1	1.75	0.69
50:k:21:TYR:OH	50:k:39:PHE:O	2.10	0.69
12:AB:103:ASP:HB3	12:AB:105:VAL:HG23	1.75	0.69
20:G:27:MET:SD	20:G:30:PHE:HB2	2.33	0.69
18:E:12:ILE:O	18:E:15:GLU:HG3	1.92	0.69
18:E:45:ALA:O	18:E:48:GLN:HG3	1.92	0.69
31:R:7:LEU:HD21	31:R:12:ARG:NH2	2.07	0.69
37:X:28:THR:HG23	37:X:31:LYS:CE	2.22	0.69
40:a:2682:A:C8	49:j:11:MET:HE2	2.25	0.69
60:u:55:MET:HE1	60:u:60:ARG:HG2	1.75	0.69
2:l:25:ARG:HH22	40:a:520:G:H5'	1.58	0.69
12:AB:104:ILE:O	12:AB:111:TYR:OH	2.10	0.69
12:AB:113:GLY:H	12:AB:133:PRO:HD2	1.58	0.69
37:X:71:ARG:CZ	37:X:72:GLU:HG3	2.22	0.69
38:Y:99:LYS:NZ	38:Y:140:GLU:OE2	2.26	0.69
38:Y:116:MET:CG	38:Y:124:MET:HG2	2.21	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:Z:2:ILE:HG22	39:Z:5:ASP:H	1.58	0.69
40:a:2356:U:H5''	41:b:20:ARG:CD	2.21	0.69
46:g:5:ILE:HB	53:n:64:LYS:HD3	1.75	0.69
53:n:69:LYS:HD3	53:n:84:PRO:HA	1.74	0.69
5:4:63:ILE:HD11	5:4:91:PHE:CD2	2.28	0.69
32:S:20:TYR:HE2	32:S:52:PRO:HG2	1.58	0.69
38:Y:102:ARG:HD2	38:Y:141:ASP:HA	1.75	0.69
39:Z:14:MET:HB3	39:Z:17:MET:CG	2.21	0.69
40:a:1655:A:H1'	49:j:118:PHE:CE2	2.28	0.69
5:4:53:LYS:HD2	5:4:56:PHE:CE2	2.28	0.69
7:6:18:DT:N3	8:7:36:A:N6	2.36	0.69
24:K:115:LEU:HD12	24:K:120:VAL:HG11	1.75	0.69
8:7:8:U:OP2	17:D:1397:C:N3	2.26	0.68
12:AB:18:GLN:HA	12:AB:21:LEU:HB2	1.74	0.68
10:B:58:A:O2'	10:B:59:A:H3'	1.93	0.68
17:D:1308:U:OP1	37:X:100:GLN:NE2	2.26	0.68
17:D:1344:C:P	28:O:124:ARG:HH11	2.16	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	1.92	0.68
40:a:2742:G:OP1	56:q:36:ARG:NH1	2.25	0.68
59:t:103:VAL:HG22	59:t:104:THR:H	1.58	0.68
11:AA:65:ASN:HB3	11:AA:105:TYR:HB2	1.73	0.68
12:AB:102:LYS:HE2	14:AE:285:LEU:HA	1.74	0.68
18:E:25:ARG:CD	18:E:66:LEU:HD11	2.22	0.68
24:K:111:MET:CE	24:K:125:ALA:HB1	2.23	0.68
40:a:1653:G:H3'	62:w:2:ARG:HD2	1.74	0.68
45:f:16:ARG:NE	45:f:54:MET:SD	2.66	0.68
51:l:101:TYR:CE2	51:l:105:LEU:HD11	2.28	0.68
61:v:1:MET:HE1	61:v:43:ALA:C	2.18	0.68
62:w:38:LEU:HD13	62:w:111:ALA:CB	2.24	0.68
2:1:7:HIS:CD2	2:1:10:ALA:HB2	2.27	0.68
2:1:19:LEU:HD21	48:i:22:LEU:HB2	1.75	0.68
9:9:43:LYS:HA	9:9:46:ARG:CZ	2.24	0.68
9:9:44:ALA:HB1	9:9:52:MET:HB3	1.74	0.68
18:E:9:LYS:C	18:E:13:GLN:HE22	2.00	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	1.91	0.68
53:n:56:ASP:HB3	53:n:150:ARG:NH2	2.07	0.68
7:6:20:DA:N6	8:7:35:G:N1	2.42	0.68
9:9:52:MET:HE1	9:9:85:SER:C	2.17	0.68
21:H:22:SER:N	21:H:69:ASP:OD2	2.26	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:n:94:GLU:HA	53:n:97:TRP:HE3	1.59	0.68
59:t:5:GLN:HA	59:t:20:MET:HE2	1.74	0.68
61:v:111:GLU:O	61:v:115:GLU:OE1	2.11	0.68
5:4:50:MET:HA	5:4:56:PHE:CZ	2.29	0.68
10:B:37:A:O2'	10:B:38:A:H5'	1.93	0.68
1:0:52:PRO:HB3	65:z:89:GLU:OE2	1.94	0.68
4:3:72:ILE:HD12	4:3:83:VAL:HG21	1.76	0.68
5:4:77:VAL:HG23	5:4:89:ILE:HG12	1.76	0.68
25:L:9:MET:HE1	25:L:85:ILE:CG2	2.22	0.68
33:T:76:ALA:C	33:T:80:GLN:HE22	2.00	0.68
35:V:16:LYS:HD3	35:V:16:LYS:C	2.17	0.68
40:a:2314:A:H1'	53:n:155:THR:HG21	1.74	0.68
17:D:673:A:H5''	25:L:86:ARG:NH1	2.09	0.68
18:E:78:ASN:O	18:E:82:GLN:OE1	2.10	0.68
19:F:8:GLU:OE2	19:F:9:ASN:ND2	2.26	0.68
33:T:27:VAL:O	33:T:31:LEU:HD23	1.93	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
9:9:92:ALA:HB1	9:9:129:LEU:HD22	1.74	0.68
30:Q:80:LYS:HB3	30:Q:106:ARG:NH1	2.09	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
12:AB:130:PHE:HA	12:AB:152:HIS:NE2	2.08	0.68
12:AB:146:ILE:CD1	29:P:88:MET:HG3	2.24	0.68
17:D:1151:A:HO2'	17:D:1152:A:P	2.17	0.68
31:R:27:CYS:HB2	31:R:30:LYS:HE2	1.75	0.68
37:X:90:ARG:CD	37:X:97:VAL:HA	2.23	0.68
9:9:44:ALA:HA	9:9:47:GLU:OE1	1.94	0.68
12:AB:34:THR:HA	12:AB:47:SER:HA	1.76	0.68
10:B:6:G:HO2'	10:B:7:G:C5'	2.06	0.68
21:H:23:ILE:N	21:H:69:ASP:OD2	2.27	0.68
22:I:134:MET:HE3	22:I:151:VAL:HG23	1.75	0.68
26:M:20:SER:CB	26:M:23:LEU:HD13	2.24	0.68
32:S:42:TRP:CZ3	46:g:66:ILE:HG23	2.29	0.68
59:t:9:ASN:OD1	59:t:10:VAL:N	2.27	0.68
7:6:25:DT:H2'	11:AA:496:LYS:HG3	1.73	0.67
8:7:11:U:H4'	24:K:20:ARG:HH21	1.53	0.67
9:9:43:LYS:NZ	9:9:101:LYS:HE2	2.09	0.67
17:D:588:G:H4'	27:N:3:MET:HE1	1.76	0.67
18:E:79:LEU:HA	18:E:82:GLN:OE1	1.94	0.67
19:F:12:PHE:CE1	30:Q:107:ILE:HG22	2.29	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
26:M:109:ARG:HD2	26:M:116:MET:HE1	1.76	0.67
40:a:1800:C:OP2	47:h:182:ARG:NH1	2.27	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
21:H:304:VAL:O	21:H:304:VAL:HG12	1.94	0.67
25:L:42:TRP:HZ2	25:L:102:MET:SD	2.17	0.67
38:Y:116:MET:HG2	38:Y:124:MET:CG	2.24	0.67
40:a:2420:C:H5'	50:k:8:LYS:CE	2.25	0.67
9:9:139:LEU:HD21	39:Z:11:VAL:HG22	1.76	0.67
18:E:81:ALA:C	18:E:85:LYS:HZ3	2.02	0.67
38:Y:85:ILE:H	38:Y:85:ILE:HD12	1.59	0.67
39:Z:20:VAL:O	39:Z:20:VAL:HG12	1.94	0.67
47:h:76:ALA:HB1	47:h:94:VAL:HG12	1.76	0.67
51:l:118:LEU:HD11	51:l:188:MET:SD	2.35	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
17:D:564:C:OP1	31:R:12:ARG:NH1	2.27	0.67
36:W:36:ARG:NH2	36:W:75:ALA:O	2.26	0.67
57:r:37:VAL:HG12	57:r:43:ASN:ND2	2.09	0.67
62:w:24:MET:HE2	62:w:34:ILE:CD1	2.24	0.67
13:AD:48:LEU:HB2	13:AD:183:ILE:HD11	1.76	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
20:G:100:MET:HE1	20:G:101:LEU:HD21	1.75	0.67
23:J:121:LYS:HG2	23:J:131:ASN:HD21	1.59	0.67
40:a:1816:C:N4	47:h:35:GLU:OE2	2.20	0.67
65:z:79:PHE:HE1	65:z:110:VAL:HA	1.60	0.67
14:AE:79:LYS:CA	14:AE:81:ARG:NH2	2.41	0.67
38:Y:32:VAL:HG22	38:Y:60:VAL:HG21	1.77	0.67
40:a:111:A:O3'	44:e:58:ASN:ND2	2.28	0.67
46:g:58:ASP:C	46:g:62:LYS:HZ3	2.03	0.67
51:l:6:LYS:HE3	51:l:119:ILE:HG23	1.75	0.67
55:p:85:LYS:CE	55:p:164:TYR:HD1	2.07	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
21:H:308:GLU:O	21:H:310:ASP:N	2.26	0.67
32:S:19:LYS:HG3	32:S:20:TYR:CD1	2.29	0.67
40:a:1665:A:O5'	59:t:66:LYS:NZ	2.28	0.67
40:a:2682:A:C8	49:j:11:MET:HE1	2.30	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:v:1:MET:HE1	61:v:44:ARG:HA	1.76	0.67
65:z:68:ALA:HB1	65:z:106:PHE:CE2	2.29	0.67
17:D:945:G:C2	17:D:946:A:C8	2.83	0.67
25:L:38:ARG:NH1	25:L:99:ALA:HB2	2.09	0.67
37:X:81:MET:CE	40:a:888:C:C5	2.78	0.67
40:a:927:A:H2'	40:a:928:A:C8	2.30	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
5:4:56:PHE:O	5:4:61:LEU:HD11	1.95	0.67
8:7:8:U:H5'	17:D:1397:C:N3	2.10	0.67
12:AB:27:ASN:CG	12:AB:58:GLU:HB2	2.20	0.67
10:B:75:C:OP2	40:a:2602:A:C2'	2.43	0.67
24:K:156:LYS:HE3	27:N:71:VAL:HG13	1.76	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
62:w:49:GLU:OE1	62:w:49:GLU:N	2.26	0.67
9:9:24:SER:CB	9:9:116:GLU:HG3	2.24	0.67
17:D:43:C:OP1	34:U:12:LYS:NZ	2.28	0.67
17:D:1308:U:P	37:X:100:GLN:HE22	2.16	0.67
18:E:25:ARG:HD2	18:E:66:LEU:HD11	1.75	0.67
37:X:90:ARG:HD2	37:X:97:VAL:HA	1.77	0.67
38:Y:23:VAL:HG23	38:Y:24:GLY:H	1.58	0.67
40:a:2682:A:O4'	49:j:11:MET:HE1	1.95	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
40:a:2420:C:H5''	50:k:8:LYS:NZ	2.09	0.66
49:j:3:GLY:O	49:j:4:LEU:HD12	1.96	0.66
33:T:80:GLN:O	33:T:83:GLU:HG3	1.95	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
16:C:70:TYR:CE2	17:D:674:G:H4'	2.30	0.66
19:F:31:GLU:OE1	19:F:34:ARG:NH2	2.28	0.66
32:S:42:TRP:HH2	46:g:66:ILE:HA	1.61	0.66
17:D:1228:C:OP2	37:X:110:LYS:NZ	2.28	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
27:N:67:GLN:OE1	27:N:67:GLN:N	2.28	0.66
38:Y:102:ARG:NE	38:Y:102:ARG:HA	2.11	0.66
40:a:1454:C:O4'	62:w:63:ARG:NE	2.28	0.66
53:n:93:GLY:O	53:n:96:MET:N	2.29	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:4:84:PRO:O	5:4:85:LYS:HE2	1.96	0.66
6:5:9:DG:O5'	11:AA:473:ARG:HB3	1.95	0.66
9:9:14:GLU:O	9:9:18:VAL:HG23	1.96	0.66
20:G:101:LEU:HD22	20:G:157:LEU:CD1	2.26	0.66
9:9:139:LEU:CD2	39:Z:11:VAL:HG22	2.26	0.66
10:A:32:C:H4'	26:M:86:GLN:NE2	2.10	0.66
21:H:163:ARG:N	21:H:298:GLU:OE2	2.28	0.66
19:F:58:LYS:O	19:F:62:ARG:HG2	1.96	0.66
20:G:53:ALA:HA	20:G:56:GLU:OE1	1.96	0.66
26:M:46:ALA:CB	26:M:120:LEU:HD22	2.25	0.66
45:f:40:ASP:C	45:f:45:ARG:HH22	2.03	0.66
47:h:52:ARG:HE	47:h:53:HIS:HE1	1.44	0.66
59:t:38:ILE:HD11	59:t:112:PHE:HZ	1.60	0.66
6:5:10:DT:H73	11:AA:62:TYR:CB	2.25	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
38:Y:102:ARG:HG3	38:Y:140:GLU:O	1.96	0.66
51:l:40:ARG:HD2	51:l:92:HIS:ND1	2.10	0.66
9:9:25:ALA:HB3	9:9:99:PHE:HD2	1.61	0.66
9:9:28:ALA:H	9:9:110:ALA:HA	1.61	0.66
17:D:280:C:H1'	35:V:40:ARG:NH2	2.11	0.66
20:G:90:PHE:CE2	20:G:154:MET:HE3	2.31	0.66
37:X:28:THR:HA	37:X:31:LYS:HE3	1.78	0.66
40:a:752:A:OP1	52:m:1:MET:HE1	1.95	0.66
56:q:1:MET:HE1	56:q:35:GLN:CA	2.25	0.66
59:t:112:PHE:HD2	59:t:115:ILE:HD12	1.59	0.66
8:7:21:U:OP1	22:I:80:LYS:HG2	1.96	0.65
14:AE:58:CYS:SG	14:AE:59:ALA:N	2.69	0.65
17:D:375:U:P	34:U:70:ARG:NE	2.69	0.65
26:M:26:PHE:HD1	26:M:101:MET:SD	2.19	0.65
38:Y:79:LEU:HD21	38:Y:105:LEU:CD2	2.24	0.65
40:a:2355:G:C2'	40:a:2356:U:H5'	2.26	0.65
59:t:1:MET:HE1	59:t:32:TYR:CG	2.31	0.65
9:9:23:LEU:HD13	9:9:92:ALA:HB2	1.77	0.65
12:AB:9:CYS:HB3	12:AB:74:GLY:HA2	1.78	0.65
16:C:73:ARG:HH12	30:Q:113:VAL:CB	2.09	0.65
18:E:54:MET:HE1	18:E:75:HIS:CE1	2.31	0.65
20:G:134:ALA:O	20:G:137:ARG:HG2	1.96	0.65
22:I:151:VAL:HG12	22:I:200:VAL:HG23	1.77	0.65
23:J:196:ASN:OD1	23:J:198:HIS:CE1	2.49	0.65
59:t:99:ILE:HD13	59:t:118:LEU:HB2	1.77	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:9:24:SER:OG	9:9:86:MET:HE2	1.96	0.65
10:A:71:C:H3'	10:A:72:A:C8	2.30	0.65
17:D:246:A:C2	17:D:282:A:C5	2.84	0.65
20:G:90:PHE:CD2	20:G:154:MET:HE3	2.31	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
59:t:1:MET:HE1	59:t:32:TYR:CD1	2.31	0.65
61:v:111:GLU:HG2	61:v:112:LEU:HD12	1.78	0.65
6:5:10:DT:C7	11:AA:62:TYR:CB	2.74	0.65
6:5:11:DA:H5'	12:AB:67:THR:CB	2.27	0.65
9:9:47:GLU:HG2	9:9:95:LEU:HD21	1.78	0.65
12:AB:115:LYS:HD3	12:AB:129:ILE:HD12	1.77	0.65
12:AB:155:LYS:HG3	12:AB:156:ASN:H	1.62	0.65
10:B:75:C:P	40:a:2602:A:HO2'	2.13	0.65
31:R:30:LYS:HB3	31:R:57:LEU:HD11	1.78	0.65
38:Y:81:LYS:NZ	38:Y:86:LYS:HE2	2.12	0.65
43:d:55:U:H1'	53:n:26:MET:CE	2.26	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
55:p:52:PHE:CD1	55:p:69:ARG:HD3	2.32	0.65
58:s:15:TRP:NE1	58:s:53:TYR:CD2	2.63	0.65
58:s:43:GLU:OE1	58:s:43:GLU:N	2.29	0.65
65:z:41:LYS:HG3	65:z:45:TYR:CE2	2.32	0.65
8:7:40:G:OP1	11:AA:1073:LYS:NZ	2.24	0.65
10:A:76:A:N6	40:a:2422:C:O5'	2.29	0.65
28:O:86:ALA:O	28:O:89:GLU:HG2	1.95	0.65
38:Y:5:GLN:HG2	38:Y:61:TYR:CD1	2.32	0.65
40:a:1839:G:H1'	40:a:1927:A:C8	2.32	0.65
1:0:55:ASP:OD1	1:0:56:GLY:N	2.27	0.65
17:D:1158:C:O2'	20:G:132:LYS:CE	2.45	0.65
17:D:1308:U:P	37:X:100:GLN:NE2	2.70	0.65
38:Y:20:SER:HB2	38:Y:21:PRO:HD3	1.79	0.65
38:Y:24:GLY:O	38:Y:27:LEU:HG	1.96	0.65
40:a:2572:A:N7	49:j:150:GLN:NE2	2.45	0.65
46:g:58:ASP:C	46:g:62:LYS:NZ	2.55	0.65
51:l:62:GLN:O	51:l:69:ARG:NE	2.30	0.65
61:v:45:GLN:NE2	61:v:125:PRO:CD	2.59	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
28:O:83:ILE:O	28:O:87:LEU:HD23	1.96	0.65
49:j:55:LYS:HZ1	49:j:59:ARG:C	2.05	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:v:31:PHE:N	61:v:104:GLU:OE2	2.30	0.65
61:v:45:GLN:NE2	61:v:125:PRO:HD3	2.10	0.65
3:2:9:LYS:O	3:2:12:ARG:NH1	2.30	0.65
4:3:26:LYS:HB2	4:3:35:ILE:HG23	1.78	0.65
12:AB:129:ILE:H	12:AB:142:LEU:HB3	1.60	0.65
10:B:71:C:H3'	10:B:72:A:C8	2.30	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:2356:U:O3'	41:b:20:ARG:CZ	2.45	0.65
51:l:149:ILE:HD11	51:l:188:MET:HG2	1.78	0.65
6:5:16:DG:H1	11:AA:451:ARG:NH2	1.94	0.65
8:7:21:U:O4	22:I:82:GLU:HB2	1.97	0.65
12:AB:129:ILE:O	12:AB:142:LEU:HB2	1.97	0.65
14:AE:84:ILE:HG22	14:AE:91:GLU:HG3	1.78	0.65
18:E:28:MET:SD	18:E:61:GLN:HG3	2.36	0.65
19:F:58:LYS:O	19:F:62:ARG:CG	2.45	0.65
21:H:277:GLY:HA2	21:H:331:MET:CE	2.27	0.65
23:J:74:ASN:HA	23:J:77:LYS:HZ3	1.61	0.65
23:J:150:LYS:HE2	23:J:178:MET:HE2	1.79	0.65
35:V:60:GLU:OE1	35:V:76:VAL:CG2	2.45	0.65
40:a:2682:A:H2'	40:a:2683:C:O4'	1.96	0.65
58:s:53:TYR:CE1	58:s:121:LYS:HD2	2.32	0.65
59:t:42:THR:HG23	59:t:44:LYS:NZ	2.12	0.65
60:u:122:VAL:CG1	60:u:125:LEU:HD11	2.27	0.65
9:9:25:ALA:HB2	9:9:96:PHE:CE1	2.31	0.65
12:AB:136:GLU:O	12:AB:156:ASN:HA	1.97	0.65
16:C:34:THR:N	16:C:38:LYS:O	2.30	0.65
24:K:61:GLN:HA	24:K:64:MET:CE	2.27	0.65
28:O:5:GLN:NE2	28:O:20:PHE:HB3	2.10	0.65
38:Y:45:THR:HG21	38:Y:50:LYS:HD3	1.76	0.65
40:a:998:C:OP2	65:z:92:ARG:NH2	2.29	0.65
40:a:1824:G:OP1	47:h:52:ARG:CZ	2.44	0.65
51:l:194:LYS:O	51:l:198:GLU:OE1	2.15	0.65
55:p:107:LEU:O	55:p:152:ARG:CZ	2.45	0.65
2:1:71:VAL:HB	2:1:74:ILE:HD11	1.79	0.64
3:2:3:ARG:NH1	3:2:5:GLU:OE2	2.30	0.64
5:4:57:TYR:OH	5:4:79:ARG:NH2	2.24	0.64
8:7:11:U:C4'	24:K:20:ARG:HH22	1.93	0.64
9:9:129:LEU:N	9:9:130:PRO:HD2	2.12	0.64
12:AB:139:SER:C	12:AB:152:HIS:O	2.40	0.64
20:G:114:LEU:HD13	20:G:144:LEU:CB	2.28	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:J:138:SER:O	23:J:141:ASP:CG	2.40	0.64
32:S:87:ALA:CA	32:S:90:ARG:NH1	2.60	0.64
40:a:617:G:H4'	51:l:199:MET:HE1	1.78	0.64
40:a:1278:C:C4'	62:w:24:MET:HE1	2.27	0.64
40:a:2175:C:H2'	40:a:2176:A:C8	2.31	0.64
57:r:137:GLU:HG2	57:r:138:VAL:N	2.11	0.64
61:v:105:MET:CE	61:v:108:VAL:HG21	2.28	0.64
5:4:50:MET:HB3	5:4:56:PHE:CE1	2.31	0.64
14:AE:79:LYS:C	14:AE:81:ARG:CZ	2.71	0.64
10:B:22:G:H2'	10:B:23:C:C6	2.32	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
65:z:85:LYS:HD2	65:z:116:ALA:HB1	1.79	0.64
8:7:9:U:N3	17:D:1196:A:N7	2.45	0.64
14:AE:288:PRO:HD2	14:AE:291:ILE:HG22	1.74	0.64
20:G:23:TRP:CD1	20:G:39:HIS:HE1	2.14	0.64
33:T:64:ARG:NH1	33:T:89:ARG:HH22	1.94	0.64
38:Y:126:ARG:NH2	40:a:1083:U:P	2.70	0.64
47:h:53:HIS:NE2	47:h:219:THR:HA	2.11	0.64
9:9:43:LYS:HD3	9:9:98:GLU:HG3	1.78	0.64
21:H:119:GLY:HA2	21:H:133:GLY:HA2	1.80	0.64
21:H:303:LEU:O	21:H:303:LEU:HG	1.96	0.64
23:J:62:ARG:HG2	23:J:72:PHE:CZ	2.33	0.64
24:K:148:ASN:OD1	27:N:96:MET:CE	2.45	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
27:N:10:MET:HG3	27:N:27:MET:HE1	1.78	0.64
31:R:80:ILE:HD12	31:R:104:CYS:HB2	1.79	0.64
32:S:87:ALA:HA	32:S:90:ARG:CZ	2.28	0.64
34:U:5:ARG:HG2	34:U:68:SER:HB2	1.80	0.64
37:X:16:VAL:HG23	37:X:17:ILE:HD12	1.80	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: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
40:a:2308:G:C5	53:n:77:PHE:CZ	2.85	0.64
10:A:19:G:C2	40:a:2112:G:O4'	2.50	0.64
10:A:22:G:H2'	10:A:23:C:C6	2.32	0.64
17:D:675:A:H1'	30:Q:118:HIS:CD2	2.33	0.64
17:D:1323:G:H2'	17:D:1324:A:C8	2.33	0.64
20:G:49:MET:HE1	20:G:201:PRO:CD	2.23	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:H:70:VAL:HG12	21:H:83:LEU:O	1.98	0.64
24:K:86:LYS:HZ2	24:K:95:PHE:HE1	1.46	0.64
32:S:10:GLU:O	32:S:14:VAL:HG23	1.97	0.64
32:S:53:ARG:HB3	32:S:59:ARG:NH1	2.11	0.64
33:T:53:ARG:O	33:T:57:LEU:HD23	1.96	0.64
38:Y:91:LYS:HZ1	38:Y:97:VAL:HG21	1.63	0.64
55:p:149:ARG:CZ	55:p:162:VAL:O	2.45	0.64
62:w:35:LYS:HZ2	62:w:112:TYR:HE2	1.45	0.64
12:AB:146:ILE:HD12	29:P:88:MET:HG3	1.79	0.64
19:F:10:GLU:OE2	19:F:18:ARG:NE	2.30	0.64
38:Y:21:PRO:HB2	38:Y:22:PRO:HD3	1.80	0.64
38:Y:102:ARG:NE	38:Y:139:VAL:HG21	2.13	0.64
53:n:117:LEU:HD13	53:n:176:PRO:CG	2.26	0.64
63:x:114:GLY:O	63:x:116:GLN:NE2	2.31	0.64
10:A:32:C:H4'	26:M:86:GLN:HE21	1.62	0.64
10:A:54:U:H3	10:A:58:A:N6	1.96	0.64
12:AB:147:ASN:HB2	29:P:100:ILE:O	1.98	0.64
18:E:16:LYS:O	18:E:19:LYS:HG2	1.97	0.64
20:G:27:MET:HG2	20:G:189:THR:HA	1.78	0.64
35:V:31:HIS:CD2	35:V:34:TYR:H	2.15	0.64
40:a:1067:A:O2'	40:a:1068:G:O4'	2.16	0.64
9:9:56:ARG:H	9:9:56:ARG:HD3	1.63	0.64
11:AA:387:ASN:HB3	11:AA:394:ARG:HH11	1.63	0.64
38:Y:79:LEU:CD2	38:Y:105:LEU:HD21	2.27	0.64
38:Y:86:LYS:HD3	38:Y:86:LYS:C	2.23	0.64
38:Y:99:LYS:HD2	38:Y:140:GLU:CD	2.22	0.64
9:9:100:ALA:HB2	9:9:125:ARG:NE	2.13	0.64
20:G:35:ARG:HB3	21:H:14:LYS:HZ3	1.63	0.64
24:K:111:MET:HE1	24:K:125:ALA:HB1	1.80	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:2723:C:H5''	62:w:1:MET:HE3	1.79	0.64
6:5:10:DT:N1	11:AA:62:TYR:CE2	2.65	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
12:AB:31:PRO:HB2	12:AB:50:LEU:HB3	1.80	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
20:G:118:GLU:O	20:G:121:SER:OG	2.15	0.64
25:L:2:ARG:CZ	25:L:68:GLN:NE2	2.60	0.64
64:y:31:TRP:CZ3	64:y:38:LYS:HD3	2.33	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:2:36:LYS:HE3	3:2:79:ASP:OD2	1.98	0.63
14:AE:79:LYS:C	14:AE:81:ARG:NH2	2.56	0.63
16:C:73:ARG:HH12	30:Q:113:VAL:HA	1.62	0.63
22:I:132:ARG:O	22:I:135:LYS:HG2	1.97	0.63
25:L:25:TYR:O	25:L:29:ILE:HD12	1.97	0.63
33:T:3:LEU:HD22	33:T:8:THR:CG2	2.28	0.63
40:a:2335:A:P	63:x:13:ARG:CZ	2.87	0.63
1:0:51:VAL:HG23	65:z:86:ALA:O	1.98	0.63
9:9:24:SER:OG	9:9:116:GLU:HG3	1.98	0.63
11:AA:1282:GLY:HA3	15:AF:17:PHE:HE1	1.63	0.63
16:C:13:PHE:CE2	16:C:21:ILE:HD11	2.34	0.63
17:D:714:G:H2'	17:D:715:A:C8	2.32	0.63
17:D:738:C:H5''	25:L:68:GLN:NE2	2.12	0.63
22:I:156:ARG:HH11	22:I:193:TYR:HB3	1.63	0.63
40:a:2682:A:O5'	49:j:11:MET:HE1	1.98	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	2.13	0.63
60:u:84:LYS:HZ2	60:u:98:ALA:C	2.04	0.63
38:Y:31:GLY:C	38:Y:60:VAL:HG11	2.23	0.63
40:a:537:G:OP1	58:s:2:LYS:HE2	1.98	0.63
40:a:2013:A:N1	40:a:2613:U:O4	2.32	0.63
40:a:2311:A:N3	53:n:85:ILE:HD11	2.13	0.63
40:a:2393:U:P	54:o:30:ARG:NE	2.70	0.63
47:h:251:GLN:HE22	47:h:253:LYS:C	2.07	0.63
48:i:17:ARG:HA	48:i:20:ASP:OD1	1.99	0.63
1:0:84:ARG:NH1	40:a:813:U:OP1	2.31	0.63
4:3:34:VAL:HG13	4:3:67:VAL:HG22	1.78	0.63
9:9:73:LYS:NZ	9:9:115:GLY:O	2.31	0.63
12:AB:80:ARG:HB3	12:AB:82:GLY:O	1.99	0.63
33:T:88:ARG:NH2	40:a:714:U:OP2	2.31	0.63
40:a:2419:U:H4'	50:k:22:THR:HG21	1.79	0.63
45:f:10:THR:HB	45:f:56:LYS:HZ2	1.64	0.63
8:7:21:U:O4	22:I:82:GLU:OE1	2.17	0.63
9:9:7:ASP:O	9:9:11:ILE:HD12	1.98	0.63
9:9:77:VAL:HG12	9:9:77:VAL:O	1.99	0.63
12:AB:129:ILE:HB	12:AB:142:LEU:CD2	2.28	0.63
31:R:25:GLU:CD	31:R:59:ASN:HD22	2.05	0.63
38:Y:37:PHE:CE1	38:Y:56:VAL:HG11	2.33	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
2:1:25:ARG:NH2	40:a:520:G:C5'	2.60	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:7:21:U:H5'	8:7:22:U:H5''	1.81	0.63
17:D:1226:C:H2'	37:X:102:THR:OG1	1.98	0.63
20:G:19:GLN:HG3	21:H:76:GLU:HB3	1.78	0.63
23:J:99:ASP:OD1	23:J:100:ASN:N	2.31	0.63
38:Y:9:LYS:HG2	38:Y:55:PRO:HB3	1.80	0.63
38:Y:48:ILE:HG13	38:Y:49:GLU:N	2.10	0.63
38:Y:55:PRO:HB2	38:Y:71:LYS:HE2	1.80	0.63
38:Y:100:ILE:CD1	38:Y:139:VAL:HB	2.29	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
6:5:11:DA:P	12:AB:67:THR:C	2.79	0.63
24:K:61:GLN:HA	24:K:64:MET:HE3	1.81	0.63
36:W:66:MET:SD	36:W:66:MET:O	2.57	0.63
44:e:13:GLU:O	44:e:17:GLU:OE1	2.16	0.63
51:l:6:LYS:HE3	51:l:119:ILE:CG2	2.28	0.63
51:l:23:PHE:HB2	51:l:111:GLU:OE2	1.99	0.63
53:n:33:LYS:HA	53:n:96:MET:SD	2.39	0.63
61:v:88:ASN:OD1	61:v:89:VAL:N	2.32	0.63
63:x:90:VAL:HG21	63:x:115:LEU:HD21	1.81	0.63
5:4:50:MET:O	5:4:52:ALA:N	2.31	0.63
11:AA:314:ASN:HD21	11:AA:348:SER:HA	1.62	0.63
28:O:123:ARG:HG2	28:O:123:ARG:O	1.99	0.63
32:S:13:ARG:HB3	32:S:60:GLN:HG3	1.81	0.63
1:0:82:HIS:CG	1:0:82:HIS:O	2.52	0.63
8:7:9:U:N3	17:D:1196:A:C8	2.66	0.63
17:D:1228:C:OP1	37:X:107:ARG:NH1	2.32	0.63
24:K:140:THR:O	24:K:144:LEU:HD23	1.99	0.63
38:Y:60:VAL:HG22	38:Y:66:PHE:CB	2.23	0.63
4:3:68:SER:OG	40:a:335:C:O2	2.15	0.62
9:9:113:PHE:O	9:9:123:ILE:HG13	1.99	0.62
11:AA:120:GLN:NE2	11:AA:490:GLN:OE1	2.32	0.62
12:AB:117:ILE:O	12:AB:118:ILE:HG13	1.98	0.62
16:C:33:ILE:O	21:H:338:GLU:CD	2.42	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:137:VAL:O	24:K:140:THR:OG1	2.15	0.62
29:P:24:GLU:HA	29:P:27:GLU:OE1	1.98	0.62
64:y:64:ILE:HG13	64:y:64:ILE:O	1.97	0.62
8:7:28:A:H2'	8:7:28:A:N3	2.13	0.62
10:B:31:G:O3'	17:D:1340:A:O2'	2.17	0.62
17:D:522:C:OP2	31:R:66:TYR:OH	2.17	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:M:66:LEU:HD13	26:M:101:MET:HE1	1.81	0.62
40:a:2682:A:O4'	49:j:11:MET:CE	2.47	0.62
62:w:33:ILE:CG1	62:w:112:TYR:HD1	2.11	0.62
8:7:11:U:O2'	24:K:33:PHE:CZ	2.52	0.62
12:AB:118:ILE:HD11	12:AB:159:PHE:HA	1.81	0.62
17:D:13:U:O2	17:D:914:A:C8	2.52	0.62
20:G:126:PHE:O	20:G:126:PHE:CD1	2.53	0.62
21:H:135:LEU:O	21:H:169:SER:HA	2.00	0.62
31:R:75:GLN:OE1	31:R:75:GLN:N	2.32	0.62
38:Y:80:LYS:HG3	38:Y:86:LYS:O	2.00	0.62
40:a:2725:A:C4	40:a:2727:A:C8	2.87	0.62
50:k:21:TYR:CE2	50:k:38:LYS:HG2	2.34	0.62
58:s:37:ARG:NH2	58:s:44:TYR:OH	2.32	0.62
3:2:56:GLU:OE2	3:2:87:LEU:C	2.42	0.62
9:9:23:LEU:HD11	9:9:96:PHE:CE2	2.34	0.62
12:AB:141:LEU:O	12:AB:151:LYS:C	2.42	0.62
34:U:18:GLN:OE1	34:U:37:GLY:O	2.17	0.62
53:n:38:MET:SD	53:n:150:ARG:HD2	2.39	0.62
62:w:37:THR:OG1	62:w:40:LYS:HD2	2.00	0.62
5:4:76:ASP:OD1	5:4:77:VAL:N	2.33	0.62
20:G:49:MET:HE3	20:G:199:VAL:O	1.99	0.62
57:r:5:LEU:HD12	57:r:17:ASP:O	2.00	0.62
6:5:10:DT:C5'	11:AA:62:TYR:OH	2.48	0.62
17:D:337:G:H2'	17:D:338:A:C8	2.34	0.62
17:D:932:C:H5'	26:M:4:ARG:HH11	1.63	0.62
37:X:16:VAL:HG12	37:X:34:LEU:HD12	1.80	0.62
5:4:77:VAL:HG11	5:4:79:ARG:HH21	1.64	0.62
9:9:50:VAL:HG23	38:Y:120:ASP:OD2	1.98	0.62
12:AB:141:LEU:HB3	12:AB:143:LEU:CD1	2.29	0.62
17:D:406:G:H21	23:J:116:GLN:HE22	1.46	0.62
17:D:562:U:C2'	31:R:14:ARG:HH11	2.13	0.62
26:M:17:LYS:HG3	26:M:18:PHE:CD1	2.35	0.62
40:a:1824:G:C3'	47:h:52:ARG:HH12	2.13	0.62
40:a:2307:G:O4'	40:a:2308:G:C5	2.52	0.62
62:w:42:LYS:HE2	62:w:97:ILE:HG21	1.82	0.62
8:7:9:U:O4	17:D:1196:A:N9	2.32	0.62
12:AB:114:ASP:O	12:AB:130:PHE:HB2	1.99	0.62
14:AE:87:LYS:HE2	29:P:89:ARG:HG2	1.82	0.62
17:D:1157:A:C2	17:D:1181:G:C4	2.88	0.62
21:H:16:ILE:HG22	21:H:25:ARG:NH2	2.14	0.62
29:P:23:ALA:O	29:P:27:GLU:OE1	2.18	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:985:C:C2	40:a:986:C:C5	2.88	0.62
40:a:2315:G:H4'	53:n:127:ASN:ND2	2.14	0.62
58:s:98:GLU:O	58:s:102:GLU:OE1	2.18	0.62
11:AA:528:ARG:NH2	11:AA:576:SER:O	2.30	0.62
24:K:69:ARG:HA	24:K:69:ARG:NE	2.15	0.62
26:M:18:PHE:HD2	26:M:59:LEU:HD21	1.65	0.62
40:a:1839:G:C8	40:a:1927:A:H1'	2.35	0.62
54:o:32:ILE:HG13	54:o:32:ILE:O	2.00	0.62
12:AB:102:LYS:HE2	14:AE:285:LEU:CB	2.29	0.62
17:D:1152:A:OP1	29:P:70:HIS:ND1	2.29	0.62
20:G:19:GLN:OE1	20:G:21:ARG:HG2	2.00	0.62
21:H:61:GLU:HG2	21:H:62:ILE:HG23	1.81	0.62
22:I:58:GLU:OE2	29:P:94:ALA:CB	2.48	0.62
32:S:19:LYS:HG3	32:S:20:TYR:CE1	2.35	0.62
36:W:12:ASP:OD2	36:W:35:SER:OG	2.14	0.62
40:a:754:U:H2'	40:a:755:U:C6	2.34	0.62
6:5:11:DA:H2'	12:AB:67:THR:HG21	1.82	0.61
9:9:136:ILE:CD1	9:9:139:LEU:HD12	2.25	0.61
17:D:1309:G:P	37:X:98:ARG:HE	2.20	0.61
26:M:4:ARG:CG	26:M:5:ARG:CZ	2.75	0.61
38:Y:99:LYS:NZ	38:Y:138:VAL:HG13	2.14	0.61
40:a:1138:G:N3	58:s:108:MET:HE2	2.14	0.61
8:7:7:U:H6	8:7:7:U:H5''	1.64	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
47:h:141:VAL:HG23	47:h:162:VAL:CG1	2.30	0.61
61:v:1:MET:HE1	61:v:44:ARG:CA	2.30	0.61
62:w:47:VAL:O	62:w:51:LEU:HD23	2.00	0.61
8:7:11:U:O4'	24:K:20:ARG:NH2	2.32	0.61
11:AA:472:GLU:HG3	11:AA:473:ARG:HD3	1.82	0.61
49:j:1:MET:HE2	49:j:100:LEU:HD11	1.83	0.61
58:s:11:VAL:HG11	58:s:13:ARG:NH1	2.15	0.61
13:AC:45:ARG:HD3	13:AD:38:THR:HB	1.82	0.61
14:AE:74:LYS:HZ3	29:P:89:ARG:HB3	1.64	0.61
10:B:5:G:H2'	10:B:6:G:H5'	1.83	0.61
21:H:135:LEU:CB	21:H:167:VAL:CB	2.77	0.61
38:Y:9:LYS:HE2	38:Y:55:PRO:HG3	1.82	0.61
38:Y:102:ARG:HA	38:Y:102:ARG:HE	1.64	0.61
40:a:2682:A:H8	49:j:11:MET:HE1	1.65	0.61
46:g:65:ASN:OD1	46:g:66:ILE:N	2.30	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:98:LYS:NZ	40:a:2011:U:O3'	2.34	0.61
6:5:9:DG:P	11:AA:473:ARG:CG	2.88	0.61
6:5:10:DT:C4	11:AA:62:TYR:HD2	2.12	0.61
6:5:11:DA:C2'	12:AB:67:THR:CG2	2.77	0.61
27:N:43:GLU:CD	27:N:101:ILE:HG21	2.25	0.61
30:Q:84:VAL:HG23	30:Q:107:ILE:CD1	2.30	0.61
38:Y:79:LEU:CD1	38:Y:132:ALA:HA	2.29	0.61
40:a:1406:U:C2	40:a:1407:G:C8	2.88	0.61
57:r:114:GLU:OE2	57:r:134:VAL:N	2.33	0.61
17:D:563:A:C2	17:D:567:G:C5	2.89	0.61
22:I:45:LYS:NZ	22:I:46:GLU:OE1	2.29	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
59:t:8:LEU:N	59:t:18:ARG:HH12	1.98	0.61
5:4:77:VAL:HG22	5:4:79:ARG:HE	1.64	0.61
6:5:10:DT:H1'	12:AB:71:ALA:H	0.83	0.61
9:9:47:GLU:HA	9:9:94:ARG:HH22	1.64	0.61
9:9:52:MET:C	9:9:52:MET:HE3	2.25	0.61
12:AB:31:PRO:O	12:AB:50:LEU:N	2.31	0.61
12:AB:102:LYS:CD	14:AE:285:LEU:HA	2.31	0.61
12:AB:140:MET:HA	12:AB:153:SER:HA	1.83	0.61
17:D:1006:G:H2'	17:D:1007:U:C6	2.36	0.61
17:D:1124:G:O2'	17:D:1145:A:N6	2.33	0.61
24:K:81:LEU:HG	24:K:96:MET:HE1	1.82	0.61
26:M:103:TRP:O	26:M:106:GLU:HG3	2.01	0.61
28:O:94:LEU:HB3	28:O:97:GLU:OE2	2.01	0.61
39:Z:8:ILE:HG13	39:Z:9:GLU:N	2.15	0.61
50:k:34:LEU:HB3	50:k:51:GLU:HG3	1.82	0.61
54:o:13:ARG:HD3	60:u:58:TYR:O	2.00	0.61
3:2:56:GLU:OE2	3:2:87:LEU:O	2.18	0.61
9:9:61:ARG:NE	40:a:1046:A:O5'	2.34	0.61
12:AB:35:LEU:HB3	12:AB:37:LYS:HD3	1.82	0.61
16:C:45:THR:HA	21:H:340:ARG:NH2	2.15	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
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
61:v:111:GLU:HA	61:v:114:ARG:HE	1.66	0.61
1:0:73:LYS:NZ	40:a:1225:G:OP1	2.34	0.61
9:9:23:LEU:HA	9:9:118:ILE:CG1	2.31	0.61
17:D:687:A:C2	17:D:704:A:C5	2.88	0.61

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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	0.61
28:O:55:VAL:O	28:O:57:MET:N	2.34	0.61
40:a:1277:G:N3	62:w:23:ASN:ND2	2.47	0.61
47:h:164:ILE:HG23	47:h:164:ILE:O	2.01	0.61
50:k:34:LEU:HB3	50:k:51:GLU:CG	2.31	0.61
10:A:33:U:O3'	26:M:84:THR:OG1	2.16	0.61
10:A:65:C:H2'	10:A:66:C:H5'	1.83	0.61
14:AE:888:CYS:SG	14:AE:889:ASP:N	2.74	0.61
10:B:36:U:H2'	10:B:37:A:C8	2.36	0.61
27:N:88:ARG:HB2	27:N:91:GLU:OE1	2.01	0.61
35:V:61:ILE:HG13	35:V:73:TRP:CZ3	2.36	0.61
36:W:45:ILE:HA	36:W:62:VAL:CG1	2.31	0.61
38:Y:19:PRO:O	38:Y:24:GLY:CA	2.48	0.61
46:g:1:MET:HE2	46:g:6:HIS:CD2	2.35	0.61
58:s:13:ARG:HH22	58:s:50:THR:CA	2.14	0.61
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
11:AA:55:SER:OG	11:AA:465:ARG:NH1	2.33	0.60
14:AE:785:ASP:O	14:AE:789:LYS:HB2	2.01	0.60
20:G:38:VAL:CG2	21:H:75:VAL:HG21	2.30	0.60
20:G:114:LEU:HD13	20:G:144:LEU:HB2	1.83	0.60
27:N:24:ALA:HB1	27:N:60:GLU:OE2	2.00	0.60
2:1:31:GLN:OE1	2:1:31:GLN:N	2.29	0.60
10:B:65:C:H2'	10:B:66:C:H5'	1.83	0.60
28:O:57:MET:HA	28:O:60:LYS:HE2	1.83	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
38:Y:99:LYS:HZ3	38:Y:138:VAL:HG13	1.65	0.60
53:n:122:PHE:CZ	53:n:170:LEU:HD12	2.36	0.60
65:z:74:ILE:HD13	65:z:79:PHE:CD1	2.33	0.60
14:AE:1275:LEU:HB3	14:AE:1278:GLU:HB2	1.83	0.60
20:G:73:LYS:O	20:G:74:ARG:HG2	2.00	0.60
24:K:45:ARG:HB3	24:K:71:MET:HE2	1.81	0.60
26:M:137:LYS:O	26:M:141:VAL:HG23	2.01	0.60
40:a:548:G:H3'	40:a:549:G:O4'	2.01	0.60
9:9:50:VAL:CG2	38:Y:119:ALA:HB3	2.20	0.60
12:AB:129:ILE:HB	12:AB:142:LEU:HD22	1.83	0.60
17:D:1160:G:C2	17:D:1161:C:C6	2.89	0.60
17:D:1169:A:H2'	17:D:1170:A:C8	2.36	0.60
24:K:112:ARG:O	24:K:116:GLU:OE1	2.19	0.60
28:O:56:ASP:O	28:O:57:MET:HE2	2.02	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:Y:36:GLU:HG3	38:Y:66:PHE:CE1	2.36	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
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
65:z:74:ILE:HD11	65:z:79:PHE:CA	2.30	0.60
6:5:10:DT:H73	11:AA:62:TYR:CG	2.18	0.60
11:AA:1072:ASN:ND2	11:AA:1111:GLN:OE1	2.34	0.60
12:AB:92:VAL:HA	12:AB:96:LEU:HB2	1.83	0.60
13:AD:112:ALA:HB3	13:AD:126:PRO:HA	1.83	0.60
14:AE:741:ALA:O	14:AE:762:ASN:ND2	2.32	0.60
18:E:28:MET:SD	18:E:57:ILE:HG22	2.42	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
25:L:102:MET:HG2	25:L:103:VAL:N	2.06	0.60
26:M:50:LEU:HD21	26:M:121:ALA:CA	2.28	0.60
26:M:111:ARG:O	26:M:119:ARG:NH1	2.34	0.60
40:a:413:C:H2'	40:a:414:C:H6	1.66	0.60
40:a:753:A:C2	40:a:754:U:C6	2.89	0.60
40:a:2191:A:H2'	40:a:2192:U:C6	2.36	0.60
48:i:22:LEU:HG	48:i:23:THR:N	2.17	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
61:v:75:GLU:HG3	61:v:90:GLU:OE1	2.01	0.60
9:9:123:ILE:O	9:9:123:ILE:HG23	2.02	0.60
14:AE:86:GLU:OE1	14:AE:86:GLU:N	2.34	0.60
37:X:55:THR:O	37:X:59:GLU:OE1	2.18	0.60
40:a:1257:C:H4'	51:l:78:TRP:CD2	2.37	0.60
58:s:73:VAL:HG13	58:s:86:GLN:HG2	1.84	0.60
61:v:77:PRO:HG2	61:v:80:VAL:CG2	2.31	0.60
1:0:51:VAL:O	1:0:51:VAL:HG13	2.02	0.60
9:9:98:GLU:HA	9:9:101:LYS:HG2	1.83	0.60
17:D:652:U:H4'	27:N:56:LYS:NZ	2.17	0.60
17:D:718:A:O2'	19:F:34:ARG:NH2	2.34	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
53:n:25:VAL:O	53:n:28:VAL:HG12	2.02	0.60
62:w:60:VAL:HA	62:w:63:ARG:NH1	2.17	0.60
2:1:1:MET:SD	2:1:3:THR:OG1	2.59	0.60
7:6:25:DT:OP1	11:AA:496:LYS:C	2.43	0.60
12:AB:82:GLY:HA2	14:AE:142:GLU:OE1	2.01	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AB:90:SER:HB3	12:AB:93:ILE:HB	1.84	0.60
12:AB:140:MET:HB3	12:AB:150:ILE:HD12	1.84	0.60
14:AE:1161:GLY:HA3	14:AE:1179:PRO:HA	1.83	0.60
27:N:106:THR:HB	27:N:121:LEU:HD13	1.83	0.60
40:a:1070:A:N7	40:a:1096:A:O2'	2.35	0.60
58:s:13:ARG:NH2	58:s:49:ASP:O	2.34	0.60
58:s:102:GLU:HB3	58:s:119:PHE:HZ	1.66	0.60
9:9:47:GLU:HG3	9:9:94:ARG:NH1	2.16	0.60
17:D:1290:G:H4'	26:M:35:LYS:HZ3	1.66	0.60
40:a:563:A:OP1	65:z:41:LYS:NZ	2.35	0.60
40:a:2780:G:P	58:s:120:ARG:NH1	2.74	0.60
47:h:67:PHE:CE1	47:h:156:ARG:HD2	2.37	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
60:u:76:GLU:HG3	60:u:111:ILE:CD1	2.31	0.60
6:5:11:DA:H2'	12:AB:67:THR:CG2	2.32	0.60
9:9:7:ASP:OD1	9:9:8:LYS:N	2.35	0.60
10:A:36:U:H2'	10:A:37:A:C8	2.36	0.60
11:AA:69:GLN:HE21	11:AA:101:ARG:HD2	1.67	0.60
14:AE:814:CYS:SG	14:AE:883:ARG:NH2	2.74	0.60
23:J:62:ARG:HG2	23:J:72:PHE:CE1	2.37	0.60
24:K:113:ALA:HA	24:K:116:GLU:OE1	2.00	0.60
29:P:25:ILE:O	29:P:28:THR:OG1	2.19	0.60
29:P:86:ALA:C	29:P:90:LEU:HD13	2.27	0.60
34:U:76:LYS:C	34:U:80:LYS:HZ3	2.10	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
40:a:575:A:C2	40:a:576:U:C5	2.90	0.60
40:a:639:U:H2'	40:a:640:C:C6	2.36	0.60
59:t:8:LEU:CA	59:t:18:ARG:HH12	2.15	0.60
65:z:74:ILE:CD1	65:z:74:ILE:CB	2.76	0.60
9:9:97:LYS:NZ	9:9:130:PRO:HA	2.17	0.59
13:AD:211:ILE:HG12	13:AD:219:ARG:HH12	1.65	0.59
14:AE:64:PRO:HG3	14:AE:90:VAL:HG12	1.83	0.59
40:a:323:C:H2'	51:l:163:ASN:OD1	2.02	0.59
40:a:2298:A:C4	40:a:2321:U:C5	2.90	0.59
40:a:2363:G:OP2	54:o:40:ARG:HD2	2.01	0.59
46:g:5:ILE:HD12	53:n:64:LYS:CE	2.31	0.59
51:l:1:MET:CE	51:l:16:GLU:HA	2.25	0.59
59:t:5:GLN:HA	59:t:20:MET:CE	2.32	0.59
62:w:33:ILE:CG1	62:w:112:TYR:CD1	2.85	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:2:56:GLU:OE1	3:2:86:THR:O	2.19	0.59
6:5:9:DG:O5'	11:AA:473:ARG:CB	2.49	0.59
9:9:23:LEU:HD21	9:9:96:PHE:CG	2.36	0.59
10:A:69:C:H2'	10:A:70:G:O4'	2.02	0.59
12:AB:89:PRO:CG	14:AE:290:ILE:CG2	2.79	0.59
12:AB:117:ILE:O	12:AB:160:ARG:O	2.20	0.59
14:AE:1221:LEU:HD22	14:AE:1306:LEU:HB2	1.85	0.59
10:B:69:C:H2'	10:B:70:G:O4'	2.02	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:NZ	2.17	0.59
25:L:9:MET:HE2	25:L:51:ILE:HD11	1.83	0.59
27:N:47:GLU:OE2	27:N:64:LYS:HA	2.02	0.59
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:1322:A:C5	40:a:1323:C:C5	2.90	0.59
40:a:1432:G:H2'	40:a:1433:A:C8	2.37	0.59
40:a:2189:U:P	40:a:2189:U:O4'	2.60	0.59
50:k:19:HIS:ND1	50:k:41:PRO:CD	2.65	0.59
54:o:30:ARG:HH12	60:u:62:PRO:CA	2.14	0.59
58:s:55:ILE:HG13	58:s:123:LYS:NZ	2.17	0.59
2:1:86:MET:CE	2:1:88:ARG:HD3	2.32	0.59
17:D:13:U:N3	17:D:915:A:N6	2.51	0.59
17:D:496:A:N3	17:D:496:A:H2'	2.17	0.59
21:H:81:GLU:O	21:H:82:THR:HG23	2.02	0.59
8:7:28:A:H5'	8:7:29:U:H5''	1.85	0.59
9:9:54:VAL:HG13	9:9:54:VAL:O	2.03	0.59
17:D:1125:U:C2	17:D:1127:G:C8	2.89	0.59
20:G:26:LYS:CD	20:G:193:PRO:HG2	2.32	0.59
22:I:54:ARG:NH2	22:I:56:VAL:HG21	2.18	0.59
45:f:41:THR:O	45:f:44:ILE:N	2.30	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
7:6:25:DT:H2'	11:AA:496:LYS:CE	2.28	0.59
8:7:9:U:O4	17:D:1196:A:C8	2.55	0.59
9:9:17:GLU:HG2	9:9:88:HIS:NE2	2.18	0.59
12:AB:142:LEU:HA	12:AB:151:LYS:HA	1.83	0.59
17:D:657:U:C4'	33:T:28:GLN:HE22	2.16	0.59
17:D:718:A:C4	30:Q:118:HIS:ND1	2.71	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
21:H:333:LEU:O	21:H:334:ASP:OD1	2.19	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:X:81:MET:HE1	37:X:92:ARG:HD3	1.83	0.59
40:a:1172:C:H2'	40:a:1173:U:O4'	2.02	0.59
40:a:1798:U:OP2	47:h:271:ARG:NH2	2.36	0.59
60:u:76:GLU:HG3	60:u:111:ILE:HD13	1.84	0.59
64:y:7:GLN:CD	64:y:7:GLN:C	2.71	0.59
14:AE:92:VAL:HG22	14:AE:92:VAL:O	2.01	0.59
16:C:29:LEU:HD23	16:C:59:ILE:HD13	1.83	0.59
17:D:736:C:O2'	25:L:88:MET:HE1	2.02	0.59
17:D:978:A:C5	17:D:1319:A:C2	2.90	0.59
18:E:32:ILE:HG12	18:E:75:HIS:CE1	2.37	0.59
20:G:23:TRP:HZ3	20:G:25:PRO:HA	1.67	0.59
38:Y:23:VAL:HG23	38:Y:24:GLY:N	2.17	0.59
40:a:1277:G:H5'	62:w:20:MET:HE2	1.84	0.59
40:a:1817:G:H3'	47:h:156:ARG:HH22	1.67	0.59
40:a:2460:U:C2	40:a:2461:A:C8	2.91	0.59
8:7:18:U:C6	8:7:18:U:C5'	2.85	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
16:C:73:ARG:CZ	30:Q:113:VAL:HG12	2.31	0.59
23:J:74:ASN:HA	23:J:77:LYS:NZ	2.17	0.59
26:M:18:PHE:HB3	26:M:59:LEU:HD11	1.84	0.59
37:X:25:VAL:HG23	37:X:29:ARG:HB2	1.85	0.59
38:Y:5:GLN:HE22	38:Y:60:VAL:C	2.10	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
55:p:85:LYS:NZ	55:p:164:TYR:HD1	2.01	0.59
1:0:61:ALA:HB1	1:0:96:VAL:HG22	1.84	0.59
10:A:70:G:H2'	10:A:71:C:H5''	1.85	0.59
11:AA:1142:ARG:NH1	11:AA:1161:LEU:O	2.36	0.59
16:C:14:THR:HG21	16:C:48:ARG:NE	2.17	0.59
16:C:73:ARG:NH1	30:Q:113:VAL:HA	2.18	0.59
20:G:128:LYS:HD2	20:G:128:LYS:O	2.03	0.59
26:M:50:LEU:HD11	26:M:124:LEU:HB2	1.84	0.59
32:S:20:TYR:HD2	32:S:55:SER:OG	1.85	0.59
40:a:15:G:O2'	48:i:15:MET:CE	2.51	0.59
46:g:37:CYS:N	46:g:40:CYS:SG	2.71	0.59
50:k:35:GLU:OE2	50:k:48:ILE:HG23	2.03	0.59
53:n:122:PHE:O	53:n:123:ASP:OD1	2.19	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:878:A:OP2	27:N:80:ARG:NH1	2.35	0.59
20:G:35:ARG:HD2	21:H:14:LYS:HE3	1.84	0.59
20:G:106:THR:HA	20:G:109:GLN:NE2	2.18	0.59
21:H:291:GLY:HA2	21:H:305:HIS:HA	1.85	0.59
23:J:91:LEU:HD21	23:J:195:ILE:HD12	1.84	0.59
24:K:16:ILE:HD11	24:K:38:VAL:HG12	1.83	0.59
30:Q:51:GLY:O	30:Q:56:ARG:CZ	2.51	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
38:Y:5:GLN:CG	38:Y:61:TYR:CE1	2.76	0.59
38:Y:70:THR:O	38:Y:71:LYS:HG3	2.03	0.59
39:Z:8:ILE:HG13	39:Z:9:GLU:H	1.68	0.59
40:a:567:U:OP2	60:u:29:LYS:NZ	2.35	0.59
50:k:8:LYS:HZ1	50:k:54:ILE:HG12	1.67	0.59
51:l:119:ILE:O	51:l:187:VAL:HA	2.03	0.59
53:n:4:LEU:HD11	53:n:101:GLU:HA	1.84	0.59
3:2:56:GLU:OE1	3:2:56:GLU:N	2.33	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
8:7:31:U:C5'	11:AA:1259:LEU:HD21	2.27	0.59
9:9:33:VAL:HG22	9:9:36:ASP:CG	2.27	0.59
9:9:103:ASN:HA	9:9:107:GLU:OE2	2.02	0.59
11:AA:707:ALA:O	11:AA:711:ASP:HB2	2.03	0.59
12:AB:158:GLU:HB3	12:AB:162:LEU:HD22	1.85	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
21:H:273:ARG:CZ	21:H:297:GLU:HG3	2.33	0.59
32:S:42:TRP:CH2	46:g:66:ILE:HA	2.38	0.59
34:U:19:VAL:HG12	34:U:37:GLY:C	2.28	0.59
37:X:22:ILE:HG23	37:X:66:GLU:OE2	2.03	0.59
40:a:654:A:H61	54:o:19:LYS:HD2	1.68	0.59
40:a:1406:U:O2'	40:a:1407:G:O4'	2.20	0.59
44:e:2:LYS:CE	44:e:52:ARG:HE	2.15	0.59
47:h:181:MET:HE2	47:h:181:MET:N	2.18	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
7:6:20:DA:C6	8:7:35:G:C2	2.91	0.58
8:7:15:U:C2	15:AF:83:VAL:HG12	2.18	0.58
9:9:94:ARG:CB	9:9:97:LYS:HE2	2.32	0.58
12:AB:19:GLU:O	12:AB:23:ARG:HB2	2.03	0.58
12:AB:77:HIS:NE2	14:AE:297:ARG:NH2	2.51	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:K:12:GLN:HB3	24:K:14:LYS:NZ	2.18	0.58
33:T:11:ILE:HG21	33:T:31:LEU:HD13	1.85	0.58
35:V:11:ARG:HE	35:V:58:VAL:CG2	2.16	0.58
38:Y:56:VAL:HA	38:Y:71:LYS:NZ	2.08	0.58
38:Y:99:LYS:HD3	38:Y:138:VAL:O	2.02	0.58
8:7:15:U:OP1	22:I:132:ARG:NH2	2.35	0.58
21:H:155:LYS:O	21:H:169:SER:N	2.35	0.58
24:K:148:ASN:OD1	27:N:96:MET:HE1	2.03	0.58
30:Q:20:VAL:CG1	30:Q:85:MET:HE1	2.33	0.58
38:Y:116:MET:HG2	38:Y:124:MET:CB	2.34	0.58
40:a:685:A:O2'	40:a:773:U:O4	2.17	0.58
40:a:2682:A:H8	49:j:11:MET:CE	2.15	0.58
51:l:62:GLN:O	51:l:69:ARG:HD3	2.03	0.58
52:m:1:MET:HE3	52:m:3:ARG:HH11	1.67	0.58
53:n:46:ASP:OD1	53:n:49:LEU:HD13	2.03	0.58
58:s:74:TYR:CD2	58:s:74:TYR:N	2.69	0.58
58:s:102:GLU:CD	58:s:124:VAL:HG11	2.28	0.58
9:9:51:TYR:HB2	9:9:88:HIS:CB	2.32	0.58
9:9:60:LEU:HA	9:9:64:VAL:HB	1.84	0.58
16:C:12:ARG:CG	21:H:264:GLU:CB	2.81	0.58
21:H:131:LEU:CB	21:H:167:VAL:HA	2.32	0.58
22:I:142:MET:HE2	22:I:149:ILE:HG22	1.83	0.58
27:N:43:GLU:HG2	27:N:101:ILE:HD13	1.84	0.58
33:T:64:ARG:CZ	33:T:64:ARG:HB3	2.32	0.58
38:Y:109:ALA:HB2	38:Y:128:ILE:HG13	1.86	0.58
40:a:1197:G:H2'	40:a:1198:U:H6	1.68	0.58
40:a:2243:U:H2'	40:a:2244:U:C6	2.38	0.58
51:l:170:ARG:CZ	51:l:175:ILE:HA	2.33	0.58
9:9:46:ARG:CG	9:9:94:ARG:HH21	2.02	0.58
10:A:60:U:H4'	10:A:61:C:OP2	2.04	0.58
11:AA:371:ARG:NH1	12:AB:67:THR:OG1	2.34	0.58
12:AB:126:PHE:CE1	14:AE:87:LYS:HD3	2.38	0.58
10:B:15:G:N1	10:B:20:U:O2	2.36	0.58
17:D:736:C:H5''	25:L:90:MET:HE2	1.85	0.58
20:G:96:TRP:CH2	20:G:100:MET:HE3	2.38	0.58
40:a:1065:U:O2'	40:a:1066:U:O5'	2.16	0.58
40:a:2335:A:OP2	63:x:13:ARG:CD	2.51	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
47:h:62:TYR:CE2	47:h:64:ILE:HD13	2.38	0.58
57:r:97:ARG:NH1	57:r:101:ASP:OD2	2.37	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:s:39:LYS:HA	58:s:44:TYR:CD1	2.39	0.58
65:z:82:GLY:CA	65:z:117:LEU:CD1	2.81	0.58
6:5:9:DG:P	11:AA:470:ARG:HA	2.43	0.58
17:D:588:G:H4'	27:N:3:MET:CE	2.33	0.58
17:D:1439:G:P	18:E:33:LYS:HZ1	2.24	0.58
18:E:61:GLN:NE2	18:E:66:LEU:HD22	2.18	0.58
29:P:22:THR:O	29:P:26:VAL:HG23	2.03	0.58
38:Y:102:ARG:CG	38:Y:141:ASP:HA	2.33	0.58
40:a:1028:A:H2'	40:a:1029:A:C8	2.38	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
50:k:7:GLU:CD	50:k:7:GLU:H	2.11	0.58
53:n:4:LEU:HD11	53:n:101:GLU:N	2.18	0.58
55:p:149:ARG:NH2	55:p:162:VAL:N	2.52	0.58
60:u:55:MET:CE	60:u:60:ARG:HG2	2.33	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
6:5:25:DA:C2	7:6:5:DG:C2	2.92	0.58
8:7:7:U:H5''	8:7:7:U:C6	2.39	0.58
10:A:15:G:N1	10:A:20:U:O2	2.37	0.58
12:AB:148:LYS:NZ	29:P:102:LEU:CD2	2.58	0.58
12:AB:148:LYS:HZ3	29:P:102:LEU:HB3	1.68	0.58
17:D:1107:C:P	22:I:172:ARG:HG3	2.43	0.58
24:K:93:ARG:HB3	24:K:93:ARG:NH2	2.18	0.58
26:M:24:ALA:O	26:M:27:VAL:HG22	2.04	0.58
28:O:49:ARG:HB3	28:O:53:GLU:OE2	2.02	0.58
38:Y:33:ASN:HB3	38:Y:36:GLU:CG	2.30	0.58
40:a:2259:U:N3	40:a:2260:C:C5	2.71	0.58
57:r:37:VAL:HG12	57:r:43:ASN:HD21	1.68	0.58
58:s:132:HIS:O	58:s:135:GLN:HB2	2.03	0.58
2:1:11:ARG:NH1	2:1:98:LYS:HE3	2.19	0.58
5:4:63:ILE:HD11	5:4:91:PHE:CE2	2.37	0.58
6:5:10:DT:O3'	12:AB:68:THR:CA	2.51	0.58
9:9:23:LEU:N	9:9:118:ILE:HD11	2.19	0.58
9:9:24:SER:HB2	9:9:86:MET:HA	1.86	0.58
9:9:73:LYS:CG	9:9:117:LEU:HD12	2.32	0.58
12:AB:141:LEU:O	12:AB:151:LYS:HA	2.04	0.58
17:D:439:U:O2	17:D:440:C:C5	2.56	0.58
17:D:915:A:N6	17:D:916:U:C4	2.72	0.58
17:D:972:C:O2'	29:P:57:VAL:HG13	2.03	0.58
19:F:16:LEU:C	19:F:20:LYS:HZ3	2.11	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:I:24:ALA:C	22:I:29:PHE:HE2	2.11	0.58
22:I:85:GLU:OE2	22:I:88:ARG:NH1	2.26	0.58
24:K:10:GLU:OE1	24:K:10:GLU:N	2.35	0.58
35:V:4:LYS:HD2	35:V:5:ILE:HG23	1.85	0.58
60:u:91:ASP:O	60:u:95:LEU:HD23	2.03	0.58
7:6:23:DC:H5''	14:AE:259:ARG:NH1	1.92	0.58
8:7:10:U:H5''	8:7:10:U:O2	2.03	0.58
11:AA:838:CYS:HB2	11:AA:918:LEU:HD22	1.85	0.58
17:D:829:G:O3'	20:G:23:TRP:CZ2	2.56	0.58
21:H:75:VAL:HG23	21:H:81:GLU:OE2	2.04	0.58
24:K:146:ASN:OD1	24:K:147:MET:N	2.37	0.58
27:N:7:ILE:HB	27:N:77:ARG:NH1	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	1.86	0.58
33:T:32:LEU:HD11	33:T:62:GLN:OE1	2.04	0.58
37:X:93:ARG:HG2	37:X:95:LEU:HD23	1.85	0.58
40:a:70:G:H4'	40:a:71:A:OP1	2.02	0.58
40:a:1021:A:N1	40:a:1141:U:O4	2.37	0.58
43:d:42:C:P	53:n:64:LYS:HZ1	2.26	0.58
44:e:18:LEU:HD11	44:e:54:LYS:HE3	1.86	0.58
51:l:148:ILE:HD13	51:l:187:VAL:HB	1.85	0.58
58:s:53:TYR:CD1	58:s:121:LYS:HD2	2.39	0.58
58:s:72:LYS:HD3	58:s:74:TYR:HH	1.69	0.58
4:3:94:ARG:HB3	4:3:103:ILE:HD12	1.86	0.58
16:C:13:PHE:HB3	16:C:51:TYR:CD1	2.39	0.58
24:K:156:LYS:HA	27:N:66:PHE:CD2	2.39	0.58
28:O:94:LEU:O	28:O:98:LEU:HD13	2.04	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
43:d:5:U:OP1	43:d:61:G:O2'	2.16	0.58
45:f:40:ASP:OD1	45:f:45:ARG:NH2	2.37	0.58
57:r:30:LEU:HD23	57:r:35:LYS:HE2	1.85	0.58
58:s:120:ARG:CZ	58:s:120:ARG:HB2	2.34	0.58
59:t:121:GLU:OE2	64:y:41:GLN:NE2	2.37	0.58
60:u:61:LEU:HB3	60:u:62:PRO:HD2	1.85	0.58
4:3:6:ARG:NH1	40:a:84:A:O2'	2.36	0.58
4:3:7:ARG:HH22	40:a:98:G:N2	2.00	0.58
9:9:4:ASN:HB3	9:9:8:LYS:NZ	2.19	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
12:AB:6:LEU:H	12:AB:88:VAL:HG21	1.69	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:695:A:H8	17:D:695:A:H5''	1.68	0.58
17:D:1308:U:P	37:X:98:ARG:HG3	2.43	0.58
24:K:136:VAL:O	24:K:140:THR:HG23	2.04	0.58
26:M:66:LEU:HD11	26:M:100:ALA:HB3	1.85	0.58
40:a:607:U:C5	40:a:620:G:C4	2.91	0.58
40:a:2349:G:C6	40:a:2369:A:C6	2.92	0.58
40:a:2683:C:H4'	49:j:13:ARG:CZ	2.34	0.58
1:O:16:GLU:C	1:O:18:GLN:OE1	2.46	0.57
10:B:30:G:O2'	17:D:1339:A:C2	2.52	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
20:G:66:LYS:HB3	20:G:154:MET:CE	2.34	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
44:e:2:LYS:HD2	44:e:6:LEU:HD11	1.85	0.57
58:s:133:ALA:C	58:s:135:GLN:N	2.60	0.57
61:v:26:VAL:HG13	61:v:104:GLU:CD	2.29	0.57
3:2:1:MET:N	40:a:142:A:O2'	2.33	0.57
8:7:21:U:C4	22:I:82:GLU:HB2	2.40	0.57
11:AA:1223:ARG:NH2	14:AE:721:SER:OG	2.38	0.57
12:AB:137:ALA:HA	12:AB:156:ASN:HA	1.86	0.57
14:AE:1143:ASP:OD1	14:AE:1148:ARG:NH1	2.37	0.57
20:G:35:ARG:HD2	21:H:14:LYS:CE	2.34	0.57
28:O:5:GLN:NE2	28:O:20:PHE:CB	2.67	0.57
33:T:28:GLN:HB2	33:T:66:LEU:HD21	1.86	0.57
38:Y:32:VAL:HG22	38:Y:60:VAL:CG2	2.34	0.57
40:a:372:G:O2'	40:a:400:G:O6	2.16	0.57
40:a:1682:G:H2'	40:a:1683:U:C6	2.39	0.57
40:a:2395:C:H2'	40:a:2396:G:O4'	2.03	0.57
40:a:2816:G:O4'	48:i:41:HIS:CE1	2.57	0.57
41:b:55:ARG:NE	41:b:55:ARG:HA	2.19	0.57
43:d:106:G:H2'	43:d:107:G:O4'	2.04	0.57
52:m:12:ARG:NE	52:m:44:VAL:HG21	2.19	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
12:AB:89:PRO:HG2	14:AE:290:ILE:CG2	2.33	0.57
18:E:61:GLN:HE21	18:E:66:LEU:HD22	1.69	0.57
20:G:52:GLU:O	20:G:56:GLU:OE1	2.23	0.57
21:H:273:ARG:HD3	21:H:280:LEU:HD11	1.85	0.57
22:I:25:ASN:N	22:I:29:PHE:HE2	2.01	0.57
22:I:82:GLU:O	22:I:86:LYS:HD3	2.04	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:N:8:ALA:O	27:N:12:THR:HG23	2.03	0.57
40:a:5:A:H2'	40:a:6:A:C8	2.39	0.57
40:a:500:G:N1	40:a:503:A:OP2	2.37	0.57
40:a:1198:U:H2'	40:a:1199:U:C6	2.39	0.57
43:d:48:U:H2'	43:d:49:C:C6	2.40	0.57
54:o:55:LEU:HD21	54:o:59:ILE:HD11	1.87	0.57
23:J:196:ASN:ND2	23:J:199:LEU:HG	2.20	0.57
26:M:26:PHE:CD1	26:M:101:MET:SD	2.97	0.57
26:M:28:ASN:HA	26:M:31:MET:HE3	1.85	0.57
34:U:12:LYS:CD	34:U:13:LYS:HG2	2.33	0.57
40:a:782:A:C2	47:h:225:MET:HE2	2.39	0.57
40:a:1869:G:N2	40:a:1871:A:O2'	2.37	0.57
50:k:34:LEU:H	50:k:51:GLU:CD	2.12	0.57
51:l:17:THR:HA	51:l:21:ARG:NH2	2.19	0.57
62:w:9:GLN:O	62:w:17:ARG:HD3	2.04	0.57
5:4:48:MET:HE3	5:4:84:PRO:O	2.04	0.57
9:9:38:MET:SD	38:Y:117:THR:HG22	2.45	0.57
10:B:60:U:H4'	10:B:61:C:OP2	2.04	0.57
16:C:60:LYS:NZ	17:D:734:G:C2'	2.64	0.57
17:D:974:A:OP1	32:S:69:ARG:NH1	2.37	0.57
20:G:107:VAL:O	20:G:111:ILE:HG12	2.04	0.57
29:P:86:ALA:O	29:P:90:LEU:CD1	2.53	0.57
32:S:90:ARG:C	32:S:92:GLU:OE1	2.47	0.57
40:a:811:U:H2'	60:u:21:ARG:HA	1.86	0.57
44:e:4:LYS:HZ2	44:e:7:ARG:HH12	1.52	0.57
58:s:31:GLU:OE2	58:s:35:ARG:NH1	2.37	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
8:7:12:U:H3'	8:7:12:U:H6	1.70	0.57
17:D:1356:G:H2'	17:D:1357:A:C8	2.40	0.57
25:L:14:GLN:OE1	25:L:83:ALA:HA	2.05	0.57
25:L:95:ALA:O	25:L:96:VAL:C	2.47	0.57
26:M:23:LEU:HD12	26:M:23:LEU:H	1.70	0.57
34:U:14:ARG:HD3	34:U:42:ILE:HG21	1.86	0.57
38:Y:45:THR:HG21	38:Y:50:LYS:HZ2	1.70	0.57
40:a:580:U:H2'	40:a:581:C:H6	1.69	0.57
40:a:628:G:C6	40:a:636:G:C2	2.92	0.57
40:a:1141:U:H5	58:s:68:LYS:NZ	2.02	0.57
40:a:1278:C:O2'	62:w:27:SER:OG	2.16	0.57
40:a:1824:G:H5''	47:h:52:ARG:HH22	1.69	0.57
3:2:54:GLU:OE1	3:2:54:GLU:N	2.38	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:4:2:PHE:HE2	5:4:55:GLU:HG2	1.69	0.57
11:AA:13:LYS:HB2	11:AA:1180:MET:HE2	1.86	0.57
14:AE:74:LYS:HZ3	29:P:89:ARG:HA	1.70	0.57
10:B:70:G:H2'	10:B:71:C:H5''	1.85	0.57
29:P:63:ASP:OD2	29:P:64:GLN:N	2.38	0.57
35:V:11:ARG:HE	35:V:58:VAL:HG22	1.69	0.57
38:Y:116:MET:HB3	38:Y:124:MET:HE2	1.87	0.57
52:m:24:THR:HG23	52:m:27:GLY:H	1.68	0.57
61:v:1:MET:HE3	61:v:1:MET:CA	2.34	0.57
61:v:97:GLN:H	61:v:100:LYS:HZ1	1.51	0.57
61:v:105:MET:HE2	61:v:108:VAL:HG21	1.87	0.57
65:z:53:ARG:CG	65:z:57:PHE:HE2	2.18	0.57
1:0:15:SER:HB2	1:0:18:GLN:NE2	2.19	0.57
5:4:60:VAL:HG12	5:4:71:LYS:HE2	1.85	0.57
12:AB:102:LYS:CE	14:AE:285:LEU:HA	2.34	0.57
12:AB:102:LYS:HE2	14:AE:285:LEU:CA	2.34	0.57
17:D:280:C:O2	35:V:40:ARG:NH2	2.37	0.57
17:D:562:U:C3'	31:R:14:ARG:HH11	2.18	0.57
35:V:42:THR:HG22	35:V:44:LEU:CD1	2.34	0.57
38:Y:58:ILE:HG23	38:Y:66:PHE:CE2	2.40	0.57
40:a:64:A:H2'	40:a:65:U:C6	2.40	0.57
40:a:1360:G:N7	40:a:1361:G:C8	2.73	0.57
40:a:1442:U:H2'	40:a:1443:U:C6	2.40	0.57
40:a:1568:G:N7	47:h:28:LYS:NZ	2.52	0.57
40:a:2514:U:H2'	40:a:2515:C: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
10:A:75:C:O2'	10:A:76:A:C8	2.58	0.57
17:D:1145:A:O2'	17:D:1146:A:O5'	2.18	0.57
20:G:131:LYS:HG3	20:G:132:LYS:HD2	1.87	0.57
40:a:228:C:N4	40:a:2407:A:N3	2.52	0.57
40:a:1818:U:OP2	47:h:156:ARG:CZ	2.53	0.57
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
17:D:439:U:O2	17:D:440:C:C6	2.58	0.57
27:N:66:PHE:CG	27:N:67:GLN:OE1	2.57	0.57
40:a:2483:C:O2	61:v:51:ARG:NH2	2.38	0.57
57:r:6:LEU:HD11	57:r:37:VAL:CG2	2.33	0.57
61:v:70:ASP:C	61:v:92:TRP:HZ3	2.13	0.57
13:AC:82:LEU:HD11	13:AC:171:LEU:HD23	1.86	0.56
10:B:5:G:H2'	10:B:6:G:C5'	2.36	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:512:U:OP1	23:J:44:ARG:NH1	2.38	0.56
21:H:51:GLU:OE1	21:H:51:GLU:N	2.37	0.56
33:T:32:LEU:CD1	33:T:62:GLN:OE1	2.53	0.56
36:W:40:ILE:HG21	36:W:66:MET:SD	2.45	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
9:9:122:GLN:HG2	9:9:123:ILE:H	1.70	0.56
11:AA:1122:LYS:NZ	11:AA:1126:ASP:OD1	2.38	0.56
16:C:55:LEU:O	16:C:59:ILE:HG12	2.04	0.56
17:D:193:C:O2'	18:E:59:ASP:OD2	2.23	0.56
17:D:911:U:H2'	17:D:912:C:C6	2.40	0.56
26:M:68:ASN:ND2	26:M:130:ASN:OD1	2.38	0.56
30:Q:15:GLN:OE1	30:Q:78:GLY:HA3	2.05	0.56
40:a:78:U:H5''	44:e:4:LYS:NZ	2.19	0.56
40:a:659:G:H1'	51:l:100:MET:HE1	1.87	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
49:j:180:VAL:O	49:j:180:VAL:HG13	2.05	0.56
64:y:51:ARG:HD3	64:y:58:ALA:HB3	1.86	0.56
8:7:6:U:C2	17:D:1493:A:H2	2.24	0.56
9:9:98:GLU:HA	9:9:101:LYS:HZ3	1.70	0.56
9:9:124:ASP:OD2	9:9:126:LEU:HD21	2.05	0.56
17:D:1145:A:HO2'	17:D:1146:A:P	2.27	0.56
21:H:117:LYS:CB	21:H:279:LYS:O	2.54	0.56
21:H:297:GLU:HG2	21:H:300:VAL:HG21	1.86	0.56
22:I:6:HIS:HB3	32:S:89:MET:SD	2.45	0.56
24:K:148:ASN:ND2	24:K:153:VAL:HG12	2.20	0.56
29:P:15:HIS:HA	29:P:18:ILE:HG22	1.88	0.56
29:P:21:ALA:O	29:P:24:GLU:HG3	2.04	0.56
33:T:35:GLN:CB	33:T:59:MET:HE1	2.35	0.56
34:U:39:PHE:HD1	34:U:50:THR:HG22	1.70	0.56
36:W:64:ASP:OD2	46:g:57:VAL:HG23	2.06	0.56
40:a:3:U:H2'	40:a:4:U:H6	1.69	0.56
40:a:2093:G:P	57:r:22:LYS:HZ2	2.20	0.56
41:b:51:VAL:C	41:b:62:LYS:NZ	2.63	0.56
43:d:42:C:C5'	53:n:64:LYS:HZ1	2.18	0.56
46:g:18:CYS:HB3	46:g:40:CYS:HB2	1.85	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
55:p:109:PHE:CE1	55:p:152:ARG:NH1	2.74	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:r:135:HIS:ND1	57:r:137:GLU:CD	2.44	0.56
58:s:37:ARG:HD3	58:s:39:LYS:HD2	1.88	0.56
59:t:20:MET:HB3	59:t:44:LYS:CE	2.35	0.56
60:u:84:LYS:NZ	60:u:98:ALA:O	2.20	0.56
10:A:5:G:H2'	10:A:6:G:C5'	2.35	0.56
11:AA:516:ASP:OD1	11:AA:516:ASP:O	2.23	0.56
10:B:30:G:O2'	17:D:1339:A:H2	1.80	0.56
23:J:62:ARG:HA	23:J:72:PHE:CE1	2.41	0.56
25:L:42:TRP:CZ2	25:L:102:MET:CG	2.88	0.56
26:M:66:LEU:HD23	26:M:70:ARG:HH21	1.69	0.56
30:Q:87:LYS:HG3	30:Q:113:VAL:CG2	2.35	0.56
33:T:10:LYS:O	33:T:14:GLU:OE1	2.23	0.56
37:X:28:THR:HG22	37:X:29:ARG:NH1	2.20	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
42:c:66:THR:O	42:c:70:GLU:OE1	2.23	0.56
46:g:47:LYS:HG2	53:n:115:ARG:NH2	2.20	0.56
51:l:42:GLY:CA	51:l:92:HIS:HE1	2.18	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
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
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
17:D:692:U:N3	17:D:695:A:OP2	2.34	0.56
20:G:19:GLN:HG3	21:H:76:GLU:CB	2.35	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
28:O:118:LEU:CD2	28:O:124:ARG:HA	2.35	0.56
40:a:16:C:C4'	48:i:15:MET:HE3	2.35	0.56
40:a:17:G:H2'	40:a:18:U:C6	2.41	0.56
40:a:589:U:H2'	40:a:590:A:H8	1.71	0.56
40:a:1365:A:O2'	42:c:11:ARG:NH1	2.39	0.56
40:a:1693:U:O2'	47:h:14:ARG:NH2	2.38	0.56
40:a:2192:U:H2'	40:a:2193:G:C8	2.40	0.56
50:k:19:HIS:ND1	50:k:41:PRO:HD2	2.21	0.56
59:t:20:MET:CB	59:t:44:LYS:HZ3	2.15	0.56
61:v:37:GLY:C	61:v:126:ILE:HD11	2.30	0.56
62:w:67:PHE:O	62:w:71:ARG:N	2.39	0.56
5:4:57:TYR:CD2	61:v:136:MET:HE2	2.40	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:4:77:VAL:HG11	5:4:79:ARG:NH2	2.21	0.56
9:9:27:VAL:HG13	9:9:27:VAL:O	2.05	0.56
9:9:56:ARG:NH2	40:a:1084:A:C1'	2.69	0.56
12:AB:130:PHE:CD2	12:AB:152:HIS:HE1	2.23	0.56
10:B:75:C:O2'	10:B:76:A:C8	2.58	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
19:F:26:ALA:HB3	19:F:28:VAL:HG23	1.88	0.56
23:J:138:SER:O	23:J:141:ASP:OD1	2.24	0.56
40:a:2071:A:H2'	40:a:2072:C:C6	2.40	0.56
41:b:21:LEU:HD21	41:b:41:ARG:NE	2.20	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
17:D:440:C:C4	17:D:441:A:N7	2.73	0.56
17:D:827:U:O4	17:D:872:A:N1	2.39	0.56
17:D:1366:C:O2'	29:P:62:ARG:NH2	2.38	0.56
17:D:1381:U:C2	17:D:1382:C:C6	2.94	0.56
21:H:116:VAL:CA	21:H:279:LYS:HD2	2.35	0.56
21:H:116:VAL:HA	21:H:279:LYS:HD2	1.88	0.56
22:I:151:VAL:HG12	22:I:200:VAL:CG2	2.35	0.56
32:S:63:ARG:NH2	32:S:68:GLY:O	2.32	0.56
33:T:3:LEU:HB2	33:T:35:GLN:CD	2.31	0.56
40:a:5:A:H2'	40:a:6:A:H8	1.70	0.56
40:a:2291:U:H2'	40:a:2292:U:C6	2.40	0.56
43:d:45:A:H5'	53:n:92:ARG:NH1	2.20	0.56
53:n:62:GLY:C	53:n:95:ARG:NH2	2.63	0.56
4:3:6:ARG:CZ	40:a:84:A:H2'	2.35	0.56
11:AA:839:VAL:HG12	11:AA:1049:ILE:HG12	1.87	0.56
14:AE:144:TYR:OH	14:AE:293:ARG:NH2	2.36	0.56
17:D:502:A:O3'	31:R:116:LYS:HE2	2.06	0.56
17:D:588:G:C5'	27:N:3:MET:HE1	2.36	0.56
20:G:35:ARG:HG2	20:G:40:ILE:HG13	1.87	0.56
21:H:163:ARG:CB	21:H:298:GLU:HG3	2.35	0.56
21:H:280:LEU:N	21:H:330:VAL:O	2.31	0.56
22:I:150:LYS:HE3	22:I:201:TRP:CZ3	2.41	0.56
24:K:74:VAL:HG11	24:K:144:LEU:HD12	1.88	0.56
27:N:7:ILE:O	27:N:10:MET:HB3	2.05	0.56
39:Z:14:MET:HG3	39:Z:15:SER:N	2.17	0.56
40:a:1857:G:O2'	40:a:1884:G:N2	2.38	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:e:2:LYS:HE2	44:e:52:ARG:HE	1.71	0.56
55:p:94:TYR:CE1	55:p:107:LEU:O	2.59	0.56
8:7:18:U:O2	8:7:18:U:H2'	2.06	0.56
9:9:47:GLU:O	9:9:51:TYR:CE1	2.59	0.56
12:AB:138:ARG:HD2	12:AB:154:VAL:O	2.05	0.56
17:D:280:C:H1'	35:V:40:ARG:NH1	2.21	0.56
20:G:19:GLN:CG	21:H:76:GLU:HB3	2.34	0.56
37:X:16:VAL:CG2	37:X:17:ILE:HD12	2.35	0.56
40:a:1799:G:C2	47:h:154:LEU:HD23	2.41	0.56
47:h:183:LYS:HE2	47:h:266:PHE:HA	1.88	0.56
58:s:73:VAL:C	58:s:74:TYR:HD2	2.14	0.56
63:x:21:LEU:HD22	63:x:23:ALA:HB2	1.87	0.56
5:4:80:HIS:CE1	5:4:83:LYS:HG3	2.41	0.56
6:5:10:DT:O3'	12:AB:68:THR:C	2.47	0.56
10:B:18:G:H1'	10:B:58:A:C2	2.41	0.56
18:E:61:GLN:HE21	18:E:66:LEU:CD2	2.18	0.56
21:H:100:LYS:O	21:H:104:ASP:N	2.38	0.56
39:Z:2:ILE:HB	39:Z:5:ASP:HB3	1.88	0.56
40:a:784:G:H5'	40:a:785:G:OP1	2.06	0.56
40:a:1266:G:O2'	40:a:2012:G:O6	2.22	0.56
40:a:2189:U:O2'	40:a:2190:G:C5'	2.54	0.56
41:b:68:LYS:HZ2	41:b:70:GLU:CD	2.12	0.56
44:e:23:ARG:HG3	44:e:24:GLU:N	2.21	0.56
45:f:7:ILE:CG2	45:f:55:VAL:HG21	2.35	0.56
58:s:73:VAL:HG12	58:s:74:TYR:N	2.20	0.56
59:t:12:ASP:CG	59:t:85:VAL:HG13	2.31	0.56
60:u:125:LEU:HD23	60:u:125:LEU:N	2.21	0.56
62:w:24:MET:HE2	62:w:34:ILE:HD13	1.88	0.56
63:x:36:TYR:CD2	63:x:52:SER:HB2	2.41	0.56
4:3:47:LYS:HE3	40:a:483:A:OP1	2.07	0.55
8:7:8:U:H5'	17:D:1397:C:C2	2.41	0.55
10:A:22:G:H2'	10:A:23:C:H6	1.70	0.55
11:AA:818:VAL:HG22	11:AA:1096:ILE:HG12	1.87	0.55
12:AB:26:VAL:HA	12:AB:58:GLU:OE1	2.05	0.55
17:D:375:U:OP1	34:U:70:ARG:CG	2.54	0.55
17:D:1329:A:OP1	37:X:28:THR:HB	2.06	0.55
22:I:31:ASP:HA	32:S:65:ARG:HH22	1.72	0.55
37:X:95:LEU:O	37:X:109:ARG:NH2	2.39	0.55
40:a:1289:C:C2	40:a:1290:C:C5	2.94	0.55
40:a:1570:A:H2'	40:a:1571:A:C8	2.41	0.55
41:b:51:VAL:C	41:b:62:LYS:HZ3	2.14	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:h:175:ARG:CG	47:h:181:MET:HE1	2.35	0.55
48:i:40:ARG:HG3	48:i:41:HIS:ND1	2.21	0.55
61:v:96:ILE:HA	61:v:100:LYS:NZ	2.21	0.55
11:AA:985:GLU:HB3	11:AA:988:LYS:HB2	1.89	0.55
17:D:946:A:H2'	17:D:947:G:C8	2.41	0.55
22:I:156:ARG:NH1	22:I:193:TYR:O	2.39	0.55
40:a:1038:G:H2'	40:a:1039:A:C8	2.42	0.55
44:e:53:VAL:O	44:e:57:LEU:HD23	2.06	0.55
17:D:110:C:O2'	34:U:25:ARG:O	2.21	0.55
17:D:276:G:H5'	35:V:17:MET:CE	2.35	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
40:a:84:A:N1	40:a:98:G:O2'	2.37	0.55
40:a:608:A:H2'	40:a:609:A:C8	2.41	0.55
40:a:1349:C:C2	40:a:1350:C:C5	2.95	0.55
40:a:2335:A:OP2	63:x:13:ARG:HB3	2.06	0.55
47:h:67:PHE:CE1	47:h:105:LEU:HD11	2.42	0.55
49:j:11:MET:SD	49:j:11:MET:C	2.90	0.55
59:t:59:LYS:CD	59:t:89:ASN:HA	2.36	0.55
59:t:59:LYS:HD2	59:t:89:ASN:HA	1.87	0.55
64:y:106:LYS:HA	64:y:109:ARG:NH2	2.20	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
9:9:112:ALA:O	9:9:123:ILE:CD1	2.54	0.55
10:B:22:G:H2'	10:B:23:C:H6	1.70	0.55
17:D:1076:U:OP1	20:G:174:LYS:NZ	2.40	0.55
18:E:6:SER:O	18:E:10:ARG:HG2	2.07	0.55
22:I:140:ASN:O	22:I:144:LEU:HD23	2.06	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
37:X:71:ARG:NE	46:g:50:ASP:O	2.39	0.55
40:a:64:A:H2'	40:a:65:U:H6	1.70	0.55
40:a:1059:G:H2'	40:a:1060:U:C5	2.41	0.55
44:e:56:LEU:O	44:e:59:GLU:HG3	2.06	0.55
57:r:54:LEU:HA	57:r:57:LYS:NZ	2.20	0.55
58:s:13:ARG:CZ	58:s:49:ASP:O	2.54	0.55
6:5:15:DT:C2	11:AA:183:TRP:CD1	2.94	0.55
8:7:11:U:O2	8:7:11:U:H2'	2.06	0.55
10:A:56:C:H1'	40:a:2112:G:C6	2.42	0.55
12:AB:116:VAL:HG23	12:AB:130:PHE:CE2	2.41	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)
32:S:87:ALA:HB1	32:S:93:ILE:HG13	1.87	0.55
40:a:960:A:H61	61:v:82:MET:HE1	1.71	0.55
40:a:2517:C:C2	40:a:2542:A:N6	2.74	0.55
40:a:2803:G:H2'	40:a:2804:U:C6	2.41	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
51:l:62:GLN:HA	51:l:69:ARG:NH2	2.20	0.55
54:o:16:LYS:HD2	54:o:65:ALA:HB1	1.88	0.55
54:o:30:ARG:NH1	60:u:62:PRO:HB3	2.21	0.55
3:2:2:ILE:HG21	3:2:42:GLU:OE1	2.06	0.55
4:3:48:PRO:HG3	4:3:56:GLY:HA3	1.89	0.55
4:3:69:ASN:ND2	40:a:329:G:OP2	2.37	0.55
8:7:1:A:H2'	8:7:2:U:H6	1.70	0.55
10:A:16:C:O2	40:a:2181:U:H5'	2.06	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:112:PRO:HB3	12:AB:132:GLU:OE1	2.07	0.55
17:D:671:G:O3'	25:L:79:ARG:NH2	2.39	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
17:D:1071:C:H2'	17:D:1072:G:H8	1.71	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
29:P:47:GLU:OE1	29:P:67:ILE:O	2.24	0.55
37:X:28:THR:O	37:X:31:LYS:HG2	2.07	0.55
37:X:95:LEU:HB3	37:X:96:PRO:CD	2.37	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: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:2742:G:P	56:q:36:ARG:NH1	2.80	0.55
56:q:1:MET:HE1	56:q:35:GLN:C	2.32	0.55
64:y:15:GLN:NE2	64:y:16:ASP:OD1	2.40	0.55
2:1:43:ALA:O	2:1:47:VAL:HG12	2.07	0.55
3:2:19:LYS:NZ	40:a:1340:U:OP1	2.34	0.55
4:3:26:LYS:HE2	4:3:26:LYS:HA	1.88	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:A:22:G:O2'	10:A:23:C:P	2.65	0.55
10:A:37:A:H2'	10:A:38:A:O4'	2.07	0.55
11:AA:1070:HIS:NE2	11:AA:1114:GLU:OE1	2.36	0.55
17:D:50:A:O2'	17:D:360:G:N2	2.40	0.55
17:D:1078:U:O3'	24:K:138:ARG:NH2	2.40	0.55
17:D:1370:G:C2	17:D:1371:G:C8	2.95	0.55
19:F:19:PHE:CE2	30:Q:110:ILE:HG22	2.42	0.55
21:H:268:VAL:HG23	21:H:269:ALA:N	2.22	0.55
32:S:27:LEU:HD21	32:S:48:LEU:N	2.21	0.55
33:T:80:GLN:O	33:T:84:ARG:HG2	2.05	0.55
38:Y:15:GLY:HA2	38:Y:50:LYS:CG	2.33	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:1708:C:C2	40:a:1709:U:C5	2.95	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
51:l:1:MET:HE1	51:l:20:GLY:N	2.21	0.55
3:2:56:GLU:CD	3:2:88:LYS:HA	2.31	0.55
12:AB:148:LYS:HE2	29:P:102:LEU:HB3	1.87	0.55
16:C:39:ILE:HD12	17:D:719:C:O2	2.07	0.55
17:D:713:G:H2'	17:D:714:G:C8	2.42	0.55
20:G:5:SER:OG	20:G:8:ASP:OD2	2.24	0.55
21:H:5:PHE:O	21:H:9:PHE:HD1	1.90	0.55
25:L:99:ALA:HB3	25:L:104:LYS:NZ	2.22	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:923:G:O4'	41:b:29:GLU:OE2	2.24	0.55
40:a:930:G:H1'	45:f:25:LEU:HD21	1.87	0.55
40:a:1266:G:OP1	48:i:16:ARG:NE	2.35	0.55
40:a:1433:A:H2'	40:a:1434:A:O4'	2.07	0.55
40:a:1774:C:O2	40:a:1774:C:H2'	2.07	0.55
40:a:2315:G:H4'	53:n:127:ASN:HD22	1.71	0.55
44:e:20:ASN:O	44:e:23:ARG:HG2	2.06	0.55
47:h:157:SER:O	47:h:195:VAL:HG11	2.07	0.55
59:t:35:VAL:HG23	59:t:63:VAL:HA	1.89	0.55
1:0:10:LYS:HE2	40:a:996:A:OP1	2.07	0.55
9:9:24:SER:CB	9:9:86:MET:HE2	2.36	0.55
10:A:76:A:N1	40:a:2422:C:C6	2.75	0.55
11:AA:481:LEU:CD2	12:AB:16:ARG:HD2	2.12	0.55
12:AB:78:PHE:CD1	12:AB:85:PRO:HB3	2.42	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:AC:28:LEU:HD22	13:AC:201:LEU:HD23	1.88	0.55
14:AE:287:ALA:CB	14:AE:292:VAL:HG22	2.37	0.55
10:B:37:A:H2'	10:B:38:A:O4'	2.07	0.55
17:D:321:A:N7	17:D:328:C:O2'	2.38	0.55
19:F:19:PHE:CE1	19:F:23:CYS:SG	3.00	0.55
40:a:150:U:H2'	40:a:151:C:H6	1.72	0.55
40:a:857:G:H5''	41:b:78:LYS:HZ2	1.72	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
51:l:147:LEU:HD11	51:l:170:ARG:HD2	1.89	0.55
5:4:57:TYR:CB	61:v:136:MET:CE	2.84	0.55
9:9:23:LEU:HD21	9:9:96:PHE:CD1	2.42	0.55
10:A:60:U:P	10:A:61:C:H41	2.30	0.55
12:AB:141:LEU:CA	12:AB:152:HIS:C	2.80	0.55
10:B:22:G:O2'	10:B:23:C:P	2.65	0.55
17:D:324:G:N1	17:D:327:A:OP2	2.39	0.55
18:E:32:ILE:HG23	18:E:75:HIS:NE2	2.21	0.55
20:G:30:PHE:CD1	20:G:45:LYS:NZ	2.74	0.55
23:J:162:ALA:HA	23:J:165:ARG:CZ	2.36	0.55
37:X:93:ARG:CG	37:X:95:LEU:HD23	2.35	0.55
40:a:888:C:N4	40:a:889:C:N4	2.55	0.55
40:a:1321:A:C4	40:a:1322:A:C8	2.95	0.55
40:a:1980:G:O2'	40:a:1982:U:OP2	2.23	0.55
40:a:2376:A:N3	63:x:111:ARG:NH1	2.54	0.55
40:a:2638:G:O2'	40:a:2775:G:N2	2.37	0.55
46:g:5:ILE:CD1	53:n:64:LYS:HE3	2.36	0.55
49:j:156:PHE:CD2	58:s:81:ILE:HD13	2.42	0.55
57:r:4:ILE:HD12	57:r:17:ASP:O	2.05	0.55
2:1:62:ASP:OD1	2:1:62:ASP:O	2.24	0.54
8:7:6:U:C2	17:D:1493:A:C2	2.95	0.54
24:K:157:ARG:NE	27:N:43:GLU:O	2.40	0.54
28:O:88:MET:HE1	28:O:95:ARG:HA	1.89	0.54
34:U:23:ASP:HB3	34:U:26:ASN:OD1	2.07	0.54
38:Y:45:THR:HG21	38:Y:50:LYS:CD	2.36	0.54
64:y:9:GLU:OE2	64:y:55:LEU:N	2.37	0.54
2:1:33:LEU:HD23	2:1:51:LEU:HD23	1.89	0.54
10:A:18:G:H1'	10:A:58:A:C2	2.41	0.54
11:AA:143:ARG:NH2	11:AA:512:SER:O	2.40	0.54
10:B:60:U:P	10:B:61:C:H41	2.30	0.54
17:D:564:C:P	31:R:12:ARG:HH22	2.30	0.54
18:E:78:ASN:C	18:E:82:GLN:OE1	2.50	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:K:14:LYS:HD3	24:K:117:VAL:CG1	2.38	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	1.88	0.54
26:M:79:ARG:O	26:M:79:ARG:HD2	2.06	0.54
40:a:728:G:C4	40:a:730:A:C8	2.95	0.54
40:a:1019:U:O4	40:a:1142:A:N1	2.40	0.54
40:a:1353:A:H2'	40:a:1354:A:C8	2.43	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
49:j:55:LYS:NZ	49:j:60:VAL:N	2.55	0.54
51:l:60:TRP:CD1	51:l:65:THR:HG21	2.43	0.54
55:p:149:ARG:NE	55:p:162:VAL:O	2.40	0.54
57:r:143:ILE:O	57:r:143:ILE:HG13	2.08	0.54
7:6:20:DA:N6	8:7:35:G:C2	2.76	0.54
8:7:1:A:C4	8:7:2:U:C5	2.95	0.54
9:9:36:ASP:N	9:9:36:ASP:OD1	2.40	0.54
13:AC:100:LEU:HD23	13:AC:115:ILE:HG21	1.89	0.54
10:B:32:C:H5'	17:D:1340:A:O3'	2.06	0.54
16:C:13:PHE:CZ	16:C:21:ILE:HG12	2.42	0.54
17:D:547:A:OP1	23:J:70:ARG:NH2	2.41	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
24:K:112:ARG:HG3	24:K:116:GLU:OE2	2.06	0.54
24:K:131:THR:O	24:K:131:THR:HG22	2.08	0.54
26:M:103:TRP:HB3	26:M:137:LYS:HD3	1.89	0.54
27:N:78:VAL:HG12	27:N:85:ILE:HG21	1.89	0.54
31:R:27:CYS:SG	31:R:30:LYS:NZ	2.68	0.54
40:a:3:U:H2'	40:a:4:U:C6	2.43	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:1817:G:C6	40:a:1818:U:C5	2.96	0.54
40:a:2297:A:C2	40:a:2320:U:O4'	2.61	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
53:n:5:HIS:HD2	53:n:97:TRP:CE2	2.24	0.54
53:n:134:GLU:N	53:n:134:GLU:OE1	2.40	0.54
58:s:74:TYR:CE2	58:s:92:MET:HE1	2.42	0.54
64:y:31:TRP:CZ3	64:y:40:LEU:HD11	2.43	0.54
4:3:7:ARG:HB3	40:a:85:G:OP2	2.08	0.54
5:4:35:GLU:OE1	5:4:93:ARG:CZ	2.56	0.54
8:7:3:G:C3'	17:D:1500:A:N6	2.71	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:9:73:LYS:HD2	9:9:73:LYS:O	2.06	0.54
9:9:94:ARG:CB	9:9:97:LYS:HZ3	2.19	0.54
11:AA:103:VAL:HB	11:AA:114:VAL:HG11	1.89	0.54
11:AA:633:LEU:HD13	11:AA:644:LEU:HD23	1.89	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:73:C:O2	17:D:73:C:H2'	2.07	0.54
17:D:280:C:H1'	35:V:40:ARG:CZ	2.37	0.54
17:D:662:U:O2'	17:D:836:G:OP1	2.21	0.54
17:D:695:A:OP1	30:Q:53:ARG:HD3	2.07	0.54
18:E:24:ARG:O	18:E:28:MET:HG2	2.08	0.54
21:H:9:PHE:O	21:H:13:LEU:HD23	2.07	0.54
23:J:175:ALA:O	23:J:178:MET:SD	2.65	0.54
24:K:45:ARG:C	24:K:71:MET:HE2	2.32	0.54
24:K:77:ASN:HB2	24:K:82:GLN:HG3	1.89	0.54
29:P:5:ARG:HG3	29:P:7:ARG:NH1	2.23	0.54
30:Q:46:THR:OG1	30:Q:49:GLY:N	2.34	0.54
32:S:42:TRP:CH2	46:g:66:ILE:HG23	2.42	0.54
33:T:3:LEU:HD22	33:T:8:THR:HG22	1.88	0.54
40:a:1082:U:O4	40:a:1086:A:N1	2.39	0.54
40:a:2838:G:C4	40:a:2839:G:C8	2.95	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
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
6:5:16:DG:OP1	11:AA:175:ARG:NH2	2.39	0.54
7:6:20:DA:C6	8:7:35:G:N2	2.76	0.54
9:9:61:ARG:NH2	40:a:1045:C:O3'	2.40	0.54
11:AA:377:THR:HB	12:AB:65:HIS:NE2	2.23	0.54
12:AB:54:TYR:HE2	14:AE:291:ILE:CG2	2.13	0.54
17:D:17:U:H2'	17:D:18:C:C6	2.42	0.54
17:D:106:C:N4	18:E:10:ARG:NH2	2.56	0.54
18:E:9:LYS:C	18:E:13:GLN:NE2	2.62	0.54
19:F:31:GLU:O	19:F:34:ARG:HG2	2.08	0.54
19:F:63:GLU:HG2	19:F:67:ARG:NH2	2.23	0.54
21:H:118:GLY:O	21:H:133:GLY:HA2	2.06	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
26:M:23:LEU:O	26:M:27:VAL:HG13	2.07	0.54
26:M:103:TRP:CD1	26:M:137:LYS:HZ2	2.25	0.54
27:N:50:LYS:HE2	27:N:50:LYS:HA	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:1000:A:H2'	40:a:1001:A:C8	2.43	0.54
40:a:2020:A:C2	40:a:2022:U:O4'	2.61	0.54
40:a:2649:C:H2'	40:a:2650:U:H6	1.73	0.54
40:a:2833:U:O2	49:j:58:ASN:ND2	2.41	0.54
46:g:61:ASN:OD1	46:g:65:ASN:ND2	2.40	0.54
50:k:5:ILE:HG23	50:k:28:ARG:NH1	2.21	0.54
51:l:175:ILE:CG2	51:l:180:LEU:HD11	2.38	0.54
59:t:2:ILE:CG2	59:t:8:LEU:HD11	2.38	0.54
59:t:73:ASP:OD2	64:y:80:VAL:HG11	2.08	0.54
65:z:78:LYS:CD	65:z:117:LEU:CD2	2.84	0.54
5:4:6:ALA:HB3	5:4:65:VAL:CG2	2.37	0.54
9:9:3:LEU:HD12	9:9:4:ASN:CA	2.37	0.54
11:AA:684:ASN:OD1	11:AA:687:ARG:NH2	2.41	0.54
12:AB:5:TYR:HA	12:AB:88:VAL:HG22	1.90	0.54
12:AB:123:PHE:CZ	29:P:85:ASP:CB	2.78	0.54
14:AE:74:LYS:HZ3	29:P:89:ARG:CA	2.21	0.54
10:B:31:G:O2'	17:D:1340:A:H4'	2.08	0.54
10:B:75:C:P	40:a:2602:A:O2'	2.61	0.54
40:a:151:C:C2	40:a:152:A:C8	2.95	0.54
40:a:1656:C:OP1	49:j:141:ARG:CD	2.56	0.54
40:a:2351:G:O6	54:o:39:LYS:CE	2.55	0.54
49:j:4:LEU:HG	49:j:32:ASN:OD1	2.08	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
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
22:I:85:GLU:HG3	22:I:89:LYS:NZ	2.23	0.54
24:K:86:LYS:N	24:K:86:LYS:HD2	2.23	0.54
31:R:74:LEU:HD11	31:R:80:ILE:HD11	1.90	0.54
38:Y:44:LYS:O	38:Y:44:LYS:HD2	2.07	0.54
40:a:16:C:O4'	48:i:15:MET:CE	2.55	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:2064:C:H2'	40:a:2065:C:C6	2.42	0.54
62:w:35:LYS:NZ	62:w:112:TYR:CE2	2.76	0.54
9:9:31:ARG:CD	40:a:1053:C:O2'	2.47	0.54
9:9:129:LEU:HD12	9:9:129:LEU:C	2.32	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:132:ARG:HA	22:I:135:LYS:HE3	1.89	0.54
23:J:61:VAL:HG21	23:J:200:ILE:HD11	1.90	0.54
31:R:56:ARG:HA	31:R:62:GLU:OE2	2.08	0.54
35:V:31:HIS:ND1	35:V:32:PRO:HD2	2.23	0.54
40:a:1386:C:H2'	40:a:1387:A:C8	2.42	0.54
40:a:1567:G:OP2	47:h:83:TYR:OH	2.19	0.54
40:a:2766:A:C2	40:a:2767:C:C6	2.95	0.54
44:e:28:LEU:HD23	44:e:43:LEU:HD22	1.88	0.54
61:v:45:GLN:HE21	61:v:124:LEU:HD23	1.72	0.54
65:z:92:ARG:HA	65:z:95:LEU:HD12	1.89	0.54
5:4:57:TYR:HB3	61:v:136:MET:HE3	1.87	0.54
9:9:3:LEU:CG	9:9:4:ASN:H	2.21	0.54
12:AB:119:THR:HA	12:AB:125:GLY:H	1.73	0.54
14:AE:1175:LEU:O	14:AE:1187:GLU:HA	2.08	0.54
16:C:54:GLN:HG3	16:C:55:LEU:N	2.21	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
25:L:3:HIS:CG	25:L:65:GLU:OE1	2.61	0.54
27:N:87:LYS:HG2	27:N:92:LEU:HA	1.90	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
40:a:581:C:H2'	40:a:582:A:H8	1.73	0.54
40:a:1830:C:C2	40:a:1831:G:C8	2.96	0.54
40:a:2328:A:H2'	40:a:2329:U:H6	1.68	0.54
59:t:42:THR:CG2	59:t:44:LYS:HZ1	2.20	0.54
64:y:27:GLU:HB3	64:y:87:LYS:NZ	2.22	0.54
1:0:13:ARG:NH2	65:z:97:ASP:OD1	2.40	0.54
3:2:30:ILE:HG22	3:2:32:LEU:CD2	2.38	0.54
3:2:56:GLU:OE1	3:2:87:LEU:CA	2.56	0.54
11:AA:29:SER:O	11:AA:33:ASP:HB2	2.07	0.54
17:D:197:A:H1'	17:D:198:G:OP2	2.08	0.54
17:D:1399:C:O2	17:D:1502:A:N6	2.40	0.54
25:L:42:TRP:CZ2	25:L:102:MET:SD	3.01	0.54
28:O:67:VAL:C	28:O:68:LYS:HD2	2.34	0.54
29:P:6:ILE:HG21	29:P:100:ILE:HD11	1.89	0.54
31:R:110:ARG:NE	31:R:117:TYR:CD2	2.76	0.54
37:X:81:MET:CE	37:X:92:ARG:HD3	2.38	0.54
38:Y:80:LYS:CG	38:Y:86:LYS:O	2.56	0.54
40:a:839:U:H2'	40:a:840:C:H6	1.73	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:2191:A:H2'	40:a:2192:U:H6	1.71	0.54
47:h:17:VAL:HB	47:h:204:VAL:HG12	1.89	0.54
49:j:55:LYS:NZ	49:j:59:ARG:HB3	2.23	0.54
49:j:124:ARG:NH1	49:j:161:MET:O	2.41	0.54
50:k:9:ILE:CG2	50:k:27:LYS:HZ1	2.20	0.54
58:s:133:ALA:C	58:s:135:GLN:H	2.16	0.54
61:v:97:GLN:H	61:v:100:LYS:CE	2.21	0.54
63:x:38:GLN:HG2	63:x:50:ALA:CB	2.38	0.54
63:x:48:LEU:CD2	63:x:87:ILE:HD11	2.38	0.54
2:1:31:GLN:O	2:1:35:ILE:HG12	2.07	0.53
10:A:41:C:O4'	26:M:143:ARG:NH1	2.41	0.53
12:AB:121:GLY:HA3	12:AB:162:LEU:CD1	2.33	0.53
17:D:399:G:H2'	17:D:400:C:C6	2.43	0.53
27:N:87:LYS:HD2	27:N:91:GLU:CB	2.37	0.53
38:Y:33:ASN:HB2	38:Y:36:GLU:OE2	2.08	0.53
38:Y:77:VAL:O	38:Y:77:VAL:HG12	2.08	0.53
40:a:2454:G:C4	40:a:2455:G:C8	2.96	0.53
40:a:2747:G:O6	40:a:2755:C:H5''	2.08	0.53
47:h:74:ILE:CG2	47:h:96:TYR:HD1	2.21	0.53
59:t:14:SER:OG	59:t:86:LEU:HD12	2.08	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
6:5:9:DG:OP2	11:AA:473:ARG:HG2	2.05	0.53
6:5:10:DT:C7	11:AA:62:TYR:HB3	2.37	0.53
12:AB:36:GLU:H	12:AB:106:ASP:CG	2.15	0.53
13:AC:43:LEU:HD13	13:AC:217:ILE:HD11	1.90	0.53
14:AE:1000:GLY:HA3	14:AE:1026:PRO:HG2	1.90	0.53
17:D:76:G:C4	17:D:77:A:C8	2.95	0.53
17:D:750:C:C2	17:D:751:U:C5	2.96	0.53
17:D:1329:A:P	37:X:28:THR:HB	2.48	0.53
18:E:22:ALA:CA	18:E:25:ARG:HH21	2.21	0.53
28:O:5:GLN:NE2	28:O:22:LYS:NZ	2.56	0.53
30:Q:20:VAL:HB	30:Q:35:THR:HG23	1.89	0.53
31:R:25:GLU:OE1	31:R:59:ASN:ND2	2.42	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:151:C:H2'	40:a:152:A:H8	1.72	0.53
40:a:1779:U:H5	40:a:1784:A:N7	2.06	0.53
40:a:2038:G:H2'	40:a:2039:U:O4'	2.08	0.53
49:j:48:ILE:HG12	49:j:84:LEU:HD21	1.90	0.53
61:v:111:GLU:OE1	61:v:111:GLU:N	2.32	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:w:44:LEU:HD22	62:w:113:ILE:HD13	1.90	0.53
2:l:41:LYS:HE3	40:a:2010:G:P	2.48	0.53
3:2:6:ARG:NH2	3:2:10:VAL:HG22	2.24	0.53
7:6:14:DC:H2'	7:6:15:DC:C6	2.43	0.53
12:AB:148:LYS:NZ	29:P:102:LEU:HB3	2.24	0.53
17:D:37:U:O4	17:D:397:A:N1	2.40	0.53
17:D:552:U:O2'	31:R:83:ARG:O	2.19	0.53
17:D:1358:U:O4	17:D:1363:A:N1	2.41	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
25:L:36:ILE:O	25:L:36:ILE:HG23	2.09	0.53
25:L:62:MET:HA	25:L:62:MET:HE3	1.90	0.53
26:M:31:MET:SD	26:M:36:LYS:HA	2.48	0.53
26:M:79:ARG:HB2	26:M:84:THR:HG23	1.90	0.53
28:O:10:GLY:HA3	28:O:78:ALA:O	2.08	0.53
40:a:1412:U:C4	40:a:1413:A:N7	2.77	0.53
40:a:2259:U:C2	40:a:2260:C:C6	2.96	0.53
51:l:62:GLN:O	51:l:69:ARG:CD	2.56	0.53
55:p:85:LYS:CE	55:p:164:TYR:CD1	2.86	0.53
55:p:89:LEU:HD22	55:p:162:VAL:HG22	1.91	0.53
59:t:1:MET:CE	59:t:32:TYR:CB	2.87	0.53
61:v:96:ILE:HA	61:v:100:LYS:CE	2.38	0.53
61:v:97:GLN:N	61:v:100:LYS:CE	2.72	0.53
5:4:80:HIS:ND1	5:4:83:LYS:HB2	2.23	0.53
6:5:9:DG:H2'	12:AB:71:ALA:HA	1.90	0.53
7:6:23:DC:H5'	14:AE:259:ARG:NH1	2.11	0.53
14:AE:514:THR:HG21	14:AE:596:LEU:HD12	1.90	0.53
16:C:40:VAL:HG13	21:H:339:ARG:HD3	1.89	0.53
17:D:736:C:H2'	17:D:737:C:C6	2.43	0.53
18:E:32:ILE:CG2	18:E:75:HIS:NE2	2.71	0.53
18:E:56:PRO:HG2	18:E:57:ILE:HD12	1.90	0.53
20:G:53:ALA:CA	20:G:56:GLU:OE1	2.57	0.53
26:M:4:ARG:HG3	26:M:5:ARG:CG	2.22	0.53
26:M:85:TYR:CD2	26:M:151:PHE:CZ	2.97	0.53
27:N:31:LYS:HE3	27:N:31:LYS:HA	1.90	0.53
37:X:96:PRO:HG3	37:X:102:THR:HG22	1.89	0.53
38:Y:78:LEU:HD13	38:Y:108:ILE:HG12	1.90	0.53
40:a:2002:G:OP1	62:w:17:ARG:NH2	2.26	0.53
40:a:2308:G:C5	53:n:77:PHE:HZ	2.26	0.53
40:a:2849:U:O5'	64:y:93:ARG:NH2	2.42	0.53
50:k:29:THR:HG23	50:k:30:LYS:HG2	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:l:60:TRP:NE1	51:l:69:ARG:HH12	2.07	0.53
53:n:72:LYS:HA	53:n:81:GLN:HE22	1.74	0.53
55:p:33:LEU:HD11	55:p:136:ALA:HB1	1.89	0.53
61:v:21:ALA:HB2	61:v:100:LYS:HG3	1.90	0.53
61:v:45:GLN:NE2	61:v:125:PRO:HD2	2.22	0.53
1:0:10:LYS:CE	40:a:994:C:O2'	2.56	0.53
4:3:26:LYS:HE3	4:3:37:GLU:HB2	1.90	0.53
8:7:3:G:H3'	17:D:1500:A:N6	2.24	0.53
8:7:15:U:H1'	15:AF:83:VAL:HG11	1.91	0.53
9:9:97:LYS:HD3	9:9:130:PRO:HG3	1.89	0.53
12:AB:27:ASN:ND2	12:AB:58:GLU:HB2	2.24	0.53
14:AE:886:VAL:HG11	14:AE:1230:THR:HG21	1.89	0.53
17:D:274:A:H4'	35:V:16:LYS:NZ	2.24	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
23:J:105:MET:HE1	23:J:171:LEU:HB3	1.89	0.53
27:N:83:LEU:HD21	31:R:4:VAL:HG11	1.89	0.53
29:P:27:GLU:HA	29:P:30:LYS:NZ	2.23	0.53
30:Q:84:VAL:CG2	30:Q:107:ILE:HD11	2.37	0.53
31:R:35:THR:OG1	31:R:56:ARG:HG3	2.08	0.53
33:T:11:ILE:HA	33:T:14:GLU:OE1	2.09	0.53
37:X:28:THR:CA	37:X:31:LYS:HE3	2.37	0.53
38:Y:77:VAL:HA	38:Y:80:LYS:HD3	1.91	0.53
38:Y:102:ARG:HG3	38:Y:140:GLU:C	2.33	0.53
40:a:372:G:O2'	42:c:54:LYS:HE3	2.09	0.53
40:a:1278:C:H5'	62:w:24:MET:SD	2.49	0.53
40:a:1348:C:C4	40:a:1349:C:C6	2.97	0.53
46:g:47:LYS:HD3	53:n:178:ARG:HH22	1.74	0.53
49:j:4:LEU:HD23	49:j:29:VAL:HG11	1.89	0.53
53:n:42:GLU:HG3	53:n:49:LEU:HD23	1.91	0.53
53:n:46:ASP:CG	53:n:49:LEU:HD13	2.33	0.53
53:n:132:VAL:CG2	53:n:152:LEU:HD23	2.39	0.53
56:q:9:LYS:HZ3	56:q:11:CYS:C	2.17	0.53
62:w:14:SER:HA	62:w:17:ARG:CZ	2.39	0.53
5:4:19:ARG:NH1	43:d:95:U:OP2	2.41	0.53
8:7:13:U:H6	8:7:13:U:H5''	1.73	0.53
9:9:52:MET:HE1	9:9:85:SER:CA	2.38	0.53
14:AE:526:VAL:HG12	14:AE:549:LYS:HB2	1.90	0.53
17:D:1208:C:H2'	17:D:1209:C:C6	2.40	0.53
26:M:4:ARG:CG	26:M:5:ARG:NH1	2.72	0.53
38:Y:78:LEU:HD12	38:Y:112:LYS:HZ1	1.73	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:67:U:N3	40:a:74:A:C6	2.77	0.53
40:a:78:U:H2'	40:a:79:C:C6	2.44	0.53
40:a: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
40:a:2387:U:O4'	41:b:41:ARG:NH1	2.41	0.53
51:l:69:ARG:HA	51:l:69:ARG:CZ	2.37	0.53
53:n:94:GLU:HA	53:n:97:TRP:CE3	2.43	0.53
57:r:33:GLN:HB3	57:r:35:LYS:HZ3	1.73	0.53
3:2:53:VAL:HG21	3:2:87:LEU:HD23	1.91	0.53
5:4:35:GLU:OE1	5:4:36:ALA:O	2.27	0.53
11:AA:243:PRO:HB2	11:AA:274:ILE:HG23	1.90	0.53
14:AE:77:ARG:HD3	14:AE:78:LEU:H	1.73	0.53
10:B:38:A:O2'	17:D:790:A:O5'	2.27	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	2.08	0.53
22:I:155:GLY:O	22:I:196:ILE:HG12	2.08	0.53
30:Q:84:VAL:HG21	30:Q:97:ILE:CD1	2.39	0.53
39:Z:18:ASP:HB3	39:Z:22:LEU:CD1	2.39	0.53
40:a:414:C:H2'	40:a:415:A:C8	2.44	0.53
40:a:590:A:H2'	40:a:591:U:C6	2.44	0.53
40:a:1167:C:C2	40:a:1168:G:C8	2.97	0.53
11:AA:360:LEU:HD13	11:AA:378:ARG:HH11	1.72	0.53
11:AA:1142:ARG:NH2	11:AA:1166:ASP:OD1	2.38	0.53
14:AE:66:LYS:HB2	14:AE:69:GLU:CB	2.38	0.53
14:AE:122:SER:HB2	14:AE:132:LEU:HD12	1.91	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
17:D:1308:U:H3'	37:X:98:ARG:CZ	2.39	0.53
20:G:23:TRP:HB3	20:G:39:HIS:CE1	2.44	0.53
23:J:67:VAL:HB	23:J:72:PHE:CE1	2.43	0.53
26:M:27:VAL:HG12	26:M:43:VAL:HG21	1.90	0.53
26:M:38:THR:O	26:M:42:ILE:HG12	2.08	0.53
29:P:47:GLU:OE1	29:P:67:ILE:HG23	2.08	0.53
30:Q:86:VAL:O	30:Q:113:VAL:HG22	2.08	0.53
35:V:7:THR:CB	35:V:60:GLU:OE2	2.56	0.53
36:W:66:MET:HG2	36:W:74:PHE:CZ	2.44	0.53
40:a:1295:C:C2	40:a:1296:G:C8	2.97	0.53
40:a:2473:U:O2	40:a:2473:U:H2'	2.09	0.53
50:k:8:LYS:NZ	50:k:54:ILE:HG12	2.23	0.53
51:l:60:TRP:NE1	51:l:69:ARG:NH1	2.56	0.53
51:l:188:MET:HE2	51:l:193:VAL:HA	1.89	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:m:25:LYS:HG3	52:m:29:GLN:HE22	1.73	0.53
60:u:54:GLN:NE2	60:u:60:ARG:HH12	2.07	0.53
8:7:3:G:C4'	17:D:1500:A:H62	2.22	0.53
8:7:9:U:C4	17:D:1196:A:C8	2.97	0.53
11:AA:811:ASN:HA	11:AA:815:SER:HB2	1.90	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
20:G:18:HIS:HA	21:H:43:LYS:HD2	1.90	0.53
40:a:537:G:P	58:s:2:LYS:HE2	2.49	0.53
40:a:813:U:H2'	40:a:814:C:H6	1.73	0.53
40:a:1657:U:O2'	49:j:138:LEU:HD22	2.08	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
40:a:2847:U:H2'	40:a:2848:G:O4'	2.09	0.53
40:a:2867:G:C6	64:y:21:ARG:NH1	2.76	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
12:AB:123:PHE:CE2	29:P:81:GLU:C	2.87	0.53
13:AD:182:ARG:NH1	14:AE:534:GLU:OE1	2.42	0.53
10:B:38:A:O2'	17:D:790:A:P	2.66	0.53
19:F:17:ARG:HA	19:F:20:LYS:NZ	2.24	0.53
38:Y:16:MET:HG2	38:Y:16:MET:O	2.09	0.53
40:a:2356:U:C5'	41:b:20:ARG:HD2	2.36	0.53
40:a:2822:G:O2'	40:a:2824:C:OP2	2.20	0.53
49:j:131:ASP:OD2	49:j:132:ALA:N	2.42	0.53
51:l:62:GLN:HA	51:l:69:ARG:HH21	1.74	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
1:0:4:VAL:HG22	1:0:40:MET:HB3	1.91	0.52
11:AA:246:LEU:HB3	11:AA:269:ILE:HD13	1.91	0.52
12:AB:126:PHE:HE1	14:AE:87:LYS:HD3	1.74	0.52
13:AD:205:MET:HE3	13:AD:213:PRO:HB3	1.90	0.52
20:G:23:TRP:HZ3	20:G:25:PRO:CA	2.22	0.52
38:Y:126:ARG:NH1	40:a:1082:U:C5'	2.72	0.52
40:a:271:G:C4	40:a:272:A:N7	2.77	0.52
40:a:2315:G:O2'	53:n:125:ARG:HD3	2.09	0.52
52:m:26:ASN:O	52:m:30:VAL:HG23	2.08	0.52
65:z:108:ALA:O	65:z:111:GLU:HG3	2.09	0.52
9:9:43:LYS:HZ2	9:9:101:LYS:HE2	1.73	0.52
12:AB:21:LEU:HB3	12:AB:26:VAL:CG1	2.38	0.52
14:AE:342:LEU:HD23	14:AE:1352:ILE:HG23	1.90	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:AF:3:ARG:NH1	15:AF:55:GLU:OE2	2.40	0.52
17:D:1175:G:N3	17:D:1176:A:C8	2.77	0.52
20:G:127:ASP:O	20:G:128:LYS:HB3	2.09	0.52
28:O:47:VAL:O	28:O:80:ARG:HD2	2.09	0.52
38:Y:9:LYS:CG	38:Y:55:PRO:HB3	2.39	0.52
40:a:15:G:H2'	48:i:15:MET:HE1	1.90	0.52
40:a:995:C:N4	58:s:2:LYS:HG3	2.24	0.52
40:a:998:C:OP1	65:z:84:LYS:NZ	2.39	0.52
40:a:1666:G:OP1	59:t:66:LYS:HD3	2.10	0.52
40:a:1818:U:C6	47:h:156:ARG:NH2	2.77	0.52
47:h:108:LYS:HD3	47:h:194:GLU:HB2	1.92	0.52
53:n:93:GLY:HA2	53:n:97:TRP:CZ3	2.44	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
2:1:27:LYS:O	2:1:71:VAL:HG22	2.10	0.52
2:1:61:ASN:OD1	40:a:496:G:HI1'	2.08	0.52
3:2:33:LYS:HG3	3:2:80:TRP:CE3	2.44	0.52
12:AB:129:ILE:N	12:AB:142:LEU:HB3	2.24	0.52
14:AE:1045:THR:O	14:AE:1067:ARG:NH2	2.41	0.52
20:G:168:HIS:HB3	20:G:169:GLU:OE1	2.10	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:112:GLU:HG3	28:O:115:LYS:HZ3	1.73	0.52
31:R:102:LEU:O	31:R:103:ASP:OD1	2.26	0.52
40:a:617:G:C4'	51:l:199:MET:HE1	2.39	0.52
40:a:1416:G:HO2'	40:a:1417:C:P	2.32	0.52
45:f:10:THR:HG23	45:f:11:ARG:HG2	1.90	0.52
46:g:11:GLU:HA	46:g:25:ARG:HA	1.90	0.52
49:j:131:ASP:OD1	49:j:134:HIS:HB2	2.10	0.52
54:o:25:LYS:HB3	60:u:62:PRO:CG	2.40	0.52
60:u:56:PRO:O	60:u:60:ARG:HG3	2.10	0.52
61:v:1:MET:HA	61:v:1:MET:CE	2.38	0.52
61:v:115:GLU:O	61:v:119:LEU:HD23	2.09	0.52
9:9:61:ARG:NE	40:a:1046:A:P	2.83	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
12:AB:145:LEU:HB2	12:AB:148:LYS:O	2.10	0.52
14:AE:679:TYR:OH	14:AE:754:ILE:O	2.23	0.52
17:D:73:C:O2	17:D:73:C:C2'	2.57	0.52
17:D:339:C:H2'	17:D:340:U:H6	1.73	0.52
26:M:17:LYS:HZ2	26:M:18:PHE:HE1	1.55	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:T:3:LEU:HD22	33:T:8:THR:HG23	1.92	0.52
36:W:47:LEU:O	36:W:62:VAL:HG23	2.08	0.52
40:a:125:A:OP2	52:m:19:ARG:NH2	2.39	0.52
40:a:645:C:H2'	40:a:647:G:C8	2.45	0.52
40:a:1340:U:C5	40:a:1603:A:C8	2.97	0.52
40:a:1818:U:O2'	47:h:153:GLN:O	2.23	0.52
40:a:2049:G:N2	49:j:161:MET:HE1	2.24	0.52
40:a:2308:G:C6	53:n:77:PHE:CZ	2.97	0.52
40:a:2537:U:H2'	40:a:2538:C:C6	2.43	0.52
47:h:34:LEU:HD12	47:h:61:ALA:HB1	1.91	0.52
55:p:32:GLU:C	55:p:33:LEU:HD12	2.34	0.52
59:t:38:ILE:HD11	59:t:112:PHE:CZ	2.43	0.52
61:v:1:MET:CE	61:v:44:ARG:HA	2.38	0.52
8:7:8:U:OP2	17:D:1397:C:C2	2.62	0.52
11:AA:524:ILE:HG21	11:AA:708:VAL:HG13	1.92	0.52
12:AB:135:GLY:O	12:AB:137:ALA:N	2.43	0.52
14:AE:968:ASN:HA	14:AE:1117:SER:HB2	1.90	0.52
23:J:50:ASP:O	23:J:53:VAL:HG22	2.09	0.52
23:J:74:ASN:O	23:J:77:LYS:HG2	2.09	0.52
26:M:111:ARG:N	26:M:119:ARG:NH2	2.58	0.52
28:O:21:ILE:HD11	28:O:87:LEU:HD22	1.90	0.52
30:Q:20:VAL:HG13	30:Q:85:MET:HE1	1.89	0.52
32:S:79:LEU:HB2	32:S:84:VAL:HG22	1.91	0.52
40:a:632:A:H2'	40:a:633:A:C8	2.44	0.52
40:a:1024:G:OP2	40:a:1025:G:O2'	2.25	0.52
40:a:1145:C:C2	40:a:1146:C:C5	2.97	0.52
40:a:1801:A:OP2	47:h:146:MET:HE1	2.09	0.52
40:a:2093:G:OP2	57:r:22:LYS:HE3	2.09	0.52
40:a:2649:C:C2	40:a:2650:U:C5	2.97	0.52
47:h:52:ARG:NE	47:h:53:HIS:HE1	2.07	0.52
62:w:24:MET:HA	62:w:24:MET:CE	2.33	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	2.22	0.52
4:3:6:ARG:HG3	40:a:84:A:H3'	1.91	0.52
9:9:87:GLU:OE2	9:9:95:LEU:HG	2.09	0.52
11:AA:1287:LEU:HD13	14:AE:1357:ILE:HD11	1.91	0.52
12:AB:141:LEU:O	12:AB:150:ILE:C	2.53	0.52
10:B:76:A:H1'	40:a:2494:G:P	2.50	0.52
17:D:842:U:H3'	17:D:843:U:C5'	2.39	0.52
17:D:936:C:C2	17:D:937:A:C8	2.98	0.52
17:D:1151:A:O2'	17:D:1152:A:O5'	2.13	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:1371:G:O3'	28:O:71:GLY:HA3	2.10	0.52
21:H:45:GLU:OE1	21:H:45:GLU:N	2.41	0.52
22:I:142:MET:CE	22:I:170:GLU:OE1	2.58	0.52
28:O:9:THR:HB	28:O:85:ARG:NH1	2.25	0.52
38:Y:78:LEU:HD12	38:Y:112:LYS:NZ	2.25	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:2287:A:C8	40:a:2289:G:C8	2.96	0.52
40:a:2727:A:O2'	59:t:70:ARG:NH2	2.43	0.52
55:p:9:VAL:HG22	55:p:69:ARG:NH1	2.24	0.52
58:s:15:TRP:CE3	58:s:135:GLN:O	2.63	0.52
59:t:99:ILE:HD13	59:t:118:LEU:CB	2.39	0.52
5:4:63:ILE:CD1	5:4:91:PHE:CD2	2.93	0.52
6:5:17:DC:H5''	6:5:17:DC:H6	1.75	0.52
7:6:19:DC:H2'	7:6:20:DA:H8	1.74	0.52
11:AA:1117:LEU:HD12	11:AA:1195:ILE:HG12	1.90	0.52
14:AE:959:LYS:HB3	14:AE:983:LYS:HB2	1.92	0.52
19:F:37:PHE:HB3	30:Q:124:PRO:O	2.10	0.52
22:I:183:ASP:HB3	22:I:204:LYS:NZ	2.25	0.52
31:R:109:ASP:C	31:R:111:LYS:HZ3	2.17	0.52
32:S:54:ASP:HA	32:S:59:ARG:HD2	1.90	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:139:VAL:HG22	38:Y:140:GLU:N	2.25	0.52
40:a:1204:A:O4'	40:a:1206:G:C8	2.63	0.52
40:a:1668:A:O2'	40:a:1674:G:N7	2.32	0.52
40:a:1996:C:H4'	49:j:128:ARG:HH12	1.75	0.52
50:k:21:TYR:CE2	50:k:49:TYR:CD2	2.98	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
53:n:71:ARG:O	53:n:81:GLN:NE2	2.40	0.52
61:v:20:LEU:H	61:v:20:LEU:HD23	1.73	0.52
61:v:112:LEU:HA	61:v:115:GLU:OE1	2.10	0.52
62:w:33:ILE:CD1	62:w:112:TYR:CD1	2.91	0.52
9:9:43:LYS:O	9:9:47:GLU:OE1	2.28	0.52
9:9:55:VAL:HG12	9:9:56:ARG:N	2.25	0.52
13:AD:100:LEU:HD21	13:AD:121:VAL:HG11	1.90	0.52
14:AE:649:LYS:NZ	14:AE:652:GLU:OE1	2.38	0.52
17:D:932:C:C5'	26:M:4:ARG:HH11	2.22	0.52
20:G:17:GLY:HA3	20:G:41:ILE:HD11	1.92	0.52
21:H:36:VAL:O	21:H:48:ILE:HB	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:H:321:VAL:HG13	21:H:322:VAL:HG23	1.91	0.52
22:I:105:GLU:OE1	22:I:107:ARG:NE	2.42	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
30:Q:23:ILE:N	30:Q:87:LYS:HZ1	2.08	0.52
33:T:63:ARG:HD2	33:T:67:LEU:CD2	2.40	0.52
38:Y:129:GLU:CB	38:Y:133:ARG:HH12	2.16	0.52
40:a:833:A:H2'	40:a:834:G:C8	2.44	0.52
40:a:2355:G:H2'	40:a:2356:U:H5'	1.91	0.52
47:h:76:ALA:HB1	47:h:94:VAL:CG1	2.39	0.52
47:h:123:ALA:HB1	47:h:125:LYS:HZ1	1.75	0.52
51:l:6:LYS:CE	51:l:119:ILE:HG23	2.40	0.52
53:n:114:PHE:O	53:n:115:ARG:NE	2.34	0.52
57:r:2:GLN:HG3	57:r:39:ALA:CB	2.40	0.52
59:t:71:ARG:NH2	59:t:123:LEU:O	2.42	0.52
60:u:90:VAL:CG1	60:u:95:LEU:HD21	2.33	0.52
2:l:24:ILE:O	2:l:71:VAL:HG21	2.08	0.52
9:9:51:TYR:HB2	9:9:88:HIS:HB2	1.90	0.52
9:9:59:LEU:HB2	9:9:62:ARG:HG3	1.92	0.52
11:AA:125:GLY:HA2	11:AA:499:SER:HB2	1.92	0.52
11:AA:628:HIS:HB3	11:AA:647:ARG:HH21	1.73	0.52
11:AA:855:PRO:HD2	11:AA:887:VAL:HG11	1.91	0.52
14:AE:795:TYR:OH	14:AE:1326:GLN:NE2	2.42	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:512:U:P	23:J:44:ARG:NH1	2.83	0.52
17:D:925:G:C2	17:D:927:G:C8	2.98	0.52
17:D:978:A:C4	17:D:1319:A:C2	2.98	0.52
24:K:111:MET:HE2	24:K:125:ALA:HB1	1.90	0.52
28:O:88:MET:HE1	28:O:95:ARG:HG3	1.91	0.52
28:O:123:ARG:O	28:O:123:ARG:CG	2.57	0.52
30:Q:61:PHE:CD1	30:Q:64:GLN:NE2	2.78	0.52
37:X:96:PRO:CG	37:X:102:THR:HG22	2.40	0.52
38:Y:126:ARG:NH1	40:a:1083:U:P	2.83	0.52
40:a:65:U:H2'	40:a:66:C:H6	1.75	0.52
40:a:150:U:H2'	40:a:151:C:C6	2.44	0.52
40:a:265:A:N1	40:a:427:U:O2'	2.40	0.52
40:a:1243:C:H1'	60:u:4:ASN:O	2.09	0.52
40:a:1707:G:C8	40:a:1756:G:C5	2.98	0.52
50:k:19:HIS:CE1	50:k:41:PRO:HD3	2.45	0.52
57:r:29:PHE:CE2	57:r:35:LYS:HE3	2.45	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:r:71:LYS:HZ2	57:r:72:ILE:HA	1.73	0.52
62:w:37:THR:OG1	62:w:40:LYS:CD	2.57	0.52
1:0:5:PHE:HB3	1:0:59:ILE:HD12	1.91	0.52
5:4:2:PHE:CE2	5:4:55:GLU:HG2	2.45	0.52
9:9:136:ILE:HG13	9:9:136:ILE:O	2.09	0.52
10:A:6:G:C4	10:A:7:G:C8	2.98	0.52
17:D:122:G:C5	17:D:123:U:C5	2.98	0.52
17:D:452:A:H2'	17:D:453:G:O4'	2.10	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
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
30:Q:52:PHE:CZ	30:Q:65:VAL:HG21	2.45	0.52
33:T:64:ARG:NH2	33:T:89:ARG:HH22	2.07	0.52
37:X:22:ILE:HB	37:X:25:VAL:CG1	2.39	0.52
40:a:658:U:O2'	51:l:97:ASN:OD1	2.28	0.52
40:a:963:U:C2	40:a:964:C:C5	2.97	0.52
40:a:1198:U:C2	40:a:1199:U:C5	2.98	0.52
40:a:2723:C:H4'	62:w:1:MET:HE3	1.92	0.52
41:b:51:VAL:N	41:b:62:LYS:HZ3	2.08	0.52
53:n:136:ILE:HD12	53:n:141:ILE:HG23	1.92	0.52
58:s:31:GLU:HG2	58:s:142:ILE:HG12	1.92	0.52
60:u:14:LYS:HE2	60:u:14:LYS:HA	1.91	0.52
60:u:58:TYR:CE2	60:u:59:ARG:HG2	2.44	0.52
4:3:66:GLN:OE1	4:3:69:ASN:ND2	2.44	0.51
9:9:88:HIS:O	9:9:89:PRO:C	2.51	0.51
14:AE:901:ARG:HH21	14:AE:906:GLY:HA2	1.73	0.51
10:B:31:G:H2'	10:B:32:C:O4'	2.10	0.51
10:B:48:C:C5	10:B:59:A:C8	2.98	0.51
17:D:58:C:O2	17:D:58:C:H2'	2.09	0.51
17:D:1158:C:O2'	20:G:132:LYS:HE2	2.09	0.51
17:D:1240:U:C5	26:M:116:MET:HE2	2.44	0.51
29:P:73:LEU:HD21	29:P:75:ASP:OD2	2.10	0.51
31:R:62:GLU:OE2	31:R:62:GLU:HA	2.11	0.51
32:S:87:ALA:N	32:S:90:ARG:NH1	2.58	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
38:Y:58:ILE:HG23	38:Y:66:PHE:CD2	2.45	0.51
39:Z:26:MET:HA	39:Z:30:PHE:CD1	2.46	0.51
40:a:628:G:C5	40:a:636:G:N2	2.79	0.51
40:a:743:A:O2'	40:a:1659:G:OP1	2.25	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:2086:U:H2'	40:a:2087:G:C8	2.46	0.51
40:a:2758:A:H1'	55:p:38:ASN:HD21	1.74	0.51
43:d:15:A:O4'	43:d:109:A:C8	2.63	0.51
49:j:55:LYS:HZ2	49:j:60:VAL:HB	1.73	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
60:u:122:VAL:HG13	60:u:125:LEU:CD1	2.34	0.51
61:v:114:ARG:C	61:v:118:LYS:HZ3	2.18	0.51
65:z:74:ILE:HG13	65:z:78:LYS:CE	2.40	0.51
1:0:71:LYS:HG3	1:0:73:LYS:HE3	1.92	0.51
5:4:48:MET:CE	5:4:86:LEU:HG	2.40	0.51
7:6:17:DC:H42	8:7:37:G:H1	1.58	0.51
12:AB:146:ILE:HD11	29:P:88:MET:HG3	1.92	0.51
16:C:38:LYS:HE2	16:C:38:LYS:CA	2.37	0.51
16:C:70:TYR:CE2	25:L:49:TYR:CZ	2.98	0.51
16:C:71:THR:H	16:C:74:HIS:HE1	1.58	0.51
17:D:500:G:H2'	17:D:501:C:C6	2.45	0.51
17:D:1176:A:H2'	17:D:1177:G:C8	2.45	0.51
18:E:75:HIS:CE1	18:E:79:LEU:CD1	2.93	0.51
20:G:16:PHE:HB3	21:H:43:LYS:HA	1.93	0.51
20:G:26:LYS:HE3	20:G:194:ASP:OD1	2.10	0.51
20:G:165:ASP:O	20:G:169:GLU:OE1	2.28	0.51
21:H:335:ILE:HG12	21:H:342:ILE:HD12	1.92	0.51
22:I:178:LEU:HD23	22:I:178:LEU:C	2.35	0.51
25:L:33:GLU:HG3	25:L:33:GLU:O	2.10	0.51
27:N:66:PHE:CD2	27:N:67:GLN:OE1	2.62	0.51
28:O:118:LEU:HD23	28:O:124:ARG:HA	1.91	0.51
40:a:139:U:OP2	40:a:140:C:N4	2.43	0.51
40:a:1314:C:C2	40:a:1315:C:C5	2.98	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
47:h:18:LYS:HE3	47:h:20:VAL:CG2	2.41	0.51
58:s:98:GLU:O	58:s:99:ARG:C	2.53	0.51
61:v:45:GLN:HE21	61:v:124:LEU:HA	1.75	0.51
61:v:115:GLU:HA	61:v:118:LYS:NZ	2.26	0.51
1:0:17:GLY:HA2	1:0:97:LYS:HE2	1.92	0.51
8:7:2:U:H2'	8:7:3:G:C8	2.45	0.51
11:AA:974:ARG:HD2	11:AA:1014:LEU:HD21	1.92	0.51
17:D:679:C:H2'	17:D:680:C:H6	1.74	0.51
17:D:868:C:H2'	17:D:869:G:O4'	2.10	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)
28:O:7:TYR:H	28:O:89:GLU:CD	2.19	0.51
29:P:7:ARG:HD3	29:P:75:ASP:OD1	2.10	0.51
31:R:24:LEU:C	31:R:25:GLU:OE1	2.52	0.51
33:T:24:SER:O	33:T:28:GLN:HG2	2.09	0.51
37:X:13:LYS:HE3	37:X:17:ILE:HG21	1.91	0.51
40:a:414:C:H2'	40:a:415:A:H8	1.75	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
49:j:152:PRO:CG	49:j:156:PHE:CZ	2.91	0.51
50:k:21:TYR:CE2	50:k:49:TYR:CE2	2.99	0.51
53:n:30:ARG:HB2	53:n:30:ARG:NH2	2.26	0.51
59:t:103:VAL:HG21	59:t:107:LEU:CD2	2.41	0.51
61:v:105:MET:HE2	61:v:108:VAL:CG2	2.40	0.51
62:w:82:GLU:OE1	62:w:82:GLU:N	2.44	0.51
2:1:25:ARG:NH1	40:a:519:U:O3'	2.43	0.51
3:2:3:ARG:NH2	3:2:4:GLU:HB2	2.26	0.51
9:9:58:THR:HG21	9:9:81:LEU:CD2	2.31	0.51
12:AB:89:PRO:HG2	14:AE:290:ILE:HG22	1.91	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:6:G:C4	10:B:7:G:C8	2.98	0.51
10:B:48:C:O2'	10:B:49:G:OP2	2.27	0.51
17:D:718:A:H5'	30:Q:119:ASN:HD22	1.76	0.51
20:G:23:TRP:CD1	20:G:39:HIS:CE1	2.97	0.51
22:I:108:LYS:N	22:I:108:LYS:HD2	2.26	0.51
25:L:45:ARG:HA	25:L:45:ARG:NE	2.26	0.51
25:L:88:MET:HE2	25:L:90:MET:HE3	1.91	0.51
29:P:24:GLU:O	29:P:28:THR:HG23	2.10	0.51
38:Y:41:PHE:O	38:Y:45:THR:OG1	2.22	0.51
38:Y:55:PRO:C	38:Y:71:LYS:HE2	2.36	0.51
40:a:872:U:H2'	40:a:873:C:H6	1.75	0.51
40:a:2428:G:H21	60:u:60:ARG:CZ	2.23	0.51
40:a:2473:U:C4	40:a:2474:U:C5	2.97	0.51
46:g:47:LYS:HE2	53:n:115:ARG:NE	2.25	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
62:w:24:MET:HE3	62:w:24:MET:CA	2.34	0.51
63:x:53:THR:HG23	63:x:74:VAL:HG21	1.92	0.51
10:A:23:C:H2'	10:A:24:U:C6	2.45	0.51
10:A:48:C:C5	10:A:59:A:C8	2.98	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:714:VAL:HB	11:AA:787:PRO:HD2	1.92	0.51
12:AB:10:LYS:HB2	12:AB:73:ARG:HB3	1.91	0.51
17:D:107:G:C5	18:E:10:ARG:NH2	2.79	0.51
17:D:107:G:C6	18:E:10:ARG:NH2	2.79	0.51
17:D:512:U:P	23:J:44:ARG:HH12	2.33	0.51
17:D:739:C:HO2'	33:T:42:HIS:CE1	2.25	0.51
20:G:9:MET:HE1	20:G:47:VAL:CG2	2.40	0.51
21:H:32:ASP:OD1	21:H:35:VAL:CG2	2.57	0.51
21:H:279:LYS:HA	21:H:331:MET:CB	2.41	0.51
32:S:10:GLU:OE2	32:S:63:ARG:HD2	2.11	0.51
40:a:888:C:C4	40:a:889:C:C4	2.97	0.51
40:a:1138:G:C2	58:s:108:MET:HE2	2.45	0.51
40:a:1791:A:C2	40:a:1829:A:C4'	2.94	0.51
40:a:2311:A:C5	53:n:77:PHE:CD2	2.98	0.51
40:a:2420:C:H5''	50:k:8:LYS:HE2	1.92	0.51
40:a:2812:G:H2'	40:a:2813:A:C8	2.45	0.51
65:z:65:ILE:HB	65:z:76:TYR:CE1	2.45	0.51
1:0:37:GLU:O	1:0:37:GLU:HG3	2.11	0.51
3:2:11:LEU:HD12	3:2:11:LEU:N	2.26	0.51
5:4:2:PHE:CE1	5:4:56:PHE:CE1	2.99	0.51
10:B:56:C:H2'	10:B:57:A:H5''	1.93	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:67:PRO:O	25:L:70:VAL:HG22	2.11	0.51
34:U:39:PHE:CD1	34:U:50:THR:HG22	2.45	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:2133:G:O2'	40:a:2157:G:N2	2.44	0.51
40:a:2588:G:O6	40:a:2607:G:C6	2.64	0.51
40:a:2698:U:H2'	40:a:2699:C:C6	2.46	0.51
53:n:8:TYR:HE2	53:n:30:ARG:HE	1.58	0.51
61:v:53:MET:HE3	61:v:120:ALA:CB	2.40	0.51
8:7:22:U:C5'	22:I:80:LYS:CG	2.51	0.51
17:D:49:U:C2	17:D:361:G:N2	2.79	0.51
17:D:501:C:H2'	17:D:502:A:H8	1.75	0.51
17:D:754:C:OP1	33:T:72:ARG:NH1	2.44	0.51
19:F:36:GLU:OE2	19:F:36:GLU:HA	2.11	0.51
24:K:36:LEU:HD13	24:K:134:ILE:CD1	2.41	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
31:R:110:ARG:HE	31:R:117:TYR:HD2	1.57	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:607:U:C5	40:a:620:G:C5	2.97	0.51
40:a:703:U:H2'	40:a:704:G:O4'	2.10	0.51
40:a:1154:G:OP2	65:z:58:ARG:CZ	2.58	0.51
40:a:1666:G:P	59:t:66:LYS:HD3	2.50	0.51
40:a:2093:G:OP2	57:r:22:LYS:HG2	2.11	0.51
40:a:2252:G:H2'	40:a:2253:G:H8	1.76	0.51
40:a:2329:U:H2'	40:a:2330:G:C8	2.45	0.51
40:a:2466:C:N3	40:a:2467:C:C5	2.79	0.51
40:a:2682:A:C2	49:j:23:PRO:HB3	2.46	0.51
44:e:20:ASN:HA	44:e:23:ARG:HE	1.76	0.51
47:h:130:LEU:HD21	47:h:192:LEU:HD21	1.93	0.51
58:s:35:ARG:HA	58:s:40:HIS:CE1	2.46	0.51
64:y:9:GLU:CG	64:y:55:LEU:HB2	2.40	0.51
65:z:82:GLY:HA3	65:z:117:LEU:CD1	2.41	0.51
4:3:85:PHE:CE1	4:3:94:ARG:HG2	2.46	0.51
6:5:9:DG:P	11:AA:473:ARG:HG3	2.51	0.51
9:9:94:ARG:HB2	9:9:97:LYS:CE	2.36	0.51
10:A:33:U:H5''	26:M:84:THR:HG21	1.93	0.51
31:R:3:THR:O	31:R:6:GLN:N	2.44	0.51
37:X:71:ARG:HH12	46:g:52:ALA:HB3	1.75	0.51
40:a:532:A:H4'	40:a:533:G:C8	2.46	0.51
40:a:910:A:C8	61:v:12:MET:CE	2.93	0.51
40:a:960:A:H61	61:v:82:MET:CE	2.23	0.51
40:a:1853:A:H2'	40:a:1854:A:C8	2.46	0.51
40:a:2006:C:C2	40:a:2007:U:C5	2.99	0.51
40:a:2387:U:C4'	41:b:41:ARG:HH12	2.24	0.51
40:a:2814:A:H2'	40:a:2815:C:H6	1.75	0.51
40:a:2848:G:O2'	40:a:2867:G:N2	2.37	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:15:LYS:O	53:n:18:THR:N	2.43	0.51
55:p:149:ARG:CZ	55:p:154:PRO:HD3	2.40	0.51
55:p:162:VAL:O	55:p:162:VAL:HG12	2.11	0.51
58:s:72:LYS:HD3	58:s:74:TYR:CZ	2.43	0.51
65:z:65:ILE:HB	65:z:76:TYR:HE1	1.75	0.51
5:4:50:MET:CA	5:4:56:PHE:CZ	2.94	0.51
5:4:80:HIS:CD2	5:4:83:LYS:HZ3	2.29	0.51
6:5:9:DG:OP2	11:AA:470:ARG:O	2.28	0.51
8:7:13:U:H5''	8:7:13:U:C6	2.45	0.51
9:9:55:VAL:CG1	9:9:56:ARG:N	2.74	0.51
12:AB:78:PHE:CG	12:AB:85:PRO:HB3	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AB:136:GLU:HA	12:AB:159:PHE:CZ	2.46	0.51
13:AC:140:ILE:HD12	13:AC:142:MET:HE3	1.91	0.51
17:D:564:C:H5'	35:V:34:TYR:CE1	2.46	0.51
20:G:26:LYS:HD2	20:G:193:PRO:CG	2.40	0.51
24:K:156:LYS:NZ	27:N:71:VAL:O	2.42	0.51
28:O:30:ILE:HD13	28:O:39:PHE:HE2	1.75	0.51
31:R:54:ARG:HH11	31:R:62:GLU:HG3	1.76	0.51
33:T:21:ASP:OD1	33:T:22:THR:N	2.34	0.51
35:V:64:CYS:SG	35:V:74:THR:OG1	2.69	0.51
38:Y:126:ARG:HD2	38:Y:127:SER:N	2.26	0.51
39:Z:15:SER:O	39:Z:19:VAL:HG23	2.11	0.51
40:a:372:G:C8	42:c:61:LYS:HD2	2.46	0.51
40:a:413:C:H2'	40:a:414:C:C6	2.46	0.51
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:995:C:O2	58:s:3:THR:OG1	2.17	0.51
40:a:1589:U:O2'	40:a:1590:A:O5'	2.29	0.51
40:a:1656:C:OP1	49:j:141:ARG:HD3	2.10	0.51
40:a:1790:C:C3'	40:a:1791:A:C8	2.94	0.51
40:a:2266:A:H4'	40:a:2267:A:N3	2.26	0.51
40:a:2387:U:H4'	41:b:41:ARG:HH12	1.76	0.51
40:a:2636:C:O2'	49:j:45:TYR:OH	1.99	0.51
43:d:42:C:P	53:n:64:LYS:NZ	2.83	0.51
48:i:26:THR:HG23	48:i:27:SER:N	2.25	0.51
48:i:30:VAL:HG22	48:i:37:LYS:CD	2.41	0.51
55:p:127:THR:HG22	55:p:128:GLN:N	2.26	0.51
58:s:15:TRP:CZ3	58:s:135:GLN:CA	2.93	0.51
65:z:53:ARG:HG3	65:z:57:PHE:HE2	1.75	0.51
5:4:51:GLN:OE1	5:4:57:TYR:OH	2.27	0.51
8:7:3:G:C4'	17:D:1500:A:N6	2.74	0.51
8:7:30:U:O2	8:7:30:U:H2'	2.11	0.51
10:A:19:G:N2	40:a:2112:G:O4'	2.44	0.51
10:A:56:C:C5	40:a:2168:G:C6	2.98	0.51
12:AB:81:PHE:CB	14:AE:141:PHE:O	2.58	0.51
14:AE:71:LEU:HD22	14:AE:90:VAL:HG21	1.93	0.51
14:AE:510:LEU:HD22	14:AE:601:ILE:HD12	1.91	0.51
17:D:21:G:C2	17:D:22:G:C5	2.99	0.51
17:D:564:C:H5'	35:V:34:TYR:HE1	1.76	0.51
17:D:678:U:H2'	17:D:679:C:H6	1.76	0.51
28:O:51:PRO:HA	28:O:103:PHE:HE2	1.76	0.51
33:T:3:LEU:HD23	33:T:3:LEU:C	2.36	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:1318:U:C2	40:a:1319:C:C5	2.99	0.51
40:a:1346:G:C6	40:a:1601:G:C6	2.98	0.51
40:a:1824:G:O2'	47:h:252:THR:HG21	2.11	0.51
40:a:1999:C:O3'	40:a:2722:G:N2	2.44	0.51
40:a:2391:G:P	54:o:32:ILE:HD12	2.50	0.51
40:a:2813:A:C4	40:a:2814:A:C8	2.99	0.51
41:b:55:ARG:HA	41:b:55:ARG:CZ	2.41	0.51
46:g:7:PRO:HD2	53:n:62:GLY:O	2.11	0.51
47:h:124:ILE:O	47:h:125:LYS:HD3	2.10	0.51
61:v:31:PHE:O	61:v:104:GLU:CD	2.54	0.51
5:4:48:MET:HE2	5:4:86:LEU:HG	1.93	0.50
9:9:106:PHE:CG	9:9:106:PHE:O	2.63	0.50
10:A:23:C:H2'	10:A:24:U:H6	1.77	0.50
12:AB:27:ASN:OD1	12:AB:58:GLU:HB2	2.11	0.50
14:AE:67:ASP:C	14:AE:69:GLU:H	2.18	0.50
14:AE:77:ARG:HB3	14:AE:80:HIS:HB2	1.93	0.50
14:AE:1179:PRO:HB2	14:AE:1182:GLY:H	1.75	0.50
10:B:23:C:H2'	10:B:24:U:C6	2.46	0.50
16:C:51:TYR:O	16:C:54:GLN:HG3	2.11	0.50
17:D:276:G:C5'	35:V:17:MET:CE	2.89	0.50
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
17:D:1226:C:C2'	37:X:102:THR:OG1	2.58	0.50
20:G:35:ARG:HB3	21:H:14:LYS:NZ	2.26	0.50
20:G:90:PHE:CD2	20:G:154:MET:CE	2.94	0.50
21:H:48:ILE:HG22	21:H:49:PRO:O	2.10	0.50
21:H:163:ARG:CA	21:H:298:GLU:HG3	2.41	0.50
21:H:273:ARG:NH1	21:H:297:GLU:HB2	2.25	0.50
22:I:132:ARG:HG3	22:I:135:LYS:HE3	1.92	0.50
29:P:24:GLU:CA	29:P:27:GLU:OE1	2.59	0.50
30:Q:63:ALA:HB1	30:Q:96:THR:CG2	2.42	0.50
40:a:2298:A:O3'	53:n:72:LYS:HE2	2.11	0.50
40:a:2305:U:H4'	53:n:133:ARG:NH2	2.26	0.50
42:c:71:LEU:HB3	42:c:76:GLU:CG	2.41	0.50
45:f:41:THR:N	45:f:45:ARG:HH22	2.09	0.50
58:s:84:ILE:HG23	58:s:84:ILE:O	2.11	0.50
59:t:17:ARG:NH2	59:t:47:ILE:HG23	2.25	0.50
60:u:58:TYR:CD2	60:u:59:ARG:HG2	2.46	0.50
61:v:105:MET:SD	61:v:113:ALA:HB1	2.51	0.50
63:x:4:LYS:N	63:x:4:LYS:HD3	2.26	0.50
64:y:106:LYS:HD3	64:y:109:ARG:NH2	2.26	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:9:47:GLU:O	9:9:49:GLY:N	2.43	0.50
17:D:280:C:H1'	35:V:40:ARG:HH22	1.75	0.50
17:D:728:A:H2'	17:D:729:A:C8	2.46	0.50
20:G:169:GLU:OE1	20:G:169:GLU:N	2.44	0.50
22:I:142:MET:HE3	22:I:170:GLU:C	2.36	0.50
28:O:88:MET:SD	28:O:95:ARG:CZ	2.99	0.50
29:P:66:GLU:CG	32:S:99:ALA:HB2	2.41	0.50
30:Q:27:PHE:CE2	30:Q:89:PRO:HG2	2.46	0.50
33:T:5:THR:HG23	33:T:6:GLU:N	2.25	0.50
40:a:560:C:O2	65:z:48:ARG:NH1	2.37	0.50
40:a:1598:A:C5	40:a:1599:U:C5	2.99	0.50
40:a:2063:C:O2	40:a:2450:A:N1	2.45	0.50
40:a:2230:G:H5'	42:c:30:LEU:HD23	1.94	0.50
51:l:6:LYS:HZ2	51:l:119:ILE:HA	1.76	0.50
52:m:25:LYS:C	52:m:29:GLN:HE22	2.20	0.50
53:n:5:HIS:HD2	53:n:97:TRP:CZ2	2.29	0.50
8:7:12:U:H5''	24:K:56:VAL:HG21	1.93	0.50
10:A:31:G:H2'	10:A:32:C:O4'	2.10	0.50
10:A:68:C:C3'	10:A:69:C:H5''	2.42	0.50
12:AB:142:LEU:HD12	12:AB:150:ILE:O	2.11	0.50
16:C:60:LYS:NZ	17:D:735:C:C4'	2.74	0.50
17:D:501:C:H2'	17:D:502:A:C8	2.46	0.50
17:D:767:A:H2'	17:D:768:A:O4'	2.11	0.50
17:D:1106:G:O3'	22:I:172:ARG:HG3	2.11	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
39:Z:18:ASP:HB3	39:Z:22:LEU:HD12	1.92	0.50
40:a:251:A:OP1	60:u:58:TYR:OH	2.23	0.50
40:a:271:G:H4'	40:a:272:A:OP1	2.10	0.50
40:a:2230:G:C5'	42:c:30:LEU:HD23	2.41	0.50
40:a:2259:U:C6	40:a:2427:C:C4	2.99	0.50
45:f:4:THR:CB	45:f:37:GLU:OE2	2.58	0.50
49:j:184:ARG:HH12	64:y:7:GLN:NE2	2.09	0.50
51:l:155:GLU:HG2	51:l:156:ASN:N	2.26	0.50
51:l:170:ARG:HH12	51:l:176:ASP:N	2.09	0.50
51:l:194:LYS:O	51:l:197:GLU:N	2.45	0.50
62:w:12:ARG:NE	62:w:20:MET:HE1	2.26	0.50
62:w:87:PHE:HZ	62:w:115:LEU:HG	1.77	0.50
5:4:6:ALA:HB3	5:4:65:VAL:HG22	1.93	0.50
14:AE:157:GLN:HE22	14:AE:188:LEU:HD22	1.76	0.50
16:C:51:TYR:HD1	16:C:54:GLN:HE22	1.58	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:160:A:H2'	17:D:161:A:O4'	2.12	0.50
17:D:335:C:C2	17:D:336:A:C8	2.99	0.50
17:D:653:U:O5'	27:N:56:LYS:HE2	2.12	0.50
17:D:864:A:H2'	17:D:865:A:C8	2.46	0.50
24:K:62:LYS:HA	24:K:62:LYS:HE3	1.92	0.50
24:K:111:MET:O	24:K:114:VAL:HG12	2.11	0.50
33:T:11:ILE:HD11	33:T:30:ALA:C	2.36	0.50
35:V:15:ASP:OD1	35:V:55:ILE:HD11	2.11	0.50
36:W:41:PHE:O	36:W:44:MET:HG3	2.11	0.50
36:W:49:ILE:HG23	36:W:49:ILE:O	2.12	0.50
37:X:65:VAL:HG23	37:X:66:GLU:OE1	2.12	0.50
38:Y:57:VAL:HG23	38:Y:71:LYS:HD3	1.94	0.50
38:Y:126:ARG:CZ	40:a:1083:U:P	3.00	0.50
40:a:65:U:C2	40:a:66:C:C6	3.00	0.50
40:a:780:G:C2	40:a:782:A:C2	3.00	0.50
40:a:813:U:H2'	40:a:814:C:C6	2.46	0.50
40:a:1801:A:OP1	47:h:146:MET:HE1	2.11	0.50
40:a:1996:C:H5''	49:j:128:ARG:NH1	2.25	0.50
58:s:15:TRP:CD1	58:s:53:TYR:HB2	2.46	0.50
58:s:15:TRP:CH2	58:s:135:GLN:HG3	2.46	0.50
58:s:74:TYR:N	58:s:74:TYR:HD2	2.10	0.50
59:t:34:GLY:N	59:t:37:ASP:OD2	2.40	0.50
60:u:55:MET:HE1	60:u:60:ARG:HA	1.94	0.50
62:w:58:ASP:OD1	62:w:63:ARG:NH2	2.44	0.50
4:3:6:ARG:HG2	4:3:7:ARG:H	1.77	0.50
11:AA:255:ILE:HB	11:AA:263:VAL:HB	1.92	0.50
12:AB:158:GLU:HB3	12:AB:162:LEU:CD2	2.41	0.50
16:C:66:SER:HA	25:L:49:TYR:CE1	2.47	0.50
17:D:744:C:H2'	17:D:745:G:C8	2.47	0.50
20:G:187:VAL:HG13	20:G:191:SER:HB2	1.93	0.50
33:T:3:LEU:HD12	33:T:35:GLN:OE1	2.10	0.50
36:W:45:ILE:HA	36:W:62:VAL:HG11	1.93	0.50
40:a:125:A:C5	52:m:10:LEU:HD13	2.46	0.50
40:a:851:C:C2	40:a:852:U:C5	3.00	0.50
40:a:1009:A:OP2	58:s:39:LYS:NZ	2.37	0.50
40:a:2082:A:H2'	40:a:2083:G:O4'	2.12	0.50
50:k:34:LEU:CB	50:k:51:GLU:OE2	2.60	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
3:2:12:ARG:HH21	44:e:29:ARG:CZ	2.25	0.50
3:2:49:LYS:HE2	3:2:49:LYS:HA	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
12:AB:130:PHE:CD2	12:AB:152:HIS:CE1	2.99	0.50
16:C:60:LYS:HE3	17:D:735:C:C4'	2.42	0.50
17:D:10:A:OP2	24:K:131:THR:HG21	2.12	0.50
17:D:1073:U:O2'	20:G:105:LYS:HE3	2.11	0.50
18:E:54:MET:CE	18:E:75:HIS:HE1	2.24	0.50
19:F:6:VAL:HG12	30:Q:108:THR:O	2.11	0.50
19:F:25:LYS:HE3	21:H:336:ASP:OD2	2.11	0.50
20:G:109:GLN:C	20:G:113:ARG:HE	2.19	0.50
22:I:82:GLU:O	22:I:86:LYS:CD	2.60	0.50
26:M:66:LEU:CD1	26:M:101:MET:CE	2.84	0.50
34:U:73:ALA:HA	34:U:76:LYS:CE	2.41	0.50
38:Y:37:PHE:HE1	38:Y:58:ILE:HD11	1.77	0.50
40:a:69:C:O2	40:a:73:A:O2'	2.26	0.50
40:a:1799:G:N2	47:h:154:LEU:HD23	2.26	0.50
40:a:1945:G:C4	40:a:1946:U:C5	2.99	0.50
40:a:2063:C:C4	40:a:2064:C:C5	3.00	0.50
42:c:65:ASP:CG	42:c:66:THR:N	2.70	0.50
55:p:24:ILE:HG22	55:p:35:ARG:O	2.11	0.50
55:p:137:ASP:OD2	55:p:140:VAL:HG23	2.12	0.50
61:v:50:ARG:CA	61:v:53:MET:SD	3.00	0.50
6:5:9:DG:H5''	11:AA:473:ARG:HB3	0.54	0.50
6:5:16:DG:O6	11:AA:451:ARG:NH1	2.45	0.50
9:9:78:GLY:H	9:9:79:PRO:HD2	1.75	0.50
16:C:60:LYS:NZ	17:D:735:C:C5'	2.75	0.50
17:D:61:G:N7	18:E:6:SER:OG	2.33	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
25:L:11:HIS:HB3	25:L:14:GLN:OE1	2.11	0.50
25:L:66:ALA:HB1	25:L:67:PRO:HD2	1.94	0.50
33:T:33:THR:OG1	33:T:63:ARG:NH1	2.45	0.50
40:a:4:U:C2	40:a:5:A:C8	3.00	0.50
40:a:234:U:C2	40:a:235:U:C6	3.00	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:1141:U:H5	58:s:68:LYS:HZ1	1.59	0.50
40:a:1823:G:O2'	40:a:1824:G:H5'	2.12	0.50
40:a:1956:U:C4	40:a:1957:C:C5	2.99	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:2646:C:OP2	40:a:2732:G:O2'	2.25	0.50
49:j:55:LYS:NZ	49:j:59:ARG:C	2.70	0.50
51:l:97:ASN:ND2	51:l:100:MET:HE2	2.27	0.50
58:s:13:ARG:HH22	58:s:49:ASP:C	2.19	0.50
59:t:114:LYS:O	59:t:118:LEU:HD23	2.11	0.50
59:t:121:GLU:HG3	59:t:123:LEU:HD12	1.94	0.50
3:2:14:PRO:HA	3:2:32:LEU:HD13	1.94	0.50
9:9:52:MET:HG2	9:9:95:LEU:CD1	2.39	0.50
11:AA:146:VAL:HG21	11:AA:513:GLN:HE21	1.77	0.50
11:AA:812:PHE:O	14:AE:504:GLN:NE2	2.40	0.50
12:AB:102:LYS:NZ	14:AE:285:LEU:HG	2.27	0.50
14:AE:749:LYS:HD3	14:AE:753:SER:HB2	1.94	0.50
16:C:24:LYS:HB3	25:L:102:MET:HE1	1.93	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:1017:U:O2'	17:D:1018:G:O4'	2.30	0.50
17:D:1492:A:O2'	17:D:1493:A:H5''	2.11	0.50
21:H:304:VAL:HG11	21:H:346:LEU:HB2	1.93	0.50
24:K:159:LYS:HZ3	27:N:44:GLY:HA3	1.76	0.50
27:N:35:ALA:O	27:N:39:VAL:HG23	2.12	0.50
33:T:33:THR:HG21	33:T:85:LEU:HD12	1.94	0.50
37:X:71:ARG:HD2	37:X:72:GLU:N	2.26	0.50
38:Y:126:ARG:HD2	38:Y:126:ARG:C	2.36	0.50
40:a:16:C:O4'	48:i:15:MET:HE3	2.12	0.50
40:a:2063:C:C2	40:a:2064:C:C6	3.00	0.50
40:a:2179:C:C2	40:a:2180:U:C5	3.00	0.50
53:n:122:PHE:CE2	53:n:128:TYR:CD1	3.00	0.50
54:o:31:HIS:O	54:o:32:ILE:C	2.54	0.50
58:s:30:THR:HG23	58:s:31:GLU:N	2.26	0.50
64:y:25:THR:OG1	64:y:88:ARG:HB3	2.12	0.50
5:4:62:THR:OG1	5:4:71:LYS:HE3	2.11	0.50
9:9:6:GLN:HA	9:9:9:GLN:HE22	1.74	0.50
10:A:15:G:H2'	10:A:15:G:N3	2.27	0.50
11:AA:93:SER:HA	11:AA:128:PRO:HA	1.93	0.50
10:B:15:G:H2'	10:B:15:G:N3	2.27	0.50
17:D:626:G:O3'	34:U:51:ARG:NH1	2.45	0.50
17:D:736:C:H2'	17:D:737:C:H6	1.77	0.50
17:D:958:A:O4'	36:W:55:ARG:NH1	2.45	0.50
17:D:1071:C:H2'	17:D:1072:G:C8	2.47	0.50
20:G:38:VAL:HG22	21:H:75:VAL:HG21	1.92	0.50
20:G:109:GLN:O	20:G:113:ARG:NE	2.45	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:H:303:LEU:O	21:H:303:LEU:CG	2.60	0.50
22:I:77:ILE:HA	22:I:84:VAL:HG13	1.94	0.50
24:K:113:ALA:CA	24:K:116:GLU:OE1	2.60	0.50
24:K:157:ARG:HH12	27:N:43:GLU:CD	2.20	0.50
26:M:74:GLU:OE1	26:M:75:VAL:O	2.30	0.50
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
32:S:87:ALA:HA	32:S:90:ARG:HG2	1.94	0.50
40:a:532:A:N7	40:a:2021:C:O2'	2.44	0.50
40:a:756:A:H2'	40:a:757:G:O4'	2.11	0.50
40:a:2065:C:H2'	40:a:2066:C:H6	1.77	0.50
40:a:2193:G:O2'	40:a:2194:U:OP1	2.28	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
46:g:47:LYS:NZ	53:n:115:ARG:HA	2.27	0.50
46:g:58:ASP:CG	46:g:62:LYS:NZ	2.67	0.50
48:i:40:ARG:NH1	48:i:41:HIS:CD2	2.80	0.50
55:p:26:ILE:HG22	55:p:75:MET:HE2	1.93	0.50
57:r:90:LEU:HD21	57:r:94:ILE:CD1	2.42	0.50
62:w:58:ASP:CG	62:w:80:PHE:CZ	2.89	0.50
62:w:103:ARG:HA	62:w:110:MET:HE2	1.93	0.50
3:2:10:VAL:HG12	3:2:11:LEU:HD12	1.93	0.49
5:4:2:PHE:HB2	5:4:61:LEU:HG	1.94	0.49
9:9:67:THR:N	9:9:68:PRO:CD	2.75	0.49
9:9:108:VAL:O	9:9:109:LYS:HB3	2.12	0.49
14:AE:59:ALA:HB3	14:AE:71:LEU:CD2	2.42	0.49
14:AE:107:LEU:HD22	14:AE:299:LEU:HD21	1.94	0.49
14:AE:430:HIS:HB3	14:AE:925:GLU:HG3	1.93	0.49
16:C:12:ARG:HG3	21:H:264:GLU:CB	2.41	0.49
16:C:25:ASP:O	16:C:29:LEU:HD13	2.11	0.49
17:D:653:U:O4'	27:N:56:LYS:CE	2.60	0.49
23:J:104:ARG:NE	23:J:104:ARG:HA	2.27	0.49
40:a:44:A:H2'	40:a:45:G:O4'	2.12	0.49
40:a:299:A:N1	40:a:322:A:O2'	2.42	0.49
40:a:1205:A:C2	51:l:165:HIS:CE1	3.00	0.49
47:h:131:PRO:HD3	47:h:189:ARG:NH1	2.27	0.49
58:s:55:ILE:CG1	58:s:123:LYS:HE2	2.42	0.49
59:t:42:THR:HG23	59:t:44:LYS:HZ1	1.77	0.49
5:4:31:TYR:OH	43:d:103:U:O2'	2.20	0.49
9:9:3:LEU:CD1	9:9:4:ASN:N	2.63	0.49
9:9:52:MET:CE	9:9:85:SER:HB2	2.42	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AB:29:LEU:HB3	12:AB:56:PHE:HD2	1.77	0.49
12:AB:134:ASP:OD1	12:AB:135:GLY:N	2.37	0.49
12:AB:143:LEU:HD22	12:AB:145:LEU:HG	1.94	0.49
13:AD:100:LEU:HB2	13:AD:144:ILE:HG23	1.94	0.49
14:AE:425:ARG:NH1	14:AE:458:ASN:O	2.45	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
17:D:35:G:H2'	17:D:36:C:C6	2.47	0.49
17:D:373:A:C2	17:D:482:A:C6	3.00	0.49
17:D:555:U:H2'	17:D:556:C:C6	2.46	0.49
17:D:953:G:O6	37:X:103:LYS:CE	2.60	0.49
20:G:114:LEU:HD13	20:G:144:LEU:HB3	1.93	0.49
21:H:342:ILE:HG12	21:H:344:LEU:HD12	1.93	0.49
25:L:35:LYS:HG3	25:L:36:ILE:N	2.27	0.49
25:L:99:ALA:HB3	25:L:104:LYS:HZ1	1.77	0.49
37:X:92:ARG:HD2	40:a:888:C:OP1	2.12	0.49
38:Y:77:VAL:HG13	38:Y:81:LYS:NZ	2.27	0.49
40:a:1199:U:H2'	40:a:1200:C:H6	1.77	0.49
40:a:2290:G:H2'	40:a:2291:U:C6	2.47	0.49
40:a:2362:C:O5'	54:o:40:ARG:NH2	2.45	0.49
40:a:2884:U:H3	48:i:40:ARG:NH1	2.09	0.49
58:s:98:GLU:HB3	58:s:102:GLU:OE2	2.12	0.49
61:v:41:LEU:HD22	61:v:45:GLN:NE2	2.27	0.49
2:1:71:VAL:O	2:1:71:VAL:HG23	2.13	0.49
9:9:87:GLU:OE2	9:9:95:LEU:HB2	2.12	0.49
10:A:56:C:H2'	10:A:57:A:H5''	1.93	0.49
11:AA:1340:GLU:HB2	14:AE:19:ALA:HB3	1.94	0.49
12:AB:123:PHE:CZ	29:P:81:GLU:C	2.90	0.49
10:B:68:C:C3'	10:B:69:C:H5''	2.42	0.49
17:D:657:U:C1'	33:T:28:GLN:HE22	2.24	0.49
17:D:821:G:H2'	17:D:822:U:C6	2.47	0.49
17:D:1439:G:P	18:E:33:LYS:NZ	2.82	0.49
20:G:110:SER:CA	20:G:113:ARG:HE	2.25	0.49
23:J:170:TRP:CD2	23:J:186:PRO:HB3	2.47	0.49
24:K:34:THR:HG22	24:K:52:LYS:HD3	1.95	0.49
24:K:134:ILE:O	24:K:137:VAL:HG12	2.12	0.49
27:N:110:VAL:C	27:N:111:MET:SD	2.95	0.49
37:X:3:ARG:HH22	46:g:36:VAL:HG12	1.77	0.49
40:a:57:C:H2'	40:a:58:G:O4'	2.13	0.49
40:a:235:U:C2	40:a:236:C:C5	3.00	0.49
40:a:851:C:H2'	40:a:852:U:C6	2.46	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:1036:G:C6	40:a:1120:G:C5	3.00	0.49
40:a:1342:A:O2'	40:a:1344:U:OP2	2.31	0.49
40:a:1348:C:O2	40:a:1348:C:H2'	2.11	0.49
40:a:1790:C:H2'	40:a:1791:A:C8	2.48	0.49
40:a:2489:U:H2'	40:a:2490:G:O4'	2.12	0.49
40:a:2849:U:OP2	64:y:93:ARG:CZ	2.60	0.49
47:h:160:THR:O	47:h:195:VAL:HG12	2.13	0.49
51:l:195:GLN:HA	51:l:198:GLU:OE1	2.13	0.49
61:v:70:ASP:C	61:v:92:TRP:CZ3	2.90	0.49
6:5:10:DT:N1	11:AA:62:TYR:HE2	2.07	0.49
9:9:43:LYS:HA	9:9:46:ARG:NH1	2.27	0.49
11:AA:400:VAL:HG21	11:AA:452:ARG:HE	1.77	0.49
14:AE:417:ARG:NH1	15:AF:43:ASN:O	2.45	0.49
17:D:311:C:O5'	17:D:311:C:H6	1.94	0.49
17:D:376:G:OP2	34:U:70:ARG:HD3	2.13	0.49
17:D:925:G:C6	17:D:927:G:N7	2.80	0.49
17:D:1218:C:H2'	17:D:1219:A:C8	2.48	0.49
19:F:63:GLU:O	19:F:67:ARG:HD2	2.12	0.49
20:G:111:ILE:HD13	20:G:148:LEU:HD13	1.95	0.49
25:L:9:MET:O	25:L:84:VAL:HA	2.12	0.49
38:Y:60:VAL:CG2	38:Y:66:PHE:HB3	2.28	0.49
40:a:272:A:N3	40:a:273:G:C8	2.80	0.49
40:a:537:G:P	58:s:2:LYS:CE	3.00	0.49
40:a:840:C:C2	40:a:841:G:C8	3.01	0.49
40:a:1791:A:C2	40:a:1829:A:O4'	2.65	0.49
40:a:2014:A:H2'	40:a:2015:A:C8	2.47	0.49
40:a:2349:G:O6	40:a:2369:A:N6	2.46	0.49
47:h:124:ILE:C	47:h:125:LYS:HD3	2.36	0.49
47:h:261:LYS:HA	47:h:264:ASP:OD2	2.12	0.49
55:p:94:TYR:CE1	55:p:152:ARG:HD2	2.48	0.49
61:v:29:GLY:HA3	61:v:104:GLU:HG3	1.94	0.49
62:w:73:ASN:C	62:w:73:ASN:HD22	2.17	0.49
64:y:9:GLU:HG3	64:y:55:LEU:CB	2.43	0.49
2:1:23:LEU:HD21	2:1:35:ILE:HG22	1.95	0.49
8:7:15:U:C2	15:AF:83:VAL:CG1	2.89	0.49
11:AA:9:LYS:HG2	11:AA:1171:ARG:HH12	1.77	0.49
11:AA:232:ILE:HG12	11:AA:237:LEU:HG	1.93	0.49
12:AB:129:ILE:O	12:AB:142:LEU:HB3	2.12	0.49
12:AB:146:ILE:HD12	12:AB:146:ILE:H	1.76	0.49
12:AB:148:LYS:CE	29:P:102:LEU:HB3	2.42	0.49
14:AE:79:LYS:CA	14:AE:81:ARG:HH12	1.96	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:AE:412:LEU:HD22	14:AE:441:LEU:HD21	1.94	0.49
16:C:73:ARG:HH12	30:Q:113:VAL:HB	1.76	0.49
17:D:406:G:C5	17:D:495:A:C5	3.01	0.49
17:D:718:A:C8	30:Q:118:HIS:HB3	2.48	0.49
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
21:H:267:TRP:CE3	21:H:340:ARG:HG3	2.47	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
38:Y:20:SER:CB	38:Y:21:PRO:HD3	2.43	0.49
40:a:3:U:C2	40:a:4:U:C5	3.00	0.49
40:a:583:G:OP1	65:z:11:ARG:NH2	2.46	0.49
40:a:1199:U:H2'	40:a:1200:C:C6	2.47	0.49
40:a:2159:G:H2'	40:a:2160:C:C6	2.47	0.49
51:l:5:LEU:HD23	51:l:122:GLU:HG3	1.95	0.49
59:t:7:MET:SD	59:t:18:ARG:NE	2.85	0.49
63:x:90:VAL:HG22	63:x:115:LEU:HD11	1.94	0.49
10:A:47:U:O2'	10:A:50:U:P	2.70	0.49
14:AE:287:ALA:HB3	14:AE:292:VAL:HG22	1.94	0.49
24:K:88:VAL:HG12	24:K:93:ARG:HA	1.93	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:42:THR:HG22	35:V:44:LEU:HD12	1.95	0.49
35:V:62:ARG:HA	35:V:73:TRP:CZ3	2.47	0.49
37:X:81:MET:HG2	40:a:888:C:C4	2.48	0.49
38:Y:126:ARG:HH12	40:a:1082:U:C3'	2.26	0.49
40:a:1590:A:H2'	40:a:1591:A:C8	2.48	0.49
40:a:1607:C:N4	40:a:1622:G:OP2	2.35	0.49
40:a:2485:G:O3'	61:v:125:PRO:HB3	2.12	0.49
42:c:6:GLN:CD	42:c:49:LEU:HD22	2.38	0.49
45:f:3:LYS:HE2	45:f:3:LYS:HA	1.95	0.49
51:l:141:MET:O	51:l:142:ALA:HB3	2.13	0.49
53:n:70:ALA:O	53:n:81:GLN:OE1	2.31	0.49
58:s:125:TYR:HE2	58:s:130:HIS:HB2	1.78	0.49
59:t:88:ASN:OD1	59:t:89:ASN:N	2.46	0.49
61:v:57:VAL:HG22	61:v:60:GLN:O	2.13	0.49
65:z:79:PHE:CE1	65:z:110:VAL:HG22	2.48	0.49
5:4:1:MET:SD	5:4:3:THR:OG1	2.71	0.49
5:4:35:GLU:OE1	5:4:93:ARG:NH2	2.46	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:9:97:LYS:HZ1	9:9:130:PRO:HA	1.77	0.49
11:AA:400:VAL:HG11	11:AA:452:ARG:HD2	1.94	0.49
12:AB:50:LEU:HD21	14:AE:285:LEU:HB3	1.94	0.49
12:AB:147:ASN:CG	29:P:101:SER:HA	2.37	0.49
17:D:56:U:H2'	17:D:57:G:C8	2.48	0.49
17:D:373:A:C2	17:D:374:A:C8	3.01	0.49
17:D:1215:G:C2	17:D:1216:A:C8	3.01	0.49
23:J:113:GLU:O	23:J:117:LEU:HG	2.13	0.49
24:K:46:VAL:N	24:K:71:MET:HE2	2.27	0.49
29:P:7:ARG:HD3	29:P:75:ASP:CG	2.36	0.49
35:V:17:MET:HG3	35:V:20:SER:HB2	1.95	0.49
38:Y:86:LYS:HD3	38:Y:86:LYS:O	2.11	0.49
40:a:132:G:H2'	40:a:133:U:C6	2.47	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:1454:C:H4'	62:w:63:ARG:NH1	2.27	0.49
40:a:2809:A:H2'	40:a:2810:A:C8	2.48	0.49
47:h:52:ARG:HG3	47:h:53:HIS:ND1	2.27	0.49
53:n:8:TYR:HA	53:n:12:VAL:HB	1.95	0.49
55:p:94:TYR:C	55:p:95:ARG:HD2	2.38	0.49
56:q:10:LEU:HD23	56:q:33:HIS:CD2	2.47	0.49
58:s:73:VAL:CG1	58:s:74:TYR:N	2.75	0.49
58:s:131:ASN:OD1	58:s:131:ASN:O	2.30	0.49
60:u:77:ILE:HD11	60:u:108:ALA:HB1	1.95	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	2.26	0.49
11:AA:529:ARG:HH11	11:AA:572:ILE:HG22	1.77	0.49
12:AB:155:LYS:HG3	12:AB:156:ASN:N	2.25	0.49
14:AE:814:CYS:SG	14:AE:815:GLY:N	2.85	0.49
20:G:126:PHE:C	20:G:127:ASP:O	2.55	0.49
26:M:109:ARG:O	26:M:119:ARG:NH2	2.46	0.49
30:Q:98:ARG:HG2	30:Q:98:ARG:HH11	1.78	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
38:Y:21:PRO:CB	38:Y:22:PRO:HD3	2.41	0.49
40:a:145:C:H2'	40:a:146:A:H8	1.77	0.49
40:a:1792:G:H5''	47:h:204:VAL:HG23	1.95	0.49
40:a:1808:A:O2'	42:c:3:ARG:NH1	2.46	0.49
40:a:1843:C:C2	40:a:1844:C:C5	3.00	0.49
40:a:1932:A:H2'	40:a:1933:G:O4'	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:2392:A:C8	40:a:2429:G:C2	3.00	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
46:g:63:ARG:HG3	46:g:64:PHE:CD1	2.48	0.49
58:s:54:ILE:O	58:s:123:LYS:HG2	2.12	0.49
1:0:73:LYS:HE2	1:0:73:LYS:HA	1.95	0.49
2:1:35:ILE:O	2:1:39:THR:HG23	2.12	0.49
4:3:6:ARG:NH1	40:a:84:A:H2'	2.28	0.49
7:6:19:DC:H2'	7:6:20:DA:C8	2.48	0.49
9:9:67:THR:O	9:9:72:LEU:HG	2.12	0.49
11:AA:732:ILE:HD11	11:AA:769:PRO:HB3	1.95	0.49
11:AA:786:GLY:N	11:AA:789:THR:OG1	2.41	0.49
12:AB:147:ASN:HD21	29:P:101:SER:HA	1.74	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:72:A:H2'	10:B:73:A:H5''	1.95	0.49
20:G:23:TRP:CZ3	20:G:25:PRO:HA	2.47	0.49
21:H:112:ILE:HA	21:H:121:THR:O	2.12	0.49
28:O:12:ARG:HD3	28:O:13:LYS:H	1.78	0.49
33:T:35:GLN:HB3	33:T:59:MET:HE1	1.95	0.49
35:V:42:THR:HG22	35:V:44:LEU:HD11	1.95	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:2093:G:N7	40:a:2225:A:H2'	2.28	0.49
40:a:2313:C:H5''	53:n:88:LYS:HD2	1.95	0.49
40:a:2351:G:O6	54:o:39:LYS:HE3	2.13	0.49
40:a:2682:A:C5'	49:j:11:MET:HE1	2.42	0.49
40:a:2902:C:N4	40:a:2903:U:O4	2.45	0.49
45:f:41:THR:CA	45:f:45:ARG:HH22	2.26	0.49
46:g:47:LYS:HE2	53:n:115:ARG:HA	1.95	0.49
50:k:21:TYR:CE2	50:k:38:LYS:CG	2.96	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
58:s:123:LYS:CE	58:s:132:HIS:HD2	2.25	0.49
59:t:1:MET:HE3	59:t:32:TYR:HB3	1.95	0.49
8:7:3:G:H5''	17:D:1501:C:N4	2.27	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:377:G:OP1	34:U:5:ARG:CZ	2.60	0.49
17:D:739:C:O2	33:T:42:HIS:HE1	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:877:G:H5''	27:N:80:ARG:HD2	1.94	0.49
17:D:1324:A:H2'	17:D:1325:C:H6	1.78	0.49
17:D:1439:G:OP1	18:E:33:LYS:CE	2.61	0.49
18:E:54:MET:HE1	18:E:75:HIS:HE1	1.77	0.49
22:I:188:GLU:OE1	22:I:188:GLU:N	2.45	0.49
24:K:13:GLU:C	24:K:14:LYS:HD2	2.37	0.49
28:O:32:GLN:HG3	28:O:32:GLN:O	2.13	0.49
29:P:64:GLN:OE1	29:P:65:TYR:O	2.31	0.49
33:T:5:THR:O	33:T:8:THR:OG1	2.27	0.49
33:T:64:ARG:CZ	33:T:64:ARG:CB	2.91	0.49
40:a:15:G:C2'	48:i:15:MET:HE1	2.42	0.49
40:a:26:G:H2'	40:a:27:G:O4'	2.13	0.49
40:a:1800:C:HO2'	40:a:1818:U:H3	1.61	0.49
40:a:2189:U:O2'	40:a:2190:G:O5'	2.31	0.49
44:e:2:LYS:HZ1	44:e:49:ASP:C	2.21	0.49
47:h:141:VAL:HG23	47:h:162:VAL:HG12	1.94	0.49
61:v:58:LYS:O	61:v:59:ARG:HG3	2.13	0.49
62:w:82:GLU:O	62:w:86:ARG:HG2	2.13	0.49
64:y:7:GLN:NE2	64:y:10:GLN:HE21	2.11	0.49
2:1:95:ARG:NH1	2:1:97:LEU:HG	2.28	0.48
3:2:2:ILE:HG12	3:2:42:GLU:CD	2.37	0.48
9:9:31:ARG:HH22	40:a:1106:G:N2	2.10	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
12:AB:32:MET:HE2	12:AB:32:MET:HA	1.95	0.48
17:D:43:C:P	34:U:12:LYS:NZ	2.86	0.48
17:D:563:A:N1	17:D:884:U:O4	2.46	0.48
17:D:718:A:C5	30:Q:118:HIS:ND1	2.81	0.48
17:D:908:A:H2'	17:D:909:A:C8	2.48	0.48
17:D:1175:G:HO2'	17:D:1176:A:P	2.35	0.48
22:I:142:MET:HG3	22:I:170:GLU:OE1	2.13	0.48
26:M:108:ALA:O	26:M:119:ARG:NH2	2.45	0.48
26:M:138:ARG:HG2	26:M:142:HIS:CE1	2.48	0.48
33:T:71:LYS:HE2	33:T:78:TYR:CE2	2.48	0.48
40:a:2040:G:OP1	58:s:106:LYS:NZ	2.38	0.48
40:a:2591:C:H2'	40:a:2592:G:H8	1.78	0.48
40:a:2677:G:C6	40:a:2731:G:C6	3.01	0.48
40:a:2771:C:C2	40:a:2772:C:C5	3.01	0.48
53:n:134:GLU:CG	53:n:137:ILE:HG23	2.40	0.48
55:p:69:ARG:NH1	55:p:73:ASN:HD21	2.11	0.48
64:y:40:LEU:HD12	64:y:40:LEU:N	2.28	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:17:VAL:HG12	2:1:76:VAL:HG21	1.94	0.48
4:3:94:ARG:CB	4:3:103:ILE:HD12	2.43	0.48
8:7:21:U:H5'	22:I:80:LYS:CG	2.43	0.48
10:A:22:G:O2'	10:A:23:C:O5'	2.31	0.48
11:AA:18:ARG:HE	11:AA:620:ASN:HA	1.77	0.48
11:AA:411:ARG:NH2	11:AA:427:ASP:OD2	2.44	0.48
12:AB:6:LEU:O	12:AB:7:LEU:HD23	2.13	0.48
12:AB:51:PHE:CZ	14:AE:288:PRO:HG3	2.47	0.48
12:AB:117:ILE:HG23	12:AB:160:ARG:O	2.13	0.48
14:AE:67:ASP:C	14:AE:69:GLU:N	2.71	0.48
14:AE:74:LYS:NZ	29:P:89:ARG:HA	2.27	0.48
10:B:23:C:H2'	10:B:24:U:H6	1.77	0.48
17:D:123:U:H5''	17:D:311:C:O2'	2.13	0.48
17:D:429:U:N3	17:D:431:A:N6	2.61	0.48
17:D:537:G:OP1	31:R:110:ARG:NH2	2.38	0.48
17:D:610:U:O2	17:D:610:U:H2'	2.12	0.48
17:D:652:U:C3'	27:N:56:LYS:HZ1	2.19	0.48
17:D:674:G:P	25:L:86:ARG:HH22	2.35	0.48
17:D:1314:C:H2'	17:D:1315:U:H6	1.78	0.48
17:D:1319:A:C8	17:D:1323:G:C6	3.01	0.48
20:G:49:MET:CE	20:G:201:PRO:CD	2.87	0.48
24:K:112:ARG:C	24:K:116:GLU:OE1	2.57	0.48
24:K:157:ARG:CZ	27:N:43:GLU:HG3	2.43	0.48
25:L:70:VAL:O	25:L:74:LEU:CD2	2.56	0.48
26:M:132:GLY:O	26:M:136:LYS:NZ	2.45	0.48
27:N:96:MET:HG2	27:N:96:MET:O	2.12	0.48
40:a:379:G:N1	40:a:396:G:C6	2.82	0.48
40:a:1664:A:C2'	40:a:1665:A:H5'	2.43	0.48
40:a:2515:C:H2'	40:a:2516:A:H8	1.78	0.48
41:b:45:PHE:HD2	41:b:80:ILE:HD11	1.77	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
51:l:119:ILE:O	51:l:188:MET:N	2.35	0.48
53:n:67:ILE:HD13	53:n:87:CYS:HB3	1.95	0.48
62:w:60:VAL:HG22	62:w:63:ARG:HH12	1.78	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
5:4:89:ILE:CG2	5:4:91:PHE:CE1	2.95	0.48
10:A:70:G:C3'	10:A:71:C:H5''	2.43	0.48
11:AA:380:ALA:HA	12:AB:65:HIS:ND1	2.28	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:AE:977:SER:OG	14:AE:980:THR:OG1	2.31	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'	2.32	0.48
17:D:404:G:O2'	17:D:498:A:N1	2.38	0.48
22:I:119:SER:O	22:I:123:GLN:HG2	2.13	0.48
22:I:134:MET:HE2	22:I:168:TYR:CG	2.49	0.48
25:L:38:ARG:HD2	25:L:40:GLU:OE2	2.13	0.48
29:P:63:ASP:OD1	29:P:65:TYR:CZ	2.66	0.48
37:X:16:VAL:HG23	37:X:17:ILE:N	2.28	0.48
38:Y:99:LYS:NZ	38:Y:138:VAL:O	2.44	0.48
40:a:39:G:H1'	51:l:43:THR:HG21	1.95	0.48
40:a:807:U:OP2	60:u:41:ARG:NH1	2.42	0.48
40:a:1921:G:C2'	40:a:1922:G:H5'	2.43	0.48
40:a:2420:C:C5'	50:k:8:LYS:NZ	2.76	0.48
62:w:33:ILE:HD11	62:w:112:TYR:CE1	2.48	0.48
4:3:84:GLY:HA3	4:3:95:PHE:CZ	2.48	0.48
12:AB:92:VAL:HG13	12:AB:96:LEU:O	2.13	0.48
10:B:21:A:H4'	10:B:21:A:OP1	2.13	0.48
16:C:60:LYS:CD	17:D:734:G:O2'	2.62	0.48
17:D:331:G:H2'	18:E:4:ILE:HD11	1.95	0.48
19:F:4:ILE:CD1	19:F:19:PHE:HA	2.43	0.48
22:I:164:ARG:HD2	22:I:166:GLU:OE2	2.12	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
28:O:52:LEU:HB3	28:O:58:VAL:HG12	1.94	0.48
28:O:86:ALA:HA	28:O:89:GLU:HG2	1.95	0.48
33:T:64:ARG:HA	33:T:64:ARG:HH11	1.75	0.48
40:a:208:C:H2'	40:a:209:C:H6	1.78	0.48
40:a:1021:A:H3'	40:a:1021:A:N3	2.27	0.48
40:a:2061:G:C2	40:a:2063:C:C5	3.01	0.48
41:b:47:ALA:HB2	41:b:59:LEU:HD11	1.94	0.48
51:l:147:LEU:HD11	51:l:170:ARG:CD	2.43	0.48
51:l:149:ILE:CG2	51:l:175:ILE:HD11	2.43	0.48
53:n:22:TYR:HE2	53:n:29:PRO:HD3	1.79	0.48
58:s:88:THR:O	58:s:92:MET:HE2	2.13	0.48
65:z:58:ARG:HA	65:z:61:TRP:CE3	2.48	0.48
65:z:72:ASN:ND2	65:z:106:PHE:CE2	2.81	0.48
3:2:11:LEU:HD11	3:2:46:ALA:HB3	1.95	0.48
5:4:1:MET:O	5:4:1:MET:HE3	2.13	0.48
6:5:17:DC:C5	11:AA:542:ARG:HD3	2.48	0.48
8:7:29:U:H3'	8:7:29:U:O2	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:C:65:LEU:HD23	16:C:67:LEU:HD11	1.96	0.48
17:D:500:G:H2'	17:D:501:C:H6	1.77	0.48
17:D:562:U:O3'	31:R:14:ARG:NH1	2.46	0.48
17:D:977:A:O2'	17:D:979:C:OP2	2.25	0.48
17:D:1127:G:C2	17:D:1128:C:C6	3.01	0.48
17:D:1314:C:H2'	17:D:1315:U:C6	2.48	0.48
23:J:61:VAL:HA	23:J:64:ILE:HD12	1.96	0.48
23:J:62:ARG:NE	23:J:72:PHE:CE2	2.81	0.48
24:K:16:ILE:H	24:K:16:ILE:HD12	1.79	0.48
31:R:74:LEU:HD11	31:R:80:ILE:CD1	2.43	0.48
36:W:44:MET:SD	36:W:62:VAL:CG1	2.99	0.48
38:Y:126:ARG:NH1	40:a:1082:U:O5'	2.46	0.48
39:Z:29:LYS:HG3	39:Z:30:PHE:CE2	2.49	0.48
40:a:6:A:O3'	58:s:132:HIS:CE1	2.67	0.48
40:a:2193:G:HO2'	40:a:2194:U:P	2.36	0.48
44:e:14:LEU:HD13	44:e:57:LEU:HD22	1.95	0.48
60:u:117:THR:HG23	60:u:118:THR:N	2.28	0.48
10:A:72:A:H2'	10:A:73:A:H5''	1.95	0.48
11:AA:554:HIS:HD2	11:AA:558:VAL:HB	1.77	0.48
14:AE:693:VAL:HG21	14:AE:743:MET:HE3	1.94	0.48
10:B:47:U:O2'	10:B:50:U:P	2.70	0.48
16:C:21:ILE:HG13	16:C:54:GLN:NE2	2.29	0.48
16:C:45:THR:HA	21:H:340:ARG:HH21	1.77	0.48
17:D:123:U:C2	17:D:124:C:C5	3.01	0.48
17:D:429:U:O2	17:D:430:A:C8	2.66	0.48
17:D:744:C:H2'	17:D:745:G:H8	1.78	0.48
18:E:22:ALA:HA	18:E:25:ARG:HE	1.79	0.48
22:I:49:LYS:HZ3	22:I:75:ILE:HD11	1.78	0.48
23:J:170:TRP:CZ3	23:J:190:ASP:HB3	2.48	0.48
24:K:157:ARG:NH2	27:N:43:GLU:OE2	2.46	0.48
25:L:62:MET:HE3	25:L:62:MET:CA	2.43	0.48
26:M:129:GLU:O	26:M:130:ASN:HB2	2.13	0.48
31:R:7:LEU:HD23	35:V:34:TYR:OH	2.12	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
40:a:624:C:O2'	40:a:657:U:OP1	2.29	0.48
40:a:760:G:H2'	40:a:761:A:O4'	2.14	0.48
40:a:1042:G:C4	40:a:1043:C:C6	3.02	0.48
40:a:1321:A:C5	40:a:1322:A:C8	3.02	0.48
40:a:2012:G:H8	40:a:2012:G:O5'	1.96	0.48
40:a:2455:G:H2'	40:a:2456:C:C6	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:d:117:G:OP1	63:x:56:LYS:HD3	2.14	0.48
44:e:10:SER:OG	44:e:13:GLU:HG2	2.13	0.48
50:k:7:GLU:HG2	50:k:27:LYS:NZ	2.29	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
61:v:29:GLY:H	61:v:104:GLU:HG2	1.78	0.48
64:y:13:MET:HG3	64:y:77:HIS:CE1	2.49	0.48
5:4:69:GLU:H	5:4:69:GLU:CD	2.22	0.48
9:9:99:PHE:O	9:9:103:ASN:OD1	2.32	0.48
14:AE:77:ARG:HA	14:AE:77:ARG:CZ	2.44	0.48
10:B:12:G:C2'	10:B:13:C:OP1	2.61	0.48
17:D:893:C:C2	17:D:894:G:C8	3.01	0.48
19:F:62:ARG:HD2	19:F:63:GLU:N	2.29	0.48
24:K:157:ARG:NH1	27:N:43:GLU:HA	2.29	0.48
37:X:86:TYR:HE2	37:X:90:ARG:NH2	2.11	0.48
38:Y:99:LYS:CD	38:Y:138:VAL:O	2.61	0.48
40:a:67:U:N3	40:a:74:A:N6	2.62	0.48
40:a:272:A:C2	40:a:273:G:C5	3.02	0.48
40:a:1830:C:N3	40:a:1831:G:N7	2.61	0.48
40:a:2259:U:C2	40:a:2260:C:C5	3.01	0.48
40:a:2685:G:OP1	59:t:78:ARG:NH2	2.47	0.48
40:a:2884:U:N3	48:i:40:ARG:NH1	2.62	0.48
48:i:28:LEU:O	48:i:37:LYS:NZ	2.46	0.48
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:40:ARG:HD2	51:l:92:HIS:CE1	2.48	0.48
51:l:112:LEU:CD1	51:l:117:ARG:HB2	2.39	0.48
61:v:95:LEU:HD23	61:v:95:LEU:H	1.78	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
10:A:32:C:H2'	10:A:33:U:H5'	1.94	0.48
11:AA:562:GLU:OE1	11:AA:662:SER:OG	2.28	0.48
13:AD:182:ARG:O	13:AD:205:MET:HA	2.14	0.48
14:AE:291:ILE:O	14:AE:293:ARG:N	2.46	0.48
14:AE:429:LEU:HB3	14:AE:925:GLU:HG2	1.95	0.48
17:D:1428:A:H2'	17:D:1429:A:O4'	2.13	0.48
17:D:1530:G:H2'	17:D:1531:A:C8	2.49	0.48
22:I:134:MET:HG3	22:I:151:VAL:CG2	2.44	0.48
22:I:156:ARG:HG2	22:I:193:TYR:HB2	1.95	0.48
23:J:195:ILE:HG13	23:J:195:ILE:O	2.14	0.48
25:L:65:GLU:OE1	25:L:65:GLU:HA	2.12	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:O:118:LEU:HD22	28:O:123:ARG:C	2.39	0.48
29:P:5:ARG:HG3	29:P:7:ARG:HH12	1.78	0.48
29:P:15:HIS:O	29:P:18:ILE:HG22	2.14	0.48
30:Q:94:GLU:O	30:Q:97:ILE:HG22	2.13	0.48
40:a:920:A:C5	40:a:921:C:C5	3.01	0.48
40:a:1666:G:H1'	59:t:3:GLN:NE2	2.29	0.48
40:a:2043:C:C2	40:a:2044:C:C5	3.02	0.48
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
58:s:15:TRP:HD1	58:s:53:TYR:HB2	1.78	0.48
58:s:98:GLU:OE1	58:s:124:VAL:HG13	2.13	0.48
61:v:42:THR:HA	61:v:93:VAL:HG12	1.95	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
9:9:24:SER:O	9:9:116:GLU:HB2	2.14	0.48
9:9:103:ASN:HA	9:9:107:GLU:HG3	1.96	0.48
11:AA:143:ARG:NH1	11:AA:507:GLY:O	2.32	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
12:AB:7:LEU:HD22	12:AB:78:PHE:HA	1.96	0.48
17:D:106:C:N4	18:E:10:ARG:HH22	2.12	0.48
17:D:110:C:H2'	17:D:111:G:O4'	2.14	0.48
17:D:1172:C:H2'	17:D:1173:U:C6	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
25:L:36:ILE:HD12	25:L:63:ASN:O	2.14	0.48
27:N:40:LEU:O	27:N:44:GLY:N	2.47	0.48
32:S:74:LEU:HD23	32:S:77:PHE:CD2	2.49	0.48
35:V:11:ARG:HD2	35:V:56:GLY:C	2.39	0.48
40:a:984:A:N3	40:a:984:A:H2'	2.29	0.48
40:a:1141:U:H4'	40:a:1142:A:O5'	2.13	0.48
40:a:1825:U:P	47:h:52:ARG:NH1	2.86	0.48
40:a:1858:A:N6	40:a:1884:G:H1'	2.29	0.48
40:a:2193:G:O2'	40:a:2194:U:P	2.72	0.48
40:a:2373:G:H2'	40:a:2374:C:C6	2.49	0.48
55:p:94:TYR:HD1	55:p:107:LEU:HD23	1.79	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	1.77	0.48
1:0:68:ARG:NH2	1:0:90:ARG:HD3	2.29	0.48
2:1:23:LEU:HD21	2:1:35:ILE:CG2	2.44	0.48
3:2:69:ARG:HG3	3:2:74:ILE:HD13	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:9:31:ARG:NE	9:9:31:ARG:HA	2.28	0.48
10:A:65:C:C2'	10:A:66:C:H5'	2.44	0.48
12:AB:141:LEU:O	12:AB:151:LYS:N	2.46	0.48
12:AB:155:LYS:CG	12:AB:156:ASN:H	2.26	0.48
16:C:60:LYS:NZ	17:D:734:G:H2'	2.25	0.48
17:D:72:A:C5	17:D:73:C:C5	3.02	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:139:PRO:N	23:J:182:PHE:HE2	2.12	0.48
25:L:9:MET:HE2	25:L:51:ILE:CD1	2.44	0.48
28:O:49:ARG:C	28:O:53:GLU:OE1	2.57	0.48
32:S:12:LYS:HD2	32:S:16:LEU:CD2	2.44	0.48
37:X:86:TYR:CE2	37:X:90:ARG:NE	2.82	0.48
37:X:94:GLY:C	37:X:95:LEU:HD22	2.38	0.48
40:a:654:A:N6	54:o:19:LYS:HD2	2.29	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
61:v:41:LEU:HG	61:v:96:ILE:HG13	1.95	0.48
62:w:38:LEU:N	62:w:39:PRO:CD	2.76	0.48
65:z:78:LYS:CD	65:z:117:LEU:HD21	2.43	0.48
2:1:20:VAL:O	2:1:23:LEU:HB3	2.13	0.47
2:1:25:ARG:HH12	40:a:520:G:P	2.37	0.47
10:A:26:G:H1	10:A:44:A:N6	2.12	0.47
17:D:109:A:C6	17:D:326:G:C6	3.02	0.47
17:D:636:U:H5'	35:V:6:ARG:NE	2.29	0.47
23:J:138:SER:O	23:J:139:PRO:C	2.57	0.47
26:M:71:PRO:HG3	26:M:103:TRP:HH2	1.76	0.47
31:R:99:ARG:NE	31:R:104:CYS:SG	2.87	0.47
35:V:31:HIS:HD2	35:V:34:TYR:H	1.62	0.47
36:W:9:PRO:HD3	46:g:64:PHE:CD2	2.49	0.47
38:Y:19:PRO:HG2	38:Y:24:GLY:H	1.79	0.47
40:a:962:G:C5	40:a:963:U:C5	3.01	0.47
40:a:2314:A:C1'	53:n:155:THR:HG21	2.42	0.47
40:a:2419:U:O2'	40:a:2420:C:H5'	2.14	0.47
40:a:2537:U:H2'	40:a:2538:C:H6	1.79	0.47
47:h:130:LEU:HG	47:h:135:ILE:HG13	1.96	0.47
50:k:19:HIS:CD2	50:k:20:PHE:N	2.82	0.47
61:v:53:MET:SD	61:v:53:MET:N	2.86	0.47
63:x:115:LEU:HD23	63:x:117:PHE:CE1	2.48	0.47
2:1:28:LYS:HB2	2:1:31:GLN:OE1	2.14	0.47
5:4:59:GLU:OE1	5:4:59:GLU:N	2.47	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:9:52:MET:HE2	9:9:85:SER:HB2	1.95	0.47
9:9:95:LEU:HD12	9:9:99:PHE:CZ	2.48	0.47
10:A:35:A:H2'	10:A:36:U:C6	2.49	0.47
11:AA:1286:THR:O	11:AA:1290:MET:HB2	2.14	0.47
12:AB:112:PRO:HA	12:AB:133:PRO:HG2	1.96	0.47
14:AE:437:PHE:HZ	14:AE:453:VAL:HG11	1.79	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
10:B:65:C:C2'	10:B:66:C:H5'	2.44	0.47
17:D:1149:C:H2'	17:D:1150:A:H8	1.79	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
19:F:33:ARG:O	19:F:36:GLU:HG2	2.15	0.47
20:G:26:LYS:O	20:G:26:LYS:HD3	2.14	0.47
20:G:112:LYS:HE2	20:G:112:LYS:HA	1.95	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
26:M:142:HIS:O	26:M:146:GLU:HG2	2.13	0.47
27:N:34:VAL:HG22	27:N:59:LEU:HD21	1.96	0.47
28:O:21:ILE:HD12	28:O:86:ALA:HB1	1.96	0.47
33:T:77:ARG:HH21	33:T:80:GLN:NE2	2.11	0.47
37:X:5:ALA:HB3	37:X:66:GLU:OE2	2.14	0.47
38:Y:74:PRO:O	38:Y:78:LEU:HG	2.13	0.47
40:a:208:C:C2	40:a:209:C:C5	3.01	0.47
40:a:247:G:H4'	40:a:386:G:C5	2.49	0.47
40:a:576:U:H2'	40:a:577:G:C8	2.48	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:2070:A:H2'	40:a:2071:A:O4'	2.14	0.47
40:a:2246:G:H2'	40:a:2247:A:C8	2.49	0.47
40:a:2296:U:H4'	40:a:2297:A:OP1	2.14	0.47
40:a:2298:A:C4	40:a:2321:U:H5	2.31	0.47
40:a:2298:A:H5''	53:n:72:LYS:CE	2.44	0.47
40:a:2299:U:P	53:n:72:LYS:HE2	2.54	0.47
40:a:2814:A:C4	40:a:2815:C:C5	3.03	0.47
46:g:45:THR:O	46:g:49:ARG:CZ	2.62	0.47
46:g:47:LYS:HE2	53:n:115:ARG:CZ	2.44	0.47
50:k:25:LYS:HD3	50:k:51:GLU:OE2	2.14	0.47
51:l:42:GLY:HA3	51:l:92:HIS:CE1	2.49	0.47
53:n:93:GLY:C	53:n:97:TRP:CZ3	2.92	0.47
55:p:9:VAL:HG23	55:p:69:ARG:HD2	1.95	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:q:1:MET:CA	56:q:1:MET:HE3	2.43	0.47
58:s:13:ARG:NH2	58:s:50:THR:HA	2.27	0.47
63:x:41:ALA:HB2	63:x:48:LEU:HD11	1.95	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
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
11:AA:1280:ALA:HB1	14:AE:918:ILE:HG22	1.96	0.47
14:AE:87:LYS:HZ3	29:P:89:ARG:CZ	2.27	0.47
14:AE:290:ILE:O	14:AE:290:ILE:HG12	2.14	0.47
14:AE:804:ALA:O	14:AE:806:ASP:N	2.47	0.47
17:D:61:G:O6	18:E:10:ARG:NH2	2.47	0.47
17:D:330:C:O2	17:D:330:C:H2'	2.14	0.47
17:D:1308:U:H3'	37:X:98:ARG:NH2	2.29	0.47
23:J:74:ASN:CA	23:J:77:LYS:HZ3	2.27	0.47
24:K:57:PRO:HA	24:K:60:ILE:HG12	1.96	0.47
28:O:49:ARG:O	28:O:53:GLU:OE1	2.32	0.47
33:T:29:VAL:HG22	33:T:66:LEU:HD23	1.96	0.47
34:U:26:ASN:ND2	34:U:31:ARG:HE	2.11	0.47
38:Y:52:LEU:O	38:Y:54:ILE:HG12	2.14	0.47
38:Y:126:ARG:NH1	40:a:1083:U:OP2	2.47	0.47
40:a:6:A:N3	58:s:135:GLN:NE2	2.58	0.47
40:a:600:G:H2'	40:a:601:C:C6	2.49	0.47
40:a:1333:G:C2	40:a:1334:G:C8	3.03	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	2.12	0.47
40:a:1841:U:C2	40:a:1842:G:C8	3.02	0.47
40:a:2297:A:N1	40:a:2321:U:O4	2.47	0.47
53:n:38:MET:HE3	53:n:57:LEU:HG	1.96	0.47
61:v:53:MET:HB2	61:v:116:ALA:HB1	1.96	0.47
4:3:40:ASN:OD1	4:3:65:ILE:HB	2.14	0.47
9:9:16:SER:HB2	9:9:20:LYS:NZ	2.29	0.47
9:9:51:TYR:CD2	9:9:88:HIS:HB2	2.49	0.47
12:AB:2:GLN:HB2	12:AB:60:ASP:HB2	1.95	0.47
12:AB:131:THR:HG23	12:AB:142:LEU:HD22	1.97	0.47
10:B:70:G:C3'	10:B:71:C:H5''	2.44	0.47
17:D:1397:C:OP1	17:D:1397:C:H2'	2.13	0.47
18:E:19:LYS:CG	18:E:20:HIS:N	2.76	0.47
19:F:25:LYS:NZ	21:H:336:ASP:CG	2.68	0.47
21:H:5:PHE:CE1	21:H:9:PHE:HE1	2.31	0.47
24:K:157:ARG:NH1	27:N:43:GLU:CD	2.72	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:M:71:PRO:O	26:M:96:ARG:NH1	2.47	0.47
32:S:57:PRO:HA	32:S:60:GLN:OE1	2.13	0.47
32:S:63:ARG:HD3	32:S:68:GLY:O	2.15	0.47
40:a:880:G:C2	40:a:881:G:C8	3.02	0.47
40:a:1385:A:C4	40:a:1386:C:C5	3.02	0.47
40:a:1708:C:H2'	40:a:1709:U:H6	1.79	0.47
40:a:1794:A:H2'	40:a:1795:C:H6	1.80	0.47
40:a:2091:C:O2	42:c:34:HIS:CE1	2.67	0.47
40:a:2788:C:H2'	40:a:2789:C:C6	2.50	0.47
41:b:26:PHE:H	41:b:29:GLU:HG3	1.79	0.47
44:e:24:GLU:O	44:e:25:GLN:C	2.57	0.47
46:g:5:ILE:CD1	53:n:64:LYS:CE	2.92	0.47
47:h:108:LYS:HZ3	47:h:194:GLU:N	2.12	0.47
55:p:18:LYS:HE2	55:p:18:LYS:HA	1.96	0.47
61:v:41:LEU:HD22	61:v:45:GLN:HE22	1.78	0.47
61:v:59:ARG:CZ	61:v:59:ARG:O	2.63	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
5:4:2:PHE:CE1	5:4:56:PHE:CZ	3.03	0.47
5:4:21:ARG:HA	5:4:25:LYS:O	2.14	0.47
10:A:33:U:H4'	26:M:84:THR:HB	1.97	0.47
11:AA:318:SER:OG	11:AA:320:ASP:OD1	2.31	0.47
11:AA:560:PRO:O	14:AE:780:ARG:NH2	2.47	0.47
12:AB:50:LEU:HD21	14:AE:285:LEU:CB	2.44	0.47
14:AE:79:LYS:CB	14:AE:81:ARG:HH12	2.28	0.47
17:D:126:G:OP1	17:D:605:U:O2'	2.19	0.47
17:D:306:A:C5	17:D:307:C:C5	3.02	0.47
17:D:378:G:H2'	17:D:379:C:C6	2.49	0.47
17:D:808:C:OP1	33:T:48:LYS:HE3	2.14	0.47
17:D:864:A:H5'	24:K:90:THR:O	2.14	0.47
17:D:1227:A:C2	17:D:1228:C:C6	3.02	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
29:P:26:VAL:HG12	29:P:30:LYS:HZ2	1.79	0.47
29:P:27:GLU:HA	29:P:30:LYS:HZ1	1.77	0.47
31:R:2:ALA:N	31:R:7:LEU:HD11	2.29	0.47
36:W:33:THR:HG21	36:W:49:ILE:HD11	1.94	0.47
39:Z:26:MET:O	39:Z:30:PHE:HB2	2.14	0.47
40:a:1048:A:C4	40:a:1049:C:C5	3.02	0.47
47:h:205:LEU:HD12	47:h:210:ALA:CB	2.44	0.47
51:l:23:PHE:CE2	51:l:25:GLU:HA	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:m:25:LYS:HE2	52:m:28:ARG:HH21	1.78	0.47
59:t:20:MET:HB3	59:t:44:LYS:HE2	1.95	0.47
61:v:57:VAL:HG22	61:v:57:VAL:O	2.14	0.47
2:1:11:ARG:CZ	2:1:11:ARG:HB3	2.45	0.47
6:5:10:DT:C4'	11:AA:62:TYR:OH	2.61	0.47
10:A:12:G:C2'	10:A:13:C:OP1	2.61	0.47
10:A:19:G:C6	40:a:2112:G:O5'	2.67	0.47
13:AC:64:VAL:HG11	13:AC:78:ILE:HG21	1.97	0.47
10:B:70:G:C2'	10:B:71:C:H5''	2.45	0.47
17:D:35:G:H2'	17:D:36:C:H6	1.79	0.47
17:D:307:C:O2	17:D:307:C:H2'	2.15	0.47
17:D:311:C:P	34:U:31:ARG:NH2	2.86	0.47
17:D:977:A:H1'	17:D:982:U:O4	2.15	0.47
17:D:1149:C:C2	17:D:1150:A:C8	3.03	0.47
17:D:1325:C:C2	17:D:1326:U:C5	3.02	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
26:M:18:PHE:CD2	26:M:59:LEU:HD21	2.47	0.47
27:N:3:MET:O	27:N:3:MET:HE3	2.14	0.47
30:Q:85:MET:HB3	30:Q:113:VAL:HG11	1.95	0.47
33:T:77:ARG:NH2	33:T:80:GLN:NE2	2.62	0.47
40:a:581:C:C2	40:a:582:A:C8	3.02	0.47
40:a:591:U:C2	40:a:592:A:C8	3.03	0.47
40:a:1083:U:O2'	40:a:1085:A:OP2	2.32	0.47
40:a:1429:G:H2'	40:a:1430:G:H8	1.79	0.47
40:a:1770:G:C6	40:a:1983:G:C5	3.03	0.47
40:a:1844:C:C2	40:a:1845:G:C8	3.02	0.47
40:a:2243:U:H2'	40:a:2244:U:H6	1.80	0.47
40:a:2513:A:H2'	40:a:2514:U:C6	2.50	0.47
45:f:41:THR:O	45:f:42:PRO:C	2.58	0.47
61:v:97:GLN:H	61:v:100:LYS:NZ	2.13	0.47
1:0:82:HIS:CD2	60:u:23:ILE:HG12	2.50	0.47
2:1:105:VAL:HG13	2:1:105:VAL:O	2.14	0.47
3:2:1:MET:HE1	40:a:139:U:C4	2.50	0.47
3:2:56:GLU:OE2	3:2:88:LYS:CA	2.61	0.47
5:4:48:MET:HE3	5:4:85:LYS:HA	1.97	0.47
6:5:10:DT:C4	11:AA:62:TYR:HE2	2.27	0.47
8:7:8:U:OP2	17:D:1397:C:O2	2.33	0.47
8:7:22:U:H5''	22:I:80:LYS:HB2	1.95	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:A:30:G:O2'	10:A:31:G:H5'	2.15	0.47
10:A:48:C:C2'	10:A:49:G:OP2	2.62	0.47
11:AA:363:LEU:HB3	11:AA:381:ALA:HB1	1.96	0.47
11:AA:1311:GLY:O	15:AF:31:GLN:NE2	2.47	0.47
12:AB:6:LEU:CD1	14:AE:291:ILE:CD1	2.84	0.47
12:AB:145:LEU:CD2	29:P:88:MET:SD	3.00	0.47
13:AC:102:LEU:HD12	13:AC:115:ILE:HG12	1.96	0.47
14:AE:86:GLU:N	14:AE:86:GLU:CD	2.73	0.47
14:AE:1108:GLN:HE21	14:AE:1123:ARG:HH12	1.62	0.47
10:B:30:G:O2'	10:B:31:G:H5'	2.15	0.47
10:B:52:G:C6	10:B:63:G:O6	2.68	0.47
10:B:68:C:H3'	10:B:69:C:H5''	1.97	0.47
16:C:16:GLU:OE1	16:C:18:VAL:HB	2.15	0.47
16:C:60:LYS:HE3	17:D:735:C:H4'	1.97	0.47
17:D:309:A:O2'	17:D:607:A:N1	2.45	0.47
17:D:375:U:H1'	34:U:28:ARG:HH22	1.79	0.47
17:D:520:A:O2'	31:R:70:GLU:CD	2.57	0.47
17:D:687:A:C2	17:D:704:A:C4	3.02	0.47
17:D: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
20:G:19:GLN:OE1	20:G:21:ARG:CG	2.63	0.47
21:H:70:VAL:HA	21:H:85:SER:HA	1.95	0.47
21:H:277:GLY:CA	21:H:331:MET:CE	2.93	0.47
22:I:132:ARG:CA	22:I:135:LYS:HE3	2.44	0.47
23:J:62:ARG:HA	23:J:72:PHE:CZ	2.50	0.47
24:K:156:LYS:HE3	27:N:71:VAL:CG1	2.41	0.47
29:P:13:PHE:CE1	29:P:67:ILE:HD11	2.50	0.47
31:R:18:LYS:NZ	31:R:19:SER:O	2.47	0.47
32:S:63:ARG:NH2	32:S:70:PRO:HD3	2.30	0.47
35:V:30:LYS:HD3	35:V:35:GLY:HA2	1.97	0.47
35:V:62:ARG:C	35:V:73:TRP:CE3	2.92	0.47
38:Y:102:ARG:HH11	38:Y:141:ASP:CG	2.23	0.47
40:a:257:C:O2	60:u:104:GLN:NE2	2.48	0.47
40:a:871:U:H2'	40:a:872:U:H6	1.78	0.47
40:a:1197:G:C4	40:a:1198:U:C5	3.02	0.47
40:a:1790:C:H2'	40:a:1791:A:N7	2.29	0.47
40:a:1790:C:O3'	40:a:1791:A:C8	2.68	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:2517:C:O2	40:a:2542:A:N6	2.48	0.47
40:a:2520:C:C6	40:a:2567:G:H1'	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
44:e:20:ASN:HA	44:e:23:ARG:NE	2.30	0.47
47:h:181:MET:HE2	47:h:181:MET:CA	2.45	0.47
48:i:4:GLN:OE1	48:i:8:PRO:CD	2.63	0.47
51:l:6:LYS:HZ1	51:l:119:ILE:C	2.23	0.47
51:l:59:PRO:HB2	51:l:60:TRP:CE3	2.50	0.47
51:l:112:LEU:HD21	51:l:186:VAL:HB	1.97	0.47
53:n:12:VAL:O	53:n:16:LEU:HG	2.14	0.47
56:q:14:CYS:SG	56:q:33:HIS:HB3	2.54	0.47
57:r:18:GLN:HE22	57:r:39:ALA:HB2	1.78	0.47
60:u:19:LEU:CD2	60:u:27:LEU:HD12	2.45	0.47
63:x:83:LEU:HD23	63:x:88:LYS:HE3	1.97	0.47
63:x:90:VAL:HG13	63:x:115:LEU:HD11	1.96	0.47
10:A:70:G:C2'	10:A:71:C:H5''	2.45	0.47
14:AE:1350:ASN:HA	14:AE:1353:VAL:HG12	1.97	0.47
10:B:26:G:H1	10:B:44:A:N6	2.12	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:611:C:C2	17:D:612:C:C5	3.02	0.47
17:D:745:G:H2'	17:D:746:A:C8	2.50	0.47
19:F:19:PHE:HE2	30:Q:110:ILE:C	2.23	0.47
22:I:25:ASN:O	22:I:27:LYS:N	2.47	0.47
22:I:107:ARG:HB3	22:I:108:LYS:HD2	1.96	0.47
23:J:41:HIS:ND1	23:J:44:ARG:NH1	2.63	0.47
24:K:165:LEU:HD12	27:N:114:ARG:NH1	2.30	0.47
33:T:11:ILE:HG21	33:T:31:LEU:CD1	2.45	0.47
33:T:71:LYS:HZ3	33:T:78:TYR:HD2	1.61	0.47
40:a:592:A:C2	54:o:4:ILE:HD11	2.49	0.47
40:a:872:U:H2'	40:a:873:C:C6	2.50	0.47
40:a:921:C:C2	40:a:922:C:C5	3.03	0.47
40:a:1467:U:C4	40:a:1546:G:C2	3.03	0.47
40:a:2013:A:C2	40:a:2613:U:O4	2.68	0.47
40:a:2294:G:OP1	63:x:98:GLN:OE1	2.33	0.47
40:a:2300:C:H2'	40:a:2301:C:H6	1.79	0.47
40:a:2314:A:P	53:n:88:LYS:NZ	2.87	0.47
40:a:2700:A:H2'	40:a:2701:U:C6	2.50	0.47
41:b:53:CYS:SG	41:b:57:HIS:HA	2.55	0.47
51:l:168:ASP:HB3	51:l:183:PHE:CE2	2.49	0.47
54:o:62:LEU:HG	54:o:65:ALA:HA	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:4:VAL:HG23	1:0:39:LEU:HB2	1.97	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
11:AA:1314:GLN:HB2	15:AF:28:ARG:HH12	1.79	0.47
12:AB:111:TYR:HB3	12:AB:112:PRO:HD2	1.96	0.47
14:AE:87:LYS:NZ	29:P:89:ARG:CZ	2.78	0.47
10:B:47:U:H2'	10:B:48:C:H4'	1.97	0.47
17:D:1189:U:OP1	32:S:98:LYS:NZ	2.48	0.47
17:D:1225:A:H2'	17:D:1226:C:C5	2.49	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
22:I:22:TRP:CZ2	22:I:32:ASN:HB2	2.50	0.47
24:K:96:MET:HG2	24:K:125:ALA:HB2	1.97	0.47
26:M:111:ARG:O	26:M:119:ARG:CZ	2.63	0.47
28:O:127:PHE:CD1	28:O:128:SER:N	2.83	0.47
29:P:10:LEU:C	29:P:11:LYS:HD3	2.40	0.47
29:P:13:PHE:CZ	29:P:67:ILE:HD11	2.50	0.47
35:V:27:ARG:HH12	35:V:42:THR:CB	2.26	0.47
38:Y:96:LYS:HD2	38:Y:136:GLY:O	2.15	0.47
40:a:879:G:H2'	40:a:880:G:O4'	2.14	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:2250:G:OP1	61:v:84:LYS:NZ	2.48	0.47
40:a:2299:U:H2'	40:a:2300:C:C6	2.49	0.47
40:a:2345:G:C5	40:a:2347:C:C5	3.03	0.47
49:j:9:VAL:O	49:j:197:THR:HG23	2.15	0.47
51:l:148:ILE:CD1	51:l:187:VAL:HB	2.44	0.47
55:p:52:PHE:CZ	55:p:72:LEU:HD22	2.50	0.47
61:v:31:PHE:O	61:v:104:GLU:OE1	2.33	0.47
1:0:4:VAL:CG2	1:0:40:MET:HB3	2.45	0.47
5:4:53:LYS:O	5:4:56:PHE:HD2	1.97	0.47
9:9:18:VAL:CG1	9:9:71:CYS:HB2	2.45	0.47
9:9:40:GLU:CD	9:9:54:VAL:HG11	2.39	0.47
9:9:69:PHE:C	9:9:72:LEU:HD11	2.40	0.47
10:A:47:U:H2'	10:A:48:C:H4'	1.97	0.47
11:AA:800:MET:HB2	11:AA:800:MET:HE3	1.69	0.47
16:C:38:LYS:HA	16:C:38:LYS:CE	2.37	0.47
17:D:1238:A:H2	17:D:1241:G:N3	2.13	0.47
17:D:1363:A:C5	17:D:1365:G:C6	3.03	0.47
19:F:37:PHE:HA	30:Q:123:PRO:HB2	1.97	0.47
20:G:197:ASP:OD2	20:G:198:PHE:CE2	2.68	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:H:277:GLY:HA2	21:H:331:MET:HE3	1.97	0.47
25:L:17:GLN:C	25:L:21:MET:HE1	2.40	0.47
28:O:89:GLU:O	28:O:92:GLU:OE1	2.32	0.47
31:R:74:LEU:HD11	31:R:80:ILE:HG13	1.96	0.47
32:S:79:LEU:HB2	32:S:84:VAL:CG2	2.45	0.47
36:W:63:THR:HG22	36:W:64:ASP:N	2.30	0.47
36:W:77:THR:OG1	36:W:78:ARG:HD2	2.15	0.47
40:a:626:A:C2	60:u:78:ARG:CZ	2.98	0.47
40:a:909:A:H2'	40:a:912:C:H5	1.80	0.47
40:a:1656:C:P	49:j:141:ARG:HD2	2.54	0.47
40:a:1936:A:N7	40:a:1945:G:C8	2.83	0.47
40:a:2200:C:OP2	42:c:37:ARG:NH2	2.48	0.47
40:a:2351:G:O6	54:o:39:LYS:NZ	2.48	0.47
40:a:2748:A:C2	40:a:2757:A:C5	3.03	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
49:j:91:THR:HB	49:j:94:GLN:CG	2.44	0.47
51:l:42:GLY:HA3	51:l:92:HIS:HE1	1.80	0.47
54:o:33:LEU:O	54:o:41:LYS:NZ	2.45	0.47
63:x:115:LEU:HD23	63:x:117:PHE:HE1	1.79	0.47
65:z:69:ALA:HA	65:z:106:PHE:HZ	1.80	0.47
3:2:18:GLU:O	3:2:22:THR:HG23	2.15	0.46
8:7:7:U:C6	8:7:7:U:C3'	2.97	0.46
9:9:24:SER:HG	9:9:85:SER:C	2.23	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:848:GLU:HG2	11:AA:888:THR:HG22	1.96	0.46
12:AB:130:PHE:HA	12:AB:152:HIS:HE2	1.77	0.46
14:AE:66:LYS:HB2	14:AE:69:GLU:HB3	1.96	0.46
14:AE:516:ASP:OD1	14:AE:516:ASP:N	2.47	0.46
14:AE:797:THR:HG22	14:AE:924:GLY:HA3	1.97	0.46
17:D:436:C:C2	17:D:437:U:C5	3.02	0.46
17:D:821:G:H2'	17:D:822:U:H6	1.80	0.46
17:D:1368:A:OP1	28:O:113:ARG:NH2	2.48	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
26:M:69:VAL:HA	26:M:138:ARG:HD3	1.97	0.46
28:O:7:TYR:O	28:O:89:GLU:CD	2.58	0.46
33:T:48:LYS:O	33:T:50:HIS:N	2.48	0.46
40:a:104:A:C5	40:a:105:C:C5	3.02	0.46
40:a:858:G:P	41:b:78:LYS:HZ1	2.36	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:1006:C:C2	40:a:1138:G:N2	2.83	0.46
40:a:1786:A:H1'	40:a:1938:A:N6	2.31	0.46
40:a:1791:A:C2	40:a:1829:A:H4'	2.49	0.46
40:a:2646:C:O5'	40:a:2646:C:H6	1.98	0.46
40:a:2784:U:H2'	40:a:2785:C:H6	1.80	0.46
40:a:2840:C:C2	40:a:2841:C:C5	3.03	0.46
58:s:56:VAL:O	58:s:124:VAL:HA	2.14	0.46
61:v:30:SER:N	61:v:104:GLU:OE2	2.48	0.46
62:w:24:MET:HG3	62:w:44:LEU:HD12	1.97	0.46
65:z:108:ALA:O	65:z:112:LYS:HG2	2.15	0.46
5:4:53:LYS:HB3	5:4:55:GLU:OE1	2.16	0.46
14:AE:616:PRO:HA	14:AE:619:ILE:HG22	1.96	0.46
16:C:12:ARG:NH1	16:C:13:PHE:CE1	2.84	0.46
16:C:21:ILE:CD1	16:C:54:GLN:NE2	2.79	0.46
17:D:339:C:H2'	17:D:340:U:C6	2.50	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
25:L:43:GLY:HA2	25:L:58:HIS:CE1	2.51	0.46
26:M:69:VAL:HG23	26:M:100:ALA:HB1	1.97	0.46
26:M:74:GLU:CG	26:M:91:VAL:CG1	2.94	0.46
26:M:116:MET:HA	26:M:119:ARG:HD3	1.97	0.46
28:O:63:LEU:HD13	28:O:65:ILE:HD11	1.97	0.46
40:a:396:G:C6	40:a:397:U:C4	3.04	0.46
40:a:404:A:H4'	40:a:405:U:O5'	2.15	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:1477:A:N6	40:a:1514:G:O2'	2.45	0.46
40:a:1794:A:H2'	40:a:1795:C:C6	2.50	0.46
40:a:2064:C:H2'	40:a:2065:C:H6	1.80	0.46
40:a:2362:C:OP2	54:o:40:ARG:CZ	2.63	0.46
40:a:2725:A:C4	40:a:2727:A:N7	2.83	0.46
46:g:18:CYS:HB2	46:g:40:CYS:HB3	1.96	0.46
49:j:1:MET:O	49:j:204:LYS:HD2	2.15	0.46
56:q:2:LYS:HE2	56:q:35:GLN:HG3	1.97	0.46
60:u:110:VAL:HG23	60:u:125:LEU:HD12	1.97	0.46
65:z:69:ALA:O	65:z:74:ILE:HG22	2.15	0.46
5:4:23:ALA:O	5:4:24:ASN:OD1	2.33	0.46
9:9:60:LEU:O	9:9:64:VAL:HB	2.15	0.46
11:AA:207:THR:OG1	11:AA:354:ASP:OD2	2.32	0.46
14:AE:287:ALA:HB3	14:AE:292:VAL:CG2	2.46	0.46
10:B:22:G:HO2'	10:B:23:C:P	2.38	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:B:75:C:O2'	10:B:76:A:N7	2.48	0.46
16:C:31:ASN:OD1	21:H:268:VAL:HG12	2.15	0.46
17:D:35:G:N3	31:R:115:SER:OG	2.47	0.46
17:D:216:U:H2'	17:D:217:C:C6	2.50	0.46
21:H:287:LEU:HG	21:H:292:CYS:HA	1.98	0.46
21:H:304:VAL:O	21:H:304:VAL:CG1	2.63	0.46
22:I:134:MET:HE2	22:I:168:TYR:CB	2.46	0.46
27:N:112:THR:HG23	27:N:115:ALA:H	1.80	0.46
38:Y:106:GLN:OE1	38:Y:125:THR:HG21	2.14	0.46
40:a:6:A:H5'	58:s:131:ASN:OD1	2.15	0.46
40:a:136:G:C6	40:a:144:A:C6	3.04	0.46
40:a:753:A:C6	40:a:754:U:C5	3.04	0.46
40:a:1405:U:H2'	40:a:1406:U:C5	2.49	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:2700:A:H2'	40:a:2701:U:H6	1.80	0.46
42:c:71:LEU:O	42:c:76:GLU:HG3	2.16	0.46
49:j:55:LYS:HZ2	49:j:60:VAL:CA	2.28	0.46
51:l:1:MET:CE	51:l:20:GLY:N	2.79	0.46
59:t:50:GLY:O	59:t:53:LYS:NZ	2.47	0.46
65:z:113:ALA:O	65:z:117:LEU:HD13	2.15	0.46
1:0:71:LYS:HE2	1:0:90:ARG:HD2	1.97	0.46
3:2:57:VAL:HG12	3:2:86:THR:OG1	2.15	0.46
6:5:10:DT:OP1	11:AA:476:LYS:HD2	2.16	0.46
10:A:24:U:H2'	10:A:25:C:C6	2.51	0.46
12:AB:119:THR:HB	12:AB:125:GLY:HA2	1.97	0.46
12:AB:126:PHE:HE1	14:AE:87:LYS:HG2	1.81	0.46
14:AE:287:ALA:CB	14:AE:292:VAL:CG2	2.93	0.46
10:B:24:U:H2'	10:B:25:C:C6	2.51	0.46
10:B:48:C:C2'	10:B:49:G:OP2	2.62	0.46
17:D:737:C:C2	17:D:738:C:C5	3.03	0.46
17:D:983:A:H5'	17:D:984:C:OP2	2.15	0.46
17:D:1328:C:O3'	37:X:28:THR:HB	2.16	0.46
21:H:37:LEU:HD11	21:H:47:ALA:HA	1.96	0.46
22:I:181:ASP:HB2	22:I:207:ILE:HD11	1.97	0.46
22:I:183:ASP:HB3	22:I:204:LYS:HZ2	1.80	0.46
24:K:143:GLY:O	24:K:146:ASN:OD1	2.34	0.46
30:Q:116:ILE:HG13	30:Q:116:ILE:O	2.14	0.46
36:W:9:PRO:HB3	46:g:64:PHE:CZ	2.51	0.46
40:a:15:G:O2'	48:i:15:MET:HE2	2.15	0.46
40:a:57:C:C2	40:a:58:G:C8	3.04	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:78:U:OP1	44:e:4:LYS:CE	2.63	0.46
40:a:581:C:H2'	40:a:582:A:C8	2.50	0.46
40:a:666:A:H4'	60:u:48:ARG:HD2	1.97	0.46
40:a:1209:U:O2'	40:a:1237:A:N1	2.46	0.46
40:a:1598:A:C4	40:a:1599:U:C6	3.03	0.46
40:a:2236:U:H2'	40:a:2237:G:O4'	2.15	0.46
40:a:2393:U:C5'	54:o:30:ARG:NH1	2.76	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	2.30	0.46
40:a:2743:U:O2'	55:p:153:ARG:NH1	2.49	0.46
43:d:42:C:C5	53:n:66:LEU:HD12	2.49	0.46
47:h:2:ALA:N	47:h:20:VAL:O	2.49	0.46
59:t:42:THR:C	59:t:44:LYS:HZ2	2.16	0.46
61:v:111:GLU:O	61:v:112:LEU:C	2.57	0.46
62:w:44:LEU:C	62:w:44:LEU:HD23	2.39	0.46
9:9:59:LEU:HB2	9:9:62:ARG:CG	2.45	0.46
10:A:19:G:O6	40:a:2112:G:O5'	2.34	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:611:C:C2	17:D:612:C:C6	3.04	0.46
17:D:739:C:O2'	33:T:42:HIS:CE1	2.68	0.46
17:D:829:G:O3'	20:G:23:TRP:HZ2	1.95	0.46
17:D:1055:A:H1'	22:I:156:ARG:NH2	2.31	0.46
17:D:1458:G:H5''	18:E:26:SER:OG	2.14	0.46
21:H:302:GLY:HA3	21:H:344:LEU:HD13	1.96	0.46
22:I:134:MET:HE1	22:I:167:TRP:CA	2.43	0.46
26:M:95:ARG:CZ	26:M:99:LEU:HD21	2.45	0.46
36:W:32:ARG:NH2	36:W:34:TRP:CZ3	2.84	0.46
37:X:3:ARG:HB3	46:g:35:ASP:OD2	2.15	0.46
40:a:391:A:C5	40:a:392:U:C5	3.04	0.46
40:a:832:U:H2'	40:a:833:A:C8	2.50	0.46
40:a:1068:G:O6	40:a:1069:A:N6	2.48	0.46
40:a:1499:C:C2	40:a:1500:G:C8	3.03	0.46
44:e:12:GLU:CG	44:e:13:GLU:N	2.78	0.46
46:g:8:LYS:NZ	46:g:10:GLU:HB2	2.31	0.46
47:h:138:GLY:H	47:h:164:ILE:HG23	1.79	0.46
48:i:4:GLN:OE1	48:i:7:LYS:HA	2.16	0.46
48:i:28:LEU:HB2	48:i:37:LYS:HE3	1.97	0.46
48:i:55:ILE:HD13	62:w:112:TYR:CE1	2.50	0.46
51:l:35:TYR:CD2	51:l:178:VAL:HG11	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:l:195:GLN:CA	51:l:198:GLU:OE1	2.64	0.46
53:n:171:ALA:O	53:n:174:ASP:N	2.47	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
58:s:25:LEU:HD11	58:s:101:ILE:HD13	1.97	0.46
59:t:1:MET:CE	59:t:32:TYR:CG	2.99	0.46
61:v:41:LEU:HG	61:v:96:ILE:CG1	2.45	0.46
8:7:34:U:H4'	14:AE:322:ARG:CZ	2.46	0.46
9:9:25:ALA:HB3	9:9:99:PHE:CE2	2.51	0.46
9:9:43:LYS:HE3	9:9:102:ALA:HB2	1.97	0.46
12:AB:140:MET:O	12:AB:151:LYS:O	2.34	0.46
13:AD:212:ASP:OD1	13:AD:212:ASP:N	2.48	0.46
17:D:610:U:N3	17:D:611:C:C5	2.83	0.46
17:D:771:G:C6	17:D:809:G:C6	3.03	0.46
17:D:789:U:O2'	17:D:791:G:N7	2.45	0.46
17:D:826:C:O2	27:N:16:ASN:ND2	2.49	0.46
17:D:928:G:H2'	17:D:929:G:H8	1.81	0.46
17:D:1435:G:H2'	17:D:1436:U:C6	2.51	0.46
19:F:12:PHE:CD1	30:Q:101:ASN:ND2	2.84	0.46
24:K:16:ILE:HD11	24:K:38:VAL:CG1	2.46	0.46
28:O:58:VAL:HG23	28:O:59:GLU:N	2.31	0.46
30:Q:20:VAL:HB	30:Q:35:THR:CG2	2.45	0.46
31:R:5:ASN:HB3	31:R:9:ARG:HH22	1.79	0.46
33:T:47:LYS:HD3	33:T:47:LYS:N	2.30	0.46
40:a:451:U:C5'	51:l:47:LYS:HZ3	2.28	0.46
40:a:1433:A:H2'	40:a:1434:A:C1'	2.46	0.46
40:a:1688:U:O2'	40:a:1700:A:N7	2.44	0.46
40:a:2314:A:O2'	53:n:155:THR:HG21	2.15	0.46
43:d:44:G:H3'	53:n:92:ARG:HH22	1.81	0.46
43:d:82:U:O2'	45:f:53:PHE:HE2	1.98	0.46
46:g:56:ARG:HH21	46:g:59:ARG:HH21	1.62	0.46
49:j:11:MET:HE3	49:j:11:MET:HB3	1.63	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
55:p:8:PRO:C	55:p:69:ARG:HH21	2.22	0.46
57:r:72:ILE:O	57:r:72:ILE:HG22	2.16	0.46
58:s:136:GLN:N	58:s:137:PRO:CD	2.78	0.46
2:1:50:VAL:HG12	2:1:105:VAL:CG1	2.45	0.46
3:2:3:ARG:CZ	3:2:5:GLU:OE1	2.64	0.46
8:7:31:U:H6	8:7:31:U:H3'	1.80	0.46
10:A:32:C:C2'	10:A:33:U:H5'	2.46	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AB:116:VAL:HG23	12:AB:130:PHE:CZ	2.50	0.46
14:AE:53:ARG:HA	14:AE:54:ASP:HA	1.59	0.46
14:AE:79:LYS:CB	14:AE:81:ARG:NH1	2.73	0.46
14:AE:218:THR:HA	14:AE:221:ILE:HG22	1.96	0.46
14:AE:1037:PHE:HB3	14:AE:1040:MET:HB2	1.97	0.46
17:D:520:A:O3'	31:R:70:GLU:OE2	2.32	0.46
17:D:642:A:H2'	17:D:643:C:H6	1.80	0.46
17:D:915:A:C5	17:D:916:U:C6	3.04	0.46
17:D:1226:C:H4'	17:D:1227:A:OP1	2.16	0.46
19:F:16:LEU:HD12	30:Q:98:ARG:HH21	1.81	0.46
27:N:6:PRO:O	27:N:33:LYS:NZ	2.48	0.46
27:N:114:ARG:HD2	27:N:114:ARG:C	2.41	0.46
33:T:15:PHE:CD2	33:T:30:ALA:HB2	2.49	0.46
35:V:61:ILE:C	35:V:73:TRP:HZ3	2.23	0.46
36:W:32:ARG:NH2	36:W:34:TRP:HZ3	2.14	0.46
38:Y:37:PHE:HZ	38:Y:56:VAL:HG11	1.79	0.46
38:Y:59:THR:O	38:Y:66:PHE:HB2	2.16	0.46
38:Y:126:ARG:HH12	40:a:1082:U:C5'	2.29	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:644:A:H2'	40:a:645:C:O4'	2.15	0.46
40:a:1065:U:HO2'	40:a:1066:U:C5'	2.26	0.46
40:a:1796:U:H2'	40:a:1797:G:C8	2.50	0.46
40:a:2373:G:H2'	40:a:2374:C:H6	1.81	0.46
42:c:76:GLU:OE1	42:c:77:LYS:O	2.34	0.46
51:l:175:ILE:HG21	51:l:180:LEU:HD11	1.97	0.46
58:s:55:ILE:HG13	58:s:123:LYS:CE	2.46	0.46
61:v:39:GLY:O	61:v:96:ILE:N	2.33	0.46
11:AA:103:VAL:HG12	11:AA:117:ILE:HG22	1.97	0.46
11:AA:400:VAL:HG22	11:AA:584:TYR:HB3	1.96	0.46
13:AD:185:TYR:HA	13:AD:202:VAL:O	2.16	0.46
14:AE:319:SER:HA	14:AE:320:ASN:HA	1.74	0.46
10:B:50:U:H2'	10:B:51:C:C6	2.51	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:915:A:C6	17:D:916:U:C5	3.04	0.46
17:D:1513:A:H2'	17:D:1514:G:C8	2.51	0.46
18:E:82:GLN:HA	18:E:85:LYS:NZ	2.31	0.46
19:F:12:PHE:CE1	30:Q:107:ILE:CG2	2.98	0.46
22:I:58:GLU:OE2	29:P:94:ALA:HB1	2.16	0.46
26:M:17:LYS:HZ2	26:M:18:PHE:HD1	1.59	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:P:59:LYS:HE2	29:P:62:ARG:NH2	2.31	0.46
33:T:3:LEU:HD23	33:T:4:SER:O	2.15	0.46
35:V:7:THR:CG2	35:V:60:GLU:OE2	2.63	0.46
38:Y:59:THR:C	38:Y:66:PHE:HB2	2.41	0.46
40:a:67:U:N3	40:a:68:G:C5	2.84	0.46
40:a:182:A:H2'	40:a:183:C:H6	1.81	0.46
40:a:584:C:N4	40:a:585:G:C6	2.83	0.46
40:a:1421:G:C2	40:a:1422:G:C8	3.03	0.46
40:a:2357:G:P	41:b:20:ARG:CZ	3.04	0.46
44:e:12:GLU:HG2	44:e:13:GLU:H	1.80	0.46
46:g:47:LYS:CD	53:n:178:ARG:HH22	2.29	0.46
49:j:5:VAL:HG22	49:j:202:ILE:CD1	2.45	0.46
49:j:74:GLU:HG2	49:j:75:ALA:N	2.31	0.46
57:r:18:GLN:OE1	57:r:39:ALA:HB1	2.15	0.46
58:s:17:VAL:HG23	58:s:137:PRO:HB2	1.98	0.46
62:w:48:VAL:CG1	62:w:49:GLU:OE1	2.64	0.46
62:w:115:LEU:HD23	62:w:117:ASP:N	2.30	0.46
3:2:3:ARG:HH22	3:2:4:GLU:HB2	1.81	0.46
5:4:53:LYS:HD2	5:4:56:PHE:HE2	1.77	0.46
10:A:50:U:H2'	10:A:51:C:C6	2.51	0.46
12:AB:141:LEU:HB2	12:AB:153:SER:OG	2.16	0.46
15:AF:25:ARG:NH1	15:AF:61:ASN:OD1	2.49	0.46
16:C:33:ILE:O	21:H:338:GLU:CG	2.64	0.46
17:D:371:A:H2'	17:D:372:C:O4'	2.15	0.46
17:D:653:U:N1	27:N:56:LYS:HE3	2.29	0.46
17:D:878:A:P	27:N:80:ARG:HH11	2.39	0.46
17:D:1324:A:H2'	17:D:1325:C:C6	2.51	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
21:H:270:ILE:HG23	21:H:270:ILE:O	2.15	0.46
24:K:150:PRO:O	24:K:153:VAL:HG22	2.16	0.46
25:L:29:ILE:HG21	25:L:64:VAL:HG13	1.97	0.46
25:L:47:LEU:HD13	25:L:51:ILE:HG12	1.98	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
31:R:68:GLY:O	31:R:99:ARG:NH1	2.48	0.46
32:S:6:MET:HE3	32:S:63:ARG:NH1	2.31	0.46
32:S:82:ILE:HG23	32:S:83:LYS:N	2.31	0.46
38:Y:102:ARG:NE	38:Y:139:VAL:CG2	2.78	0.46
40:a:609:A:H3'	40:a:610:C:H6	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:1588:G:C6	40:a:1589:U:O4	2.69	0.46
40:a:2616:C:N3	40:a:2617:U:C5	2.83	0.46
40:a:2756:U:N3	40:a:2758:A:N6	2.64	0.46
43:d:83:G:H1'	45:f:53:PHE:CE1	2.51	0.46
44:e:10:SER:OG	44:e:12:GLU:HG2	2.15	0.46
46:g:1:MET:SD	46:g:3:LYS:HE2	2.56	0.46
48:i:40:ARG:HH12	48:i:41:HIS:CD2	2.34	0.46
48:i:52:ARG:HA	48:i:52:ARG:NE	2.30	0.46
53:n:142:ASP:CB	53:n:145:LYS:HE2	2.40	0.46
57:r:135:HIS:CE1	57:r:137:GLU:OE1	2.62	0.46
61:v:41:LEU:HD22	61:v:124:LEU:HD22	1.97	0.46
62:w:56:LYS:NZ	62:w:90:ARG:O	2.47	0.46
64:y:106:LYS:CD	64:y:109:ARG:HH22	2.29	0.46
5:4:53:LYS:HD2	5:4:56:PHE:CZ	2.50	0.46
8:7:22:U:C4'	22:I:80:LYS:CG	2.75	0.46
10:A:46:G:H1'	10:A:47:U:C5	2.51	0.46
11:AA:712:SER:OG	11:AA:713:GLY:N	2.49	0.46
12:AB:9:CYS:N	12:AB:53:ASN:HB3	2.24	0.46
13:AD:182:ARG:HD2	14:AE:581:MET:HE1	1.98	0.46
10:B:32:C:C2'	10:B:33:U:H5'	2.46	0.46
16:C:14:THR:HG21	16:C:48:ARG:CD	2.46	0.46
16:C:65:LEU:HG	16:C:65:LEU:O	2.16	0.46
17:D:197:A:C6	17:D:221:C:H4'	2.50	0.46
17:D:1173:U:H2'	17:D:1174:G:O4'	2.16	0.46
17:D:1209:C:C2	17:D:1210:C:C5	3.04	0.46
17:D:1359:C:OP2	32:S:75:ARG:NE	2.42	0.46
17:D:1512:U:H2'	17:D:1513:A:C8	2.51	0.46
23:J:95:GLU:HG3	23:J:186:PRO:HG3	1.98	0.46
24:K:86:LYS:HE3	24:K:95:PHE:CD1	2.51	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
32:S:12:LYS:NZ	32:S:16:LEU:HD21	2.31	0.46
38:Y:19:PRO:HG2	38:Y:23:VAL:CG2	2.42	0.46
38:Y:79:LEU:O	38:Y:83:ALA:HB3	2.16	0.46
40:a:306:U:H2'	40:a:307:G:O4'	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:1707:G:C4	40:a:1708:C:C5	3.04	0.46
40:a:1803:A:O2'	47:h:257:THR:HG21	2.16	0.46
40:a:2529:G:N7	56:q:32:LYS:NZ	2.63	0.46
50:k:19:HIS:CE1	50:k:41:PRO:CD	2.99	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:o:49:MET:H	54:o:49:MET:HE2	1.81	0.46
55:p:69:ARG:NH1	55:p:73:ASN:CG	2.74	0.46
58:s:123:LYS:HD2	58:s:132:HIS:CD2	2.50	0.46
59:t:76:VAL:HG12	64:y:73:VAL:HB	1.97	0.46
4:3:46:GLN:NE2	4:3:54:GLN:HG2	2.31	0.45
9:9:11:ILE:HG12	9:9:65:GLU:HG2	1.98	0.45
9:9:34:THR:HA	9:9:37:LYS:NZ	2.32	0.45
10:A:6:G:O2'	10:A:7:G:H8	1.98	0.45
11:AA:230:PHE:HB2	11:AA:333:ILE:HB	1.97	0.45
11:AA:735:LYS:HA	11:AA:748:ILE:HG22	1.98	0.45
11:AA:812:PHE:HZ	14:AE:503:SER:HB2	1.81	0.45
14:AE:1341:ARG:NH1	14:AE:1343:GLU:OE2	2.49	0.45
10:B:75:C:P	40:a:2602:A:H2'	2.55	0.45
17:D:827:U:O4	17:D:872:A:C2	2.69	0.45
17:D:1132:C:O2	17:D:1132:C:H2'	2.16	0.45
17:D:1202:U:C5	17:D:1203:C:C5	3.04	0.45
25:L:35:LYS:HD2	25:L:36:ILE:H	1.82	0.45
26:M:31:MET:HE1	26:M:36:LYS:CD	2.46	0.45
26:M:134:ALA:HA	26:M:137:LYS:CD	2.46	0.45
27:N:8:ALA:N	27:N:77:ARG:HH11	2.14	0.45
28:O:46:MET:HB3	28:O:50:GLN:NE2	2.31	0.45
31:R:2:ALA:CA	31:R:7:LEU:HD11	2.45	0.45
33:T:75:VAL:HG13	33:T:76:ALA:N	2.31	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:1069:A:O2'	40:a:1073:A:N6	2.38	0.45
40:a:1223:G:N2	40:a:1226:A:OP2	2.43	0.45
40:a:1406:U:O2	40:a:1407:G:C8	2.69	0.45
40:a:1408:G:N3	40:a:1408:G:H2'	2.31	0.45
40:a:1585:C:H2'	40:a:1586:A:O4'	2.15	0.45
40:a:2289:G:C2	40:a:2290:G:C8	3.04	0.45
40:a:2309:A:H2'	40:a:2310:C:O4'	2.16	0.45
45:f:12:SER:C	45:f:54:MET:HE1	2.40	0.45
47:h:33:LEU:O	47:h:64:ILE:HG12	2.16	0.45
47:h:52:ARG:NE	47:h:53:HIS:CE1	2.83	0.45
49:j:48:ILE:CD1	49:j:84:LEU:HD11	2.46	0.45
51:l:108:ILE:HD11	51:l:180:LEU:HD13	1.98	0.45
51:l:149:ILE:CD1	51:l:188:MET:HG2	2.46	0.45
56:q:1:MET:HE1	56:q:35:GLN:HA	1.95	0.45
56:q:30:GLU:HB3	56:q:33:HIS:ND1	2.31	0.45
59:t:8:LEU:N	59:t:8:LEU:HD12	2.31	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
63:x:90:VAL:CG2	63:x:115:LEU:HD21	2.46	0.45
64:y:106:LYS:CD	64:y:109:ARG:NH2	2.79	0.45
4:3:47:LYS:HZ3	40:a:482:A:P	2.40	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
9:9:94:ARG:CB	9:9:97:LYS:CE	2.94	0.45
11:AA:557:ARG:NH2	11:AA:607:SER:O	2.50	0.45
13:AD:15:ASP:OD1	13:AD:27:THR:OG1	2.29	0.45
16:C:12:ARG:NH2	16:C:28:THR:CG2	2.79	0.45
16:C:12:ARG:HB2	21:H:264:GLU:CB	2.46	0.45
17:D:13:U:O2	17:D:915:A:N7	2.49	0.45
17:D:277:C:OP1	35:V:43:LYS:HD2	2.15	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
20:G:19:GLN:NE2	21:H:75:VAL:HG13	2.30	0.45
21:H:24:VAL:HG23	21:H:24:VAL:O	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
24:K:145:GLU:CD	24:K:146:ASN:N	2.74	0.45
26:M:132:GLY:O	26:M:136:LYS:HD3	2.17	0.45
27:N:25:VAL:HG23	27:N:63:LEU:CD1	2.46	0.45
27:N:89:LYS:HG3	27:N:90:ASP:N	2.31	0.45
28:O:113:ARG:HD2	32:S:101:TRP:CD1	2.52	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:HB1	2.51	0.45
36:W:44:MET:HE1	36:W:62:VAL:CG2	2.46	0.45
37:X:56:LEU:HA	37:X:59:GLU:OE1	2.16	0.45
38:Y:102:ARG:HE	38:Y:139:VAL:HG21	1.79	0.45
40:a:392:U:C2	40:a:393:C:C5	3.04	0.45
40:a:493:G:H2'	40:a:494:G:O4'	2.16	0.45
40:a:669:G:H2'	40:a:670:A:N7	2.31	0.45
40:a:923:G:H4'	41:b:29:GLU:OE1	2.16	0.45
40:a:985:C:N3	40:a:986:C:C5	2.84	0.45
40:a:2049:G:N2	49:j:161:MET:CE	2.80	0.45
40:a:2245:U:O2'	40:a:2436:G:OP2	2.27	0.45
40:a:2683:C:OP1	64:y:51:ARG:NH2	2.46	0.45
40:a:2814:A:C5	40:a:2815:C:C5	3.05	0.45
41:b:26:PHE:O	41:b:29:GLU:HG2	2.15	0.45
42:c:30:LEU:CD1	42:c:31:PRO:HD2	2.43	0.45
48:i:30:VAL:HG22	48:i:37:LYS:HD2	1.98	0.45
49:j:5:VAL:HB	49:j:32:ASN:ND2	2.31	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:l:23:PHE:CD1	51:l:111:GLU:CD	2.95	0.45
51:l:60:TRP:CD1	51:l:69:ARG:HH12	2.33	0.45
54:o:26:HIS:CE1	54:o:48:ALA:HB2	2.51	0.45
54:o:31:HIS:O	54:o:32:ILE:O	2.33	0.45
55:p:11:VAL:HG13	55:p:11:VAL:O	2.17	0.45
65:z:89:GLU:N	65:z:89:GLU:OE1	2.50	0.45
2:1:11:ARG:NH1	2:1:11:ARG:HB3	2.30	0.45
2:1:20:VAL:CG1	2:1:47:VAL:HG11	2.46	0.45
8:7:1:A:H2'	8:7:2:U:C6	2.50	0.45
11:AA:689:ALA:HB2	11:AA:1233:LEU:HD23	1.97	0.45
14:AE:68:TYR:CA	14:AE:92:VAL:HG23	2.45	0.45
14:AE:420:PRO:HA	14:AE:437:PHE:O	2.16	0.45
14:AE:781:LYS:HD2	14:AE:933:ARG:HH12	1.81	0.45
10:B:6:G:O2'	10:B:7:G:H8	1.98	0.45
17:D:269:C:H2'	17:D:270:A:C8	2.51	0.45
17:D:377:G:H2'	17:D:378:G:H8	1.81	0.45
17:D:511:C:C2	17:D:512:U:C5	3.05	0.45
17:D:736:C:H5'	25:L:90:MET:HE2	1.97	0.45
17:D:1315:U:O2	17:D:1360:A:H2	2.00	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
25:L:9:MET:C	25:L:9:MET:SD	3.00	0.45
26:M:44:TYR:C	26:M:44:TYR:CD2	2.94	0.45
32:S:77:PHE:CE1	32:S:93:ILE:HD13	2.51	0.45
34:U:73:ALA:HA	34:U:76:LYS:HE3	1.98	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:102:ARG:HD3	38:Y:141:ASP:OD1	2.16	0.45
38:Y:126:ARG:NH2	40:a:1082:U:O3'	2.47	0.45
40:a:219:A:H2'	40:a:220:G:C8	2.52	0.45
40:a:532:A:OP1	65:z:45:TYR:OH	2.32	0.45
40:a:607:U:C6	40:a:620:G:C5	3.04	0.45
40:a:783:A:O2'	40:a:785:G:OP1	2.35	0.45
40:a:893:C:H2'	40:a:894:U:C5	2.51	0.45
40:a:1665:A:O3'	59:t:66:LYS:NZ	2.44	0.45
40:a:2364:C:H2'	40:a:2365:G:O4'	2.15	0.45
43:d:8:C:O3'	63:x:25:ARG:NH1	2.48	0.45
50:k:7:GLU:OE2	50:k:27:LYS:HG3	2.16	0.45
56:q:1:MET:HE3	56:q:1:MET:HA	1.97	0.45
56:q:1:MET:HE3	56:q:2:LYS:N	2.31	0.45
58:s:73:VAL:CG1	58:s:86:GLN:HG2	2.46	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:20:VAL:HG11	2:1:47:VAL:HG11	1.99	0.45
3:2:64:LYS:CE	40:a:1312:U:O4	2.64	0.45
5:4:50:MET:C	5:4:56:PHE:CZ	2.94	0.45
7:6:25:DT:H2'	11:AA:496:LYS:CG	2.45	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:HB3	9:9:116:GLU:HG3	1.94	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
14:AE:41:PRO:HB2	14:AE:270:ARG:HG3	1.99	0.45
17:D:723:U:O2	19:F:49:LYS:HE3	2.16	0.45
17:D:915:A:C5	17:D:916:U:C5	3.04	0.45
17:D:984:C:C2	17:D:985:C:C5	3.05	0.45
17:D:1287:A:H2'	17:D:1288:A:C8	2.52	0.45
18:E:54:MET:C	18:E:54:MET:SD	3.00	0.45
18:E:54:MET:O	18:E:58:VAL:HG23	2.16	0.45
19:F:12:PHE:CD1	30:Q:101:ASN:CG	2.95	0.45
20:G:117:LEU:HD23	20:G:141:LEU:HA	1.98	0.45
22:I:72:ARG:NE	22:I:75:ILE:HB	2.32	0.45
24:K:13:GLU:OE1	24:K:13:GLU:N	2.50	0.45
25:L:18:VAL:N	25:L:19:PRO:CD	2.80	0.45
25:L:38:ARG:NE	25:L:97:THR:O	2.49	0.45
25:L:98:GLU:HA	25:L:98:GLU:OE1	2.16	0.45
26:M:66:LEU:HD13	26:M:101:MET:HE3	1.93	0.45
26:M:78:ARG:CG	26:M:80:VAL:HG13	2.46	0.45
29:P:47:GLU:HB2	29:P:67:ILE:HG22	1.98	0.45
31:R:31:ARG:O	31:R:57:LEU:HD12	2.17	0.45
40:a:582:A:H5''	65:z:11:ARG:HH12	1.82	0.45
40:a:644:A:C2	40:a:2369:A:H1'	2.51	0.45
40:a:685:A:C8	40:a:773:U:C4	3.04	0.45
40:a:1064:C:O2'	40:a:1065:U:C6	2.63	0.45
40:a:1613:G:O2'	52:m:3:ARG:CZ	2.64	0.45
40:a:1656:C:H2'	40:a:1657:U:H6	1.81	0.45
40:a:1790:C:C2'	40:a:1791:A:C8	3.00	0.45
40:a:2065:C:C2	40:a:2066:C:C5	3.04	0.45
40:a:2149:U:H2'	40:a:2150:C:C6	2.52	0.45
40:a:2848:G:C2	40:a:2867:G:C4	3.05	0.45
43:d:45:A:C5'	53:n:92:ARG:NH1	2.79	0.45
46:g:16:CYS:CB	46:g:37:CYS:CB	2.90	0.45
49:j:55:LYS:HZ1	49:j:59:ARG:HB3	1.81	0.45
49:j:71:ALA:HB3	49:j:73:VAL:HG22	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:k:7:GLU:CG	50:k:27:LYS:HZ3	2.29	0.45
51:l:21:ARG:HA	51:l:21:ARG:NE	2.31	0.45
52:m:12:ARG:CG	52:m:44:VAL:HG21	2.47	0.45
54:o:55:LEU:CD2	54:o:59:ILE:HD11	2.45	0.45
57:r:31:VAL:HB	57:r:32:PRO:HD3	1.97	0.45
63:x:15:ARG:C	63:x:19:GLN:HE22	2.24	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
4:3:66:GLN:OE1	40:a:329:G:OP2	2.34	0.45
5:4:57:TYR:HD2	61:v:136:MET:HE2	1.81	0.45
7:6:25:DT:OP1	11:AA:496:LYS:O	2.34	0.45
11:AA:1314:GLN:HA	15:AF:28:ARG:HH22	1.80	0.45
14:AE:774:ILE:HA	14:AE:777:HIS:HD2	1.82	0.45
10:B:46:G:H1'	10:B:47:U:C5	2.51	0.45
10:B:53:G:N3	10:B:54:U:C5	2.85	0.45
17:D:829:G:H4'	20:G:23:TRP:CH2	2.51	0.45
17:D:983:A:H2	17:D:984:C:C6	2.34	0.45
17:D:1108:G:C5	17:D:1109:C:C5	3.04	0.45
20:G:19:GLN:HE21	21:H:75:VAL:C	2.24	0.45
20:G:128:LYS:C	20:G:129:LEU:HD12	2.42	0.45
26:M:87:VAL:HG12	26:M:151:PHE:HD2	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
31:R:30:LYS:O	31:R:81:LEU:HD12	2.16	0.45
31:R:110:ARG:N	31:R:111:LYS:HZ3	2.15	0.45
33:T:8:THR:O	33:T:11:ILE:HG22	2.16	0.45
33:T:15:PHE:HE2	33:T:30:ALA:HB1	1.82	0.45
37:X:55:THR:C	37:X:59:GLU:OE1	2.60	0.45
38:Y:126:ARG:HH12	40:a:1083:U:P	2.40	0.45
40:a:78:U:P	44:e:4:LYS:NZ	2.89	0.45
40:a:152:A:H2'	40:a:153:U:C6	2.51	0.45
40:a:235:U:N3	40:a:236:C:C5	2.84	0.45
40:a:590:A:H2'	40:a:591:U:H6	1.80	0.45
40:a:858:G:OP2	41:b:78:LYS:NZ	2.35	0.45
40:a:1796:U:H2'	40:a:1797:G:H8	1.82	0.45
40:a:2093:G:O2'	40:a:2198:A:N1	2.41	0.45
40:a:2262:U:N3	40:a:2263:C:C5	2.85	0.45
40:a:2723:C:H2'	40:a:2724:U:O4'	2.16	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
46:g:16:CYS:SG	46:g:37:CYS:N	2.89	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:j:55:LYS:NZ	49:j:56:LYS:O	2.49	0.45
51:l:194:LYS:HG3	51:l:198:GLU:OE2	2.16	0.45
53:n:127:ASN:OD1	53:n:157:THR:HA	2.16	0.45
55:p:91:GLY:HA3	55:p:94:TYR:CD2	2.52	0.45
55:p:149:ARG:CZ	55:p:162:VAL:C	2.89	0.45
59:t:108:ARG:CG	59:t:116:ILE:HD13	2.46	0.45
64:y:103:ARG:HD3	64:y:107:ALA:C	2.41	0.45
2:1:86:MET:SD	2:1:88:ARG:HD2	2.56	0.45
3:2:5:GLU:HA	44:e:22:LEU:CD2	2.45	0.45
3:2:64:LYS:HD2	40:a:1312:U:C4	2.51	0.45
5:4:50:MET:CB	5:4:56:PHE:CE1	2.98	0.45
9:9:61:ARG:HE	40:a:1046:A:P	2.39	0.45
9:9:87:GLU:OE2	9:9:95:LEU:CG	2.64	0.45
10:A:68:C:H3'	10:A:69:C:H5''	1.97	0.45
12:AB:160:ARG:HG3	12:AB:161:LYS:N	2.32	0.45
20:G:77:SER:O	20:G:80:VAL:HG12	2.17	0.45
21:H:32:ASP:OD1	21:H:35:VAL:HG22	2.17	0.45
21:H:53:PHE:CE1	21:H:68:VAL:HG21	2.52	0.45
21:H:54:LYS:HD3	21:H:58:GLY:C	2.42	0.45
21:H:288:THR:O	21:H:288:THR:HG22	2.16	0.45
22:I:39:VAL:HG23	22:I:40:ARG:N	2.32	0.45
22:I:114:LYS:HB2	22:I:185:ASN:ND2	2.32	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
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
28:O:80:ARG:NH2	28:O:103:PHE:CE1	2.85	0.45
32:S:86:GLU:OE2	32:S:90:ARG:HD3	2.16	0.45
38:Y:45:THR:HG22	38:Y:45:THR:O	2.16	0.45
40:a:837:C:N3	40:a:941:A:N6	2.65	0.45
40:a:952:G:C6	40:a:966:G:C6	3.04	0.45
40:a:1019:U:O4	40:a:1142:A:C2	2.69	0.45
40:a:1444:G:C4	40:a:1445:G:C8	3.04	0.45
40:a:1665:A:C5'	59:t:66:LYS:NZ	2.79	0.45
40:a:2061:G:N2	40:a:2063:C:C6	2.84	0.45
40:a:2743:U:H2'	40:a:2744:G:O4'	2.17	0.45
51:l:95:LYS:HE2	51:l:97:ASN:OD1	2.17	0.45
59:t:17:ARG:NH2	59:t:47:ILE:CG2	2.80	0.45
62:w:12:ARG:HE	62:w:20:MET:HE1	1.82	0.45
2:1:78:GLU:OE2	40:a:1262:A:OP1	2.35	0.45
10:A:3:C:H2'	10:A:4:G:H8	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:176:ILE:HD11	11:AA:428:VAL:HG21	1.98	0.45
12:AB:6:LEU:HD13	14:AE:291:ILE:CG1	2.46	0.45
12:AB:76:SER:O	12:AB:77:HIS:HB3	2.16	0.45
13:AD:68:TYR:HE1	13:AD:79:LEU:HD13	1.82	0.45
17:D:878:A:P	27:N:80:ARG:NH1	2.89	0.45
19:F:38:TYR:O	30:Q:126:LYS:HE3	2.17	0.45
19:F:58:LYS:HD2	19:F:58:LYS:C	2.42	0.45
20:G:66:LYS:HB3	20:G:154:MET:HE3	1.99	0.45
21:H:303:LEU:O	21:H:304:VAL:C	2.59	0.45
22:I:85:GLU:O	22:I:89:LYS:CE	2.64	0.45
25:L:36:ILE:HD12	25:L:36:ILE:HA	1.82	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
36:W:13:LEU:O	36:W:17:LYS:HG2	2.17	0.45
37:X:14:HIS:HB2	37:X:17:ILE:HD13	1.99	0.45
37:X:55:THR:HG22	37:X:59:GLU:OE2	2.17	0.45
38:Y:15:GLY:CA	38:Y:50:LYS:HG3	2.40	0.45
38:Y:60:VAL:HG22	38:Y:66:PHE:CD1	2.52	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:1042:G:C5	40:a:1043:C:C5	3.05	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:1442:U:H2'	40:a:1443:U:H6	1.79	0.45
40:a:1797:G:O2'	47:h:257:THR:HG22	2.16	0.45
40:a:1856:U:H2'	40:a:1857:G:O4'	2.17	0.45
40:a:2095:A:O5'	57:r:11:ASN:OD1	2.35	0.45
40:a:2783:U:H2'	40:a:2784:U:C6	2.52	0.45
44:e:24:GLU:O	44:e:28:LEU:HD13	2.17	0.45
45:f:12:SER:CA	45:f:32:ILE:HD11	2.46	0.45
55:p:11:VAL:HG12	55:p:48:ASN:O	2.17	0.45
59:t:24:VAL:HG23	59:t:33:ALA:HB2	1.97	0.45
60:u:101:ILE:C	60:u:105:ILE:HD12	2.42	0.45
60:u:103:ILE:HG23	60:u:104:GLN:HG2	1.99	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
5:4:16:ALA:O	5:4:20:LEU:HG	2.17	0.45
8:7:2:U:OP2	17:D:926:G:N2	2.50	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AB:52:PRO:O	12:AB:54:TYR:N	2.50	0.45
14:AE:482:ALA:HA	15:AF:6:VAL:HG21	1.98	0.45
14:AE:802:ASP:OD1	14:AE:1348:LYS:NZ	2.42	0.45
16:C:70:TYR:C	16:C:71:THR:HG23	2.42	0.45
17:D:110:C:H1'	34:U:25:ARG:NH1	2.31	0.45
17:D:653:U:O4'	27:N:56:LYS:HE3	2.16	0.45
20:G:27:MET:HG3	20:G:27:MET:O	2.16	0.45
20:G:109:GLN:C	20:G:113:ARG:NE	2.75	0.45
21:H:37:LEU:HG	21:H:46:SER:O	2.16	0.45
22:I:142:MET:HE3	22:I:170:GLU:HB3	1.98	0.45
25:L:100:SER:HB2	25:L:101:PRO:HD2	1.98	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
37:X:2:ALA:HB1	37:X:9:ILE:CG2	2.47	0.45
37:X:11:ASP:HA	37:X:45:ILE:HB	1.99	0.45
40:a:782:A:N1	47:h:225:MET:HE2	2.32	0.45
40:a:1131:G:OP1	58:s:81:ILE:O	2.34	0.45
40:a:1753:G:N2	40:a:1755:A:H3'	2.32	0.45
40:a:2650:U:H2'	40:a:2651:C:H6	1.81	0.45
40:a:2766:A:C6	40:a:2767:C:C5	3.05	0.45
43:d:57:A:C5	53:n:26:MET:CE	2.99	0.45
51:l:73:ILE:HG13	51:l:73:ILE:O	2.17	0.45
53:n:22:TYR:CE2	53:n:28:VAL:HA	2.52	0.45
58:s:35:ARG:HA	58:s:40:HIS:ND1	2.32	0.45
63:x:35:ILE:HD11	63:x:102:ARG:HH21	1.81	0.45
64:y:14:LYS:NZ	64:y:76:THR:O	2.49	0.45
2:1:86:MET:HE1	2:1:88:ARG:CD	2.42	0.45
5:4:31:TYR:O	5:4:92:VAL:HA	2.17	0.45
9:9:23:LEU:O	9:9:87:GLU:CD	2.60	0.45
9:9:58:THR:HG23	40:a:1108:U:OP1	2.17	0.45
9:9:129:LEU:H	9:9:129:LEU:HG	1.72	0.45
16:C:65:LEU:HD23	16:C:67:LEU:CD1	2.47	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
20:G:96:TRP:CZ2	20:G:100:MET:HE3	2.52	0.45
22:I:72:ARG:HD3	22:I:75:ILE:HG22	1.99	0.45
24:K:76:LEU:HD12	24:K:76:LEU:O	2.17	0.45
28:O:86:ALA:O	28:O:89:GLU:CG	2.64	0.45
31:R:122:PRO:C	31:R:123:LYS:HE2	2.42	0.45
32:S:47:LYS:O	32:S:50:THR:OG1	2.25	0.45
34:U:45:GLU:HG3	34:U:46:LYS:CD	2.45	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:152:A:H2'	40:a:153:U:H6	1.82	0.45
40:a:372:G:O2'	42:c:54:LYS:CE	2.64	0.45
40:a:730:A:C2	40:a:731:C:C5	3.05	0.45
40:a:980:A:N7	40:a:1136:G:H5'	2.32	0.45
40:a:1398:C:C2	40:a:1399:C:C5	3.04	0.45
40:a:2478:A:C8	40:a:2529:G:C5	3.04	0.45
40:a:2572:A:OP2	49:j:149:ASN:O	2.35	0.45
40:a:2747:G:N2	40:a:2756:U:C6	2.85	0.45
42:c:41:GLU:O	42:c:44:LYS:HD2	2.16	0.45
45:f:51:VAL:O	45:f:55:VAL:HG12	2.17	0.45
47:h:123:ALA:HB1	47:h:125:LYS:CE	2.47	0.45
47:h:265:LYS:HG3	47:h:266:PHE:CD2	2.52	0.45
53:n:4:LEU:HD21	53:n:101:GLU:HG3	1.98	0.45
53:n:16:LEU:HD11	53:n:169:LEU:HD13	1.99	0.45
62:w:37:THR:HG21	62:w:40:LYS:HZ2	1.82	0.45
65:z:76:TYR:O	65:z:80:ILE:HG12	2.16	0.45
1:0:71:LYS:CG	1:0:73:LYS:HE3	2.47	0.45
4:3:5:ILE:HG13	4:3:72:ILE:HD11	1.99	0.45
5:4:29:ILE:HD13	43:d:74:U:O2	2.17	0.45
9:9:68:PRO:O	9:9:72:LEU:HD21	2.16	0.45
11:AA:694:ARG:HH22	13:AC:80:GLU:HG3	1.82	0.45
13:AC:218:ARG:NH1	13:AD:231:PHE:O	2.50	0.45
14:AE:388:ARG:NH2	14:AE:414:GLU:OE1	2.49	0.45
14:AE:640:GLY:N	14:AE:643:ASP:OD2	2.42	0.45
10:B:3:C:H2'	10:B:4:G:H8	1.82	0.45
10:B:71:C:H2'	10:B:72:A:N9	2.32	0.45
17:D:13:U:O4	17:D:20:U:O4	2.34	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:636:U:H2'	17:D:637:C:C6	2.52	0.45
17:D:918:A:H2'	17:D:919:A:C8	2.52	0.45
17:D:1060:U:H5''	29:P:53:ILE:HD12	1.99	0.45
17:D:1323:G:H2'	17:D:1324:A:H8	1.78	0.45
17:D:1389:C:H2'	17:D:1390:U:O4'	2.17	0.45
21:H:49:PRO:CD	21:H:84:LEU:HD21	2.47	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
32:S:6:MET:HE3	32:S:63:ARG:HH11	1.82	0.45
33:T:15:PHE:CE2	33:T:30:ALA:CB	3.00	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:W:44:MET:HE1	36:W:66:MET:HE1	1.98	0.45
40:a:111:A:O2'	44:e:58:ASN:ND2	2.46	0.45
40:a:132:G:H2'	40:a:133:U:H6	1.80	0.45
40:a:607:U:C6	40:a:620:G:N7	2.85	0.45
40:a:1182:G:H2'	40:a:1183:U:O4'	2.17	0.45
40:a:2314:A:P	53:n:88:LYS:HZ2	2.39	0.45
40:a:2356:U:H4'	41:b:20:ARG:HD2	1.99	0.45
47:h:52:ARG:CD	47:h:53:HIS:CE1	3.00	0.45
49:j:172:VAL:HG11	49:j:175:LEU:HD11	1.99	0.45
53:n:122:PHE:HZ	53:n:170:LEU:HD12	1.81	0.45
54:o:39:LYS:HG2	54:o:42:ARG:HH12	1.82	0.45
55:p:18:LYS:HG3	55:p:27:LYS:NZ	2.32	0.45
60:u:55:MET:SD	60:u:60:ARG:N	2.90	0.45
62:w:79:LEU:HD23	62:w:83:LEU:HD12	1.99	0.45
1:0:74:ILE:HD12	1:0:74:ILE:N	2.32	0.44
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
11:AA:28:LEU:HD21	11:AA:524:ILE:HG13	1.97	0.44
11:AA:674:ASP:OD2	11:AA:1070:HIS:ND1	2.50	0.44
11:AA:746:ALA:O	11:AA:974:ARG:NH2	2.45	0.44
12:AB:6:LEU:N	12:AB:88:VAL:HG21	2.31	0.44
13:AD:35:PHE:HA	13:AD:38:THR:HG22	1.97	0.44
14:AE:848:VAL:HB	14:AE:858:VAL:HG22	1.98	0.44
10:B:18:G:N7	10:B:57:A:N6	2.65	0.44
17:D:982:U:P	32:S:6:MET:HE2	2.56	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
19:F:26:ALA:CB	19:F:28:VAL:HG23	2.47	0.44
20:G:64:LYS:HE2	20:G:64:LYS:HA	1.99	0.44
20:G:100:MET:SD	20:G:101:LEU:HD23	2.56	0.44
20:G:101:LEU:HD22	20:G:157:LEU:HD12	1.99	0.44
22:I:135:LYS:O	22:I:138:VAL:HG12	2.17	0.44
25:L:17:GLN:CB	25:L:21:MET:HE1	2.47	0.44
28:O:5:GLN:HE21	28:O:20:PHE:HB3	1.81	0.44
29:P:28:THR:HG22	29:P:90:LEU:HD23	1.98	0.44
29:P:64:GLN:HG2	32:S:101:TRP:CH2	2.52	0.44
37:X:16:VAL:HG23	37:X:17:ILE:CD1	2.47	0.44
38:Y:5:GLN:NE2	38:Y:60:VAL:C	2.74	0.44
40:a:15:G:O2'	48:i:15:MET:HE1	2.16	0.44
40:a:1007:C:H5''	58:s:37:ARG:NE	2.31	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:1020:A:C2	40:a:1141:U:C2	3.06	0.44
40:a:1441:G:H2'	40:a:1442:U:H6	1.82	0.44
40:a:1889:A:H2'	40:a:1890:A:C8	2.51	0.44
40:a:2646:C:H2'	40:a:2647:U:O4'	2.18	0.44
40:a:2839:G:C5	40:a:2840:C:C5	3.05	0.44
45:f:41:THR:C	45:f:45:ARG:NH2	2.75	0.44
49:j:3:GLY:O	49:j:82:PHE:CE2	2.69	0.44
57:r:127:GLU:OE2	57:r:143:ILE:HB	2.17	0.44
60:u:91:ASP:HB2	60:u:93:ASN:OD1	2.17	0.44
60:u:101:ILE:HG13	60:u:102:GLY:H	1.82	0.44
1:0:13:ARG:CZ	65:z:97:ASP:CG	2.91	0.44
9:9:19:ALA:CB	9:9:69:PHE:HE2	2.31	0.44
10:A:71:C:H2'	10:A:72:A:C1'	2.47	0.44
12:AB:38:ILE:HA	12:AB:42:LYS:O	2.18	0.44
13:AD:29:GLU:HB3	13:AD:200:LYS:HG3	1.99	0.44
14:AE:224:LEU:HD23	14:AE:224:LEU:HA	1.83	0.44
10:B:3:C:H2'	10:B:4:G:C8	2.52	0.44
10:B:71:C:C3'	10:B:72:A:C8	2.99	0.44
17:D:198:G:OP2	17:D:198:G:C8	2.70	0.44
17:D:278:G:OP2	35:V:43:LYS:NZ	2.49	0.44
17:D:753:A:OP1	33:T:73:LYS:NZ	2.50	0.44
17:D:1086:U:O2	17:D:1086:U:H2'	2.16	0.44
17:D:1186:G:O2'	28:O:112:GLU:OE2	2.33	0.44
17:D:1436:U:H2'	17:D:1437:A:H8	1.82	0.44
18:E:49:LYS:O	18:E:53:GLU:HG2	2.16	0.44
20:G:52:GLU:C	20:G:56:GLU:OE1	2.60	0.44
21:H:332:VAL:O	21:H:344:LEU:HA	2.17	0.44
22:I:14:ILE:HG13	22:I:178:LEU:HD21	1.99	0.44
22:I:165:THR:C	22:I:166:GLU:OE1	2.60	0.44
25:L:72:ASP:O	25:L:76:THR:HG23	2.17	0.44
29:P:5:ARG:HE	29:P:7:ARG:CZ	2.29	0.44
30:Q:52:PHE:CE1	30:Q:65:VAL:HG21	2.52	0.44
32:S:13:ARG:HB3	32:S:60:GLN:HE21	1.81	0.44
33:T:3:LEU:CD2	33:T:8:THR:HG23	2.47	0.44
33:T:71:LYS:HE2	33:T:78:TYR:CD2	2.52	0.44
36:W:5:LEU:HD12	36:W:6:LYS:N	2.32	0.44
40:a:730:A:C2	40:a:731:C:C6	3.05	0.44
40:a:1349:C:O2	40:a:1349:C:H2'	2.17	0.44
40:a:1434:A:H2'	40:a:1435:G:C8	2.52	0.44
40:a:1792:G:C5'	47:h:204:VAL:HG23	2.47	0.44
40:a:2345:G:N3	40:a:2381:A:H2'	2.33	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:2492:U:C2'	40:a:2493:U:H5'	2.48	0.44
44:e:13:GLU:C	44:e:17:GLU:OE1	2.61	0.44
47:h:146:MET:HE2	47:h:153:GLN:OE1	2.17	0.44
47:h:164:ILE:O	47:h:164:ILE:CG2	2.65	0.44
51:l:1:MET:HE3	51:l:19:PHE:C	2.42	0.44
51:l:23:PHE:CE2	51:l:25:GLU:HB2	2.52	0.44
51:l:23:PHE:CD1	51:l:111:GLU:CG	3.00	0.44
51:l:90:GLN:OE1	51:l:92:HIS:CD2	2.70	0.44
51:l:117:ARG:NH1	60:u:1:MET:HE2	2.31	0.44
55:p:85:LYS:HA	55:p:85:LYS:HD2	1.77	0.44
55:p:141:ILE:HG13	55:p:142:GLY:N	2.32	0.44
58:s:31:GLU:HG2	58:s:142:ILE:HG23	1.98	0.44
59:t:18:ARG:NE	59:t:18:ARG:HA	2.33	0.44
4:3:49:VAL:HG23	4:3:51:ALA:O	2.17	0.44
12:AB:6:LEU:CD2	14:AE:291:ILE:HD11	2.46	0.44
12:AB:141:LEU:HD23	12:AB:143:LEU:HG	1.98	0.44
13:AD:192:VAL:HG12	13:AD:193:GLU:H	1.83	0.44
10:B:18:G:N2	10:B:58:A:N7	2.65	0.44
17:D:153:C:C2	17:D:154:U:C5	3.06	0.44
17:D:280:C:O2	35:V:40:ARG:NE	2.49	0.44
17:D:715:A:H2'	17:D:716:A:C8	2.52	0.44
17:D:1146:A:C5	17:D:1147:C:C5	3.06	0.44
17:D:1250:A:H2'	17:D:1251:A:C8	2.52	0.44
17:D:1436:U:H2'	17:D:1437:A:C8	2.52	0.44
17:D:1437:A:C2	17:D:1438:G:C8	3.04	0.44
17:D:1486:G:H2'	17:D:1487:G:O4'	2.18	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:58:GLU:OE1	22:I:65:ARG:CZ	2.65	0.44
28:O:86:ALA:C	28:O:89:GLU:HG2	2.43	0.44
29:P:40:ILE:HD12	29:P:73:LEU:CD2	2.48	0.44
30:Q:84:VAL:HG21	30:Q:97:ILE:HD11	1.99	0.44
36:W:79:THR:HG23	36:W:79:THR:O	2.18	0.44
40:a:66:C:N4	40:a:74:A:N6	2.66	0.44
40:a:145:C:H2'	40:a:146:A:C8	2.53	0.44
40:a:861:A:H2'	40:a:862:G:O4'	2.17	0.44
40:a:966:G:O4'	40:a:2267:A:N6	2.51	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:1656:C:C2	40:a:1657:U:C5	3.05	0.44
40:a:1799:G:N7	47:h:178:SER:OG	2.45	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:2175:C:C2'	40:a:2176:A:C8	3.00	0.44
40:a:2262:U:OP1	40:a:2387:U:O2'	2.33	0.44
40:a:2347:C:C2	40:a:2348:U:C5	3.05	0.44
47:h:251:GLN:OE1	47:h:255:LYS:CB	2.65	0.44
51:l:147:LEU:HB2	51:l:183:PHE:CD2	2.48	0.44
53:n:10:ASP:OD1	53:n:11:GLU:HG3	2.17	0.44
58:s:28:LEU:HD12	58:s:142:ILE:CG2	2.47	0.44
60:u:95:LEU:HD12	60:u:100:ILE:HG21	1.99	0.44
62:w:20:MET:HE3	62:w:20:MET:HB2	1.83	0.44
62:w:87:PHE:HE2	62:w:115:LEU:HD11	1.83	0.44
8:7:9:U:OP2	8:7:9:U:C6	2.70	0.44
9:9:4:ASN:OD1	40:a:1046:A:N7	2.50	0.44
9:9:92:ALA:HB3	9:9:129:LEU:HB2	1.99	0.44
10:A:18:G:C5	10:A:57:A:N6	2.85	0.44
10:A:53:G:N3	10:A:54:U:C5	2.85	0.44
12:AB:17:ALA:O	12:AB:20:HIS:HB2	2.17	0.44
10:B:18:G:C5	10:B:57:A:N6	2.85	0.44
10:B:71:C:H2'	10:B:72:A:C1'	2.47	0.44
10:B:75:C:P	40:a:2602:A:C2'	3.05	0.44
16:C:34:THR:OG1	16:C:38:LYS:HB2	2.18	0.44
16:C:41:PRO:HD2	21:H:339:ARG:CZ	2.47	0.44
17:D:33:A:H2'	17:D:34:C:C6	2.53	0.44
17:D:414:A:C4	17:D:415:A:C8	3.05	0.44
17:D:429:U:O2	17:D:430:A:N7	2.50	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:1308:U:H3'	37:X:98:ARG:NE	2.32	0.44
17:D:1408:A:H2'	17:D:1409:C:C6	2.53	0.44
20:G:171:ILE:H	20:G:171:ILE:HD12	1.82	0.44
21:H:12:SER:O	21:H:16:ILE:HG13	2.18	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:147:LYS:HE2	22:I:204:LYS:C	2.43	0.44
22:I:151:VAL:CG1	22:I:200:VAL:HG23	2.47	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	2.18	0.44
29:P:24:GLU:OE2	29:P:92:LEU:CD2	2.66	0.44
29:P:63:ASP:OD2	29:P:63:ASP:C	2.59	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
31:R:38:TYR:CE2	31:R:40:THR:CG2	3.01	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
37:X:106:ALA:HB3	37:X:110:LYS:CD	2.48	0.44
38:Y:12:VAL:HG22	38:Y:54:ILE:O	2.17	0.44
38:Y:14:ALA:O	38:Y:16:MET:N	2.51	0.44
40:a:30:G:H2'	40:a:31:C:H6	1.82	0.44
40:a:65:U:N3	40:a:66:C:C5	2.86	0.44
40:a:400:G:OP2	42:c:57:ARG:NH1	2.46	0.44
40:a:597:G:H2'	40:a:598:U:C6	2.52	0.44
40:a:677:A:O2'	40:a:2071:A:H5'	2.18	0.44
40:a:1084:A:N6	40:a:1085:A:N1	2.66	0.44
40:a:1386:C:H2'	40:a:1387:A:H8	1.81	0.44
40:a:1565:C:O2'	40:a:1567:G:N7	2.47	0.44
42:c:43:GLU:OE1	42:c:45:ARG:CB	2.65	0.44
45:f:27:LEU:O	45:f:38:ARG:NE	2.44	0.44
46:g:30:HIS:CG	46:g:31:ASP:N	2.85	0.44
47:h:240:PHE:CD2	47:h:240:PHE:O	2.71	0.44
53:n:117:LEU:N	53:n:177:PHE:O	2.51	0.44
54:o:31:HIS:C	54:o:33:LEU:HG	2.42	0.44
58:s:124:VAL:O	58:s:125:TYR:HD1	2.01	0.44
59:t:48:PRO:HB2	59:t:49:ARG:HE	1.81	0.44
64:y:7:GLN:HE21	64:y:10:GLN:HE21	1.65	0.44
4:3:6:ARG:CG	4:3:7:ARG:H	2.31	0.44
10:A:18:G:N2	10:A:58:A:N7	2.65	0.44
10:A:72:A:C3'	10:A:73:A:H5''	2.47	0.44
11:AA:24:VAL:HG11	11:AA:704:MET:HE1	1.98	0.44
11:AA:560:PRO:HB2	14:AE:776:THR:HG21	2.00	0.44
11:AA:998:LEU:HG	11:AA:1011:LEU:HB3	1.99	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:376:G:C2	17:D:389:A:C2	3.06	0.44
17:D:598:U:C2	17:D:599: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:1080:A:OP1	24:K:50:TYR:OH	2.29	0.44
22:I:55:ILE:HD12	22:I:68:ILE:HG12	1.99	0.44
23:J:35:GLU:HG2	23:J:36:GLN:N	2.32	0.44
23:J:49:SER:O	23:J:53:VAL:HG13	2.18	0.44
23:J:172:GLU:CD	23:J:183:LYS:HD2	2.42	0.44
34:U:8:ARG:H	34:U:28:ARG:HD3	1.81	0.44
36:W:62:VAL:HG13	36:W:66:MET:CE	2.44	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:Y:33:ASN:OD1	38:Y:35:MET:HE2	2.18	0.44
40:a:564:C:H1'	65:z:37:GLN:NE2	2.32	0.44
40:a:580:U:O3'	65:z:31:VAL:HG13	2.17	0.44
40:a:957:C:H5'	61:v:75:GLU:OE1	2.17	0.44
40:a:1021:A:C2	40:a:1141:U:O4	2.71	0.44
40:a:1146:C:C2	40:a:1147:A:C8	3.05	0.44
40:a:1824:G:P	47:h:52:ARG:CZ	3.06	0.44
40:a:1997:C:OP1	49:j:128:ARG:NH1	2.50	0.44
40:a:2021:C:OP1	48:i:9:THR:HG21	2.18	0.44
40:a:2718:G:O2'	40:a:2847:U:H5''	2.18	0.44
40:a:2747:G:C2	40:a:2756:U:C5	3.05	0.44
42:c:33:LEU:O	42:c:34:HIS:CG	2.70	0.44
45:f:41:THR:O	45:f:43:ALA:N	2.51	0.44
47:h:74:ILE:HB	47:h:96:TYR:CD1	2.53	0.44
47:h:220:VAL:HG23	47:h:225:MET:HE3	2.00	0.44
54:o:30:ARG:HH12	60:u:62:PRO:N	2.15	0.44
55:p:69:ARG:NH1	55:p:73:ASN:ND2	2.66	0.44
58:s:98:GLU:O	58:s:100:VAL:N	2.51	0.44
62:w:60:VAL:HA	62:w:63:ARG:CZ	2.48	0.44
62:w:98:LEU:N	62:w:112:TYR:O	2.51	0.44
64:y:31:TRP:CZ3	64:y:40:LEU:CD1	3.00	0.44
6:5:11:DA:C5'	12:AB:67:THR:O	2.66	0.44
9:9:59:LEU:HD22	9:9:62:ARG:HE	1.81	0.44
12:AB:16:ARG:C	12:AB:19:GLU:H	2.25	0.44
14:AE:287:ALA:HB2	14:AE:292:VAL:HG11	1.85	0.44
14:AE:708:ASN:OD1	14:AE:708:ASN:N	2.50	0.44
17:D:284:C:C2	17:D:285:C:C5	3.06	0.44
17:D:337:G:H2'	17:D:338:A:H8	1.80	0.44
17:D:360:G:H2'	17:D:361:G:C8	2.53	0.44
17:D:524:G:H2'	17:D:525:C:C6	2.52	0.44
17:D:564:C:OP1	31:R:12:ARG:CZ	2.66	0.44
17:D:975:A:H8	17:D:1357:A:HO2'	1.64	0.44
17:D:1062:U:H2'	17:D:1063:C:C6	2.53	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
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
23:J:69:GLU:HA	23:J:72:PHE:HD2	1.83	0.44
24:K:50:TYR:C	24:K:66:LYS:HE3	2.43	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:K:50:TYR:O	24:K:66:LYS:HE3	2.17	0.44
25:L:16:GLU:H	25:L:16:GLU:CD	2.26	0.44
25:L:78:PHE:HD1	25:L:87:SER:HB3	1.82	0.44
28:O:91:ASP:HB3	28:O:94:LEU:HG	1.99	0.44
29:P:66:GLU:HG3	32:S:99:ALA:HB2	2.00	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
33:T:63:ARG:HD2	33:T:67:LEU:HD21	2.00	0.44
33:T:76:ALA:C	33:T:80:GLN:NE2	2.68	0.44
36:W:39:THR:HG22	36:W:40:ILE:N	2.33	0.44
38:Y:82:ALA:HB3	38:Y:108:ILE:CD1	2.48	0.44
40:a:153:U:H2'	40:a:154:U:C6	2.53	0.44
40:a:208:C:H2'	40:a:209:C:C6	2.53	0.44
40:a:536:G:H4'	65:z:57:PHE:HZ	1.82	0.44
40:a:1013:C:C2	40:a:1014:A:C8	3.04	0.44
40:a:1936:A:C8	40:a:1945:G:N7	2.86	0.44
40:a:2063:C:N3	40:a:2064:C:C5	2.86	0.44
40:a:2098:U:H2'	40:a:2099:U:O4'	2.17	0.44
40:a:2450:A:C2	40:a:2451:A:C4	3.06	0.44
40:a:2616:C:C2	40:a:2617:U:C6	3.06	0.44
43:d:45:A:C4	43:d:46:A:C8	3.05	0.44
49:j:61:THR:OG1	49:j:63:PRO:HD2	2.18	0.44
49:j:81:GLU:O	49:j:82:PHE:HD1	2.01	0.44
55:p:27:LYS:HG2	55:p:32:GLU:HG3	2.00	0.44
59:t:44:LYS:N	59:t:44:LYS:HD2	2.33	0.44
62:w:13:ASN:O	62:w:17:ARG:HG3	2.17	0.44
64:y:31:TRP:CH2	64:y:40:LEU:HD11	2.52	0.44
1:0:73:LYS:HD3	1:0:86:GLN:HE21	1.82	0.44
6:5:20:DC:H1'	6:5:21:DA:H5'	1.99	0.44
8:7:4:U:C5	17:D:1403:C:H1'	2.52	0.44
8:7:12:U:C3'	8:7:12:U:C6	3.00	0.44
9:9:4:ASN:HB3	9:9:8:LYS:HZ2	1.81	0.44
10:A:3:C:H2'	10:A:4:G:C8	2.52	0.44
14:AE:596:LEU:HD23	14:AE:596:LEU:HA	1.89	0.44
10:B:11:A:H2'	10:B:12:G:O4'	2.17	0.44
10:B:38:A:HO2'	17:D:790:A:P	2.35	0.44
17:D:622:A:C8	17:D:623:C:C5	3.06	0.44
17:D:1160:G:C6	17:D:1161:C:C5	3.06	0.44
17:D:1434:A:H2'	17:D:1435:G:O4'	2.18	0.44
18:E:16:LYS:HG3	18:E:19:LYS:HE3	1.98	0.44
18:E:78:ASN:O	18:E:82:GLN:CD	2.61	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:H:49:PRO:HD3	21:H:84:LEU:HD21	1.99	0.44
27:N:35:ALA:HB1	27:N:110:VAL:HG11	1.99	0.44
28:O:113:ARG:HG3	28:O:115:LYS:HZ2	1.83	0.44
30:Q:91:PRO:HD2	30:Q:92:GLY:H	1.83	0.44
31:R:18:LYS:HD3	31:R:19:SER:N	2.33	0.44
38:Y:19:PRO:CG	38:Y:23:VAL:CG2	2.95	0.44
38:Y:44:LYS:HG2	38:Y:68:PHE:HE2	1.82	0.44
40:a:27:G:C4	40:a:512:G:N2	2.86	0.44
40:a:221:A:C4	40:a:266:G:N7	2.85	0.44
40:a:479:A:H4'	40:a:480:A:OP1	2.18	0.44
40:a:910:A:H8	61:v:12:MET:CE	2.31	0.44
40:a:1144:A:C4	40:a:1145:C:C5	3.05	0.44
40:a:1414:C:H2'	40:a:1415:U:C6	2.52	0.44
40:a:1863:G:H2'	40:a:1864:U:H6	1.82	0.44
40:a:2093:G:P	57:r:22:LYS:HG2	2.58	0.44
44:e:59:GLU:CD	44:e:60:LYS:N	2.76	0.44
45:f:4:THR:CG2	45:f:37:GLU:OE2	2.65	0.44
45:f:31:ARG:HG2	45:f:34:HIS:HB2	2.00	0.44
48:i:17:ARG:CA	48:i:20:ASP:OD1	2.66	0.44
49:j:204:LYS:HD3	49:j:205:PRO:HD2	2.00	0.44
51:l:6:LYS:CE	51:l:119:ILE:CG2	2.94	0.44
52:m:41:ARG:NE	52:m:41:ARG:HA	2.33	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
54:o:55:LEU:C	54:o:55:LEU:HD23	2.42	0.44
55:p:83:PHE:HB2	55:p:141:ILE:HD13	2.00	0.44
63:x:50:ALA:O	63:x:81:ARG:NH2	2.51	0.44
1:0:60:LYS:N	1:0:60:LYS:HD3	2.33	0.44
8:7:38:A:O3'	11:AA:688:GLN:NE2	2.51	0.44
9:9:138:ARG:NH1	39:Z:10:ALA:O	2.51	0.44
10:A:18:G:N7	10:A:57:A:N6	2.65	0.44
12:AB:31:PRO:C	12:AB:50:LEU:H	2.22	0.44
13:AD:31:LEU:HD21	13:AD:39:LEU:HD12	2.00	0.44
14:AE:288:PRO:HD2	14:AE:291:ILE:CB	2.42	0.44
14:AE:658:GLU:HA	14:AE:661:VAL:HG22	2.00	0.44
14:AE:975:ILE:HG22	14:AE:977:SER:H	1.83	0.44
16:C:18:VAL:HG13	16:C:51:TYR:HE1	1.83	0.44
17:D:262:A:H2'	17:D:263:A:C8	2.53	0.44
17:D:610:U:C2	17:D:611:C:C6	3.06	0.44
17:D:642:A:C5	17:D:643:C:C5	3.06	0.44
17:D:675:A:C1'	30:Q:118:HIS:CD2	2.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:754:C:O5'	33:T:72:ARG:NH1	2.51	0.44
17:D:1120:C:H2'	17:D:1121:U:H6	1.83	0.44
18:E:25:ARG:O	18:E:28:MET:HB2	2.18	0.44
20:G:48:PRO:O	20:G:52:GLU:HG2	2.18	0.44
21:H:71:ALA:HB3	21:H:83:LEU:O	2.18	0.44
21:H:297:GLU:OE1	21:H:297:GLU:N	2.49	0.44
22:I:34:ASP:HB2	32:S:65:ARG:CZ	2.48	0.44
22:I:112:ASP:O	22:I:116:VAL:HG23	2.18	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
27:N:110:VAL:O	27:N:111:MET:SD	2.75	0.44
28:O:89:GLU:HG3	28:O:90:TYR:N	2.33	0.44
28:O:94:LEU:O	28:O:97:GLU:CD	2.60	0.44
30:Q:83:GLU:OE1	30:Q:83:GLU:N	2.51	0.44
31:R:25:GLU:OE2	31:R:30:LYS:HE3	2.18	0.44
32:S:87:ALA:CA	32:S:90:ARG:CZ	2.96	0.44
35:V:27:ARG:HH22	35:V:42:THR:N	2.16	0.44
35:V:30:LYS:HB2	35:V:37:PHE:CE1	2.52	0.44
37:X:71:ARG:NH1	37:X:72:GLU:HG3	2.33	0.44
40:a:536:G:H4'	65:z:57:PHE:CZ	2.53	0.44
40:a:1360:G:C8	40:a:1361:G:C8	3.06	0.44
40:a:1996:C:OP1	59:t:31:ARG:NH2	2.51	0.44
40:a:2175:C:H2'	40:a:2176:A:N7	2.33	0.44
40:a:2484:G:OP1	61:v:44:ARG:HD2	2.18	0.44
40:a:2514:U:H2'	40:a:2515:C:H6	1.81	0.44
40:a:2548:U:C2	40:a:2549:G:C8	3.06	0.44
40:a:2617:U:C2	40:a:2618:G:C8	3.06	0.44
47:h:200:HIS:O	47:h:203:ARG:HG2	2.17	0.44
49:j:104:VAL:HG12	49:j:105:LYS:N	2.33	0.44
49:j:131:ASP:OD1	49:j:133:THR:O	2.36	0.44
54:o:45:ARG:HD2	54:o:45:ARG:C	2.43	0.44
55:p:8:PRO:C	55:p:69:ARG:NH2	2.75	0.44
58:s:132:HIS:HA	58:s:135:GLN:OE1	2.17	0.44
61:v:3:GLN:OE1	61:v:4:PRO:O	2.35	0.44
61:v:104:GLU:OE1	61:v:104:GLU:HA	2.17	0.44
5:4:55:GLU:OE1	5:4:55:GLU:N	2.42	0.44
6:5:18:DG:C4	6:5:19:DC:C5	3.06	0.44
14:AE:117:LEU:HG	14:AE:118:LYS:HG3	2.00	0.44
14:AE:283:LEU:HD23	14:AE:292:VAL:HG11	1.99	0.44
16:C:29:LEU:CD2	16:C:59:ILE:HD13	2.48	0.44
16:C:40:VAL:HG22	21:H:339:ARG:HE	1.83	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:108:G:H5''	17:D:108:G:N3	2.33	0.44
17:D:219:U:C2	17:D:220:G:C8	3.05	0.44
17:D:621:A:H2'	17:D:622:A:C8	2.53	0.44
17:D:1120:C:C2	17:D:1121:U:C5	3.06	0.44
18:E:21:ASN:HB3	18:E:25:ARG:CZ	2.48	0.44
20:G:134:ALA:HA	20:G:137:ARG:HE	1.83	0.44
21:H:8:LEU:HD12	21:H:11:GLU:OE2	2.18	0.44
30:Q:21:ALA:HB3	30:Q:84:VAL:HG22	1.99	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
37:X:3:ARG:NH2	53:n:110:ARG:HD2	2.32	0.44
40:a:128:C:C2	40:a:129:C:C5	3.06	0.44
40:a:579:G:H2'	40:a:580:U:C6	2.53	0.44
40:a:594:U:C2	40:a:595:C:C5	3.05	0.44
40:a:782:A:C6	47:h:225:MET:HE2	2.53	0.44
40:a:1839:G:C4	40:a:1840:G:C8	3.06	0.44
40:a:2016:U:H2'	40:a:2017:U:C6	2.52	0.44
40:a:2025:C:H2'	40:a:2026:U:C6	2.53	0.44
40:a:2297:A:C2	40:a:2320:U:C1'	3.00	0.44
40:a:2305:U:H5''	53:n:131:GLY:HA3	2.00	0.44
40:a:2806:C:H2'	40:a:2807:U:O4'	2.18	0.44
43:d:69:G:C5	43:d:70:C:C6	3.06	0.44
47:h:108:LYS:HZ3	47:h:194:GLU:H	1.64	0.44
54:o:8:ARG:HA	54:o:8:ARG:HE	1.82	0.44
54:o:45:ARG:HB3	54:o:46:PRO:CD	2.48	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
1:0:93:PHE:CD1	1:0:93:PHE:C	2.96	0.43
2:1:36:LEU:N	2:1:36:LEU:HD12	2.33	0.43
3:2:6:ARG:NE	3:2:42:GLU:CD	2.76	0.43
3:2:56:GLU:OE1	3:2:86:THR:C	2.61	0.43
3:2:56:GLU:CD	3:2:88:LYS:N	2.76	0.43
10:A:11:A:H2'	10:A:12:G:O4'	2.17	0.43
10:A:48:C:O2'	10:A:49:G:OP2	2.27	0.43
11:AA:1157:GLN:HG3	11:AA:1159:VAL:HG13	2.00	0.43
12:AB:31:PRO:HG2	12:AB:51:PHE:CE2	2.53	0.43
16:C:34:THR:HG22	16:C:35:GLU:N	2.33	0.43
17:D:404:G:N7	23:J:2:ALA:HB3	2.33	0.43
17:D:1152:A:OP1	29:P:72:ARG:NH1	2.43	0.43
17:D:1240:U:H5	26:M:116:MET:HE2	1.83	0.43
18:E:22:ALA:CA	18:E:25:ARG:HE	2.31	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:G:9:MET:HE1	20:G:47:VAL:HG22	1.99	0.43
20:G:206:ALA:O	20:G:210:VAL:HG23	2.18	0.43
22:I:149:ILE:HG13	22:I:201:TRP:O	2.18	0.43
22:I:156:ARG:CG	22:I:193:TYR:HB2	2.47	0.43
22:I:157:LEU:CD1	22:I:166:GLU:OE1	2.66	0.43
30:Q:63:ALA:CB	30:Q:92:GLY:HA3	2.48	0.43
33:T:32:LEU:HD12	33:T:63:ARG:HA	1.98	0.43
35:V:28:PHE:CZ	35:V:37:PHE:HB3	2.53	0.43
37:X:81:MET:HE1	37:X:92:ARG:CD	2.48	0.43
38:Y:99:LYS:CE	38:Y:140:GLU:OE2	2.66	0.43
40:a:6:A:O2'	58:s:132:HIS:ND1	2.50	0.43
40:a:234:U:C4	40:a:235:U:C5	3.06	0.43
40:a:1657:U:C2	40:a:1658:C:C5	3.06	0.43
40:a:2387:U:C4'	41:b:41:ARG:NH1	2.81	0.43
65:z:66:ASN:CG	65:z:76:TYR:HB2	2.42	0.43
4:3:4:LYS:O	4:3:94:ARG:NH2	2.40	0.43
4:3:7:ARG:NH2	40:a:84:A:O2'	2.51	0.43
5:4:31:TYR:HE2	43:d:104:A:O4'	2.01	0.43
8:7:13:U:H3	23:J:47:ARG:NH1	2.10	0.43
11:AA:811:ASN:ND2	11:AA:1098:LEU:O	2.51	0.43
12:AB:6:LEU:HD22	14:AE:291:ILE:HD11	1.99	0.43
13:AD:83:LEU:HD11	14:AE:526:VAL:HB	1.99	0.43
14:AE:1321:SER:OG	14:AE:1349:GLU:OE2	2.32	0.43
10:B:75:C:OP1	40:a:2602:A:C8	2.71	0.43
17:D:511:C:C2	17:D:512:U:C6	3.06	0.43
17:D:678:U:H2'	17:D:679:C:C6	2.53	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:986:U:H2'	17:D:987:G:C8	2.53	0.43
17:D:1317:C:OP2	32:S:28:LYS:CE	2.66	0.43
17:D:1325:C:N3	17:D:1326:U:C5	2.86	0.43
19:F:32:VAL:HG11	30:Q:89:PRO:HG3	1.99	0.43
20:G:9:MET:HE2	20:G:43:LEU:HD22	2.00	0.43
22:I:54:ARG:NH1	22:I:69:HIS:NE2	2.66	0.43
25:L:2:ARG:HB2	25:L:4:TYR:CE1	2.53	0.43
27:N:84:ARG:HD2	27:N:124:GLU:OE1	2.17	0.43
29:P:45:ARG:HD3	29:P:47:GLU:OE2	2.18	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
40:a:78:U:C5'	44:e:4:LYS:NZ	2.81	0.43
40:a:841:G:H2'	40:a:842:U:C6	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:2092:U:C2	40:a:2225:A:O2'	2.71	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:2702:G:C4	40:a:2703:C:C5	3.06	0.43
47:h:91:ILE:HG22	47:h:92:ALA:N	2.33	0.43
51:l:198:GLU:OE1	51:l:198:GLU:N	2.43	0.43
53:n:6:ASP:O	53:n:10:ASP:OD2	2.36	0.43
53:n:15:LYS:O	53:n:19:GLU:OE1	2.35	0.43
55:p:149:ARG:HD2	55:p:162:VAL:O	2.18	0.43
57:r:90:LEU:HD21	57:r:94:ILE:HD11	2.00	0.43
60:u:95:LEU:HD13	60:u:100:ILE:HD12	2.00	0.43
65:z:14:HIS:O	65:z:18:LEU:HD23	2.18	0.43
65:z:76:TYR:OH	65:z:92:ARG:HG2	2.19	0.43
1:0:77:PHE:CD2	65:z:40:ILE:HG21	2.53	0.43
2:1:19:LEU:HD23	2:1:19:LEU:C	2.43	0.43
9:9:18:VAL:HG13	9:9:71:CYS:HB2	2.00	0.43
9:9:129:LEU:CD1	9:9:130:PRO:HD3	2.45	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
12:AB:37:LYS:HE3	12:AB:109:THR:HG21	1.99	0.43
12:AB:130:PHE:HB3	12:AB:133:PRO:HD3	2.00	0.43
12:AB:140:MET:C	12:AB:152:HIS:C	2.85	0.43
14:AE:230:SER:OG	14:AE:231:GLY:N	2.49	0.43
17:D:235:C:H2'	17:D:236:A:H8	1.83	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	3.06	0.43
17:D:562:U:C3'	31:R:14:ARG:NH1	2.81	0.43
17:D:676:A:H2'	17:D:677:U:H6	1.82	0.43
17:D:736:C:H4'	25:L:88:MET:HE2	1.99	0.43
17:D:892:A:H2'	17:D:893:C:H6	1.83	0.43
17:D:1208:C:C2	17:D:1209:C:C6	3.07	0.43
17:D:1244:G:C6	17:D:1294:G:C6	3.06	0.43
20:G:110:SER:OG	20:G:113:ARG:NH2	2.47	0.43
20:G:117:LEU:HD21	20:G:141:LEU:CA	2.48	0.43
21:H:52:GLN:OE1	21:H:52:GLN:HA	2.18	0.43
21:H:163:ARG:N	21:H:298:GLU:CG	2.81	0.43
24:K:132:ASN:OD1	24:K:134:ILE:HG22	2.18	0.43
27:N:31:LYS:N	27:N:31:LYS:HD2	2.34	0.43
27:N:35:ALA:HB1	27:N:110:VAL:CG1	2.48	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:O:56:ASP:OD1	28:O:56:ASP:N	2.51	0.43
30:Q:14:LYS:HD3	30:Q:15:GLN:N	2.32	0.43
31:R:30:LYS:C	31:R:81:LEU:HD12	2.42	0.43
40:a:74:A:N7	40:a:88:G:C5	2.87	0.43
40:a:598:U:H2'	40:a:599:A:H8	1.82	0.43
40:a:1319:C:O2'	40:a:1320:C:H5'	2.18	0.43
40:a:1409:U:C2	40:a:1410:G:C8	3.06	0.43
40:a:2579:C:O3'	49:j:137:SER:OG	2.32	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
49:j:107:VAL:HG13	49:j:177:VAL:HG11	2.00	0.43
51:l:112:LEU:HD23	51:l:118:LEU:HD13	1.99	0.43
53:n:132:VAL:CG2	53:n:152:LEU:CD2	2.97	0.43
55:p:94:TYR:CE1	55:p:152:ARG:CD	3.02	0.43
59:t:1:MET:HE1	59:t:32:TYR:CB	2.49	0.43
2:1:36:LEU:HD23	2:1:48:LYS:CA	2.48	0.43
9:9:23:LEU:HA	9:9:118:ILE:HG13	2.01	0.43
9:9:70:GLU:HG3	9:9:71:CYS:N	2.34	0.43
10:A:19:G:O6	40:a:2111:U:H3'	2.18	0.43
10:A:49:G:H8	10:A:49:G:O5'	2.01	0.43
12:AB:4:TRP:CE2	12:AB:27:ASN:ND2	2.87	0.43
12:AB:109:THR:HA	12:AB:110:PRO:HD3	1.83	0.43
12:AB:141:LEU:CA	12:AB:153:SER:N	2.75	0.43
10:B:72:A:C3'	10:B:73:A:H5''	2.47	0.43
16:C:27:ALA:CA	16:C:30:LYS:HE3	2.49	0.43
17:D:76:G:C5	17:D:77:A:C8	3.06	0.43
17:D:545:C:C5'	23:J:69:GLU:HG3	2.38	0.43
17:D:746:A:H2'	17:D:747:A:C8	2.53	0.43
17:D:1437:A:N3	17:D:1438:G:C8	2.86	0.43
18:E:16:LYS:HA	18:E:19:LYS:HE3	2.00	0.43
19:F:51:SER:OG	19:F:55:ARG:NH2	2.52	0.43
19:F:66:ARG:NH2	19:F:67:ARG:NH2	2.66	0.43
22:I:69:HIS:CD2	22:I:104:ALA:HB3	2.53	0.43
25:L:53:LYS:HD2	25:L:53:LYS:O	2.18	0.43
28:O:21:ILE:CD1	28:O:86:ALA:CB	2.97	0.43
28:O:63:LEU:CD1	28:O:65:ILE:HD11	2.48	0.43
30:Q:84:VAL:HG11	30:Q:97:ILE:HD13	2.00	0.43
31:R:23:ALA:O	31:R:25:GLU:OE1	2.36	0.43
32:S:86:GLU:O	32:S:90:ARG:HG2	2.17	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:T:10:LYS:HA	33:T:10:LYS:CE	2.49	0.43
35:V:31:HIS:NE2	35:V:34:TYR:HD2	2.15	0.43
37:X:64:VAL:O	37:X:64:VAL:HG13	2.19	0.43
37:X:79:ARG:NH1	46:g:56:ARG:NH1	2.66	0.43
38:Y:14:ALA:O	38:Y:15:GLY:C	2.61	0.43
38:Y:64:ARG:O	38:Y:64:ARG:HG3	2.17	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:841:G:C6	40:a:938:G:C6	3.06	0.43
40:a:870:U:N3	40:a:871:U:C5	2.86	0.43
40:a:997:G:H5''	65:z:92:ARG:NH1	2.34	0.43
40:a:1406:U:O2'	40:a:1407:G:C5'	2.66	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:2846:G:H2'	40:a:2847:U:O4'	2.19	0.43
46:g:59:ARG:HH11	46:g:63:ARG:CD	2.31	0.43
48:i:23:THR:O	48:i:23:THR:HG23	2.17	0.43
48:i:55:ILE:CD1	62:w:112:TYR:CD2	3.02	0.43
53:n:126:GLY:HA2	53:n:163:ASP:HA	2.00	0.43
57:r:6:LEU:C	57:r:15:LEU:HD13	2.43	0.43
61:v:53:MET:O	61:v:57:VAL:HG12	2.19	0.43
61:v:111:GLU:HG2	61:v:112:LEU:N	2.33	0.43
61:v:112:LEU:HD12	61:v:112:LEU:N	2.34	0.43
62:w:96:ARG:O	62:w:113:ILE:HA	2.19	0.43
1:0:1:MET:HE3	1:0:43:ASN:OD1	2.18	0.43
1:0:58:VAL:HG13	1:0:60:LYS:HZ3	1.83	0.43
1:0:73:LYS:HZ1	1:0:88:GLY:HA3	1.83	0.43
2:1:99:ARG:CZ	2:1:99:ARG:HB2	2.49	0.43
4:3:7:ARG:HG3	4:3:8:ASP:N	2.33	0.43
5:4:53:LYS:HB2	5:4:56:PHE:HE2	1.84	0.43
9:9:105:LYS:O	9:9:106:PHE:HB3	2.18	0.43
12:AB:33:ILE:HD11	12:AB:104:ILE:HA	2.00	0.43
12:AB:146:ILE:CD1	29:P:88:MET:CG	2.96	0.43
12:AB:147:ASN:HB2	29:P:100:ILE:C	2.44	0.43
14:AE:1036:ARG:HE	14:AE:1081:VAL:HG21	1.83	0.43
10:B:31:G:H5'	17:D:1339:A:C2	2.54	0.43
17:D:1477:U:H2'	17:D:1478:U:C6	2.53	0.43
21:H:76:GLU:OE2	21:H:78:GLY:C	2.61	0.43
21:H:123:GLU:HA	21:H:128:ARG:HA	2.00	0.43
21:H:303:LEU:CD2	21:H:305:HIS:HB3	2.48	0.43
24:K:15:LEU:HD23	24:K:15:LEU:H	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:K:134:ILE:CG2	24:K:135:ASN:N	2.81	0.43
25:L:18:VAL:HA	25:L:21:MET:CE	2.47	0.43
26:M:4:ARG:HG2	26:M:5:ARG:NH2	2.32	0.43
31:R:57:LEU:HD23	31:R:59:ASN:CG	2.43	0.43
34:U:7:ALA:HA	34:U:28:ARG:HD3	2.01	0.43
34:U:9:HIS:O	34:U:16:PHE:HB3	2.18	0.43
36:W:12:ASP:OD2	36:W:35:SER:CB	2.66	0.43
37:X:90:ARG:NH1	37:X:96:PRO:O	2.51	0.43
40:a:39:G:H2'	40:a:40:U:H6	1.83	0.43
40:a:61:C:C2	40:a:94:A:C2	3.06	0.43
40:a:197:A:N6	40:a:2430:A:H2'	2.34	0.43
40:a:271:G:C2	40:a:272:A:C5	3.07	0.43
40:a:838:C:C2	40:a:839:U:C6	3.07	0.43
40:a:900:A:C5	40:a:901:C:C5	3.06	0.43
40:a:1141:U:H4'	40:a:1142:A:O4'	2.18	0.43
40:a:1385:A:C4	40:a:1403:A:C2	3.07	0.43
40:a:2216:G:H2'	40:a:2217:G:H8	1.82	0.43
40:a:2313:C:O3'	53:n:88:LYS:NZ	2.48	0.43
40:a:2649:C:H2'	40:a:2650:U:C6	2.51	0.43
44:e:56:LEU:C	44:e:59:GLU:HG3	2.44	0.43
49:j:16:THR:HG23	49:j:20:VAL:O	2.19	0.43
50:k:9:ILE:HG22	50:k:27:LYS:HZ1	1.84	0.43
51:l:23:PHE:CE2	51:l:25:GLU:CB	3.01	0.43
53:n:66:LEU:HD23	53:n:67:ILE:N	2.34	0.43
57:r:93:SER:OG	57:r:121:VAL:HG13	2.18	0.43
65:z:12:ALA:O	65:z:16:LYS:HG2	2.19	0.43
2:1:1:MET:SD	2:1:62:ASP:OD2	2.76	0.43
9:9:3:LEU:CD1	9:9:5:LEU:H	2.31	0.43
9:9:6:GLN:CA	9:9:9:GLN:HE22	2.30	0.43
12:AB:35:LEU:HA	12:AB:106:ASP:OD1	2.19	0.43
10:B:19:G:N3	10:B:57:A:C4	2.87	0.43
17:D:622:A:C8	17:D:623:C:C6	3.06	0.43
17:D:633:G:H2'	17:D:634:C:H6	1.82	0.43
17:D:953:G:O6	37:X:103:LYS:HE3	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:31:ILE:O	21:H:31:ILE:HG13	2.18	0.43
21:H:74:ALA:HB3	21:H:83:LEU:HD23	1.99	0.43
21:H:305:HIS:CG	21:H:306:VAL:H	2.36	0.43
21:H:310:ASP:HB2	21:H:316:ILE:HD11	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:K:93:ARG:NH2	24:K:93:ARG:CB	2.80	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
34:U:5:ARG:HA	34:U:71:VAL:HG21	2.01	0.43
37:X:22:ILE:HG23	37:X:66:GLU:CD	2.43	0.43
38:Y:102:ARG:NH1	38:Y:139:VAL:HG11	2.33	0.43
40:a:250:G:H2'	40:a:251:A:C8	2.54	0.43
40:a:577:G:OP1	40:a:2502:G:O2'	2.36	0.43
40:a:963:U:H2'	40:a:964:C:C6	2.53	0.43
40:a:1074:G:C6	40:a:1075:C:N4	2.87	0.43
40:a:2477:U:O2	56:q:4:ARG:NH2	2.51	0.43
40:a:2665:A:C2	40:a:2666:C:C6	3.07	0.43
48:i:17:ARG:CB	48:i:20:ASP:OD1	2.67	0.43
55:p:115:HIS:HD1	55:p:151:TYR:HE2	1.65	0.43
61:v:72:PRO:C	61:v:73:ILE:HD12	2.43	0.43
1:0:46:GLU:HG2	1:0:48:LYS:NZ	2.32	0.43
3:2:37:ASP:OD2	3:2:37:ASP:C	2.62	0.43
9:9:118:ILE:HB	9:9:119:PRO:CD	2.42	0.43
10:A:19:G:N2	40:a:2112:G:C1'	2.82	0.43
11:AA:11:ILE:HG22	11:AA:1172:LEU:HD11	1.99	0.43
12:AB:148:LYS:HZ3	29:P:102:LEU:CB	2.31	0.43
14:AE:708:ASN:HA	14:AE:713:GLU:HA	2.00	0.43
15:AF:58:LEU:HD12	15:AF:59:ILE:HG12	2.00	0.43
10:B:35:A:H2'	10:B:36:U:O4'	2.18	0.43
17:D:416:G:C4	17:D:417:G:C8	3.07	0.43
17:D:682:G:C2	17:D:683:G:C8	3.06	0.43
17:D:1125:U:N3	17:D:1127:G:C8	2.86	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
25:L:1:MET:HE2	25:L:67:PRO:N	2.34	0.43
33:T:3:LEU:HD23	33:T:4:SER:N	2.33	0.43
33:T:63:ARG:HD2	33:T:67:LEU:HD23	2.01	0.43
39:Z:2:ILE:CG2	39:Z:5:ASP:H	2.28	0.43
40:a:150:U:C2	40:a:151:C:C5	3.06	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: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:1683:U:H2'	40:a:1684:G:H8	1.83	0.43
40:a:1709:U:H2'	40:a:1710:G:H8	1.82	0.43
40:a:2298:A:P	53:n:72:LYS:HZ3	2.37	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:2332:C:P	41:b:77:ARG:HH21	2.42	0.43
40:a:2884:U:O2	48:i:40:ARG:NH2	2.51	0.43
43:d:89:U:O2'	43:d:90:C:P	2.76	0.43
53:n:79:ILE:O	53:n:79:ILE:HG13	2.17	0.43
54:o:13:ARG:HG2	60:u:62:PRO:O	2.18	0.43
55:p:121:ILE:HD12	55:p:141:ILE:CG2	2.39	0.43
59:t:108:ARG:HG2	59:t:116:ILE:HD13	2.01	0.43
60:u:122:VAL:CG1	60:u:125:LEU:CD2	2.90	0.43
61:v:1:MET:SD	61:v:44:ARG:HA	2.59	0.43
64:y:27:GLU:HB3	64:y:87:LYS:HZ1	1.83	0.43
8:7:1:A:C6	10:B:37:A:N1	2.86	0.43
10:A:19:G:N3	10:A:57:A:C4	2.87	0.43
11:AA:813:GLU:HB2	14:AE:461:PHE:HD2	1.83	0.43
12:AB:2:GLN:HA	12:AB:59:PHE:C	2.43	0.43
13:AD:78:ILE:HA	13:AD:81:ILE:HG22	2.00	0.43
16:C:54:GLN:HA	16:C:57:ARG:NH1	2.33	0.43
17:D:13:U:N3	17:D:915:A:C6	2.87	0.43
17:D:43:C:P	34:U:12:LYS:HE3	2.59	0.43
17:D:320:A:H2'	17:D:321:A:O4'	2.19	0.43
17:D:384:G:H2'	17:D:385:C:C6	2.54	0.43
17:D:674:G:H2'	17:D:675:A:H8	1.84	0.43
17:D:771:G:H2'	17:D:772:U:C6	2.54	0.43
17:D:1060:U:OP1	32:S:85:ARG:NH1	2.48	0.43
17:D:1103:C:O2	20:G:106:THR:HG21	2.18	0.43
17:D:1157:A:C2	17:D:1181:G:C5	3.06	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
18:E:66:LEU:HD12	18:E:66:LEU:HA	1.85	0.43
21:H:19:ARG:HD3	21:H:19:ARG:N	2.33	0.43
21:H:332:VAL:CG1	21:H:335:ILE:HG13	2.47	0.43
22:I:14:ILE:HB	22:I:178:LEU:HD21	2.01	0.43
22:I:22:TRP:CZ2	22:I:32:ASN:CB	3.01	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	2.48	0.43
27:N:10:MET:HB2	27:N:33:LYS:HZ2	1.84	0.43
27:N:66:PHE:C	27:N:67:GLN:OE1	2.62	0.43
29:P:56:HIS:C	29:P:57:VAL:HG23	2.44	0.43
34:U:8:ARG:HD3	34:U:17:TYR:CE1	2.54	0.43
35:V:63:GLU:HB2	35:V:73:TRP:CZ2	2.53	0.43
39:Z:29:LYS:O	39:Z:30:PHE:HD2	2.02	0.43
40:a:39:G:H2'	40:a:40:U:C6	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:68:G:N2	40:a:74:A:OP2	2.51	0.43
40:a:531:C:C5	40:a:2035:G:C2	3.07	0.43
40:a:685:A:N1	40:a:787:C:H1'	2.33	0.43
40:a:1141:U:O2	40:a:1142:A:N6	2.52	0.43
40:a:1269:A:H2'	40:a:1270:C:C6	2.54	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:2615:U:C2	48:i:4:GLN:HA	2.53	0.43
43:d:31:C:C2	43:d:32:U:C5	3.06	0.43
43:d:46:A:C5	43:d:47:C:C5	3.06	0.43
43:d:48:U:P	63:x:30:ARG:HH22	2.41	0.43
48:i:55:ILE:HD13	62:w:112:TYR:CE2	2.54	0.43
51:l:131:THR:HG22	51:l:160:ALA:O	2.18	0.43
52:m:26:ASN:HA	52:m:29:GLN:HE21	1.83	0.43
53:n:92:ARG:CZ	53:n:92:ARG:HB3	2.47	0.43
59:t:59:LYS:NZ	59:t:92:GLU:CG	2.82	0.43
62:w:12:ARG:NH1	62:w:20:MET:HE1	2.33	0.43
62:w:38:LEU:HD12	62:w:38:LEU:HA	1.72	0.43
65:z:76:TYR:CZ	65:z:80:ILE:HD11	2.53	0.43
10:A:22:G:OP2	10:A:22:G:C8	2.72	0.43
11:AA:22:LEU:HB3	11:AA:655:VAL:HG11	2.01	0.43
11:AA:557:ARG:HB3	11:AA:587:LEU:HD13	2.00	0.43
17:D:246:A:C2	17:D:282:A:C4	3.06	0.43
17:D:316:C:C2	17:D:317:U:C5	3.06	0.43
17:D:553:A:H2'	17:D:554:A:H8	1.84	0.43
17:D:619:U:O4'	23:J:128:ARG:CZ	2.67	0.43
17:D:671:G:H4'	25:L:79:ARG:HH12	1.83	0.43
17:D:679:C:N3	17:D:680:C:C5	2.87	0.43
17:D:796:C:N3	17:D:797:C:C5	2.87	0.43
17:D:1172:C:H2'	17:D:1173:U:H6	1.82	0.43
17:D:1184:G:C2	17:D:1185:G:C8	3.07	0.43
20:G:26:LYS:CE	20:G:193:PRO:HG2	2.49	0.43
20:G:131:LYS:O	20:G:135:LEU:HD13	2.19	0.43
21:H:336:ASP:HB2	21:H:341:ARG:H	1.84	0.43
28:O:39:PHE:CD1	28:O:44:ALA:HB1	2.53	0.43
30:Q:85:MET:HG3	30:Q:111:THR:HB	2.00	0.43
36:W:68:GLY:HA3	46:g:59:ARG:HH22	1.82	0.43
38:Y:9:LYS:CE	38:Y:55:PRO:HB3	2.43	0.43
38:Y:14:ALA:C	38:Y:50:LYS:HD2	2.44	0.43
40:a:192:C:C5	40:a:193:U:C6	3.07	0.43
40:a:523:C:O2	40:a:554:U:O2'	2.37	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:1095:A:O2'	40:a:1096:A:O4'	2.36	0.43
40:a:1139:G:O3'	58:s:26:GLY:HA3	2.19	0.43
40:a:1144:A:C5	40:a:1145:C:C5	3.07	0.43
40:a:1443:U:H2'	40:a:1444:G:C8	2.54	0.43
40:a:1900:A:N1	40:a:1970:A:C6	2.87	0.43
40:a:2547:A:H5'	59:t:29:HIS:NE2	2.34	0.43
40:a:2821:A:C2	40:a:2822:G:C4	3.07	0.43
43:d:82:U:O2	45:f:53:PHE:HZ	2.02	0.43
46:g:47:LYS:CE	53:n:115:ARG:HA	2.49	0.43
47:h:71:LYS:HB2	47:h:96:TYR:CZ	2.54	0.43
49:j:55:LYS:HZ2	49:j:60:VAL:N	2.17	0.43
49:j:151:THR:HG23	49:j:151:THR:O	2.19	0.43
49:j:156:PHE:CE2	58:s:81:ILE:HD13	2.54	0.43
49:j:181:ASP:HB3	49:j:186:LEU:HB2	1.99	0.43
51:l:47:LYS:HA	51:l:51:GLU:CD	2.44	0.43
53:n:20:PHE:HB3	53:n:22:TYR:CE1	2.54	0.43
53:n:93:GLY:O	53:n:94:GLU:C	2.61	0.43
58:s:1:MET:SD	58:s:2:LYS:C	3.02	0.43
58:s:88:THR:OG1	58:s:91:GLU:HG3	2.18	0.43
58:s:125:TYR:CD2	58:s:130:HIS:HB3	2.54	0.43
61:v:96:ILE:HA	61:v:100:LYS:HE3	2.00	0.43
64:y:106:LYS:CA	64:y:109:ARG:NH2	2.81	0.43
65:z:78:LYS:HG2	65:z:117:LEU:HD21	2.00	0.43
4:3:35:ILE:HD11	4:3:62:GLU:C	2.44	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:829:THR:HG23	11:AA:1059:ARG:HG2	1.99	0.43
11:AA:1275:VAL:HG13	11:AA:1287:LEU:HD11	2.01	0.43
12:AB:60:ASP:HA	12:AB:61:PRO:HD3	1.88	0.43
12:AB:144:ASN:HA	12:AB:149:GLU:CD	2.44	0.43
16:C:20:GLU:OE1	16:C:21:ILE:O	2.36	0.43
17:D:57:G:H2'	17:D:58:C:C6	2.54	0.43
17:D:690:G:H2'	17:D:691:G:C8	2.54	0.43
17:D:723:U:C2	19:F:49:LYS:HE3	2.54	0.43
17:D:792:A:H1'	17:D:794:A:N7	2.34	0.43
17:D:1127:G:C6	17:D:1128:C:C5	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
20:G:208:ARG:NH1	20:G:211:THR:CG2	2.82	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:V:15:ASP:OD1	35:V:15:ASP:N	2.49	0.43
38:Y:81:LYS:N	38:Y:81:LYS:CD	2.79	0.43
40:a:471:A:H2'	40:a:472:A:O4'	2.19	0.43
40:a:538:A:H2'	40:a:539:G:O4'	2.18	0.43
40:a:1114:C:H2'	40:a:1115:G:C8	2.54	0.43
40:a:1169:A:N3	40:a:1169:A:O4'	2.51	0.43
40:a:1770:G:C5	40:a:1983:G:C6	3.07	0.43
40:a:1839:G:O4'	40:a:1927:A:O4'	2.37	0.43
40:a:1879:C:H2'	40:a:1880:U:O4'	2.18	0.43
40:a:2215:C:H2'	40:a:2216:G:C8	2.54	0.43
40:a:2557:G:H2'	40:a:2558:C:H6	1.84	0.43
40:a:2615:U:H2'	40:a:2616:C:H6	1.83	0.43
43:d:57:A:N7	53:n:26:MET:CE	2.82	0.43
47:h:45:ASN:OD1	47:h:46:ASN:N	2.51	0.43
47:h:144:VAL:HG21	47:h:162:VAL:HG11	2.01	0.43
50:k:21:TYR:CE2	50:k:38:LYS:HB3	2.54	0.43
50:k:34:LEU:HB3	50:k:51:GLU:OE2	2.19	0.43
51:l:6:LYS:NZ	51:l:119:ILE:C	2.77	0.43
53:n:40:VAL:HG13	53:n:42:GLU:CD	2.43	0.43
61:v:74:THR:HA	61:v:88:ASN:O	2.19	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
64:y:55:LEU:HA	64:y:77:HIS:CD2	2.54	0.43
2:1:95:ARG:C	2:1:95:ARG:HD2	2.44	0.42
4:3:7:ARG:O	4:3:25:VAL:O	2.36	0.42
9:9:88:HIS:CB	9:9:89:PRO:CD	2.81	0.42
11:AA:300:ASP:OD1	11:AA:313:ALA:N	2.51	0.42
11:AA:646:SER:OG	11:AA:647:ARG:N	2.52	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:362:ARG:H	14:AE:365:GLN:HE21	1.66	0.42
14:AE:513:MET:HE1	14:AE:579:LEU:HD13	2.01	0.42
17:D:283:U:C2	17:D:284:C:C6	3.06	0.42
17:D:381:C:H2'	17:D:382:A:O4'	2.19	0.42
17:D:1436:U:C2	17:D:1437:A:C8	3.07	0.42
18:E:60:ARG:O	18:E:64:LYS:HD3	2.18	0.42
19:F:5:LYS:HD3	30:Q:109:ASN:OD1	2.20	0.42
19:F:31:GLU:CD	19:F:34:ARG:NH2	2.77	0.42
21:H:124:LEU:O	21:H:127:ILE:O	2.36	0.42
23:J:41:HIS:ND1	23:J:44:ARG:CZ	2.82	0.42
25:L:29:ILE:HD12	25:L:29:ILE:H	1.83	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:M:23:LEU:H	26:M:23:LEU:CD1	2.30	0.42
26:M:78:ARG:HG3	26:M:80:VAL:HG13	2.00	0.42
29:P:52:LEU:HB2	32:S:81:ARG:NH1	2.33	0.42
31:R:3:THR:O	31:R:4:VAL:C	2.62	0.42
36:W:44:MET:HE1	36:W:62:VAL:HG22	2.01	0.42
36:W:45:ILE:HA	36:W:62:VAL:HG12	2.01	0.42
40:a:310:A:C2	40:a:330:A:C4	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	2.72	0.42
40:a:1028:A:N6	40:a:1125:G:H2'	2.34	0.42
40:a:1443:U:H2'	40:a:1444:G:H8	1.83	0.42
40:a:1506:U:H2'	40:a:1507:C:C6	2.54	0.42
40:a:1695:G:N7	47:h:14:ARG:NH2	2.66	0.42
40:a:1707:G:C5	40:a:1708:C:C5	3.07	0.42
40:a:1789:A:OP2	47:h:221:ARG:NH1	2.52	0.42
40:a:1824:G:H3'	47:h:52:ARG:HH12	1.84	0.42
40:a:1913:A:OP2	40:a:1913:A:H3'	2.18	0.42
40:a:2037:A:H2'	40:a:2038:G:C8	2.54	0.42
40:a:2297:A:C2	40:a:2321:U:C5	3.07	0.42
40:a:2377:A:O2'	63:x:117:PHE:O	2.36	0.42
47:h:130:LEU:CD2	47:h:192:LEU:HD21	2.48	0.42
53:n:12:VAL:HG13	53:n:172:ALA:CB	2.49	0.42
53:n:15:LYS:C	53:n:19:GLU:OE1	2.61	0.42
59:t:43:ILE:HD12	59:t:56:ASP:HB2	2.01	0.42
64:y:106:LYS:CB	64:y:109:ARG:HH22	2.32	0.42
65:z:82:GLY:CA	65:z:117:LEU:HD11	2.48	0.42
9:9:24:SER:O	9:9:96:PHE:CE1	2.72	0.42
9:9:80:THR:O	40:a:1108:U:OP1	2.37	0.42
9:9:94:ARG:N	9:9:94:ARG:HD3	2.34	0.42
11:AA:590:PRO:HB2	11:AA:655:VAL:HG21	2.01	0.42
12:AB:138:ARG:HD2	12:AB:154:VAL:C	2.44	0.42
17:D:43:C:P	34:U:12:LYS:HZ2	2.42	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:684:U:H2'	17:D:685:G:O4'	2.19	0.42
17:D:687:A:C2	17:D:704:A:C6	3.07	0.42
17:D:1104:G:H4'	20:G:113:ARG:HH22	1.83	0.42
17:D:1499:A:H2'	17:D:1500:A:H8	1.85	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:G:30:PHE:CG	20:G:45:LYS:NZ	2.87	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
23:J:139:PRO:N	23:J:182:PHE:CE2	2.88	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
28:O:51:PRO:HB3	28:O:103:PHE:HD2	1.83	0.42
29:P:64:GLN:HG2	32:S:101:TRP:HH2	1.84	0.42
30:Q:47:ALA:O	30:Q:52:PHE:HB2	2.19	0.42
34:U:14:ARG:CD	34:U:42:ILE:HG21	2.47	0.42
36:W:17:LYS:O	36:W:21:LYS:HD3	2.19	0.42
36:W:69:HIS:ND1	36:W:74:PHE:HZ	2.17	0.42
40:a:307:G:N1	40:a:310:A:OP2	2.47	0.42
40:a:553:G:C5	40:a:554:U:C5	3.07	0.42
40:a:635:C:OP1	60:u:126:ARG:CZ	2.68	0.42
40:a:996:A:N6	40:a:1160:G:C6	2.87	0.42
40:a:1565:C:OP1	47:h:18:LYS:HD2	2.19	0.42
40:a:1792:G:H5'	47:h:204:VAL:CG2	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:2516:A:O2'	40:a:2517:C:H5'	2.18	0.42
40:a:2845:U:H5''	64:y:52:ASN:O	2.18	0.42
40:a:2859:G:H2'	40:a:2860:A:C8	2.54	0.42
47:h:183:LYS:CE	47:h:265:LYS:O	2.67	0.42
53:n:33:LYS:CA	53:n:96:MET:SD	3.07	0.42
53:n:73:SER:OG	53:n:80:ARG:HA	2.19	0.42
53:n:104:ILE:HD11	53:n:174:ASP:O	2.19	0.42
59:t:20:MET:H	59:t:44:LYS:HZ3	1.67	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
65:z:47:TYR:CZ	65:z:51:ARG:NH2	2.87	0.42
65:z:79:PHE:CE1	65:z:110:VAL:HA	2.46	0.42
65:z:111:GLU:OE2	65:z:112:LYS:HD2	2.19	0.42
1:0:77:PHE:CD1	1:0:77:PHE:C	2.98	0.42
2:1:36:LEU:CD2	2:1:48:LYS:HA	2.48	0.42
3:2:9:LYS:O	3:2:12:ARG:NH2	2.52	0.42
3:2:76:ARG:CZ	3:2:77:ARG:O	2.67	0.42
6:5:10:DT:H73	11:AA:62:TYR:HB3	1.99	0.42
9:9:15:VAL:HG22	9:9:66:GLY:HA3	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:125:GLY:H	11:AA:495:ALA:HB1	1.84	0.42
11:AA:699:LEU:HG	11:AA:799:ASN:HD22	1.85	0.42
11:AA:1313:HIS:CD2	15:AF:31:GLN:HE22	2.37	0.42
12:AB:29:LEU:H	12:AB:56:PHE:HB2	1.84	0.42
14:AE:79:LYS:HG3	14:AE:81:ARG:HH12	1.83	0.42
14:AE:859:PRO:HD2	14:AE:862:THR:HG21	2.00	0.42
16:C:27:ALA:HB1	16:C:30:LYS:HE3	2.00	0.42
17:D:34:C:H2'	17:D:35:G:H8	1.83	0.42
17:D:393:A:C2	17:D:394:G:C8	3.07	0.42
17:D:619:U:H1'	23:J:128:ARG:NH1	2.34	0.42
17:D:662:U:H2'	17:D:663:A:C8	2.55	0.42
17:D:689:C:H2'	17:D:690:G:O4'	2.19	0.42
17:D:1107:C:OP1	22:I:172:ARG:HG3	2.19	0.42
18:E:50:ALA:O	18:E:54:MET:HG3	2.20	0.42
21:H:74:ALA:HB3	21:H:83:LEU:CD2	2.50	0.42
25:L:24:ARG:O	25:L:25:TYR:C	2.62	0.42
31:R:80:ILE:CG2	31:R:81:LEU:N	2.82	0.42
33:T:71:LYS:NZ	33:T:78:TYR:CD2	2.87	0.42
37:X:71:ARG:CZ	46:g:50:ASP:O	2.67	0.42
38:Y:32:VAL:HG13	38:Y:58:ILE:HG21	2.00	0.42
39:Z:14:MET:CG	39:Z:15:SER:H	2.25	0.42
40:a:125:A:C6	52:m:10:LEU:HD13	2.54	0.42
40:a:196:A:C5	40:a:805:G:C6	3.07	0.42
40:a:587:C:O2	60:u:33:ARG:NH2	2.52	0.42
40:a:858:G:OP1	41:b:78:LYS:HE3	2.18	0.42
40:a:1008:A:OP2	58:s:37:ARG:NH1	2.52	0.42
40:a:1361:G:H2'	40:a:1362:C:C6	2.54	0.42
40:a:1709:U:H2'	40:a:1710:G:C8	2.55	0.42
40:a:2061:G:N3	40:a:2063:C:C5	2.87	0.42
40:a:2554:U:H2'	40:a:2555:U:C6	2.55	0.42
40:a:2590:A:H2'	40:a:2591:C:H6	1.83	0.42
40:a:2723:C:C5'	62:w:1:MET:HE3	2.49	0.42
40:a:2856:A:C6	40:a:2862:G:C6	3.08	0.42
42:c:76:GLU:CD	42:c:76:GLU:C	2.87	0.42
43:d:39:A:C2	43:d:44:G:C2	3.07	0.42
44:e:20:ASN:O	44:e:24:GLU:HG2	2.20	0.42
49:j:68:PHE:CE1	49:j:79:LEU:HD21	2.54	0.42
61:v:31:PHE:C	61:v:104:GLU:OE1	2.62	0.42
63:x:14:ALA:O	63:x:15:ARG:C	2.61	0.42
63:x:86:GLY:HA2	63:x:88:LYS:HZ3	1.85	0.42
3:2:42:GLU:OE1	3:2:42:GLU:HA	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:4:80:HIS:HE1	5:4:82:TYR:CG	2.37	0.42
8:7:7:U:H6	8:7:7:U:H3'	1.84	0.42
9:9:69:PHE:O	9:9:72:LEU:HD11	2.19	0.42
10:A:18:G:H2'	10:A:57:A:C2	2.55	0.42
12:AB:147:ASN:ND2	12:AB:147:ASN:O	2.51	0.42
14:AE:134:ASP:HB3	14:AE:159:ILE:HG21	2.01	0.42
10:B:49:G:O5'	10:B:49:G:H8	2.01	0.42
16:C:44:ILE:CG2	21:H:340:ARG:HB2	2.50	0.42
16:C:60:LYS:NZ	17:D:735:C:O5'	2.52	0.42
16:C:60:LYS:CE	17:D:735:C:O4'	2.64	0.42
17:D:611:C:O2	17:D:611:C:H2'	2.18	0.42
17:D:768:A:C5	17:D:769:G:C8	3.08	0.42
17:D:1071:C:C5'	24:K:54:ARG:HH21	2.33	0.42
17:D:1315:U:H2'	17:D:1316:G:O4'	2.19	0.42
17:D:1381:U:C4	17:D:1382:C:C5	3.07	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
19:F:3:VAL:HG22	30:Q:111:THR:HG23	2.01	0.42
20:G:105:LYS:C	20:G:109:GLN:HE22	2.24	0.42
20:G:134:ALA:HA	20:G:137:ARG:NE	2.35	0.42
23:J:76:TYR:HE1	23:J:86:THR:HG21	1.84	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:80:ARG:O	28:O:84:THR:HG23	2.19	0.42
31:R:116:LYS:O	31:R:117:TYR:HD1	2.02	0.42
32:S:63:ARG:HH22	32:S:70:PRO:HD3	1.85	0.42
33:T:15:PHE:HD2	33:T:30:ALA:CB	2.31	0.42
33:T:70:LEU:CD2	33:T:78:TYR:HA	2.49	0.42
37:X:3:ARG:CZ	53:n:110:ARG:HD2	2.49	0.42
37:X:101:ARG:C	37:X:103:LYS:H	2.26	0.42
40:a:136:G:H2'	40:a:137:U:C6	2.54	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:1064:C:H2'	40:a:1065:U:C6	2.55	0.42
40:a:1282:U:H2'	40:a:1283:G:O4'	2.18	0.42
40:a:1509:A:N3	40:a:1510:G:C8	2.87	0.42
40:a:2093:G:P	57:r:22:LYS:CG	3.07	0.42
40:a:2249:U:H3'	40:a:2250:G:C5'	2.49	0.42
40:a:2585:U:O2	40:a:2585:U:O4'	2.37	0.42
40:a:2783:U:H2'	40:a:2784:U:H6	1.85	0.42
40:a:2838:G:C6	40:a:2839:G:C5	3.08	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:b:21:LEU:HD23	41:b:40:GLN:HA	2.00	0.42
42:c:66:THR:O	42:c:69:ALA:N	2.53	0.42
44:e:25:GLN:OE1	44:e:50:VAL:HG21	2.19	0.42
47:h:94:VAL:HG12	47:h:95:LEU:N	2.34	0.42
51:l:193:VAL:O	51:l:194:LYS:C	2.62	0.42
55:p:94:TYR:HE1	55:p:152:ARG:HD2	1.83	0.42
57:r:8:LYS:NZ	57:r:9:VAL:O	2.52	0.42
62:w:38:LEU:HB3	62:w:39:PRO:HD3	2.02	0.42
64:y:106:LYS:HB3	64:y:109:ARG:HH22	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
3:2:26:LYS:CE	3:2:26:LYS:HA	2.50	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
10:A:11:A:H2'	10:A:12:G:C8	2.54	0.42
12:AB:5:TYR:HA	12:AB:88:VAL:CG2	2.49	0.42
10:B:22:G:C8	10:B:22:G:OP2	2.72	0.42
10:B:57:A:O5'	10:B:58:A:P	2.77	0.42
16:C:30:LYS:HA	16:C:33:ILE:HG12	2.01	0.42
17:D:197:A:N6	17:D:221:C:H4'	2.35	0.42
17:D:414:A:C2	17:D:415:A:H1'	2.54	0.42
17:D:505:G:C2	17:D:506:G:C5	3.07	0.42
17:D:745:G:H2'	17:D:746:A:H8	1.84	0.42
17:D:946:A:C2	17:D:947:G:C5	3.08	0.42
17:D:1255:G:O2'	17:D:1258:G:N3	2.48	0.42
17:D:1329:A:OP1	37:X:28:THR:CB	2.66	0.42
17:D:1439:G:H2'	17:D:1440:U:O4'	2.20	0.42
17:D:1499:A:O2'	17:D:1500:A:H5'	2.20	0.42
20:G:55:ALA:O	20:G:59:LYS:HG2	2.19	0.42
24:K:111:MET:O	24:K:112:ARG:C	2.63	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
26:M:16:PRO:HB3	28:O:46:MET:CG	2.47	0.42
29:P:7:ARG:HA	29:P:75:ASP:OD1	2.20	0.42
34:U:12:LYS:HD2	34:U:13:LYS:HG2	2.00	0.42
34:U:67:ILE:O	34:U:67:ILE:HG13	2.20	0.42
38:Y:99:LYS:CE	38:Y:138:VAL:O	2.67	0.42
40:a:6:A:O3'	58:s:132:HIS:HE1	2.03	0.42
40:a:353:C:C2	40:a:354:A:C8	3.07	0.42
40:a:407:G:C2	40:a:408:G:C8	3.07	0.42
40:a:580:U:C2	40:a:581:C:C5	3.07	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:874:G:C6	40:a:904:G:C6	3.08	0.42
40:a:969:G:H2'	40:a:970:U:C6	2.54	0.42
40:a:1145:C:H2'	40:a:1146:C:H6	1.84	0.42
40:a:1399:C:C2	40:a:1400:U:C5	3.08	0.42
40:a:1906:G:C8	40:a:1929:G:C5	3.08	0.42
40:a:2228:G:H2'	40:a:2229:U:C6	2.54	0.42
49:j:37:VAL:HG13	49:j:48:ILE:CD1	2.49	0.42
49:j:61:THR:HG23	49:j:63:PRO:HD2	2.00	0.42
49:j:152:PRO:HG3	49:j:156:PHE:CE1	2.53	0.42
61:v:49:ALA:O	61:v:50:ARG:C	2.62	0.42
61:v:71:LYS:C	61:v:92:TRP:CE3	2.97	0.42
61:v:115:GLU:O	61:v:116:ALA:C	2.61	0.42
62:w:73:ASN:C	62:w:73:ASN:ND2	2.76	0.42
63:x:83:LEU:HD23	63:x:88:LYS:HD3	2.02	0.42
9:9:23:LEU:CA	9:9:118:ILE:HD11	2.50	0.42
9:9:118:ILE:CB	9:9:119:PRO:HD3	2.44	0.42
12:AB:111:TYR:N	12:AB:114:ASP:OD2	2.51	0.42
13:AD:76:GLU:HB3	13:AD:80:GLU:HB3	2.01	0.42
14:AE:1022:PRO:O	14:AE:1126:GLN:NE2	2.45	0.42
16:C:33:ILE:O	21:H:338:GLU:HB3	2.19	0.42
16:C:34:THR:HB	16:C:38:LYS:N	2.35	0.42
17:D:588:G:C4'	27:N:3:MET:HE1	2.48	0.42
17:D:611:C:N3	17:D:612:C:C5	2.87	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:1276:G:O5'	17:D:1276:G:H8	2.02	0.42
17:D:1328:C:H5''	37:X:28:THR:HG21	2.01	0.42
17:D:1437:A:C4	17:D:1438:G:C8	3.08	0.42
18:E:9:LYS:CG	18:E:13:GLN:NE2	2.82	0.42
21:H:309:MET:HE1	21:H:318:PRO:HG3	2.02	0.42
22:I:36:ASP:OD1	22:I:57:ILE:HG21	2.19	0.42
22:I:72:ARG:HD3	22:I:75:ILE:H	1.84	0.42
22:I:149:ILE:HG13	22:I:202:ILE:HG12	2.01	0.42
23:J:67:VAL:C	23:J:72:PHE:CE2	2.98	0.42
23:J:170:TRP:CD1	23:J:171:LEU:HG	2.54	0.42
27:N:47:GLU:OE1	27:N:63:LEU:C	2.62	0.42
28:O:116:VAL:HG11	29:P:62:ARG:HD3	2.02	0.42
31:R:66:TYR:CE2	31:R:68:GLY:HA2	2.55	0.42
37:X:25:VAL:O	37:X:25:VAL:HG13	2.19	0.42
38:Y:139:VAL:HG22	38:Y:140:GLU:H	1.82	0.42
40:a:133:U:H2'	40:a:134:G:C8	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:367:G:C4	40:a:368:A:C8	3.07	0.42
40:a:751:A:C6	40:a:789:A:C5	3.08	0.42
40:a:859:G:O2'	40:a:916:G:O6	2.37	0.42
40:a:1289:C:H2'	40:a:1290:C:H6	1.84	0.42
40:a:1657:U:H2'	40:a:1658:C:H6	1.83	0.42
40:a:2002:G:OP1	62:w:13:ASN:HA	2.20	0.42
40:a:2072:C:C2	40:a:2073:C:C5	3.08	0.42
40:a:2287:A:N7	40:a:2289:G:C8	2.87	0.42
40:a:2571:U:O2'	49:j:151:THR:HG23	2.20	0.42
42:c:4:VAL:HG22	42:c:11:ARG:HG2	2.00	0.42
43:d:83:G:O4'	45:f:53:PHE:CE2	2.72	0.42
46:g:62:LYS:HE2	46:g:62:LYS:HB2	1.87	0.42
53:n:4:LEU:HD11	53:n:101:GLU:CB	2.50	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
62:w:60:VAL:CG2	62:w:63:ARG:NH1	2.78	0.42
3:2:11:LEU:HD11	3:2:46:ALA:CB	2.50	0.42
9:9:129:LEU:N	9:9:130:PRO:CD	2.81	0.42
11:AA:741:MET:HE3	11:AA:974:ARG:HH12	1.85	0.42
12:AB:90:SER:HB2	12:AB:94:HIS:NE2	2.34	0.42
14:AE:71:LEU:HD12	14:AE:71:LEU:HA	1.78	0.42
14:AE:609:TYR:HD2	14:AE:610:ARG:HD2	1.85	0.42
14:AE:694:SER:OG	14:AE:738:ARG:NE	2.52	0.42
10:B:18:G:H2'	10:B:57:A:C2	2.55	0.42
17:D:21:G:H2'	17:D:22:G:C8	2.54	0.42
17:D:68:G:H3'	17:D:69:G:H5''	2.01	0.42
17:D:1073:U:C2	17:D:1074:G:C8	3.07	0.42
17:D:1261:A:C5	17:D:1262:C:C6	3.07	0.42
19:F:14:VAL:O	19:F:18:ARG:HG3	2.19	0.42
19:F:39:GLU:OE2	19:F:44:GLU:HA	2.18	0.42
21:H:135:LEU:CB	21:H:157:ILE:CB	2.97	0.42
21:H:308:GLU:HB2	21:H:347:LYS:HB3	2.02	0.42
22:I:172:ARG:NH1	22:I:174:PRO:HG3	2.35	0.42
23:J:76:TYR:HE1	23:J:86:THR:CG2	2.33	0.42
23:J:153:SER:OG	23:J:156:LYS:NZ	2.53	0.42
24:K:80:THR:OG1	24:K:81:LEU:N	2.53	0.42
24:K:123:VAL:C	24:K:124:LEU:HD23	2.45	0.42
32:S:77:PHE:HE1	32:S:93:ILE:CG2	2.30	0.42
33:T:77:ARG:HA	33:T:77:ARG:NE	2.35	0.42
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:16:C:O4'	48:i:15:MET:HE1	2.20	0.42
40:a:104:A:C4	40:a:105:C:C6	3.08	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:404:A:O2'	40:a:405:U:P	2.78	0.42
40:a:729:G:C8	47:h:207:LYS:HD2	2.54	0.42
40:a:1076:C:H2'	40:a:1077:A:C8	2.54	0.42
40:a:1281:G:H2'	40:a:1282:U:C6	2.55	0.42
40:a:1511:G:H2'	40:a:1512:C:H6	1.83	0.42
40:a:1874:C:H2'	40:a:1875:G:O4'	2.20	0.42
40:a:2049:G:H21	49:j:161:MET:HE2	1.84	0.42
40:a:2673:G:C2	40:a:2674:G:C8	3.08	0.42
44:e:14:LEU:HA	44:e:17:GLU:OE1	2.20	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	2.20	0.42
51:l:23:PHE:CD1	51:l:111:GLU:HG3	2.55	0.42
51:l:105:LEU:O	51:l:109:LEU:HG	2.18	0.42
55:p:70:ALA:HA	55:p:73:ASN:HD22	1.84	0.42
57:r:114:GLU:OE2	57:r:133:GLN:N	2.53	0.42
62:w:70:THR:O	62:w:71:ARG:HB2	2.20	0.42
63:x:48:LEU:CD2	63:x:87:ILE:CD1	2.98	0.42
3:2:3:ARG:HG3	3:2:5:GLU:OE1	2.19	0.42
3:2:9:LYS:C	3:2:12:ARG:HH22	2.28	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
9:9:129:LEU:HD12	9:9:130:PRO:CD	2.43	0.42
10:A:59:A:C5	10:A:60:U:C5	3.08	0.42
11:AA:1088:ASP:OD1	11:AA:1088:ASP:N	2.51	0.42
12:AB:90:SER:HB2	12:AB:94:HIS:CE1	2.54	0.42
12:AB:112:PRO:HA	12:AB:133:PRO:CG	2.49	0.42
14:AE:97:VAL:HG12	14:AE:101:ARG:HG3	2.01	0.42
14:AE:412:LEU:HA	14:AE:415:VAL:HG22	2.01	0.42
10:B:11:A:H2'	10:B:12:G:C8	2.54	0.42
17:D:36:C:N4	17:D:37:U:C4	2.88	0.42
17:D:105:G:C5	17:D:106:C:C4	3.08	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:980:C:H2'	17:D:981:U:H5'	2.01	0.42
17:D:1381:U:N3	17:D:1382:C:C5	2.88	0.42
19:F:5:LYS:CD	30:Q:109:ASN:OD1	2.68	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:H:331:MET:SD	21:H:348:GLN:HG2	2.60	0.42
22:I:105:GLU:CD	22:I:107:ARG:HH21	2.28	0.42
22:I:184:TYR:O	22:I:185:ASN:CG	2.63	0.42
24:K:97:GLN:NE2	24:K:98:PRO:O	2.52	0.42
25:L:25:TYR:O	25:L:26:THR:C	2.61	0.42
26:M:74:GLU:HG3	26:M:91:VAL:CG1	2.50	0.42
29:P:59:LYS:HE2	29:P:62:ARG:CZ	2.50	0.42
30:Q:64:GLN:HB2	30:Q:99:ALA:HB2	2.01	0.42
35:V:48:ASP:HB3	35:V:75:LEU:CD2	2.49	0.42
35:V:61:ILE:HA	35:V:75:LEU:HA	2.02	0.42
37:X:71:ARG:NH1	46:g:51:VAL:O	2.52	0.42
40:a:299:A:C5	40:a:322:A:C2	3.07	0.42
40:a:579:G:H2'	40:a:580:U:H6	1.85	0.42
40:a:1223:G:N1	40:a:1226:A:OP2	2.49	0.42
40:a:2218:G:C5'	42:c:45:ARG:HH12	2.33	0.42
40:a:2756:U:N3	40:a:2758:A:C6	2.87	0.42
40:a:2759:G:O2'	55:p:35:ARG:NH1	2.52	0.42
47:h:18:LYS:HE3	47:h:20:VAL:HG21	2.02	0.42
49:j:170:VAL:HG13	49:j:194:PRO:CG	2.50	0.42
50:k:9:ILE:HD12	50:k:51:GLU:HG2	2.01	0.42
51:l:170:ARG:NH1	51:l:175:ILE:HA	2.34	0.42
59:t:7:MET:SD	59:t:18:ARG:HG3	2.59	0.42
59:t:42:THR:CG2	59:t:44:LYS:NZ	2.78	0.42
61:v:45:GLN:HE22	61:v:125:PRO:HD2	1.84	0.42
63:x:36:TYR:CD2	63:x:37:ALA:N	2.88	0.42
63:x:88:LYS:O	63:x:116:GLN:OE1	2.38	0.42
1:0:40:MET:HE1	65:z:105:ALA:HB1	2.01	0.42
3:2:5:GLU:HA	44:e:22:LEU:HD21	2.02	0.42
6:5:10:DT:H2''	12:AB:71:ALA:H	1.79	0.42
9:9:35:VAL:HG22	9:9:35:VAL:O	2.19	0.42
9:9:60:LEU:HD23	9:9:60:LEU:HA	1.93	0.42
9:9:87:GLU:OE1	9:9:91:ALA:O	2.38	0.42
10:A:68:C:C4	10:A:69:C:C5	3.08	0.42
11:AA:998:LEU:HD21	11:AA:1015:ALA:HB2	2.02	0.42
14:AE:438:GLU:OE2	14:AE:481:ARG:NH1	2.44	0.42
14:AE:964:LYS:O	14:AE:976:THR:OG1	2.35	0.42
16:C:12:ARG:CB	21:H:264:GLU:CB	2.98	0.42
17:D:119:A:C4	17:D:240:G:N7	2.88	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:820:U:H4'	17:D:821:G:OP2	2.20	0.42
17:D:964:A:C2	17:D:969:A:N3	2.87	0.42
17:D:1202:U:N3	32:S:82:ILE:HD13	2.35	0.42
17:D:1241:G:H2'	17:D:1242:G:H8	1.85	0.42
17:D:1524:C:H2'	17:D:1525:G:C8	2.55	0.42
20:G:30:PHE:CE1	20:G:201:PRO:HG3	2.53	0.42
22:I:132:ARG:CB	22:I:135:LYS:HE3	2.49	0.42
24:K:88:VAL:HG12	24:K:93:ARG:HG2	2.02	0.42
24:K:123:VAL:O	24:K:124:LEU:HD23	2.20	0.42
25:L:88:MET:SD	25:L:90:MET:HE3	2.60	0.42
26:M:23:LEU:N	26:M:23:LEU:CD1	2.81	0.42
30:Q:20:VAL:CG1	30:Q:21:ALA:N	2.82	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
33:T:26:GLU:CG	33:T:27:VAL:N	2.83	0.42
33:T:70:LEU:HG	33:T:78:TYR:HB2	2.02	0.42
34:U:4:ILE:N	34:U:4:ILE:HD12	2.34	0.42
35:V:43:LYS:C	35:V:44:LEU:HD12	2.45	0.42
36:W:66:MET:SD	36:W:66:MET:C	3.03	0.42
38:Y:60:VAL:CG2	38:Y:66:PHE:CB	2.96	0.42
38:Y:79:LEU:HD11	38:Y:132:ALA:HA	2.02	0.42
40:a:239:C:O2'	40:a:622:G:O2'	2.32	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: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:1778:U:C4	40:a:1784:A:C4	3.07	0.42
40:a:1827:U:O2'	40:a:1828:G:H5'	2.19	0.42
40:a:1906:G:C8	40:a:1929:G:C4	3.08	0.42
40:a:1964:G:H4'	40:a:1965:C:OP2	2.19	0.42
40:a:2040:G:H2'	40:a:2041:U: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:2586:U:H2'	40:a:2587:A:O4'	2.20	0.42
40:a:2708:G:O4'	62:w:71:ARG:NH1	2.53	0.42
43:d:39:A:C2	43:d:44:G:C4	3.07	0.42
47:h:196:GLY:O	47:h:198:ALA:N	2.53	0.42
49:j:34:VAL:HG13	49:j:48:ILE:CG2	2.50	0.42
49:j:175:LEU:HB3	49:j:189:VAL:CG1	2.50	0.42
54:o:45:ARG:HB3	54:o:46:PRO:HD3	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:p:109:PHE:CD1	55:p:152:ARG:NH1	2.88	0.42
57:r:8:LYS:HD2	57:r:13:GLY:O	2.20	0.42
57:r:54:LEU:HA	57:r:57:LYS:HZ3	1.85	0.42
58:s:15:TRP:CE3	58:s:135:GLN:HB3	2.55	0.42
60:u:123:ARG:C	60:u:125:LEU:HD22	2.45	0.42
61:v:104:GLU:CD	61:v:105:MET:H	2.28	0.42
61:v:105:MET:HE1	61:v:113:ALA:HA	2.01	0.42
61:v:105:MET:HG2	61:v:117:PHE:CZ	2.54	0.42
63:x:79:ALA:CB	63:x:113:ALA:HB3	2.49	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
4:3:6:ARG:HG2	4:3:7:ARG:N	2.34	0.42
4:3:6:ARG:N	4:3:9:ASP:OD2	2.49	0.42
8:7:33:G:C2'	8:7:34:U:H5'	2.49	0.42
11:AA:469:VAL:HA	11:AA:472:GLU:HG2	2.02	0.42
10:B:5:G:C2'	10:B:6:G:C5'	2.98	0.42
16:C:70:TYR:HE2	25:L:49:TYR:CZ	2.38	0.42
17:D:255:G:H2'	17:D:256:U:C6	2.55	0.42
17:D:374:A:C6	17:D:375:U:C4	3.08	0.42
17:D:415:A:C4	17:D:416:G:C8	3.07	0.42
17:D:603:U:C2	17:D:604:G:C8	3.08	0.42
17:D:1073:U:O2	20:G:103:ASN:ND2	2.52	0.42
17:D:1202:U:C2	32:S:82:ILE:HD13	2.55	0.42
17:D:1217:C:P	32:S:9:ARG:HE	2.41	0.42
17:D:1493:A:O2'	17:D:1494:G:P	2.78	0.42
17:D:1526:G:P	19:F:42:THR:HG23	2.59	0.42
21:H:70:VAL:O	21:H:71:ALA:HB2	2.20	0.42
22:I:66:VAL:HB	22:I:101:ILE:CD1	2.50	0.42
26:M:37:SER:HA	28:O:41:ARG:HH22	1.85	0.42
27:N:59:LEU:HD23	27:N:59:LEU:HA	1.93	0.42
28:O:97:GLU:HG2	28:O:98:LEU:N	2.35	0.42
29:P:88:MET:HE2	29:P:88:MET:HB2	1.89	0.42
30:Q:85:MET:HB3	30:Q:113:VAL:HG21	2.00	0.42
33:T:18:ASP:O	33:T:19:ALA:HB3	2.20	0.42
34:U:26:ASN:ND2	34:U:31:ARG:CD	2.83	0.42
40:a:301:G:C4	40:a:302:C:C5	3.07	0.42
40:a:1065:U:O2'	40:a:1066:U:P	2.77	0.42
40:a:1246:A:H2'	40:a:1247:A:O4'	2.20	0.42
40:a:1252:G:H1	65:z:37:GLN:HE21	1.68	0.42
40:a:1580:A:C8	40:a:1581:G:C8	3.08	0.42
40:a:1597:A:H5''	40:a:1598:A:H5'	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:1958:C:O2'	40:a:1959:G:H5'	2.20	0.42
40:a:2722:G:C2'	40:a:2723:C:H5'	2.50	0.42
44:e:13:GLU:O	44:e:14:LEU:C	2.63	0.42
47:h:71:LYS:CB	47:h:96:TYR:CZ	3.03	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
53:n:30:ARG:C	53:n:158:THR:HG1	2.28	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
54:o:22:PHE:CE1	54:o:62:LEU:HD23	2.55	0.42
58:s:28:LEU:HD12	58:s:142:ILE:HG21	2.01	0.42
62:w:45:ARG:O	62:w:49:GLU:CD	2.62	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
3:2:26:LYS:HA	3:2:26:LYS:HE3	2.02	0.41
5:4:77:VAL:HG21	5:4:79:ARG:HE	1.84	0.41
8:7:12:U:H3'	8:7:12:U:C6	2.53	0.41
9:9:11:ILE:O	9:9:15:VAL:HG23	2.20	0.41
11:AA:478:ARG:HD2	11:AA:492:MET:HA	2.02	0.41
11:AA:849:GLU:HB2	11:AA:887:VAL:HG23	2.02	0.41
12:AB:31:PRO:HG2	12:AB:51:PHE:CD2	2.55	0.41
12:AB:152:HIS:HB3	12:AB:154:VAL:HG11	2.00	0.41
14:AE:211:GLU:HA	14:AE:214:ARG:HD2	2.01	0.41
17:D:13:U:C2	17:D:914:A:C8	3.08	0.41
17:D:76:G:C5	17:D:77:A:N7	2.88	0.41
17:D:112:G:N1	17:D:330:C:C5	2.88	0.41
17:D:250:A:O4'	17:D:252:U:C6	2.72	0.41
17:D:407:U:C2	17:D:408:A:C8	3.08	0.41
17:D:519:C:H2'	17:D:520:A:O4'	2.20	0.41
17:D:678:U:C2	17:D:679:C:C5	3.08	0.41
17:D:687:A:C8	17:D:701:U:C4	3.08	0.41
17:D:1061:G:H5'	29:P:61:ALA:HB2	2.02	0.41
18:E:53:GLU:O	18:E:57:ILE:CD1	2.68	0.41
20:G:30:PHE:HA	20:G:45:LYS:NZ	2.35	0.41
21:H:86:ARG:O	21:H:89:ALA:HB3	2.20	0.41
22:I:155:GLY:HA2	22:I:163:ALA:HB1	2.02	0.41
23:J:67:VAL:CG1	23:J:71:GLN:HB3	2.50	0.41
24:K:100:SER:O	24:K:103:THR:HG22	2.20	0.41
29:P:45:ARG:CD	29:P:47:GLU:OE2	2.67	0.41
31:R:79:VAL:O	31:R:103:ASP:HB2	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:W:40:ILE:HG22	36:W:67:VAL:HA	2.01	0.41
40:a:134:G:H2'	40:a:135:U:H6	1.85	0.41
40:a:826:U:O2'	60:u:53:GLY:HA3	2.20	0.41
40:a:1128:G:C6	40:a:2518:A:C6	3.08	0.41
40:a:1172:C:C2'	40:a:1173:U:O4'	2.68	0.41
40:a:1820:U:C2	47:h:201:MET:CE	3.03	0.41
40:a:2590:A:C2	40:a:2591:C:C5	3.08	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:2:LYS:HZ1	44:e:49:ASP:CA	2.33	0.41
44:e:8:GLU:O	44:e:9:LYS:HD3	2.19	0.41
48:i:4:GLN:OE1	48:i:8:PRO:HD3	2.19	0.41
48:i:14:GLY:HA2	48:i:17:ARG:HG2	2.02	0.41
51:l:46:GLN:O	51:l:88:ARG:NH2	2.53	0.41
52:m:25:LYS:HG3	52:m:29:GLN:NE2	2.34	0.41
52:m:25:LYS:O	52:m:28:ARG:N	2.52	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
59:t:116:ILE:HG13	59:t:117:SER:N	2.34	0.41
1:0:52:PRO:HB3	65:z:89:GLU:CD	2.44	0.41
2:1:49:LYS:NZ	40:a:491:G:O6	2.50	0.41
3:2:30:ILE:HG22	3:2:32:LEU:HD22	2.02	0.41
5:4:18:ARG:NH1	43:d:93:C:OP2	2.53	0.41
6:5:16:DG:N2	11:AA:445:ILE:HG21	2.34	0.41
11:AA:27:LEU:O	11:AA:528:ARG:NH1	2.43	0.41
14:AE:975:ILE:HD11	14:AE:1003:LEU:HG	2.02	0.41
16:C:38:LYS:NZ	17:D:718:A:C6	2.79	0.41
16:C:40:VAL:HG13	21:H:339:ARG:CD	2.49	0.41
17:D:5:U:O2	17:D:5:U:O4'	2.37	0.41
17:D:21:G:N2	17:D:22:G:C6	2.88	0.41
17:D:429:U:H3	17:D:431:A:N6	2.18	0.41
17:D:501:C:H1'	17:D:549:C:H1'	2.01	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:997:U:O2'	17:D:998:C:H5'	2.21	0.41
17:D:1035:A:C6	17:D:1036:A:N7	2.88	0.41
17:D:1172:C:C2	17:D:1173:U:C5	3.08	0.41
17:D:1382:C:O2	17:D:1382:C:H2'	2.19	0.41
20:G:56:GLU:HG2	20:G:198:PHE:CZ	2.55	0.41
20:G:115:LYS:C	20:G:115:LYS:HD3	2.45	0.41
21:H:277:GLY:C	21:H:331:MET:HE3	2.45	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:H:287:LEU:HD23	21:H:318:PRO:HB2	2.02	0.41
21:H:309:MET:HE2	21:H:309:MET:HB3	1.93	0.41
22:I:6:HIS:CD2	32:S:89:MET:HB3	2.55	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
30:Q:35:THR:HA	30:Q:42:LEU:HG	2.01	0.41
31:R:57:LEU:HG	31:R:58:THR:N	2.35	0.41
31:R:59:ASN:C	31:R:59:ASN:OD1	2.62	0.41
32:S:10:GLU:OE1	32:S:63:ARG:HG3	2.20	0.41
33:T:64:ARG:CZ	33:T:89:ARG:HH12	2.33	0.41
37:X:16:VAL:HG12	37:X:34:LEU:CD1	2.50	0.41
38:Y:45:THR:HG21	38:Y:50:LYS:NZ	2.34	0.41
40:a:700:G:H2'	40:a:701:G:O4'	2.20	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:1170:C:O2	40:a:1170:C:H2'	2.18	0.41
40:a:1560:G:C5	40:a:1561:C:C5	3.08	0.41
40:a:1588:G:N1	40:a:1589:U:O4	2.53	0.41
40:a:1946:U:H2'	40:a:1947:C:H6	1.84	0.41
40:a:2259:U:C5	40:a:2427:C:N4	2.88	0.41
40:a:2291:U:H2'	40:a:2292:U:H6	1.85	0.41
40:a:2636:C:O2'	49:j:45:TYR:CZ	2.70	0.41
40:a:2708:G:C2	40:a:2709:G:C8	3.08	0.41
40:a:2813:A:H2'	40:a:2814:A:H8	1.84	0.41
43:d:57:A:C4	43:d:58:A:C8	3.07	0.41
48:i:22:LEU:CG	48:i:23:THR:N	2.84	0.41
49:j:184:ARG:NH2	64:y:7:GLN:CD	2.72	0.41
51:l:31:VAL:HG21	51:l:104:ALA:CB	2.50	0.41
53:n:38:MET:HE3	53:n:57:LEU:CD2	2.50	0.41
54:o:29:LEU:O	54:o:29:LEU:HG	2.19	0.41
57:r:5:LEU:CD1	57:r:17:ASP:HB3	2.50	0.41
58:s:125:TYR:HE2	58:s:130:HIS:CB	2.32	0.41
60:u:98:ALA:O	60:u:100:ILE:HG13	2.20	0.41
65:z:111:GLU:OE2	65:z:112:LYS:HG2	2.19	0.41
5:4:79:ARG:HA	5:4:79:ARG:HD3	1.82	0.41
6:5:23:DA:H2''	6:5:24:DC:C6	2.56	0.41
9:9:94:ARG:HB3	9:9:97:LYS:NZ	2.32	0.41
10:A:8:U:O2'	10:A:47:U:O4	2.29	0.41
11:AA:135:THR:HG22	11:AA:144:VAL:HG22	2.02	0.41
11:AA:310:ILE:HG21	11:AA:325:LEU:HB3	2.03	0.41
11:AA:524:ILE:HD12	11:AA:712:SER:HB2	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AB:6:LEU:HB2	12:AB:56:PHE:CE1	2.55	0.41
13:AD:46:ILE:HD11	13:AD:224:LEU:HD13	2.02	0.41
14:AE:907:HIS:ND1	14:AE:908:ILE:O	2.48	0.41
14:AE:1272:SER:HB2	14:AE:1292:LEU:HD11	2.02	0.41
16:C:13:PHE:CG	16:C:51:TYR:CD1	3.08	0.41
17:D:122:G:C4	17:D:123:U:C6	3.08	0.41
17:D:338:A:C5	17:D:339:C:C5	3.08	0.41
17:D:1113:C:C2	17:D:1114:C:C5	3.08	0.41
17:D:1189:U:H4'	22:I:10:ILE:CD1	2.50	0.41
17:D:1288:A:H2'	17:D:1289:A:O4'	2.21	0.41
17:D:1458:G:OP1	18:E:30:THR:OG1	2.30	0.41
18:E:48:GLN:CD	18:E:49:LYS:N	2.78	0.41
18:E:79:LEU:CA	18:E:82:GLN:OE1	2.67	0.41
21:H:54:LYS:HD3	21:H:58:GLY:HA2	2.03	0.41
21:H:330:VAL:HB	21:H:344:LEU:HD23	2.01	0.41
23:J:76:TYR:O	23:J:76:TYR:CD1	2.73	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
27:N:96:MET:HE2	27:N:99:LEU:HD12	2.03	0.41
28:O:50:GLN:OE1	28:O:50:GLN:HA	2.20	0.41
40:a:126:A:OP1	52:m:45:SER:OG	2.37	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: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: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:2244:U:O2'	40:a:2245:U:H5'	2.20	0.41
40:a:2310:C:O2'	53:n:74:VAL:HG12	2.20	0.41
40:a:2507:C:C2	40:a:2583:G:C2	3.07	0.41
40:a:2511:U:C5'	49:j:130:GLN:OE1	2.69	0.41
40:a:2816:G:H4'	62:w:99:LYS:HZ2	1.85	0.41
47:h:108:LYS:CG	47:h:109:GLY:N	2.83	0.41
49:j:5:VAL:HB	49:j:32:ASN:HD21	1.86	0.41
49:j:57:ALA:O	49:j:60:VAL:HG12	2.19	0.41
51:l:194:LYS:C	51:l:198:GLU:OE1	2.63	0.41
55:p:17:VAL:O	55:p:18:LYS:CE	2.65	0.41
55:p:52:PHE:CE1	55:p:69:ARG:HD3	2.55	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:p:137:ASP:OD2	55:p:140:VAL:N	2.45	0.41
57:r:66:ASN:CG	57:r:135:HIS:HB2	2.45	0.41
58:s:123:LYS:CD	58:s:132:HIS:HD2	2.33	0.41
62:w:18:GLN:HE22	62:w:22:ARG:NE	2.18	0.41
63:x:21:LEU:C	63:x:21:LEU:HD23	2.46	0.41
3:2:19:LYS:HE2	3:2:84:TYR:OH	2.21	0.41
6:5:10:DT:H2''	12:AB:69:ILE:CA	2.50	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
10:A:9:G:O2'	10:A:45:G:H2'	2.20	0.41
11:AA:148:GLN:NE2	11:AA:535:PRO:O	2.40	0.41
12:AB:143:LEU:HD13	12:AB:150:ILE:HD11	2.02	0.41
14:AE:210:SER:O	14:AE:214:ARG:N	2.43	0.41
10:B:59:A:C5	10:B:60:U:C5	3.08	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:517:G:O2'	17:D:530:G:H4'	2.21	0.41
17:D:671:G:O2'	25:L:79:ARG:NH1	2.54	0.41
17:D:1174:G:H2'	17:D:1175:G:H5'	2.01	0.41
17:D:1186:G:H4'	28:O:112:GLU:OE2	2.21	0.41
17:D:1302:C:OP1	37:X:13:LYS:NZ	2.30	0.41
18:E:22:ALA:N	18:E:25:ARG:HE	2.17	0.41
19:F:39:GLU:OE1	19:F:44:GLU:OE1	2.38	0.41
20:G:101:LEU:HD22	20:G:157:LEU:HD11	1.99	0.41
20:G:187:VAL:N	20:G:200:ILE:O	2.40	0.41
21:H:116:VAL:O	21:H:279:LYS:HG2	2.21	0.41
21:H:293:PHE:HA	21:H:302:GLY:O	2.20	0.41
21:H:322:VAL:HG12	21:H:323:ASN:HB2	2.02	0.41
26:M:17:LYS:NZ	26:M:18:PHE:CE1	2.78	0.41
31:R:21:VAL:HG23	31:R:21:VAL:O	2.19	0.41
32:S:86:GLU:CD	32:S:90:ARG:HD3	2.45	0.41
34:U:4:ILE:HG22	34:U:71:VAL:HG11	2.03	0.41
40:a:152:A:C6	40:a:153:U:C4	3.09	0.41
40:a:340:A:H2'	40:a:341:C:O4'	2.19	0.41
40:a:1427:A:H4'	40:a:1428:C:O4'	2.21	0.41
40:a:2526:G:O2'	56:q:1:MET:HG2	2.21	0.41
40:a:2649:C:C2	40:a:2650:U:C6	3.08	0.41
40:a:2686:G:H2'	40:a:2687:U:C6	2.56	0.41
44:e:37:LEU:HD21	44:e:43:LEU:CD2	2.49	0.41
49:j:55:LYS:HD3	49:j:55:LYS:C	2.45	0.41
51:l:77:ILE:O	51:l:77:ILE:HG22	2.19	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:n:138:PHE:O	53:n:141:ILE:HG22	2.20	0.41
55:p:149:ARG:HH12	55:p:154:PRO:HB3	1.85	0.41
58:s:37:ARG:HA	58:s:118:MET:HE1	2.00	0.41
59:t:113:MET:SD	59:t:113:MET:C	3.03	0.41
61:v:57:VAL:CG2	61:v:60:GLN:O	2.68	0.41
62:w:28:LEU:HD23	62:w:48:VAL:HG21	2.03	0.41
62:w:98:LEU:CD1	62:w:114:GLU:OE2	2.68	0.41
5:4:48:MET:CE	5:4:85:LYS:HA	2.50	0.41
8:7:23:U:C6	14:AE:94:GLN:NE2	2.89	0.41
9:9:33:VAL:O	9:9:36:ASP:OD1	2.39	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
10:A:12:G:H2'	10:A:13:C:OP1	2.20	0.41
12:AB:3:SER:HB3	12:AB:5:TYR:CE2	2.55	0.41
14:AE:74:LYS:HB2	14:AE:74:LYS:HE2	1.60	0.41
14:AE:1003:LEU:HD23	14:AE:1018:ALA:HB2	2.02	0.41
10:B:1:C:C5	10:B:2:G:N7	2.89	0.41
10:B:12:G:H2'	10:B:13:C:OP1	2.20	0.41
17:D:376:G:O3'	34:U:5:ARG:NE	2.54	0.41
17:D:1309:G:C8	37:X:98:ARG:NH2	2.88	0.41
21:H:309:MET:HE1	21:H:318:PRO:CA	2.51	0.41
23:J:65:TYR:CE1	23:J:100:ASN:CG	2.98	0.41
27:N:83:LEU:HD11	31:R:4:VAL:CB	2.51	0.41
28:O:44:ALA:HA	28:O:47:VAL:HG22	2.03	0.41
28:O:50:GLN:CA	28:O:53:GLU:OE1	2.69	0.41
29:P:85:ASP:OD1	29:P:88:MET:CE	2.68	0.41
34:U:25:ARG:HA	34:U:25:ARG:HD2	1.95	0.41
39:Z:29:LYS:C	39:Z:30:PHE:HD2	2.29	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:920:A:H2'	40:a:921:C:H6	1.86	0.41
40:a:1773:A:C8	40:a:1829:A:C8	3.08	0.41
40:a:1829:A:C8	40:a:1830:C:C5	3.08	0.41
40:a:1996:C:OP1	59:t:31:ARG:NE	2.52	0.41
40:a:2461:A:H2'	40:a:2462:C:C6	2.55	0.41
40:a:2650:U:C2	40:a:2651:C:C5	3.08	0.41
40:a:2884:U:P	48:i:40:ARG:NH2	2.93	0.41
42:c:3:ARG:CD	42:c:30:LEU:HD11	2.50	0.41
47:h:53:HIS:NE2	47:h:219:THR:HG23	2.35	0.41
49:j:47:ALA:O	49:j:48:ILE:HD13	2.20	0.41
49:j:68:PHE:CZ	49:j:79:LEU:HD21	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:k:21:TYR:CZ	50:k:38:LYS:CG	3.04	0.41
50:k:26:ASN:OD1	50:k:28:ARG:CZ	2.69	0.41
51:l:6:LYS:NZ	51:l:119:ILE:CG2	2.82	0.41
51:l:108:ILE:HD11	51:l:180:LEU:CD1	2.50	0.41
58:s:133:ALA:O	58:s:134:ALA:C	2.62	0.41
61:v:111:GLU:HA	61:v:114:ARG:NE	2.35	0.41
61:v:112:LEU:CA	61:v:115:GLU:OE1	2.68	0.41
1:0:51:VAL:CG2	65:z:87:SER:HG	2.34	0.41
5:4:2:PHE:CZ	5:4:56:PHE:CZ	3.08	0.41
9:9:41:LEU:CD1	38:Y:117:THR:HG22	2.50	0.41
9:9:117:LEU:O	9:9:117:LEU:CD2	2.67	0.41
10:A:19:G:O6	40:a:2112:G:P	2.79	0.41
12:AB:132:GLU:HB3	12:AB:151:LYS:HE3	2.02	0.41
12:AB:147:ASN:HB2	29:P:100:ILE:HG22	1.88	0.41
17:D:18:C:C2	17:D:19:A:C8	3.09	0.41
17:D:960:U:O2'	17:D:1223:C:H4'	2.20	0.41
17:D:1064:G:O2'	17:D:1190:G:N2	2.53	0.41
17:D:1368:A:OP1	28:O:116:VAL:HG23	2.20	0.41
17:D:1411:C:H2'	17:D:1412:C:H6	1.85	0.41
17:D:1515:G:H2'	17:D:1516:G:C8	2.54	0.41
19:F:66:ARG:NH2	19:F:67:ARG:HH22	2.19	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
22:I:23:PHE:CD2	29:P:97:ASP:HB2	2.53	0.41
25:L:1:MET:CE	25:L:67:PRO:HD3	2.50	0.41
25:L:9:MET:SD	25:L:57:ALA:HB1	2.60	0.41
25:L:35:LYS:CG	25:L:36:ILE:N	2.84	0.41
25:L:42:TRP:HB2	25:L:59:TYR:O	2.20	0.41
28:O:50:GLN:HA	28:O:53:GLU:OE1	2.20	0.41
29:P:40:ILE:HD12	29:P:73:LEU:HD22	2.02	0.41
32:S:10:GLU:CD	32:S:63:ARG:HD2	2.45	0.41
35:V:7:THR:C	35:V:8:LEU:HD12	2.46	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:100:ILE:HG13	38:Y:139:VAL:CB	2.51	0.41
39:Z:6:GLN:CD	39:Z:10:ALA:HB2	2.45	0.41
40:a:235:U:C2	40:a:236:C:C6	3.08	0.41
40:a:235:U:H2'	40:a:236:C:H6	1.86	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:458:G:N2	40:a:469:G:H2'	2.36	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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: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:1651:G:P	62:w:40:LYS:NZ	2.94	0.41
40:a:1676:A:H2'	40:a:1677:A:C8	2.56	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:2531:A:C4	40:a:2532:G:C8	3.08	0.41
41:b:30:SER:HA	41:b:66:LYS:HD2	2.03	0.41
41:b:40:GLN:NE2	41:b:59:LEU:HD23	2.35	0.41
47:h:91:ILE:HG21	47:h:103:TYR:HB3	2.03	0.41
47:h:161:TYR:HB3	47:h:194:GLU:HG2	2.03	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
47:h:245:VAL:HA	47:h:250:VAL:O	2.20	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
61:v:95:LEU:C	61:v:96:ILE:HD13	2.45	0.41
63:x:15:ARG:C	63:x:19:GLN:NE2	2.78	0.41
65:z:91:ASP:O	65:z:95:LEU:HG	2.20	0.41
1:0:4:VAL:HG23	1:0:4:VAL:O	2.20	0.41
1:0:74:ILE:HD13	1:0:87:GLN:OE1	2.20	0.41
2:1:31:GLN:H	2:1:31:GLN:CD	2.22	0.41
8:7:31:U:C3'	8:7:31:U:C6	3.04	0.41
10:A:31:G:H2'	10:A:32:C:C6	2.55	0.41
11:AA:22:LEU:HD22	11:AA:603:ILE:HG21	2.02	0.41
11:AA:979:LEU:HD11	11:AA:1011:LEU:HD11	2.03	0.41
12:AB:26:VAL:HG13	12:AB:58:GLU:H	1.84	0.41
12:AB:133:PRO:HA	12:AB:159:PHE:HE2	1.84	0.41
12:AB:155:LYS:HB3	12:AB:158:GLU:CD	2.45	0.41
14:AE:247:PRO:HA	14:AE:250:ARG:HE	1.86	0.41
14:AE:367:GLY:HA3	14:AE:448:GLN:HB2	2.03	0.41
17:D:124:C:H2'	17:D:125:U:H6	1.84	0.41
17:D:575:G:O2'	17:D:821:G:OP2	2.34	0.41
17:D:643:C:C2	17:D:644:U:C5	3.08	0.41
17:D:951:G:C6	17:D:1231:G:C6	3.08	0.41
20:G:6:MET:HA	20:G:9:MET:SD	2.61	0.41
20:G:20:THR:O	20:G:23:TRP:CD1	2.74	0.41
20:G:58:ASN:HB2	20:G:220:THR:OG1	2.21	0.41
21:H:267:TRP:CD2	21:H:340:ARG:HG3	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:J:74:ASN:OD1	23:J:74:ASN:C	2.64	0.41
24:K:115:LEU:O	24:K:120:VAL:HG12	2.20	0.41
26:M:59:LEU:HA	26:M:59:LEU:HD23	1.93	0.41
29:P:22:THR:HG21	29:P:72:ARG:HG3	2.03	0.41
29:P:79:PRO:HG2	29:P:102:LEU:HD11	2.03	0.41
30:Q:20:VAL:HG12	30:Q:21:ALA:N	2.35	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
31:R:7:LEU:HD21	31:R:12:ARG:HH21	1.82	0.41
32:S:91:GLY:C	32:S:92:GLU:OE1	2.62	0.41
34:U:34:GLU:OE1	34:U:60:TRP:NE1	2.54	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
38:Y:63:ASP:C	38:Y:65:SER:H	2.28	0.41
40:a:271:G:C2	40:a:272:A:C4	3.08	0.41
40:a:465:G:H2'	40:a:466:A:C8	2.56	0.41
40:a:2024:G:C5	40:a:2040:G:C2	3.09	0.41
43:d:113:C:O2'	63:x:46:GLU:CD	2.64	0.41
46:g:57:VAL:O	46:g:58:ASP:C	2.62	0.41
47:h:246:THR:N	47:h:250:VAL:O	2.49	0.41
49:j:37:VAL:HG22	49:j:48:ILE:HD12	2.02	0.41
51:l:170:ARG:CZ	51:l:174:GLY:O	2.66	0.41
53:n:170:LEU:HB2	53:n:177:PHE:HZ	1.86	0.41
54:o:30:ARG:CZ	60:u:62:PRO:HB3	2.50	0.41
61:v:112:LEU:HD12	61:v:112:LEU:H	1.86	0.41
62:w:60:VAL:HG22	62:w:63:ARG:HH11	1.80	0.41
1:0:47:VAL:C	1:0:48:LYS:HD3	2.45	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	2.66	0.41
9:9:94:ARG:O	9:9:98:GLU:HG2	2.21	0.41
10:A:71:C:C3'	10:A:72:A:C8	2.99	0.41
11:AA:616:ILE:HG13	11:AA:652:TYR:HB2	2.02	0.41
11:AA:741:MET:SD	11:AA:974:ARG:NH2	2.93	0.41
12:AB:72:THR:HG22	12:AB:73:ARG:N	2.36	0.41
12:AB:160:ARG:HG3	12:AB:161:LYS:H	1.85	0.41
10:B:31:G:H2'	10:B:32:C:C6	2.55	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:306:A:C4	17:D:307:C:C6	3.08	0.41
17:D:375:U:H1'	34:U:28:ARG:NH2	2.36	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:585:G:P	35:V:39:LYS:HZ1	2.42	0.41
17:D:695:A:O5'	30:Q:53:ARG:CZ	2.69	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'	2.19	0.41
17:D:1119:C:C2	17:D:1120:C:C5	3.09	0.41
17:D:1251:A:H2'	17:D:1252:A:O4'	2.20	0.41
17:D:1319:A:C8	17:D:1323:G:C5	3.08	0.41
18:E:28:MET:HE3	18:E:28:MET:HB3	1.94	0.41
23:J:62:ARG:CG	23:J:72:PHE:CZ	3.02	0.41
28:O:21:ILE:HD12	28:O:86:ALA:CB	2.50	0.41
30:Q:75:LYS:HG3	30:Q:76:GLU:N	2.35	0.41
31:R:24:LEU:CD2	31:R:95:TYR:CE1	3.04	0.41
31:R:25:GLU:CD	31:R:30:LYS:HE3	2.46	0.41
34:U:73:ALA:HA	34:U:76:LYS:HE2	2.03	0.41
38:Y:23:VAL:HG23	38:Y:27:LEU:HD23	2.01	0.41
40:a:62:U:O2	40:a:62:U:H2'	2.20	0.41
40:a:909:A:C4	40:a:912:C:C5	3.09	0.41
40:a:1289:C:H2'	40:a:1290:C:C6	2.56	0.41
40:a:1365:A:H4'	42:c:11:ARG:HH12	1.85	0.41
40:a:2146:C:O2'	40:a:2147:A:O5'	2.34	0.41
40:a:2357:G:OP1	41:b:20:ARG:CZ	2.68	0.41
40:a:2589:A:H2'	40:a:2590:A:H8	1.86	0.41
40:a:2808:G:N1	40:a:2891:U:C5	2.89	0.41
43:d:55:U:H2'	43:d:56:G:C8	2.56	0.41
45:f:4:THR:O	45:f:5:ILE:HD13	2.20	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
49:j:146:ILE:HA	49:j:159:LYS:HZ1	1.86	0.41
51:l:194:LYS:O	51:l:195:GLN:C	2.64	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
62:w:78:LYS:HA	62:w:82:GLU:OE1	2.21	0.41
64:y:37:LYS:CA	64:y:37:LYS:HE3	2.49	0.41
1:0:77:PHE:HE1	1:0:79:ARG:HA	1.85	0.41
4:3:84:GLY:C	4:3:95:PHE:CE2	2.99	0.41
5:4:78:GLN:OE1	5:4:88:HIS:HB3	2.21	0.41
6:5:27:DG:N2	7:6:3:DC:O2	2.53	0.41
8:7:21:U:C3'	8:7:21:U:C6	3.04	0.41
9:9:6:GLN:HA	9:9:9:GLN:HE21	1.85	0.41
9:9:96:PHE:HB3	9:9:125:ARG:HH11	1.86	0.41
10:A:25:C:C4	10:A:26:G:C8	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:144:VAL:HG23	11:AA:515:MET:HB2	2.02	0.41
11:AA:805:MET:HE3	11:AA:805:MET:HB2	1.86	0.41
12:AB:36:GLU:O	12:AB:37:LYS:HD2	2.21	0.41
14:AE:513:MET:HE2	14:AE:513:MET:HB3	1.79	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:12:ARG:NH1	16:C:13:PHE:CD1	2.89	0.41
16:C:44:ILE:HG22	21:H:340:ARG:HB2	2.02	0.41
17:D:104:G:C2	17:D:105:G:C5	3.09	0.41
17:D:124:C:C2	17:D:125:U:C5	3.08	0.41
17:D:195:A:H5''	18:E:64:LYS:HZ1	1.84	0.41
17:D:218:U:H2'	17:D:219:U:O4'	2.20	0.41
17:D:356:A:C5	17:D:357:G:C8	3.08	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:695:A:OP1	30:Q:54:GLY:HA3	2.21	0.41
17:D:908:A:H2'	17:D:909:A:H8	1.85	0.41
17:D:985:C:C2	17:D:986:U:C5	3.08	0.41
17:D:1227:A:OP2	37:X:110:LYS:HE3	2.20	0.41
17:D:1228:C:OP1	37:X:107:ARG:CZ	2.69	0.41
17:D:1411:C:H2'	17:D:1412:C:C6	2.56	0.41
18:E:9:LYS:HG2	18:E:13:GLN:NE2	2.36	0.41
18:E:54:MET:CE	18:E:75:HIS:CE1	2.99	0.41
20:G:85:LEU:HD23	20:G:85:LEU:C	2.46	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:303:LEU:O	21:H:305:HIS:HA	2.21	0.41
22:I:8:ASN:O	22:I:12:LEU:CD2	2.69	0.41
22:I:72:ARG:CD	22:I:75:ILE:HB	2.51	0.41
22:I:113:ALA:HB1	22:I:200:VAL:HG13	2.02	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
26:M:35:LYS:CE	26:M:38:THR:OG1	2.69	0.41
26:M:47:LEU:HD21	26:M:58:GLU:HB3	2.03	0.41
27:N:83:LEU:HD21	31:R:4:VAL:HG21	2.02	0.41
28:O:25:ASN:HB2	28:O:27:LYS:NZ	2.36	0.41
29:P:6:ILE:CG2	29:P:100:ILE:HG13	2.51	0.41
29:P:85:ASP:CA	29:P:88:MET:HE1	2.42	0.41
30:Q:76:GLU:OE1	30:Q:76:GLU:HA	2.21	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:T:70:LEU:HD23	33:T:78:TYR:HD1	1.85	0.41
38:Y:28:GLY:HA3	38:Y:32:VAL:HB	2.03	0.41
38:Y:34:ILE:O	38:Y:34:ILE:HG22	2.20	0.41
40:a:16:C:C4'	48:i:15:MET:CE	2.99	0.41
40:a:30:G:H2'	40:a:31:C:C6	2.55	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:209:C:C2	40:a:210:C:C6	3.09	0.41
40:a:319:G:H2'	40:a:320:A:O4'	2.20	0.41
40:a:443:A:N1	51:l:40:ARG:NH2	2.69	0.41
40:a:485:C:N3	40:a:486:C:C5	2.89	0.41
40:a:529:A:C4	40:a:2023:C:C5	3.09	0.41
40:a:975:A:H1'	40:a:990:A:C2	2.55	0.41
40:a:1026:G:C8	40:a:1134:A:C4	3.08	0.41
40:a:1057:A:C2	40:a:1082:U:N3	2.89	0.41
40:a:1322:A:C4	40:a:1323:C:C6	3.08	0.41
40:a:1430:G:H2'	40:a:1431:A:C8	2.56	0.41
40:a:1558:C:O4'	40:a:1560:G:C8	2.74	0.41
40:a:1571:A:H2'	40:a:1572:A:H8	1.86	0.41
40:a:1945:G:H2'	40:a:1946:U:C6	2.56	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:2639:A:H2'	40:a:2640:G:O4'	2.21	0.41
40:a:2848:G:N2	40:a:2867:G:C4	2.89	0.41
42:c:3:ARG:HD2	42:c:30:LEU:CD1	2.51	0.41
47:h:53:HIS:CD2	47:h:218:PRO:O	2.74	0.41
47:h:84:ASP:OD2	47:h:91:ILE:HD11	2.21	0.41
48:i:28:LEU:CB	48:i:37:LYS:HE3	2.51	0.41
49:j:108:ASP:OD1	49:j:173:GLN:HA	2.21	0.41
49:j:146:ILE:HA	49:j:159:LYS:NZ	2.36	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
55:p:45:HIS:HA	55:p:50:LEU:HD13	2.02	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
58:s:49:ASP:OD1	58:s:121:LYS:NZ	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:t:20:MET:CB	59:t:44:LYS:HE2	2.51	0.41
60:u:123:ARG:HG3	60:u:143:GLU:OE2	2.21	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:45:ARG:HB3	62:w:45:ARG:CZ	2.50	0.41
62:w:49:GLU:OE2	62:w:95:THR:CG2	2.69	0.41
65:z:66:ASN:OD1	65:z:70:ARG:NE	2.54	0.41
65:z:74:ILE:CD1	65:z:79:PHE:HA	2.40	0.41
5:4:77:VAL:CG2	5:4:79:ARG:NE	2.78	0.41
6:5:25:DA:N3	7:6:5:DG:N2	2.68	0.41
9:9:38:MET:SD	9:9:41:LEU:HD12	2.61	0.41
9:9:47:GLU:C	9:9:49:GLY:H	2.28	0.41
10:A:5:G:C2'	10:A:6:G:H5'	2.50	0.41
10:A:33:U:H5''	26:M:84:THR:CG2	2.50	0.41
11:AA:176:ILE:HD12	11:AA:184:LEU:HD23	2.03	0.41
12:AB:4:TRP:CZ3	12:AB:93:ILE:HG13	2.56	0.41
14:AE:438:GLU:HG3	14:AE:485:MET:HE1	2.03	0.41
14:AE:836:ARG:HG3	14:AE:869:CYS:HB3	2.02	0.41
10:B:47:U:O2'	10:B:50:U:OP1	2.37	0.41
17:D:71:A:C6	17:D:100:G:N7	2.89	0.41
17:D:511:C:O3'	23:J:44:ARG:NH1	2.53	0.41
17:D:921:U:H4'	24:K:23:LYS:HZ3	1.84	0.41
17:D:958:A:H5'	36:W:55:ARG:HH12	1.86	0.41
20:G:47:VAL:N	20:G:48:PRO:HD2	2.35	0.41
20:G:49:MET:HB3	20:G:49:MET:HE2	1.79	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
20:G:187:VAL:HG11	20:G:193:PRO:HB3	2.02	0.41
22:I:123:GLN:HB3	22:I:128:VAL:HG21	2.02	0.41
24:K:46:VAL:HG12	24:K:47:GLY:N	2.36	0.41
24:K:82:GLN:OE1	24:K:147:MET:SD	2.78	0.41
29:P:26:VAL:HG12	29:P:30:LYS:HZ3	1.85	0.41
34:U:19:VAL:HG11	34:U:52:LEU:CD2	2.50	0.41
34:U:69:ASP:OD1	34:U:69:ASP:C	2.63	0.41
37:X:3:ARG:NH2	46:g:35:ASP:HB2	2.36	0.41
38:Y:102:ARG:CZ	38:Y:139:VAL:HG21	2.50	0.41
39:Z:20:VAL:O	39:Z:20:VAL:CG1	2.65	0.41
40:a:126:A:O5'	52:m:19:ARG:HG3	2.21	0.41
40:a:397:U:H2'	40:a:398:C:C6	2.56	0.41
40:a:638:G:H2'	40:a:639:U:C6	2.56	0.41
40:a:690:G:H2'	40:a:691:C:H6	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:814:C:N3	40:a:815:C:C5	2.89	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:1142:A:N3	40:a:1142:A:H2'	2.36	0.41
40:a:1248:G:O2'	65:z:3:ARG:HA	2.21	0.41
40:a:1548:A:H2'	40:a:1549:A:C8	2.56	0.41
40:a:1589:U:C2	40:a:1590:A:C8	3.09	0.41
40:a:1607:C:H4'	40:a:1608:A:O5'	2.21	0.41
40:a:1827:U:H2'	40:a:1828:G:O4'	2.20	0.41
40:a:1858:A:C2	40:a:1885:A:C1'	3.04	0.41
40:a:1944:U:C5	40:a:1955:U:C2	3.09	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:2569:G:C2	40:a:2570:G:C8	3.09	0.41
40:a:2619:C:O2'	40:a:2620:C:H5'	2.21	0.41
49:j:175:LEU:HB3	49:j:189:VAL:HG12	2.02	0.41
53:n:8:TYR:O	53:n:13:VAL:HG23	2.20	0.41
53:n:136:ILE:HA	53:n:141:ILE:CG2	2.51	0.41
58:s:99:ARG:O	58:s:100:VAL:C	2.63	0.41
59:t:1:MET:HE3	59:t:32:TYR:CB	2.50	0.41
59:t:80:ASP:OD1	64:y:68:GLU:OE2	2.39	0.41
60:u:96:LYS:HG2	60:u:102:GLY:O	2.21	0.41
60:u:101:ILE:HG13	60:u:102:GLY:N	2.36	0.41
62:w:17:ARG:O	62:w:21:PHE:HD2	2.04	0.41
62:w:18:GLN:CD	62:w:18:GLN:C	2.88	0.41
2:1:93:ALA:HB2	40:a:1614:A:C2	2.56	0.40
3:2:6:ARG:NH2	3:2:10:VAL:CG2	2.84	0.40
4:3:6:ARG:NH1	40:a:84:A:C2'	2.84	0.40
4:3:47:LYS:NZ	40:a:482:A:H5''	2.37	0.40
8:7:10:U:O2	8:7:10:U:H3'	2.21	0.40
8:7:34:U:H4'	14:AE:322:ARG:NH1	2.35	0.40
9:9:59:LEU:HD22	9:9:62:ARG:CD	2.51	0.40
9:9:139:LEU:HD22	39:Z:11:VAL:HG22	2.02	0.40
11:AA:755:LYS:HD2	11:AA:755:LYS:HA	1.86	0.40
11:AA:803:ALA:HB2	11:AA:1094:VAL:HG21	2.03	0.40
11:AA:836:LEU:HD21	11:AA:921:PRO:HD3	2.02	0.40
10:B:25:C:C4	10:B:26:G:C8	3.09	0.40
16:C:70:TYR:CD2	17:D:674:G:H4'	2.55	0.40
17:D:105:G:H2'	17:D:106:C:C6	2.56	0.40
17:D:338:A:H2'	17:D:339:C:H6	1.86	0.40
17:D:570:G:H1'	17:D:820:U:C4	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:602:A:H2'	17:D:603:U:H6	1.86	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:982:U:H4'	17:D:983:A:O4'	2.21	0.40
17:D:1141:C:O2'	17:D:1142:G:P	2.79	0.40
17:D:1367:C:O3'	28:O:116:VAL:HG22	2.22	0.40
20:G:138:THR:O	20:G:142:GLU:HG2	2.22	0.40
21:H:42:LEU:HD23	21:H:81:GLU:HB3	2.03	0.40
21:H:308:GLU:N	21:H:308:GLU:OE1	2.53	0.40
22:I:6:HIS:CD2	22:I:9:GLY:H	2.39	0.40
22:I:132:ARG:HA	22:I:135:LYS:HG2	2.03	0.40
22:I:147:LYS:CE	22:I:204:LYS:O	2.68	0.40
23:J:138:SER:C	23:J:182:PHE:CE2	3.00	0.40
24:K:45:ARG:CG	24:K:45:ARG:NE	2.72	0.40
25:L:9:MET:CE	25:L:86:ARG:HG2	2.51	0.40
28:O:35:LEU:HD21	28:O:45:ARG:HG2	2.03	0.40
31:R:25:GLU:O	31:R:25:GLU:HG2	2.20	0.40
35:V:31:HIS:HD2	35:V:34:TYR:HB2	1.85	0.40
37:X:71:ARG:NH1	37:X:72:GLU:CG	2.84	0.40
40:a:244:A:H2'	40:a:245:G:O4'	2.21	0.40
40:a:409:G:H2'	40:a:410:G:C8	2.55	0.40
40:a:708:G:H2'	40:a:709:U:H6	1.86	0.40
40:a:873:C:C2	40:a:874:G:C8	3.09	0.40
40:a:1294:U:C4	40:a:1295:C:C5	3.10	0.40
40:a:1398:C:H2'	40:a:1399:C:H6	1.86	0.40
40:a:1746:A:H2'	40:a:1747:U:C6	2.56	0.40
40:a:1824:G:O5'	47:h:52:ARG:NH1	2.53	0.40
40:a:2216:G:H2'	40:a:2217:G:C8	2.57	0.40
40:a:2314:A:O2'	53:n:155:THR:CG2	2.69	0.40
40:a:2454:G:C5	40:a:2455:G:C8	3.09	0.40
40:a:2728:U:H5'	59:t:70:ARG:HH22	1.85	0.40
40:a:2784:U:H2'	40:a:2785:C:C6	2.55	0.40
40:a:2839:G:C4	40:a:2840:C:C6	3.09	0.40
41:b:55:ARG:CZ	41:b:55:ARG:CA	2.99	0.40
41:b:58:THR:O	41:b:58:THR:HG23	2.21	0.40
42:c:67:VAL:CA	42:c:70:GLU:OE1	2.69	0.40
43:d:57:A:N7	53:n:26:MET:HE3	2.36	0.40
45:f:25:LEU:HD23	45:f:25:LEU:C	2.46	0.40
57:r:76:GLU:OE2	57:r:142:VAL:HA	2.21	0.40
59:t:61:VAL:HG11	59:t:112:PHE:CE2	2.56	0.40
60:u:95:LEU:HD13	60:u:100:ILE:CD1	2.51	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:w:24:MET:CG	62:w:44:LEU:HD12	2.51	0.40
62:w:47:VAL:C	62:w:50:PRO:HD2	2.46	0.40
64:y:4:ILE:O	64:y:8:LEU:HD13	2.21	0.40
1:0:13:ARG:NH2	65:z:97:ASP:CG	2.80	0.40
2:1:85:ILE:HG13	2:1:85:ILE:O	2.19	0.40
4:3:86:ARG:CZ	4:3:95:PHE:CD2	3.04	0.40
4:3:86:ARG:NH2	4:3:95:PHE:CB	2.84	0.40
9:9:96:PHE:O	9:9:125:ARG:NH1	2.54	0.40
10:A:16:C:O2	10:A:16:C:H2'	2.21	0.40
12:AB:112:PRO:HA	12:AB:133:PRO:HD2	2.03	0.40
13:AC:57:THR:HG23	13:AC:158:ARG:HH21	1.86	0.40
13:AD:22:THR:OG1	13:AD:207:THR:OG1	2.36	0.40
14:AE:66:LYS:HB2	14:AE:69:GLU:HB2	2.02	0.40
14:AE:591:ILE:HG23	14:AE:592:VAL:HG13	2.03	0.40
10:B:38:A:H4'	17:D:790:A:C1'	2.49	0.40
17:D:107:G:C6	17:D:108:G:C4	3.09	0.40
17:D:407:U:O4'	23:J:116:GLN:OE1	2.39	0.40
17:D:437:U:H5''	23:J:152:GLN:CD	2.46	0.40
17:D:562:U:O3'	31:R:12:ARG:HD2	2.20	0.40
25:L:51:ILE:CG2	25:L:86:ARG:HH21	2.34	0.40
28:O:91:ASP:C	28:O:92:GLU:OE2	2.64	0.40
30:Q:36:ASP:OD1	30:Q:40:ASN:N	2.53	0.40
30:Q:94:GLU:O	30:Q:94:GLU:OE2	2.39	0.40
31:R:27:CYS:CB	31:R:30:LYS:HE2	2.47	0.40
33:T:3:LEU:HB2	33:T:35:GLN:OE1	2.21	0.40
34:U:3:THR:HG22	34:U:22:ALA:O	2.21	0.40
38:Y:9:LYS:O	38:Y:10:LEU:HG	2.21	0.40
40:a:833:A:OP2	60:u:39:LYS:NZ	2.49	0.40
40:a:1005:C:H1'	40:a:1012:U:N3	2.37	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:1709:U:C2	40:a:1710:G:C8	3.10	0.40
40:a:2393:U:H2'	40:a:2394:C:C6	2.56	0.40
40:a:2422:C:C4	40:a:2424:C:C4	3.09	0.40
40:a:2511:U:O4'	49:j:130:GLN:OE1	2.39	0.40
40:a:2816:G:O3'	62:w:99:LYS:NZ	2.42	0.40
41:b:70:GLU:HG3	41:b:72:LYS:HG2	2.03	0.40
45:f:34:HIS:CD2	45:f:36:VAL:CG2	3.04	0.40
48:i:34:SER:OG	48:i:36:GLU:HG2	2.20	0.40
49:j:11:MET:SD	49:j:12:THR:N	2.94	0.40
51:l:97:ASN:CG	51:l:100:MET:HE2	2.46	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:m:12:ARG:HG3	52:m:44:VAL:HG21	2.03	0.40
53:n:9:LYS:HE3	53:n:9:LYS:HB3	1.91	0.40
53:n:141:ILE:HD11	53:n:146:VAL:CG1	2.51	0.40
57:r:110:VAL:HG21	57:r:114:GLU:OE1	2.21	0.40
61:v:105:MET:HG2	61:v:117:PHE:HZ	1.86	0.40
1:0:13:ARG:C	1:0:14:VAL:HG13	2.46	0.40
2:1:32:ALA:O	2:1:36:LEU:CD1	2.70	0.40
3:2:50:LEU:HD23	44:e:26:PHE:CE1	2.56	0.40
9:9:122:GLN:HG2	9:9:123:ILE:HG22	2.04	0.40
10:A:1:C:C5	10:A:2:G:N7	2.89	0.40
11:AA:1069:ARG:NH2	11:AA:1114:GLU:OE2	2.44	0.40
11:AA:1105:SER:HB2	14:AE:731:ARG:HB3	2.03	0.40
12:AB:95:GLN:C	12:AB:96:LEU:HD12	2.46	0.40
12:AB:106:ASP:O	12:AB:109:THR:OG1	2.38	0.40
13:AD:44:ARG:HA	13:AD:183:ILE:HD12	2.03	0.40
16:C:54:GLN:HG3	16:C:55:LEU:H	1.85	0.40
17:D:114:U:H2'	17:D:115:G:C8	2.56	0.40
17:D:262:A:C4	17:D:263:A:C8	3.10	0.40
17:D:436:C:N3	17:D:437:U:C5	2.89	0.40
17:D:619:U:C1'	23:J:128:ARG:NH1	2.85	0.40
17:D:1061:G:C6	17:D:1197:A:C6	3.09	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:43:ASP:CG	18:E:46:ALA:HB3	2.46	0.40
20:G:161:LEU:HD13	20:G:176:ALA:HB2	2.03	0.40
20:G:185:ALA:O	20:G:200:ILE:N	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
25:L:3:HIS:CD2	25:L:95:ALA:HA	2.56	0.40
27:N:50:LYS:HA	27:N:50:LYS:CE	2.52	0.40
32:S:20:TYR:HE2	32:S:52:PRO:CG	2.32	0.40
37:X:13:LYS:CE	37:X:17:ILE:HG21	2.51	0.40
38:Y:82:ALA:CB	38:Y:108:ILE:HD12	2.50	0.40
39:Z:6:GLN:O	39:Z:6:GLN:HG3	2.21	0.40
40:a:241:A:N1	40:a:255:A:H5''	2.36	0.40
40:a:392:U:N3	40:a:393:C:C5	2.90	0.40
40:a:630:G:N2	40:a:633:A:OP2	2.45	0.40
40:a:706:A:C2	40:a:707:G:H1'	2.57	0.40
40:a:752:A:P	52:m:1:MET:HE1	2.62	0.40
40:a:818:G:N1	40:a:1188:U:OP2	2.36	0.40
40:a:1048:A:C5	40:a:1049:C:C5	3.09	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:1198:U:H2'	40:a:1199:U:H6	1.83	0.40
40:a:1351:C:H2'	40:a:1352:U:O4'	2.21	0.40
40:a:1792:G:C5'	47:h:204:VAL:CG2	2.99	0.40
40:a:1816:C:H3'	47:h:62:TYR:CE1	2.57	0.40
40:a:1843:C:H2'	40:a:1844:C:H6	1.85	0.40
40:a:1881:C:C4	40:a:1882:U:C5	3.09	0.40
40:a:1953:A:H2	40:a:2549:G:N3	2.18	0.40
40:a:1996:C:H4'	49:j:128:ARG:NH1	2.35	0.40
40:a:2065:C:C2	40:a:2066:C:C6	3.09	0.40
40:a:2520:C:O2'	40:a:2521:C:H5'	2.20	0.40
40:a:2627:G:H2'	40:a:2628:C:C6	2.56	0.40
40:a:2839:G:H2'	40:a:2840:C:H6	1.87	0.40
43:d:8:C:O2'	63:x:40:ILE:HD13	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:176:ASP:OD2	49:j:176:ASP:C	2.65	0.40
50:k:12:VAL:HG12	50:k:50:LYS:O	2.22	0.40
52:m:42:LEU:N	52:m:42:LEU:HD12	2.36	0.40
55:p:149:ARG:NH1	55:p:154:PRO:CG	2.84	0.40
59:t:59:LYS:NZ	59:t:92:GLU:HG2	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
9:9:31:ARG:NH1	40:a:1054:A:C1'	2.80	0.40
9:9:31:ARG:HH11	40:a:1054:A:C4'	2.31	0.40
11:AA:95:PRO:HB3	11:AA:123:TYR:HE1	1.87	0.40
12:AB:8:TYR:C	12:AB:76:SER:HB3	2.47	0.40
12:AB:32:MET:O	12:AB:50:LEU:HD12	2.21	0.40
12:AB:154:VAL:CG2	12:AB:158:GLU:HB2	2.51	0.40
12:AB:158:GLU:HA	12:AB:162:LEU:HA	2.04	0.40
13:AD:86:LYS:NZ	14:AE:532:GLU:OE2	2.41	0.40
14:AE:138:VAL:HG21	14:AE:145:VAL:HB	2.03	0.40
14:AE:368:LEU:HA	14:AE:369:PRO:HD3	1.96	0.40
10:B:70:G:H3'	10:B:71:C:H5''	2.04	0.40
17:D:74:A:C4	17:D:75:G:C8	3.09	0.40
17:D:120:A:O2'	17:D:122:G:N7	2.48	0.40
17:D:520:A:O2'	31:R:70:GLU:OE1	2.39	0.40
17:D:582:C:C2	17:D:583:A:C8	3.10	0.40
17:D:680:C:C2	17:D:681:A:C8	3.09	0.40
17:D:953:G:O6	37:X:103:LYS:HE2	2.22	0.40
17:D:983:A:C2	17:D:984:C:C6	3.10	0.40
18:E:27:MET:SD	18:E:31:PHE:CE2	3.15	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:E:59:ASP:OD1	18:E:76:LYS:HE2	2.21	0.40
21:H:308:GLU:HG3	21:H:346:LEU:H	1.86	0.40
22:I:8:ASN:O	22:I:12:LEU:HD23	2.21	0.40
22:I:30:ALA:O	32:S:65:ARG:NH2	2.54	0.40
22:I:147:LYS:CE	22:I:204:LYS:C	2.94	0.40
25:L:11:HIS:HE1	25:L:13:ASP:OD2	2.05	0.40
25:L:42:TRP:HB3	25:L:59:TYR:HB2	2.03	0.40
26:M:108:ALA:O	26:M:119:ARG:NE	2.51	0.40
27:N:28:PRO:HD3	27:N:58:GLU:OE1	2.21	0.40
28:O:118:LEU:HB3	28:O:120:LYS:O	2.21	0.40
30:Q:20:VAL:HG13	30:Q:85:MET:CE	2.51	0.40
30:Q:21:ALA:HA	30:Q:34:ILE:HD13	2.01	0.40
30:Q:82:LEU:CD1	30:Q:105:PHE:CG	3.05	0.40
32:S:37:SER:O	32:S:41:ARG:HG3	2.22	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
35:V:26:GLU:OE2	35:V:39:LYS:C	2.65	0.40
37:X:55:THR:CG2	37:X:59:GLU:OE2	2.69	0.40
38:Y:55:PRO:C	38:Y:71:LYS:CE	2.95	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: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:581:C:C2	40:a:582:A:N7	2.90	0.40
40:a:689:A:H2'	40:a:690:G:H8	1.86	0.40
40:a:1059:G:C6	40:a:1080:A:N1	2.90	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:1814:G:OP2	40:a:1815:A:O2'	2.32	0.40
40:a:2364:C:O2'	41:b:58:THR:HG21	2.21	0.40
40:a:2422:C:N4	40:a:2424:C:N4	2.70	0.40
40:a:2483:C:H1'	61:v:51:ARG:CZ	2.51	0.40
40:a:2549:G:C2	40:a:2550:G:C5	3.10	0.40
40:a:2680:U:H1'	49:j:192:ALA:CB	2.52	0.40
40:a:2759:G:H1'	55:p:35:ARG:HH22	1.87	0.40
40:a:2821:A:H4'	49:j:167:ASN:ND2	2.36	0.40
40:a:2848:G:HO2'	40:a:2867:G:H22	1.62	0.40
40:a:2851:A:H2'	40:a:2852:G:C8	2.56	0.40
44:e:14:LEU:CA	44:e:17:GLU:OE1	2.70	0.40
46:g:2:LYS:HB2	46:g:5:ILE:CD1	2.52	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:g:7:PRO:CG	53:n:62:GLY:O	2.69	0.40
47:h:74:ILE:HG22	47:h:96:TYR:HD1	1.86	0.40
47:h:163:GLN:HB3	47:h:175:ARG:HB3	2.02	0.40
49:j:184:ARG:HH22	64:y:7:GLN:CD	2.26	0.40
53:n:30:ARG:O	53:n:159:THR:HG23	2.22	0.40
53:n:101:GLU:O	53:n:105:THR:OG1	2.23	0.40
58:s:114:LEU:O	58:s:118:MET:HG3	2.22	0.40
59:t:1:MET:HE1	59:t:32:TYR:HB3	2.03	0.40
59:t:7:MET:CE	59:t:20:MET:HB2	2.51	0.40
61:v:106:ASP:OD1	61:v:106:ASP:C	2.64	0.40
62:w:33:ILE:HG13	62:w:112:TYR:HD1	1.83	0.40
62:w:98:LEU:HD12	62:w:114:GLU:OE2	2.21	0.40
64:y:48:ILE:HD11	64:y:101:ARG:NH1	2.36	0.40
1:0:58:VAL:HG13	1:0:60:LYS:NZ	2.37	0.40
5:4:77:VAL:HG21	5:4:79:ARG:HH21	1.86	0.40
8:7:21:U:C5	22:I:80:LYS:C	2.80	0.40
8:7:39:G:P	11:AA:688:GLN:HE22	2.45	0.40
9:9:43:LYS:HA	9:9:46:ARG:NH2	2.35	0.40
11:AA:519:ASN:HD21	11:AA:796:LEU:HD23	1.87	0.40
12:AB:51:PHE:CD2	12:AB:54:TYR:HD2	2.39	0.40
12:AB:72:THR:HG22	12:AB:73:ARG:H	1.86	0.40
14:AE:288:PRO:CG	14:AE:291:ILE:HG21	2.51	0.40
14:AE:915:ILE:HA	14:AE:918:ILE:HG12	2.04	0.40
14:AE:1155:ILE:HG13	14:AE:1210:ILE:HB	2.02	0.40
10:B:9:G:H5''	10:B:11:A:OP2	2.21	0.40
17:D:276:G:H5''	35:V:17:MET:HE3	2.03	0.40
17:D:333:U:OP1	18:E:2:ALA:N	2.55	0.40
17:D:567:G:H2'	17:D:568:G:O4'	2.21	0.40
17:D:624:C:H2'	17:D:625:U:O4'	2.22	0.40
17:D:932:C:OP1	26:M:4:ARG:NH1	2.55	0.40
17:D:1499:A:H3'	17:D:1499:A:OP2	2.22	0.40
17:D:1508:A:H2'	17:D:1509:C:H6	1.87	0.40
17:D:1512:U:H2'	17:D:1513:A:H8	1.85	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
21:H:308:GLU:HG2	21:H:309:MET:N	2.32	0.40
23:J:202:GLU:HA	23:J:205:SER:OG	2.22	0.40
25:L:4:TYR:CD2	25:L:91:ARG:HD2	2.57	0.40
28:O:7:TYR:CG	28:O:8:GLY:N	2.90	0.40
29:P:47:GLU:N	29:P:47:GLU:CD	2.79	0.40
37:X:65:VAL:CG2	37:X:66:GLU:OE1	2.69	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:Y:99:LYS:HD3	38:Y:99:LYS:HA	1.86	0.40
39:Z:19:VAL:O	39:Z:23:ILE:HG12	2.21	0.40
40:a:216:A:C8	40:a:432:A:C6	3.10	0.40
40:a:223:A:O2'	40:a:420:C:O2	2.36	0.40
40:a:540:C:C2	40:a:541:A:C8	3.09	0.40
40:a:838:C:H2'	40:a:839:U:H6	1.87	0.40
40:a:1348:C:C4	40:a:1349:C:C5	3.10	0.40
40:a:1366:A:H2'	40:a:1367:A:O4'	2.21	0.40
40:a:1494:A:H2'	40:a:1495:A:C8	2.56	0.40
40:a:1923:U:H2'	40:a:1923:U:OP2	2.21	0.40
40:a:2049:G:H21	49:j:161:MET:CE	2.33	0.40
40:a:2654:A:N1	40:a:2665:A:H5''	2.37	0.40
41:b:55:ARG:NE	41:b:55:ARG:CA	2.84	0.40
43:d:47:C:C4	43:d:48:U:C5	3.09	0.40
46:g:58:ASP:O	46:g:59:ARG:C	2.64	0.40
50:k:26:ASN:OD1	50:k:28:ARG:NH1	2.54	0.40
53:n:26:MET:HE3	53:n:26:MET:HB2	1.93	0.40
53:n:150:ARG:HG2	53:n:151:GLY:N	2.36	0.40
57:r:8:LYS:HD2	57:r:9:VAL:H	1.87	0.40
57:r:135:HIS:ND1	57:r:137:GLU:OE2	2.53	0.40
59:t:24:VAL:O	59:t:24:VAL:HG13	2.20	0.40
59:t:102:PRO:HD3	64:y:66:ASN:HB2	2.02	0.40
61:v:73:ILE:HD13	61:v:93:VAL:HG13	2.04	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	0	101/103 (98%)	97 (96%)	4 (4%)	0	100	100
2	1	108/110 (98%)	107 (99%)	1 (1%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
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%)	101 (69%)	42 (29%)	3 (2%)	5	31
11	AA	1312/1342 (98%)	1198 (91%)	113 (9%)	1 (0%)	48	79
12	AB	159/162 (98%)	111 (70%)	43 (27%)	5 (3%)	3	25
13	AC	217/329 (66%)	203 (94%)	12 (6%)	2 (1%)	14	45
13	AD	214/329 (65%)	198 (92%)	16 (8%)	0	100	100
14	AE	1331/1407 (95%)	1213 (91%)	112 (8%)	6 (0%)	24	57
15	AF	80/91 (88%)	77 (96%)	3 (4%)	0	100	100
16	C	64/75 (85%)	63 (98%)	1 (2%)	0	100	100
18	E	84/87 (97%)	83 (99%)	1 (1%)	0	100	100
19	F	68/71 (96%)	68 (100%)	0	0	100	100
20	G	223/241 (92%)	212 (95%)	10 (4%)	1 (0%)	30	62
21	H	255/557 (46%)	182 (71%)	66 (26%)	7 (3%)	4	27
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	54
25	L	102/135 (76%)	97 (95%)	4 (4%)	1 (1%)	12	43
26	M	149/179 (83%)	140 (94%)	8 (5%)	1 (1%)	18	51
27	N	127/130 (98%)	123 (97%)	4 (3%)	0	100	100
28	O	125/130 (96%)	116 (93%)	8 (6%)	1 (1%)	16	48
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

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
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
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	54
54	o	62/65 (95%)	57 (92%)	4 (6%)	1 (2%)	7	35
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%)	8744 (92%)	709 (8%)	33 (0%)	37	67

All (33) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
12	AB	141	LEU
12	AB	152	HIS

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Mol	Chain	Res	Type
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
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	74	LYS
14	AE	286	ALA
21	H	143	ASP
37	X	6	GLY
37	X	66	GLU
9	9	79	PRO
9	9	88	HIS
12	AB	137	ALA
13	AC	192	VAL
14	AE	290	ILE
21	H	71	ALA
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.

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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%)	140 (99%)	1 (1%)	76	77
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%)	1104 (98%)	18 (2%)	55	68
15	AF	70/75 (93%)	69 (99%)	1 (1%)	59	70
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	79
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

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
35	V	74/78 (95%)	74 (100%)	0	100	100
36	W	72/79 (91%)	72 (100%)	0	100	100
37	X	94/96 (98%)	94 (100%)	0	100	100
38	Y	109/110 (99%)	109 (100%)	0	100	100
39	Z	26/85 (31%)	26 (100%)	0	100	100
41	b	58/63 (92%)	58 (100%)	0	100	100
42	c	67/68 (98%)	67 (100%)	0	100	100
44	e	54/55 (98%)	54 (100%)	0	100	100
45	f	48/49 (98%)	48 (100%)	0	100	100
46	g	59/62 (95%)	59 (100%)	0	100	100
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%)	7864 (100%)	26 (0%)	84	84

All (26) 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	147	ASN
14	AE	69	GLU
14	AE	70	CYS
14	AE	71	LEU
14	AE	74	LYS
14	AE	76	LYS
14	AE	77	ARG
14	AE	78	LEU
14	AE	79	LYS
14	AE	81	ARG
14	AE	84	ILE
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 (111) 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

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Mol	Chain	Res	Type
11	AA	580	GLN
11	AA	688	GLN
11	AA	762	ASN
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
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	979	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

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Mol	Chain	Res	Type
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
31	R	77	HIS
32	S	4	GLN
33	T	80	GLN
34	U	26	ASN
34	U	59	HIS
38	Y	5	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

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Mol	Chain	Res	Type
58	s	86	GLN
58	s	132	HIS
61	v	13	HIS
61	v	45	GLN
61	v	97	GLN
62	w	18	GLN
63	x	19	GLN
63	x	29	HIS
63	x	38	GLN
64	y	10	GLN
64	y	77	HIS
65	z	37	GLN
65	z	72	ASN
65	z	81	ASN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
10	A	75/76 (98%)	29 (38%)	8 (10%)
10	B	75/76 (98%)	29 (38%)	8 (10%)
17	D	1514/1542 (98%)	290 (19%)	20 (1%)
40	a	2859/2904 (98%)	510 (17%)	0
43	d	119/120 (99%)	15 (12%)	0
8	7	36/41 (87%)	26 (72%)	5 (13%)
All	All	4678/4759 (98%)	899 (19%)	41 (0%)

All (899) 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

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Mol	Chain	Res	Type
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	28	A
8	7	29	U
8	7	30	U
8	7	31	U
8	7	34	U
8	7	36	A
10	A	2	G
10	A	6	G
10	A	7	G
10	A	8	U
10	A	10	G
10	A	13	C
10	A	14	A
10	A	16	C
10	A	17	C
10	A	18	G
10	A	19	G
10	A	20	U
10	A	21	A
10	A	22	G
10	A	23	C
10	A	30	G
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

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

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Mol	Chain	Res	Type
17	D	54	C
17	D	68	G
17	D	69	G
17	D	71	A
17	D	72	A
17	D	74	A
17	D	76	G
17	D	82	G
17	D	83	C
17	D	84	U
17	D	87	C
17	D	90	C
17	D	94	G
17	D	95	C
17	D	96	U
17	D	108	G
17	D	120	A
17	D	121	U
17	D	122	G
17	D	131	A
17	D	141	G
17	D	144	G
17	D	148	G
17	D	149	A
17	D	160	A
17	D	164	G
17	D	173	U
17	D	181	A
17	D	182	A
17	D	183	C
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

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Mol	Chain	Res	Type
17	D	247	G
17	D	251	G
17	D	253	A
17	D	258	G
17	D	262	A
17	D	266	G
17	D	267	C
17	D	271	C
17	D	279	A
17	D	289	G
17	D	299	G
17	D	306	A
17	D	321	A
17	D	328	C
17	D	329	A
17	D	332	G
17	D	347	G
17	D	352	C
17	D	353	A
17	D	354	G
17	D	355	C
17	D	367	U
17	D	372	C
17	D	373	A
17	D	376	G
17	D	382	A
17	D	384	G
17	D	392	C
17	D	397	A
17	D	398	U
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

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Mol	Chain	Res	Type
17	D	458	U
17	D	463	U
17	D	464	U
17	D	467	U
17	D	468	A
17	D	469	C
17	D	478	A
17	D	479	U
17	D	481	G
17	D	484	G
17	D	485	U
17	D	486	U
17	D	496	A
17	D	497	G
17	D	505	G
17	D	511	C
17	D	518	C
17	D	519	C
17	D	526	C
17	D	531	U
17	D	532	A
17	D	533	A
17	D	542	G
17	D	547	A
17	D	559	A
17	D	564	C
17	D	568	G
17	D	572	A
17	D	573	A
17	D	576	C
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

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Mol	Chain	Res	Type
17	D	724	G
17	D	731	G
17	D	734	G
17	D	735	C
17	D	747	A
17	D	748	G
17	D	755	G
17	D	760	G
17	D	777	A
17	D	793	U
17	D	794	A
17	D	815	A
17	D	817	C
17	D	828	U
17	D	829	G
17	D	832	G
17	D	841	C
17	D	843	U
17	D	844	G
17	D	845	A
17	D	846	G
17	D	849	G
17	D	874	G
17	D	887	G
17	D	902	G
17	D	914	A
17	D	916	U
17	D	926	G
17	D	934	C
17	D	935	A
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

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Mol	Chain	Res	Type
17	D	1004	A
17	D	1008	U
17	D	1009	U
17	D	1017	U
17	D	1018	G
17	D	1021	A
17	D	1024	G
17	D	1026	G
17	D	1028	C
17	D	1030	U
17	D	1031	C
17	D	1037	C
17	D	1043	G
17	D	1044	A
17	D	1046	A
17	D	1065	U
17	D	1085	U
17	D	1094	G
17	D	1095	U
17	D	1099	G
17	D	1101	A
17	D	1108	G
17	D	1124	G
17	D	1133	G
17	D	1135	U
17	D	1136	C
17	D	1137	C
17	D	1139	G
17	D	1140	C
17	D	1141	C
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

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Mol	Chain	Res	Type
17	D	1184	G
17	D	1193	G
17	D	1196	A
17	D	1197	A
17	D	1206	G
17	D	1211	U
17	D	1212	U
17	D	1213	A
17	D	1214	C
17	D	1215	G
17	D	1226	C
17	D	1227	A
17	D	1228	C
17	D	1238	A
17	D	1257	A
17	D	1260	G
17	D	1275	A
17	D	1276	G
17	D	1278	G
17	D	1279	G
17	D	1280	A
17	D	1285	A
17	D	1286	U
17	D	1287	A
17	D	1299	A
17	D	1300	G
17	D	1302	C
17	D	1305	G
17	D	1312	G
17	D	1317	C
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

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Mol	Chain	Res	Type
17	D	1391	U
17	D	1396	A
17	D	1397	C
17	D	1398	A
17	D	1404	C
17	D	1419	G
17	D	1429	A
17	D	1441	A
17	D	1446	A
17	D	1447	A
17	D	1448	C
17	D	1452	C
17	D	1453	G
17	D	1475	G
17	D	1487	G
17	D	1491	G
17	D	1492	A
17	D	1493	A
17	D	1494	G
17	D	1497	G
17	D	1503	A
17	D	1506	U
17	D	1517	G
17	D	1529	G
17	D	1530	G
17	D	1534	A
40	a	4	U
40	a	10	A
40	a	15	G
40	a	23	G
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

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Mol	Chain	Res	Type
40	a	85	G
40	a	96	C
40	a	101	A
40	a	102	U
40	a	103	A
40	a	110	G
40	a	118	A
40	a	119	A
40	a	120	U
40	a	131	A
40	a	136	G
40	a	139	U
40	a	140	C
40	a	141	G
40	a	163	C
40	a	165	A
40	a	181	A
40	a	196	A
40	a	215	G
40	a	216	A
40	a	222	A
40	a	225	C
40	a	248	G
40	a	249	C
40	a	261	G
40	a	264	C
40	a	265	A
40	a	266	G
40	a	267	C
40	a	271	G
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

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Mol	Chain	Res	Type
40	a	371	A
40	a	372	G
40	a	373	U
40	a	375	G
40	a	383	C
40	a	386	G
40	a	396	G
40	a	405	U
40	a	411	G
40	a	412	A
40	a	420	C
40	a	424	G
40	a	451	U
40	a	457	A
40	a	477	A
40	a	481	G
40	a	491	G
40	a	501	A
40	a	503	A
40	a	504	A
40	a	505	A
40	a	509	C
40	a	522	A
40	a	529	A
40	a	531	C
40	a	532	A
40	a	537	G
40	a	543	G
40	a	545	U
40	a	546	U
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

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Mol	Chain	Res	Type
40	a	615	U
40	a	616	A
40	a	627	A
40	a	637	A
40	a	645	C
40	a	647	G
40	a	654	A
40	a	668	A
40	a	686	U
40	a	710	U
40	a	717	C
40	a	730	A
40	a	738	G
40	a	757	G
40	a	764	A
40	a	765	C
40	a	775	G
40	a	776	G
40	a	782	A
40	a	784	G
40	a	785	G
40	a	800	A
40	a	805	G
40	a	812	C
40	a	819	A
40	a	827	U
40	a	828	U
40	a	845	A
40	a	846	U
40	a	858	G
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

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Mol	Chain	Res	Type
40	a	907	G
40	a	910	A
40	a	914	G
40	a	915	C
40	a	931	U
40	a	941	A
40	a	945	A
40	a	946	C
40	a	953	G
40	a	961	C
40	a	974	G
40	a	983	A
40	a	995	C
40	a	996	A
40	a	999	U
40	a	1005	C
40	a	1012	U
40	a	1013	C
40	a	1022	G
40	a	1023	U
40	a	1026	G
40	a	1033	U
40	a	1041	G
40	a	1045	C
40	a	1046	A
40	a	1047	G
40	a	1060	U
40	a	1061	U
40	a	1064	C
40	a	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

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Mol	Chain	Res	Type
40	a	1087	G
40	a	1088	A
40	a	1090	A
40	a	1095	A
40	a	1101	U
40	a	1107	G
40	a	1110	G
40	a	1111	A
40	a	1112	G
40	a	1119	U
40	a	1122	G
40	a	1128	G
40	a	1132	U
40	a	1134	A
40	a	1135	C
40	a	1142	A
40	a	1169	A
40	a	1170	C
40	a	1173	U
40	a	1174	U
40	a	1175	A
40	a	1176	U
40	a	1177	G
40	a	1178	C
40	a	1179	G
40	a	1180	U
40	a	1186	G
40	a	1238	G
40	a	1248	G
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

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Mol	Chain	Res	Type
40	a	1378	A
40	a	1379	U
40	a	1380	G
40	a	1383	A
40	a	1392	A
40	a	1395	A
40	a	1406	U
40	a	1408	G
40	a	1409	U
40	a	1414	C
40	a	1416	G
40	a	1417	C
40	a	1419	A
40	a	1420	A
40	a	1428	C
40	a	1452	G
40	a	1453	A
40	a	1460	U
40	a	1482	G
40	a	1490	A
40	a	1497	U
40	a	1503	A
40	a	1508	A
40	a	1509	A
40	a	1510	G
40	a	1515	A
40	a	1529	G
40	a	1534	U
40	a	1535	A
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

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Mol	Chain	Res	Type
40	a	1589	U
40	a	1590	A
40	a	1608	A
40	a	1610	A
40	a	1613	G
40	a	1647	U
40	a	1648	U
40	a	1649	G
40	a	1651	G
40	a	1665	A
40	a	1674	G
40	a	1677	A
40	a	1703	G
40	a	1714	U
40	a	1715	G
40	a	1729	U
40	a	1730	C
40	a	1732	C
40	a	1738	G
40	a	1750	G
40	a	1758	U
40	a	1764	C
40	a	1773	A
40	a	1791	A
40	a	1800	C
40	a	1808	A
40	a	1811	G
40	a	1816	C
40	a	1829	A
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

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Mol	Chain	Res	Type
40	a	1913	A
40	a	1914	C
40	a	1919	A
40	a	1920	C
40	a	1922	G
40	a	1923	U
40	a	1924	C
40	a	1925	C
40	a	1926	U
40	a	1929	G
40	a	1930	G
40	a	1936	A
40	a	1938	A
40	a	1955	U
40	a	1965	C
40	a	1967	C
40	a	1970	A
40	a	1971	U
40	a	1972	G
40	a	1987	A
40	a	1991	U
40	a	1992	G
40	a	1993	U
40	a	1997	C
40	a	2002	G
40	a	2020	A
40	a	2022	U
40	a	2023	C
40	a	2027	G
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

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Mol	Chain	Res	Type
40	a	2108	A
40	a	2110	G
40	a	2111	U
40	a	2113	U
40	a	2115	G
40	a	2116	G
40	a	2117	A
40	a	2118	U
40	a	2121	G
40	a	2122	U
40	a	2124	G
40	a	2125	G
40	a	2126	A
40	a	2127	G
40	a	2128	G
40	a	2131	U
40	a	2132	U
40	a	2133	G
40	a	2134	A
40	a	2139	U
40	a	2141	G
40	a	2146	C
40	a	2147	A
40	a	2154	A
40	a	2157	G
40	a	2158	A
40	a	2159	G
40	a	2162	G
40	a	2163	A
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

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Mol	Chain	Res	Type
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
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

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Mol	Chain	Res	Type
40	a	2431	U
40	a	2434	A
40	a	2435	A
40	a	2441	U
40	a	2447	G
40	a	2448	A
40	a	2470	G
40	a	2474	U
40	a	2476	A
40	a	2478	A
40	a	2484	G
40	a	2491	U
40	a	2502	G
40	a	2506	U
40	a	2512	C
40	a	2513	A
40	a	2518	A
40	a	2520	C
40	a	2525	G
40	a	2529	G
40	a	2535	G
40	a	2554	U
40	a	2566	A
40	a	2567	G
40	a	2573	C
40	a	2574	G
40	a	2585	U
40	a	2586	U
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

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Mol	Chain	Res	Type
40	a	2716	C
40	a	2726	A
40	a	2744	G
40	a	2748	A
40	a	2758	A
40	a	2765	A
40	a	2777	G
40	a	2778	A
40	a	2791	G
40	a	2793	C
40	a	2796	U
40	a	2797	U
40	a	2798	U
40	a	2799	A
40	a	2801	G
40	a	2818	U
40	a	2820	A
40	a	2823	A
40	a	2825	G
40	a	2835	A
40	a	2849	U
40	a	2859	G
40	a	2861	U
40	a	2867	G
40	a	2873	A
40	a	2874	C
40	a	2880	C
40	a	2883	A
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

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Mol	Chain	Res	Type
43	d	88	C
43	d	89	U
43	d	90	C
43	d	99	A
43	d	109	A

All (41) 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	27	G
10	A	6	G
10	A	7	G
10	A	9	G
10	A	12	G
10	A	21	A
10	A	22	G
10	A	57	A
10	A	60	U
10	B	6	G
10	B	7	G
10	B	9	G
10	B	12	G
10	B	21	A
10	B	22	G
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

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Mol	Chain	Res	Type
17	D	1211	U
17	D	1212	U
17	D	1213	A
17	D	1214	C
17	D	1447	A
17	D	1491	G
17	D	1492	A
17	D	1493	A

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

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

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

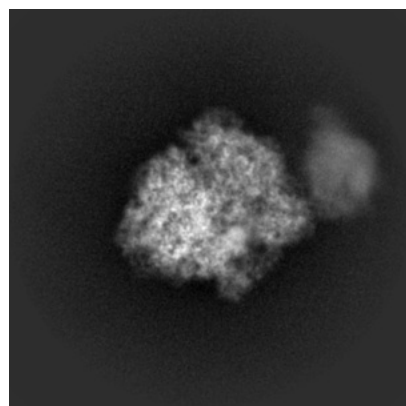
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-42477. These allow visual inspection of the internal detail of the map and identification of artifacts.

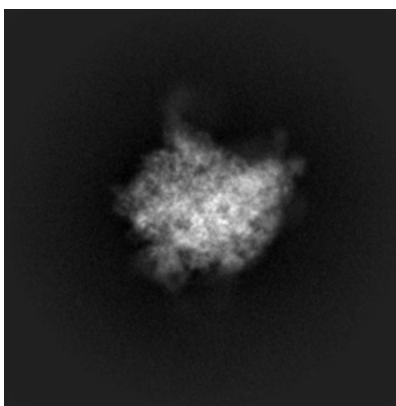
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

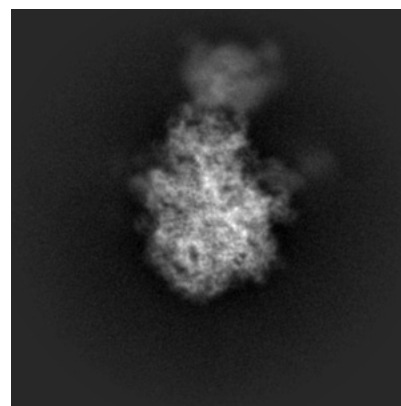
6.1.1 Primary map



X

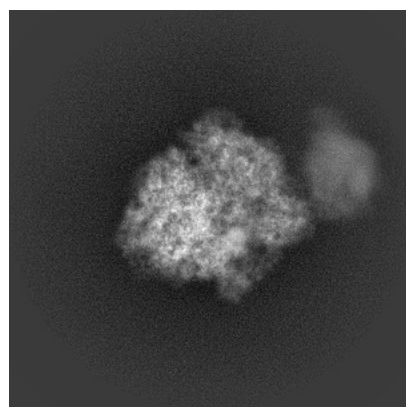


Y

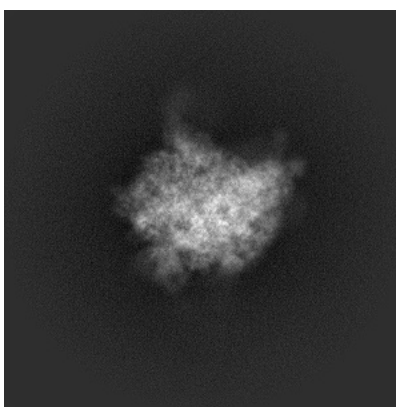


Z

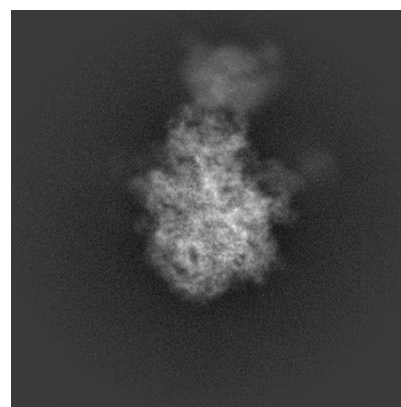
6.1.2 Raw map



X



Y

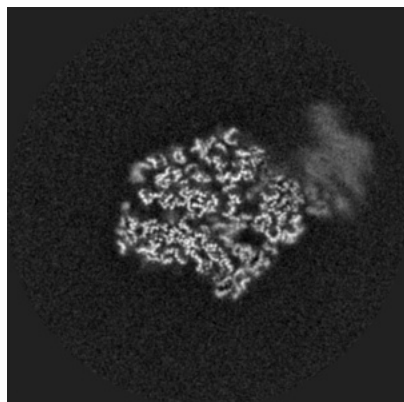


Z

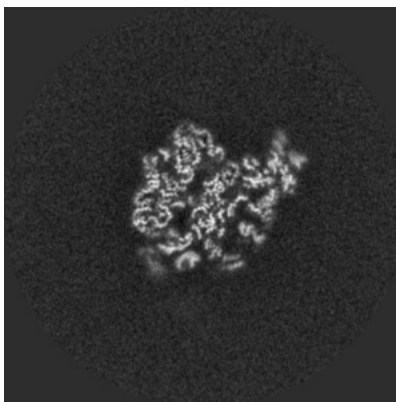
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

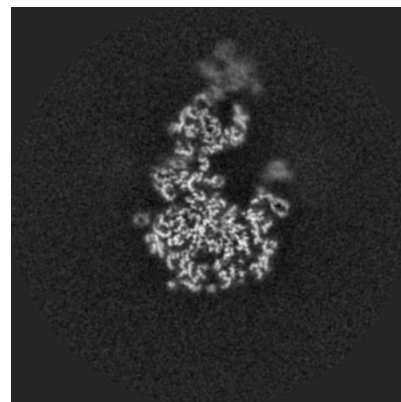
6.2.1 Primary map



X Index: 256

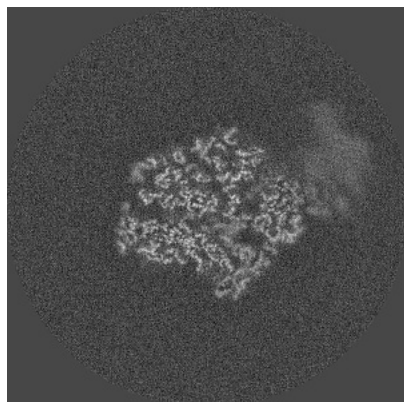


Y Index: 256

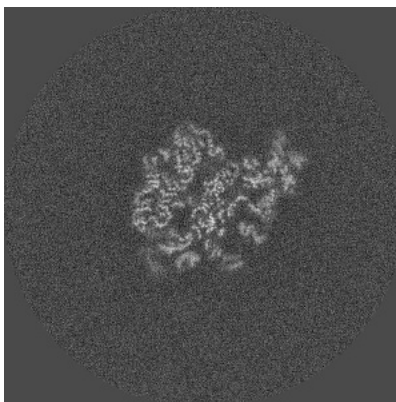


Z Index: 256

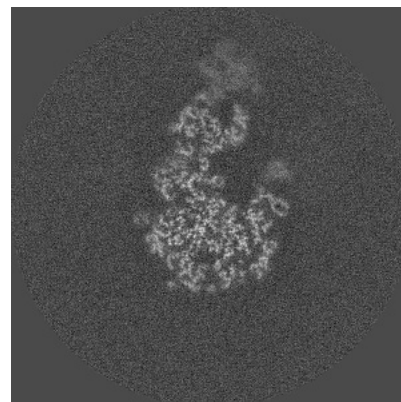
6.2.2 Raw map



X Index: 256



Y Index: 256

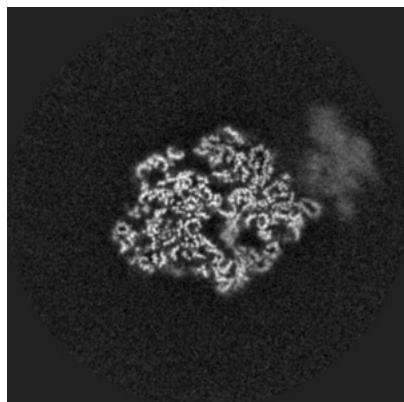


Z Index: 256

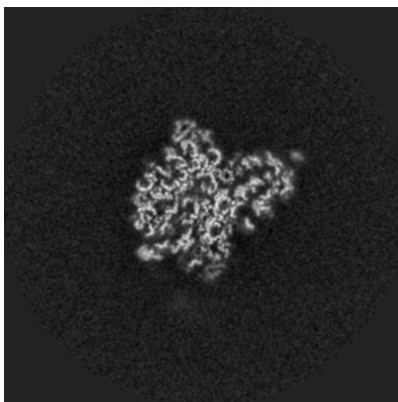
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

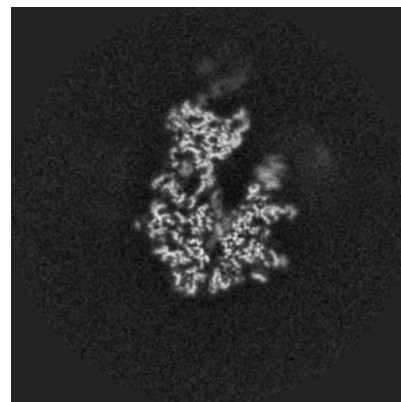
6.3.1 Primary map



X Index: 248

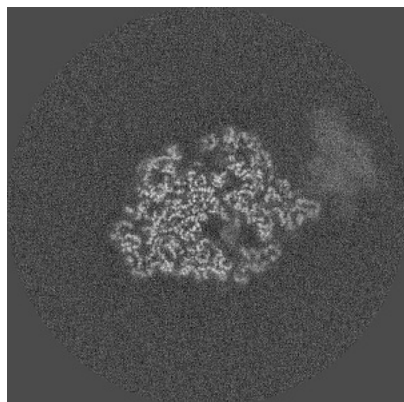


Y Index: 248

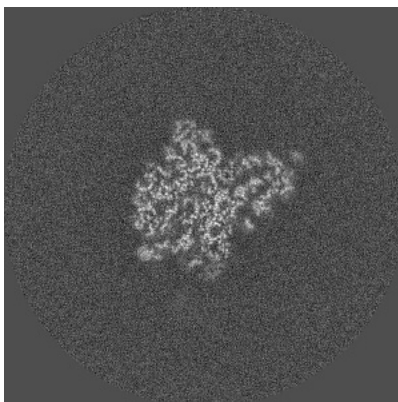


Z Index: 242

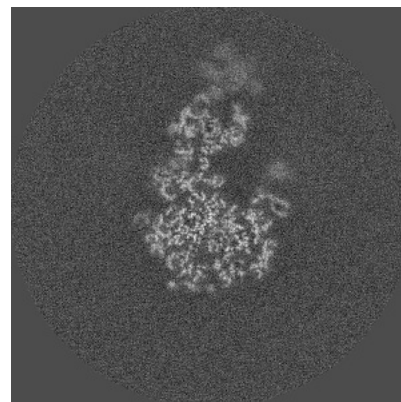
6.3.2 Raw map



X Index: 242



Y Index: 248



Z Index: 257

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

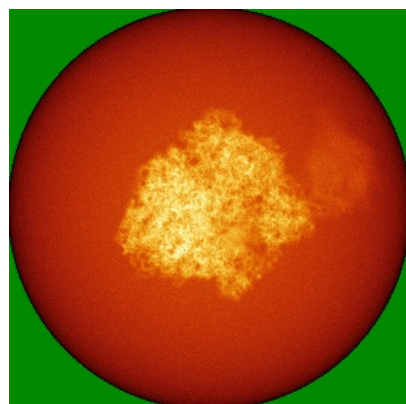


Y

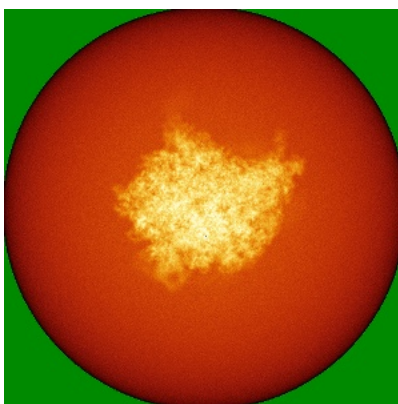


Z

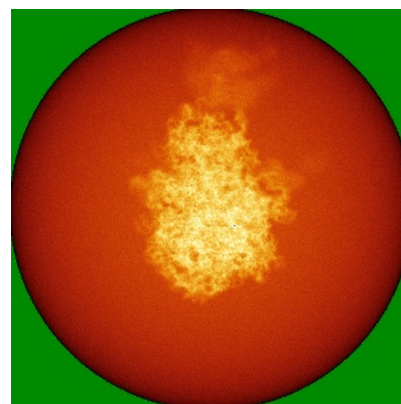
6.4.2 Raw map



X



Y

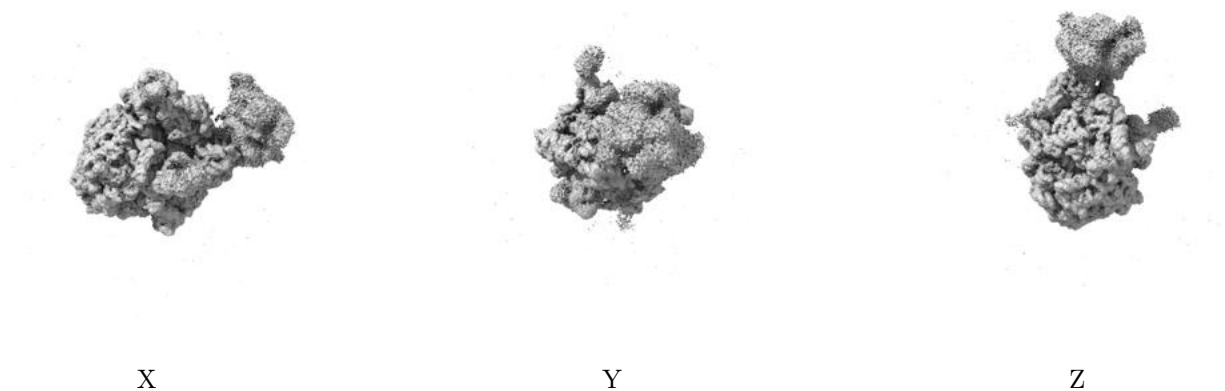


Z

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.

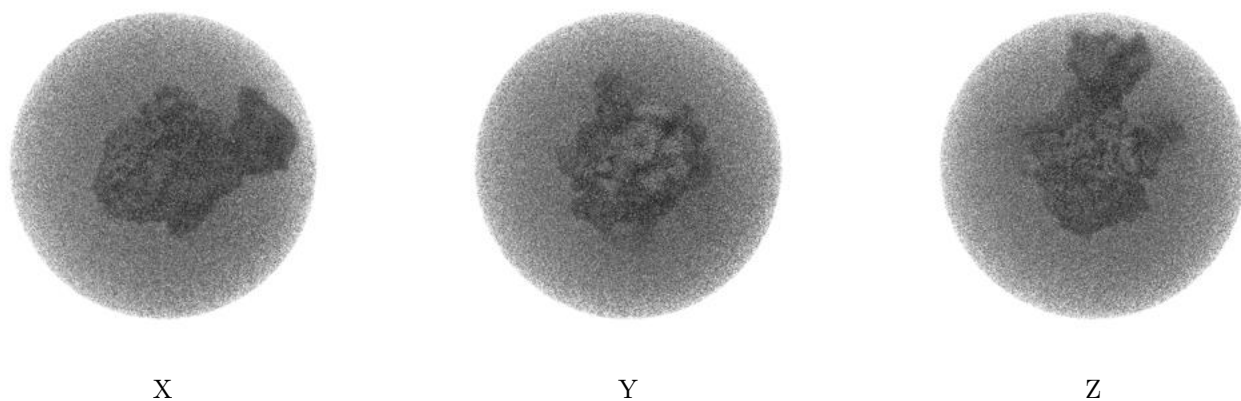
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.0037. 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.

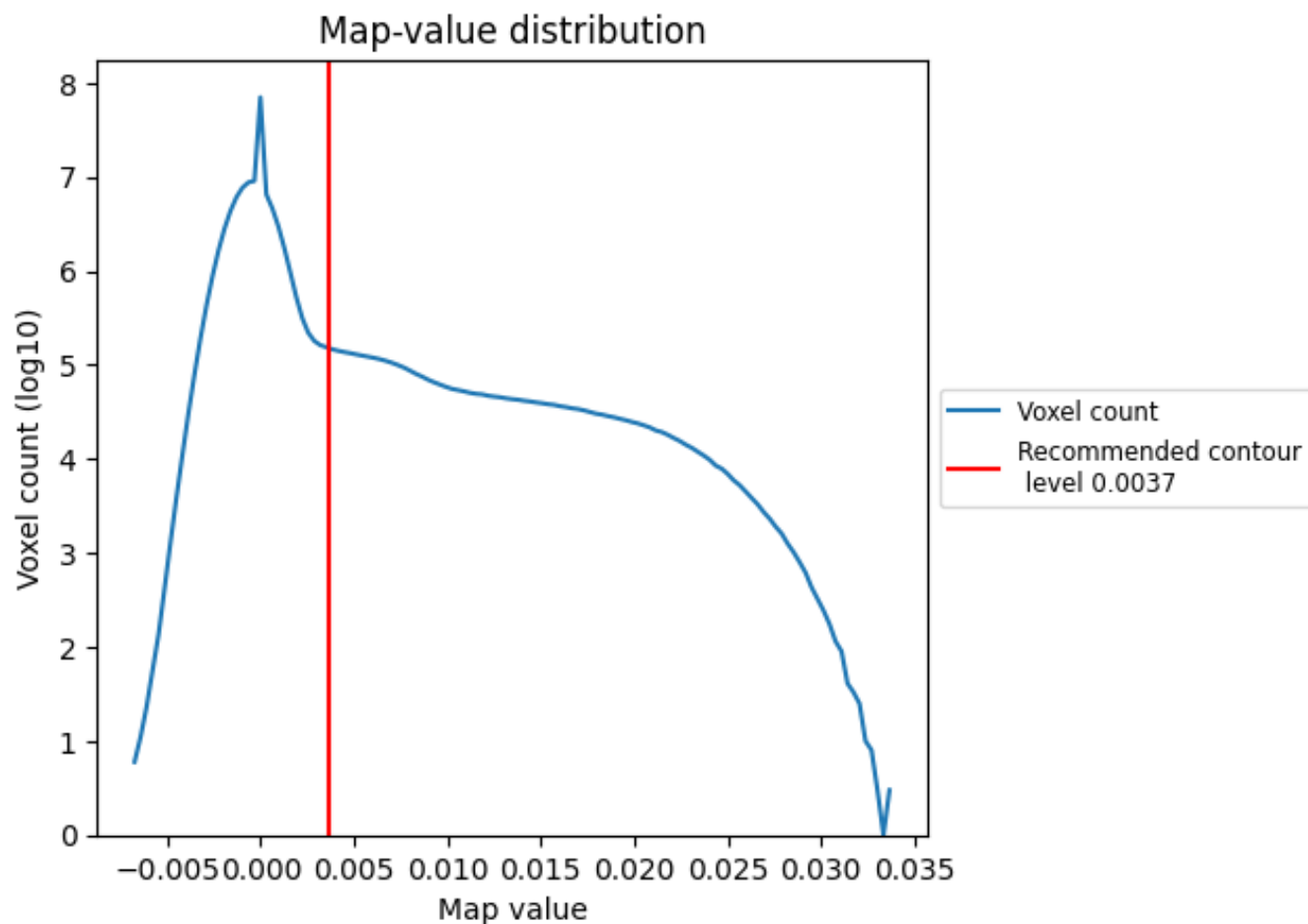
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

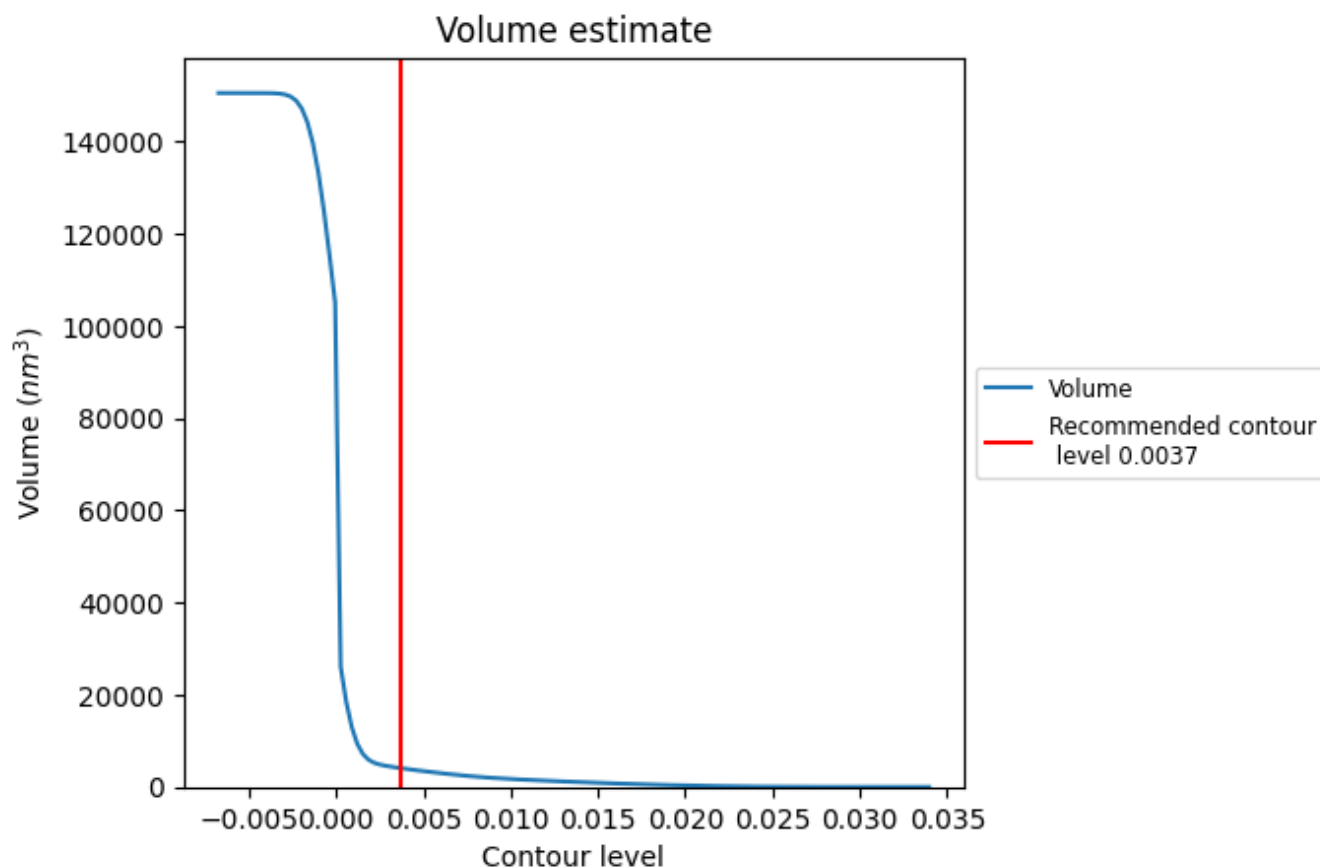
This section contains the results of statistical analysis of the map.

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.

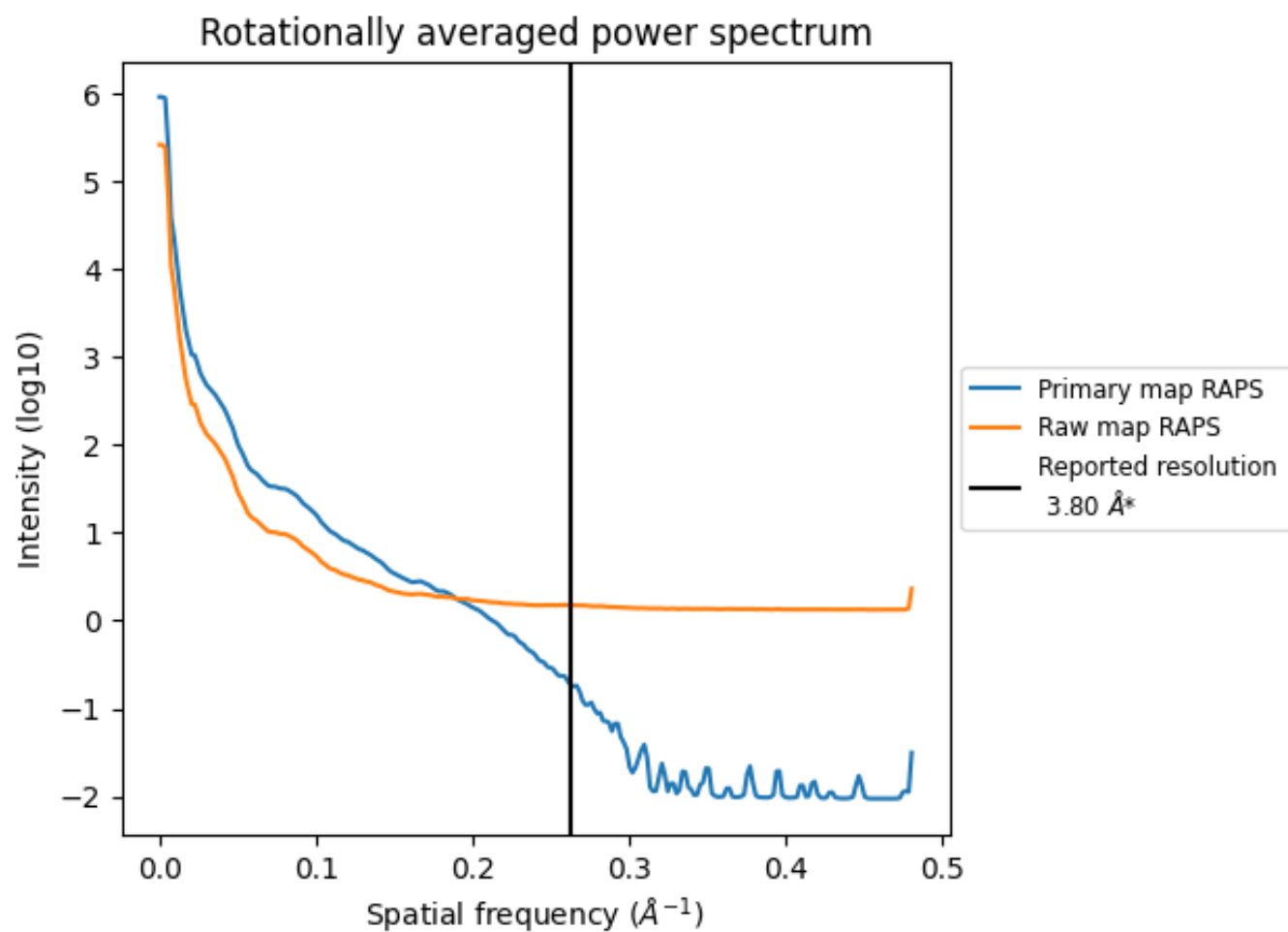
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 4079 nm^3 ; this corresponds to an approximate mass of 3685 kDa.

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

7.3 Rotationally averaged power spectrum ⓘ

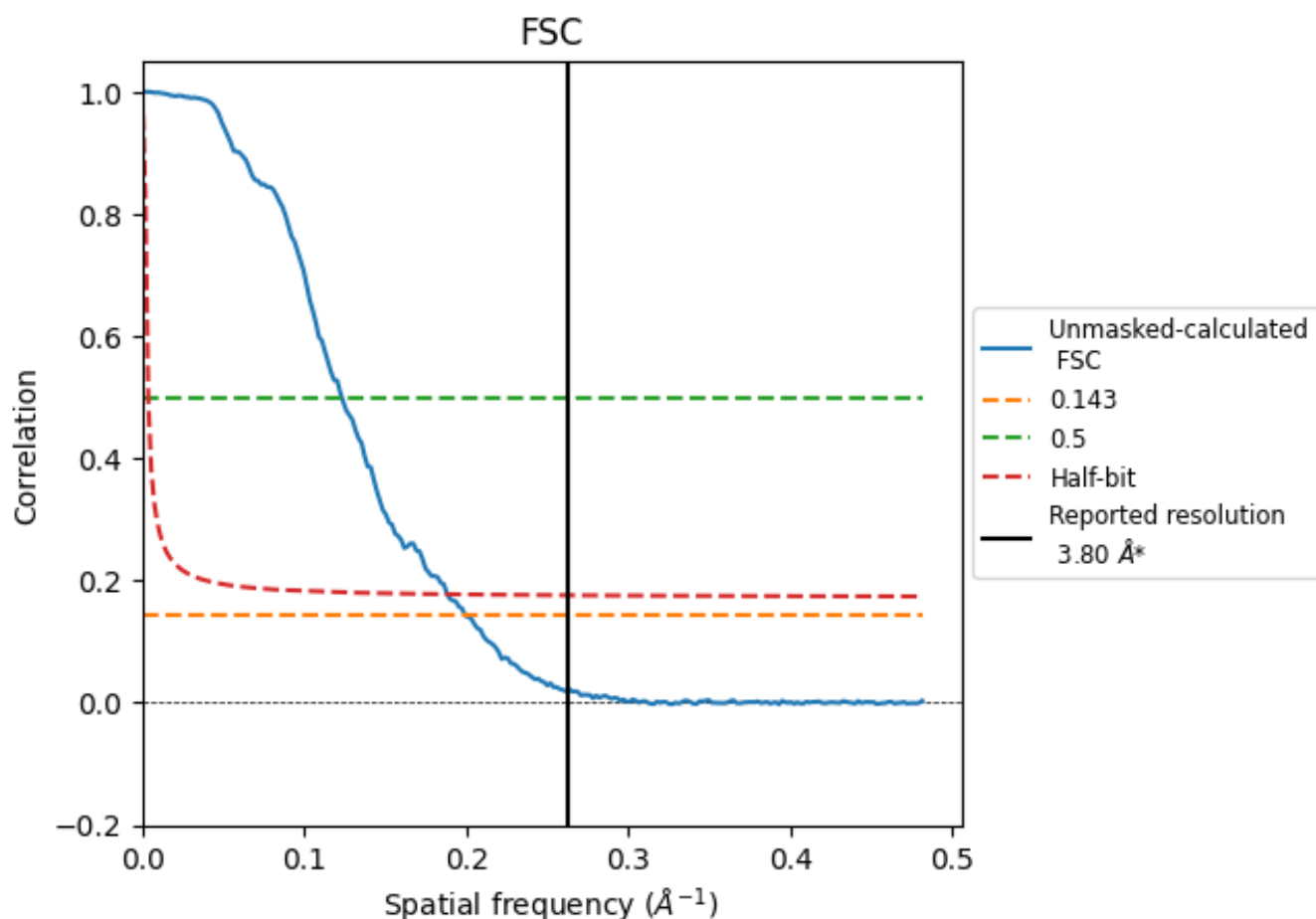


*Reported resolution corresponds to spatial frequency of 0.263 Å⁻¹

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 0.263 $\text{\AA}^{-1}$

8.2 Resolution estimates [i](#)

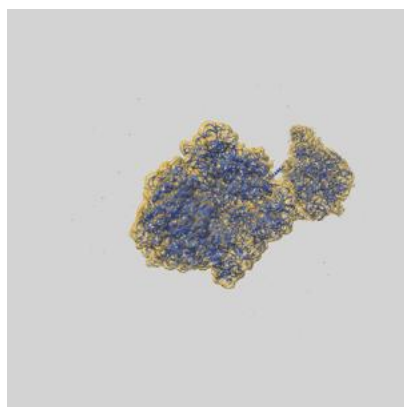
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.80	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	5.02	8.12	5.31

*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 5.02 differs from the reported value 3.8 by more than 10 %

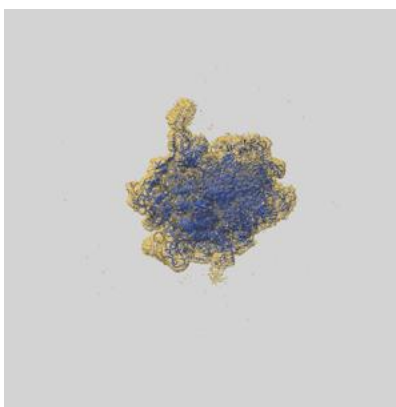
9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-42477 and PDB model 8UQP. Per-residue inclusion information can be found in section [3](#) on page [16](#).

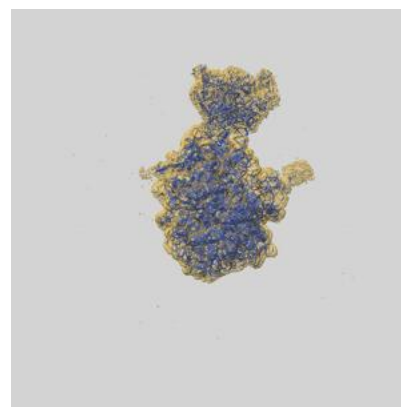
9.1 Map-model overlay [i](#)



X



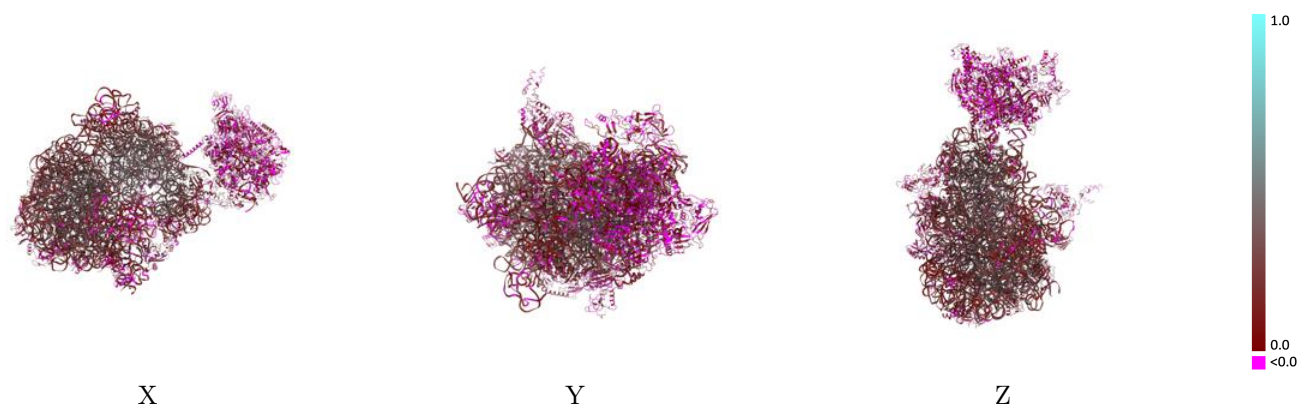
Y



Z

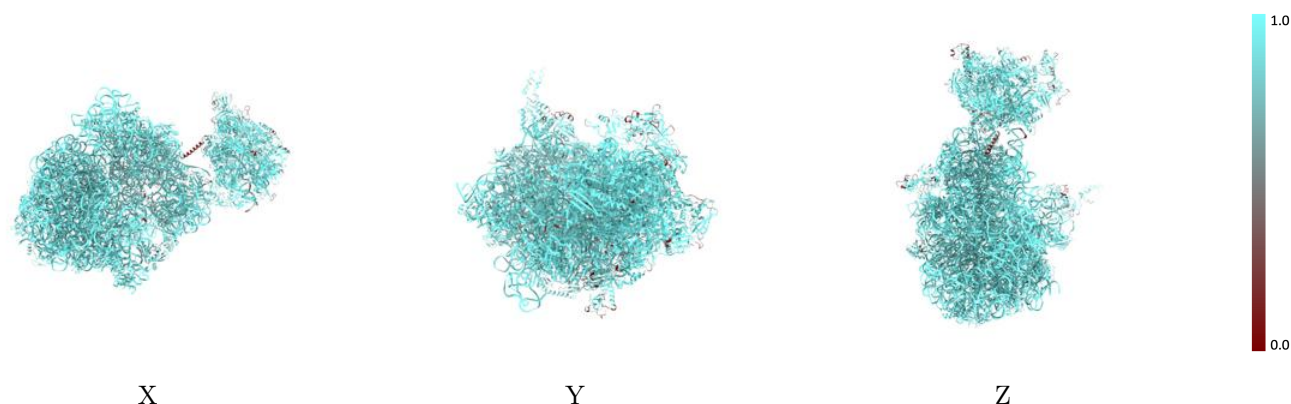
The images above show the 3D surface view of the map at the recommended contour level 0.0037 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



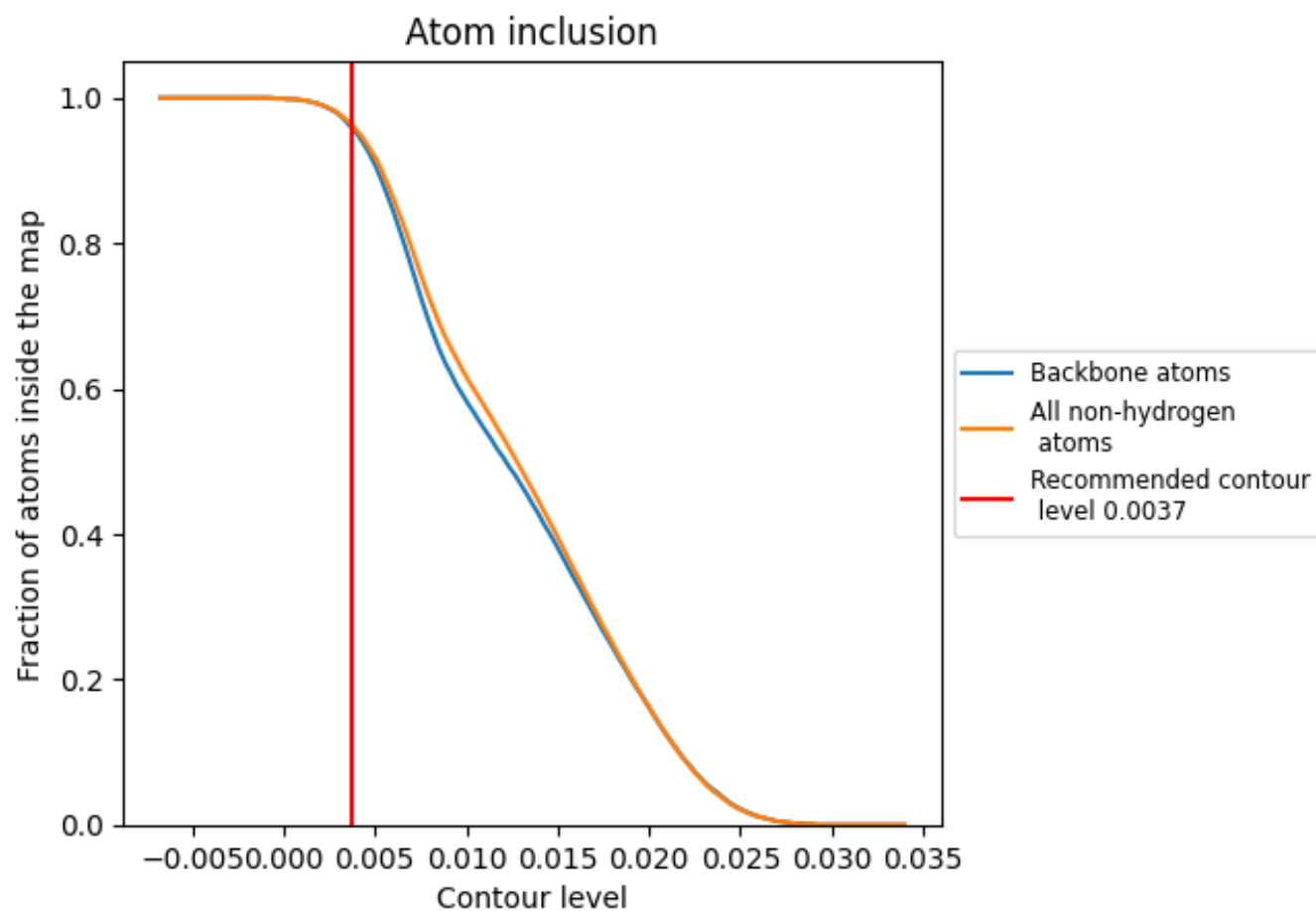
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

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



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.0037).

9.4 Atom inclusion [i](#)



At the recommended contour level, 96% of all backbone atoms, 96% 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 (0.0037) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.9640	 0.1970
0	 0.9620	 0.1700
1	 0.9580	 0.2760
2	 0.9490	 0.1540
3	 0.9550	 0.1090
4	 0.9730	 0.1470
5	 0.9020	 0.0740
6	 0.8790	 0.1000
7	 0.9260	 0.1100
9	 0.9120	 0.0720
A	 0.9880	 0.1760
AA	 0.9380	 0.0470
AB	 0.9750	 0.1520
AC	 0.9330	 0.0440
AD	 0.8380	 0.0120
AE	 0.9330	 0.0610
AF	 0.5600	 0.0210
B	 0.9200	 0.0920
C	 0.9730	 0.1770
D	 0.9940	 0.2680
E	 0.9790	 0.1620
F	 0.9590	 0.2180
G	 0.9560	 0.2080
H	 0.7420	 0.0610
I	 0.9620	 0.2700
J	 0.9800	 0.2420
K	 0.9830	 0.3380
L	 0.9540	 0.1120
M	 0.9650	 0.1790
N	 0.9710	 0.2650
O	 0.9720	 0.1620
P	 0.9600	 0.2040
Q	 0.9580	 0.1750
R	 0.9890	 0.3460
S	 0.9730	 0.1960



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Chain	Atom inclusion	Q-score
T	 0.9710	 0.2030
U	 0.9670	 0.1880
V	 0.9650	 0.2250
W	 0.9120	 0.1020
X	 0.9370	 0.1280
Y	 0.7780	 0.0690
Z	 0.8850	 0.0720
a	 0.9920	 0.2390
b	 0.9470	 0.1440
c	 0.9530	 0.1960
d	 0.9860	 0.1490
e	 0.9450	 0.1240
f	 0.9660	 0.1780
g	 0.9370	 0.0700
h	 0.9680	 0.2090
i	 0.9700	 0.2910
j	 0.9770	 0.2520
k	 0.9710	 0.1310
l	 0.9260	 0.1280
m	 0.9800	 0.2970
n	 0.9310	 0.1110
o	 0.9470	 0.1670
p	 0.9680	 0.1270
q	 0.9560	 0.1680
r	 0.8130	 0.0960
s	 0.9670	 0.2210
t	 0.9590	 0.2830
u	 0.9530	 0.1440
v	 0.9710	 0.2290
w	 0.9720	 0.2430
x	 0.9490	 0.0410
y	 0.9620	 0.2170
z	 0.9710	 0.2310