



Full wwPDB EM Validation Report ⓘ

Mar 15, 2026 – 02:12 AM UTC

PDB ID : 8UR0 / pdb_00008ur0
EMDB ID : EMD-42479
Title : Escherichia coli transcription-translation coupled complex class B (TTC-B) containing RfaH bound to ops signal, NusA, 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 : 2023-10-25
Resolution : 3.40 Å(reported)

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

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

A user guide is available at

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

The types of validation reports are described at

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

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

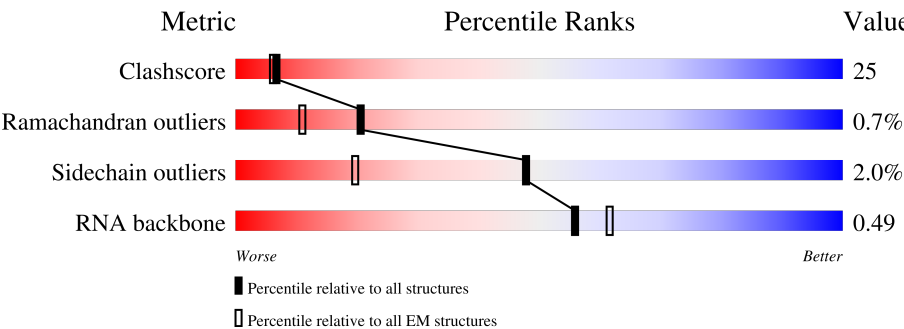
EMDB validation analysis : 0.0.1.dev132
MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMDb archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & 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 3.40 Å.

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



Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	229148	23984
Ramachandran outliers	224038	23583
Sidechain outliers	223484	23102
RNA backbone	8273	3508

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	36% 59% 41%
2	1	110	20% 59% 41%
3	2	100	5% 51% 42% 6%
4	3	104	32% 65% 34%
5	4	94	23% 44% 56%
6	5	38	37% 55% 37% 8%
7	6	38	26% 63% 29% 8%

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Mol	Chain	Length	Quality of chain
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	AG	495	
17	C	75	
18	D	1542	
19	E	87	
20	F	71	
21	G	241	
22	H	557	
23	I	233	
24	J	206	
25	K	167	
26	L	135	
27	M	179	
28	N	130	
29	O	130	
30	P	103	

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Mol	Chain	Length	Quality of chain
31	Q	129	
32	R	124	
33	S	101	
34	T	89	
35	U	82	
36	V	84	
37	W	92	
38	X	118	
39	Y	142	
40	Z	121	
41	a	2904	
42	b	85	
43	c	78	
44	d	120	
45	e	63	
46	f	59	
47	g	70	
48	h	273	
49	i	57	
50	j	209	
51	k	55	
52	l	201	
53	m	46	
54	n	179	
55	o	65	

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Mol	Chain	Length	Quality of chain
56	p	177	
57	q	38	
58	r	149	
59	s	142	
60	t	123	
61	u	144	
62	v	136	
63	w	127	
64	x	117	
65	y	115	
66	z	118	

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
68	ZN	AE	1502	-	-	X	-

2 Entry composition [i](#)

There are 68 unique types of molecules in this entry. The entry contains 280292 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	299	Total	C	N	O	S	0	0
			2078	1287	378	407	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 Transcription termination/antitermination protein NusA.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	AG	495	Total	C	N	O	S	0	0
			3852	2396	669	774	13		

- Molecule 17 is a protein called 30S ribosomal protein S18.

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

- Molecule 18 is a RNA chain called 16S rRNA.

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

- Molecule 19 is a protein called 30S ribosomal protein S20.

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

- Molecule 20 is a protein called 30S ribosomal protein S21.

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

- Molecule 21 is a protein called 30S ribosomal protein S2.

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

- Molecule 22 is a protein called 30S ribosomal protein S1.

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

- Molecule 23 is a protein called 30S ribosomal protein S3.

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

- Molecule 24 is a protein called 30S ribosomal protein S4.

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

- Molecule 25 is a protein called 30S ribosomal protein S5.

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

- Molecule 26 is a protein called 30S ribosomal protein S6.

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

- Molecule 27 is a protein called 30S ribosomal protein S7.

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

- Molecule 28 is a protein called 30S ribosomal protein S8.

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

- Molecule 29 is a protein called 30S ribosomal protein S9.

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

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

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

- Molecule 31 is a protein called 30S ribosomal protein S11.

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

- Molecule 32 is a protein called 30S ribosomal protein S12.

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

- Molecule 33 is a protein called 30S ribosomal protein S14.

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

- Molecule 34 is a protein called 30S ribosomal protein S15.

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

- Molecule 35 is a protein called 30S ribosomal protein S16.

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

- Molecule 36 is a protein called 30S ribosomal protein S17.

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

- Molecule 37 is a protein called 30S ribosomal protein S19.

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

- Molecule 38 is a protein called 30S ribosomal protein S13.

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

- Molecule 39 is a protein called 50S ribosomal protein L11.

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

- Molecule 40 is a protein called 50S ribosomal protein L7/L12.

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

- Molecule 41 is a RNA chain called 23S rRNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
41	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 42 is a protein called 50S ribosomal protein L27.

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

- Molecule 43 is a protein called 50S ribosomal protein L28.

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

- Molecule 44 is a RNA chain called 5S rRNA.

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

- Molecule 45 is a protein called 50S ribosomal protein L29.

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

- Molecule 46 is a protein called 50S ribosomal protein L30.

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

- Molecule 47 is a protein called 50S ribosomal protein L31.

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

- Molecule 48 is a protein called 50S ribosomal protein L2.

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

- Molecule 49 is a protein called 50S ribosomal protein L32.

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

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

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

- Molecule 51 is a protein called 50S ribosomal protein L33.

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

- Molecule 52 is a protein called 50S ribosomal protein L4.

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

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

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

- Molecule 54 is a protein called 50S ribosomal protein L5.

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

- Molecule 55 is a protein called 50S ribosomal protein L35.

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

- Molecule 56 is a protein called 50S ribosomal protein L6.

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

- Molecule 57 is a protein called 50S ribosomal protein L36.

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

- Molecule 58 is a protein called 50S ribosomal protein L9.

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

- Molecule 59 is a protein called 50S ribosomal protein L13.

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

- Molecule 60 is a protein called 50S ribosomal protein L14.

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

- Molecule 61 is a protein called 50S ribosomal protein L15.

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

- Molecule 62 is a protein called 50S ribosomal protein L16.

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

- Molecule 63 is a protein called 50S ribosomal protein L17.

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

- Molecule 64 is a protein called 50S ribosomal protein L18.

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

- Molecule 65 is a protein called 50S ribosomal protein L19.

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

- Molecule 66 is a protein called 50S ribosomal protein L20.

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

- Molecule 67 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

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

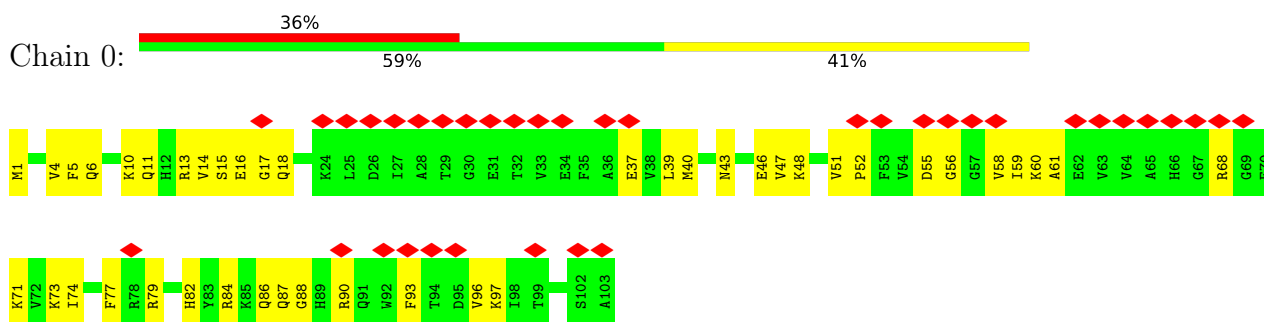
- Molecule 68 is ZINC ION (CCD ID: ZN) (formula: Zn).

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

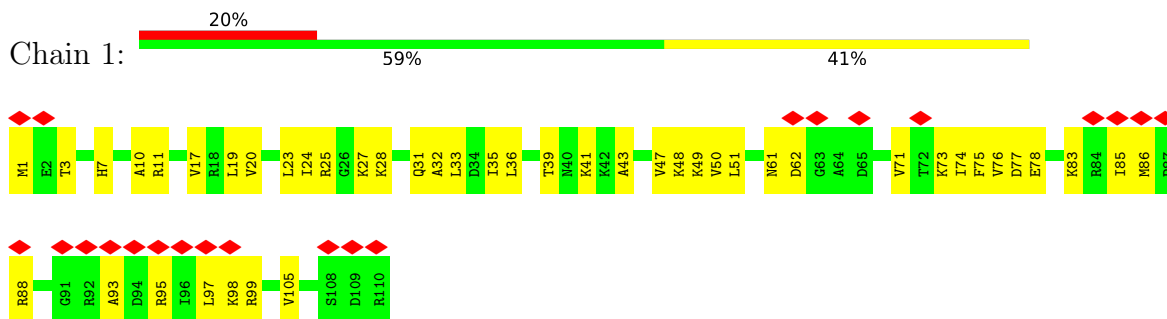
3 Residue-property plots [i](#)

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.

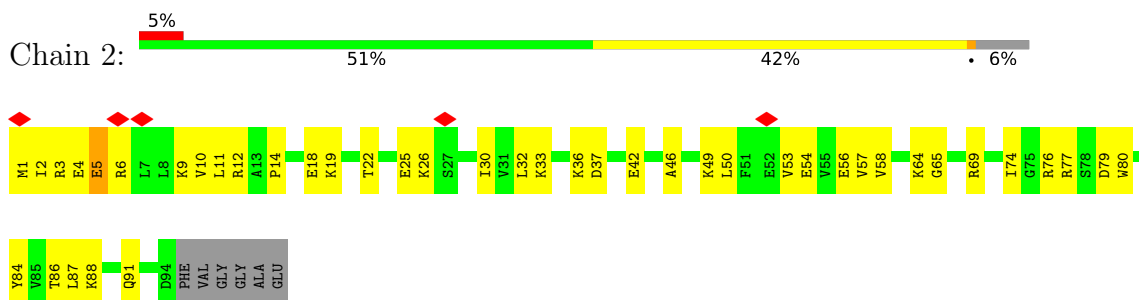
- Molecule 1: Ribosomal protein L21



- Molecule 2: 50S ribosomal protein L22

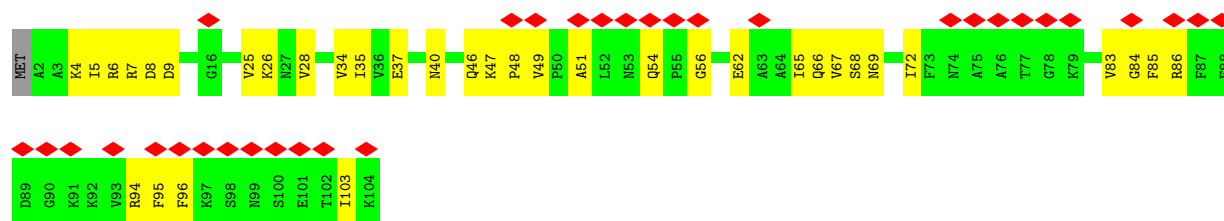


- Molecule 3: 50S ribosomal protein L23

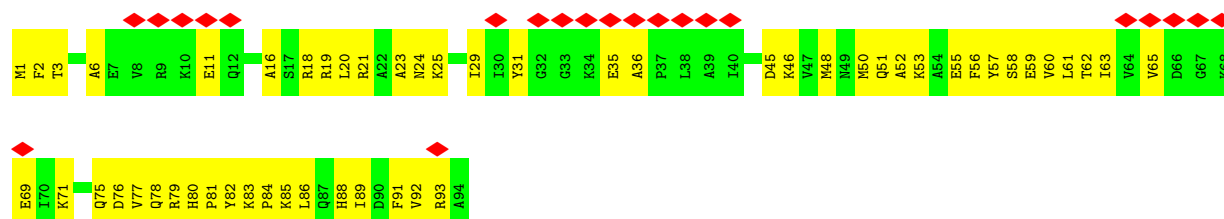
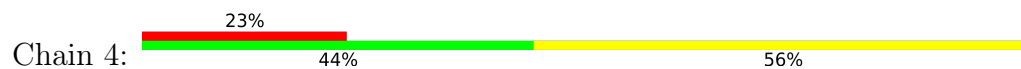


- Molecule 4: 50S ribosomal protein L24

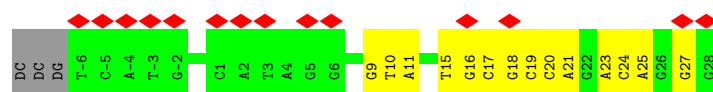




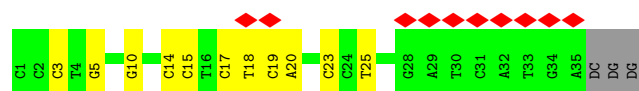
• Molecule 5: 50S ribosomal protein L25



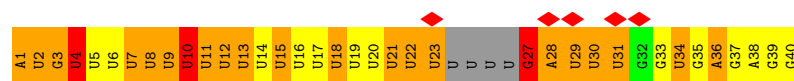
• Molecule 6: NT DNA ops



• Molecule 7: T DNA ops

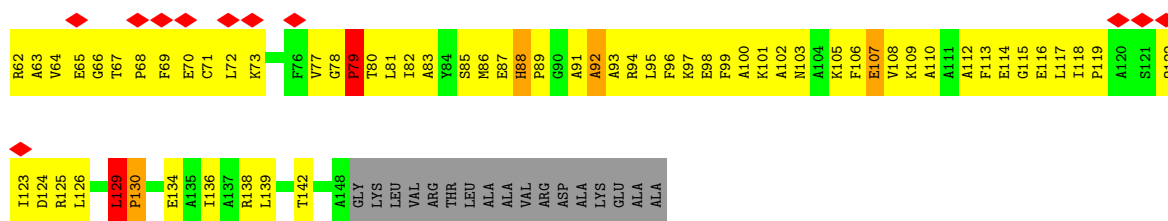


• Molecule 8: mRNA with 24 nt long spacer

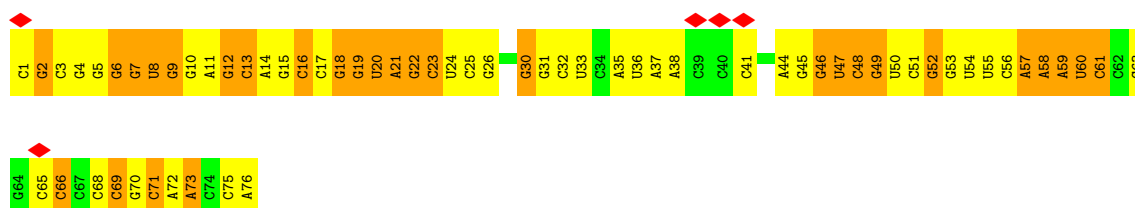
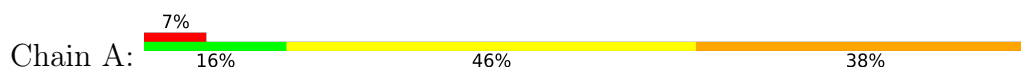


• Molecule 9: 50S ribosomal protein L10

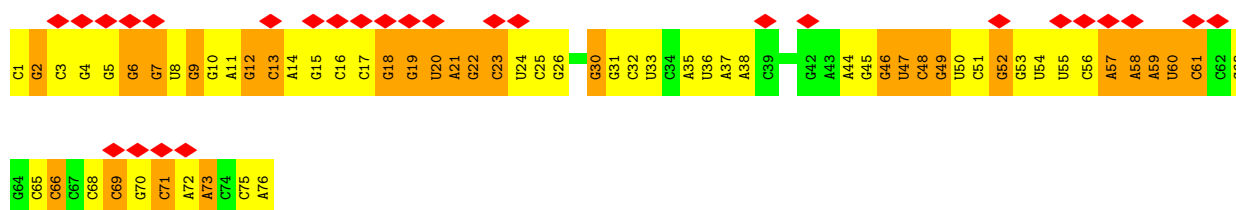
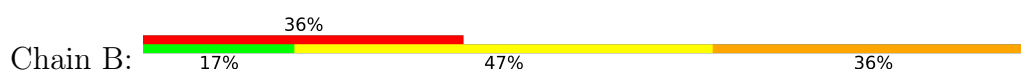




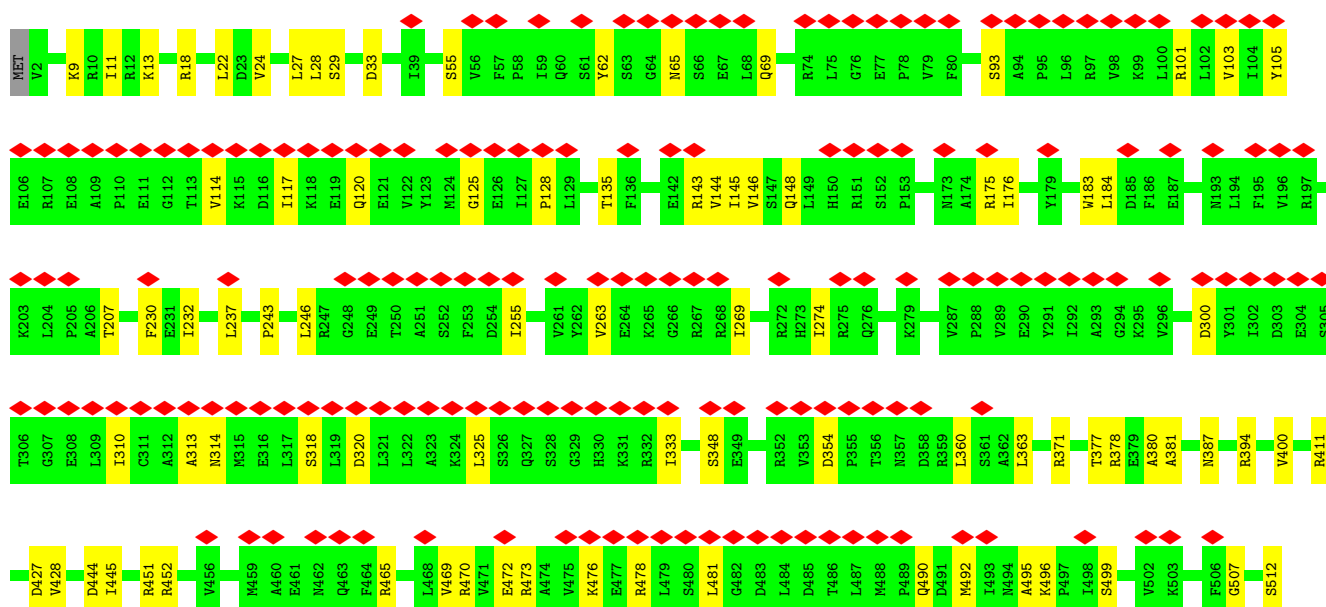
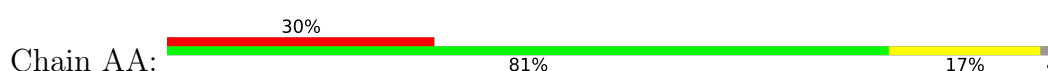
• Molecule 10: E-site and P-site fMet-tRNA

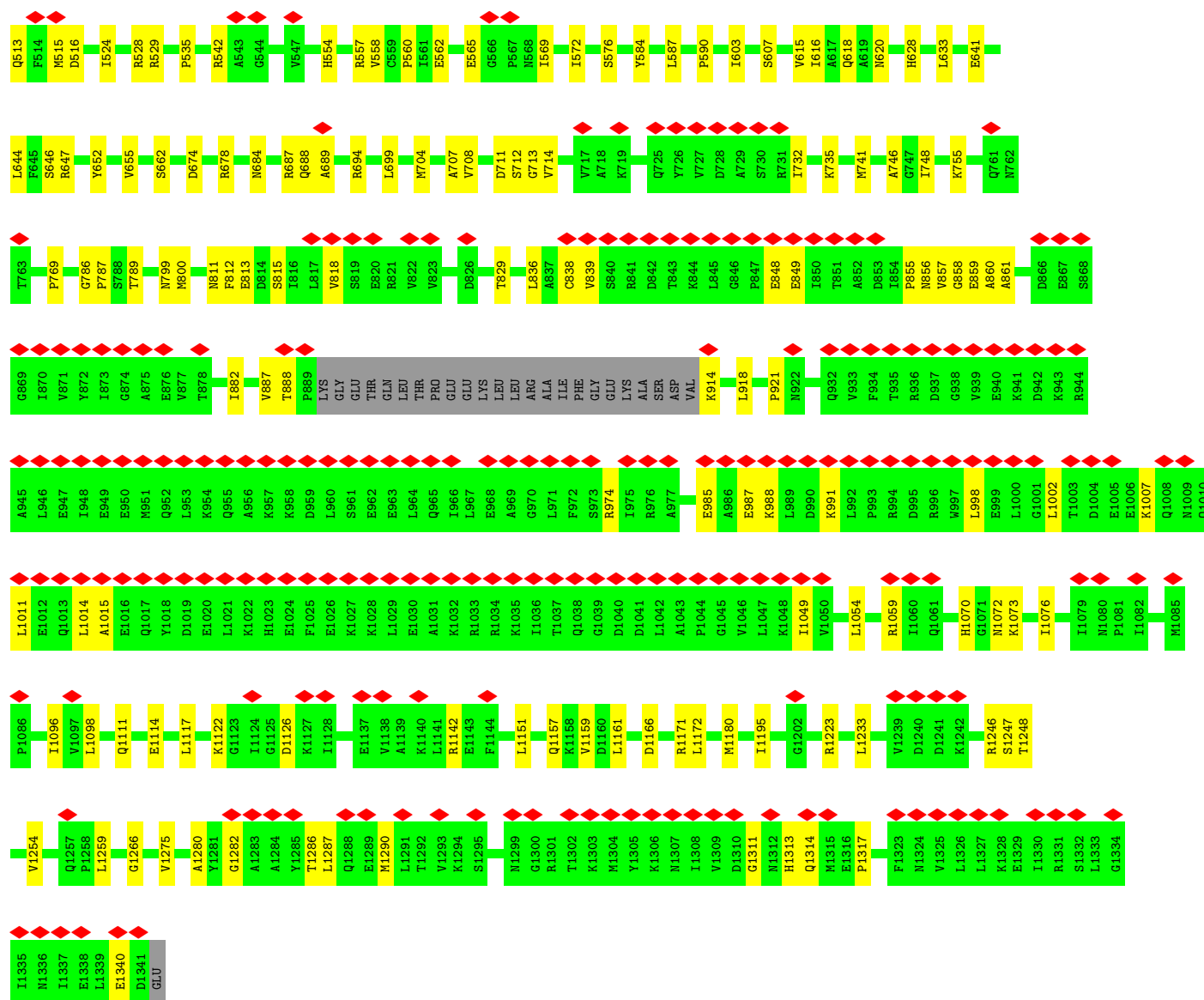


• Molecule 10: E-site and P-site fMet-tRNA

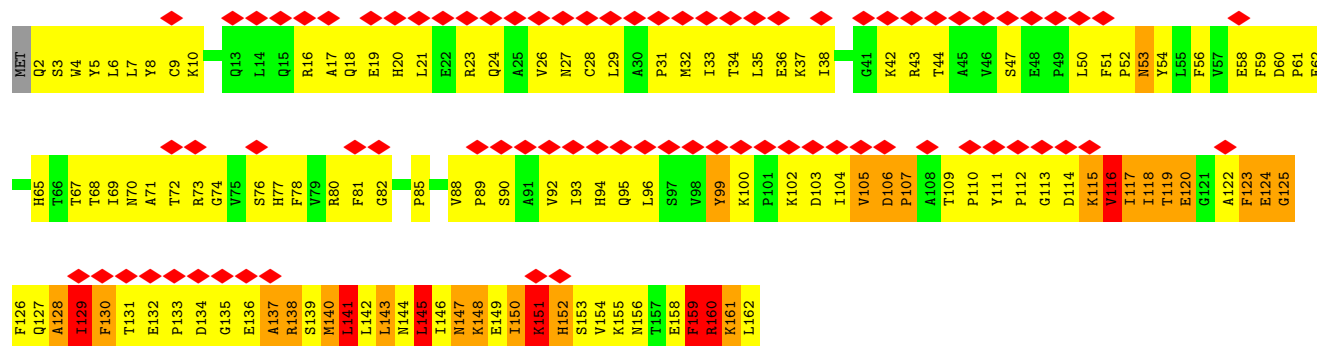


• Molecule 11: DNA-directed RNA polymerase subunit beta

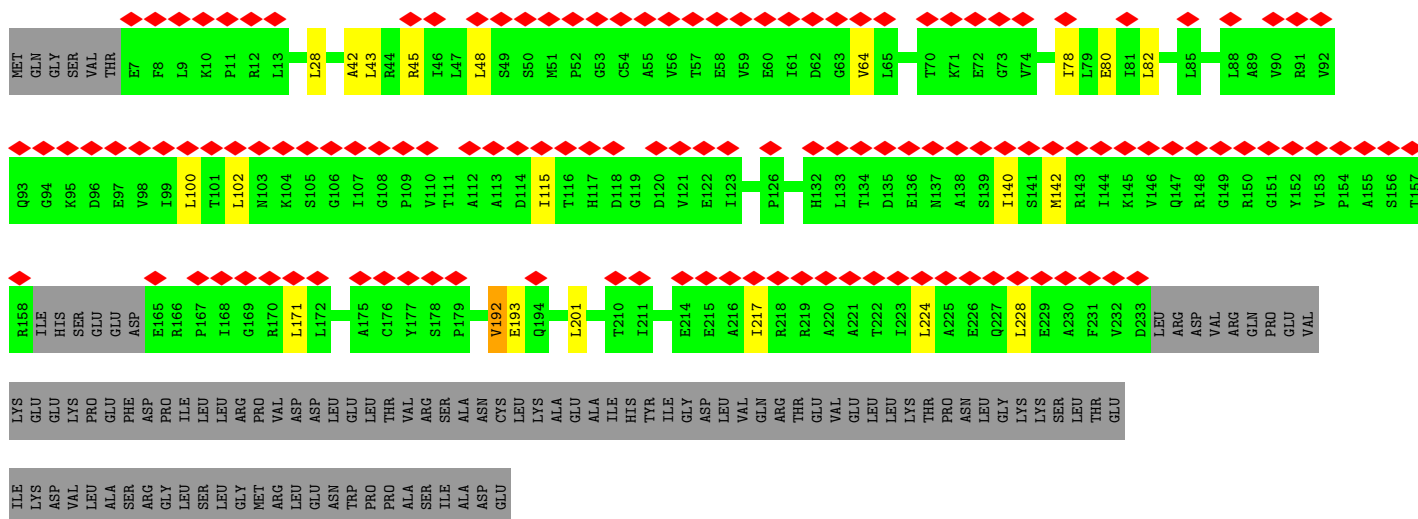
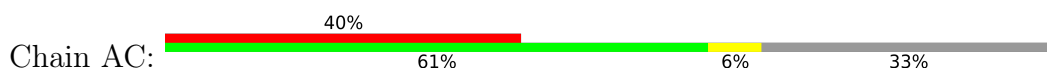




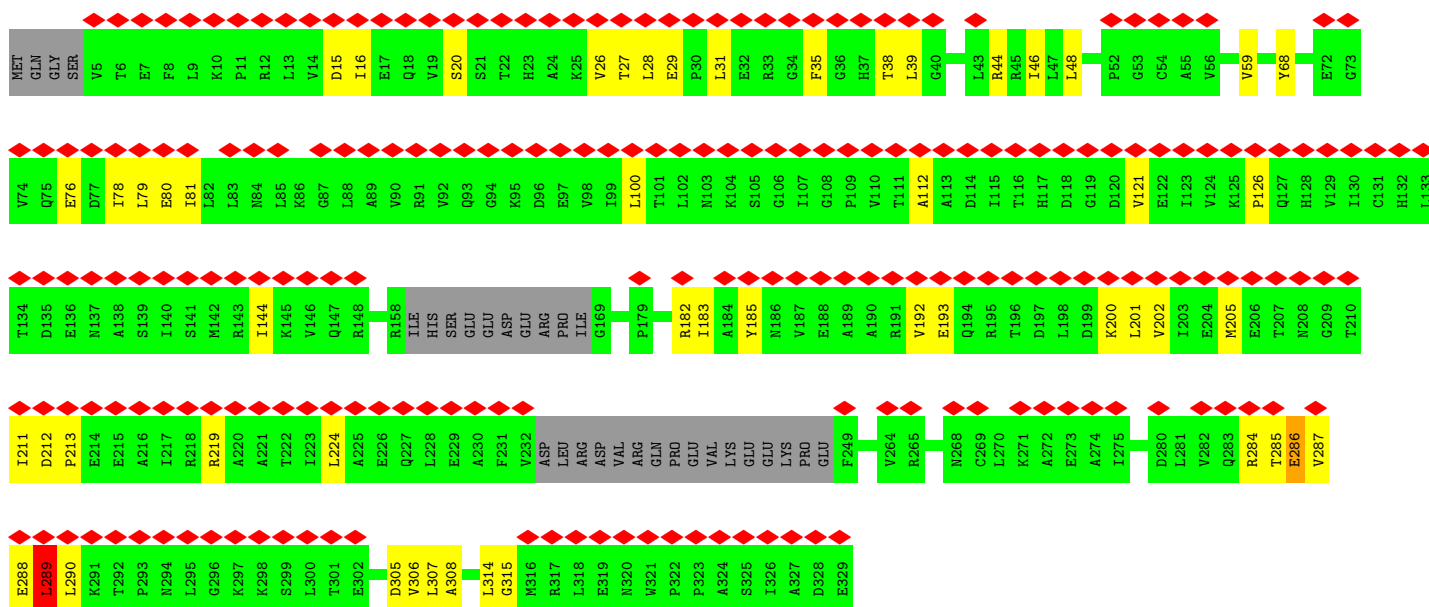
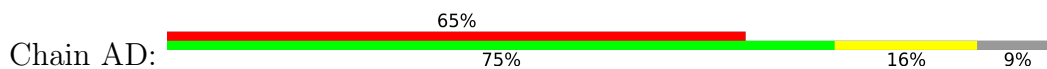
• Molecule 12: Transcription antitermination protein RfaH



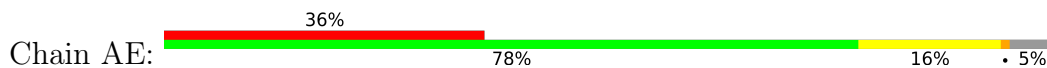
• Molecule 13: DNA-directed RNA polymerase subunit alpha



• Molecule 13: DNA-directed RNA polymerase subunit alpha

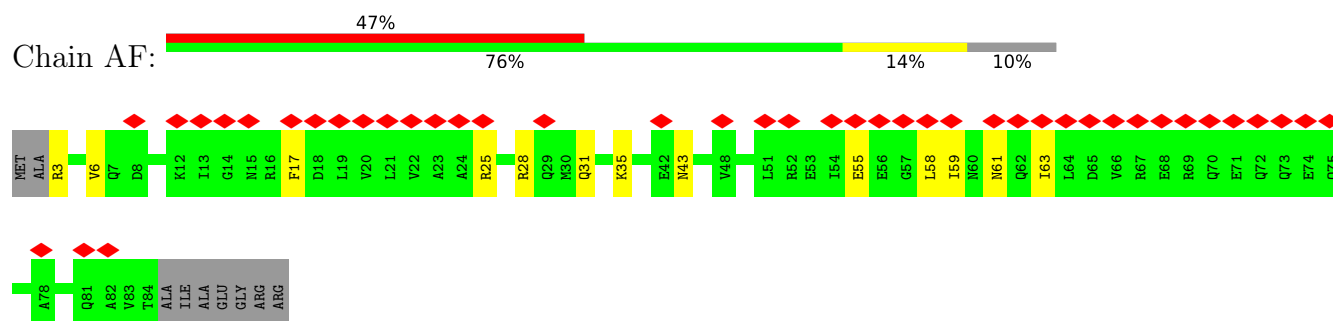


• Molecule 14: DNA-directed RNA polymerase subunit beta'

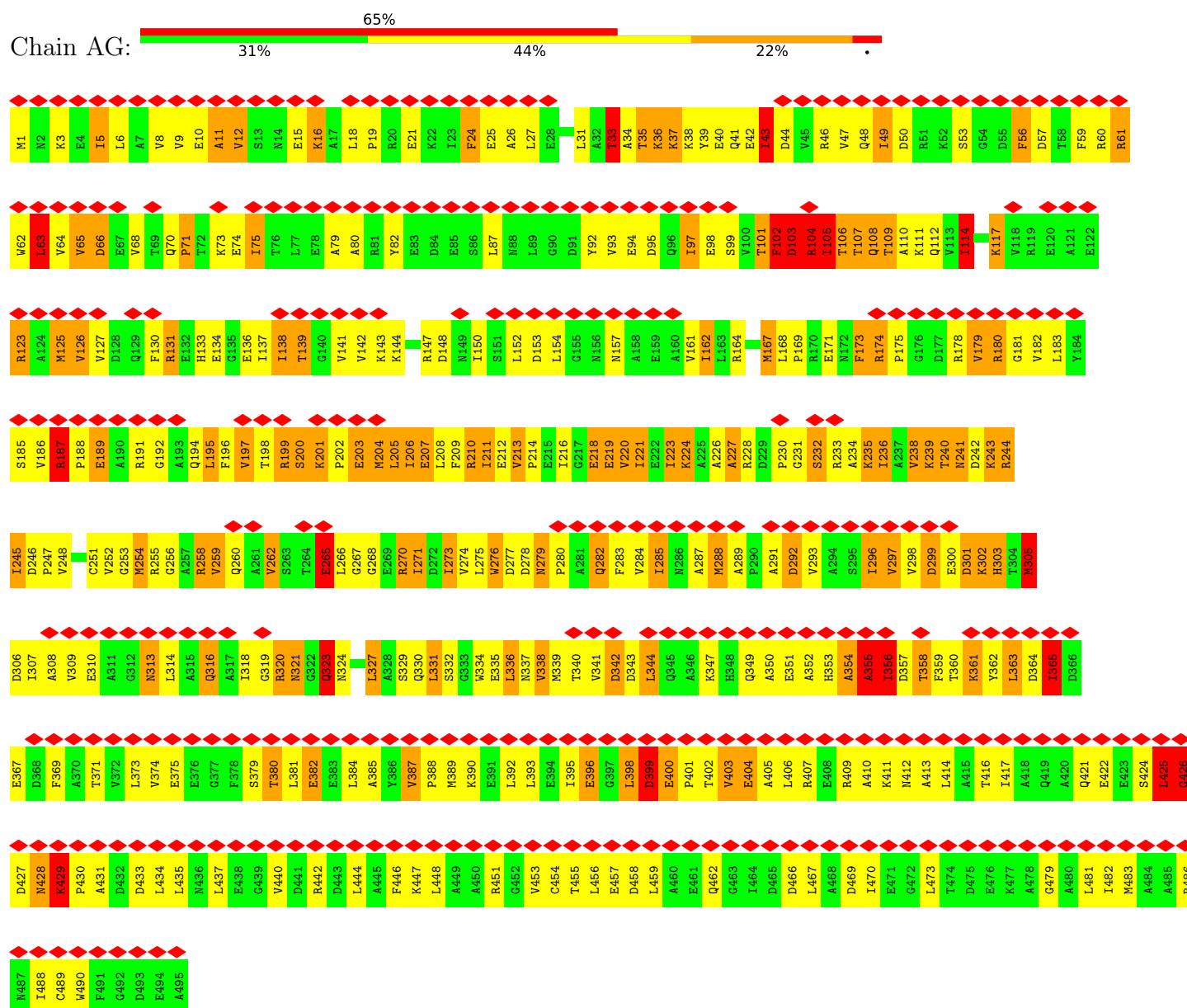




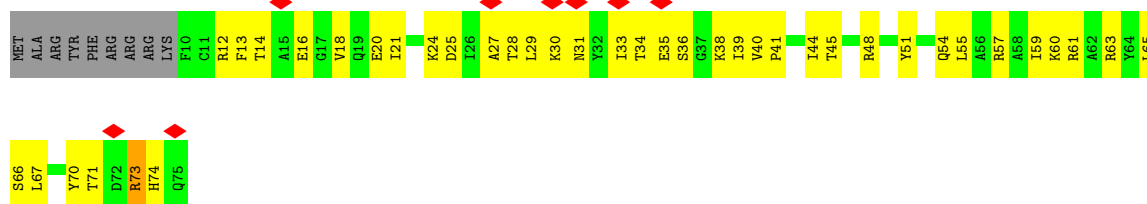
- Molecule 15: DNA-directed RNA polymerase subunit omega



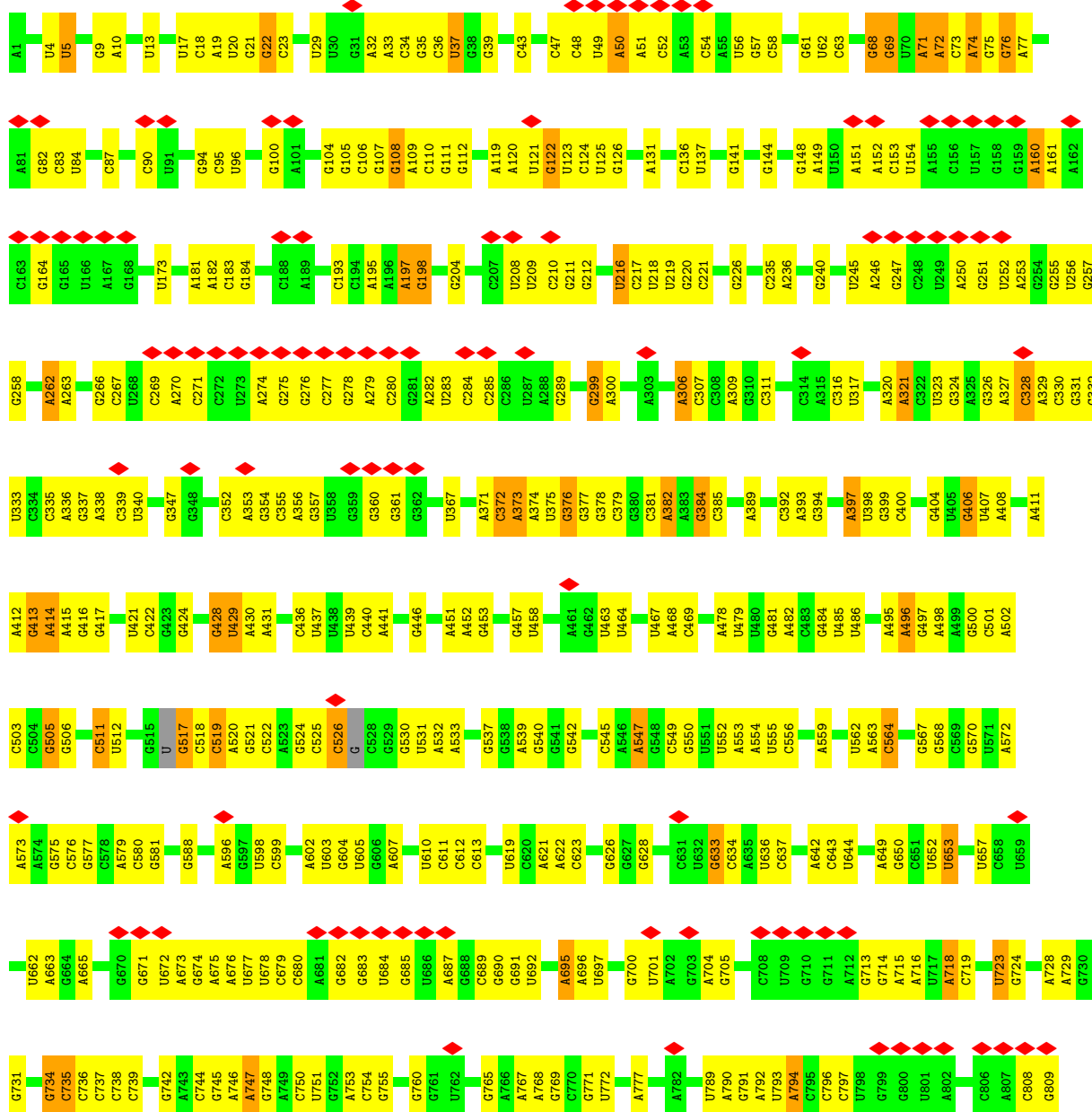
- Molecule 16: Transcription termination/antitermination protein NusA

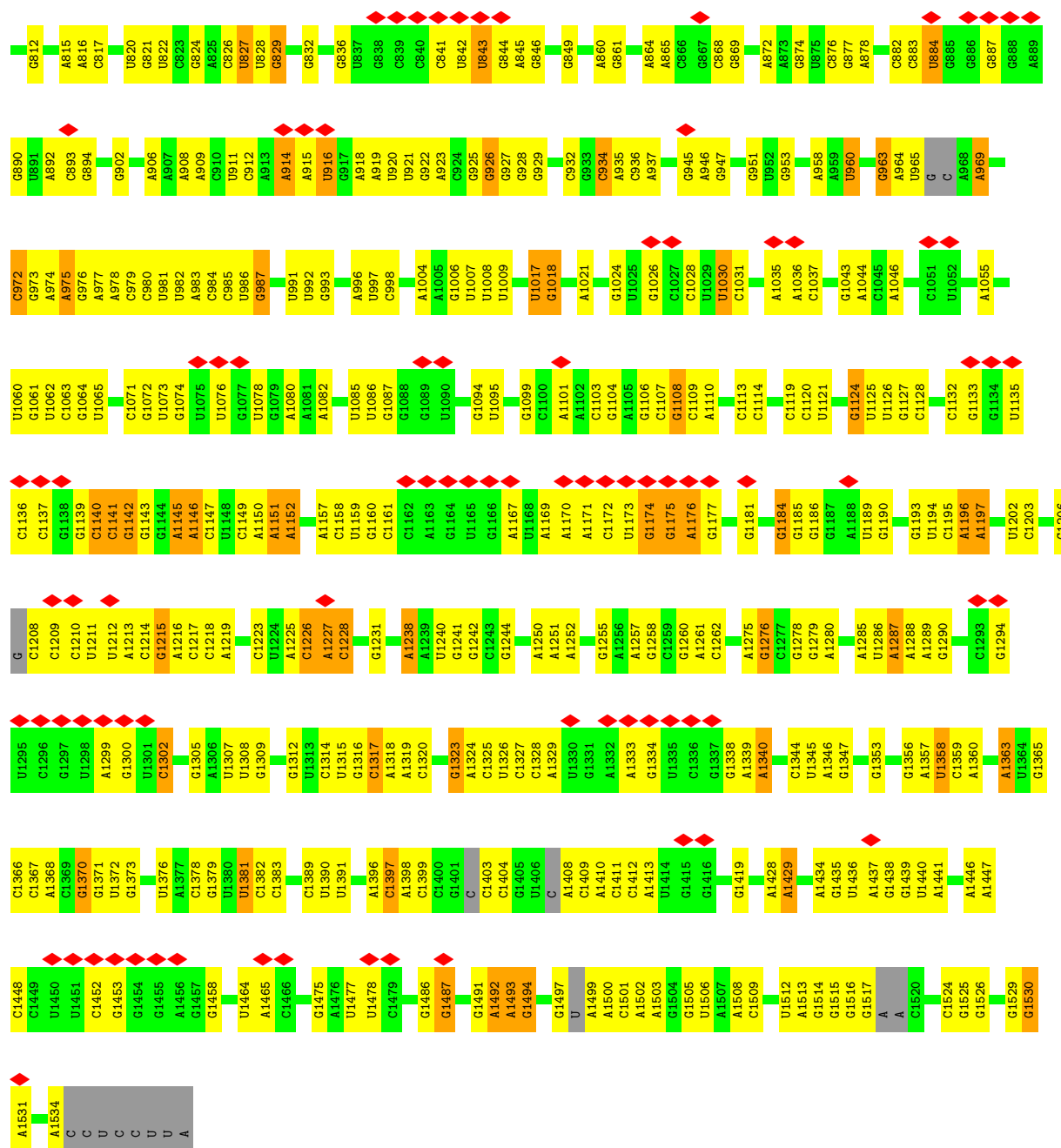


- Molecule 17: 30S ribosomal protein S18



• Molecule 18: 16S rRNA

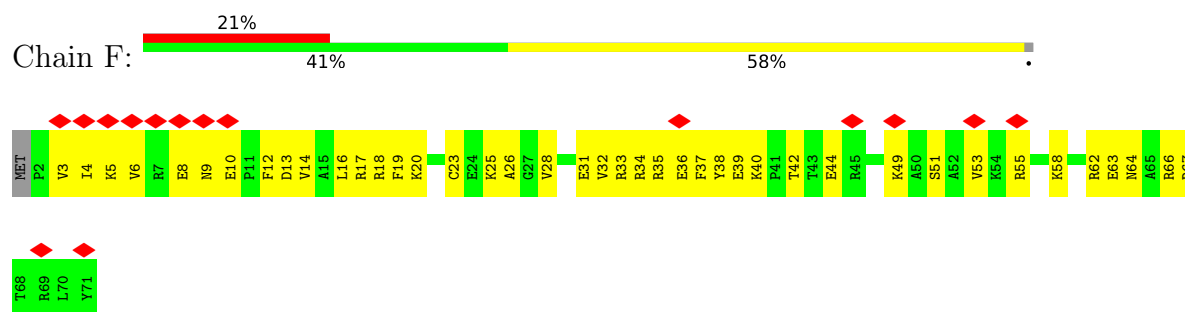




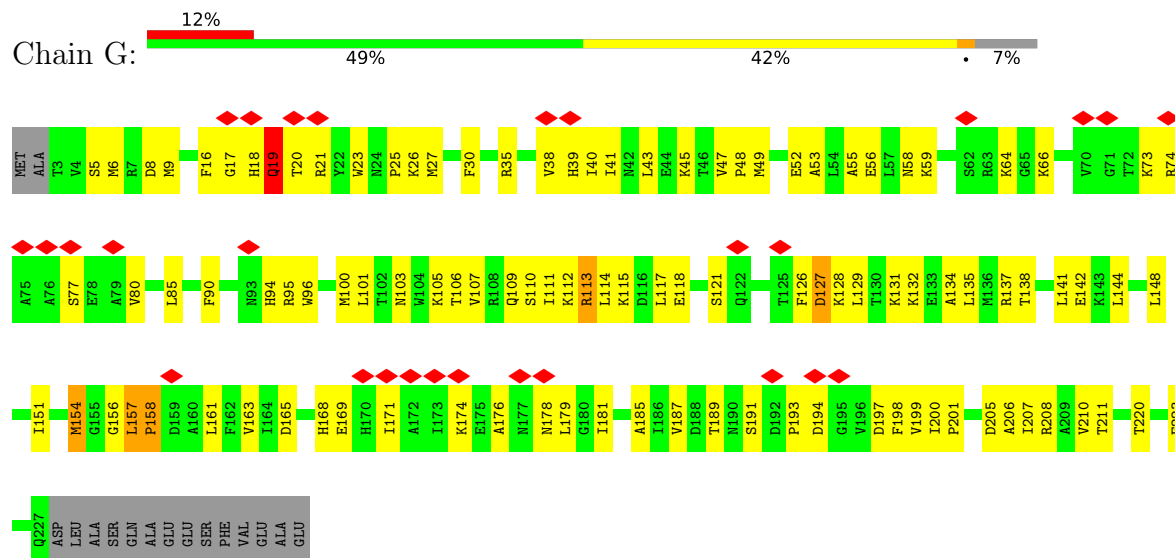
• Molecule 19: 30S ribosomal protein S20



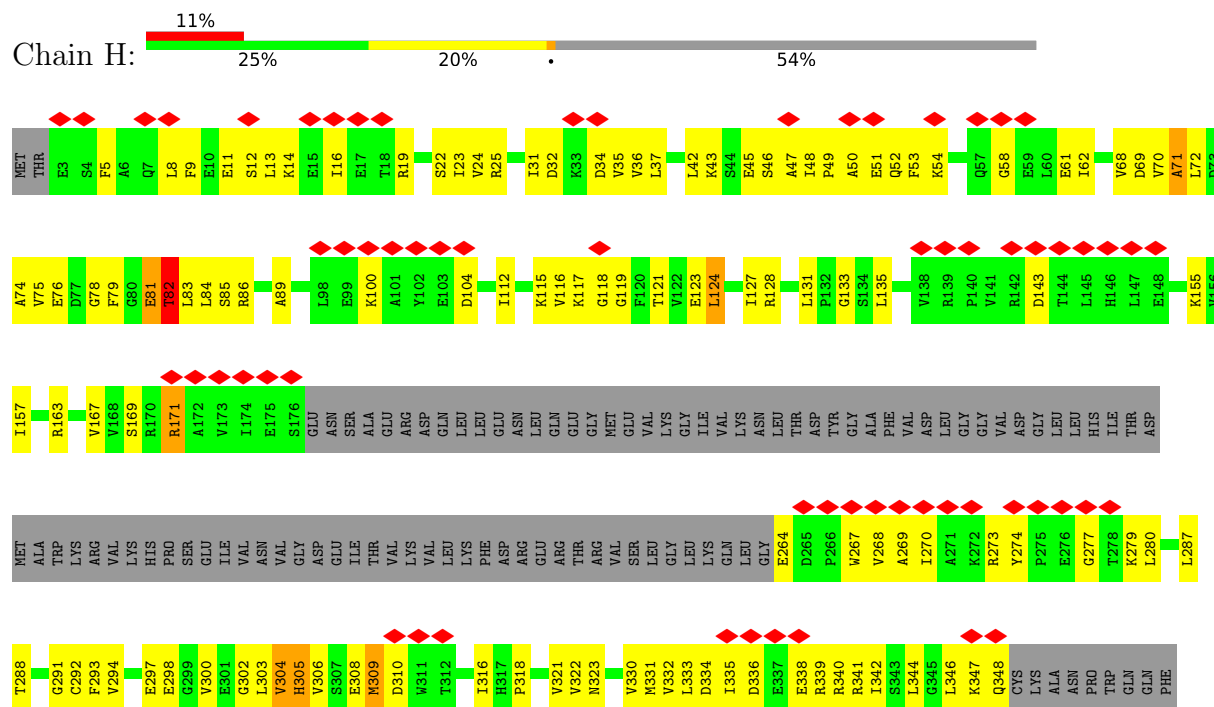
• Molecule 20: 30S ribosomal protein S21

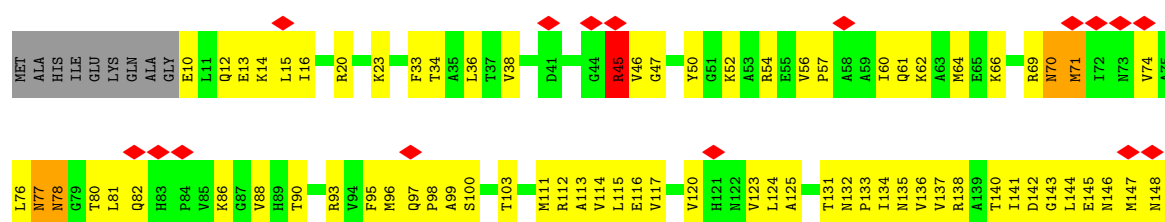


• Molecule 21: 30S ribosomal protein S2



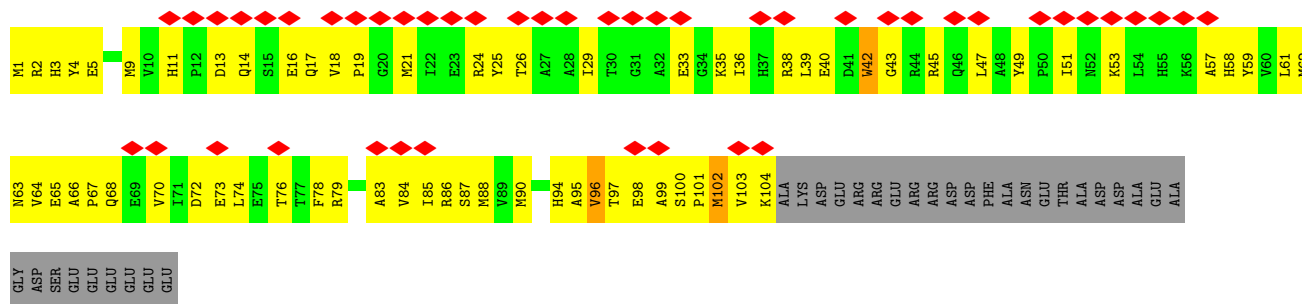
• Molecule 22: 30S ribosomal protein S1



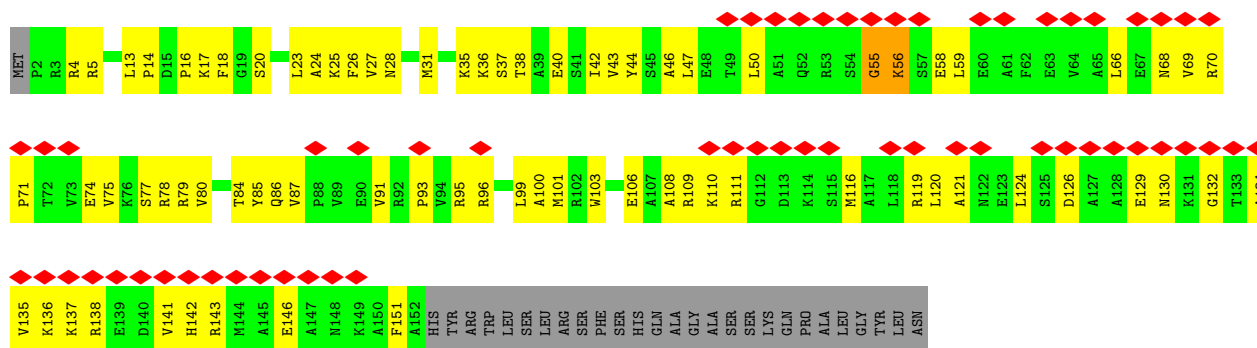




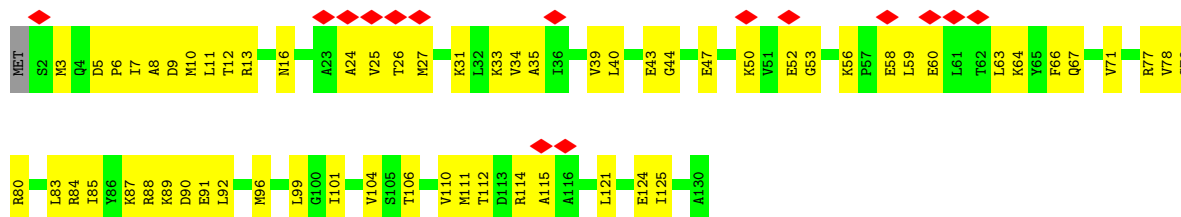
• Molecule 26: 30S ribosomal protein S6



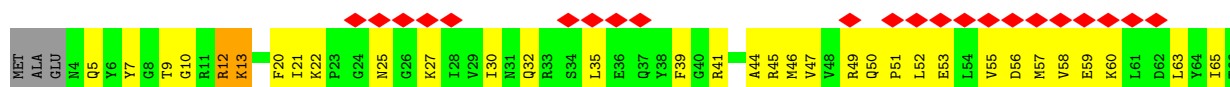
• Molecule 27: 30S ribosomal protein S7



• Molecule 28: 30S ribosomal protein S8



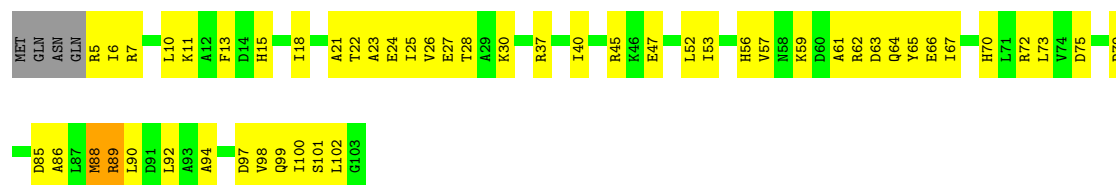
• Molecule 29: 30S ribosomal protein S9





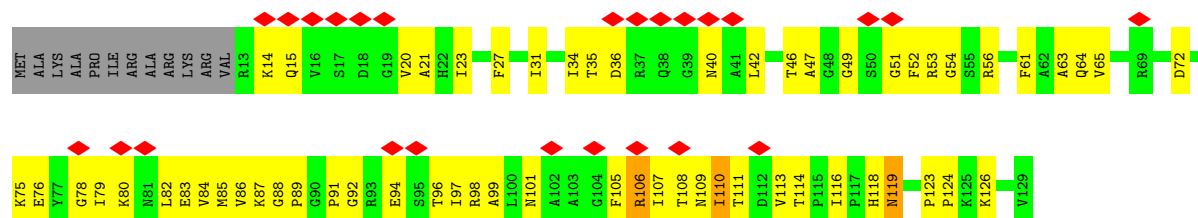
- Molecule 30: 30S ribosomal protein S10

Chain P: 47% 48%



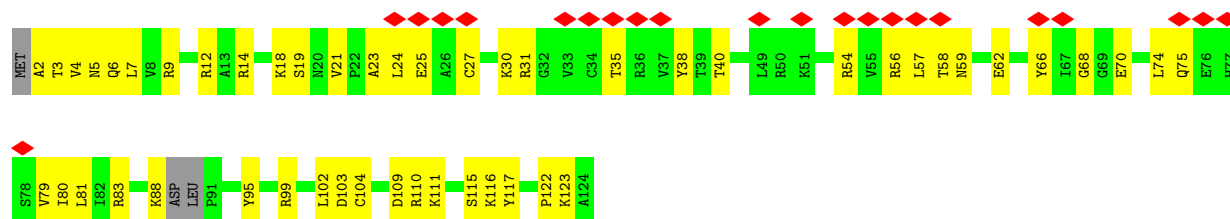
- Molecule 31: 30S ribosomal protein S11

Chain Q: 19% 43% 45% 9%



- Molecule 32: 30S ribosomal protein S12

Chain R: 18% 57% 40%



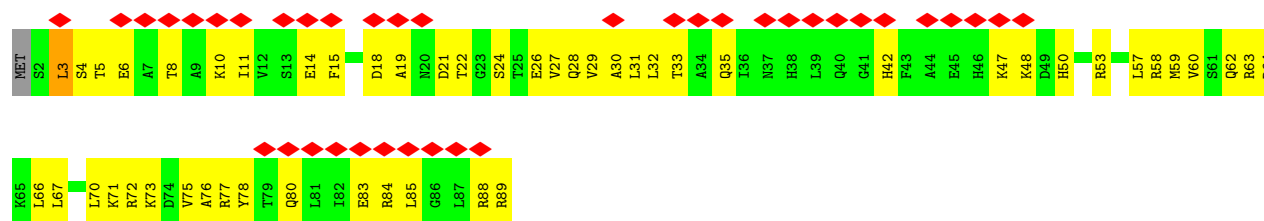
- Molecule 33: 30S ribosomal protein S14

Chain S: 53% 46%

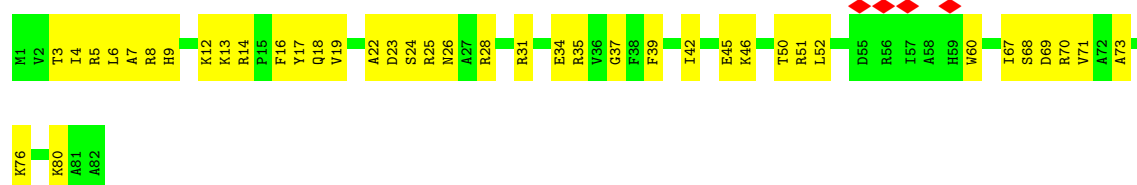


- Molecule 34: 30S ribosomal protein S15

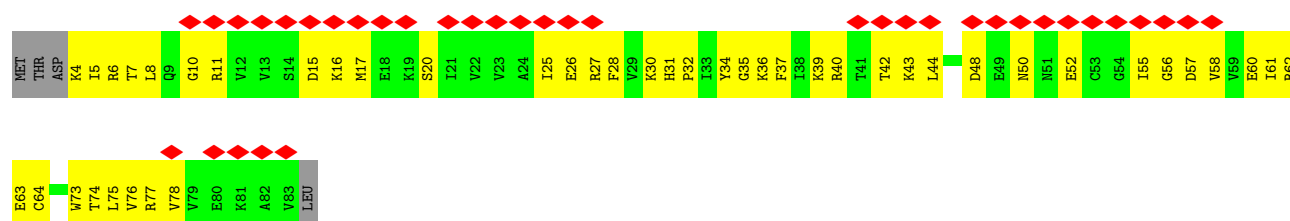
Chain T: 43% 42% 56%



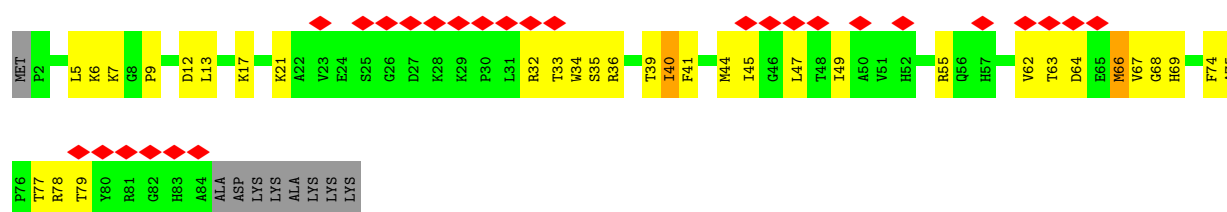
- Molecule 35: 30S ribosomal protein S16



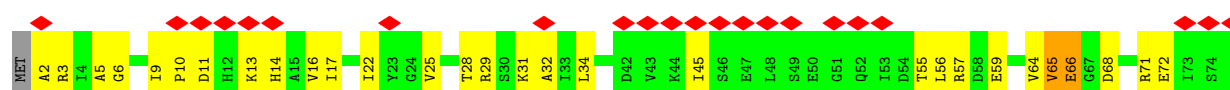
- Molecule 36: 30S ribosomal protein S17

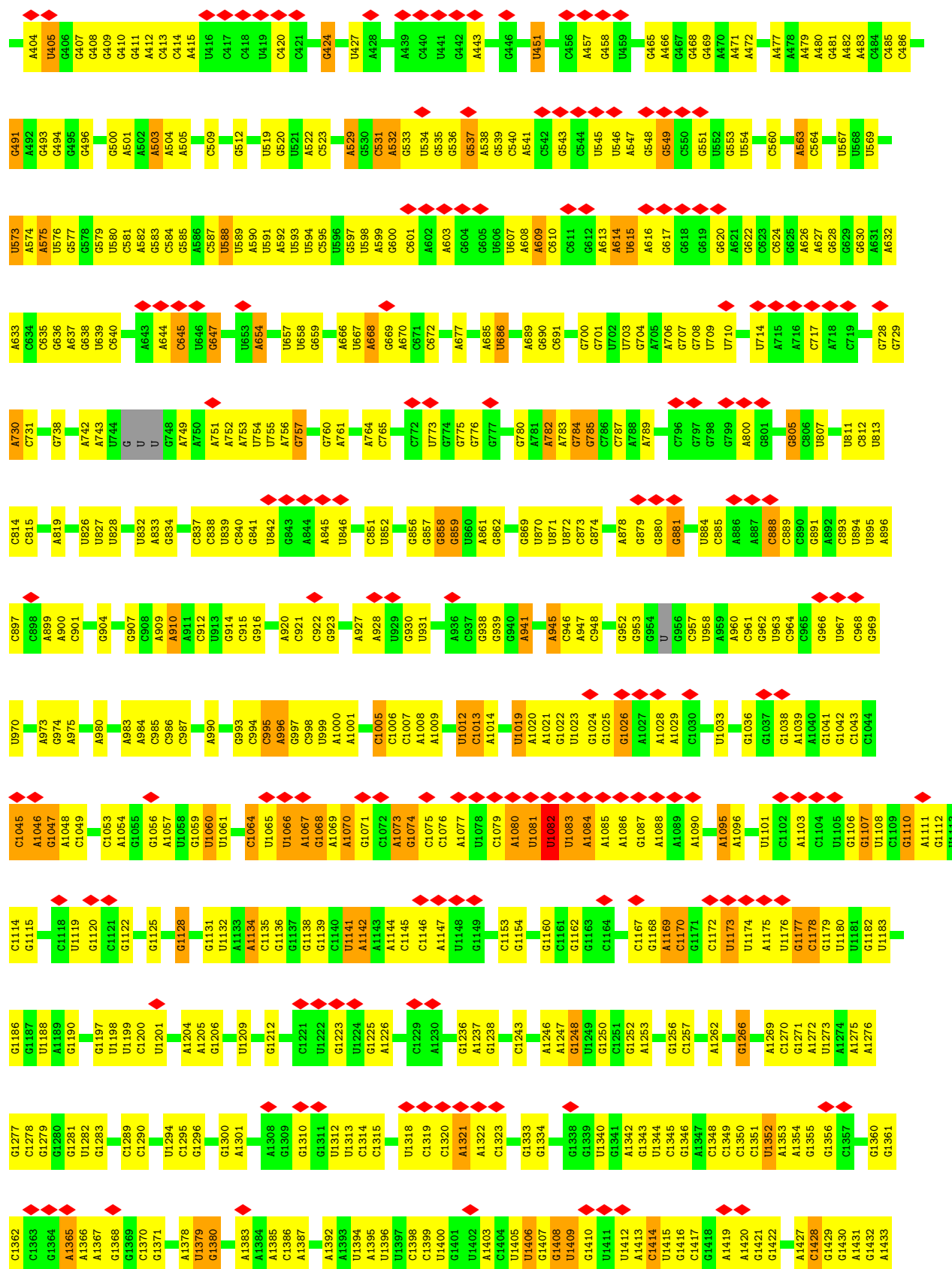


- Molecule 37: 30S ribosomal protein S19

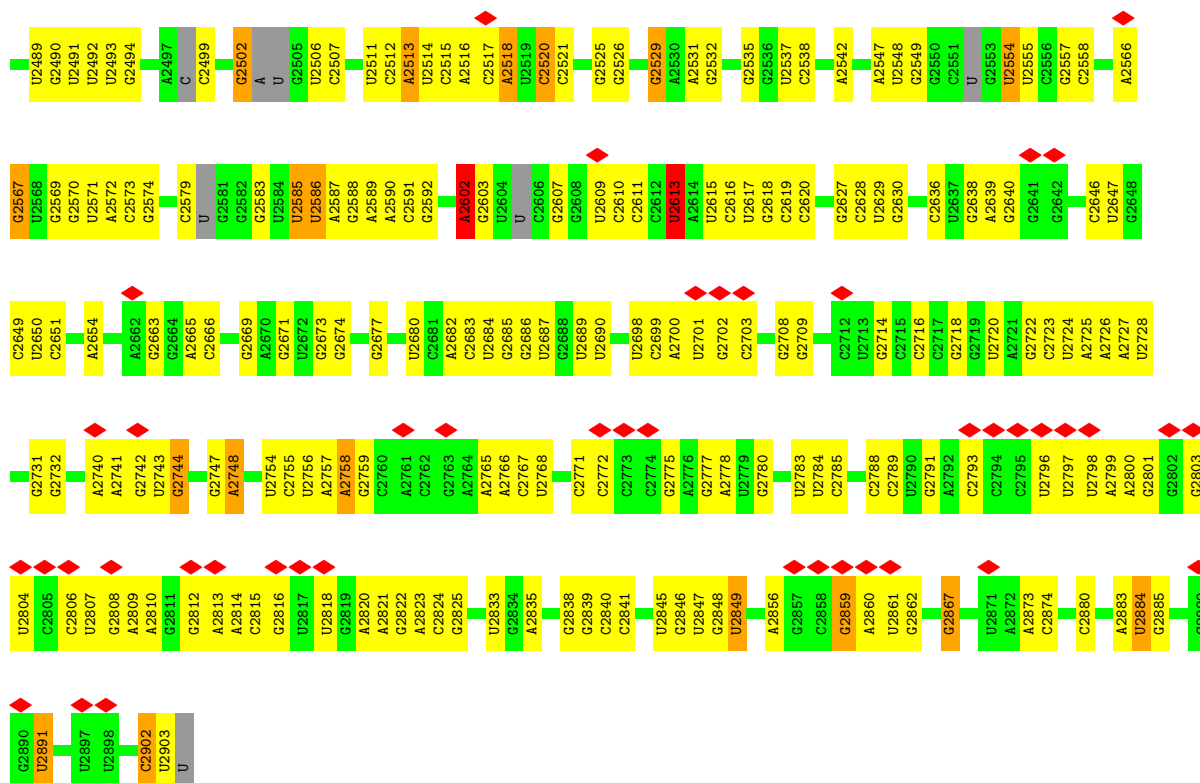


- Molecule 38: 30S ribosomal protein S13

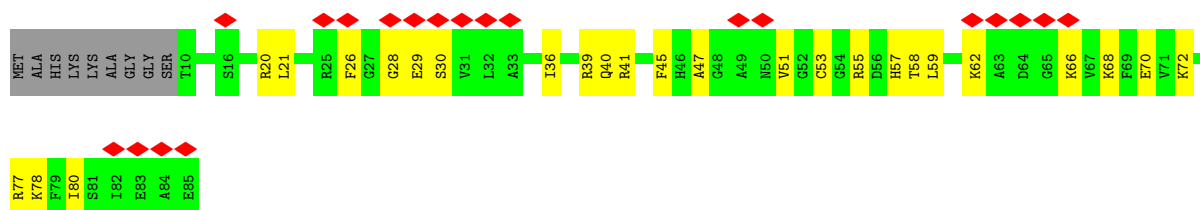




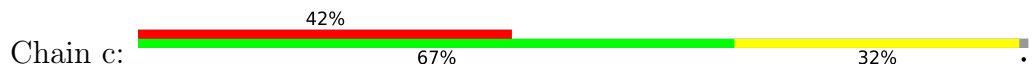




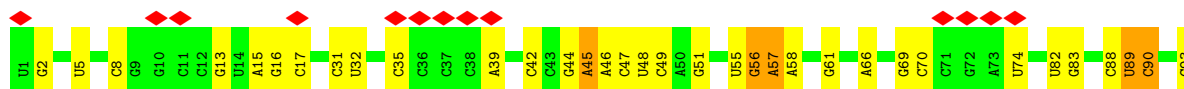
• Molecule 42: 50S ribosomal protein L27

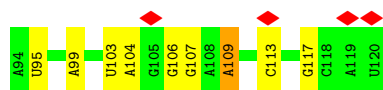


• Molecule 43: 50S ribosomal protein L28



• Molecule 44: 5S rRNA

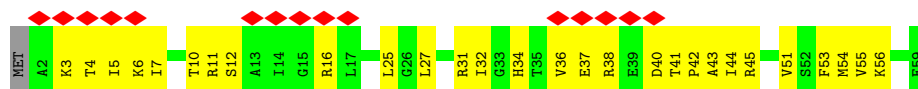




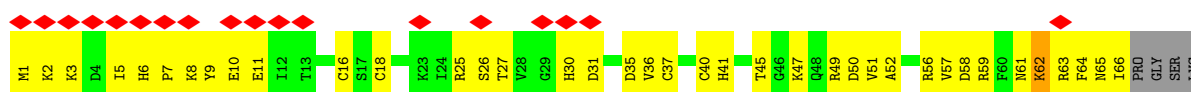
- Molecule 45: 50S ribosomal protein L29



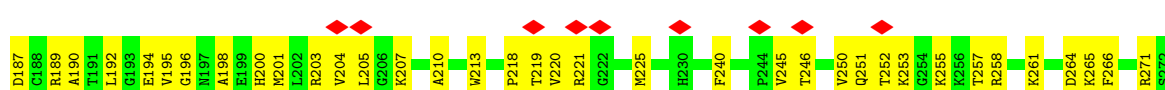
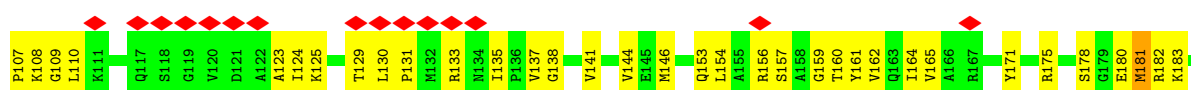
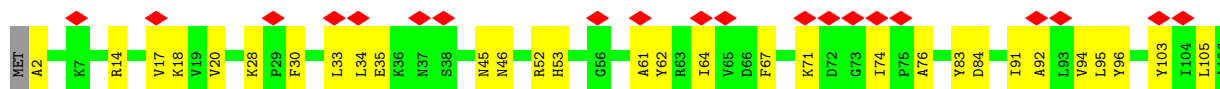
- Molecule 46: 50S ribosomal protein L30



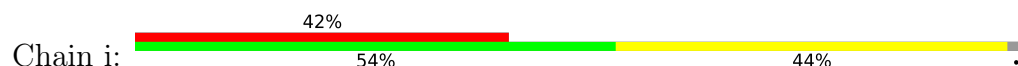
- Molecule 47: 50S ribosomal protein L31

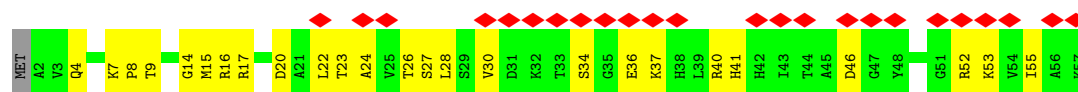


- Molecule 48: 50S ribosomal protein L2

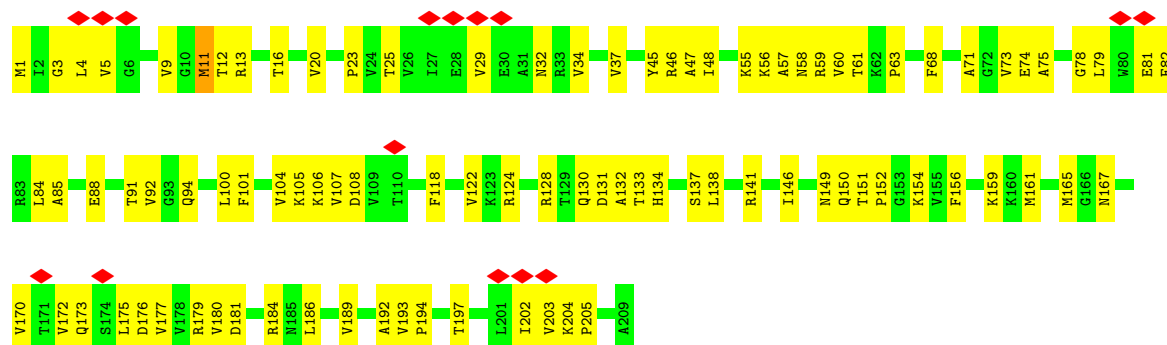


- Molecule 49: 50S ribosomal protein L32

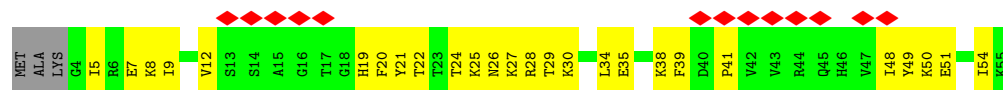




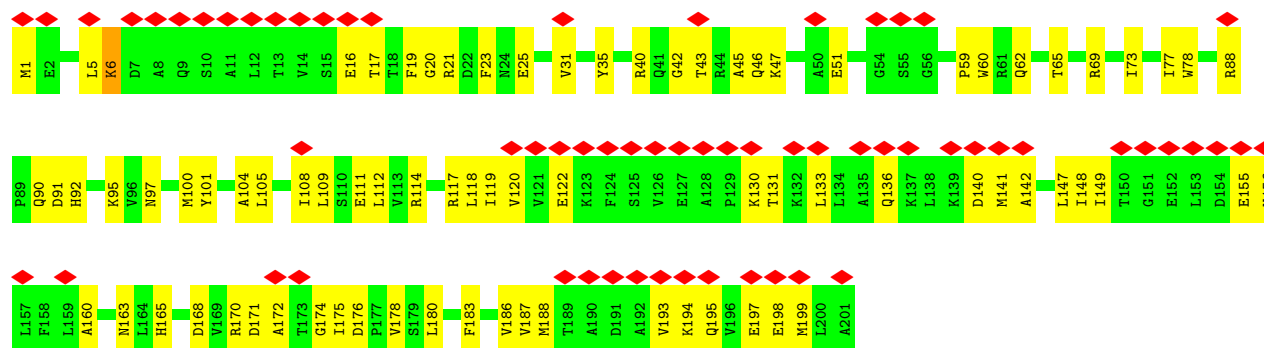
- Molecule 50: 50S ribosomal protein L3



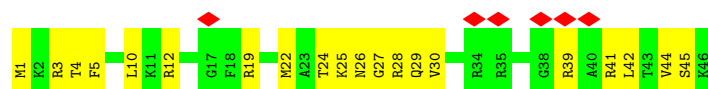
- Molecule 51: 50S ribosomal protein L33



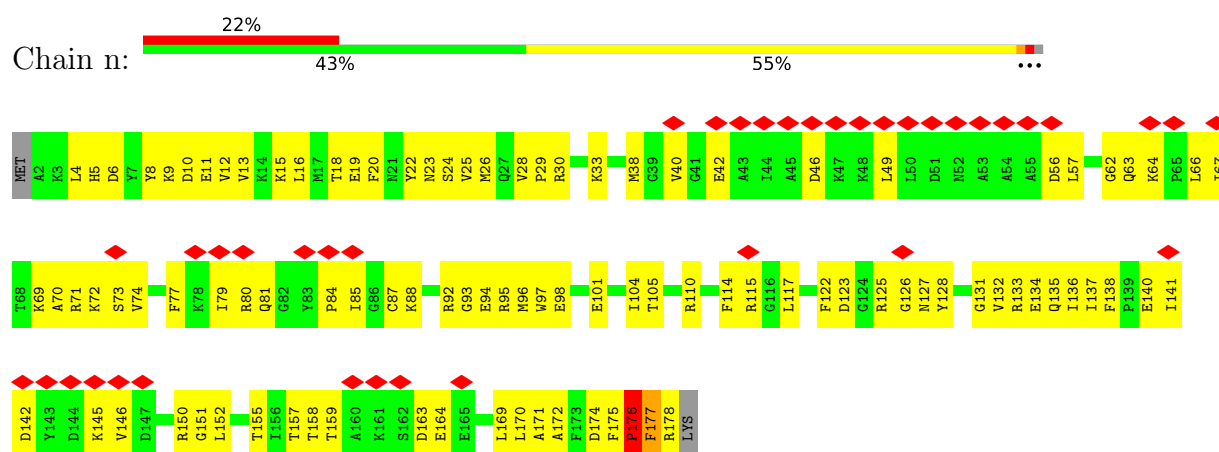
- Molecule 52: 50S ribosomal protein L4



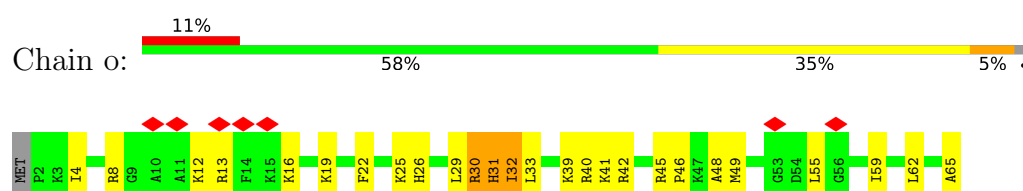
- Molecule 53: 50S ribosomal protein L34



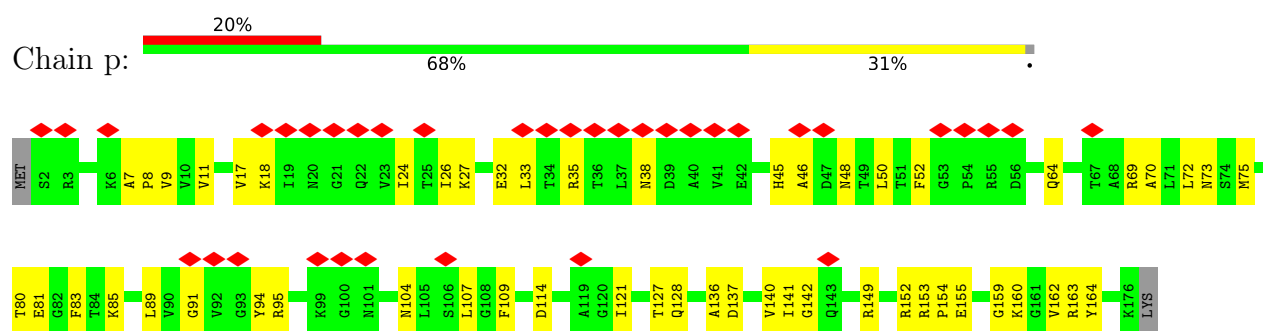
- Molecule 54: 50S ribosomal protein L5



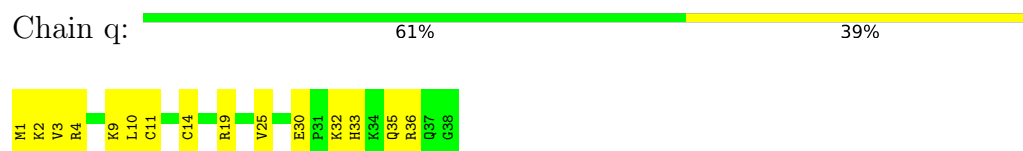
• Molecule 55: 50S ribosomal protein L35



• Molecule 56: 50S ribosomal protein L6



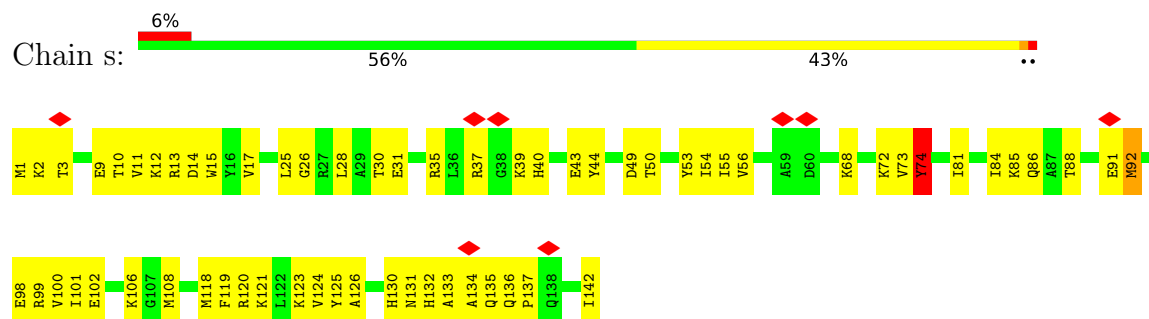
• Molecule 57: 50S ribosomal protein L36



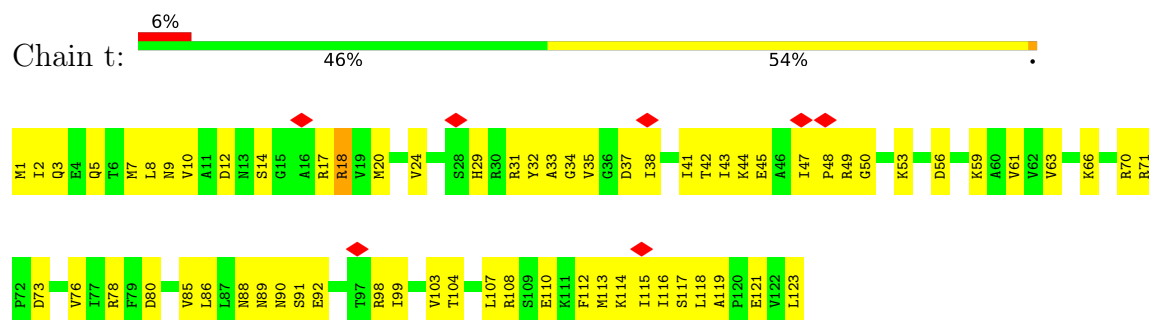
• Molecule 58: 50S ribosomal protein L9



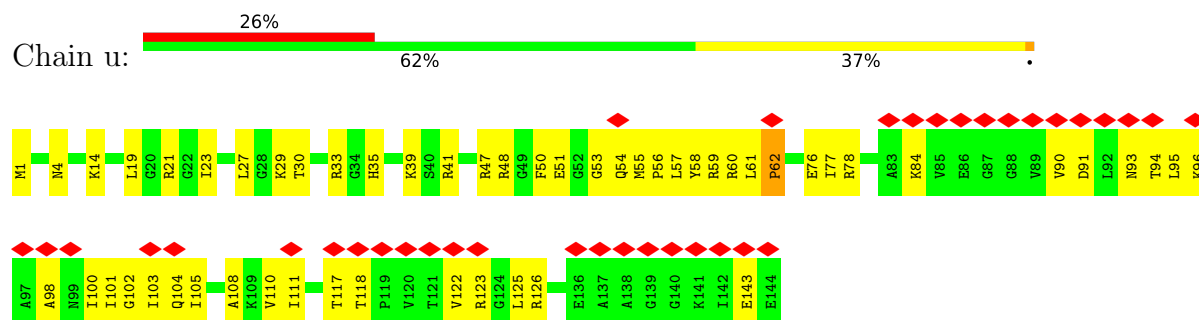
- Molecule 59: 50S ribosomal protein L13



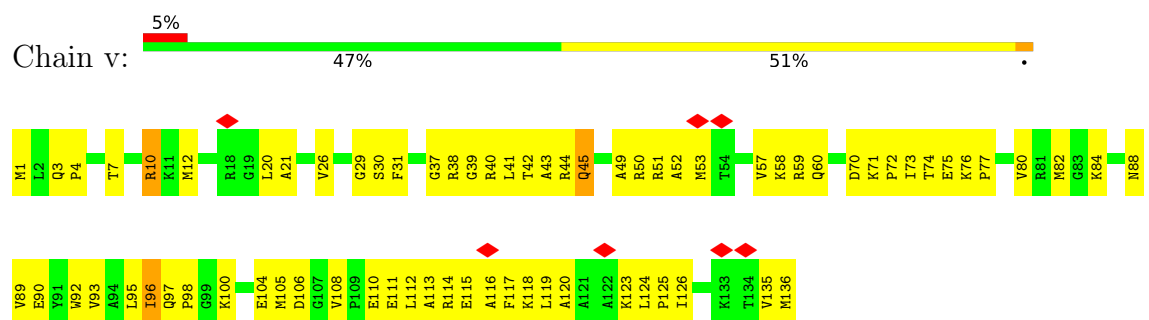
- Molecule 60: 50S ribosomal protein L14



- Molecule 61: 50S ribosomal protein L15

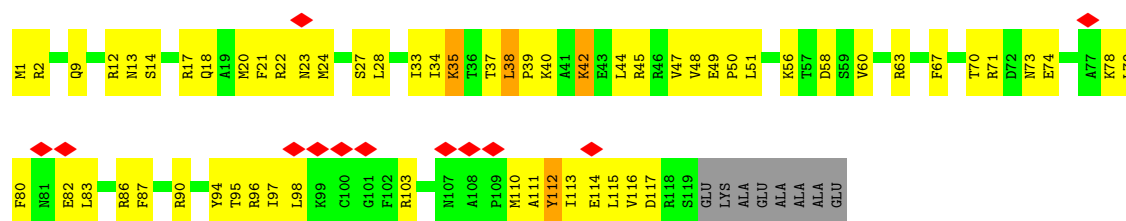


- Molecule 62: 50S ribosomal protein L16

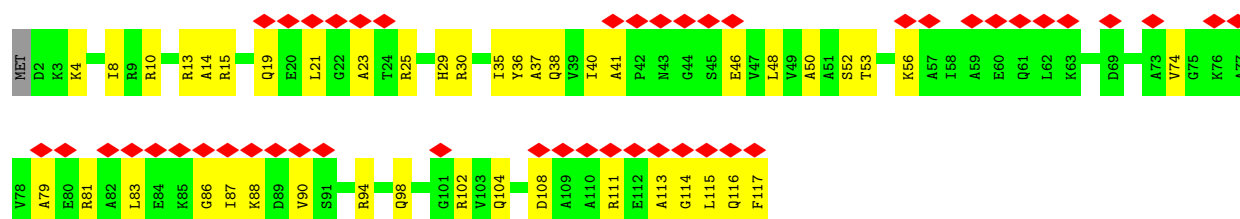
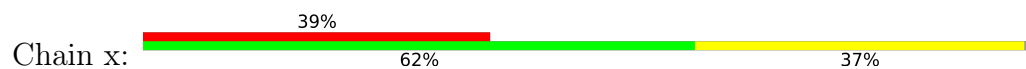


- Molecule 63: 50S ribosomal protein L17

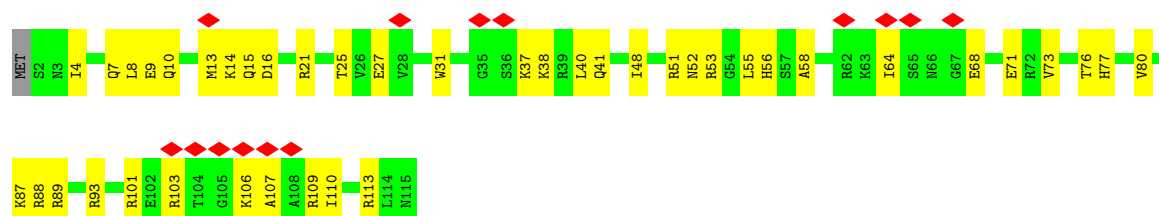




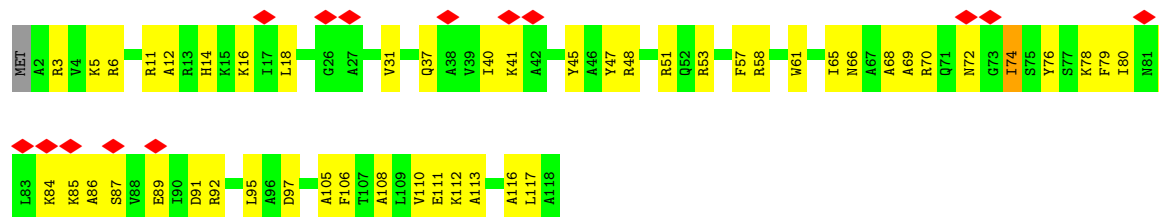
• Molecule 64: 50S ribosomal protein L18



• Molecule 65: 50S ribosomal protein L19



• Molecule 66: 50S ribosomal protein L20



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	14614	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	0.024	Depositor
Minimum map value	-0.004	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.001	Depositor
Recommended contour level	0.0017	Depositor
Map size (Å)	532.48, 532.48, 532.48	wwPDB
Map dimensions	512, 512, 512	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.04, 1.04, 1.04	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	0.78	0/1259
7	6	0.56	0/783	0.78	0/1203
8	7	0.56	2/856 (0.2%)	0.88	4/1326 (0.3%)
9	9	0.37	0/1131	0.74	2/1524 (0.1%)
10	A	0.27	0/1810	0.58	0/2821
10	B	0.27	0/1810	0.58	0/2821
11	AA	0.38	0/10547	0.62	0/14232
12	AB	0.61	0/1317	1.22	18/1786 (1.0%)
13	AC	0.38	0/1718	0.62	0/2328
13	AD	0.36	0/2096	0.69	3/2854 (0.1%)
14	AE	0.39	0/10561	0.64	7/14258 (0.0%)
15	AF	0.30	0/652	0.61	0/879
16	AG	0.97	5/3897 (0.1%)	1.40	48/5273 (0.9%)
17	C	0.67	0/553	0.81	1/743 (0.1%)
18	D	0.29	0/36610	0.41	9/57091 (0.0%)
19	E	0.61	0/675	0.72	0/895
20	F	0.53	0/597	0.61	0/792
21	G	0.68	5/1791 (0.3%)	0.79	8/2413 (0.3%)
22	H	0.38	0/1746	0.81	0/2382
23	I	0.57	1/1663 (0.1%)	0.68	4/2241 (0.2%)
24	J	0.46	0/1665	0.58	0/2227
25	K	0.71	2/1165 (0.2%)	0.81	5/1568 (0.3%)
26	L	0.68	1/867 (0.1%)	0.79	1/1171 (0.1%)
27	M	0.56	0/1195	0.69	2/1602 (0.1%)
28	N	0.50	0/989	0.58	0/1326
29	O	0.66	3/1034 (0.3%)	0.79	3/1375 (0.2%)
30	P	0.49	0/800	0.66	1/1082 (0.1%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
31	Q	0.72	2/893 (0.2%)	0.76	2/1205 (0.2%)
32	R	0.49	0/952	0.59	0/1274
33	S	0.53	0/817	0.61	0/1088
34	T	0.57	1/722 (0.1%)	0.68	0/964
35	U	0.41	0/659	0.53	0/884
36	V	0.48	0/657	0.63	0/881
37	W	0.56	1/680 (0.1%)	0.62	1/915 (0.1%)
38	X	0.45	0/909	0.72	1/1215 (0.1%)
39	Y	0.38	2/1046 (0.2%)	0.66	2/1410 (0.1%)
40	Z	0.12	0/227	0.40	0/304
41	a	0.30	0/69247	0.43	10/107985 (0.0%)
42	b	0.41	0/589	0.55	0/779
43	c	0.51	0/635	0.61	0/848
44	d	0.25	0/2872	0.37	0/4478
45	e	0.69	2/502 (0.4%)	0.65	1/667 (0.1%)
46	f	0.52	0/452	0.57	0/605
47	g	0.45	1/531 (0.2%)	0.64	0/709
48	h	0.49	1/2121 (0.0%)	0.58	1/2852 (0.0%)
49	i	0.41	0/450	0.55	0/599
50	j	0.51	0/1586	0.57	1/2134 (0.0%)
51	k	0.45	0/433	0.62	0/576
52	l	0.51	1/1571 (0.1%)	0.62	0/2113
53	m	0.45	0/380	0.56	0/498
54	n	0.46	0/1434	0.66	1/1926 (0.1%)
55	o	0.51	0/513	0.71	1/676 (0.1%)
56	p	0.41	0/1333	0.62	2/1805 (0.1%)
57	q	0.45	0/303	0.64	0/397
58	r	0.28	0/1122	0.48	0/1515
59	s	0.70	2/1152 (0.2%)	0.73	2/1551 (0.1%)
60	t	0.52	0/955	0.75	3/1279 (0.2%)
61	u	0.43	0/1062	0.59	0/1413
62	v	0.60	1/1093 (0.1%)	0.77	3/1460 (0.2%)
63	w	0.83	3/964 (0.3%)	0.80	3/1289 (0.2%)
64	x	0.34	0/902	0.50	0/1209
65	y	0.41	0/929	0.54	0/1242
66	z	0.61	2/960 (0.2%)	0.62	0/1278
All	All	0.41	39/195004 (0.0%)	0.56	150/286850 (0.1%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
9	9	0	3
12	AB	0	2
13	AC	0	1
13	AD	0	2
14	AE	0	4
16	AG	0	6
21	G	0	1
22	H	0	5
23	I	0	1
25	K	0	2
29	O	0	1
38	X	0	1
39	Y	0	1
54	n	0	1
55	o	0	1
59	s	0	1
61	u	0	2
All	All	0	35

All (39) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
16	AG	429	LYS	C-N	13.81	1.51	1.33
63	w	35	LYS	CE-NZ	-12.77	1.11	1.49
29	O	80	ARG	CD-NE	-10.52	1.31	1.46
63	w	42	LYS	CD-CE	-9.41	1.24	1.52
25	K	45	ARG	CG-CD	7.74	1.75	1.52
66	z	74	ILE	CG1-CD1	7.59	1.81	1.51
8	7	39	G	C1'-N9	-7.57	1.36	1.48
21	G	19	GLN	CB-CG	-7.55	1.29	1.52
29	O	118	LEU	CG-CD2	-7.33	1.28	1.52
37	W	66	MET	CG-SD	-7.21	1.62	1.80
26	L	42	TRP	CB-CG	-7.18	1.28	1.50
59	s	74	TYR	CZ-OH	-7.12	1.23	1.38
45	e	46	VAL	CB-CG1	-7.08	1.29	1.52
8	7	2	U	C1'-N1	7.05	1.59	1.48
16	AG	246	ASP	C-N	7.02	1.50	1.33
3	2	5	GLU	CG-CD	-7.00	1.34	1.52
31	Q	106	ARG	CD-NE	-6.43	1.37	1.46
21	G	158	PRO	CA-C	-6.30	1.44	1.52
29	O	80	ARG	CZ-NH2	6.30	1.41	1.33
16	AG	355	ALA	N-CA	6.24	1.54	1.46
21	G	158	PRO	CG-CD	6.04	1.71	1.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	h	181	MET	CG-SD	-6.01	1.65	1.80
39	Y	5	GLN	CB-CG	-6.01	1.34	1.52
66	z	74	ILE	CB-CG2	-6.00	1.32	1.52
59	s	92	MET	CG-SD	-5.96	1.65	1.80
16	AG	355	ALA	CA-C	5.95	1.60	1.52
25	K	45	ARG	CD-NE	5.89	1.54	1.46
21	G	157	LEU	C-O	-5.81	1.15	1.24
52	l	6	LYS	CE-NZ	-5.81	1.31	1.49
34	T	3	LEU	CG-CD2	-5.63	1.33	1.52
47	g	62	LYS	CE-NZ	-5.50	1.32	1.49
39	Y	5	GLN	CA-C	-5.50	1.45	1.52
16	AG	99	SER	N-CA	5.33	1.49	1.46
23	I	134	MET	CB-CG	-5.31	1.36	1.52
45	e	25	GLN	CB-CG	-5.31	1.36	1.52
21	G	19	GLN	CD-NE2	-5.15	1.22	1.33
31	Q	119	ASN	CG-ND2	5.13	1.44	1.33
62	v	45	GLN	CB-CG	-5.10	1.37	1.52
63	w	38	LEU	N-CA	-5.07	1.42	1.46

All (150) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
16	AG	104	ARG	CA-C-N	17.91	154.21	121.97
16	AG	104	ARG	C-N-CA	17.91	154.21	121.97
16	AG	246	ASP	CA-C-N	14.51	137.97	119.84
16	AG	246	ASP	C-N-CA	14.51	137.97	119.84
16	AG	354	ALA	O-C-N	-13.68	107.32	122.09
16	AG	429	LYS	CA-C-N	11.48	132.20	119.92
16	AG	429	LYS	C-N-CA	11.48	132.20	119.92
21	G	158	PRO	N-CD-CG	-10.96	86.75	103.20
16	AG	24	PHE	CA-CB-CG	-10.54	103.26	113.80
12	AB	141	LEU	CA-C-N	-10.53	106.37	122.16
12	AB	141	LEU	C-N-CA	-10.53	106.37	122.16
16	AG	105	ILE	CA-C-N	10.22	136.95	120.60
16	AG	105	ILE	C-N-CA	10.22	136.95	120.60
26	L	102	MET	CA-CB-CG	-9.62	94.87	114.10
59	s	92	MET	CG-SD-CE	-9.36	80.32	100.90
21	G	113	ARG	NE-CZ-NH2	9.16	127.44	119.20
16	AG	103	ASP	CA-CB-CG	9.07	121.67	112.60
8	7	1	A	O3'-P-O5'	-8.63	91.06	104.00
25	K	78	ASN	N-CA-CB	-8.51	96.11	110.49
12	AB	129	ILE	N-CA-C	8.42	120.23	107.77

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
16	AG	292	ASP	O-C-N	-8.26	107.40	122.44
8	7	4	U	C2'-C3'-O3'	8.26	121.89	109.50
16	AG	35	THR	CA-CB-OG1	-8.24	97.24	109.60
16	AG	109	THR	CB-CA-C	8.19	124.77	110.85
60	t	18	ARG	NE-CZ-NH2	8.00	126.40	119.20
16	AG	108	GLN	N-CA-CB	8.00	123.44	110.40
12	AB	128	ALA	CA-C-N	-7.85	111.83	122.98
12	AB	128	ALA	C-N-CA	-7.85	111.83	122.98
55	o	30	ARG	NE-CZ-NH1	-7.62	113.88	121.50
17	C	73	ARG	NE-CZ-NH2	7.48	125.93	119.20
16	AG	33	THR	CA-C-N	7.47	135.80	121.54
16	AG	33	THR	C-N-CA	7.47	135.80	121.54
16	AG	102	PHE	CA-C-N	7.47	135.80	121.54
16	AG	102	PHE	C-N-CA	7.47	135.80	121.54
12	AB	159	PHE	CA-C-N	7.45	135.77	121.54
12	AB	159	PHE	C-N-CA	7.45	135.77	121.54
29	O	80	ARG	CG-CD-NE	7.40	128.27	112.00
63	w	112	TYR	CZ-CE2-CD2	-7.37	106.33	119.60
16	AG	108	GLN	N-CA-C	-7.29	103.85	112.89
16	AG	426	GLY	O-C-N	-7.23	113.30	122.70
23	I	134	MET	CB-CG-SD	-7.18	91.17	112.70
62	v	96	ILE	CA-C-N	7.06	132.33	121.03
62	v	96	ILE	C-N-CA	7.06	132.33	121.03
21	G	158	PRO	CA-N-CD	-7.04	102.14	112.00
21	G	19	GLN	CA-CB-CG	7.03	128.16	114.10
60	t	18	ARG	NE-CZ-NH1	-7.00	114.50	121.50
41	a	2334	U	OP2-P-O3'	-6.93	87.19	108.00
29	O	80	ARG	CB-CG-CD	-6.92	95.38	111.30
12	AB	159	PHE	CB-CA-C	6.86	124.06	110.42
16	AG	102	PHE	N-CA-C	6.76	125.20	110.80
16	AG	104	ARG	O-C-N	6.62	131.39	122.59
18	D	37	U	N3-C4-O4	-6.62	99.54	119.40
63	w	112	TYR	OH-CZ-CE2	-6.58	100.17	119.90
18	D	718	A	P-O5'-C5'	-6.54	111.09	120.90
31	Q	110	ILE	N-CA-C	-6.50	99.01	108.11
16	AG	106	THR	OG1-CB-CG2	-6.48	96.33	109.30
13	AD	289	LEU	CA-C-N	-6.46	108.97	121.58
13	AD	289	LEU	C-N-CA	-6.46	108.97	121.58
18	D	827	U	N3-C4-O4	-6.43	100.10	119.40
16	AG	355	ALA	CB-CA-C	6.41	123.17	110.42
41	a	1019	U	N3-C4-O4	-6.38	100.25	119.40
16	AG	103	ASP	CA-C-N	6.36	133.69	121.54

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
16	AG	103	ASP	C-N-CA	6.36	133.69	121.54
18	D	1358	U	N3-C4-O4	-6.33	100.42	119.40
37	W	40	ILE	CA-CB-CG1	-6.31	99.67	110.40
12	AB	99	TYR	CA-C-N	6.30	137.16	121.80
12	AB	99	TYR	C-N-CA	6.30	137.16	121.80
16	AG	109	THR	N-CA-C	-6.30	104.50	111.36
59	s	92	MET	CB-CG-SD	-6.30	93.81	112.70
16	AG	403	VAL	N-CA-C	-6.22	104.22	111.00
41	a	1019	U	C5-C4-O4	6.14	144.33	125.90
16	AG	108	GLN	CB-CA-C	-6.11	97.23	109.99
12	AB	106	ASP	CA-C-N	6.08	127.44	119.84
12	AB	106	ASP	C-N-CA	6.08	127.44	119.84
16	AG	404	GLU	N-CA-C	-6.05	105.00	112.38
16	AG	71	PRO	N-CA-C	6.02	122.54	113.81
29	O	103	PHE	CD1-CE1-CZ	-6.02	109.17	120.00
16	AG	33	THR	CA-CB-CG2	6.01	120.71	110.50
41	a	2613	U	N3-C4-O4	-5.92	101.63	119.40
41	a	1082	U	N3-C4-O4	-5.92	101.65	119.40
41	a	1141	U	C5-C4-O4	5.91	143.62	125.90
21	G	157	LEU	C-N-CD	-5.88	100.89	125.00
18	D	37	U	C5-C4-O4	5.88	143.53	125.90
54	n	176	PRO	N-CA-C	5.87	121.25	114.20
23	I	168	TYR	N-CA-CB	5.84	120.22	110.59
18	D	1358	U	C5-C4-O4	5.83	143.40	125.90
38	X	81	MET	CG-SD-CE	-5.81	88.13	100.90
8	7	27	G	C2'-C3'-O3'	5.79	122.39	113.70
14	AE	853	THR	CA-C-N	5.78	131.07	122.74
14	AE	853	THR	C-N-CA	5.78	131.07	122.74
18	D	884	U	N3-C4-O4	-5.77	102.10	119.40
18	D	827	U	C5-C4-O4	5.74	143.13	125.90
27	M	55	GLY	CA-C-N	5.74	132.51	121.54
27	M	55	GLY	C-N-CA	5.74	132.51	121.54
21	G	154	MET	CA-CB-CG	-5.73	102.64	114.10
16	AG	66	ASP	N-CA-C	-5.73	104.04	111.71
16	AG	220	VAL	N-CA-C	-5.68	108.32	113.71
9	9	130	PRO	CA-N-CD	-5.67	104.06	112.00
23	I	134	MET	CG-SD-CE	-5.67	88.44	100.90
25	K	45	ARG	CB-CG-CD	-5.63	98.35	111.30
16	AG	101	THR	CA-CB-OG1	5.62	118.04	109.60
21	G	154	MET	CG-SD-CE	-5.62	88.55	100.90
25	K	45	ARG	CA-C-N	5.60	130.30	122.23
25	K	45	ARG	C-N-CA	5.60	130.30	122.23

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
12	AB	151	LYS	CA-C-N	5.58	132.19	121.54
12	AB	151	LYS	C-N-CA	5.58	132.19	121.54
12	AB	107	PRO	O-C-N	5.57	130.15	122.64
60	t	18	ARG	CG-CD-NE	-5.55	99.80	112.00
41	a	1141	U	N3-C4-O4	-5.54	102.78	119.40
50	j	11	MET	CB-CG-SD	-5.52	96.14	112.70
16	AG	74	GLU	CB-CA-C	-5.46	101.74	110.14
14	AE	1184	ASP	N-CA-C	5.45	121.86	109.81
16	AG	354	ALA	CA-C-N	-5.45	111.14	121.54
16	AG	354	ALA	C-N-CA	-5.45	111.14	121.54
62	v	10	ARG	NE-CZ-NH1	-5.42	116.08	121.50
9	9	129	LEU	C-N-CD	-5.41	102.82	125.00
31	Q	106	ARG	NE-CZ-NH1	-5.40	116.10	121.50
16	AG	355	ALA	N-CA-CB	5.38	119.58	110.49
63	w	38	LEU	N-CA-C	-5.31	105.23	112.35
16	AG	105	ILE	N-CA-CB	-5.27	102.54	111.23
56	p	46	ALA	CA-C-N	5.26	131.59	121.54
56	p	46	ALA	C-N-CA	5.26	131.59	121.54
25	K	45	ARG	O-C-N	-5.25	116.81	123.01
39	Y	5	GLN	CB-CA-C	-5.25	99.98	110.42
8	7	10	U	C2'-C3'-O3'	5.24	117.36	109.50
30	P	88	MET	CG-SD-CE	-5.24	89.38	100.90
41	a	2613	U	C5-C4-O4	5.22	141.56	125.90
16	AG	107	THR	CA-C-N	-5.22	112.01	121.14
16	AG	107	THR	C-N-CA	-5.22	112.01	121.14
12	AB	145	LEU	O-C-N	5.21	124.69	120.83
21	G	158	PRO	N-CA-CB	-5.21	97.91	103.38
16	AG	114	ILE	N-CA-C	-5.20	105.43	110.42
39	Y	5	GLN	CA-CB-CG	5.16	124.43	114.10
23	I	170	GLU	CB-CG-CD	5.15	121.35	112.60
41	a	2334	U	C2'-C3'-O3'	-5.13	101.80	109.50
41	a	2602	A	C4'-C3'-O3'	5.12	117.09	109.40
45	e	25	GLN	CG-CD-NE2	-5.11	108.73	116.40
16	AG	65	VAL	CA-C-N	5.11	131.72	121.81
16	AG	65	VAL	C-N-CA	5.11	131.72	121.81
12	AB	138	ARG	CA-C-N	5.10	131.27	121.54
12	AB	138	ARG	C-N-CA	5.10	131.27	121.54
18	D	884	U	C5-C4-O4	5.08	141.13	125.90
13	AD	289	LEU	CA-C-O	-5.07	113.26	120.51
16	AG	105	ILE	O-C-N	5.07	128.90	122.57
14	AE	709	ARG	CA-C-N	5.06	135.41	126.45
14	AE	709	ARG	C-N-CA	5.06	135.41	126.45

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
16	AG	356	ILE	N-CA-C	-5.01	107.84	111.90
48	h	181	MET	CG-SD-CE	-5.01	89.89	100.90
14	AE	852	GLY	CA-C-N	5.00	128.76	121.31
14	AE	852	GLY	C-N-CA	5.00	128.76	121.31

There are no chirality outliers.

All (35) 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	140	MET	Peptide
12	AB	151	LYS	Peptide
13	AC	192	VAL	Peptide
13	AD	20	SER	Peptide
13	AD	284	ARG	Mainchain
14	AE	1326	GLN	Peptide
14	AE	1344	LEU	Peptide
14	AE	313	GLY	Peptide
14	AE	416	ILE	Peptide
16	AG	102	PHE	Peptide
16	AG	104	ARG	Mainchain,Peptide
16	AG	11	ALA	Peptide
16	AG	292	ASP	Mainchain
16	AG	426	GLY	Mainchain
21	G	19	GLN	Sidechain
22	H	124	LEU	Peptide
22	H	171	ARG	Peptide
22	H	274	TYR	Peptide
22	H	81	GLU	Peptide
22	H	82	THR	Peptide
23	I	167	TRP	Mainchain
25	K	45	ARG	Mainchain
25	K	77	ASN	Peptide
29	O	12	ARG	Peptide
38	X	65	VAL	Peptide
39	Y	5	GLN	Peptide
54	n	176	PRO	Peptide
55	o	31	HIS	Peptide
59	s	74	TYR	Sidechain
61	u	35	HIS	Peptide

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Mol	Chain	Res	Type	Group
61	u	62	PRO	Peptide

5.2 Too-close contacts ⓘ

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	0	816	839	839	54	0
2	1	857	922	922	69	0
3	2	746	811	811	60	0
4	3	788	844	844	46	0
5	4	753	780	780	86	0
6	5	726	0	392	111	0
7	6	703	0	396	34	0
8	7	772	0	384	127	0
9	9	1117	0	1155	255	0
10	A	1620	826	827	108	0
10	B	1620	814	827	110	0
11	AA	10381	0	10389	267	0
12	AB	1286	0	1301	458	0
13	AC	1698	0	1718	12	0
13	AD	2078	0	1891	41	0
14	AE	10404	0	10623	285	0
15	AF	650	0	658	14	0
16	AG	3852	0	3827	820	0
17	C	544	559	560	107	0
18	D	32703	16423	16453	731	0
19	E	669	719	719	82	0
20	F	589	629	629	60	0
21	G	1760	1785	1787	181	0
22	H	1730	1454	1455	162	0
23	I	1636	1710	1710	157	0
24	J	1643	1707	1707	84	0
25	K	1152	1196	1196	135	0
26	L	848	846	846	105	0
27	M	1181	1235	1238	121	0
28	N	979	1031	1031	92	0
29	O	1022	1070	1070	93	0
30	P	790	831	831	139	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
31	Q	877	887	887	98	0
32	R	939	1001	1001	91	0
33	S	805	844	844	74	0
34	T	714	734	734	94	0
35	U	649	666	666	62	0
36	V	648	691	691	68	0
37	W	663	688	688	47	0
38	X	900	964	965	110	0
39	Y	1032	0	1088	215	0
40	Z	227	0	237	31	0
41	a	61841	31077	31120	1313	0
42	b	582	599	599	47	0
43	c	625	652	652	32	0
44	d	2569	1301	1301	44	0
45	e	501	531	531	46	0
46	f	448	488	488	39	0
47	g	522	520	520	68	0
48	h	2082	2154	2154	135	0
49	i	444	459	458	49	0
50	j	1565	1617	1616	122	0
51	k	426	464	464	42	0
52	l	1552	1619	1619	125	0
53	m	377	418	418	30	0
54	n	1410	1443	1444	157	0
55	o	504	572	572	52	0
56	p	1313	1358	1358	72	0
57	q	302	343	343	25	0
58	r	1111	1148	1148	54	0
59	s	1129	1162	1162	122	0
60	t	946	1023	1023	102	0
61	u	1053	1129	1129	79	0
62	v	1074	1157	1157	123	0
63	w	951	994	994	99	0
64	x	892	923	923	50	0
65	y	917	962	962	51	0
66	z	947	1020	1019	80	0
67	AE	1	0	0	0	0
68	AE	2	0	0	3	0
All	All	181653	98639	132791	7730	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 25.

All (7730) 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)
16:AG:425:LEU:CD2	16:AG:429:LYS:HE2	1.21	1.63
6:5:11:DA:C5'	12:AB:67:THR:HG22	1.20	1.61
14:AE:79:LYS:HA	14:AE:81:ARG:CZ	1.26	1.61
16:AG:219:GLU:HG2	21:G:156:GLY:CA	1.28	1.60
6:5:9:DG:H5''	11:AA:473:ARG:CB	1.29	1.58
25:K:45:ARG:CD	25:K:45:ARG:CG	1.75	1.57
16:AG:287:ALA:CA	16:AG:331:LEU:HD12	1.18	1.57
6:5:9:DG:C5'	11:AA:473:ARG:HB3	1.34	1.56
12:AB:141:LEU:CB	12:AB:143:LEU:HD12	1.32	1.55
6:5:10:DT:C7	11:AA:62:TYR:CD2	1.84	1.54
16:AG:393:LEU:CB	16:AG:398:LEU:CD2	1.83	1.54
12:AB:118:ILE:CG2	12:AB:141:LEU:HD11	1.09	1.53
6:5:10:DT:C5	11:AA:62:TYR:CD2	1.95	1.52
16:AG:168:LEU:CD2	16:AG:231:GLY:HA3	1.34	1.52
66:z:74:ILE:CG1	66:z:74:ILE:CD1	1.81	1.52
16:AG:363:LEU:CD2	16:AG:410:ALA:H	1.24	1.50
7:6:23:DC:C5'	14:AE:259:ARG:HH12	1.21	1.50
14:AE:79:LYS:HA	14:AE:81:ARG:NH1	1.20	1.48
16:AG:287:ALA:HA	16:AG:331:LEU:CD1	1.39	1.48
14:AE:72:CYS:SG	68:AE:1502:ZN:ZN	1.03	1.47
16:AG:425:LEU:CA	16:AG:429:LYS:HE3	1.40	1.47
16:AG:287:ALA:CB	16:AG:331:LEU:HD12	1.41	1.46
6:5:10:DT:C6	11:AA:62:TYR:CE2	2.00	1.46
16:AG:244:ARG:CB	25:K:70:ASN:H	1.28	1.45
6:5:10:DT:C5	11:AA:62:TYR:CE2	2.04	1.45
16:AG:219:GLU:HG3	21:G:157:LEU:N	1.31	1.45
12:AB:141:LEU:HB3	12:AB:143:LEU:CD1	1.42	1.44
6:5:11:DA:P	12:AB:68:THR:HA	1.58	1.42
16:AG:425:LEU:HD23	16:AG:429:LYS:CE	1.45	1.42
14:AE:87:LYS:CE	30:P:89:ARG:HB3	1.47	1.41
16:AG:393:LEU:CD2	16:AG:398:LEU:CD2	1.99	1.41
12:AB:81:PHE:CD2	14:AE:293:ARG:NH1	1.77	1.40
12:AB:81:PHE:CE1	14:AE:293:ARG:CB	1.92	1.40
16:AG:363:LEU:CD2	16:AG:410:ALA:N	1.82	1.40
12:AB:115:LYS:NZ	12:AB:129:ILE:CG2	1.82	1.40
11:AA:380:ALA:N	12:AB:65:HIS:CE1	1.84	1.38
16:AG:187:ARG:HB3	16:AG:188:PRO:CD	1.45	1.38
16:AG:168:LEU:CD2	16:AG:231:GLY:CA	1.98	1.38
16:AG:168:LEU:HD22	16:AG:231:GLY:CA	1.49	1.38
16:AG:437:LEU:HD21	16:AG:456:LEU:CD1	1.54	1.37

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:5:9:DG:OP2	11:AA:473:ARG:CB	1.73	1.36
12:AB:115:LYS:NZ	12:AB:129:ILE:HG21	1.05	1.36
12:AB:118:ILE:CG2	12:AB:141:LEU:CD1	2.02	1.36
12:AB:138:ARG:HG3	12:AB:154:VAL:C	1.51	1.35
16:AG:393:LEU:CA	16:AG:398:LEU:CD2	2.05	1.34
14:AE:79:LYS:CA	14:AE:81:ARG:CZ	2.06	1.34
16:AG:385:ALA:CB	16:AG:411:LYS:HE3	1.56	1.34
16:AG:244:ARG:CB	25:K:70:ASN:N	1.92	1.33
12:AB:118:ILE:HG23	12:AB:141:LEU:CD1	1.59	1.33
16:AG:387:VAL:HG12	16:AG:388:PRO:CD	1.57	1.32
14:AE:79:LYS:CA	14:AE:81:ARG:NH1	1.90	1.32
16:AG:244:ARG:CG	25:K:70:ASN:HA	1.58	1.32
16:AG:434:LEU:CD2	16:AG:456:LEU:HA	1.58	1.32
12:AB:152:HIS:CE1	12:AB:159:PHE:HD2	1.47	1.31
11:AA:859:GLU:OE2	16:AG:38:LYS:HB2	1.20	1.31
16:AG:448:LEU:HD21	16:AG:473:LEU:CD1	1.61	1.31
16:AG:393:LEU:CD2	16:AG:398:LEU:HD21	1.57	1.30
16:AG:393:LEU:HB3	16:AG:398:LEU:CD2	1.51	1.30
16:AG:434:LEU:HD22	16:AG:459:LEU:CD1	1.58	1.30
11:AA:859:GLU:OE2	16:AG:38:LYS:CB	1.77	1.30
16:AG:363:LEU:HD23	16:AG:410:ALA:N	1.38	1.30
11:AA:377:THR:OG1	12:AB:62:GLU:CB	1.80	1.30
12:AB:82:GLY:CA	14:AE:142:GLU:HB2	1.62	1.30
14:AE:287:ALA:CB	14:AE:292:VAL:HG13	1.61	1.30
12:AB:81:PHE:HA	14:AE:141:PHE:O	1.27	1.29
11:AA:481:LEU:CD2	12:AB:16:ARG:CD	2.02	1.29
16:AG:393:LEU:CA	16:AG:398:LEU:HD22	1.59	1.29
12:AB:115:LYS:CE	12:AB:129:ILE:HG21	1.61	1.29
16:AG:393:LEU:CG	16:AG:398:LEU:HD21	1.63	1.28
11:AA:377:THR:OG1	12:AB:62:GLU:HB3	1.20	1.28
6:5:11:DA:C5'	12:AB:67:THR:CG2	2.12	1.28
16:AG:219:GLU:CG	21:G:157:LEU:H	1.45	1.28
11:AA:387:ASN:CG	11:AA:394:ARG:NH1	1.92	1.27
12:AB:51:PHE:HE2	14:AE:288:PRO:CG	1.44	1.27
8:7:22:U:C5'	23:I:80:LYS:HG3	1.63	1.27
6:5:10:DT:H1'	12:AB:71:ALA:N	1.21	1.27
6:5:11:DA:OP2	12:AB:68:THR:CA	1.81	1.27
12:AB:122:ALA:HB1	30:P:89:ARG:NH1	1.50	1.26
16:AG:353:HIS:O	16:AG:356:ILE:HG23	1.13	1.26
16:AG:434:LEU:HA	16:AG:456:LEU:CD2	1.64	1.25
6:5:10:DT:C1'	12:AB:71:ALA:H	1.46	1.25

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AB:115:LYS:CD	12:AB:129:ILE:HG13	1.67	1.25
16:AG:387:VAL:CG1	16:AG:388:PRO:HD2	1.67	1.25
6:5:11:DA:C3'	12:AB:67:THR:HG21	1.63	1.25
12:AB:152:HIS:CD2	12:AB:159:PHE:CE2	2.24	1.25
16:AG:425:LEU:HA	16:AG:429:LYS:CE	1.64	1.25
8:7:21:U:H5	23:I:80:LYS:O	1.17	1.24
12:AB:138:ARG:HG3	12:AB:154:VAL:O	1.20	1.24
14:AE:87:LYS:HE2	30:P:89:ARG:CB	1.68	1.24
14:AE:288:PRO:HD2	14:AE:291:ILE:CG2	1.66	1.24
16:AG:362:TYR:O	16:AG:413:ALA:HB2	1.35	1.24
16:AG:287:ALA:CA	16:AG:331:LEU:CD1	2.02	1.23
8:7:11:U:H4'	25:K:20:ARG:NH2	1.50	1.23
16:AG:355:ALA:HA	16:AG:382:GLU:OE2	1.37	1.23
16:AG:363:LEU:HD23	16:AG:409:ARG:C	1.63	1.23
16:AG:355:ALA:CB	16:AG:382:GLU:CD	2.10	1.23
16:AG:219:GLU:CG	21:G:157:LEU:N	2.01	1.23
16:AG:287:ALA:CB	16:AG:331:LEU:CD1	2.16	1.23
6:5:9:DG:C5'	11:AA:473:ARG:CB	2.02	1.23
16:AG:123:ARG:HH12	16:AG:191:ARG:CA	1.37	1.22
12:AB:51:PHE:CE2	14:AE:288:PRO:CG	2.22	1.22
12:AB:81:PHE:CE1	14:AE:293:ARG:HB3	1.32	1.22
16:AG:425:LEU:CG	16:AG:429:LYS:HE2	1.69	1.22
12:AB:138:ARG:CG	12:AB:154:VAL:O	1.87	1.22
16:AG:433:ASP:O	16:AG:456:LEU:HD11	1.35	1.22
12:AB:148:LYS:HZ3	30:P:102:LEU:N	1.35	1.22
16:AG:353:HIS:C	16:AG:356:ILE:HG23	1.62	1.22
12:AB:146:ILE:HG22	30:P:98:VAL:O	1.38	1.21
6:5:10:DT:H71	11:AA:62:TYR:CG	1.75	1.21
16:AG:123:ARG:NH1	16:AG:191:ARG:C	1.98	1.21
16:AG:187:ARG:HB3	16:AG:188:PRO:HD2	1.21	1.20
6:5:11:DA:OP2	12:AB:68:THR:N	1.73	1.20
16:AG:442:ARG:O	16:AG:446:PHE:CD2	1.95	1.19
7:6:25:DT:OP1	11:AA:496:LYS:CA	1.80	1.19
16:AG:355:ALA:HB2	16:AG:382:GLU:OE1	1.40	1.19
6:5:9:DG:C5'	11:AA:473:ARG:CG	2.22	1.18
16:AG:393:LEU:HA	16:AG:398:LEU:CD2	1.69	1.18
6:5:11:DA:OP2	12:AB:68:THR:HA	1.36	1.17
8:7:22:U:H5''	23:I:80:LYS:CG	1.71	1.17
56:p:159:GLY:O	56:p:163:ARG:NH1	1.77	1.17
7:6:23:DC:C5'	14:AE:259:ARG:NH1	2.05	1.17
12:AB:152:HIS:NE2	12:AB:159:PHE:CE2	2.12	1.17

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AG:244:ARG:O	25:K:69:ARG:HA	1.43	1.17
16:AG:244:ARG:HG3	25:K:70:ASN:CA	1.74	1.17
12:AB:152:HIS:CE1	12:AB:159:PHE:CD2	2.32	1.17
16:AG:393:LEU:HD22	16:AG:398:LEU:CD1	1.73	1.17
12:AB:115:LYS:HD3	12:AB:129:ILE:CD1	1.72	1.16
16:AG:434:LEU:HD21	16:AG:456:LEU:HA	1.26	1.16
16:AG:437:LEU:CD2	16:AG:456:LEU:HD13	1.74	1.16
16:AG:353:HIS:O	16:AG:357:ASP:N	1.77	1.16
16:AG:219:GLU:CG	21:G:156:GLY:CA	2.23	1.16
16:AG:381:LEU:HA	16:AG:384:LEU:HD12	1.21	1.16
16:AG:243:LYS:HG3	21:G:178:ASN:O	1.44	1.16
12:AB:138:ARG:HA	12:AB:154:VAL:O	1.43	1.15
16:AG:425:LEU:CD2	16:AG:429:LYS:CE	2.13	1.15
6:5:10:DT:H73	11:AA:62:TYR:CD2	1.77	1.15
58:r:135:HIS:ND1	58:r:137:GLU:OE1	1.77	1.15
8:7:21:U:C5	23:I:80:LYS:O	1.99	1.14
26:L:9:MET:HE1	26:L:85:ILE:HB	1.17	1.14
38:X:81:MET:HE1	38:X:92:ARG:HB3	1.20	1.14
12:AB:35:LEU:HA	12:AB:106:ASP:OD1	1.47	1.14
12:AB:152:HIS:CD2	12:AB:159:PHE:CD2	2.34	1.14
12:AB:147:ASN:OD1	30:P:99:GLN:CG	1.95	1.14
16:AG:355:ALA:HA	16:AG:382:GLU:CD	1.71	1.14
16:AG:424:SER:O	16:AG:429:LYS:HG2	1.47	1.14
10:A:76:A:O2'	41:a:2394:C:N3	1.81	1.14
6:5:9:DG:H5'	11:AA:473:ARG:CG	1.76	1.13
14:AE:83:VAL:HB	23:I:100:GLN:NE2	1.61	1.13
16:AG:422:GLU:HA	16:AG:426:GLY:CA	1.79	1.13
41:a:2335:A:OP2	64:x:13:ARG:NE	1.81	1.13
6:5:9:DG:OP2	11:AA:473:ARG:HB2	0.97	1.13
6:5:10:DT:O3'	12:AB:67:THR:O	1.67	1.13
16:AG:355:ALA:HB1	16:AG:382:GLU:CG	1.77	1.13
16:AG:393:LEU:HB3	16:AG:398:LEU:HD23	1.26	1.13
10:B:75:C:OP2	41:a:2602:A:O2'	1.67	1.12
37:W:40:ILE:HD13	37:W:66:MET:SD	1.89	1.12
12:AB:54:TYR:CE2	14:AE:291:ILE:HG23	1.84	1.12
12:AB:102:LYS:CE	14:AE:285:LEU:HG	1.79	1.12
13:AD:307:LEU:CB	16:AG:71:PRO:HB3	1.79	1.12
16:AG:123:ARG:NH1	16:AG:191:ARG:O	1.80	1.12
16:AG:244:ARG:HB2	25:K:70:ASN:N	1.52	1.12
11:AA:858:GLY:HA3	16:AG:37:LYS:HG2	1.23	1.12
14:AE:287:ALA:HB2	14:AE:292:VAL:CG1	1.78	1.12

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AG:393:LEU:CD2	16:AG:398:LEU:CD1	2.26	1.12
12:AB:118:ILE:HG21	12:AB:141:LEU:HD11	1.18	1.11
12:AB:148:LYS:HZ3	30:P:101:SER:C	1.58	1.11
16:AG:285:ILE:CG1	16:AG:293:VAL:HG11	1.80	1.11
16:AG:353:HIS:O	16:AG:356:ILE:CG2	1.99	1.11
16:AG:425:LEU:HA	16:AG:429:LYS:CG	1.80	1.11
8:7:23:U:H2'	14:AE:94:GLN:HE21	1.12	1.11
58:r:135:HIS:HD1	58:r:137:GLU:CD	1.59	1.11
7:6:25:DT:C3'	11:AA:496:LYS:HG3	1.74	1.11
46:f:4:THR:OG1	46:f:37:GLU:OE2	1.68	1.11
12:AB:152:HIS:NE2	12:AB:159:PHE:CD2	2.19	1.10
36:V:7:THR:OG1	36:V:60:GLU:OE2	1.66	1.10
6:5:10:DT:C7	11:AA:62:TYR:CG	2.31	1.10
12:AB:115:LYS:HA	12:AB:129:ILE:HD12	1.28	1.10
16:AG:219:GLU:CG	21:G:156:GLY:HA3	1.82	1.10
16:AG:285:ILE:HG23	16:AG:293:VAL:HG12	1.25	1.10
12:AB:82:GLY:HA2	14:AE:142:GLU:HB2	1.13	1.10
14:AE:79:LYS:HA	14:AE:81:ARG:NH2	1.66	1.10
16:AG:393:LEU:HD22	16:AG:398:LEU:HD11	1.28	1.10
16:AG:279:ASN:OD1	16:AG:280:PRO:HD3	1.50	1.10
7:6:23:DC:H5''	14:AE:259:ARG:HH12	1.14	1.10
11:AA:387:ASN:CG	11:AA:394:ARG:HH11	1.55	1.10
16:AG:434:LEU:CD2	16:AG:459:LEU:HD12	1.81	1.10
16:AG:434:LEU:HD23	16:AG:456:LEU:HD23	1.10	1.10
12:AB:28:CYS:HA	12:AB:56:PHE:O	1.52	1.09
16:AG:123:ARG:HH12	16:AG:191:ARG:C	1.57	1.09
16:AG:451:ARG:NH1	16:AG:467:LEU:HA	1.68	1.09
8:7:11:U:C4'	25:K:20:ARG:NH2	2.16	1.09
16:AG:430:PRO:HG2	16:AG:435:LEU:HD21	1.29	1.09
12:AB:51:PHE:CZ	14:AE:288:PRO:HD3	1.87	1.09
39:Y:5:GLN:HG2	39:Y:61:TYR:CE1	1.87	1.09
61:u:122:VAL:HG12	61:u:125:LEU:HD21	1.35	1.09
39:Y:96:LYS:HE3	39:Y:136:GLY:HA3	1.29	1.09
6:5:9:DG:C5'	11:AA:473:ARG:HG3	1.82	1.08
11:AA:469:VAL:O	11:AA:473:ARG:HG2	1.53	1.08
12:AB:146:ILE:CG2	30:P:98:VAL:O	2.00	1.08
16:AG:244:ARG:HB3	25:K:70:ASN:N	1.65	1.08
16:AG:385:ALA:HB1	16:AG:411:LYS:HE3	1.35	1.08
6:5:9:DG:H5'	11:AA:473:ARG:HG3	1.09	1.08
11:AA:859:GLU:OE2	16:AG:38:LYS:CA	2.02	1.08
16:AG:363:LEU:HD21	16:AG:410:ALA:H	0.94	1.08

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AG:393:LEU:HD22	16:AG:398:LEU:CD2	1.71	1.08
16:AG:451:ARG:HH12	16:AG:467:LEU:C	1.62	1.08
53:m:22:MET:O	53:m:28:ARG:NH1	1.87	1.08
14:AE:287:ALA:HB2	14:AE:292:VAL:HG13	1.08	1.07
16:AG:181:GLY:HA2	16:AG:204:MET:SD	1.93	1.07
6:5:10:DT:C1'	12:AB:71:ALA:N	2.10	1.07
12:AB:115:LYS:HD2	12:AB:129:ILE:HG13	1.13	1.07
16:AG:302:LYS:H	16:AG:302:LYS:HE3	1.16	1.07
12:AB:115:LYS:CD	12:AB:129:ILE:CG1	2.33	1.07
12:AB:122:ALA:HB1	30:P:89:ARG:HH11	0.92	1.07
11:AA:859:GLU:OE2	16:AG:38:LYS:N	1.86	1.07
16:AG:365:ILE:HD13	16:AG:406:LEU:HD22	1.37	1.06
12:AB:81:PHE:CE2	14:AE:293:ARG:NH1	1.88	1.06
14:AE:288:PRO:HD2	14:AE:291:ILE:HG21	1.10	1.06
16:AG:187:ARG:HB3	16:AG:188:PRO:HD3	1.32	1.06
16:AG:385:ALA:CB	16:AG:411:LYS:CE	2.33	1.06
18:D:1309:G:OP2	38:X:98:ARG:NE	1.88	1.06
9:9:46:ARG:HG3	9:9:94:ARG:HH21	1.12	1.06
12:AB:148:LYS:NZ	30:P:102:LEU:N	2.02	1.06
16:AG:422:GLU:HA	16:AG:426:GLY:HA3	1.33	1.06
6:5:11:DA:H5'	12:AB:67:THR:HG22	1.13	1.06
16:AG:434:LEU:CD2	16:AG:456:LEU:CA	2.33	1.06
27:M:4:ARG:HG3	27:M:5:ARG:HG3	1.33	1.06
12:AB:141:LEU:CB	12:AB:143:LEU:CD1	2.15	1.06
16:AG:365:ILE:HD13	16:AG:406:LEU:CD2	1.85	1.06
16:AG:393:LEU:CB	16:AG:398:LEU:HD21	1.58	1.05
16:AG:434:LEU:HA	16:AG:456:LEU:HD21	1.25	1.05
12:AB:82:GLY:HA2	14:AE:142:GLU:CB	1.85	1.05
16:AG:243:LYS:CG	21:G:178:ASN:O	2.04	1.05
16:AG:285:ILE:HG13	16:AG:293:VAL:CG1	1.86	1.05
6:5:11:DA:H5'	12:AB:67:THR:CG2	1.81	1.05
7:6:23:DC:O5'	14:AE:259:ARG:NH1	1.87	1.05
12:AB:115:LYS:CE	12:AB:129:ILE:CG2	2.25	1.05
12:AB:115:LYS:HD3	12:AB:129:ILE:CG1	1.87	1.05
16:AG:361:LYS:HE2	16:AG:417:ILE:HG12	1.39	1.05
16:AG:425:LEU:CG	16:AG:429:LYS:CE	2.34	1.05
39:Y:56:VAL:HA	39:Y:71:LYS:HZ1	1.21	1.05
9:9:50:VAL:HG22	39:Y:119:ALA:HB3	1.33	1.04
11:AA:481:LEU:HD23	12:AB:16:ARG:CD	1.87	1.04
12:AB:147:ASN:OD1	30:P:99:GLN:C	1.99	1.04
16:AG:285:ILE:HG23	16:AG:293:VAL:CG1	1.87	1.04

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:6:18:DT:H3	8:7:36:A:N6	1.55	1.04
8:7:11:U:O2'	25:K:33:PHE:CE1	2.10	1.04
16:AG:425:LEU:HA	16:AG:429:LYS:HG3	1.33	1.04
12:AB:102:LYS:HE2	14:AE:285:LEU:HG	1.07	1.04
12:AB:115:LYS:HD3	12:AB:129:ILE:HD12	1.31	1.04
14:AE:387:LEU:HD21	16:AG:147:ARG:HG3	1.31	1.04
16:AG:393:LEU:HD22	16:AG:398:LEU:HD21	1.26	1.04
26:L:9:MET:HE1	26:L:85:ILE:CB	1.86	1.04
39:Y:14:ALA:HB1	39:Y:50:LYS:HD2	1.37	1.04
56:p:149:ARG:NH2	56:p:152:ARG:O	1.91	1.04
16:AG:448:LEU:CD2	16:AG:473:LEU:CD1	2.36	1.04
20:F:25:LYS:NZ	22:H:336:ASP:OD1	1.90	1.04
47:g:58:ASP:OD1	47:g:62:LYS:NZ	1.90	1.03
50:j:179:ARG:NH1	50:j:180:VAL:O	1.92	1.03
11:AA:859:GLU:CD	16:AG:38:LYS:CA	2.31	1.03
12:AB:115:LYS:HZ2	12:AB:129:ILE:CG2	1.54	1.03
9:9:103:ASN:ND2	9:9:107:GLU:OE2	1.90	1.03
9:9:136:ILE:HD12	9:9:139:LEU:HD12	1.38	1.03
20:F:37:PHE:HB2	31:Q:126:LYS:HE2	1.35	1.03
52:l:1:MET:HE2	52:l:16:GLU:HA	1.40	1.03
65:y:51:ARG:NH1	65:y:56:HIS:O	1.91	1.03
9:9:31:ARG:NH1	41:a:1054:A:O4'	1.91	1.03
11:AA:481:LEU:HD21	12:AB:16:ARG:CD	1.60	1.03
16:AG:168:LEU:HD22	16:AG:231:GLY:HA2	1.40	1.03
16:AG:241:ASN:ND2	21:G:181:ILE:HD11	1.74	1.03
18:D:564:C:OP2	32:R:12:ARG:NH2	1.91	1.03
23:I:123:GLN:OE1	23:I:126:ARG:NH2	1.92	1.03
26:L:42:TRP:CH2	26:L:102:MET:HG3	1.94	1.03
50:j:184:ARG:NH2	65:y:7:GLN:OE1	1.90	1.03
7:6:25:DT:H3'	11:AA:496:LYS:HG3	1.41	1.02
16:AG:168:LEU:HD21	16:AG:231:GLY:CA	1.83	1.02
16:AG:363:LEU:HG	16:AG:410:ALA:HB2	1.37	1.02
6:5:11:DA:H3'	12:AB:67:THR:HG21	1.05	1.02
11:AA:855:PRO:HB2	16:AG:105:ILE:C	1.80	1.02
12:AB:141:LEU:HD23	12:AB:143:LEU:HG	1.41	1.02
16:AG:434:LEU:HD23	16:AG:456:LEU:HA	1.34	1.02
39:Y:93:ASN:HA	39:Y:135:MET:CE	1.88	1.02
8:7:4:U:O2'	18:D:1403:C:O2	1.75	1.02
16:AG:363:LEU:HD23	16:AG:409:ARG:CA	1.89	1.02
6:5:11:DA:P	12:AB:68:THR:CA	2.44	1.02
12:AB:81:PHE:CA	14:AE:141:PHE:O	2.06	1.02

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AG:387:VAL:HG12	16:AG:388:PRO:HD2	1.06	1.02
16:AG:434:LEU:HD21	16:AG:456:LEU:CA	1.89	1.02
59:s:72:LYS:HD3	59:s:74:TYR:OH	1.59	1.02
11:AA:380:ALA:N	12:AB:65:HIS:HE1	1.29	1.02
9:9:48:ALA:HB3	9:9:51:TYR:HE1	1.20	1.01
9:9:3:LEU:HD12	9:9:4:ASN:H	1.25	1.01
9:9:43:LYS:HG3	9:9:46:ARG:HH12	1.22	1.01
16:AG:425:LEU:C	16:AG:429:LYS:HE3	1.84	1.01
8:7:3:G:H5''	18:D:1500:A:N6	1.75	1.01
16:AG:393:LEU:CG	16:AG:398:LEU:CD2	2.30	1.01
23:I:152:GLU:OE2	23:I:154:SER:OG	1.77	1.01
6:5:11:DA:H3'	12:AB:67:THR:CG2	1.91	1.01
12:AB:51:PHE:HE2	14:AE:288:PRO:HG2	1.20	1.01
12:AB:124:GLU:O	12:AB:126:PHE:N	1.92	1.01
16:AG:365:ILE:CG2	16:AG:409:ARG:NH1	2.23	1.01
16:AG:422:GLU:HA	16:AG:426:GLY:N	1.74	1.01
16:AG:131:ARG:O	16:AG:134:GLU:HG3	1.61	1.00
16:AG:168:LEU:HD21	16:AG:231:GLY:N	1.76	1.00
16:AG:355:ALA:HB1	16:AG:382:GLU:HG3	1.41	1.00
16:AG:363:LEU:CD2	16:AG:409:ARG:HB2	1.91	1.00
39:Y:60:VAL:HG22	39:Y:66:PHE:HB3	1.44	1.00
6:5:11:DA:H5''	12:AB:67:THR:CG2	1.86	1.00
11:AA:855:PRO:HG3	16:AG:105:ILE:CD1	1.90	1.00
12:AB:147:ASN:OD1	30:P:99:GLN:HG2	1.58	1.00
7:6:18:DT:H3	8:7:36:A:H61	1.05	1.00
9:9:30:SER:O	9:9:31:ARG:NE	1.94	1.00
16:AG:361:LYS:CE	16:AG:417:ILE:HG12	1.90	1.00
52:l:1:MET:HE1	52:l:20:GLY:HA3	1.43	1.00
16:AG:393:LEU:HD23	16:AG:398:LEU:HD22	1.43	1.00
12:AB:102:LYS:HE2	14:AE:285:LEU:CG	1.90	1.00
12:AB:82:GLY:CA	14:AE:142:GLU:CB	2.39	1.00
16:AG:219:GLU:HG2	21:G:156:GLY:C	1.86	1.00
16:AG:434:LEU:HD23	16:AG:456:LEU:CD2	1.91	1.00
14:AE:288:PRO:CD	14:AE:291:ILE:HG21	1.92	0.99
6:5:10:DT:H71	11:AA:62:TYR:CD2	1.77	0.99
9:9:88:HIS:HB3	9:9:89:PRO:HD3	1.44	0.99
16:AG:425:LEU:CA	16:AG:429:LYS:CE	2.30	0.99
16:AG:187:ARG:CB	16:AG:188:PRO:CD	2.37	0.99
16:AG:434:LEU:CD2	16:AG:456:LEU:HD23	1.92	0.99
13:AD:287:VAL:CB	16:AG:79:ALA:HB2	1.92	0.99
39:Y:93:ASN:HA	39:Y:135:MET:HE1	1.00	0.99

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AG:287:ALA:HA	16:AG:331:LEU:HD11	1.41	0.99
16:AG:393:LEU:HD22	16:AG:398:LEU:CG	1.93	0.99
18:D:377:G:OP1	35:U:5:ARG:NH1	1.94	0.99
6:5:10:DT:O5'	11:AA:62:TYR:OH	1.80	0.99
33:S:86:GLU:OE1	33:S:90:ARG:NH1	1.96	0.98
12:AB:140:MET:N	12:AB:152:HIS:O	1.96	0.98
21:G:49:MET:HE1	21:G:201:PRO:HD3	1.42	0.98
16:AG:241:ASN:HD22	21:G:181:ILE:CD1	1.74	0.98
16:AG:287:ALA:HB2	16:AG:331:LEU:CD1	1.92	0.98
26:L:42:TRP:HH2	26:L:102:MET:HG3	1.25	0.98
58:r:38:PRO:O	58:r:43:ASN:ND2	1.96	0.98
6:5:11:DA:C3'	12:AB:67:THR:CG2	2.42	0.98
12:AB:142:LEU:HA	12:AB:150:ILE:O	1.62	0.98
12:AB:115:LYS:HZ3	12:AB:129:ILE:CG2	1.73	0.97
14:AE:287:ALA:CB	14:AE:292:VAL:CG1	2.38	0.97
16:AG:442:ARG:O	16:AG:446:PHE:HD2	1.34	0.97
21:G:154:MET:HE2	21:G:158:PRO:HD3	1.44	0.97
16:AG:218:GLU:HB3	21:G:105:LYS:HB3	1.46	0.97
12:AB:138:ARG:CA	12:AB:154:VAL:O	2.13	0.97
16:AG:362:TYR:O	16:AG:413:ALA:CB	2.10	0.97
33:S:92:GLU:OE1	33:S:92:GLU:N	1.97	0.97
39:Y:93:ASN:CA	39:Y:135:MET:HE1	1.94	0.97
60:t:20:MET:HB3	60:t:44:LYS:HZ3	1.30	0.97
16:AG:279:ASN:CG	16:AG:280:PRO:CD	2.38	0.97
59:s:12:LYS:NZ	59:s:14:ASP:OD1	1.96	0.97
9:9:95:LEU:HD13	9:9:98:GLU:OE2	1.65	0.97
11:AA:387:ASN:ND2	11:AA:394:ARG:HH12	1.61	0.97
12:AB:154:VAL:HG11	12:AB:159:PHE:HB3	1.47	0.96
41:a:2093:G:OP1	58:r:22:LYS:NZ	1.98	0.96
16:AG:168:LEU:HD21	16:AG:230:PRO:C	1.89	0.96
16:AG:424:SER:O	16:AG:429:LYS:CG	2.13	0.96
16:AG:437:LEU:CD2	16:AG:456:LEU:CD1	2.34	0.96
9:9:58:THR:HG21	9:9:81:LEU:HD23	1.48	0.96
16:AG:219:GLU:CG	21:G:156:GLY:C	2.39	0.96
8:7:11:U:H4'	25:K:20:ARG:HH22	1.18	0.96
8:7:23:U:C2'	14:AE:94:GLN:HE21	1.77	0.96
12:AB:152:HIS:ND1	12:AB:159:PHE:HD2	1.64	0.96
16:AG:214:PRO:O	16:AG:218:GLU:OE2	1.83	0.96
18:D:562:U:O2'	32:R:14:ARG:NH1	1.98	0.96
16:AG:228:ARG:HA	16:AG:327:LEU:HD11	1.46	0.96
16:AG:336:LEU:HD12	16:AG:336:LEU:H	1.26	0.96

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AG:355:ALA:HB2	16:AG:382:GLU:CD	1.83	0.96
8:7:2:U:P	18:D:1505:G:H8	1.88	0.96
16:AG:393:LEU:CA	16:AG:398:LEU:HD23	1.87	0.96
16:AG:393:LEU:HD23	16:AG:398:LEU:CD2	1.93	0.96
64:x:111:ARG:NH2	64:x:117:PHE:OXT	1.99	0.96
16:AG:380:THR:O	16:AG:384:LEU:CD1	2.13	0.96
39:Y:75:ALA:HB2	39:Y:112:LYS:HE3	1.48	0.96
10:B:30:G:HO2'	18:D:1339:A:H2	1.03	0.95
7:6:25:DT:OP1	11:AA:496:LYS:HA	1.12	0.95
18:D:1344:C:OP1	29:O:124:ARG:NH1	1.98	0.95
16:AG:448:LEU:HD21	16:AG:473:LEU:HD13	1.48	0.95
16:AG:433:ASP:O	16:AG:456:LEU:CD1	2.13	0.95
16:AG:440:VAL:CG2	16:AG:481:LEU:HD22	1.97	0.95
9:9:3:LEU:HD12	9:9:4:ASN:N	1.82	0.95
12:AB:140:MET:SD	30:P:102:LEU:CD2	2.55	0.95
16:AG:393:LEU:HA	16:AG:398:LEU:HD22	0.96	0.95
8:7:22:U:H4'	23:I:80:LYS:CD	1.96	0.95
12:AB:82:GLY:N	14:AE:142:GLU:CB	2.30	0.95
16:AG:387:VAL:HG12	16:AG:388:PRO:HD3	1.47	0.95
16:AG:363:LEU:HG	16:AG:410:ALA:CB	1.97	0.95
6:5:10:DT:C7	11:AA:62:TYR:HD2	1.69	0.95
9:9:61:ARG:NH1	41:a:1047:G:N7	2.15	0.95
39:Y:5:GLN:HG2	39:Y:61:TYR:HE1	1.31	0.95
12:AB:51:PHE:CE2	14:AE:288:PRO:CD	2.48	0.94
12:AB:152:HIS:CG	12:AB:159:PHE:CD2	2.55	0.94
36:V:7:THR:OG1	36:V:61:ILE:O	1.85	0.94
12:AB:118:ILE:HG22	12:AB:141:LEU:HD11	1.49	0.94
16:AG:258:ARG:HH11	16:AG:258:ARG:HG2	1.31	0.94
40:Z:14:MET:HB3	40:Z:17:MET:HG2	1.46	0.94
41:a:30:G:OP2	66:z:5:LYS:NZ	2.00	0.94
6:5:11:DA:H5''	12:AB:67:THR:HG22	0.98	0.94
8:7:22:U:H5''	23:I:80:LYS:HG3	0.95	0.94
9:9:23:LEU:HD13	9:9:92:ALA:CB	1.98	0.94
16:AG:168:LEU:HD22	16:AG:231:GLY:HA3	1.00	0.94
23:I:164:ARG:NH2	23:I:166:GLU:OE2	1.99	0.94
39:Y:33:ASN:HB3	39:Y:36:GLU:HG2	1.48	0.94
11:AA:387:ASN:ND2	11:AA:394:ARG:NH1	2.15	0.94
11:AA:481:LEU:HD21	12:AB:16:ARG:HD3	1.48	0.94
12:AB:6:LEU:HD13	14:AE:291:ILE:HD11	1.47	0.94
16:AG:123:ARG:HH12	16:AG:191:ARG:HA	1.32	0.94
12:AB:118:ILE:HG21	12:AB:141:LEU:CD1	1.84	0.94

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AB:154:VAL:CG1	12:AB:159:PHE:HB3	1.98	0.94
14:AE:79:LYS:HA	14:AE:81:ARG:HH12	1.32	0.94
16:AG:279:ASN:CG	16:AG:280:PRO:HD3	1.93	0.94
6:5:9:DG:OP2	11:AA:473:ARG:CG	2.16	0.94
56:p:38:ASN:ND2	56:p:64:GLN:OE1	2.00	0.94
9:9:31:ARG:HD2	41:a:1053:C:O2'	1.66	0.93
12:AB:154:VAL:HG11	12:AB:159:PHE:CB	1.98	0.93
16:AG:393:LEU:CD2	16:AG:398:LEU:HD22	1.90	0.93
9:9:88:HIS:HB3	9:9:89:PRO:CD	1.97	0.93
12:AB:81:PHE:CE1	14:AE:293:ARG:HB2	1.91	0.93
12:AB:103:ASP:HB3	12:AB:105:VAL:HG23	1.48	0.93
16:AG:448:LEU:HD21	16:AG:473:LEU:HD11	1.48	0.93
26:L:9:MET:CE	26:L:85:ILE:HB	1.97	0.93
8:7:22:U:H4'	23:I:80:LYS:HD2	1.48	0.93
12:AB:51:PHE:CE2	14:AE:288:PRO:HG3	1.99	0.93
16:AG:123:ARG:CZ	16:AG:191:ARG:O	2.17	0.93
14:AE:83:VAL:HB	23:I:100:GLN:HE22	1.33	0.93
16:AG:365:ILE:CD1	16:AG:406:LEU:HD22	1.97	0.93
39:Y:14:ALA:O	39:Y:50:LYS:HE3	1.67	0.93
16:AG:451:ARG:NH1	16:AG:467:LEU:CA	2.30	0.93
16:AG:171:GLU:OE2	16:AG:267:GLY:HA3	1.68	0.93
10:B:76:A:N3	41:a:2493:U:H4'	1.84	0.93
18:D:526:C:OP2	32:R:88:LYS:NZ	2.01	0.93
12:AB:146:ILE:HB	30:P:98:VAL:HG23	1.48	0.93
16:AG:240:THR:OG1	16:AG:247:PRO:HG3	1.69	0.93
9:9:23:LEU:HD13	9:9:92:ALA:HB1	1.49	0.93
11:AA:481:LEU:CD2	12:AB:16:ARG:HD3	1.99	0.93
60:t:90:ASN:OD1	60:t:91:SER:N	2.02	0.93
16:AG:244:ARG:CB	25:K:70:ASN:CA	2.46	0.92
1:0:18:GLN:N	1:0:18:GLN:OE1	2.01	0.92
16:AG:363:LEU:CG	16:AG:410:ALA:HB2	1.99	0.92
8:7:21:U:H5''	23:I:80:LYS:H	1.35	0.92
9:9:50:VAL:HG22	39:Y:119:ALA:CB	1.98	0.92
16:AG:244:ARG:CG	25:K:70:ASN:CA	2.38	0.92
12:AB:81:PHE:HE1	14:AE:293:ARG:CB	1.55	0.92
12:AB:118:ILE:HG23	12:AB:141:LEU:HD11	0.92	0.92
12:AB:141:LEU:HD23	12:AB:143:LEU:CG	1.99	0.92
16:AG:451:ARG:NH1	16:AG:466:ASP:O	2.02	0.92
16:AG:174:ARG:HB3	16:AG:175:PRO:HD2	1.51	0.91
41:a:1042:G:HO2'	41:a:1043:C:H6	1.10	0.91
12:AB:115:LYS:HA	12:AB:129:ILE:CD1	1.99	0.91

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AG:425:LEU:HA	16:AG:429:LYS:CD	2.00	0.91
18:D:1526:G:N7	20:F:40:LYS:NZ	2.18	0.91
41:a:2682:A:O4'	50:j:11:MET:SD	2.29	0.91
12:AB:115:LYS:CD	12:AB:129:ILE:HG21	2.01	0.91
14:AE:59:ALA:CB	14:AE:71:LEU:HD21	1.99	0.91
16:AG:453:VAL:HG13	16:AG:458:ASP:CB	2.00	0.91
41:a:2293:G:OP1	64:x:94:ARG:NH1	2.04	0.91
8:7:2:U:P	18:D:1505:G:C8	2.64	0.91
12:AB:3:SER:O	12:AB:58:GLU:HA	1.71	0.91
16:AG:219:GLU:HG2	21:G:156:GLY:HA2	1.51	0.91
16:AG:393:LEU:CD2	16:AG:398:LEU:HD11	1.90	0.91
17:C:60:LYS:HZ2	18:D:734:G:C2'	1.84	0.91
12:AB:110:PRO:HA	12:AB:114:ASP:OD2	1.69	0.91
16:AG:219:GLU:HG2	21:G:156:GLY:HA3	0.93	0.91
31:Q:51:GLY:O	31:Q:56:ARG:NH2	2.03	0.91
6:5:11:DA:OP2	12:AB:67:THR:C	2.11	0.91
25:K:45:ARG:CD	25:K:45:ARG:CB	2.49	0.91
6:5:9:DG:P	11:AA:473:ARG:HB2	2.10	0.91
7:6:25:DT:H2'	11:AA:496:LYS:HE3	1.51	0.91
11:AA:858:GLY:CA	16:AG:37:LYS:HG2	1.98	0.91
12:AB:140:MET:C	12:AB:152:HIS:O	2.13	0.91
16:AG:385:ALA:HB3	16:AG:411:LYS:CE	2.00	0.91
9:9:92:ALA:O	9:9:129:LEU:HD13	1.70	0.91
12:AB:152:HIS:NE2	12:AB:159:PHE:HE2	1.63	0.91
27:M:50:LEU:HD21	27:M:121:ALA:HA	1.52	0.91
39:Y:79:LEU:HD21	39:Y:105:LEU:HD21	1.52	0.91
16:AG:183:LEU:HG	16:AG:197:VAL:HG13	1.51	0.90
16:AG:363:LEU:HD23	16:AG:409:ARG:CB	2.00	0.90
16:AG:219:GLU:HG3	21:G:157:LEU:H	0.77	0.90
16:AG:200:SER:O	16:AG:230:PRO:HG2	1.71	0.90
16:AG:434:LEU:HD22	16:AG:459:LEU:HD12	0.93	0.90
10:B:38:A:H4'	18:D:790:A:O4'	1.71	0.90
64:x:36:TYR:OH	64:x:38:GLN:NE2	2.05	0.90
65:y:89:ARG:NE	65:y:113:ARG:O	2.05	0.90
11:AA:855:PRO:CB	16:AG:105:ILE:C	2.34	0.90
41:a:1818:U:OP2	48:h:156:ARG:NH1	2.03	0.90
8:7:23:U:C2'	14:AE:94:GLN:NE2	2.33	0.90
16:AG:422:GLU:CA	16:AG:426:GLY:HA3	2.02	0.90
36:V:27:ARG:NH1	36:V:42:THR:OG1	2.03	0.90
16:AG:453:VAL:HG23	16:AG:462:GLN:NE2	1.86	0.90
62:v:111:GLU:O	62:v:114:ARG:HG2	1.71	0.90

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AG:434:LEU:HD21	16:AG:455:THR:O	1.69	0.90
16:AG:434:LEU:HD23	16:AG:456:LEU:CA	2.00	0.90
12:AB:140:MET:SD	30:P:102:LEU:HD21	2.10	0.89
17:C:38:LYS:NZ	18:D:718:A:N1	2.19	0.89
16:AG:434:LEU:HD21	16:AG:455:THR:C	1.97	0.89
45:e:23:ARG:NH1	45:e:24:GLU:OE2	2.06	0.89
31:Q:15:GLN:NE2	31:Q:76:GLU:O	2.06	0.89
41:a:2393:U:OP1	55:o:30:ARG:NE	2.05	0.89
13:AD:286:GLU:H	13:AD:315:GLY:HA2	1.36	0.89
16:AG:425:LEU:CA	16:AG:429:LYS:HG3	2.02	0.89
18:D:1439:G:OP1	19:E:33:LYS:NZ	2.05	0.89
8:7:31:U:H5'	11:AA:1259:LEU:HD21	1.52	0.89
47:g:16:CYS:HB2	47:g:37:CYS:HB3	1.54	0.89
47:g:27:THR:OG1	54:n:140:GLU:OE1	1.88	0.89
12:AB:122:ALA:CB	30:P:89:ARG:HH11	1.85	0.89
16:AG:365:ILE:HG21	16:AG:409:ARG:NH1	1.87	0.89
20:F:31:GLU:OE2	20:F:35:ARG:NE	2.06	0.89
12:AB:51:PHE:HE2	14:AE:288:PRO:CD	1.85	0.89
17:C:60:LYS:NZ	18:D:735:C:O4'	2.06	0.89
27:M:13:LEU:HD12	27:M:14:PRO:HD2	1.54	0.89
41:a:585:G:N7	66:z:6:ARG:NH1	2.21	0.89
9:9:8:LYS:O	9:9:12:VAL:HG23	1.73	0.89
18:D:280:C:O2	36:V:40:ARG:CZ	2.21	0.89
33:S:90:ARG:HG3	33:S:92:GLU:OE1	1.73	0.89
61:u:93:ASN:OD1	61:u:94:THR:N	2.05	0.89
3:2:54:GLU:OE1	3:2:91:GLN:NE2	2.06	0.89
6:5:11:DA:P	12:AB:67:THR:O	2.30	0.89
12:AB:115:LYS:HD2	12:AB:129:ILE:CG1	1.97	0.89
12:AB:117:ILE:HG23	12:AB:160:ARG:O	1.73	0.88
16:AG:123:ARG:NH1	16:AG:191:ARG:CA	2.11	0.88
16:AG:363:LEU:HD22	16:AG:409:ARG:HB2	1.53	0.88
27:M:66:LEU:HD13	27:M:101:MET:CE	2.02	0.88
39:Y:129:GLU:HB3	39:Y:133:ARG:NH1	1.87	0.88
10:A:76:A:N6	41:a:2422:C:O4'	2.06	0.88
12:AB:81:PHE:HD2	14:AE:293:ARG:NH1	1.35	0.88
16:AG:285:ILE:HG13	16:AG:293:VAL:HG11	1.45	0.88
39:Y:100:ILE:HD12	39:Y:105:LEU:HD11	1.54	0.88
8:7:23:U:H2'	14:AE:94:GLN:NE2	1.89	0.88
6:5:10:DT:H2''	12:AB:70:ASN:N	1.87	0.88
39:Y:45:THR:CG2	39:Y:50:LYS:HD3	2.02	0.88
41:a:78:U:OP1	45:e:4:LYS:NZ	2.06	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AG:362:TYR:C	16:AG:413:ALA:HB2	1.99	0.88
16:AG:422:GLU:HA	16:AG:426:GLY:H	1.34	0.88
27:M:4:ARG:HG2	27:M:5:ARG:CZ	2.03	0.88
63:w:24:MET:HA	63:w:24:MET:HE3	1.54	0.88
14:AE:59:ALA:CB	14:AE:71:LEU:CD2	2.51	0.88
16:AG:240:THR:OG1	16:AG:247:PRO:CG	2.20	0.88
16:AG:241:ASN:ND2	21:G:181:ILE:CD1	2.33	0.88
41:a:404:A:O2'	41:a:405:U:OP2	1.90	0.88
52:l:170:ARG:NH1	52:l:174:GLY:O	2.05	0.88
16:AG:248:VAL:HG13	16:AG:273:ILE:HB	1.56	0.88
6:5:10:DT:C6	11:AA:62:TYR:HE2	1.85	0.88
28:N:5:ASP:OD2	28:N:77:ARG:NH1	2.07	0.88
12:AB:51:PHE:CE2	14:AE:288:PRO:HD3	2.08	0.87
16:AG:302:LYS:HE3	16:AG:302:LYS:N	1.87	0.87
16:AG:363:LEU:HG	16:AG:410:ALA:CA	2.04	0.87
17:C:27:ALA:O	17:C:30:LYS:HG2	1.74	0.87
41:a:2756:U:OP2	57:q:19:ARG:NE	2.06	0.87
12:AB:6:LEU:CD1	14:AE:291:ILE:HD11	2.05	0.87
16:AG:244:ARG:HG3	25:K:70:ASN:HA	0.89	0.87
59:s:13:ARG:NH1	59:s:49:ASP:O	2.07	0.87
18:D:545:C:H5'	24:J:69:GLU:HG3	1.55	0.87
14:AE:79:LYS:N	14:AE:81:ARG:NH1	2.22	0.87
52:l:170:ARG:NH1	52:l:176:ASP:OD1	2.08	0.87
8:7:22:U:C4'	23:I:80:LYS:HG3	2.02	0.87
16:AG:171:GLU:CD	16:AG:267:GLY:HA3	1.99	0.87
16:AG:486:ARG:O	16:AG:490:TRP:HD1	1.57	0.87
23:I:58:GLU:OE1	23:I:65:ARG:NH1	2.08	0.87
44:d:55:U:H1'	54:n:26:MET:HE2	1.57	0.87
16:AG:141:VAL:HG22	16:AG:178:ARG:HG2	1.57	0.87
16:AG:362:TYR:C	16:AG:413:ALA:CB	2.48	0.87
12:AB:82:GLY:N	14:AE:142:GLU:HB3	1.86	0.87
16:AG:430:PRO:HG2	16:AG:435:LEU:CD2	2.05	0.87
24:J:67:VAL:HB	24:J:72:PHE:CZ	2.09	0.87
39:Y:129:GLU:HB3	39:Y:133:ARG:HH12	1.38	0.87
38:X:81:MET:HE2	41:a:888:C:C5	2.09	0.86
59:s:98:GLU:OE2	59:s:126:ALA:N	2.07	0.86
6:5:9:DG:H5''	11:AA:473:ARG:CG	1.95	0.86
59:s:37:ARG:HA	59:s:118:MET:HE3	1.54	0.86
7:6:25:DT:C2'	11:AA:496:LYS:HG3	2.05	0.86
12:AB:51:PHE:HZ	14:AE:288:PRO:HD3	1.39	0.86
12:AB:147:ASN:HD21	30:P:101:SER:HB3	1.41	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AG:254:MET:HA	16:AG:254:MET:HE3	1.55	0.86
16:AG:434:LEU:HA	16:AG:456:LEU:HD23	1.53	0.86
36:V:77:ARG:NH2	36:V:78:VAL:O	2.08	0.86
39:Y:99:LYS:HD2	39:Y:140:GLU:OE1	1.75	0.86
14:AE:78:LEU:C	14:AE:81:ARG:NH1	2.24	0.86
16:AG:61:ARG:HD3	16:AG:63:LEU:HD21	1.57	0.86
16:AG:187:ARG:CB	16:AG:188:PRO:HD2	2.03	0.86
11:AA:380:ALA:H	12:AB:65:HIS:CE1	1.61	0.86
16:AG:434:LEU:HD12	16:AG:454:CYS:O	1.75	0.86
39:Y:48:ILE:HG13	39:Y:49:GLU:H	1.41	0.86
41:a:2780:G:OP2	59:s:120:ARG:NH1	2.07	0.86
39:Y:15:GLY:HA2	39:Y:50:LYS:HG3	1.57	0.86
12:AB:147:ASN:OD1	30:P:99:GLN:CA	2.24	0.85
16:AG:453:VAL:HG13	16:AG:458:ASP:HB2	1.55	0.85
30:P:85:ASP:HA	30:P:88:MET:HE1	1.58	0.85
1:0:87:GLN:NE2	1:0:88:GLY:O	2.09	0.85
6:5:10:DT:O4'	11:AA:62:TYR:OH	1.93	0.85
39:Y:100:ILE:HD12	39:Y:105:LEU:CD1	2.05	0.85
12:AB:141:LEU:HA	12:AB:153:SER:N	1.92	0.85
16:AG:302:LYS:O	16:AG:302:LYS:NZ	2.08	0.85
62:v:77:PRO:HG2	62:v:80:VAL:HG21	1.58	0.85
36:V:25:ILE:O	36:V:27:ARG:NH2	2.10	0.85
26:L:102:MET:SD	26:L:102:MET:N	2.46	0.85
39:Y:75:ALA:CB	39:Y:112:LYS:HE3	2.07	0.85
62:v:95:LEU:O	62:v:100:LYS:NZ	2.08	0.85
63:w:38:LEU:HD13	63:w:111:ALA:HB2	1.59	0.85
12:AB:110:PRO:CA	12:AB:114:ASP:OD2	2.25	0.84
16:AG:425:LEU:HG	16:AG:429:LYS:CE	2.07	0.84
47:g:26:SER:OG	54:n:140:GLU:OE2	1.94	0.84
1:0:68:ARG:NH1	41:a:1223:G:OP1	2.10	0.84
9:9:58:THR:CG2	9:9:81:LEU:HD23	2.06	0.84
16:AG:385:ALA:HB1	16:AG:411:LYS:CE	2.04	0.84
16:AG:355:ALA:CA	16:AG:382:GLU:CD	2.49	0.84
42:b:36:ILE:HG21	42:b:39:ARG:HD3	1.59	0.84
54:n:23:ASN:OD1	54:n:24:SER:N	2.09	0.84
19:E:9:LYS:O	19:E:13:GLN:NE2	2.10	0.84
12:AB:115:LYS:CD	12:AB:129:ILE:CG2	2.55	0.84
29:O:84:THR:HG21	29:O:103:PHE:HB3	1.59	0.84
61:u:90:VAL:HG13	61:u:95:LEU:HD21	1.57	0.84
5:4:58:SER:OG	5:4:59:GLU:OE1	1.95	0.84
11:AA:377:THR:CB	12:AB:62:GLU:HB3	2.08	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:AE:78:LEU:C	14:AE:81:ARG:HH11	1.79	0.84
39:Y:96:LYS:CE	39:Y:136:GLY:HA3	2.08	0.84
6:5:11:DA:C2'	12:AB:67:THR:HG21	2.08	0.84
12:AB:141:LEU:HD23	12:AB:143:LEU:CD1	2.07	0.84
16:AG:210:ARG:HG3	16:AG:216:ILE:HB	1.59	0.84
16:AG:285:ILE:CG2	16:AG:293:VAL:HG12	2.06	0.84
16:AG:365:ILE:CG2	16:AG:409:ARG:HH12	1.91	0.84
16:AG:387:VAL:CB	16:AG:388:PRO:HD2	2.06	0.84
6:5:9:DG:P	11:AA:473:ARG:CB	2.66	0.84
11:AA:855:PRO:CG	16:AG:105:ILE:HA	2.01	0.84
12:AB:124:GLU:C	12:AB:126:PHE:H	1.86	0.84
16:AG:213:VAL:HG11	16:AG:251:CYS:HA	1.59	0.84
16:AG:448:LEU:CD2	16:AG:473:LEU:HD11	2.05	0.84
10:A:33:U:OP1	27:M:77:SER:OG	1.95	0.83
16:AG:203:GLU:HA	16:AG:206:ILE:HG12	1.60	0.83
38:X:81:MET:CE	38:X:92:ARG:HB3	2.06	0.83
48:h:175:ARG:HG3	48:h:181:MET:HE1	1.58	0.83
16:AG:168:LEU:HD23	16:AG:231:GLY:HA3	1.56	0.83
16:AG:287:ALA:HB2	16:AG:331:LEU:HD13	1.58	0.83
18:D:742:G:OP1	34:T:58:ARG:NH2	2.12	0.83
16:AG:244:ARG:O	25:K:69:ARG:CA	2.25	0.83
41:a:2682:A:O2'	50:j:13:ARG:NE	2.12	0.83
56:p:121:ILE:HD12	56:p:141:ILE:HG22	1.60	0.83
14:AE:87:LYS:NZ	30:P:89:ARG:HB3	1.92	0.83
16:AG:127:VAL:CG2	16:AG:192:GLY:HA2	2.09	0.83
16:AG:244:ARG:HB2	25:K:70:ASN:H	0.67	0.83
62:v:7:THR:OG1	62:v:10:ARG:NH1	2.11	0.83
59:s:102:GLU:OE1	59:s:102:GLU:N	2.10	0.83
8:7:2:U:OP2	18:D:1505:G:C8	2.30	0.83
14:AE:287:ALA:HB1	14:AE:292:VAL:HG13	1.60	0.83
66:z:74:ILE:HD11	66:z:79:PHE:HA	1.60	0.83
6:5:10:DT:C6	11:AA:62:TYR:CZ	2.65	0.83
8:7:3:G:C5'	18:D:1500:A:H62	1.92	0.83
58:r:137:GLU:HG2	58:r:138:VAL:HG23	1.61	0.83
61:u:122:VAL:CG1	61:u:125:LEU:HD21	2.07	0.83
16:AG:285:ILE:CG2	16:AG:293:VAL:CG1	2.57	0.83
23:I:22:TRP:CZ3	23:I:24:ALA:HB2	2.14	0.83
39:Y:74:PRO:HG2	39:Y:77:VAL:HB	1.60	0.83
41:a:1257:C:H4'	52:l:78:TRP:CE2	2.14	0.83
66:z:78:LYS:HD3	66:z:117:LEU:CD2	2.09	0.83
9:9:43:LYS:HG3	9:9:46:ARG:NH1	1.94	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AG:393:LEU:CB	16:AG:398:LEU:HD23	1.80	0.83
41:a:2298:A:OP1	54:n:72:LYS:NZ	2.11	0.83
50:j:152:PRO:HG3	50:j:156:PHE:CZ	2.14	0.83
9:9:48:ALA:HB3	9:9:51:TYR:CE1	2.09	0.82
16:AG:252:VAL:HA	16:AG:259:VAL:HG23	1.61	0.82
16:AG:362:TYR:HA	16:AG:413:ALA:CB	2.09	0.82
6:5:10:DT:C4	11:AA:62:TYR:CD2	2.68	0.82
16:AG:433:ASP:C	16:AG:456:LEU:HG	2.03	0.82
10:B:6:G:O2'	10:B:7:G:O5'	1.96	0.82
54:n:73:SER:OG	54:n:79:ILE:O	1.96	0.82
6:5:10:DT:C2	12:AB:72:THR:OG1	2.30	0.82
9:9:43:LYS:O	9:9:46:ARG:HG2	1.78	0.82
10:A:6:G:O2'	10:A:7:G:O5'	1.96	0.82
12:AB:54:TYR:HE2	14:AE:291:ILE:HG23	1.44	0.82
16:AG:353:HIS:CA	16:AG:356:ILE:HG23	2.09	0.82
16:AG:354:ALA:HA	16:AG:357:ASP:HB3	1.60	0.82
41:a:2393:U:H5''	55:o:30:ARG:CZ	2.09	0.82
9:9:1:MET:HE1	9:9:7:ASP:HB3	1.61	0.82
38:X:81:MET:HE1	38:X:92:ARG:CB	2.08	0.82
12:AB:117:ILE:HD13	12:AB:161:LYS:HZ1	1.44	0.82
41:a:2356:U:H5''	42:b:20:ARG:HD2	1.61	0.82
60:t:7:MET:HG3	60:t:18:ARG:CZ	2.10	0.82
12:AB:38:ILE:HG12	12:AB:43:ARG:HG2	1.61	0.82
16:AG:226:ALA:HA	16:AG:236:ILE:HG13	1.61	0.82
39:Y:116:MET:HG2	39:Y:124:MET:HG2	1.60	0.82
11:AA:387:ASN:CB	11:AA:394:ARG:HH11	1.93	0.82
16:AG:361:LYS:CD	16:AG:417:ILE:HG12	2.10	0.82
21:G:105:LYS:O	21:G:109:GLN:NE2	2.12	0.82
56:p:104:ASN:ND2	56:p:114:ASP:OD1	2.12	0.82
6:5:10:DT:C2	12:AB:71:ALA:HB3	1.84	0.82
39:Y:45:THR:HG22	39:Y:50:LYS:HD3	1.59	0.82
16:AG:385:ALA:HB3	16:AG:411:LYS:HE3	1.57	0.82
60:t:12:ASP:OD2	60:t:85:VAL:HG13	1.80	0.81
9:9:3:LEU:HD11	9:9:5:LEU:HD23	1.61	0.81
11:AA:855:PRO:HG3	16:AG:105:ILE:HD12	1.62	0.81
56:p:7:ALA:O	56:p:69:ARG:NE	2.13	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
12:AB:140:MET:SD	30:P:102:LEU:HD22	2.21	0.81
12:AB:152:HIS:HB3	12:AB:154:VAL:HG12	1.62	0.81
14:AE:81:ARG:H	14:AE:81:ARG:HD2	1.45	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AG:279:ASN:CG	16:AG:280:PRO:HD2	2.04	0.81
39:Y:14:ALA:HB3	39:Y:51:GLY:H	1.45	0.81
41:a:1613:G:O2'	53:m:3:ARG:NH2	2.12	0.81
41:a:2356:U:O3'	42:b:20:ARG:NH1	2.14	0.81
9:9:25:ALA:HB3	9:9:99:PHE:CD2	2.16	0.81
16:AG:12:VAL:HB	16:AG:16:LYS:HG3	1.61	0.81
16:AG:434:LEU:CG	16:AG:455:THR:C	2.54	0.81
12:AB:140:MET:CA	12:AB:152:HIS:O	2.29	0.81
7:6:23:DC:H5'	14:AE:259:ARG:HH12	1.43	0.81
14:AE:85:CYS:HG	68:AE:1502:ZN:ZN	0.94	0.81
16:AG:133:HIS:ND1	16:AG:136:GLU:OE1	2.13	0.81
18:D:311:C:OP1	35:U:31:ARG:NH2	2.13	0.81
52:l:112:LEU:HD12	52:l:117:ARG:HB2	1.62	0.81
66:z:69:ALA:HB1	66:z:74:ILE:HG23	1.63	0.81
16:AG:243:LYS:HB3	16:AG:245:ILE:HD11	1.59	0.81
16:AG:285:ILE:CB	16:AG:293:VAL:HG11	2.09	0.81
9:9:52:MET:HG2	9:9:95:LEU:HD11	1.62	0.81
12:AB:141:LEU:HA	12:AB:152:HIS:C	2.06	0.81
16:AG:425:LEU:HG	16:AG:429:LYS:CD	2.10	0.81
16:AG:451:ARG:NE	16:AG:470:ILE:HG13	1.95	0.81
61:u:122:VAL:HG13	61:u:125:LEU:HD11	1.62	0.81
18:D:107:G:O6	19:E:10:ARG:NE	2.13	0.81
52:l:1:MET:HE1	52:l:20:GLY:CA	2.11	0.81
66:z:74:ILE:HD13	66:z:79:PHE:HD1	1.46	0.81
8:7:22:U:H4'	23:I:80:LYS:CG	2.10	0.80
39:Y:58:ILE:HG22	39:Y:60:VAL:HG23	1.63	0.80
41:a:1655:A:H1'	50:j:118:PHE:HE2	1.46	0.80
8:7:2:U:OP1	18:D:1505:G:C8	2.33	0.80
8:7:21:U:H5	23:I:80:LYS:C	1.88	0.80
12:AB:148:LYS:NZ	30:P:102:LEU:H	1.79	0.80
16:AG:353:HIS:C	16:AG:356:ILE:CG2	2.50	0.80
16:AG:425:LEU:HD23	16:AG:429:LYS:HE2	0.81	0.80
16:AG:440:VAL:CG2	16:AG:481:LEU:CD2	2.59	0.80
16:AG:451:ARG:HH11	16:AG:467:LEU:HA	1.42	0.80
39:Y:40:ALA:HB1	39:Y:68:PHE:CE1	2.16	0.80
41:a:2682:A:C8	50:j:11:MET:CE	2.65	0.80
11:AA:481:LEU:HD23	12:AB:16:ARG:HD2	1.60	0.80
12:AB:146:ILE:HD13	30:P:98:VAL:CG2	2.11	0.80
19:E:28:MET:HE1	19:E:58:VAL:HA	1.64	0.80
42:b:28:GLY:O	42:b:66:LYS:NZ	2.13	0.80
9:9:46:ARG:HG3	9:9:94:ARG:NH2	1.94	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AG:287:ALA:HB1	16:AG:331:LEU:HD12	1.62	0.80
6:5:10:DT:H73	11:AA:62:TYR:HD2	1.29	0.80
16:AG:133:HIS:HD1	16:AG:136:GLU:CD	1.90	0.80
41:a:1818:U:O5'	48:h:156:ARG:NH2	2.14	0.80
14:AE:387:LEU:HD21	16:AG:147:ARG:CG	2.11	0.80
16:AG:362:TYR:HA	16:AG:413:ALA:HB1	1.62	0.80
1:0:86:GLN:OE1	41:a:1225:G:H4'	1.81	0.80
16:AG:451:ARG:NH1	16:AG:467:LEU:C	2.40	0.80
6:5:11:DA:C4'	12:AB:67:THR:HG22	2.10	0.80
16:AG:365:ILE:CD1	16:AG:406:LEU:CD2	2.57	0.80
41:a:2393:U:P	55:o:30:ARG:HE	2.04	0.80
41:a:2636:C:H4'	50:j:81:GLU:OE1	1.82	0.80
48:h:130:LEU:HA	48:h:189:ARG:HH11	1.45	0.80
54:n:117:LEU:HD13	54:n:176:PRO:HG2	1.64	0.80
20:F:37:PHE:HB2	31:Q:126:LYS:CE	2.10	0.79
12:AB:54:TYR:CE2	14:AE:291:ILE:CG2	2.65	0.79
12:AB:147:ASN:CG	30:P:100:ILE:N	2.41	0.79
16:AG:380:THR:O	16:AG:384:LEU:HD11	1.80	0.79
41:a:2393:U:H5''	55:o:30:ARG:NH1	1.97	0.79
48:h:258:ARG:NH1	48:h:264:ASP:OD1	2.14	0.79
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
16:AG:365:ILE:HG21	16:AG:409:ARG:HH12	1.42	0.79
11:AA:855:PRO:CD	16:AG:105:ILE:HD12	2.13	0.79
16:AG:363:LEU:CG	16:AG:410:ALA:N	2.45	0.79
16:AG:451:ARG:HH12	16:AG:467:LEU:CA	1.92	0.79
17:C:60:LYS:HZ3	18:D:735:C:P	2.04	0.79
39:Y:9:LYS:HE2	39:Y:55:PRO:HB3	1.63	0.79
49:i:46:ASP:OD2	49:i:53:LYS:NZ	2.15	0.79
60:t:98:ARG:NH2	60:t:118:LEU:O	2.15	0.79
4:3:46:GLN:OE1	4:3:56:GLY:HA2	1.82	0.79
11:AA:377:THR:OG1	12:AB:62:GLU:CA	2.30	0.79
12:AB:51:PHE:CE2	14:AE:288:PRO:HG2	2.06	0.79
52:l:111:GLU:OE2	52:l:114:ARG:NH1	2.14	0.79
7:6:25:DT:H3'	11:AA:496:LYS:CG	2.13	0.79
16:AG:425:LEU:CA	16:AG:429:LYS:CG	2.60	0.79
16:AG:437:LEU:HD21	16:AG:456:LEU:HD13	0.81	0.79
18:D:275:G:H4'	36:V:16:LYS:HD2	1.64	0.79
26:L:70:VAL:O	26:L:74:LEU:HD23	1.80	0.79
16:AG:235:LYS:HD3	16:AG:327:LEU:HG	1.64	0.79
16:AG:425:LEU:HA	16:AG:429:LYS:HE3	0.95	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:98:LYS:HD2	41:a:2012:G:OP1	1.83	0.79
39:Y:81:LYS:HZ2	39:Y:86:LYS:HE2	1.48	0.79
8:7:3:G:C5'	18:D:1500:A:N6	2.46	0.79
9:9:3:LEU:CD1	9:9:4:ASN:H	1.96	0.79
16:AG:379:SER:OG	16:AG:384:LEU:HD21	1.81	0.79
39:Y:102:ARG:HD2	39:Y:141:ASP:CA	2.13	0.79
56:p:107:LEU:HB3	56:p:152:ARG:HE	1.47	0.79
6:5:10:DT:C5	11:AA:62:TYR:HD2	1.81	0.79
8:7:22:U:H4'	23:I:80:LYS:HG3	1.64	0.79
16:AG:363:LEU:HD23	16:AG:409:ARG:HB2	1.62	0.79
33:S:12:LYS:O	33:S:16:LEU:HD23	1.83	0.79
43:c:30:LEU:HD12	43:c:31:PRO:HD2	1.63	0.79
47:g:18:CYS:HB3	47:g:40:CYS:CB	2.13	0.79
9:9:5:LEU:O	9:9:9:GLN:NE2	2.15	0.78
12:AB:138:ARG:CB	12:AB:154:VAL:O	2.30	0.78
12:AB:146:ILE:HB	30:P:98:VAL:CG2	2.12	0.78
17:C:38:LYS:HE2	17:C:38:LYS:HA	1.64	0.78
28:N:27:MET:N	28:N:58:GLU:OE2	2.16	0.78
48:h:53:HIS:HE2	48:h:219:THR:HA	1.45	0.78
64:x:104:GLN:NE2	64:x:108:ASP:OD2	2.16	0.78
6:5:10:DT:C2'	12:AB:71:ALA:H	1.95	0.78
9:9:118:ILE:HB	9:9:119:PRO:HD3	1.64	0.78
16:AG:451:ARG:NH2	16:AG:470:ILE:HG13	1.97	0.78
27:M:20:SER:HB3	27:M:23:LEU:HD13	1.63	0.78
28:N:9:ASP:OD2	28:N:13:ARG:NH1	2.15	0.78
54:n:142:ASP:HB3	54:n:145:LYS:HE2	1.65	0.78
8:7:29:U:OP2	14:AE:398:LYS:NZ	2.16	0.78
9:9:34:THR:O	9:9:38:MET:HG2	1.83	0.78
16:AG:218:GLU:CB	21:G:105:LYS:HB3	2.13	0.78
18:D:673:A:H2'	18:D:674:G:C8	2.18	0.78
12:AB:120:GLU:HB2	12:AB:162:LEU:HG	1.63	0.78
16:AG:412:ASN:O	16:AG:416:THR:HG23	1.84	0.78
24:J:62:ARG:NH1	24:J:69:GLU:OE2	2.16	0.78
27:M:40:GLU:OE2	29:O:41:ARG:NH2	2.17	0.78
29:O:56:ASP:O	29:O:60:LYS:NZ	2.16	0.78
9:9:81:LEU:HD21	41:a:1107:G:H4'	1.64	0.78
12:AB:136:GLU:CD	12:AB:160:ARG:NH1	2.42	0.78
16:AG:233:ARG:HB2	16:AG:327:LEU:HD23	1.66	0.78
22:H:306:VAL:HA	22:H:309:MET:SD	2.23	0.78
16:AG:381:LEU:HA	16:AG:384:LEU:CD1	2.09	0.78
41:a:1276:A:O2'	63:w:20:MET:CE	2.30	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:5:10:DT:C2	12:AB:71:ALA:CB	2.61	0.78
41:a:1453:A:N1	63:w:74:GLU:OE1	2.16	0.78
35:U:3:THR:HG21	35:U:5:ARG:CZ	2.14	0.78
16:AG:393:LEU:HB3	16:AG:398:LEU:HD21	1.25	0.78
37:W:40:ILE:HG23	37:W:44:MET:SD	2.24	0.78
12:AB:110:PRO:HB3	12:AB:114:ASP:OD2	1.83	0.78
16:AG:189:GLU:HB3	16:AG:194:GLN:HG3	1.63	0.78
16:AG:402:THR:O	16:AG:405:ALA:HB3	1.84	0.78
16:AG:447:LYS:O	16:AG:470:ILE:CD1	2.31	0.78
39:Y:9:LYS:HE2	39:Y:55:PRO:CG	2.14	0.78
27:M:18:PHE:HE2	27:M:47:LEU:HD21	1.48	0.77
57:q:2:LYS:NZ	57:q:32:LYS:O	2.17	0.77
9:9:94:ARG:HB2	9:9:97:LYS:HE2	1.67	0.77
11:AA:858:GLY:HA3	16:AG:37:LYS:CG	2.11	0.77
16:AG:430:PRO:CG	16:AG:435:LEU:HD21	2.10	0.77
39:Y:93:ASN:C	39:Y:94:LYS:HD2	2.10	0.77
9:9:60:LEU:HD23	9:9:64:VAL:HG21	1.65	0.77
12:AB:125:GLY:O	14:AE:87:LYS:C	2.27	0.77
16:AG:434:LEU:CA	16:AG:456:LEU:HD21	2.12	0.77
35:U:3:THR:HG21	35:U:5:ARG:NH1	1.99	0.77
12:AB:120:GLU:HB2	12:AB:162:LEU:CG	2.14	0.77
16:AG:434:LEU:CD2	16:AG:456:LEU:N	2.46	0.77
60:t:8:LEU:C	60:t:18:ARG:HH12	1.92	0.77
60:t:20:MET:HB3	60:t:44:LYS:NZ	1.98	0.77
8:7:2:U:OP1	18:D:1505:G:H8	1.65	0.77
16:AG:307:ILE:HB	16:AG:338:VAL:HA	1.66	0.77
9:9:19:ALA:HA	9:9:70:GLU:HG2	1.66	0.77
59:s:37:ARG:HA	59:s:118:MET:CE	2.14	0.77
12:AB:139:SER:O	12:AB:153:SER:HA	1.85	0.77
31:Q:84:VAL:HG23	31:Q:107:ILE:HD11	1.67	0.77
16:AG:354:ALA:HA	16:AG:357:ASP:CB	2.14	0.77
18:D:375:U:OP2	35:U:70:ARG:NH2	2.17	0.77
31:Q:87:LYS:CG	31:Q:113:VAL:HG23	2.15	0.77
37:W:44:MET:SD	37:W:62:VAL:HG11	2.25	0.77
41:a:1801:A:P	48:h:146:MET:HE1	2.25	0.77
12:AB:115:LYS:CE	12:AB:129:ILE:HG23	2.14	0.77
18:D:1227:A:OP1	38:X:93:ARG:NH2	2.18	0.77
41:a:1405:U:H2'	41:a:1406:U:C6	2.20	0.77
62:v:1:MET:HA	62:v:1:MET:HE3	1.67	0.77
12:AB:9:CYS:H	12:AB:53:ASN:HB3	1.48	0.76
12:AB:148:LYS:HZ3	30:P:101:SER:CA	1.99	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AG:258:ARG:HG2	16:AG:258:ARG:NH1	1.99	0.76
16:AG:381:LEU:CA	16:AG:384:LEU:HD12	2.08	0.76
41:a:2511:U:C4'	50:j:130:GLN:OE1	2.33	0.76
63:w:12:ARG:O	63:w:17:ARG:NH2	2.19	0.76
18:D:375:U:P	35:U:70:ARG:HE	2.07	0.76
40:Z:2:ILE:HG22	40:Z:4:LYS:H	1.50	0.76
9:9:27:VAL:HG13	9:9:83:ALA:HB3	1.66	0.76
16:AG:451:ARG:CZ	16:AG:470:ILE:HG13	2.16	0.76
10:B:18:G:N2	10:B:55:U:O2	2.17	0.76
2:1:11:ARG:CZ	2:1:98:LYS:HE3	2.15	0.76
6:5:10:DT:H2''	12:AB:69:ILE:C	2.11	0.76
16:AG:434:LEU:HD11	16:AG:455:THR:O	1.85	0.76
41:a:1406:U:O2'	41:a:1407:G:O5'	2.02	0.76
9:9:77:VAL:HG12	9:9:82:ILE:HG21	1.68	0.76
16:AG:244:ARG:HB3	25:K:71:MET:H	1.49	0.76
5:4:50:MET:O	5:4:56:PHE:CE2	2.38	0.76
16:AG:284:VAL:HG12	16:AG:296:ILE:HD13	1.66	0.76
16:AG:451:ARG:HE	16:AG:470:ILE:HG13	1.51	0.76
40:Z:14:MET:HG3	40:Z:15:SER:H	1.49	0.76
59:s:15:TRP:CZ3	59:s:135:GLN:HA	2.21	0.76
12:AB:133:PRO:HA	12:AB:159:PHE:HZ	1.51	0.76
16:AG:354:ALA:O	16:AG:355:ALA:C	2.26	0.76
16:AG:425:LEU:CB	16:AG:429:LYS:HE3	2.16	0.76
21:G:30:PHE:CD1	21:G:201:PRO:HG3	2.21	0.76
41:a:196:A:OP2	61:u:47:ARG:NH1	2.18	0.76
41:a:1828:G:O6	48:h:221:ARG:NH1	2.19	0.76
41:a:2335:A:OP2	64:x:13:ARG:CZ	2.34	0.76
12:AB:141:LEU:CD2	12:AB:143:LEU:CD1	2.64	0.76
16:AG:131:ARG:HA	16:AG:186:VAL:HG11	1.68	0.76
16:AG:240:THR:CG2	16:AG:247:PRO:HG3	2.16	0.76
12:AB:141:LEU:O	12:AB:151:LYS:CA	2.34	0.76
6:5:11:DA:C4'	12:AB:67:THR:CG2	2.64	0.76
10:A:18:G:N2	10:A:55:U:O2	2.17	0.76
16:AG:354:ALA:O	16:AG:356:ILE:N	2.19	0.76
16:AG:434:LEU:CD2	16:AG:455:THR:C	2.58	0.76
21:G:49:MET:CE	21:G:201:PRO:HD3	2.16	0.76
41:a:686:U:O4	53:m:12:ARG:HD3	1.86	0.76
12:AB:146:ILE:O	30:P:99:GLN:HA	1.86	0.75
12:AB:147:ASN:HB2	30:P:100:ILE:HG22	1.68	0.75
12:AB:152:HIS:HB3	12:AB:154:VAL:CG1	2.15	0.75
16:AG:201:LYS:HD2	16:AG:201:LYS:N	2.01	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AG:248:VAL:HG22	16:AG:273:ILE:HG22	1.68	0.75
16:AG:283:PHE:CZ	16:AG:331:LEU:O	2.39	0.75
24:J:58:LYS:NZ	24:J:69:GLU:OE2	2.15	0.75
16:AG:425:LEU:HD23	16:AG:429:LYS:NZ	1.99	0.75
18:D:550:G:O2'	32:R:116:LYS:NZ	2.18	0.75
41:a:2314:A:OP1	54:n:88:LYS:NZ	2.18	0.75
9:9:5:LEU:C	9:9:9:GLN:HE22	1.94	0.75
14:AE:59:ALA:HB1	14:AE:71:LEU:CD2	2.16	0.75
16:AG:365:ILE:HG23	16:AG:409:ARG:HH11	1.51	0.75
21:G:154:MET:CE	21:G:158:PRO:HD3	2.16	0.75
41:a:742:A:H2'	41:a:743:A:C8	2.22	0.75
41:a:2297:A:N1	41:a:2321:U:C4	2.53	0.75
54:n:4:LEU:HD11	54:n:101:GLU:CA	2.16	0.75
12:AB:147:ASN:OD1	30:P:99:GLN:HG3	1.85	0.75
16:AG:354:ALA:C	16:AG:356:ILE:H	1.93	0.75
17:C:38:LYS:HD3	18:D:719:C:H1'	1.67	0.75
42:b:68:LYS:NZ	42:b:70:GLU:OE1	2.19	0.75
16:AG:371:THR:O	16:AG:375:GLU:HG3	1.86	0.75
20:F:63:GLU:OE1	20:F:67:ARG:NH1	2.20	0.75
21:G:20:THR:HA	21:G:39:HIS:CE1	2.21	0.75
25:K:142:ASP:O	25:K:145:GLU:HG3	1.86	0.75
26:L:42:TRP:HZ3	26:L:45:ARG:HH22	1.32	0.75
16:AG:228:ARG:HD2	16:AG:236:ILE:HB	1.68	0.75
16:AG:363:LEU:CD2	16:AG:409:ARG:CB	2.62	0.75
38:X:57:ARG:NH2	47:g:35:ASP:OD1	2.19	0.75
6:5:10:DT:C4	11:AA:62:TYR:CE2	2.74	0.75
22:H:52:GLN:OE1	22:H:86:ARG:CB	2.34	0.75
39:Y:126:ARG:NH2	41:a:1083:U:OP1	2.19	0.75
50:j:46:ARG:NH2	50:j:88:GLU:O	2.19	0.75
59:s:15:TRP:HZ3	59:s:135:GLN:HA	1.50	0.75
2:1:24:ILE:HG21	2:1:36:LEU:HD11	1.68	0.75
9:9:37:LYS:O	9:9:41:LEU:HG	1.86	0.75
9:9:134:GLU:OE2	9:9:136:ILE:HG22	1.85	0.75
18:D:739:C:O2'	34:T:42:HIS:ND1	2.18	0.75
41:a:537:G:OP2	59:s:2:LYS:NZ	2.20	0.75
12:AB:125:GLY:O	14:AE:87:LYS:O	2.04	0.75
17:C:60:LYS:HZ2	18:D:734:G:H2'	1.50	0.75
18:D:404:G:OP1	24:J:115:ARG:NH1	2.19	0.75
18:D:1217:C:OP2	33:S:9:ARG:NH2	2.19	0.75
27:M:18:PHE:CE2	27:M:47:LEU:HD21	2.21	0.75
38:X:28:THR:HG23	38:X:31:LYS:HE3	1.69	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:M:103:TRP:CG	27:M:137:LYS:HZ2	2.05	0.74
9:9:59:LEU:HD22	9:9:62:ARG:NE	2.02	0.74
12:AB:18:GLN:HG3	12:AB:21:LEU:HD12	1.69	0.74
12:AB:89:PRO:HD2	14:AE:290:ILE:HG21	1.68	0.74
16:AG:425:LEU:HG	16:AG:429:LYS:HE2	1.65	0.74
17:C:60:LYS:NZ	18:D:734:G:O3'	2.20	0.74
41:a:1276:A:O2'	63:w:20:MET:HE2	1.87	0.74
44:d:42:C:O5'	54:n:64:LYS:NZ	2.20	0.74
52:l:90:GLN:NE2	52:l:91:ASP:O	2.20	0.74
58:r:6:LEU:HD11	58:r:37:VAL:HG23	1.69	0.74
65:y:71:GLU:OE1	65:y:101:ARG:NE	2.19	0.74
9:9:59:LEU:HD13	9:9:62:ARG:HD2	1.70	0.74
11:AA:859:GLU:CD	16:AG:38:LYS:HA	2.11	0.74
14:AE:87:LYS:HE2	30:P:89:ARG:HB3	0.77	0.74
54:n:56:ASP:OD2	54:n:150:ARG:NH1	2.20	0.74
2:l:25:ARG:HH22	41:a:520:G:P	2.10	0.74
12:AB:137:ALA:O	12:AB:155:LYS:C	2.30	0.74
14:AE:87:LYS:CE	30:P:89:ARG:CB	2.44	0.74
16:AG:62:TRP:HB3	16:AG:75:ILE:HD11	1.69	0.74
16:AG:393:LEU:C	16:AG:398:LEU:HD23	2.12	0.74
34:T:64:ARG:CZ	34:T:89:ARG:HH22	2.00	0.74
5:4:75:GLN:HG3	5:4:92:VAL:HG23	1.70	0.74
11:AA:855:PRO:CG	16:AG:105:ILE:HD12	2.18	0.74
39:Y:56:VAL:CA	39:Y:71:LYS:HZ1	2.00	0.74
5:4:45:ASP:OD1	5:4:46:LYS:N	2.21	0.74
5:4:57:TYR:HB3	62:v:136:MET:CE	2.16	0.74
16:AG:385:ALA:HB3	16:AG:411:LYS:HE2	1.68	0.74
18:D:376:G:H5''	35:U:5:ARG:HD2	1.68	0.74
24:J:105:MET:CE	24:J:171:LEU:HD13	2.18	0.74
63:w:60:VAL:HG22	63:w:63:ARG:NH1	2.03	0.74
8:7:22:U:H5''	23:I:80:LYS:CB	2.18	0.74
12:AB:21:LEU:HB3	12:AB:26:VAL:HG11	1.70	0.74
22:H:36:VAL:O	22:H:37:LEU:HD12	1.87	0.74
6:5:10:DT:N3	12:AB:72:THR:OG1	2.20	0.74
12:AB:89:PRO:CD	14:AE:290:ILE:HG21	2.18	0.74
14:AE:81:ARG:HD2	14:AE:81:ARG:N	2.03	0.74
16:AG:279:ASN:CB	16:AG:280:PRO:CD	2.66	0.74
22:H:303:LEU:O	22:H:305:HIS:N	2.20	0.74
63:w:33:ILE:HD11	63:w:112:TYR:CD1	2.23	0.74
9:9:36:ASP:O	9:9:39:THR:HG22	1.87	0.74
11:AA:377:THR:CG2	12:AB:62:GLU:HB3	2.18	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AG:429:LYS:H	16:AG:429:LYS:HD2	1.53	0.74
31:Q:87:LYS:HG2	31:Q:113:VAL:HG23	1.67	0.74
39:Y:9:LYS:HE2	39:Y:55:PRO:CB	2.17	0.74
18:D:375:U:OP1	35:U:70:ARG:HG2	1.88	0.73
19:E:21:ASN:C	19:E:25:ARG:HE	1.96	0.73
42:b:21:LEU:HD21	42:b:41:ARG:HE	1.51	0.73
2:1:25:ARG:NH2	41:a:520:G:H5'	2.03	0.73
9:9:23:LEU:HD11	9:9:96:PHE:CD2	2.23	0.73
16:AG:254:MET:HA	16:AG:254:MET:CE	2.17	0.73
16:AG:387:VAL:CG1	16:AG:388:PRO:CD	2.41	0.73
62:v:97:GLN:N	62:v:100:LYS:HE3	2.03	0.73
9:9:43:LYS:NZ	9:9:98:GLU:HB2	2.04	0.73
9:9:56:ARG:O	9:9:56:ARG:HG2	1.88	0.73
9:9:129:LEU:HD12	9:9:130:PRO:HD3	1.70	0.73
16:AG:365:ILE:HG23	16:AG:409:ARG:NH1	2.02	0.73
16:AG:434:LEU:HD21	16:AG:456:LEU:N	2.03	0.73
18:D:1158:C:O2'	21:G:132:LYS:NZ	2.21	0.73
56:p:69:ARG:NH1	56:p:73:ASN:OD1	2.21	0.73
12:AB:51:PHE:CZ	14:AE:288:PRO:CD	2.66	0.73
41:a:465:G:OP1	53:m:12:ARG:NH2	2.22	0.73
41:a:1278:C:H4'	63:w:24:MET:HE1	1.70	0.73
16:AG:219:GLU:HA	16:AG:219:GLU:OE2	1.87	0.73
39:Y:100:ILE:HD11	39:Y:139:VAL:HB	1.69	0.73
24:J:100:ASN:OD1	24:J:111:ARG:NH1	2.21	0.73
34:T:76:ALA:O	34:T:80:GLN:NE2	2.22	0.73
39:Y:102:ARG:CD	39:Y:141:ASP:HA	2.18	0.73
40:Z:6:GLN:OE1	40:Z:10:ALA:HB2	1.88	0.73
47:g:18:CYS:CB	47:g:40:CYS:HB3	2.17	0.73
49:i:55:ILE:HD13	63:w:112:TYR:CZ	2.23	0.73
16:AG:365:ILE:HD13	16:AG:406:LEU:HD21	1.70	0.73
16:AG:425:LEU:O	16:AG:429:LYS:HE3	1.87	0.73
43:c:71:LEU:HB3	43:c:76:GLU:OE2	1.88	0.73
8:7:13:U:H3	24:J:47:ARG:HH11	1.37	0.73
11:AA:387:ASN:OD1	11:AA:394:ARG:NH1	2.21	0.73
16:AG:365:ILE:CG2	16:AG:409:ARG:HH11	2.01	0.73
17:C:38:LYS:NZ	18:D:718:A:C2	2.57	0.73
17:C:73:ARG:NH1	31:Q:113:VAL:HG12	2.02	0.73
56:p:85:LYS:HE3	56:p:164:TYR:CD1	2.24	0.73
12:AB:145:LEU:N	12:AB:145:LEU:HD12	2.03	0.73
29:O:47:VAL:HA	29:O:50:GLN:HG2	1.70	0.73
39:Y:100:ILE:HG13	39:Y:139:VAL:CG2	2.18	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:t:17:ARG:HB2	60:t:45:GLU:OE1	1.88	0.73
2:l:23:LEU:HD11	49:i:24:ALA:HB2	1.70	0.73
18:D:13:U:C4	18:D:915:A:N6	2.57	0.73
32:R:56:ARG:HG2	32:R:62:GLU:OE2	1.89	0.73
16:AG:363:LEU:CD1	16:AG:410:ALA:HB2	2.17	0.72
10:B:76:A:C2	41:a:2493:U:H4'	2.24	0.72
18:D:652:U:O3'	28:N:56:LYS:NZ	2.13	0.72
23:I:142:MET:HE3	23:I:170:GLU:OE1	1.89	0.72
62:v:73:ILE:HD11	62:v:93:VAL:HG22	1.70	0.72
9:9:94:ARG:HB3	9:9:97:LYS:HZ3	1.54	0.72
16:AG:434:LEU:HG	16:AG:455:THR:C	2.14	0.72
39:Y:102:ARG:CZ	39:Y:139:VAL:HG11	2.19	0.72
47:g:18:CYS:CB	47:g:40:CYS:CB	2.67	0.72
48:h:130:LEU:HA	48:h:189:ARG:NH1	2.03	0.72
62:v:50:ARG:HA	62:v:53:MET:SD	2.29	0.72
8:7:11:U:O2'	25:K:33:PHE:HE1	1.71	0.72
12:AB:138:ARG:HD2	12:AB:155:LYS:HB2	1.70	0.72
14:AE:64:PRO:HG3	14:AE:90:VAL:CG1	2.20	0.72
26:L:36:ILE:CD1	26:L:64:VAL:HG22	2.18	0.72
41:a:2884:U:OP2	49:i:40:ARG:NH2	2.22	0.72
55:o:25:LYS:HB3	61:u:62:PRO:HG2	1.71	0.72
16:AG:243:LYS:HG3	21:G:178:ASN:C	2.14	0.72
16:AG:442:ARG:HB3	16:AG:446:PHE:HE2	1.53	0.72
10:B:53:G:C2	10:B:54:U:C5	2.77	0.72
18:D:311:C:P	35:U:31:ARG:HH22	2.12	0.72
34:T:21:ASP:O	34:T:22:THR:OG1	2.07	0.72
5:4:77:VAL:CG2	5:4:79:ARG:HE	2.03	0.72
8:7:3:G:H5''	18:D:1500:A:H62	1.49	0.72
8:7:18:U:C6	8:7:18:U:H5''	2.24	0.72
14:AE:387:LEU:CD2	16:AG:147:ARG:HG3	2.14	0.72
16:AG:393:LEU:CD2	16:AG:398:LEU:HD13	2.19	0.72
17:C:18:VAL:O	17:C:51:TYR:OH	2.06	0.72
54:n:127:ASN:OD1	54:n:158:THR:N	2.18	0.72
9:9:78:GLY:N	9:9:79:PRO:HD2	2.04	0.72
16:AG:282:GLN:NE2	16:AG:282:GLN:HA	2.05	0.72
16:AG:352:ALA:O	16:AG:356:ILE:HG22	1.90	0.72
16:AG:393:LEU:CD2	16:AG:398:LEU:CG	2.58	0.72
20:F:32:VAL:HG12	20:F:36:GLU:OE1	1.90	0.72
56:p:17:VAL:O	56:p:18:LYS:HE2	1.89	0.72
24:J:184:ARG:NH1	24:J:187:GLU:OE1	2.22	0.72
30:P:47:GLU:N	30:P:47:GLU:OE1	2.23	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:X:81:MET:HE2	41:a:888:C:C6	2.24	0.72
39:Y:14:ALA:CB	39:Y:50:LYS:HD2	2.16	0.72
66:z:92:ARG:HG3	66:z:95:LEU:HD12	1.71	0.72
16:AG:313:ASN:N	16:AG:313:ASN:OD1	2.19	0.72
21:G:19:GLN:NE2	22:H:75:VAL:O	2.23	0.72
8:7:27:G:P	16:AG:112:GLN:CG	2.78	0.72
12:AB:36:GLU:H	12:AB:106:ASP:CG	1.96	0.72
16:AG:297:VAL:HG23	16:AG:306:ASP:HB2	1.71	0.72
18:D:973:G:O4'	30:P:57:VAL:HG22	1.90	0.72
19:E:75:HIS:CE1	19:E:79:LEU:HD11	2.25	0.72
34:T:63:ARG:O	34:T:67:LEU:HD23	1.90	0.72
10:B:13:C:OP2	41:a:1907:G:N2	2.23	0.72
18:D:636:U:H4'	36:V:6:ARG:CZ	2.19	0.72
9:9:31:ARG:HD2	41:a:1053:C:HO2'	1.53	0.71
9:9:56:ARG:NH2	41:a:1084:A:O4'	2.23	0.71
14:AE:85:CYS:SG	68:AE:1502:ZN:ZN	1.79	0.71
16:AG:198:THR:HB	16:AG:201:LYS:HD3	1.70	0.71
16:AG:413:ALA:O	16:AG:416:THR:OG1	2.05	0.71
18:D:653:U:C6	28:N:56:LYS:HE3	2.25	0.71
20:F:13:ASP:OD1	20:F:14:VAL:N	2.22	0.71
23:I:166:GLU:OE1	23:I:166:GLU:N	2.23	0.71
31:Q:72:ASP:O	31:Q:75:LYS:NZ	2.21	0.71
16:AG:262:VAL:HA	16:AG:265:GLU:HB2	1.72	0.71
18:D:13:U:O4	18:D:21:G:C2	2.44	0.71
18:D:1328:C:O2'	38:X:29:ARG:NH2	2.23	0.71
30:P:18:ILE:O	30:P:22:THR:HG23	1.90	0.71
9:9:47:GLU:HB3	9:9:51:TYR:CZ	2.24	0.71
14:AE:59:ALA:HB1	14:AE:71:LEU:HD22	1.71	0.71
34:T:64:ARG:NH1	34:T:64:ARG:HA	2.05	0.71
47:g:5:ILE:HD12	54:n:64:LYS:HE3	1.72	0.71
10:A:53:G:C2	10:A:54:U:C5	2.77	0.71
16:AG:223:ILE:O	16:AG:223:ILE:HD13	1.89	0.71
16:AG:354:ALA:C	16:AG:356:ILE:N	2.43	0.71
18:D:1208:C:H2'	18:D:1209:C:H6	1.55	0.71
23:I:142:MET:HE1	23:I:148:GLY:HA2	1.72	0.71
41:a:987:C:O3'	46:f:11:ARG:NH1	2.23	0.71
59:s:15:TRP:CZ3	59:s:135:GLN:HG3	2.25	0.71
60:t:8:LEU:C	60:t:18:ARG:NH1	2.48	0.71
6:5:9:DG:OP2	11:AA:470:ARG:HA	1.90	0.71
11:AA:855:PRO:HD3	16:AG:105:ILE:HD12	1.71	0.71
11:AA:859:GLU:CD	16:AG:38:LYS:CB	2.58	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AB:137:ALA:O	12:AB:155:LYS:HA	1.90	0.71
12:AB:141:LEU:N	12:AB:153:SER:HB3	2.05	0.71
14:AE:77:ARG:NE	14:AE:77:ARG:HA	2.04	0.71
16:AG:127:VAL:HG22	16:AG:192:GLY:C	2.15	0.71
24:J:76:TYR:CE2	24:J:204:TYR:HB2	2.24	0.71
48:h:123:ALA:HB1	48:h:125:LYS:NZ	2.04	0.71
12:AB:24:GLN:HB2	12:AB:26:VAL:HG23	1.71	0.71
12:AB:120:GLU:HA	12:AB:124:GLU:HB3	1.72	0.71
16:AG:422:GLU:CB	16:AG:426:GLY:HA3	2.21	0.71
23:I:74:GLY:O	23:I:78:GLY:N	2.24	0.71
39:Y:81:LYS:HD2	39:Y:81:LYS:N	2.05	0.71
41:a:1825:U:OP2	48:h:52:ARG:NH1	2.23	0.71
9:9:27:VAL:CG1	9:9:83:ALA:HB3	2.20	0.71
11:AA:377:THR:OG1	12:AB:62:GLU:CG	2.38	0.71
12:AB:110:PRO:CB	12:AB:114:ASP:OD2	2.38	0.71
12:AB:141:LEU:HB2	12:AB:143:LEU:CD1	2.18	0.71
41:a:1824:G:OP1	48:h:52:ARG:NH2	2.23	0.71
52:l:6:LYS:NZ	52:l:120:VAL:O	2.24	0.71
8:7:11:U:H4'	25:K:20:ARG:HH21	1.53	0.71
12:AB:141:LEU:CD2	12:AB:143:LEU:HD11	2.21	0.71
12:AB:154:VAL:CG2	12:AB:159:PHE:HB3	2.20	0.71
16:AG:220:VAL:O	16:AG:240:THR:HG22	1.90	0.71
23:I:39:VAL:O	23:I:43:LEU:HD23	1.90	0.71
27:M:55:GLY:O	27:M:56:LYS:O	2.07	0.71
41:a:871:U:H2'	41:a:872:U:C6	2.26	0.71
41:a:2328:A:H2'	41:a:2329:U:C6	2.25	0.71
52:l:6:LYS:NZ	52:l:120:VAL:N	2.39	0.71
54:n:134:GLU:HG2	54:n:137:ILE:HG23	1.72	0.71
11:AA:387:ASN:CG	11:AA:394:ARG:HH12	1.81	0.71
25:K:93:ARG:HB3	25:K:93:ARG:CZ	2.21	0.71
1:0:10:LYS:HE2	41:a:994:C:O2'	1.90	0.71
4:3:46:GLN:NE2	4:3:47:LYS:O	2.24	0.71
9:9:6:GLN:HA	9:9:9:GLN:NE2	2.06	0.71
9:9:122:GLN:HG2	9:9:123:ILE:N	2.06	0.71
15:AF:35:LYS:NZ	16:AG:174:ARG:NH2	2.37	0.71
16:AG:167:MET:HE1	16:AG:199:ARG:HG3	1.72	0.71
16:AG:241:ASN:HD22	21:G:181:ILE:HD13	1.53	0.71
16:AG:389:MET:O	16:AG:404:GLU:OE2	2.09	0.71
16:AG:486:ARG:O	16:AG:490:TRP:CD1	2.41	0.71
41:a:2469:A:N6	41:a:2481:G:O2'	2.23	0.71
2:1:86:MET:HE1	2:1:88:ARG:HD3	1.70	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AG:218:GLU:HB3	21:G:105:LYS:CB	2.19	0.70
18:D:375:U:OP1	35:U:70:ARG:NE	2.24	0.70
23:I:22:TRP:HZ3	23:I:24:ALA:HB2	1.54	0.70
29:O:7:TYR:N	29:O:89:GLU:OE2	2.24	0.70
3:2:56:GLU:OE2	3:2:88:LYS:HA	1.90	0.70
18:D:736:C:C5'	26:L:90:MET:HE2	2.21	0.70
27:M:16:PRO:HB3	29:O:46:MET:HG3	1.73	0.70
32:R:5:ASN:OD1	36:V:36:LYS:NZ	2.24	0.70
39:Y:57:VAL:O	39:Y:69:VAL:HG22	1.91	0.70
63:w:42:LYS:N	63:w:42:LYS:HD3	2.05	0.70
14:AE:68:TYR:HA	14:AE:92:VAL:HG23	1.72	0.70
16:AG:355:ALA:CB	16:AG:382:GLU:OE1	2.18	0.70
16:AG:362:TYR:CA	16:AG:413:ALA:CB	2.69	0.70
16:AG:403:VAL:HG22	16:AG:406:LEU:HD12	1.71	0.70
16:AG:434:LEU:CD2	16:AG:459:LEU:CD1	2.54	0.70
18:D:564:C:P	32:R:12:ARG:NH2	2.64	0.70
39:Y:19:PRO:HG2	39:Y:23:VAL:HG23	1.73	0.70
11:AA:855:PRO:CG	16:AG:105:ILE:CD1	2.69	0.70
12:AB:136:GLU:HA	12:AB:159:PHE:HE1	1.57	0.70
22:H:332:VAL:HG22	22:H:342:ILE:HD11	1.73	0.70
33:S:90:ARG:HG3	33:S:92:GLU:CD	2.15	0.70
41:a:2780:G:P	59:s:120:ARG:HH11	2.13	0.70
47:g:16:CYS:CB	47:g:37:CYS:HB3	2.21	0.70
2:1:83:LYS:HB2	2:1:95:ARG:HD3	1.72	0.70
12:AB:122:ALA:CB	30:P:89:ARG:NH1	2.44	0.70
12:AB:147:ASN:ND2	30:P:101:SER:HB3	2.06	0.70
16:AG:353:HIS:HA	16:AG:356:ILE:CG2	2.21	0.70
18:D:1376:U:OP2	27:M:25:LYS:NZ	2.24	0.70
29:O:112:GLU:OE2	29:O:115:LYS:NZ	2.23	0.70
12:AB:18:GLN:HA	12:AB:21:LEU:HB2	1.74	0.70
16:AG:285:ILE:HG13	16:AG:293:VAL:HG13	1.71	0.70
28:N:87:LYS:HD2	28:N:91:GLU:HB3	1.74	0.70
12:AB:38:ILE:CD1	12:AB:160:ARG:NH1	2.54	0.70
39:Y:19:PRO:O	39:Y:24:GLY:HA2	1.92	0.70
48:h:133:ARG:NE	48:h:187:ASP:OD2	2.25	0.70
56:p:107:LEU:O	56:p:152:ARG:NH1	2.25	0.70
10:A:6:G:HO2'	10:A:7:G:C5'	2.04	0.70
16:AG:434:LEU:HD11	16:AG:455:THR:C	2.17	0.70
23:I:24:ALA:HB3	23:I:29:PHE:CE2	2.27	0.70
31:Q:52:PHE:HD2	31:Q:56:ARG:HG2	1.56	0.70
41:a:1012:U:O4	59:s:30:THR:HG21	1.92	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:r:33:GLN:OE1	58:r:35:LYS:NZ	2.24	0.70
59:s:15:TRP:NE1	59:s:53:TYR:HD2	1.90	0.70
59:s:73:VAL:C	59:s:74:TYR:CD2	2.70	0.70
16:AG:287:ALA:HA	16:AG:331:LEU:HD12	0.87	0.70
26:L:42:TRP:CH2	26:L:102:MET:CG	2.74	0.70
62:v:53:MET:HE3	62:v:120:ALA:HB2	1.74	0.70
62:v:105:MET:SD	62:v:117:PHE:CZ	2.85	0.70
16:AG:336:LEU:HD12	16:AG:336:LEU:N	2.01	0.70
25:K:111:MET:O	25:K:115:LEU:HD23	1.91	0.70
38:X:66:GLU:OE1	38:X:66:GLU:N	2.23	0.70
41:a:1190:G:OP1	61:u:30:THR:OG1	2.10	0.70
48:h:180:GLU:C	48:h:181:MET:HE2	2.17	0.70
57:q:25:VAL:HB	57:q:35:GLN:OE1	1.92	0.70
62:v:39:GLY:N	62:v:96:ILE:O	2.22	0.70
2:l:25:ARG:HH22	41:a:520:G:C5'	2.04	0.69
12:AB:128:ALA:HB1	12:AB:142:LEU:O	1.92	0.69
12:AB:141:LEU:H	12:AB:153:SER:HB3	1.56	0.69
16:AG:171:GLU:OE1	16:AG:267:GLY:HA3	1.92	0.69
16:AG:433:ASP:C	16:AG:456:LEU:CG	2.64	0.69
18:D:636:U:H4'	36:V:6:ARG:NH2	2.06	0.69
16:AG:302:LYS:H	16:AG:302:LYS:CE	2.00	0.69
37:W:40:ILE:CD1	37:W:66:MET:SD	2.77	0.69
39:Y:91:LYS:NZ	39:Y:97:VAL:HG21	2.07	0.69
39:Y:100:ILE:CG1	39:Y:139:VAL:HB	2.22	0.69
61:u:123:ARG:NH2	61:u:143:GLU:OE2	2.25	0.69
9:9:43:LYS:HZ2	9:9:101:LYS:HE2	1.57	0.69
9:9:142:THR:OG1	40:Z:7:ILE:HG21	1.90	0.69
12:AB:102:LYS:HE2	14:AE:285:LEU:HA	1.74	0.69
16:AG:393:LEU:HD23	16:AG:398:LEU:CD1	2.19	0.69
17:C:57:ARG:HE	17:C:61:ARG:HH12	1.37	0.69
21:G:126:PHE:O	21:G:127:ASP:O	2.10	0.69
27:M:66:LEU:HG	27:M:70:ARG:HE	1.57	0.69
30:P:86:ALA:O	30:P:90:LEU:HD13	1.93	0.69
41:a:2682:A:C8	50:j:11:MET:HE2	2.25	0.69
51:k:21:TYR:OH	51:k:39:PHE:O	2.10	0.69
63:w:45:ARG:O	63:w:49:GLU:OE1	2.10	0.69
18:D:274:A:H4'	36:V:16:LYS:CE	2.22	0.69
21:G:26:LYS:HD2	21:G:193:PRO:HG2	1.74	0.69
41:a:2350:C:OP1	55:o:45:ARG:NH2	2.25	0.69
52:l:17:THR:HA	52:l:21:ARG:HH21	1.58	0.69
12:AB:133:PRO:HA	12:AB:159:PHE:CZ	2.26	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AG:279:ASN:CB	16:AG:280:PRO:HD2	2.22	0.69
16:AG:285:ILE:CG1	16:AG:293:VAL:CG1	2.54	0.69
19:E:45:ALA:O	19:E:48:GLN:HG3	1.93	0.69
24:J:76:TYR:HE2	24:J:204:TYR:HB2	1.57	0.69
27:M:4:ARG:HG2	27:M:5:ARG:NH1	2.08	0.69
41:a:2356:U:H5'	42:b:20:ARG:CD	2.21	0.69
48:h:205:LEU:HD12	48:h:210:ALA:HB1	1.75	0.69
8:7:27:G:OP1	16:AG:112:GLN:HG3	1.93	0.69
10:A:37:A:O2'	10:A:38:A:H5'	1.93	0.69
16:AG:171:GLU:OE2	16:AG:267:GLY:CA	2.41	0.69
16:AG:285:ILE:CD1	16:AG:293:VAL:HG11	2.22	0.69
19:E:12:ILE:O	19:E:15:GLU:HG3	1.92	0.69
21:G:27:MET:SD	21:G:30:PHE:HB2	2.33	0.69
39:Y:100:ILE:HG13	39:Y:139:VAL:HG23	1.74	0.69
9:9:50:VAL:CG2	39:Y:119:ALA:HB3	2.20	0.69
11:AA:65:ASN:HB3	11:AA:105:TYR:HB2	1.73	0.69
10:B:38:A:O2'	18:D:790:A:OP1	2.09	0.69
34:T:28:GLN:O	34:T:32:LEU:HG	1.93	0.69
38:X:71:ARG:CZ	38:X:72:GLU:HG3	2.22	0.69
40:Z:14:MET:HB3	40:Z:17:MET:CG	2.21	0.69
47:g:5:ILE:HB	54:n:64:LYS:HD3	1.75	0.69
2:1:25:ARG:HH22	41:a:520:G:H5'	1.58	0.69
7:6:25:DT:H2'	11:AA:496:LYS:HG3	1.73	0.69
12:AB:104:ILE:O	12:AB:111:TYR:OH	2.10	0.69
12:AB:130:PHE:HA	12:AB:152:HIS:NE2	2.08	0.69
12:AB:152:HIS:CD2	12:AB:159:PHE:HE2	1.91	0.69
16:AG:434:LEU:CA	16:AG:456:LEU:CD2	2.58	0.69
32:R:7:LEU:HD21	32:R:12:ARG:NH2	2.07	0.69
38:X:28:THR:HG23	38:X:31:LYS:CE	2.22	0.69
39:Y:102:ARG:HD2	39:Y:141:ASP:HA	1.74	0.69
39:Y:116:MET:CG	39:Y:124:MET:HG2	2.21	0.69
39:Y:118:GLY:O	39:Y:124:MET:HE3	1.92	0.69
41:a:2742:G:OP1	57:q:36:ARG:NH1	2.25	0.69
54:n:69:LYS:HD3	54:n:84:PRO:HA	1.74	0.69
61:u:55:MET:HE1	61:u:60:ARG:HG2	1.75	0.69
8:7:8:U:OP2	18:D:1397:C:N3	2.26	0.69
12:AB:152:HIS:ND1	12:AB:159:PHE:CD2	2.49	0.69
14:AE:1033:GLY:HA3	14:AE:1081:VAL:O	1.93	0.69
16:AG:433:ASP:O	16:AG:437:LEU:HG	1.93	0.69
16:AG:462:GLN:OE1	16:AG:467:LEU:HD21	1.93	0.69
25:K:115:LEU:HD12	25:K:120:VAL:HG11	1.75	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:Y:99:LYS:NZ	39:Y:140:GLU:OE2	2.26	0.69
40:Z:2:ILE:HG22	40:Z:5:ASP:H	1.58	0.69
60:t:42:THR:CG2	60:t:44:LYS:HZ1	2.04	0.69
5:4:53:LYS:HD2	5:4:56:PHE:CE2	2.28	0.69
16:AG:266:LEU:H	16:AG:266:LEU:CD2	2.06	0.69
16:AG:355:ALA:C	16:AG:380:THR:HG21	2.18	0.69
16:AG:453:VAL:CG2	16:AG:462:GLN:NE2	2.56	0.69
18:D:1344:C:P	29:O:124:ARG:HH11	2.16	0.69
33:S:20:TYR:HE2	33:S:52:PRO:HG2	1.58	0.69
52:l:101:TYR:CE2	52:l:105:LEU:HD11	2.28	0.69
62:v:1:MET:HE1	62:v:43:ALA:C	2.18	0.69
9:9:52:MET:HE1	9:9:85:SER:C	2.17	0.68
15:AF:35:LYS:HZ2	16:AG:174:ARG:NH2	1.90	0.68
46:f:16:ARG:NE	46:f:54:MET:SD	2.66	0.68
54:n:56:ASP:HB3	54:n:150:ARG:NH2	2.07	0.68
60:t:42:THR:HG23	60:t:44:LYS:HZ1	1.59	0.68
60:t:103:VAL:HG22	60:t:104:THR:H	1.58	0.68
62:v:111:GLU:O	62:v:115:GLU:OE1	2.11	0.68
5:4:63:ILE:HD11	5:4:91:PHE:CD2	2.28	0.68
8:7:27:G:P	16:AG:112:GLN:HG3	2.33	0.68
16:AG:429:LYS:CD	16:AG:429:LYS:H	2.05	0.68
10:B:58:A:O2'	10:B:59:A:H3'	1.93	0.68
19:E:25:ARG:CD	19:E:66:LEU:HD11	2.22	0.68
25:K:111:MET:CE	25:K:125:ALA:HB1	2.23	0.68
41:a:1653:G:H3'	63:w:2:ARG:HD2	1.74	0.68
41:a:1655:A:H1'	50:j:118:PHE:CE2	2.29	0.68
54:n:94:GLU:HA	54:n:97:TRP:HE3	1.58	0.68
2:1:7:HIS:CD2	2:1:10:ALA:HB2	2.27	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
16:AG:102:PHE:HB2	16:AG:106:THR:HG21	1.75	0.68
18:D:1308:U:OP1	38:X:100:GLN:NE2	2.26	0.68
26:L:35:LYS:NZ	26:L:36:ILE:O	2.26	0.68
27:M:111:ARG:O	27:M:119:ARG:NH2	2.27	0.68
60:t:5:GLN:HA	60:t:20:MET:HE2	1.74	0.68
12:AB:119:THR:HB	12:AB:123:PHE:O	1.93	0.68
12:AB:138:ARG:CG	12:AB:154:VAL:C	2.47	0.68
14:AE:59:ALA:HB2	14:AE:71:LEU:HD21	1.74	0.68
19:E:9:LYS:C	19:E:13:GLN:HE22	2.00	0.68
22:H:22:SER:N	22:H:69:ASP:OD2	2.26	0.68
41:a:2314:A:H1'	54:n:155:THR:HG21	1.74	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
63:w:38:LEU:HD13	63:w:111:ALA:CB	2.24	0.68
1:0:52:PRO:HB3	66:z:89:GLU:OE2	1.94	0.68
2:1:19:LEU:HD21	49:i:22:LEU:HB2	1.75	0.68
5:4:77:VAL:HG23	5:4:89:ILE:HG12	1.76	0.68
12:AB:6:LEU:HD13	14:AE:291:ILE:CD1	2.21	0.68
12:AB:113:GLY:H	12:AB:133:PRO:HD2	1.58	0.68
10:B:6:G:HO2'	10:B:7:G:C5'	2.05	0.68
10:B:37:A:O2'	10:B:38:A:H5'	1.93	0.68
19:E:78:ASN:O	19:E:82:GLN:OE1	2.10	0.68
5:4:50:MET:HA	5:4:56:PHE:CZ	2.29	0.68
12:AB:154:VAL:HG21	12:AB:159:PHE:CB	2.23	0.68
12:AB:154:VAL:HG21	12:AB:159:PHE:CA	2.24	0.68
18:D:673:A:H5''	26:L:86:ARG:NH1	2.09	0.68
20:F:8:GLU:OE2	20:F:9:ASN:ND2	2.26	0.68
34:T:27:VAL:O	34:T:31:LEU:HD23	1.93	0.68
35:U:45:GLU:HG3	35:U:46:LYS:HD3	1.76	0.68
4:3:72:ILE:HD12	4:3:83:VAL:HG21	1.76	0.68
9:9:47:GLU:HG3	9:9:94:ARG:CZ	2.24	0.68
9:9:92:ALA:HB1	9:9:129:LEU:HD22	1.74	0.68
12:AB:137:ALA:O	12:AB:155:LYS:CA	2.41	0.68
12:AB:148:LYS:CE	30:P:102:LEU:H	2.06	0.68
16:AG:298:VAL:HA	16:AG:303:HIS:HD1	1.58	0.68
16:AG:363:LEU:CD2	16:AG:409:ARG:CA	2.71	0.68
23:I:134:MET:HE3	23:I:151:VAL:HG23	1.75	0.68
38:X:90:ARG:CD	38:X:97:VAL:HA	2.23	0.68
6:5:10:DT:C5	11:AA:62:TYR:HE2	1.97	0.68
7:6:23:DC:H5''	14:AE:259:ARG:NH1	1.92	0.68
16:AG:235:LYS:HZ2	16:AG:331:LEU:HG	1.58	0.68
18:D:588:G:H4'	28:N:3:MET:HE1	1.76	0.68
31:Q:80:LYS:HB3	31:Q:106:ARG:NH1	2.09	0.68
34:T:76:ALA:C	34:T:80:GLN:HE22	2.00	0.68
41:a:1056:G:O2'	41:a:1103:A:N6	2.27	0.68
41:a:1800:C:OP2	48:h:182:ARG:NH1	2.27	0.68
10:A:58:A:O2'	10:A:59:A:H3'	1.93	0.68
12:AB:89:PRO:CG	14:AE:290:ILE:HG21	2.24	0.68
16:AG:60:ARG:HG3	16:AG:98:GLU:HG3	1.74	0.68
16:AG:385:ALA:HB2	16:AG:411:LYS:HE3	1.70	0.68
16:AG:440:VAL:HG23	16:AG:481:LEU:HD22	1.76	0.68
32:R:27:CYS:HB2	32:R:30:LYS:HE2	1.75	0.68
36:V:16:LYS:HD3	36:V:16:LYS:C	2.17	0.68
41:a:2511:U:H4'	50:j:130:GLN:OE1	1.91	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:s:72:LYS:HD3	59:s:74:TYR:HH	1.59	0.68
60:t:9:ASN:OD1	60:t:10:VAL:N	2.27	0.68
9:9:43:LYS:NZ	9:9:101:LYS:HE2	2.09	0.68
9:9:44:ALA:HA	9:9:47:GLU:OE1	1.94	0.68
26:L:9:MET:HE1	26:L:85:ILE:CG2	2.22	0.68
26:L:18:VAL:HA	26:L:21:MET:HE2	1.75	0.68
27:M:20:SER:CB	27:M:23:LEU:HD13	2.24	0.68
11:AA:380:ALA:H	12:AB:65:HIS:HE1	1.00	0.67
12:AB:115:LYS:NZ	12:AB:129:ILE:HG22	2.04	0.67
10:B:24:U:O2'	41:a:1922:G:O3'	2.12	0.67
19:E:79:LEU:HA	19:E:82:GLN:OE1	1.94	0.67
33:S:42:TRP:CZ3	47:g:66:ILE:HG23	2.29	0.67
5:4:75:GLN:HG3	5:4:92:VAL:CG2	2.24	0.67
8:7:40:G:OP1	11:AA:1073:LYS:NZ	2.24	0.67
9:9:139:LEU:HD21	40:Z:11:VAL:HG22	1.76	0.67
16:AG:168:LEU:HB2	16:AG:171:GLU:HB2	1.76	0.67
22:H:23:ILE:N	22:H:69:ASP:OD2	2.27	0.67
27:M:109:ARG:HD2	27:M:116:MET:HE1	1.76	0.67
63:w:24:MET:HE2	63:w:34:ILE:CD1	2.24	0.67
11:AA:481:LEU:CD2	12:AB:16:ARG:HD2	2.12	0.67
13:AD:48:LEU:HB2	13:AD:183:ILE:HD11	1.76	0.67
16:AG:447:LYS:O	16:AG:470:ILE:HD13	1.95	0.67
18:D:564:C:OP1	32:R:12:ARG:NH1	2.27	0.67
22:H:304:VAL:O	22:H:304:VAL:HG12	1.94	0.67
23:I:134:MET:HE1	23:I:167:TRP:HA	1.76	0.67
23:I:147:LYS:NZ	23:I:204:LYS:O	2.22	0.67
24:J:121:LYS:HG2	24:J:131:ASN:HD21	1.59	0.67
37:W:36:ARG:NH2	37:W:75:ALA:O	2.26	0.67
58:r:37:VAL:HG12	58:r:43:ASN:ND2	2.09	0.67
62:v:1:MET:HE1	62:v:44:ARG:N	2.09	0.67
18:D:274:A:H4'	36:V:16:LYS:HE3	1.76	0.67
39:Y:32:VAL:HG22	39:Y:60:VAL:HG21	1.77	0.67
39:Y:116:MET:HG2	39:Y:124:MET:CG	2.24	0.67
41:a:2420:C:H5''	51:k:8:LYS:CE	2.25	0.67
48:h:76:ALA:HB1	48:h:94:VAL:HG12	1.76	0.67
63:w:49:GLU:OE1	63:w:49:GLU:N	2.26	0.67
66:z:68:ALA:HB1	66:z:106:PHE:CE2	2.29	0.67
16:AG:207:GLU:HA	16:AG:210:ARG:HB2	1.76	0.67
17:C:13:PHE:HB3	17:C:51:TYR:CE1	2.30	0.67
20:F:12:PHE:CE1	31:Q:107:ILE:HG22	2.29	0.67
21:G:100:MET:HE1	21:G:101:LEU:HD21	1.75	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:Y:23:VAL:HG23	39:Y:24:GLY:H	1.58	0.67
40:Z:20:VAL:O	40:Z:20:VAL:HG12	1.94	0.67
41:a:1816:C:N4	48:h:35:GLU:OE2	2.20	0.67
52:l:118:LEU:HD11	52:l:188:MET:SD	2.35	0.67
7:6:20:DA:N6	8:7:35:G:N1	2.42	0.67
9:9:73:LYS:HG2	9:9:117:LEU:HD12	1.77	0.67
16:AG:107:THR:HA	16:AG:110:ALA:HB3	1.75	0.67
16:AG:353:HIS:C	16:AG:357:ASP:H	2.01	0.67
19:E:81:ALA:C	19:E:85:LYS:HZ3	2.03	0.67
26:L:42:TRP:HZ2	26:L:102:MET:SD	2.17	0.67
41:a:2682:A:C8	50:j:11:MET:HE1	2.30	0.67
62:v:1:MET:HE1	62:v:44:ARG:HA	1.76	0.67
16:AG:239:LYS:HG3	16:AG:276:TRP:HB3	1.75	0.67
16:AG:380:THR:O	16:AG:384:LEU:HD12	1.95	0.67
18:D:1151:A:HO2'	18:D:1152:A:P	2.18	0.67
39:Y:85:ILE:H	39:Y:85:ILE:HD12	1.59	0.67
41:a:111:A:O3'	45:e:58:ASN:ND2	2.28	0.67
41:a:927:A:H2'	41:a:928:A:C8	2.30	0.67
41:a:2682:A:O4'	50:j:11:MET:HE1	1.95	0.67
56:p:85:LYS:CE	56:p:164:TYR:HD1	2.07	0.67
66:z:79:PHE:HE1	66:z:110:VAL:HA	1.60	0.67
5:4:56:PHE:O	5:4:61:LEU:HD11	1.95	0.67
5:4:89:ILE:HG21	5:4:91:PHE:CE1	2.29	0.67
12:AB:35:LEU:CA	12:AB:106:ASP:OD1	2.36	0.67
12:AB:119:THR:O	12:AB:124:GLU:HB3	1.95	0.67
12:AB:145:LEU:HD12	12:AB:145:LEU:H	1.60	0.67
16:AG:228:ARG:HA	16:AG:327:LEU:CD1	2.22	0.67
38:X:90:ARG:HD2	38:X:97:VAL:HA	1.77	0.67
41:a:1665:A:O5'	60:t:66:LYS:NZ	2.28	0.67
46:f:41:THR:O	46:f:44:ILE:HG22	1.94	0.67
8:7:8:U:H5'	18:D:1397:C:N3	2.10	0.67
9:9:24:SER:CB	9:9:116:GLU:HG3	2.24	0.67
16:AG:448:LEU:CD2	16:AG:473:LEU:HD12	2.24	0.67
18:D:876:C:H1'	28:N:12:THR:HG21	1.76	0.67
18:D:945:G:C2	18:D:946:A:C8	2.83	0.67
18:D:1308:U:P	38:X:100:GLN:HE22	2.16	0.67
22:H:308:GLU:O	22:H:310:ASP:N	2.26	0.67
48:h:129:THR:HG22	48:h:189:ARG:HD2	1.77	0.67
52:l:6:LYS:HE3	52:l:119:ILE:HG23	1.75	0.67
12:AB:34:THR:HA	12:AB:47:SER:HA	1.76	0.67
38:X:81:MET:CE	41:a:888:C:C5	2.78	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:Y:37:PHE:CZ	39:Y:56:VAL:HG11	2.29	0.67
41:a:666:A:H1'	55:o:4:ILE:HD12	1.76	0.67
41:a:1802:A:H2'	41:a:1803:A:C8	2.30	0.67
59:s:13:ARG:HH22	59:s:50:THR:HA	1.60	0.67
8:7:23:U:H3'	14:AE:94:GLN:HG3	1.77	0.66
12:AB:120:GLU:HB2	12:AB:162:LEU:HB2	1.77	0.66
16:AG:308:ALA:HB2	16:AG:344:LEU:HD11	1.77	0.66
10:B:75:C:OP2	41:a:2602:A:C2'	2.43	0.66
17:C:70:TYR:CE2	18:D:674:G:H4'	2.30	0.66
18:D:43:C:OP1	35:U:12:LYS:NZ	2.29	0.66
25:K:156:LYS:HE3	28:N:71:VAL:HG13	1.76	0.66
26:L:38:ARG:NH1	26:L:99:ALA:HB2	2.09	0.66
33:S:19:LYS:HG3	33:S:20:TYR:CD1	2.29	0.66
46:f:10:THR:HB	46:f:56:LYS:HZ2	1.60	0.66
6:5:10:DT:H73	11:AA:62:TYR:CB	2.25	0.66
12:AB:27:ASN:CG	12:AB:58:GLU:HB2	2.20	0.66
16:AG:323:GLN:HA	16:AG:323:GLN:HE21	1.59	0.66
20:F:31:GLU:OE1	20:F:34:ARG:NH2	2.28	0.66
34:T:80:GLN:O	34:T:83:GLU:HG3	1.95	0.66
50:j:3:GLY:O	50:j:4:LEU:HD12	1.96	0.66
16:AG:284:VAL:CG1	16:AG:296:ILE:HD13	2.25	0.66
16:AG:393:LEU:O	16:AG:398:LEU:HD23	1.95	0.66
17:C:51:TYR:CD1	17:C:54:GLN:NE2	2.63	0.66
12:AB:147:ASN:HB2	30:P:100:ILE:H	1.60	0.66
16:AG:422:GLU:CA	16:AG:426:GLY:H	2.08	0.66
19:E:25:ARG:HD2	19:E:66:LEU:HD11	1.75	0.66
22:H:163:ARG:N	22:H:298:GLU:OE2	2.28	0.66
37:W:62:VAL:HG13	37:W:66:MET:HE3	1.77	0.66
41:a:2420:C:H5''	51:k:8:LYS:NZ	2.09	0.66
5:4:84:PRO:O	5:4:85:LYS:HE2	1.96	0.66
11:AA:855:PRO:HG3	16:AG:105:ILE:HA	1.76	0.66
16:AG:425:LEU:CB	16:AG:429:LYS:CE	2.71	0.66
18:D:1228:C:OP2	38:X:110:LYS:NZ	2.28	0.66
28:N:67:GLN:OE1	28:N:67:GLN:N	2.28	0.66
33:S:42:TRP:HH2	47:g:66:ILE:HA	1.61	0.66
41:a:1454:C:O4'	63:w:63:ARG:NE	2.28	0.66
43:c:71:LEU:HB3	43:c:76:GLU:CD	2.20	0.66
9:9:14:GLU:O	9:9:18:VAL:HG23	1.96	0.66
16:AG:363:LEU:HD21	16:AG:410:ALA:N	1.79	0.66
27:M:46:ALA:CB	27:M:120:LEU:HD22	2.25	0.66
46:f:40:ASP:C	46:f:45:ARG:HH22	2.03	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:9:139:LEU:CD2	40:Z:11:VAL:HG22	2.26	0.66
21:G:101:LEU:HD22	21:G:157:LEU:CD1	2.26	0.66
39:Y:102:ARG:NE	39:Y:102:ARG:HA	2.11	0.66
39:Y:102:ARG:HG3	39:Y:140:GLU:O	1.96	0.66
41:a:752:A:OP1	53:m:1:MET:HE1	1.95	0.66
54:n:93:GLY:O	54:n:96:MET:N	2.29	0.66
10:A:32:C:H4'	27:M:86:GLN:NE2	2.10	0.66
20:F:58:LYS:O	20:F:62:ARG:HG2	1.96	0.66
21:G:53:ALA:HA	21:G:56:GLU:OE1	1.96	0.66
27:M:23:LEU:HD21	27:M:59:LEU:HD21	1.76	0.66
48:h:52:ARG:HE	48:h:53:HIS:HE1	1.43	0.66
52:l:40:ARG:HD2	52:l:92:HIS:ND1	2.11	0.66
60:t:112:PHE:HD2	60:t:115:ILE:HD12	1.59	0.66
6:5:16:DG:H1	11:AA:451:ARG:NH2	1.94	0.66
16:AG:123:ARG:HG2	16:AG:191:ARG:O	1.96	0.66
16:AG:243:LYS:HE3	25:K:69:ARG:NH1	2.10	0.66
18:D:375:U:P	35:U:70:ARG:NE	2.69	0.66
9:9:28:ALA:H	9:9:110:ALA:HA	1.61	0.66
12:AB:115:LYS:HZ3	12:AB:129:ILE:HG22	1.60	0.66
12:AB:147:ASN:OD1	30:P:99:GLN:CB	2.44	0.66
17:C:73:ARG:HH12	31:Q:113:VAL:CB	2.09	0.66
18:D:280:C:H1'	36:V:40:ARG:NH2	2.11	0.66
21:G:90:PHE:CE2	21:G:154:MET:HE3	2.31	0.66
57:q:1:MET:HE1	57:q:35:GLN:CA	2.25	0.66
9:9:24:SER:OG	9:9:86:MET:HE2	1.96	0.65
12:AB:115:LYS:HE2	12:AB:129:ILE:HG23	1.76	0.65
12:AB:146:ILE:HD13	30:P:98:VAL:HG21	1.77	0.65
19:E:21:ASN:C	19:E:25:ARG:NE	2.54	0.65
19:E:54:MET:HE1	19:E:75:HIS:CE1	2.31	0.65
39:Y:79:LEU:HD21	39:Y:105:LEU:CD2	2.24	0.65
41:a:2355:G:C2'	41:a:2356:U:H5'	2.26	0.65
60:t:1:MET:HE1	60:t:32:TYR:CG	2.32	0.65
60:t:1:MET:HE1	60:t:32:TYR:CD1	2.31	0.65
8:7:21:U:OP1	23:I:80:LYS:HG2	1.96	0.65
9:9:25:ALA:HB3	9:9:99:PHE:HD2	1.61	0.65
12:AB:154:VAL:HG21	12:AB:159:PHE:HB3	1.77	0.65
16:AG:321:ASN:OD1	16:AG:321:ASN:N	2.25	0.65
16:AG:425:LEU:HG	16:AG:429:LYS:HD3	1.78	0.65
23:I:151:VAL:HG12	23:I:200:VAL:HG23	1.77	0.65
32:R:30:LYS:HB3	32:R:57:LEU:HD11	1.78	0.65
38:X:28:THR:HA	38:X:31:LYS:HE3	1.78	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:t:38:ILE:HD11	60:t:112:PHE:HZ	1.60	0.65
60:t:42:THR:O	60:t:44:LYS:NZ	2.19	0.65
14:AE:79:LYS:CA	14:AE:81:ARG:NH2	2.40	0.65
21:G:134:ALA:O	21:G:137:ARG:HG2	1.96	0.65
27:M:26:PHE:HD1	27:M:101:MET:SD	2.19	0.65
29:O:86:ALA:O	29:O:89:GLU:HG2	1.95	0.65
44:d:55:U:H1'	54:n:26:MET:CE	2.26	0.65
55:o:30:ARG:HH12	61:u:62:PRO:CB	2.10	0.65
1:0:55:ASP:OD1	1:0:56:GLY:N	2.27	0.65
9:9:47:GLU:HG2	9:9:95:LEU:HD21	1.78	0.65
10:A:71:C:H3'	10:A:72:A:C8	2.31	0.65
10:A:76:A:N6	41:a:2422:C:O5'	2.29	0.65
22:H:308:GLU:HG2	22:H:309:MET:H	1.61	0.65
24:J:196:ASN:OD1	24:J:198:HIS:CE1	2.48	0.65
59:s:43:GLU:OE1	59:s:43:GLU:N	2.29	0.65
66:z:41:LYS:HG3	66:z:45:TYR:CE2	2.32	0.65
4:3:26:LYS:HB2	4:3:35:ILE:HG23	1.78	0.65
5:4:57:TYR:OH	5:4:79:ARG:NH2	2.24	0.65
6:5:10:DT:C7	11:AA:62:TYR:CB	2.74	0.65
16:AG:183:LEU:HA	16:AG:197:VAL:HA	1.78	0.65
10:B:75:C:P	41:a:2602:A:HO2'	2.13	0.65
18:D:246:A:C2	18:D:282:A:C5	2.84	0.65
21:G:26:LYS:NZ	21:G:193:PRO:HG2	2.12	0.65
21:G:90:PHE:CD2	21:G:154:MET:HE3	2.31	0.65
39:Y:81:LYS:NZ	39:Y:86:LYS:HE2	2.12	0.65
41:a:1596:A:H2'	41:a:1597:A:C8	2.32	0.65
52:l:45:ALA:HB1	52:l:88:ARG:NH2	2.12	0.65
56:p:52:PHE:CD1	56:p:69:ARG:HD3	2.32	0.65
60:t:99:ILE:HD13	60:t:118:LEU:HB2	1.77	0.65
62:v:31:PHE:N	62:v:104:GLU:OE2	2.30	0.65
62:v:111:GLU:HG2	62:v:112:LEU:HD12	1.78	0.65
9:9:23:LEU:HD13	9:9:92:ALA:HB2	1.77	0.65
16:AG:353:HIS:HA	16:AG:356:ILE:HG23	1.78	0.65
16:AG:425:LEU:O	16:AG:429:LYS:CE	2.45	0.65
16:AG:453:VAL:HG13	16:AG:458:ASP:HB3	1.77	0.65
18:D:1308:U:P	38:X:100:GLN:NE2	2.70	0.65
29:O:83:ILE:O	29:O:87:LEU:HD23	1.96	0.65
39:Y:5:GLN:HG2	39:Y:61:TYR:CD1	2.32	0.65
39:Y:20:SER:HB2	39:Y:21:PRO:HD3	1.79	0.65
41:a:1839:G:H1'	41:a:1927:A:C8	2.32	0.65
41:a:2334:U:H4'	41:a:2335:A:OP2	1.95	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:a:2572:A:N7	50:j:150:GLN:NE2	2.45	0.65
47:g:58:ASP:C	47:g:62:LYS:NZ	2.55	0.65
48:h:123:ALA:HB1	48:h:125:LYS:HZ1	1.61	0.65
5:4:50:MET:HB3	5:4:56:PHE:CE1	2.31	0.65
12:AB:9:CYS:HB3	12:AB:74:GLY:HA2	1.79	0.65
12:AB:155:LYS:HG3	12:AB:156:ASN:H	1.62	0.65
16:AG:235:LYS:NZ	16:AG:331:LEU:HG	2.11	0.65
10:B:71:C:H3'	10:B:72:A:C8	2.30	0.65
18:D:1158:C:O2'	21:G:132:LYS:CE	2.45	0.65
20:F:58:LYS:O	20:F:62:ARG:CG	2.45	0.65
40:Z:22:LEU:O	40:Z:26:MET:HE1	1.97	0.65
41:a:1824:G:OP1	48:h:52:ARG:CZ	2.44	0.65
41:a:2356:U:O3'	42:b:20:ARG:CZ	2.45	0.65
47:g:58:ASP:C	47:g:62:LYS:HZ3	2.05	0.65
62:v:45:GLN:NE2	62:v:125:PRO:CD	2.59	0.65
62:v:45:GLN:NE2	62:v:125:PRO:HD3	2.10	0.65
6:5:11:DA:H5'	12:AB:67:THR:CB	2.27	0.65
16:AG:213:VAL:HG22	16:AG:216:ILE:HG13	1.78	0.65
24:J:150:LYS:HE2	24:J:178:MET:HE2	1.79	0.65
52:l:62:GLN:O	52:l:69:ARG:NE	2.30	0.65
52:l:149:ILE:HD11	52:l:188:MET:HG2	1.78	0.65
8:7:21:U:O4	23:I:82:GLU:HB2	1.97	0.65
14:AE:84:ILE:HG22	14:AE:91:GLU:HG3	1.78	0.65
17:C:34:THR:N	17:C:38:LYS:O	2.30	0.65
24:J:74:ASN:HA	24:J:77:LYS:HZ3	1.61	0.65
29:O:5:GLN:NE2	29:O:20:PHE:HB3	2.10	0.65
36:V:60:GLU:OE1	36:V:76:VAL:CG2	2.45	0.65
41:a:617:G:H4'	52:l:199:MET:HE1	1.78	0.65
41:a:998:C:OP2	66:z:92:ARG:NH2	2.29	0.65
41:a:2175:C:H2'	41:a:2176:A:C8	2.31	0.65
59:s:15:TRP:NE1	59:s:53:TYR:CD2	2.63	0.65
59:s:53:TYR:CE1	59:s:121:LYS:HD2	2.32	0.65
61:u:122:VAL:CG1	61:u:125:LEU:HD11	2.27	0.65
2:1:71:VAL:HB	2:1:74:ILE:HD11	1.79	0.65
3:2:9:LYS:O	3:2:12:ARG:NH1	2.30	0.65
16:AG:64:VAL:HG22	16:AG:75:ILE:HD12	1.78	0.65
22:H:277:GLY:HA2	22:H:331:MET:CE	2.27	0.65
39:Y:45:THR:HG21	39:Y:50:LYS:HD3	1.76	0.65
52:l:194:LYS:O	52:l:198:GLU:OE1	2.15	0.65
12:AB:38:ILE:HD13	12:AB:160:ARG:NH1	2.12	0.64
12:AB:136:GLU:O	12:AB:156:ASN:HA	1.97	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AB:139:SER:C	12:AB:152:HIS:O	2.40	0.64
14:AE:58:CYS:SG	14:AE:59:ALA:N	2.69	0.64
16:AG:227:ALA:HB3	16:AG:331:LEU:HA	1.78	0.64
10:B:22:G:H2'	10:B:23:C:C6	2.32	0.64
19:E:28:MET:SD	19:E:61:GLN:HG3	2.36	0.64
24:J:138:SER:O	24:J:141:ASP:CG	2.40	0.64
25:K:61:GLN:HA	25:K:64:MET:CE	2.27	0.64
32:R:80:ILE:HD12	32:R:104:CYS:HB2	1.79	0.64
39:Y:24:GLY:O	39:Y:27:LEU:HG	1.96	0.64
41:a:2682:A:H2'	41:a:2683:C:O4'	1.96	0.64
52:l:147:LEU:HB2	52:l:183:PHE:HD2	1.62	0.64
56:p:107:LEU:O	56:p:152:ARG:CZ	2.45	0.64
58:r:137:GLU:HG2	58:r:138:VAL:N	2.11	0.64
60:t:42:THR:HG23	60:t:44:LYS:NZ	2.12	0.64
62:v:105:MET:CE	62:v:108:VAL:HG21	2.27	0.64
3:2:3:ARG:NH1	3:2:5:GLU:OE2	2.30	0.64
8:7:31:U:C5'	11:AA:1259:LEU:HD21	2.27	0.64
9:9:25:ALA:HB2	9:9:96:PHE:CE1	2.32	0.64
12:AB:154:VAL:HG21	12:AB:159:PHE:N	2.13	0.64
16:AG:393:LEU:HD23	16:AG:398:LEU:HD13	1.78	0.64
27:M:23:LEU:HD12	27:M:23:LEU:N	2.13	0.64
33:S:87:ALA:CA	33:S:90:ARG:NH1	2.60	0.64
41:a:614:A:O2'	41:a:615:U:OP2	2.12	0.64
41:a:1278:C:C4'	63:w:24:MET:HE1	2.27	0.64
43:c:66:THR:HG22	43:c:70:GLU:OE2	1.97	0.64
9:9:129:LEU:N	9:9:130:PRO:HD2	2.12	0.64
10:A:19:G:C2	41:a:2112:G:O4'	2.50	0.64
11:AA:314:ASN:HD21	11:AA:348:SER:HA	1.62	0.64
16:AG:232:SER:HB2	16:AG:323:GLN:OE1	1.96	0.64
21:G:114:LEU:HD13	21:G:144:LEU:CB	2.28	0.64
22:H:119:GLY:HA2	22:H:133:GLY:HA2	1.80	0.64
24:J:62:ARG:HG2	24:J:72:PHE:CZ	2.33	0.64
25:K:148:ASN:OD1	28:N:96:MET:CE	2.45	0.64
34:T:53:ARG:O	34:T:57:LEU:HD23	1.96	0.64
48:h:53:HIS:NE2	48:h:219:THR:HA	2.11	0.64
50:j:55:LYS:HZ1	50:j:59:ARG:C	2.05	0.64
8:7:9:U:N3	18:D:1196:A:N7	2.45	0.64
8:7:11:U:C4'	25:K:20:ARG:HH22	1.93	0.64
9:9:43:LYS:HD3	9:9:98:GLU:HG3	1.78	0.64
11:AA:387:ASN:HB3	11:AA:394:ARG:HH11	1.63	0.64
18:D:675:A:H1'	31:Q:118:HIS:CD2	2.32	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:H:70:VAL:HG12	22:H:83:LEU:O	1.98	0.64
33:S:10:GLU:O	33:S:14:VAL:HG23	1.97	0.64
33:S:53:ARG:HB3	33:S:59:ARG:NH1	2.11	0.64
39:Y:5:GLN:HE22	39:Y:60:VAL:N	1.96	0.64
39:Y:14:ALA:HB3	39:Y:51:GLY:N	2.12	0.64
64:x:114:GLY:O	64:x:116:GLN:NE2	2.31	0.64
66:z:85:LYS:HD2	66:z:116:ALA:HB1	1.78	0.64
10:A:22:G:H2'	10:A:23:C:C6	2.32	0.64
16:AG:226:ALA:O	16:AG:228:ARG:HD3	1.97	0.64
18:D:1323:G:H2'	18:D:1324:A:C8	2.33	0.64
19:E:16:LYS:O	19:E:19:LYS:HG2	1.97	0.64
22:H:303:LEU:O	22:H:303:LEU:HG	1.96	0.64
27:M:23:LEU:HD21	27:M:59:LEU:CD2	2.27	0.64
33:S:87:ALA:HA	33:S:90:ARG:CZ	2.28	0.64
34:T:64:ARG:NH1	34:T:89:ARG:HH22	1.94	0.64
39:Y:14:ALA:C	39:Y:50:LYS:HE3	2.22	0.64
39:Y:102:ARG:HD2	39:Y:141:ASP:CB	2.27	0.64
39:Y:102:ARG:NE	39:Y:139:VAL:HG21	2.13	0.64
39:Y:126:ARG:NH2	41:a:1083:U:P	2.70	0.64
41:a:2308:G:C5	54:n:77:PHE:CZ	2.85	0.64
56:p:149:ARG:CZ	56:p:162:VAL:O	2.45	0.64
16:AG:434:LEU:HD12	16:AG:454:CYS:C	2.22	0.64
21:G:23:TRP:CD1	21:G:39:HIS:HE1	2.14	0.64
25:K:86:LYS:HZ2	25:K:95:PHE:HE1	1.46	0.64
28:N:10:MET:HG3	28:N:27:MET:HE1	1.78	0.64
35:U:5:ARG:HG2	35:U:68:SER:HB2	1.80	0.64
36:V:31:HIS:CD2	36:V:34:TYR:H	2.16	0.64
38:X:16:VAL:HG23	38:X:17:ILE:HD12	1.80	0.64
39:Y:21:PRO:HB2	39:Y:22:PRO:HD3	1.80	0.64
10:A:54:U:H3	10:A:58:A:N6	1.96	0.64
12:AB:136:GLU:OE1	12:AB:160:ARG:NH1	2.31	0.64
16:AG:433:ASP:O	16:AG:456:LEU:CG	2.45	0.64
20:F:10:GLU:OE2	20:F:18:ARG:NE	2.30	0.64
21:G:118:GLU:O	21:G:121:SER:OG	2.15	0.64
26:L:2:ARG:CZ	26:L:68:GLN:NE2	2.60	0.64
33:S:77:PHE:HE1	33:S:93:ILE:HG21	1.63	0.64
41:a:1067:A:O2'	41:a:1068:G:O4'	2.16	0.64
9:9:56:ARG:H	9:9:56:ARG:HD3	1.63	0.64
12:AB:81:PHE:HE1	14:AE:293:ARG:HB3	0.85	0.64
21:G:27:MET:HG2	21:G:189:THR:HA	1.78	0.64
39:Y:99:LYS:HD2	39:Y:140:GLU:CD	2.22	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:a:196:A:C2	61:u:50:PHE:HZ	2.16	0.64
54:n:117:LEU:HD13	54:n:176:PRO:CG	2.26	0.64
9:9:100:ALA:HB2	9:9:125:ARG:NE	2.13	0.64
16:AG:131:ARG:HG2	16:AG:186:VAL:HG12	1.80	0.64
16:AG:162:ILE:HD11	16:AG:199:ARG:HD2	1.80	0.64
16:AG:233:ARG:CB	16:AG:327:LEU:HD23	2.28	0.64
18:D:738:C:H5''	26:L:68:GLN:NE2	2.12	0.64
21:G:49:MET:HE1	21:G:201:PRO:CD	2.23	0.64
23:I:132:ARG:O	23:I:135:LYS:HG2	1.97	0.64
25:K:111:MET:HE1	25:K:125:ALA:HB1	1.80	0.64
39:Y:86:LYS:HD3	39:Y:86:LYS:C	2.23	0.64
52:l:112:LEU:HG	52:l:118:LEU:HB2	1.79	0.64
12:AB:38:ILE:HD12	12:AB:160:ARG:HH11	1.63	0.64
10:B:54:U:H3	10:B:58:A:N6	1.96	0.64
10:B:76:A:H1'	41:a:2494:G:OP1	1.98	0.64
41:a:2419:U:H4'	51:k:22:THR:HG21	1.78	0.64
41:a:2723:C:H5''	63:w:1:MET:HE3	1.79	0.64
61:u:84:LYS:HZ2	61:u:98:ALA:C	2.04	0.64
3:2:36:LYS:HE3	3:2:79:ASP:OD2	1.98	0.63
6:5:9:DG:O5'	11:AA:473:ARG:HB3	1.95	0.63
6:5:11:DA:P	12:AB:67:THR:C	2.79	0.63
9:9:47:GLU:HB3	9:9:51:TYR:OH	1.97	0.63
9:9:73:LYS:NZ	9:9:115:GLY:O	2.31	0.63
10:A:32:C:H4'	27:M:86:GLN:HE21	1.62	0.63
14:AE:79:LYS:C	14:AE:81:ARG:CZ	2.70	0.63
16:AG:349:GLN:C	16:AG:351:GLU:H	2.06	0.63
16:AG:361:LYS:CD	16:AG:417:ILE:CG1	2.75	0.63
16:AG:422:GLU:HG2	16:AG:426:GLY:HA3	1.80	0.63
18:D:714:G:H2'	18:D:715:A:C8	2.32	0.63
39:Y:79:LEU:CD2	39:Y:105:LEU:HD21	2.27	0.63
41:a:1565:C:OP1	48:h:18:LYS:NZ	2.26	0.63
1:0:51:VAL:HG23	66:z:86:ALA:O	1.98	0.63
4:3:34:VAL:HG13	4:3:67:VAL:HG22	1.78	0.63
9:9:7:ASP:O	9:9:11:ILE:HD12	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
14:AE:87:LYS:NZ	30:P:89:ARG:CB	2.60	0.63
16:AG:205:LEU:HA	16:AG:208:LEU:HB2	1.80	0.63
21:G:19:GLN:HG3	22:H:76:GLU:HB3	1.78	0.63
26:L:25:TYR:O	26:L:29:ILE:HD12	1.97	0.63
39:Y:102:ARG:HG3	39:Y:141:ASP:HA	1.80	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:a:537:G:OP1	59:s:2:LYS:HE2	1.98	0.63
41:a:2335:A:P	64:x:13:ARG:CZ	2.87	0.63
41:a:2682:A:O5'	50:j:11:MET:HE1	1.98	0.63
65:y:31:TRP:CZ3	65:y:38:LYS:HD3	2.33	0.63
9:9:117:LEU:O	9:9:117:LEU:HD23	1.98	0.63
16:AG:63:LEU:HD22	16:AG:92:TYR:HD1	1.63	0.63
17:C:13:PHE:CE2	17:C:21:ILE:HD11	2.34	0.63
17:C:73:ARG:HH12	31:Q:113:VAL:HA	1.62	0.63
23:I:156:ARG:HH11	23:I:193:TYR:HB3	1.63	0.63
24:J:99:ASP:OD1	24:J:100:ASN:N	2.31	0.63
41:a:2013:A:N1	41:a:2613:U:O4	2.31	0.63
48:h:251:GLN:HE22	48:h:253:LYS:C	2.07	0.63
49:i:17:ARG:HA	49:i:20:ASP:OD1	1.99	0.63
52:l:69:ARG:NH1	52:l:69:ARG:HA	2.13	0.63
1:0:84:ARG:NH1	41:a:813:U:OP1	2.31	0.63
12:AB:31:PRO:HB2	12:AB:50:LEU:HB3	1.80	0.63
18:D:1226:C:H2'	38:X:102:THR:OG1	1.98	0.63
34:T:3:LEU:HD22	34:T:8:THR:CG2	2.28	0.63
39:Y:9:LYS:HG2	39:Y:55:PRO:HB3	1.80	0.63
65:y:64:ILE:HG13	65:y:64:ILE:O	1.97	0.63
12:AB:80:ARG:HB3	12:AB:82:GLY:O	1.99	0.63
14:AE:79:LYS:CA	14:AE:81:ARG:HH12	1.96	0.63
39:Y:31:GLY:C	39:Y:60:VAL:HG11	2.23	0.63
39:Y:100:ILE:CD1	39:Y:139:VAL:HB	2.29	0.63
60:t:20:MET:CB	60:t:44:LYS:HZ3	2.09	0.63
5:4:80:HIS:CE1	5:4:82:TYR:H	2.17	0.63
8:7:21:U:O4	23:I:82:GLU:OE1	2.17	0.63
8:7:21:U:H5'	8:7:22:U:H5''	1.81	0.63
8:7:28:A:H2'	8:7:28:A:N3	2.13	0.63
9:9:77:VAL:HG12	9:9:77:VAL:O	1.99	0.63
14:AE:79:LYS:C	14:AE:81:ARG:NH2	2.55	0.63
16:AG:353:HIS:CA	16:AG:356:ILE:CG2	2.76	0.63
16:AG:354:ALA:HA	16:AG:357:ASP:CA	2.29	0.63
16:AG:354:ALA:CA	16:AG:357:ASP:H	2.10	0.63
18:D:718:A:H5'	31:Q:119:ASN:ND2	2.13	0.63
25:K:61:GLN:HA	25:K:64:MET:HE3	1.81	0.63
32:R:25:GLU:CD	32:R:59:ASN:HD22	2.05	0.63
34:T:88:ARG:NH2	41:a:714:U:OP2	2.31	0.63
39:Y:48:ILE:HG13	39:Y:49:GLU:N	2.10	0.63
41:a:2311:A:N3	54:n:85:ILE:HD11	2.13	0.63
54:n:33:LYS:HA	54:n:96:MET:SD	2.39	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:n:135:GLN:HG3	54:n:150:ARG:NH2	2.12	0.63
62:v:88:ASN:OD1	62:v:89:VAL:N	2.32	0.63
5:4:50:MET:O	5:4:52:ALA:N	2.32	0.63
12:AB:31:PRO:O	12:AB:50:LEU:N	2.31	0.63
37:W:66:MET:SD	37:W:66:MET:O	2.57	0.63
39:Y:37:PHE:CE1	39:Y:56:VAL:HG11	2.33	0.63
39:Y:55:PRO:HB2	39:Y:71:LYS:HE2	1.80	0.63
45:e:13:GLU:O	45:e:17:GLU:OE1	2.16	0.63
52:l:23:PHE:HB2	52:l:111:GLU:OE2	1.99	0.63
64:x:90:VAL:HG21	64:x:115:LEU:HD21	1.81	0.63
18:D:1228:C:OP1	38:X:107:ARG:NH1	2.32	0.63
29:O:123:ARG:HG2	29:O:123:ARG:O	1.98	0.63
33:S:13:ARG:HB3	33:S:60:GLN:HG3	1.81	0.63
41:a:2393:U:P	55:o:30:ARG:NE	2.70	0.63
52:l:6:LYS:HE3	52:l:119:ILE:CG2	2.28	0.63
60:t:8:LEU:N	60:t:18:ARG:NH1	2.46	0.63
6:5:10:DT:H73	11:AA:62:TYR:CG	2.18	0.63
9:9:113:PHE:O	9:9:123:ILE:HG13	1.99	0.63
16:AG:223:ILE:HA	16:AG:238:VAL:HG12	1.81	0.63
16:AG:243:LYS:HE3	25:K:69:ARG:HH11	1.64	0.63
16:AG:440:VAL:HG23	16:AG:481:LEU:CD2	2.29	0.63
17:C:33:ILE:O	22:H:338:GLU:CD	2.42	0.63
41:a:2682:A:O4'	50:j:11:MET:CE	2.47	0.63
11:AA:855:PRO:CB	16:AG:106:THR:N	2.61	0.62
12:AB:38:ILE:HD12	12:AB:160:ARG:NH1	2.13	0.62
18:D:522:C:OP2	32:R:66:TYR:OH	2.17	0.62
22:H:19:ARG:O	22:H:72:LEU:HB2	1.98	0.62
25:K:140:THR:O	25:K:144:LEU:HD23	1.99	0.62
1:0:82:HIS:CG	1:0:82:HIS:O	2.52	0.62
2:1:25:ARG:NH2	41:a:520:G:C5'	2.60	0.62
7:6:18:DT:N3	8:7:36:A:N6	2.36	0.62
8:7:11:U:O2'	25:K:33:PHE:CZ	2.52	0.62
11:AA:120:GLN:NE2	11:AA:490:GLN:OE1	2.32	0.62
12:AB:102:LYS:HE2	14:AE:285:LEU:CB	2.29	0.62
12:AB:118:ILE:HD12	12:AB:141:LEU:HD12	1.80	0.62
10:B:30:G:O2'	18:D:1339:A:C2	2.52	0.62
25:K:137:VAL:O	25:K:140:THR:OG1	2.15	0.62
30:P:24:GLU:HA	30:P:27:GLU:OE1	1.98	0.62
51:k:21:TYR:CE2	51:k:38:LYS:HG2	2.34	0.62
4:3:68:SER:OG	41:a:335:C:O2	2.15	0.62
7:6:25:DT:H2'	11:AA:496:LYS:CE	2.28	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:7:9:U:N3	18:D:1196:A:C8	2.66	0.62
14:AE:83:VAL:HB	23:I:100:GLN:CD	2.24	0.62
10:B:31:G:O3'	18:D:1340:A:O2'	2.17	0.62
18:D:13:U:O2	18:D:914:A:C8	2.52	0.62
39:Y:60:VAL:HG22	39:Y:66:PHE:CB	2.23	0.62
59:s:37:ARG:NH2	59:s:44:TYR:OH	2.32	0.62
63:w:37:THR:OG1	63:w:40:LYS:HD2	2.00	0.62
12:AB:141:LEU:O	12:AB:151:LYS:C	2.42	0.62
12:AB:147:ASN:OD1	30:P:100:ILE:N	2.30	0.62
12:AB:154:VAL:CG2	12:AB:159:PHE:N	2.62	0.62
16:AG:424:SER:C	16:AG:429:LYS:CG	2.72	0.62
18:D:932:C:H5'	27:M:4:ARG:HH11	1.62	0.62
21:G:126:PHE:O	21:G:126:PHE:CD1	2.53	0.62
54:n:38:MET:SD	54:n:150:ARG:HD2	2.40	0.62
63:w:33:ILE:CG1	63:w:112:TYR:HD1	2.11	0.62
3:2:56:GLU:OE2	3:2:87:LEU:C	2.42	0.62
5:4:76:ASP:OD1	5:4:77:VAL:N	2.33	0.62
13:AD:289:LEU:O	16:AG:82:TYR:OH	2.17	0.62
16:AG:287:ALA:HB1	16:AG:331:LEU:HB3	1.81	0.62
18:D:406:G:H21	24:J:116:GLN:HE22	1.46	0.62
21:G:49:MET:HE3	21:G:199:VAL:O	1.99	0.62
27:M:66:LEU:HD13	27:M:101:MET:HE1	1.81	0.62
35:U:18:GLN:OE1	35:U:37:GLY:O	2.17	0.62
39:Y:80:LYS:HG3	39:Y:86:LYS:O	2.00	0.62
41:a:1277:G:N3	63:w:23:ASN:ND2	2.47	0.62
41:a:2307:G:O4'	41:a:2308:G:C5	2.52	0.62
41:a:2725:A:C4	41:a:2727:A:C8	2.87	0.62
58:r:5:LEU:HD12	58:r:17:ASP:O	2.00	0.62
63:w:42:LYS:HE2	63:w:97:ILE:HG21	1.82	0.62
9:9:23:LEU:HD11	9:9:96:PHE:CE2	2.34	0.62
16:AG:434:LEU:CD1	16:AG:454:CYS:C	2.72	0.62
22:H:135:LEU:O	22:H:169:SER:HA	2.00	0.62
27:M:17:LYS:HG3	27:M:18:PHE:CD1	2.35	0.62
32:R:75:GLN:OE1	32:R:75:GLN:N	2.32	0.62
41:a:754:U:H2'	41:a:755:U:C6	2.34	0.62
9:9:50:VAL:HG23	39:Y:120:ASP:OD2	1.98	0.62
16:AG:174:ARG:HB3	16:AG:175:PRO:CD	2.25	0.62
16:AG:244:ARG:HB3	25:K:71:MET:N	2.14	0.62
16:AG:285:ILE:HD13	16:AG:285:ILE:N	2.15	0.62
16:AG:402:THR:O	16:AG:406:LEU:N	2.33	0.62
16:AG:433:ASP:C	16:AG:456:LEU:CD1	2.72	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:D:562:U:C2'	32:R:14:ARG:HH11	2.13	0.62
30:P:23:ALA:O	30:P:27:GLU:OE1	2.18	0.62
41:a:1824:G:C3'	48:h:52:ARG:HH12	2.13	0.62
5:4:77:VAL:HG11	5:4:79:ARG:HH21	1.64	0.62
6:5:9:DG:P	11:AA:473:ARG:CG	2.88	0.62
16:AG:266:LEU:H	16:AG:266:LEU:HD23	1.64	0.62
16:AG:323:GLN:HE21	16:AG:323:GLN:CA	2.12	0.62
16:AG:428:ASN:O	16:AG:428:ASN:ND2	2.32	0.62
27:M:18:PHE:HD2	27:M:59:LEU:HD21	1.65	0.62
33:S:19:LYS:HG3	33:S:20:TYR:CE1	2.35	0.62
38:X:16:VAL:HG12	38:X:34:LEU:HD12	1.80	0.62
41:a:1839:G:C8	41:a:1927:A:H1'	2.35	0.62
6:5:10:DT:N1	11:AA:62:TYR:CE2	2.65	0.62
11:AA:855:PRO:HG3	16:AG:105:ILE:CA	2.29	0.62
14:AE:83:VAL:HG23	23:I:100:GLN:OE1	2.00	0.62
16:AG:133:HIS:ND1	16:AG:136:GLU:CD	2.55	0.62
18:D:1157:A:C2	18:D:1181:G:C4	2.88	0.62
23:I:58:GLU:OE2	30:P:94:ALA:CB	2.48	0.62
38:X:22:ILE:HB	38:X:25:VAL:HG12	1.80	0.62
38:X:28:THR:CG2	38:X:31:LYS:HE3	2.30	0.62
55:o:32:ILE:HG13	55:o:32:ILE:O	2.00	0.62
59:s:98:GLU:O	59:s:102:GLU:OE1	2.18	0.62
11:AA:55:SER:OG	11:AA:465:ARG:NH1	2.33	0.62
11:AA:528:ARG:NH2	11:AA:576:SER:O	2.30	0.62
22:H:16:ILE:HG22	22:H:25:ARG:NH2	2.14	0.62
23:I:45:LYS:NZ	23:I:46:GLU:OE1	2.29	0.62
16:AG:389:MET:HE3	16:AG:407:ARG:HD2	1.81	0.61
18:D:337:G:H2'	18:D:338:A:C8	2.34	0.61
21:G:19:GLN:OE1	21:G:21:ARG:HG2	2.00	0.61
41:a:1138:G:N3	59:s:108:MET:HE2	2.14	0.61
41:a:2315:G:H4'	54:n:127:ASN:ND2	2.14	0.61
6:5:10:DT:C5'	11:AA:62:TYR:OH	2.48	0.61
8:7:9:U:O4	18:D:1196:A:N9	2.32	0.61
16:AG:127:VAL:CG2	16:AG:192:GLY:CA	2.78	0.61
41:a:985:C:C2	41:a:986:C:C5	2.88	0.61
50:j:1:MET:HE2	50:j:100:LEU:HD11	1.83	0.61
62:v:1:MET:HE1	62:v:44:ARG:CA	2.30	0.61
8:7:7:U:H6	8:7:7:U:H5''	1.64	0.61
8:7:11:U:O4'	25:K:20:ARG:NH2	2.32	0.61
10:A:5:G:H2'	10:A:6:G:H5'	1.82	0.61
16:AG:285:ILE:CG2	16:AG:293:VAL:HG11	2.28	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:D:1152:A:OP1	30:P:70:HIS:ND1	2.29	0.61
22:H:61:GLU:HG2	22:H:62:ILE:HG23	1.81	0.61
39:Y:9:LYS:HE2	39:Y:55:PRO:HG3	1.82	0.61
39:Y:102:ARG:HA	39:Y:102:ARG:HE	1.64	0.61
40:Z:8:ILE:HG13	40:Z:9:GLU:N	2.15	0.61
41:a:1406:U:C2	41:a:1407:G:C8	2.88	0.61
48:h:141:VAL:HG23	48:h:162:VAL:CG1	2.30	0.61
58:r:114:GLU:OE2	58:r:134:VAL:N	2.33	0.61
63:w:47:VAL:O	63:w:51:LEU:HD23	2.00	0.61
6:5:11:DA:H2'	12:AB:67:THR:HG21	1.82	0.61
12:AB:102:LYS:CD	14:AE:285:LEU:HA	2.31	0.61
12:AB:119:THR:HG23	12:AB:141:LEU:HD13	1.81	0.61
16:AG:243:LYS:HB2	21:G:179:LEU:HA	1.82	0.61
10:B:5:G:H2'	10:B:6:G:H5'	1.82	0.61
22:H:135:LEU:CB	22:H:167:VAL:CB	2.77	0.61
34:T:67:LEU:HD12	34:T:78:TYR:CE1	2.35	0.61
37:W:12:ASP:OD2	37:W:35:SER:OG	2.14	0.61
2:1:98:LYS:NZ	41:a:2011:U:O3'	2.34	0.61
6:5:10:DT:H1'	12:AB:71:ALA:H	0.83	0.61
12:AB:35:LEU:HB3	12:AB:37:LYS:HD3	1.82	0.61
16:AG:288:MET:SD	16:AG:293:VAL:N	2.72	0.61
18:D:563:A:C2	18:D:567:G:C5	2.89	0.61
18:D:1309:G:P	38:X:98:ARG:HE	2.20	0.61
27:M:4:ARG:CG	27:M:5:ARG:CZ	2.75	0.61
31:Q:84:VAL:HG23	31:Q:107:ILE:CD1	2.30	0.61
39:Y:99:LYS:NZ	39:Y:138:VAL:HG13	2.14	0.61
41:a:2682:A:H8	50:j:11:MET:HE1	1.66	0.61
59:s:11:VAL:HG11	59:s:13:ARG:NH1	2.15	0.61
5:4:31:TYR:HH	44:d:103:U:HO2'	1.47	0.61
9:9:136:ILE:CD1	9:9:139:LEU:HD12	2.25	0.61
11:AA:472:GLU:HG3	11:AA:473:ARG:HD3	1.83	0.61
16:AG:380:THR:C	16:AG:384:LEU:HD11	2.24	0.61
27:M:103:TRP:O	27:M:106:GLU:HG3	2.01	0.61
37:W:67:VAL:HG21	47:g:57:VAL:HG22	1.82	0.61
51:k:34:LEU:HB3	51:k:51:GLU:HG3	1.82	0.61
60:t:8:LEU:N	60:t:18:ARG:HH12	1.98	0.61
1:0:73:LYS:NZ	41:a:1225:G:OP1	2.34	0.61
9:9:43:LYS:HZ3	9:9:98:GLU:HB2	1.62	0.61
9:9:47:GLU:HA	9:9:94:ARG:HH22	1.64	0.61
12:AB:123:PHE:H	12:AB:123:PHE:HD2	1.45	0.61
16:AG:425:LEU:O	16:AG:429:LYS:NZ	2.33	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AG:451:ARG:CZ	16:AG:469:ASP:HB2	2.31	0.61
16:AG:453:VAL:HG21	16:AG:462:GLN:CD	2.25	0.61
18:D:1124:G:O2'	18:D:1145:A:N6	2.33	0.61
21:G:30:PHE:CD1	21:G:201:PRO:CG	2.83	0.61
28:N:88:ARG:HB2	28:N:91:GLU:OE1	2.00	0.61
39:Y:19:PRO:O	39:Y:24:GLY:CA	2.48	0.61
3:2:56:GLU:OE2	3:2:87:LEU:O	2.18	0.61
6:5:9:DG:O5'	11:AA:473:ARG:CB	2.49	0.61
9:9:52:MET:C	9:9:52:MET:HE3	2.25	0.61
9:9:61:ARG:NE	41:a:1046:A:O5'	2.34	0.61
12:AB:82:GLY:HA2	14:AE:142:GLU:OE1	2.01	0.61
18:D:687:A:C2	18:D:704:A:C5	2.88	0.61
25:K:81:LEU:HG	25:K:96:MET:HE1	1.83	0.61
48:h:164:ILE:HG23	48:h:164:ILE:O	2.01	0.61
9:9:23:LEU:HA	9:9:118:ILE:CG1	2.31	0.61
11:AA:1072:ASN:ND2	11:AA:1111:GLN:OE1	2.34	0.61
18:D:1006:G:H2'	18:D:1007:U:C6	2.36	0.61
23:I:14:ILE:HG22	23:I:15:VAL:HG13	1.82	0.61
28:N:43:GLU:CD	28:N:101:ILE:HG21	2.25	0.61
30:P:26:VAL:HG12	30:P:30:LYS:NZ	2.16	0.61
36:V:60:GLU:OE1	36:V:76:VAL:HG23	2.01	0.61
36:V:61:ILE:HG13	36:V:73:TRP:CZ3	2.36	0.61
39:Y:79:LEU:CD1	39:Y:132:ALA:HA	2.29	0.61
39:Y:91:LYS:HZ1	39:Y:97:VAL:HG21	1.65	0.61
51:k:34:LEU:HB3	51:k:51:GLU:CG	2.31	0.61
62:v:111:GLU:HA	62:v:114:ARG:HE	1.66	0.61
5:4:77:VAL:HG22	5:4:79:ARG:HE	1.64	0.61
9:9:14:GLU:OE1	9:9:62:ARG:O	2.19	0.61
9:9:25:ALA:HB2	9:9:96:PHE:CD1	2.36	0.61
13:AD:211:ILE:HG12	13:AD:219:ARG:HH12	1.65	0.61
14:AE:1275:LEU:HB3	14:AE:1278:GLU:HB2	1.83	0.61
16:AG:63:LEU:HG	16:AG:73:LYS:HB3	1.82	0.61
21:G:38:VAL:CG2	22:H:75:VAL:HG21	2.31	0.61
26:L:102:MET:HG2	26:L:103:VAL:N	2.06	0.61
29:O:55:VAL:O	29:O:57:MET:N	2.34	0.61
29:O:94:LEU:HB3	29:O:97:GLU:OE2	2.01	0.61
37:W:45:ILE:HA	37:W:62:VAL:CG1	2.31	0.61
41:a:548:G:H3'	41:a:549:G:O4'	2.01	0.61
55:o:13:ARG:HD3	61:u:58:TYR:O	2.00	0.61
59:s:13:ARG:HH22	59:s:50:THR:CA	2.14	0.61
12:AB:140:MET:HA	12:AB:153:SER:HA	1.83	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:AE:785:ASP:O	14:AE:789:LYS:HB2	2.01	0.60
16:AG:27:LEU:HD22	16:AG:114:ILE:HG23	1.82	0.60
16:AG:303:HIS:HB3	16:AG:334:TRP:HZ3	1.66	0.60
16:AG:434:LEU:CD1	16:AG:455:THR:C	2.74	0.60
16:AG:437:LEU:CD2	16:AG:456:LEU:HD11	2.27	0.60
10:B:36:U:H2'	10:B:37:A:C8	2.36	0.60
17:C:45:THR:HA	22:H:340:ARG:NH2	2.15	0.60
35:U:5:ARG:HH22	35:U:24:SER:HA	1.66	0.60
47:g:65:ASN:OD1	47:g:66:ILE:N	2.30	0.60
59:s:74:TYR:CD2	59:s:74:TYR:N	2.69	0.60
7:6:25:DT:OP1	11:AA:496:LYS:C	2.43	0.60
8:7:23:U:HO2'	14:AE:68:TYR:HH	0.63	0.60
10:A:65:C:H2'	10:A:66:C:H5'	1.83	0.60
12:AB:142:LEU:HA	12:AB:151:LYS:HA	1.83	0.60
16:AG:10:GLU:HA	16:AG:12:VAL:HG22	1.83	0.60
16:AG:168:LEU:HD21	16:AG:230:PRO:O	2.00	0.60
16:AG:219:GLU:HG3	21:G:157:LEU:CA	2.26	0.60
16:AG:320:ARG:CG	16:AG:320:ARG:HH11	2.14	0.60
10:B:65:C:H2'	10:B:66:C:H5'	1.83	0.60
21:G:114:LEU:HD13	21:G:144:LEU:HB2	1.84	0.60
25:K:112:ARG:O	25:K:116:GLU:OE1	2.19	0.60
27:M:111:ARG:O	27:M:119:ARG:NH1	2.34	0.60
27:M:137:LYS:O	27:M:141:VAL:HG23	2.01	0.60
29:O:57:MET:HA	29:O:60:LYS:HE2	1.83	0.60
41:a:271:G:C4	41:a:272:A:C8	2.89	0.60
41:a:468:G:N7	53:m:39:ARG:NH2	2.42	0.60
15:AF:35:LYS:NZ	16:AG:174:ARG:HH22	1.98	0.60
18:D:1160:G:C2	18:D:1161:C:C6	2.89	0.60
18:D:1169:A:H2'	18:D:1170:A:C8	2.36	0.60
21:G:110:SER:HA	21:G:113:ARG:HE	1.65	0.60
26:L:42:TRP:CZ2	26:L:102:MET:HG3	2.36	0.60
33:S:87:ALA:HA	33:S:90:ARG:NH1	2.15	0.60
39:Y:72:THR:OG1	39:Y:73:PRO:HD2	2.01	0.60
47:g:1:MET:HE2	47:g:6:HIS:CD2	2.35	0.60
48:h:84:ASP:HB2	48:h:91:ILE:HD12	1.84	0.60
54:n:122:PHE:CZ	54:n:170:LEU:HD12	2.36	0.60
6:5:11:DA:C2'	12:AB:67:THR:CG2	2.77	0.60
14:AE:288:PRO:HD2	14:AE:291:ILE:HG22	1.74	0.60
16:AG:421:GLN:O	16:AG:425:LEU:N	2.34	0.60
16:AG:424:SER:C	16:AG:429:LYS:HG3	2.26	0.60
20:F:49:LYS:O	20:F:53:VAL:HG23	2.02	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:N:24:ALA:HB1	28:N:60:GLU:OE2	2.00	0.60
29:O:56:ASP:O	29:O:57:MET:HE2	2.02	0.60
39:Y:36:GLU:HG3	39:Y:66:PHE:CE1	2.36	0.60
41:a:2191:A:H2'	41:a:2192:U:C6	2.36	0.60
49:i:22:LEU:HG	49:i:23:THR:N	2.17	0.60
62:v:77:PRO:HG2	62:v:80:VAL:CG2	2.31	0.60
2:1:31:GLN:OE1	2:1:31:GLN:N	2.28	0.60
9:9:47:GLU:HG3	9:9:94:ARG:NH1	2.16	0.60
9:9:123:ILE:O	9:9:123:ILE:HG23	2.02	0.60
16:AG:197:VAL:HG11	16:AG:199:ARG:HH21	1.66	0.60
21:G:73:LYS:O	21:G:74:ARG:HG2	2.00	0.60
28:N:106:THR:HB	28:N:121:LEU:HD13	1.82	0.60
41:a:413:C:H2'	41:a:414:C:H6	1.66	0.60
41:a:1257:C:H4'	52:l:78:TRP:CD2	2.37	0.60
54:n:25:VAL:O	54:n:28:VAL:HG12	2.02	0.60
59:s:73:VAL:HG13	59:s:86:GLN:HG2	1.84	0.60
61:u:51:GLU:OE1	61:u:51:GLU:N	2.34	0.60
9:9:98:GLU:HA	9:9:101:LYS:HG2	1.83	0.60
12:AB:146:ILE:HG22	12:AB:146:ILE:O	2.01	0.60
14:AE:86:GLU:OE1	14:AE:86:GLU:N	2.34	0.60
14:AE:814:CYS:SG	14:AE:883:ARG:NH2	2.74	0.60
19:E:28:MET:SD	19:E:57:ILE:HG22	2.42	0.60
28:N:104:VAL:HG23	28:N:125:ILE:HD13	1.83	0.60
38:X:55:THR:O	38:X:59:GLU:OE1	2.18	0.60
41:a:2780:G:P	59:s:120:ARG:NH1	2.74	0.60
46:f:40:ASP:C	46:f:45:ARG:NH2	2.60	0.60
59:s:102:GLU:HB3	59:s:119:PHE:HZ	1.66	0.60
63:w:60:VAL:HA	63:w:63:ARG:NH1	2.17	0.60
66:z:74:ILE:HD11	66:z:79:PHE:CA	2.30	0.60
66:z:74:ILE:HD13	66:z:79:PHE:CD1	2.33	0.60
2:1:1:MET:SD	2:1:3:THR:OG1	2.59	0.60
10:A:33:U:O3'	27:M:84:THR:OG1	2.16	0.60
16:AG:202:PRO:O	16:AG:205:LEU:HD12	2.02	0.60
16:AG:353:HIS:O	16:AG:356:ILE:C	2.43	0.60
18:D:652:U:H4'	28:N:56:LYS:NZ	2.16	0.60
18:D:1145:A:O2'	18:D:1146:A:O5'	2.18	0.60
25:K:159:LYS:NZ	28:N:44:GLY:HA3	2.16	0.60
41:a:753:A:C2	41:a:754:U:C6	2.89	0.60
48:h:67:PHE:CE1	48:h:156:ARG:HD2	2.37	0.60
12:AB:92:VAL:HA	12:AB:96:LEU:HB2	1.84	0.60
12:AB:129:ILE:O	12:AB:131:THR:N	2.35	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:AE:64:PRO:HG3	14:AE:90:VAL:HG12	1.83	0.60
16:AG:253:GLY:HA3	16:AG:258:ARG:HD2	1.82	0.60
18:D:718:A:O2'	20:F:34:ARG:NH2	2.34	0.60
25:K:113:ALA:HA	25:K:116:GLU:OE1	2.00	0.60
27:M:50:LEU:HD21	27:M:121:ALA:CA	2.28	0.60
59:s:13:ARG:NH2	59:s:49:ASP:O	2.34	0.60
62:v:38:ARG:HA	62:v:96:ILE:O	2.00	0.60
62:v:75:GLU:HG3	62:v:90:GLU:OE1	2.01	0.60
66:z:74:ILE:CD1	66:z:74:ILE:CB	2.76	0.60
1:0:51:VAL:O	1:0:51:VAL:HG13	2.02	0.60
12:AB:89:PRO:CG	14:AE:290:ILE:CG2	2.79	0.60
12:AB:115:LYS:HD2	12:AB:129:ILE:HG21	1.82	0.60
12:AB:152:HIS:HE2	12:AB:159:PHE:HE2	1.44	0.60
13:AD:112:ALA:HB3	13:AD:126:PRO:HA	1.83	0.60
16:AG:240:THR:OG1	16:AG:247:PRO:HG2	2.01	0.60
16:AG:422:GLU:CA	16:AG:426:GLY:CA	2.65	0.60
35:U:76:LYS:C	35:U:80:LYS:HZ3	2.10	0.60
41:a:1070:A:N7	41:a:1096:A:O2'	2.35	0.60
50:j:25:THR:HG21	50:j:193:VAL:HG22	1.84	0.60
61:u:76:GLU:HG3	61:u:111:ILE:CD1	2.31	0.60
9:9:97:LYS:NZ	9:9:130:PRO:HA	2.17	0.60
10:A:69:C:H2'	10:A:70:G:O4'	2.02	0.60
11:AA:855:PRO:HG3	16:AG:105:ILE:HD13	1.77	0.60
14:AE:92:VAL:HG22	14:AE:92:VAL:O	2.01	0.60
16:AG:233:ARG:HG2	16:AG:270:ARG:HB2	1.84	0.60
24:J:62:ARG:HG2	24:J:72:PHE:CE1	2.37	0.60
41:a:323:C:H2'	52:l:163:ASN:OD1	2.02	0.60
41:a:563:A:OP1	66:z:41:LYS:NZ	2.35	0.60
41:a:575:A:C2	41:a:576:U:C5	2.90	0.60
41:a:2363:G:OP2	55:o:40:ARG:HD2	2.01	0.60
51:k:19:HIS:ND1	51:k:41:PRO:CD	2.65	0.60
54:n:38:MET:HG3	54:n:57:LEU:HD21	1.83	0.60
60:t:5:GLN:HA	60:t:20:MET:CE	2.32	0.60
63:w:33:ILE:CG1	63:w:112:TYR:CD1	2.85	0.60
14:AE:741:ALA:O	14:AE:762:ASN:ND2	2.32	0.59
16:AG:244:ARG:HB3	25:K:70:ASN:CA	2.21	0.59
10:B:69:C:H2'	10:B:70:G:O4'	2.02	0.59
18:D:496:A:N3	18:D:496:A:H2'	2.17	0.59
18:D:890:G:O2'	18:D:906:A:N6	2.35	0.59
30:P:86:ALA:C	30:P:90:LEU:HD13	2.27	0.59
32:R:7:LEU:CD2	32:R:12:ARG:NH2	2.65	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:Y:126:ARG:HH22	41:a:1083:U:P	2.25	0.59
41:a:639:U:H2'	41:a:640:C:C6	2.36	0.59
41:a:1322:A:C5	41:a:1323:C:C5	2.90	0.59
41:a:1432:G:H2'	41:a:1433:A:C8	2.37	0.59
41:a:2189:U:P	41:a:2189:U:O4'	2.60	0.59
52:l:1:MET:CE	52:l:16:GLU:HA	2.26	0.59
60:t:8:LEU:CA	60:t:18:ARG:HH12	2.15	0.59
2:1:86:MET:CE	2:1:88:ARG:HD3	2.32	0.59
3:2:56:GLU:OE1	3:2:86:THR:O	2.19	0.59
9:9:7:ASP:OD1	9:9:8:LYS:N	2.35	0.59
9:9:23:LEU:HD21	9:9:96:PHE:CG	2.36	0.59
10:A:36:U:H2'	10:A:37:A:C8	2.36	0.59
12:AB:120:GLU:HB2	12:AB:162:LEU:CB	2.32	0.59
16:AG:433:ASP:HB3	16:AG:456:LEU:HD12	1.83	0.59
22:H:81:GLU:O	22:H:82:THR:HG23	2.02	0.59
22:H:333:LEU:O	22:H:334:ASP:OD1	2.19	0.59
26:L:9:MET:HE2	26:L:51:ILE:HD11	1.83	0.59
28:N:47:GLU:OE2	28:N:64:LYS:HA	2.03	0.59
41:a:2298:A:C4	41:a:2321:U:C5	2.90	0.59
47:g:5:ILE:HD12	54:n:64:LYS:CE	2.31	0.59
55:o:30:ARG:HH12	61:u:62:PRO:CA	2.14	0.59
14:AE:506:VAL:HG23	14:AE:628:GLY:HA3	1.83	0.59
16:AG:301:ASP:OD1	16:AG:301:ASP:N	2.32	0.59
18:D:1290:G:H4'	27:M:35:LYS:NZ	2.17	0.59
19:E:32:ILE:HG12	19:E:75:HIS:CE1	2.37	0.59
21:G:26:LYS:CD	21:G:193:PRO:HG2	2.32	0.59
30:P:25:ILE:O	30:P:28:THR:OG1	2.19	0.59
36:V:10:GLY:HA3	36:V:25:ILE:HD13	1.83	0.59
38:X:81:MET:HE1	38:X:92:ARG:HD3	1.83	0.59
41:a:1277:G:H5'	63:w:20:MET:HE2	1.84	0.59
59:s:55:ILE:HG13	59:s:123:LYS:NZ	2.17	0.59
1:0:61:ALA:HB1	1:0:96:VAL:HG22	1.84	0.59
6:5:11:DA:H2'	12:AB:67:THR:CG2	2.32	0.59
14:AE:1221:LEU:HD22	14:AE:1306:LEU:HB2	1.85	0.59
16:AG:127:VAL:HG21	16:AG:192:GLY:HA2	1.84	0.59
16:AG:137:ILE:O	16:AG:137:ILE:HG22	2.03	0.59
17:C:29:LEU:HD23	17:C:59:ILE:HD13	1.83	0.59
17:C:51:TYR:HD1	17:C:54:GLN:NE2	2.00	0.59
17:C:73:ARG:CZ	31:Q:113:VAL:HG12	2.31	0.59
18:D:13:U:N3	18:D:915:A:N6	2.51	0.59
18:D:718:A:C4	31:Q:118:HIS:ND1	2.71	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:D:1055:A:C2'	23:I:156:ARG:HH21	2.15	0.59
23:I:54:ARG:NH2	23:I:56:VAL:HG21	2.18	0.59
41:a:856:G:H2'	41:a:857:G:C8	2.37	0.59
65:y:7:GLN:CD	65:y:7:GLN:C	2.71	0.59
1:0:68:ARG:HH12	41:a:1223:G:P	2.25	0.59
8:7:18:U:C6	8:7:18:U:C5'	2.85	0.59
9:9:17:GLU:HG2	9:9:88:HIS:NE2	2.18	0.59
13:AD:286:GLU:H	13:AD:315:GLY:CA	2.11	0.59
16:AG:434:LEU:HG	16:AG:456:LEU:N	2.16	0.59
18:D:657:U:C4'	34:T:28:GLN:HE22	2.15	0.59
18:D:921:U:H4'	25:K:23:LYS:NZ	2.18	0.59
18:D:1125:U:C2	18:D:1127:G:C8	2.89	0.59
41:a:2225:A:H4'	41:a:2226:C:O5'	2.03	0.59
61:u:76:GLU:HG3	61:u:111:ILE:HD13	1.84	0.59
6:5:10:DT:O3'	12:AB:68:THR:CA	2.51	0.59
7:6:20:DA:C6	8:7:35:G:C2	2.91	0.59
9:9:54:VAL:HG13	9:9:54:VAL:O	2.03	0.59
12:AB:90:SER:HB3	12:AB:93:ILE:HB	1.84	0.59
12:AB:158:GLU:HB3	12:AB:162:LEU:HD22	1.85	0.59
13:AD:308:ALA:O	16:AG:71:PRO:HG2	2.03	0.59
14:AE:1161:GLY:HA3	14:AE:1179:PRO:HA	1.83	0.59
18:D:736:C:O2'	26:L:88:MET:HE1	2.02	0.59
18:D:1290:G:H4'	27:M:35:LYS:HZ3	1.67	0.59
41:a:993:G:OP2	66:z:51:ARG:NH2	2.36	0.59
41:a:1798:U:OP2	48:h:271:ARG:NH2	2.36	0.59
41:a:1817:G:H3'	48:h:156:ARG:HH22	1.67	0.59
48:h:30:PHE:O	48:h:34:LEU:HD23	2.02	0.59
8:7:9:U:O4	18:D:1196:A:C8	2.55	0.59
10:A:70:G:H2'	10:A:71:C:H5''	1.85	0.59
12:AB:148:LYS:HE2	30:P:102:LEU:H	1.68	0.59
16:AG:243:LYS:CE	25:K:69:ARG:NH1	2.65	0.59
16:AG:279:ASN:HB3	16:AG:280:PRO:HD2	1.82	0.59
16:AG:437:LEU:HD22	16:AG:488:ILE:CD1	2.33	0.59
17:C:14:THR:HG21	17:C:48:ARG:NE	2.17	0.59
39:Y:5:GLN:HE22	39:Y:60:VAL:C	2.10	0.59
41:a:1406:U:O2'	41:a:1407:G:O4'	2.20	0.59
41:a:2460:U:C2	41:a:2461:A:C8	2.91	0.59
56:p:85:LYS:NZ	56:p:164:TYR:HD1	2.01	0.59
6:5:10:DT:C4	11:AA:62:TYR:HD2	2.12	0.59
11:AA:69:GLN:HE21	11:AA:101:ARG:HD2	1.67	0.59
21:G:23:TRP:HZ3	21:G:25:PRO:HA	1.67	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:G:106:THR:HA	21:G:109:GLN:NE2	2.18	0.59
24:J:74:ASN:HA	24:J:77:LYS:NZ	2.17	0.59
27:M:50:LEU:HD11	27:M:124:LEU:HB2	1.85	0.59
31:Q:51:GLY:O	31:Q:56:ARG:CZ	2.51	0.59
35:U:19:VAL:HG12	35:U:37:GLY:C	2.28	0.59
40:Z:8:ILE:HG13	40:Z:9:GLU:H	1.68	0.59
41:a:15:G:O2'	49:i:15:MET:CE	2.51	0.59
41:a:567:U:OP2	61:u:29:LYS:NZ	2.35	0.59
41:a:947:A:H2'	41:a:948:C:C6	2.37	0.59
41:a:2815:C:C2	41:a:2816:G:C8	2.91	0.59
51:k:8:LYS:HZ1	51:k:54:ILE:HG12	1.67	0.59
52:l:119:ILE:O	52:l:187:VAL:HA	2.03	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
9:9:94:ARG:CB	9:9:97:LYS:HE2	2.32	0.59
9:9:103:ASN:HA	9:9:107:GLU:OE2	2.02	0.59
16:AG:240:THR:CB	16:AG:247:PRO:HG3	2.32	0.59
17:C:73:ARG:HH12	31:Q:113:VAL:CA	2.16	0.59
18:D:978:A:C5	18:D:1319:A:C2	2.90	0.59
22:H:291:GLY:HA2	22:H:305:HIS:HA	1.85	0.59
38:X:22:ILE:HG23	38:X:66:GLU:OE2	2.03	0.59
39:Y:23:VAL:HG23	39:Y:24:GLY:N	2.17	0.59
41:a:1172:C:H2'	41:a:1173:U:O4'	2.02	0.59
46:f:41:THR:O	46:f:44:ILE:N	2.30	0.59
8:7:9:U:O4	18:D:1196:A:O4'	2.21	0.59
9:9:33:VAL:HG22	9:9:36:ASP:CG	2.27	0.59
12:AB:141:LEU:O	12:AB:150:ILE:C	2.46	0.59
12:AB:154:VAL:HG11	12:AB:159:PHE:HB2	1.82	0.59
16:AG:31:LEU:HD23	16:AG:110:ALA:HB1	1.85	0.59
17:C:73:ARG:NH1	31:Q:113:VAL:HA	2.18	0.59
18:D:878:A:OP2	28:N:80:ARG:NH1	2.35	0.59
22:H:131:LEU:CB	22:H:167:VAL:HA	2.32	0.59
22:H:155:LYS:O	22:H:169:SER:N	2.35	0.59
33:S:42:TRP:CH2	47:g:66:ILE:HA	2.38	0.59
34:T:60:VAL:O	34:T:64:ARG:HG2	2.03	0.59
39:Y:70:THR:O	39:Y:71:LYS:HG3	2.03	0.59
48:h:181:MET:HE2	48:h:181:MET:N	2.18	0.59
51:k:35:GLU:OE2	51:k:48:ILE:HG23	2.03	0.59
9:9:51:TYR:HB2	9:9:88:HIS:CB	2.32	0.58
16:AG:354:ALA:HA	16:AG:357:ASP:N	2.18	0.58
16:AG:387:VAL:HB	16:AG:388:PRO:HD2	1.85	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AG:453:VAL:HG11	16:AG:459:LEU:HG	1.84	0.58
18:D:588:G:H4'	28:N:3:MET:CE	2.33	0.58
21:G:96:TRP:CH2	21:G:100:MET:HE3	2.38	0.58
21:G:128:LYS:HD2	21:G:128:LYS:O	2.03	0.58
22:H:273:ARG:CZ	22:H:297:GLU:HG3	2.33	0.58
23:I:85:GLU:OE2	23:I:88:ARG:NH1	2.26	0.58
24:J:91:LEU:HD21	24:J:195:ILE:HD12	1.84	0.58
27:M:18:PHE:HB3	27:M:59:LEU:HD11	1.84	0.58
33:S:20:TYR:HD2	33:S:55:SER:OG	1.85	0.58
34:T:11:ILE:HG21	34:T:31:LEU:HD13	1.85	0.58
34:T:64:ARG:CZ	34:T:64:ARG:HB3	2.32	0.58
38:X:25:VAL:HG23	38:X:29:ARG:HB2	1.85	0.58
50:j:46:ARG:NH1	50:j:85:ALA:O	2.32	0.58
54:n:122:PHE:O	54:n:123:ASP:OD1	2.19	0.58
58:r:68:ARG:O	58:r:72:ILE:HD12	2.03	0.58
59:s:102:GLU:CD	59:s:124:VAL:HG11	2.28	0.58
8:7:15:U:OP1	23:I:132:ARG:NH2	2.35	0.58
11:AA:1142:ARG:NH1	11:AA:1161:LEU:O	2.36	0.58
12:AB:147:ASN:HB2	30:P:100:ILE:N	2.18	0.58
16:AG:212:GLU:HB3	16:AG:258:ARG:HB3	1.84	0.58
16:AG:453:VAL:CG2	16:AG:462:GLN:CD	2.76	0.58
21:G:35:ARG:HD2	22:H:14:LYS:HE3	1.84	0.58
25:K:12:GLN:HB3	25:K:14:LYS:NZ	2.18	0.58
25:K:16:ILE:HD11	25:K:38:VAL:HG12	1.83	0.58
36:V:11:ARG:HE	36:V:58:VAL:CG2	2.16	0.58
39:Y:5:GLN:CG	39:Y:61:TYR:CE1	2.76	0.58
39:Y:116:MET:HG2	39:Y:124:MET:CB	2.34	0.58
41:a:1065:U:O2'	41:a:1066:U:O5'	2.16	0.58
41:a:2682:A:H8	50:j:11:MET:CE	2.16	0.58
52:l:62:GLN:O	52:l:69:ARG:HD3	2.03	0.58
54:n:46:ASP:OD1	54:n:49:LEU:HD13	2.03	0.58
60:t:88:ASN:ND2	60:t:90:ASN:OD1	2.36	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
12:AB:125:GLY:O	14:AE:87:LYS:CA	2.51	0.58
12:AB:148:LYS:NZ	30:P:101:SER:C	2.46	0.58
18:D:1107:C:P	23:I:172:ARG:HG3	2.43	0.58
25:K:148:ASN:OD1	28:N:96:MET:HE1	2.03	0.58
31:Q:20:VAL:CG1	31:Q:85:MET:HE1	2.33	0.58
38:X:25:VAL:HG23	38:X:29:ARG:CB	2.32	0.58
41:a:654:A:H61	55:o:19:LYS:HD2	1.68	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:a:685:A:O2'	41:a:773:U:O4	2.17	0.58
41:a:2189:U:O4'	41:a:2189:U:OP1	2.21	0.58
41:a:2335:A:OP2	64:x:13:ARG:CD	2.51	0.58
52:l:170:ARG:CZ	52:l:175:ILE:HA	2.33	0.58
54:n:4:LEU:HD11	54:n:101:GLU:HA	1.84	0.58
5:4:63:ILE:HD11	5:4:91:PHE:CE2	2.37	0.58
6:5:9:DG:P	11:AA:470:ARG:HA	2.43	0.58
10:A:60:U:H4'	10:A:61:C:OP2	2.04	0.58
12:AB:123:PHE:HD2	12:AB:123:PHE:N	2.02	0.58
16:AG:33:THR:HG23	16:AG:43:ILE:HD11	1.85	0.58
10:B:15:G:N1	10:B:20:U:O2	2.36	0.58
23:I:142:MET:HE2	23:I:149:ILE:HG22	1.83	0.58
39:Y:99:LYS:HD3	39:Y:138:VAL:O	2.02	0.58
39:Y:109:ALA:HB2	39:Y:128:ILE:HG13	1.86	0.58
41:a:2243:U:H2'	41:a:2244:U:C6	2.38	0.58
41:a:2259:U:N3	41:a:2260:C:C5	2.71	0.58
41:a:2547:A:H2'	41:a:2548:U:C6	2.38	0.58
46:f:10:THR:HG22	46:f:54:MET:C	2.27	0.58
53:m:1:MET:HE3	53:m:3:ARG:HH11	1.67	0.58
56:p:149:ARG:NH2	56:p:162:VAL:N	2.52	0.58
58:r:97:ARG:NH1	58:r:101:ASP:OD2	2.37	0.58
59:s:39:LYS:HA	59:s:44:TYR:CD1	2.39	0.58
2:1:7:HIS:HD2	2:1:10:ALA:HB2	1.68	0.58
9:9:23:LEU:N	9:9:118:ILE:HD11	2.19	0.58
9:9:73:LYS:CG	9:9:117:LEU:HD12	2.32	0.58
11:AA:707:ALA:O	11:AA:711:ASP:HB2	2.03	0.58
12:AB:89:PRO:HG2	14:AE:290:ILE:CG2	2.33	0.58
16:AG:130:PHE:C	16:AG:186:VAL:HG11	2.28	0.58
16:AG:139:THR:HG22	16:AG:180:ARG:HB3	1.83	0.58
17:C:12:ARG:CG	22:H:264:GLU:CB	2.81	0.58
18:D:829:G:O3'	21:G:23:TRP:CZ2	2.56	0.58
18:D:1439:G:P	19:E:33:LYS:HZ1	2.24	0.58
27:M:24:ALA:O	27:M:27:VAL:HG22	2.04	0.58
28:N:43:GLU:HG2	28:N:101:ILE:HD13	1.84	0.58
30:P:22:THR:O	30:P:26:VAL:HG23	2.03	0.58
39:Y:56:VAL:HA	39:Y:71:LYS:NZ	2.08	0.58
41:a:1028:A:H2'	41:a:1029:A:C8	2.37	0.58
41:a:1197:G:H2'	41:a:1198:U:H6	1.68	0.58
45:e:2:LYS:CE	45:e:52:ARG:HE	2.15	0.58
51:k:7:GLU:CD	51:k:7:GLU:H	2.11	0.58
58:r:37:VAL:HG12	58:r:43:ASN:HD21	1.68	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
66:z:82:GLY:CA	66:z:117:LEU:CD1	2.81	0.58
8:7:7:U:H5''	8:7:7:U:C6	2.39	0.58
9:9:24:SER:HB2	9:9:86:MET:HA	1.86	0.58
10:A:15:G:N1	10:A:20:U:O2	2.37	0.58
12:AB:99:TYR:O	12:AB:100:LYS:HG2	2.03	0.58
16:AG:25:GLU:HG3	16:AG:49:ILE:HD11	1.86	0.58
16:AG:434:LEU:N	16:AG:456:LEU:HG	2.17	0.58
18:D:439:U:O2	18:D:440:C:C5	2.56	0.58
18:D:736:C:H5''	26:L:90:MET:HE2	1.85	0.58
23:I:24:ALA:C	23:I:29:PHE:HE2	2.10	0.58
25:K:10:GLU:OE1	25:K:10:GLU:N	2.35	0.58
31:Q:87:LYS:HG3	31:Q:113:VAL:HG23	1.85	0.58
34:T:32:LEU:HD11	34:T:62:GLN:OE1	2.04	0.58
48:h:62:TYR:CE2	48:h:64:ILE:HD13	2.38	0.58
62:v:49:ALA:O	62:v:52:ALA:N	2.37	0.58
6:5:25:DA:C2	7:6:5:DG:C2	2.92	0.58
9:9:60:LEU:HA	9:9:64:VAL:HB	1.84	0.58
11:AA:371:ARG:NH1	12:AB:67:THR:OG1	2.34	0.58
11:AA:855:PRO:CG	16:AG:105:ILE:CA	2.57	0.58
18:D:915:A:N6	18:D:916:U:C4	2.72	0.58
18:D:972:C:O2'	30:P:57:VAL:HG13	2.03	0.58
19:E:61:GLN:NE2	19:E:66:LEU:HD22	2.18	0.58
29:O:49:ARG:HB3	29:O:53:GLU:OE2	2.02	0.58
39:Y:102:ARG:CG	39:Y:141:ASP:HA	2.33	0.58
41:a:832:U:H2'	41:a:833:A:H8	1.69	0.58
41:a:1021:A:N1	41:a:1141:U:O4	2.37	0.58
45:e:18:LEU:HD11	45:e:54:LYS:HE3	1.86	0.58
4:3:94:ARG:HB3	4:3:103:ILE:HD12	1.86	0.58
8:7:10:U:H5''	8:7:10:U:O2	2.03	0.58
12:AB:115:LYS:CA	12:AB:129:ILE:CD1	2.79	0.58
16:AG:287:ALA:CB	16:AG:331:LEU:HB3	2.33	0.58
17:C:13:PHE:HB3	17:C:51:TYR:CD1	2.39	0.58
18:D:1082:A:OP1	25:K:23:LYS:NZ	2.34	0.58
21:G:66:LYS:HB3	21:G:154:MET:CE	2.34	0.58
22:H:75:VAL:HG23	22:H:81:GLU:OE2	2.04	0.58
25:K:93:ARG:HB3	25:K:93:ARG:NH2	2.18	0.58
28:N:7:ILE:HB	28:N:77:ARG:NH1	2.18	0.58
41:a:70:G:H4'	41:a:71:A:OP1	2.02	0.58
41:a:2683:C:H4'	50:j:13:ARG:CZ	2.34	0.58
44:d:42:C:P	54:n:64:LYS:HZ1	2.26	0.58
54:n:4:LEU:HD11	54:n:101:GLU:N	2.18	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:s:132:HIS:O	59:s:135:GLN:HB2	2.03	0.58
61:u:91:ASP:O	61:u:95:LEU:HD23	2.03	0.58
2:1:11:ARG:NH1	2:1:98:LYS:HE3	2.19	0.58
3:2:1:MET:N	41:a:142:A:O2'	2.33	0.58
4:3:7:ARG:HH22	41:a:98:G:N2	2.00	0.58
12:AB:135:GLY:O	12:AB:137:ALA:N	2.37	0.58
16:AG:367:GLU:O	16:AG:371:THR:HG23	2.04	0.58
16:AG:413:ALA:HA	16:AG:416:THR:OG1	2.03	0.58
38:X:93:ARG:HG2	38:X:95:LEU:HD23	1.85	0.58
41:a:607:U:C5	41:a:620:G:C4	2.91	0.58
46:f:40:ASP:OD1	46:f:45:ARG:NH2	2.37	0.58
59:s:53:TYR:CD1	59:s:121:LYS:HD2	2.39	0.58
61:u:55:MET:CE	61:u:60:ARG:HG2	2.33	0.58
1:0:16:GLU:C	1:0:18:GLN:OE1	2.46	0.58
8:7:28:A:H5'	8:7:29:U:H5''	1.85	0.58
11:AA:13:LYS:HB2	11:AA:1180:MET:HE2	1.86	0.58
12:AB:54:TYR:HE2	14:AE:291:ILE:CG2	2.13	0.58
12:AB:102:LYS:CE	14:AE:285:LEU:HA	2.34	0.58
12:AB:102:LYS:HE2	14:AE:285:LEU:CA	2.34	0.58
16:AG:363:LEU:HG	16:AG:410:ALA:N	2.16	0.58
16:AG:392:LEU:CD2	16:AG:395:ILE:HD11	2.34	0.58
18:D:695:A:H8	18:D:695:A:H5''	1.68	0.58
20:F:16:LEU:C	20:F:20:LYS:HZ3	2.11	0.58
23:I:25:ASN:N	23:I:29:PHE:HE2	2.01	0.58
27:M:66:LEU:HD11	27:M:100:ALA:HB3	1.85	0.58
28:N:52:GLU:OE1	28:N:53:GLY:N	2.37	0.58
31:Q:52:PHE:CD2	31:Q:56:ARG:HG2	2.39	0.58
39:Y:33:ASN:HB3	39:Y:36:GLU:CG	2.30	0.58
41:a:2189:U:O2'	41:a:2190:G:O4'	2.22	0.58
41:a:2349:G:C6	41:a:2369:A:C6	2.92	0.58
52:l:148:ILE:HD13	52:l:187:VAL:HB	1.85	0.58
58:r:30:LEU:HD23	58:r:35:LYS:HE2	1.85	0.58
60:t:121:GLU:OE2	65:y:41:GLN:NE2	2.37	0.58
61:u:61:LEU:HB3	61:u:62:PRO:HD2	1.85	0.58
62:v:26:VAL:HG13	62:v:104:GLU:CD	2.29	0.58
9:9:4:ASN:HB3	9:9:8:LYS:NZ	2.19	0.57
9:9:98:GLU:HA	9:9:101:LYS:HZ3	1.69	0.57
16:AG:162:ILE:HD13	16:AG:167:MET:HE2	1.86	0.57
16:AG:187:ARG:CB	16:AG:188:PRO:HD3	2.20	0.57
16:AG:352:ALA:O	16:AG:356:ILE:CG2	2.51	0.57
17:C:60:LYS:NZ	18:D:734:G:C2'	2.63	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:E:61:GLN:HE21	19:E:66:LEU:HD22	1.69	0.57
25:K:146:ASN:OD1	25:K:147:MET:N	2.37	0.57
25:K:156:LYS:HA	28:N:66:PHE:CD2	2.39	0.57
32:R:110:ARG:NE	32:R:117:TYR:HD2	2.02	0.57
36:V:4:LYS:HD2	36:V:5:ILE:HG23	1.85	0.57
41:a:5:A:H2'	41:a:6:A:C8	2.39	0.57
42:b:68:LYS:HZ2	42:b:70:GLU:CD	2.10	0.57
45:e:2:LYS:HD2	45:e:6:LEU:HD11	1.85	0.57
59:s:120:ARG:CZ	59:s:120:ARG:HB2	2.34	0.57
9:9:46:ARG:CG	9:9:94:ARG:HH21	2.02	0.57
9:9:78:GLY:N	9:9:79:PRO:CD	2.66	0.57
11:AA:857:VAL:O	16:AG:35:THR:HB	2.04	0.57
16:AG:434:LEU:HD11	16:AG:455:THR:N	2.19	0.57
10:B:60:U:H4'	10:B:61:C:OP2	2.04	0.57
17:C:16:GLU:OE1	17:C:18:VAL:N	2.36	0.57
21:G:35:ARG:HB3	22:H:14:LYS:HZ3	1.69	0.57
22:H:273:ARG:HD3	22:H:280:LEU:HD11	1.85	0.57
27:M:26:PHE:CD1	27:M:101:MET:SD	2.97	0.57
29:O:5:GLN:NE2	29:O:20:PHE:CB	2.67	0.57
29:O:94:LEU:O	29:O:98:LEU:HD13	2.04	0.57
34:T:28:GLN:HB2	34:T:66:LEU:HD21	1.86	0.57
35:U:12:LYS:CD	35:U:13:LYS:HG2	2.33	0.57
41:a:372:G:O2'	41:a:400:G:O6	2.16	0.57
41:a:500:G:N1	41:a:503:A:OP2	2.37	0.57
41:a:811:U:H2'	61:u:21:ARG:HA	1.86	0.57
41:a:1682:G:H2'	41:a:1683:U:C6	2.39	0.57
41:a:2395:C:H2'	41:a:2396:G:O4'	2.03	0.57
41:a:2816:G:O4'	49:i:41:HIS:CE1	2.57	0.57
42:b:55:ARG:NE	42:b:55:ARG:HA	2.19	0.57
44:d:106:G:H2'	44:d:107:G:O4'	2.04	0.57
51:k:34:LEU:H	51:k:51:GLU:CD	2.12	0.57
4:3:6:ARG:NH1	41:a:84:A:O2'	2.36	0.57
6:5:10:DT:O3'	12:AB:68:THR:HA	2.03	0.57
16:AG:201:LYS:HB3	16:AG:201:LYS:HZ3	1.70	0.57
18:D:1308:U:P	38:X:98:ARG:HG3	2.43	0.57
21:G:35:ARG:HD2	22:H:14:LYS:CE	2.34	0.57
25:K:136:VAL:O	25:K:140:THR:HG23	2.04	0.57
27:M:23:LEU:HD12	27:M:23:LEU:H	1.70	0.57
27:M:28:ASN:HA	27:M:31:MET:HE3	1.85	0.57
39:Y:32:VAL:HG22	39:Y:60:VAL:CG2	2.34	0.57
41:a:782:A:C2	48:h:225:MET:HE2	2.39	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:a:1869:G:N2	41:a:1871:A:O2'	2.37	0.57
62:v:49:ALA:C	62:v:53:MET:HE1	2.30	0.57
5:4:46:LYS:O	5:4:50:MET:HG2	2.04	0.57
5:4:48:MET:HE3	5:4:84:PRO:O	2.04	0.57
8:7:21:U:C4	23:I:82:GLU:HB2	2.40	0.57
11:AA:1223:ARG:NH2	14:AE:721:SER:OG	2.38	0.57
13:AC:82:LEU:HD11	13:AC:171:LEU:HD23	1.86	0.57
14:AE:1143:ASP:OD1	14:AE:1148:ARG:NH1	2.37	0.57
16:AG:233:ARG:HH12	16:AG:324:ASN:N	2.02	0.57
23:I:82:GLU:O	23:I:86:LYS:HD3	2.04	0.57
24:J:196:ASN:ND2	24:J:199:LEU:HG	2.20	0.57
41:a:1198:U:H2'	41:a:1199:U:C6	2.40	0.57
55:o:55:LEU:HD21	55:o:59:ILE:HD11	1.87	0.57
59:s:133:ALA:C	59:s:135:GLN:N	2.60	0.57
62:v:97:GLN:H	62:v:100:LYS:HZ1	1.51	0.57
1:0:15:SER:HB2	1:0:18:GLN:NE2	2.18	0.57
2:1:73:LYS:C	2:1:74:ILE:HD12	2.29	0.57
3:2:56:GLU:CD	3:2:87:LEU:C	2.73	0.57
9:9:38:MET:SD	39:Y:117:THR:HG22	2.45	0.57
16:AG:173:PHE:N	16:AG:173:PHE:CD2	2.73	0.57
16:AG:210:ARG:HE	16:AG:216:ILE:HG22	1.69	0.57
16:AG:361:LYS:CE	16:AG:417:ILE:CG1	2.74	0.57
21:G:52:GLU:O	21:G:56:GLU:OE1	2.23	0.57
26:L:14:GLN:OE1	26:L:83:ALA:HA	2.05	0.57
28:N:8:ALA:O	28:N:12:THR:HG23	2.03	0.57
33:S:90:ARG:C	33:S:92:GLU:OE1	2.47	0.57
44:d:48:U:H2'	44:d:49:C:C6	2.40	0.57
59:s:31:GLU:OE2	59:s:35:ARG:NH1	2.37	0.57
5:4:2:PHE:HE2	5:4:55:GLU:HG2	1.69	0.57
11:AA:838:CYS:HB2	11:AA:918:LEU:HD22	1.85	0.57
11:AA:1122:LYS:NZ	11:AA:1126:ASP:OD1	2.38	0.57
12:AB:6:LEU:H	12:AB:88:VAL:HG21	1.69	0.57
14:AE:888:CYS:SG	14:AE:889:ASP:N	2.74	0.57
16:AG:318:ILE:HG12	16:AG:338:VAL:HG11	1.85	0.57
18:D:280:C:O2	36:V:40:ARG:NH2	2.37	0.57
18:D:1356:G:H2'	18:D:1357:A:C8	2.40	0.57
26:L:95:ALA:O	26:L:96:VAL:C	2.47	0.57
30:P:86:ALA:O	30:P:90:LEU:CD1	2.53	0.57
36:V:11:ARG:HE	36:V:58:VAL:HG22	1.69	0.57
41:a:64:A:H2'	41:a:65:U:C6	2.40	0.57
41:a:628:G:C6	41:a:636:G:C2	2.92	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:a:1141:U:H5	59:s:68:LYS:NZ	2.02	0.57
41:a:1568:G:N7	48:h:28:LYS:NZ	2.52	0.57
52:l:17:THR:HA	52:l:21:ARG:NH2	2.19	0.57
53:m:12:ARG:NE	53:m:44:VAL:HG21	2.19	0.57
53:m:24:THR:HG23	53:m:27:GLY:H	1.69	0.57
66:z:74:ILE:HG12	66:z:79:PHE:HB2	1.86	0.57
3:2:54:GLU:OE1	3:2:54:GLU:N	2.38	0.57
12:AB:115:LYS:HZ2	12:AB:129:ILE:HG21	0.74	0.57
12:AB:141:LEU:O	12:AB:151:LYS:HA	2.04	0.57
14:AE:144:TYR:OH	14:AE:293:ARG:NH2	2.37	0.57
16:AG:63:LEU:HD23	16:AG:63:LEU:H	1.69	0.57
18:D:974:A:OP1	33:S:69:ARG:NH1	2.37	0.57
39:Y:45:THR:HG21	39:Y:50:LYS:HZ2	1.70	0.57
39:Y:116:MET:HB3	39:Y:124:MET:HE2	1.86	0.57
62:v:1:MET:HE3	62:v:1:MET:CA	2.34	0.57
62:v:41:LEU:CD2	62:v:45:GLN:HE22	2.18	0.57
62:v:105:MET:HE2	62:v:108:VAL:HG21	1.87	0.57
66:z:53:ARG:CG	66:z:57:PHE:HE2	2.18	0.57
8:7:12:U:H3'	8:7:12:U:H6	1.70	0.57
10:A:75:C:O2'	10:A:76:A:C8	2.58	0.57
16:AG:9:VAL:HA	16:AG:24:PHE:CZ	2.40	0.57
16:AG:362:TYR:CA	16:AG:413:ALA:HB1	2.30	0.57
10:B:70:G:H2'	10:B:71:C:H5''	1.85	0.57
21:G:107:VAL:O	21:G:111:ILE:HG12	2.04	0.57
28:N:66:PHE:CG	28:N:67:GLN:OE1	2.57	0.57
35:U:14:ARG:HD3	35:U:42:ILE:HG21	1.86	0.57
36:V:42:THR:HG22	36:V:44:LEU:CD1	2.34	0.57
41:a:580:U:H2'	41:a:581:C:H6	1.69	0.57
41:a:1360:G:N7	41:a:1361:G:C8	2.73	0.57
41:a:2483:C:O2	62:v:51:ARG:NH2	2.38	0.57
63:w:9:GLN:O	63:w:17:ARG:HD3	2.05	0.57
11:AA:839:VAL:HG12	11:AA:1049:ILE:HG12	1.87	0.57
16:AG:392:LEU:HD22	16:AG:395:ILE:HD11	1.87	0.57
18:D:562:U:C3'	32:R:14:ARG:HH11	2.18	0.57
22:H:51:GLU:OE1	22:H:51:GLU:N	2.38	0.57
30:P:63:ASP:OD2	30:P:64:GLN:N	2.38	0.57
34:T:32:LEU:CD1	34:T:62:GLN:OE1	2.53	0.57
37:W:40:ILE:HG21	37:W:66:MET:SD	2.45	0.57
41:a:839:U:C2	41:a:840:C:C5	2.93	0.57
41:a:1824:G:H5''	48:h:52:ARG:HH22	1.69	0.57
52:l:136:GLN:NE2	52:l:140:ASP:OD2	2.37	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:4:60:VAL:HG12	5:4:71:LYS:HE2	1.85	0.57
11:AA:1254:VAL:O	14:AE:99:ARG:NH2	2.37	0.57
16:AG:131:ARG:CA	16:AG:186:VAL:HG11	2.35	0.57
16:AG:425:LEU:N	16:AG:429:LYS:HG3	2.20	0.57
16:AG:434:LEU:HD23	16:AG:456:LEU:CG	2.35	0.57
10:B:5:G:H2'	10:B:6:G:C5'	2.35	0.57
17:C:55:LEU:O	17:C:59:ILE:HG12	2.04	0.57
18:D:439:U:O2	18:D:440:C:C6	2.58	0.57
21:G:131:LYS:HG3	21:G:132:LYS:HD2	1.87	0.57
27:M:68:ASN:ND2	27:M:130:ASN:OD1	2.38	0.57
41:a:659:G:H1'	52:l:100:MET:HE1	1.87	0.57
41:a:1442:U:H2'	41:a:1443:U:C6	2.40	0.57
41:a:1818:U:OP2	48:h:156:ARG:CZ	2.53	0.57
41:a:2514:U:H2'	41:a:2515:C:C6	2.40	0.57
48:h:52:ARG:HE	48:h:53:HIS:CE1	2.23	0.57
58:r:6:LEU:HD11	58:r:37:VAL:CG2	2.33	0.57
62:v:70:ASP:C	62:v:92:TRP:HZ3	2.13	0.57
16:AG:362:TYR:CZ	16:AG:382:GLU:HG2	2.40	0.56
18:D:512:U:OP1	24:J:44:ARG:NH1	2.38	0.56
39:Y:58:ILE:HG23	39:Y:66:PHE:CE2	2.40	0.56
41:a:1047:G:HO2'	41:a:1110:G:H1	1.53	0.56
11:AA:516:ASP:OD1	11:AA:516:ASP:O	2.23	0.56
16:AG:49:ILE:HG22	16:AG:49:ILE:O	2.04	0.56
16:AG:221:ILE:HD13	16:AG:247:PRO:HA	1.85	0.56
16:AG:233:ARG:O	16:AG:327:LEU:HD21	2.04	0.56
16:AG:307:ILE:HD11	16:AG:336:LEU:HB2	1.87	0.56
18:D:193:C:O2'	19:E:59:ASP:OD2	2.23	0.56
18:D:404:G:O2'	18:D:498:A:N1	2.38	0.56
18:D:911:U:H2'	18:D:912:C:C6	2.40	0.56
22:H:297:GLU:HG2	22:H:300:VAL:HG21	1.86	0.56
25:K:148:ASN:ND2	25:K:153:VAL:HG12	2.20	0.56
31:Q:87:LYS:HG3	31:Q:113:VAL:CG2	2.35	0.56
35:U:39:PHE:HD1	35:U:50:THR:HG22	1.70	0.56
41:a:228:C:N4	41:a:2407:A:N3	2.52	0.56
41:a:593:U:H2'	41:a:594:U:C6	2.39	0.56
50:j:3:GLY:N	50:j:204:LYS:HE2	2.20	0.56
5:4:53:LYS:HB2	5:4:56:PHE:CE2	2.40	0.56
8:7:6:U:C2	18:D:1493:A:H2	2.24	0.56
10:A:5:G:H2'	10:A:6:G:C5'	2.35	0.56
12:AB:117:ILE:HD13	12:AB:161:LYS:NZ	2.17	0.56
12:AB:130:PHE:CD2	12:AB:152:HIS:HE1	2.23	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AG:61:ARG:HD2	16:AG:73:LYS:HD3	1.86	0.56
18:D:692:U:N3	18:D:695:A:OP2	2.34	0.56
22:H:117:LYS:CB	22:H:279:LYS:O	2.54	0.56
26:L:42:TRP:CZ2	26:L:102:MET:CG	2.88	0.56
27:M:66:LEU:HD23	27:M:70:ARG:HH21	1.69	0.56
30:P:15:HIS:HA	30:P:18:ILE:HG22	1.88	0.56
30:P:21:ALA:O	30:P:24:GLU:HG3	2.04	0.56
31:Q:15:GLN:OE1	31:Q:78:GLY:HA3	2.05	0.56
34:T:35:GLN:CB	34:T:59:MET:HE1	2.35	0.56
41:a:78:U:H5'	45:e:4:LYS:NZ	2.19	0.56
41:a:839:U:H2'	41:a:840:C:C6	2.40	0.56
41:a:1278:C:O2'	63:w:27:SER:OG	2.16	0.56
41:a:1693:U:O2'	48:h:14:ARG:NH2	2.38	0.56
41:a:2849:U:P	65:y:93:ARG:NH2	2.78	0.56
42:b:45:PHE:CD2	42:b:80:ILE:HD11	2.40	0.56
42:b:51:VAL:C	42:b:62:LYS:NZ	2.63	0.56
44:d:42:C:C5'	54:n:64:LYS:HZ1	2.18	0.56
47:g:18:CYS:HB3	47:g:40:CYS:HB2	1.85	0.56
52:l:42:GLY:CA	52:l:92:HIS:HE1	2.18	0.56
56:p:109:PHE:CE1	56:p:152:ARG:NH1	2.74	0.56
65:y:51:ARG:HD3	65:y:58:ALA:HB3	1.86	0.56
11:AA:1142:ARG:NH2	11:AA:1166:ASP:OD1	2.38	0.56
16:AG:130:PHE:HB3	16:AG:186:VAL:HG22	1.86	0.56
21:G:35:ARG:HG2	21:G:40:ILE:HG13	1.86	0.56
24:J:62:ARG:HA	24:J:72:PHE:CE1	2.41	0.56
28:N:7:ILE:O	28:N:10:MET:HB3	2.05	0.56
29:O:118:LEU:CD2	29:O:124:ARG:HA	2.35	0.56
34:T:10:LYS:O	34:T:14:GLU:OE1	2.23	0.56
37:W:64:ASP:OD2	47:g:57:VAL:HG23	2.06	0.56
38:X:28:THR:HG22	38:X:29:ARG:NH1	2.20	0.56
41:a:3:U:H2'	41:a:4:U:H6	1.69	0.56
41:a:2192:U:H2'	41:a:2193:G:C8	2.40	0.56
47:g:47:LYS:HG2	54:n:115:ARG:NH2	2.20	0.56
50:j:180:VAL:O	50:j:180:VAL:HG13	2.05	0.56
54:n:163:ASP:OD1	54:n:164:GLU:N	2.39	0.56
59:s:37:ARG:HD3	59:s:39:LYS:HD2	1.88	0.56
60:t:20:MET:HB3	60:t:44:LYS:CE	2.35	0.56
5:4:55:GLU:O	5:4:59:GLU:OE1	2.24	0.56
5:4:57:TYR:CD2	62:v:136:MET:HE2	2.40	0.56
9:9:27:VAL:HG13	9:9:27:VAL:O	2.05	0.56
9:9:56:ARG:NH2	41:a:1084:A:C1'	2.69	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:9:124:ASP:OD2	9:9:126:LEU:HD21	2.05	0.56
13:AC:45:ARG:HD3	13:AD:38:THR:HB	1.86	0.56
16:AG:283:PHE:CE2	16:AG:331:LEU:O	2.58	0.56
16:AG:457:GLU:HG2	16:AG:489:CYS:SG	2.45	0.56
18:D:1366:C:O2'	30:P:62:ARG:NH2	2.38	0.56
21:G:19:GLN:HG3	22:H:76:GLU:CB	2.35	0.56
24:J:138:SER:O	24:J:141:ASP:OD1	2.24	0.56
41:a:17:G:H2'	41:a:18:U:C6	2.41	0.56
42:b:21:LEU:HD21	42:b:41:ARG:NE	2.20	0.56
43:c:66:THR:O	43:c:70:GLU:OE1	2.23	0.56
50:j:91:THR:HB	50:j:94:GLN:HG2	1.87	0.56
51:k:19:HIS:ND1	51:k:41:PRO:HD2	2.21	0.56
62:v:37:GLY:C	62:v:126:ILE:HD11	2.30	0.56
63:w:35:LYS:NZ	63:w:112:TYR:HE2	2.04	0.56
4:3:6:ARG:CZ	41:a:84:A:H2'	2.35	0.56
5:4:77:VAL:HG11	5:4:79:ARG:NH2	2.21	0.56
9:9:122:GLN:HG2	9:9:123:ILE:H	1.70	0.56
11:AA:818:VAL:HG22	11:AA:1096:ILE:HG12	1.87	0.56
12:AB:26:VAL:HA	12:AB:58:GLU:OE1	2.05	0.56
12:AB:147:ASN:CG	30:P:99:GLN:C	2.72	0.56
16:AG:63:LEU:HD23	16:AG:63:LEU:N	2.21	0.56
16:AG:354:ALA:CA	16:AG:357:ASP:HB3	2.32	0.56
18:D:440:C:C4	18:D:441:A:N7	2.73	0.56
20:F:26:ALA:HB3	20:F:28:VAL:HG23	1.88	0.56
23:I:6:HIS:HB3	33:S:89:MET:SD	2.45	0.56
23:I:66:VAL:HB	23:I:101:ILE:HD12	1.88	0.56
23:I:151:VAL:HG12	23:I:200:VAL:CG2	2.35	0.56
24:J:121:LYS:HG2	24:J:131:ASN:ND2	2.20	0.56
27:M:134:ALA:O	27:M:137:LYS:HG2	2.06	0.56
41:a:5:A:H2'	41:a:6:A:H8	1.70	0.56
41:a:589:U:H2'	41:a:590:A:H8	1.71	0.56
41:a:2291:U:H2'	41:a:2292:U:C6	2.40	0.56
45:e:2:LYS:HE2	45:e:52:ARG:HE	1.71	0.56
55:o:30:ARG:HH12	61:u:62:PRO:HB3	1.70	0.56
60:t:112:PHE:CD2	60:t:115:ILE:HD12	2.39	0.56
64:x:21:LEU:HD22	64:x:23:ALA:HB2	1.87	0.56
13:AC:28:LEU:HD22	13:AC:201:LEU:HD23	1.88	0.56
13:AD:314:LEU:N	16:AG:68:VAL:HG11	2.20	0.56
16:AG:422:GLU:CG	16:AG:426:GLY:HA3	2.35	0.56
10:B:75:C:O2'	10:B:76:A:C8	2.58	0.56
18:D:280:C:H1'	36:V:40:ARG:NH1	2.21	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:D:827:U:O4	18:D:872:A:N1	2.39	0.56
21:G:19:GLN:CG	22:H:76:GLU:HB3	2.34	0.56
25:K:74:VAL:HG11	25:K:144:LEU:HD12	1.88	0.56
34:T:3:LEU:HB2	34:T:35:GLN:CD	2.31	0.56
41:a:1365:A:O2'	43:c:11:ARG:NH1	2.39	0.56
41:a:1857:G:O2'	41:a:1884:G:N2	2.38	0.56
41:a:2071:A:H2'	41:a:2072:C:C6	2.40	0.56
41:a:2720:U:OP1	65:y:53:ARG:NH2	2.39	0.56
54:n:62:GLY:C	54:n:95:ARG:NH2	2.63	0.56
56:p:85:LYS:HE3	56:p:164:TYR:CE1	2.41	0.56
56:p:94:TYR:CE1	56:p:107:LEU:O	2.59	0.56
63:w:67:PHE:O	63:w:71:ARG:N	2.39	0.56
8:7:8:U:H5'	18:D:1397:C:C2	2.41	0.56
8:7:18:U:O2	8:7:18:U:H2'	2.06	0.56
8:7:27:G:P	16:AG:112:GLN:HG2	2.45	0.56
9:9:43:LYS:HD3	9:9:98:GLU:CG	2.35	0.56
10:A:22:G:H2'	10:A:23:C:H6	1.70	0.56
16:AG:437:LEU:HD22	16:AG:488:ILE:HD12	1.88	0.56
16:AG:440:VAL:HG22	16:AG:481:LEU:CD2	2.34	0.56
18:D:588:G:C5'	28:N:3:MET:HE1	2.36	0.56
18:D:1381:U:C2	18:D:1382:C:C6	2.93	0.56
18:D:1515:G:H2'	18:D:1516:G:H8	1.70	0.56
22:H:163:ARG:CB	22:H:298:GLU:HG3	2.35	0.56
23:I:150:LYS:HE3	23:I:201:TRP:CZ3	2.41	0.56
38:X:16:VAL:CG2	38:X:17:ILE:HD12	2.35	0.56
40:Z:2:ILE:HB	40:Z:5:ASP:HB3	1.88	0.56
41:a:16:C:C4'	49:i:15:MET:HE3	2.35	0.56
41:a:2093:G:P	58:r:22:LYS:HZ2	2.20	0.56
45:e:4:LYS:HZ2	45:e:7:ARG:HH12	1.54	0.56
46:f:7:ILE:CG2	46:f:55:VAL:HG21	2.35	0.56
58:r:135:HIS:ND1	58:r:137:GLU:CD	2.44	0.56
59:s:73:VAL:C	59:s:74:TYR:HD2	2.14	0.56
59:s:73:VAL:HG12	59:s:74:TYR:N	2.20	0.56
63:w:24:MET:HE2	63:w:34:ILE:HD13	1.87	0.56
5:4:80:HIS:CE1	5:4:83:LYS:HG3	2.41	0.56
16:AG:355:ALA:HB1	16:AG:382:GLU:CB	2.36	0.56
18:D:110:C:O2'	35:U:25:ARG:O	2.21	0.56
18:D:521:G:O5'	32:R:70:GLU:OE1	2.23	0.56
22:H:116:VAL:CA	22:H:279:LYS:HD2	2.35	0.56
22:H:116:VAL:HA	22:H:279:LYS:HD2	1.88	0.56
41:a:1799:G:C2	48:h:154:LEU:HD23	2.41	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:a:2189:U:O2'	41:a:2190:G:C5'	2.54	0.56
41:a:2299:U:H2'	41:a:2300:C:H6	1.71	0.56
42:b:51:VAL:C	42:b:62:LYS:HZ3	2.14	0.56
48:h:183:LYS:HE2	48:h:266:PHE:HA	1.88	0.56
12:AB:34:THR:O	12:AB:106:ASP:OD1	2.24	0.56
12:AB:38:ILE:HD13	12:AB:160:ARG:HH12	1.70	0.56
12:AB:123:PHE:N	12:AB:123:PHE:CD2	2.73	0.56
16:AG:287:ALA:HB1	16:AG:331:LEU:CB	2.36	0.56
16:AG:302:LYS:NZ	16:AG:302:LYS:HB2	2.20	0.56
16:AG:354:ALA:HA	16:AG:357:ASP:H	1.70	0.56
10:B:18:G:H1'	10:B:58:A:C2	2.41	0.56
18:D:502:A:O3'	32:R:116:LYS:HE2	2.06	0.56
22:H:280:LEU:N	22:H:330:VAL:O	2.31	0.56
31:Q:61:PHE:O	31:Q:64:GLN:HG2	2.06	0.56
41:a:784:G:H5'	41:a:785:G:OP1	2.06	0.56
44:d:45:A:H5'	54:n:92:ARG:NH1	2.20	0.56
49:i:40:ARG:HG3	49:i:41:HIS:ND1	2.21	0.56
64:x:36:TYR:CD2	64:x:52:SER:HB2	2.41	0.56
4:3:47:LYS:HE3	41:a:483:A:OP1	2.06	0.55
11:AA:855:PRO:HB3	16:AG:106:THR:N	2.14	0.55
12:AB:130:PHE:CZ	12:AB:160:ARG:HG3	2.41	0.55
12:AB:141:LEU:HD23	12:AB:143:LEU:HD11	1.81	0.55
16:AG:266:LEU:HD23	16:AG:266:LEU:N	2.19	0.55
16:AG:285:ILE:O	16:AG:288:MET:CE	2.54	0.55
18:D:276:G:H5'	36:V:17:MET:CE	2.35	0.55
18:D:1329:A:OP1	38:X:28:THR:HB	2.06	0.55
19:E:61:GLN:HE21	19:E:66:LEU:CD2	2.18	0.55
41:a:1289:C:C2	41:a:1290:C:C5	2.94	0.55
41:a:1570:A:H2'	41:a:1571:A:C8	2.40	0.55
45:e:23:ARG:HG3	45:e:24:GLU:N	2.21	0.55
45:e:53:VAL:O	45:e:57:LEU:HD23	2.06	0.55
61:u:125:LEU:HD23	61:u:125:LEU:N	2.21	0.55
62:v:96:ILE:HA	62:v:100:LYS:NZ	2.21	0.55
6:5:15:DT:C2	11:AA:183:TRP:CD1	2.94	0.55
9:9:47:GLU:O	9:9:51:TYR:CE1	2.59	0.55
12:AB:141:LEU:CB	12:AB:143:LEU:HD11	2.29	0.55
16:AG:380:THR:C	16:AG:384:LEU:CD1	2.79	0.55
10:B:22:G:H2'	10:B:23:C:H6	1.70	0.55
18:D:946:A:H2'	18:D:947:G:C8	2.41	0.55
19:E:6:SER:O	19:E:10:ARG:HG2	2.07	0.55
22:H:268:VAL:HG23	22:H:269:ALA:H	1.72	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:X:95:LEU:O	38:X:109:ARG:NH2	2.39	0.55
41:a:2335:A:OP2	64:x:13:ARG:HB3	2.06	0.55
48:h:67:PHE:CE1	48:h:105:LEU:HD11	2.42	0.55
60:t:12:ASP:CG	60:t:85:VAL:HG13	2.31	0.55
60:t:59:LYS:CD	60:t:89:ASN:HA	2.36	0.55
6:5:16:DG:OP1	11:AA:175:ARG:NH2	2.39	0.55
9:9:98:GLU:HA	9:9:101:LYS:NZ	2.22	0.55
16:AG:162:ILE:HG22	16:AG:162:ILE:O	2.06	0.55
16:AG:320:ARG:NH1	16:AG:320:ARG:HG2	2.22	0.55
22:H:100:LYS:O	22:H:104:ASP:N	2.38	0.55
23:I:31:ASP:HA	33:S:65:ARG:HH22	1.72	0.55
40:Z:14:MET:HG3	40:Z:15:SER:N	2.17	0.55
41:a:64:A:H2'	41:a:65:U:H6	1.70	0.55
41:a:84:A:N1	41:a:98:G:O2'	2.37	0.55
41:a:608:A:H2'	41:a:609:A:C8	2.42	0.55
41:a:1059:G:H2'	41:a:1060:U:C5	2.41	0.55
41:a:1349:C:C2	41:a:1350:C:C5	2.95	0.55
50:j:11:MET:SD	50:j:11:MET:C	2.90	0.55
61:u:84:LYS:NZ	61:u:98:ALA:O	2.20	0.55
65:y:106:LYS:HA	65:y:109:ARG:NH2	2.20	0.55
16:AG:220:VAL:HG12	16:AG:245:ILE:HG21	1.88	0.55
16:AG:285:ILE:HD12	16:AG:293:VAL:HG11	1.88	0.55
16:AG:434:LEU:HD22	16:AG:459:LEU:CG	2.31	0.55
18:D:1071:C:H2'	18:D:1072:G:H8	1.71	0.55
23:I:156:ARG:NH1	23:I:193:TYR:O	2.39	0.55
28:N:7:ILE:O	28:N:11:LEU:HD13	2.06	0.55
30:P:47:GLU:OE1	30:P:67:ILE:O	2.24	0.55
33:S:87:ALA:HB1	33:S:93:ILE:HG13	1.87	0.55
34:T:80:GLN:O	34:T:84:ARG:HG2	2.05	0.55
39:Y:15:GLY:HA2	39:Y:50:LYS:CG	2.33	0.55
41:a:537:G:OP2	59:s:2:LYS:CE	2.55	0.55
45:e:56:LEU:O	45:e:59:GLU:HG3	2.06	0.55
47:g:2:LYS:HB2	47:g:5:ILE:HD11	1.88	0.55
59:s:13:ARG:CZ	59:s:49:ASP:O	2.54	0.55
60:t:59:LYS:HD2	60:t:89:ASN:HA	1.87	0.55
3:2:19:LYS:NZ	41:a:1340:U:OP1	2.34	0.55
5:4:80:HIS:ND1	5:4:83:LYS:N	2.55	0.55
8:7:1:A:H2'	8:7:2:U:H6	1.70	0.55
10:A:56:C:H1'	41:a:2112:G:C6	2.41	0.55
11:AA:985:GLU:HB3	11:AA:988:LYS:HB2	1.88	0.55
18:D:50:A:O2'	18:D:360:G:N2	2.40	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:D:671:G:O3'	26:L:79:ARG:NH2	2.39	0.55
18:D:1076:U:OP1	21:G:174:LYS:NZ	2.40	0.55
18:D:1078:U:O3'	25:K:138:ARG:NH2	2.40	0.55
21:G:187:VAL:HG21	21:G:199:VAL:HG23	1.89	0.55
28:N:7:ILE:O	28:N:11:LEU:CD1	2.55	0.55
33:S:63:ARG:NH2	33:S:68:GLY:O	2.32	0.55
38:X:95:LEU:HB3	38:X:96:PRO:CD	2.37	0.55
41:a:960:A:H61	62:v:82:MET:HE1	1.71	0.55
41:a:1038:G:H2'	41:a:1039:A:C8	2.42	0.55
41:a:1720:U:H2'	41:a:1721:G:O4'	2.06	0.55
41:a:2557:G:H2'	41:a:2558:C:C6	2.42	0.55
41:a:2638:G:O2'	41:a:2775:G:N2	2.37	0.55
41:a:2742:G:P	57:q:36:ARG:NH1	2.80	0.55
41:a:2803:G:H2'	41:a:2804:U:C6	2.41	0.55
50:j:78:GLY:C	50:j:79:LEU:HD22	2.32	0.55
55:o:16:LYS:HD2	55:o:65:ALA:HB1	1.88	0.55
55:o:30:ARG:NH1	61:u:62:PRO:HB3	2.21	0.55
57:q:1:MET:HE1	57:q:35:GLN:C	2.32	0.55
3:2:2:ILE:HG21	3:2:42:GLU:OE1	2.06	0.55
9:9:112:ALA:O	9:9:123:ILE:CD1	2.54	0.55
14:AE:886:VAL:HG11	14:AE:1230:THR:HG21	1.89	0.55
16:AG:46:ARG:HH11	16:AG:61:ARG:HB3	1.71	0.55
16:AG:448:LEU:HD11	16:AG:481:LEU:HD13	1.89	0.55
18:D:672:U:O2'	18:D:673:A:H5'	2.06	0.55
20:F:19:PHE:CE2	31:Q:110:ILE:HG22	2.42	0.55
23:I:164:ARG:CZ	23:I:166:GLU:OE2	2.54	0.55
30:P:26:VAL:O	30:P:30:LYS:HG3	2.07	0.55
38:X:28:THR:O	38:X:31:LYS:HG2	2.07	0.55
38:X:71:ARG:NE	47:g:50:ASP:O	2.39	0.55
41:a:851:C:H2'	41:a:852:U:H6	1.72	0.55
41:a:1469:A:H2'	41:a:1470:A:C8	2.42	0.55
41:a:1774:C:O2	41:a:1774:C:H2'	2.07	0.55
41:a:2517:C:C2	41:a:2542:A:N6	2.74	0.55
58:r:54:LEU:HA	58:r:57:LYS:NZ	2.20	0.55
65:y:15:GLN:NE2	65:y:16:ASP:OD1	2.40	0.55
1:0:10:LYS:HE2	41:a:996:A:OP1	2.07	0.55
3:2:56:GLU:CD	3:2:88:LYS:HA	2.32	0.55
10:A:16:C:O2	41:a:2181:U:H5'	2.06	0.55
16:AG:168:LEU:CD2	16:AG:230:PRO:O	2.55	0.55
18:D:750:C:N3	18:D:751:U:C5	2.75	0.55
21:G:5:SER:OG	21:G:8:ASP:OD2	2.24	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:G:27:MET:CE	21:G:187:VAL:HG12	2.37	0.55
22:H:268:VAL:HG23	22:H:269:ALA:N	2.22	0.55
24:J:162:ALA:HA	24:J:165:ARG:CZ	2.36	0.55
26:L:99:ALA:HB3	26:L:104:LYS:NZ	2.22	0.55
27:M:71:PRO:HG3	27:M:103:TRP:CH2	2.42	0.55
27:M:95:ARG:O	27:M:99:LEU:HG	2.05	0.55
38:X:93:ARG:CG	38:X:95:LEU:HD23	2.35	0.55
39:Y:77:VAL:HG13	39:Y:81:LYS:HZ3	1.72	0.55
41:a:923:G:O4'	42:b:29:GLU:OE2	2.24	0.55
41:a:1708:C:C2	41:a:1709:U:C5	2.95	0.55
45:e:20:ASN:O	45:e:23:ARG:HG2	2.06	0.55
52:l:62:GLN:HA	52:l:69:ARG:NH2	2.20	0.55
2:1:43:ALA:O	2:1:47:VAL:HG12	2.07	0.55
4:3:48:PRO:HG3	4:3:56:GLY:HA3	1.89	0.55
8:7:11:U:O2	8:7:11:U:H2'	2.06	0.55
9:9:23:LEU:HD21	9:9:96:PHE:CD1	2.42	0.55
10:A:18:G:H1'	10:A:58:A:C2	2.41	0.55
10:A:76:A:N1	41:a:2422:C:C6	2.75	0.55
12:AB:134:ASP:OD1	12:AB:135:GLY:N	2.37	0.55
16:AG:243:LYS:HD2	21:G:179:LEU:HD23	1.89	0.55
10:B:37:A:H2'	10:B:38:A:O4'	2.07	0.55
18:D:324:G:N1	18:D:327:A:OP2	2.39	0.55
18:D:1370:G:C2	18:D:1371:G:C8	2.95	0.55
23:I:49:LYS:HZ3	23:I:75:ILE:HD11	1.71	0.55
23:I:140:ASN:O	23:I:144:LEU:HD23	2.06	0.55
32:R:4:VAL:HG13	32:R:5:ASN:N	2.20	0.55
33:S:27:LEU:HD21	33:S:48:LEU:N	2.21	0.55
41:a:150:U:H2'	41:a:151:C:H6	1.72	0.55
41:a:589:U:H2'	41:a:590:A:C8	2.42	0.55
41:a:857:G:H5''	42:b:78:LYS:HZ2	1.72	0.55
41:a:1433:A:H2'	41:a:1434:A:O4'	2.07	0.55
41:a:2591:C:H2'	41:a:2592:G:C8	2.42	0.55
41:a:2741:A:O3'	57:q:36:ARG:NH1	2.40	0.55
48:h:157:SER:O	48:h:195:VAL:HG11	2.07	0.55
50:j:156:PHE:CD2	59:s:81:ILE:HD13	2.42	0.55
52:l:1:MET:HE1	52:l:20:GLY:N	2.21	0.55
52:l:147:LEU:HD11	52:l:170:ARG:HD2	1.89	0.55
60:t:35:VAL:HG23	60:t:63:VAL:HA	1.89	0.55
5:4:57:TYR:CB	62:v:136:MET:CE	2.84	0.55
9:9:24:SER:CB	9:9:86:MET:HE2	2.36	0.55
10:A:22:G:O2'	10:A:23:C:P	2.65	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:A:37:A:H2'	10:A:38:A:O4'	2.07	0.55
12:AB:78:PHE:CD1	12:AB:85:PRO:HB3	2.42	0.55
16:AG:130:PHE:O	16:AG:186:VAL:HG11	2.07	0.55
16:AG:235:LYS:HG2	16:AG:235:LYS:O	2.07	0.55
16:AG:288:MET:HE2	16:AG:293:VAL:HB	1.89	0.55
10:B:22:G:O2'	10:B:23:C:P	2.65	0.55
17:C:39:ILE:HD12	18:D:719:C:O2	2.07	0.55
20:F:19:PHE:CE1	20:F:23:CYS:SG	3.00	0.55
22:H:5:PHE:O	22:H:9:PHE:HD1	1.90	0.55
26:L:39:LEU:HB3	26:L:62:MET:HE1	1.88	0.55
39:Y:123:ALA:O	39:Y:126:ARG:HG3	2.07	0.55
41:a:2376:A:N3	64:x:111:ARG:NH1	2.54	0.55
41:a:2683:C:H4'	50:j:13:ARG:NH2	2.22	0.55
44:d:5:U:OP1	44:d:61:G:O2'	2.16	0.55
45:e:2:LYS:HE2	45:e:49:ASP:HA	1.88	0.55
2:1:33:LEU:HD23	2:1:51:LEU:HD23	1.89	0.55
4:3:26:LYS:HE2	4:3:26:LYS:HA	1.89	0.55
5:4:80:HIS:CD2	5:4:81:PRO:HD2	2.41	0.55
11:AA:633:LEU:HD13	11:AA:644:LEU:HD23	1.89	0.55
16:AG:379:SER:HG	16:AG:384:LEU:HD21	1.68	0.55
18:D:321:A:N7	18:D:328:C:O2'	2.38	0.55
18:D:713:G:H2'	18:D:714:G:C8	2.42	0.55
22:H:118:GLY:O	22:H:133:GLY:HA2	2.06	0.55
25:K:157:ARG:NE	28:N:43:GLU:O	2.40	0.55
32:R:27:CYS:SG	32:R:30:LYS:NZ	2.68	0.55
39:Y:45:THR:HG21	39:Y:50:LYS:CD	2.36	0.55
41:a:888:C:N4	41:a:889:C:N4	2.55	0.55
41:a:1665:A:O3'	60:t:66:LYS:HD3	2.07	0.55
41:a:2191:A:H2'	41:a:2192:U:H6	1.71	0.55
56:p:149:ARG:NE	56:p:162:VAL:O	2.40	0.55
58:r:4:ILE:HD12	58:r:17:ASP:O	2.05	0.55
4:3:69:ASN:ND2	41:a:329:G:OP2	2.37	0.54
8:7:6:U:C2	18:D:1493:A:C2	2.95	0.54
9:9:36:ASP:N	9:9:36:ASP:OD1	2.40	0.54
9:9:94:ARG:CB	9:9:97:LYS:HZ3	2.19	0.54
11:AA:143:ARG:NH2	11:AA:512:SER:O	2.40	0.54
16:AG:133:HIS:CE1	16:AG:136:GLU:OE1	2.59	0.54
21:G:30:PHE:CD1	21:G:45:LYS:NZ	2.74	0.54
25:K:112:ARG:HG3	25:K:116:GLU:OE2	2.06	0.54
41:a:1082:U:O4	41:a:1086:A:N1	2.39	0.54
41:a:1266:G:OP1	49:i:16:ARG:NE	2.35	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:a:1353:A:H2'	41:a:1354:A:C8	2.43	0.54
41:a:2315:G:H4'	54:n:127:ASN:HD22	1.71	0.54
47:g:5:ILE:CD1	54:n:64:LYS:HE3	2.36	0.54
54:n:134:GLU:N	54:n:134:GLU:OE1	2.40	0.54
60:t:41:ILE:HD11	60:t:86:LEU:HD22	1.89	0.54
9:9:73:LYS:HD2	9:9:73:LYS:O	2.06	0.54
10:A:60:U:P	10:A:61:C:H41	2.30	0.54
12:AB:4:TRP:CD2	12:AB:27:ASN:ND2	2.75	0.54
12:AB:120:GLU:CB	12:AB:162:LEU:HD12	2.36	0.54
16:AG:179:VAL:HB	16:AG:199:ARG:HH11	1.73	0.54
18:D:564:C:P	32:R:12:ARG:HH22	2.30	0.54
19:E:25:ARG:HD3	19:E:66:LEU:HD11	1.90	0.54
19:E:32:ILE:HG23	19:E:75:HIS:NE2	2.21	0.54
29:O:88:MET:HE1	29:O:95:ARG:HA	1.89	0.54
35:U:23:ASP:HB3	35:U:26:ASN:OD1	2.07	0.54
41:a:930:G:H1'	46:f:25:LEU:HD21	1.87	0.54
41:a:1817:G:C6	41:a:1818:U:C5	2.95	0.54
41:a:2351:G:O6	55:o:39:LYS:CE	2.55	0.54
41:a:2356:U:H4'	42:b:20:ARG:HH11	1.72	0.54
52:l:60:TRP:CD1	52:l:65:THR:HG21	2.43	0.54
59:s:74:TYR:CE2	59:s:92:MET:HE1	2.42	0.54
61:u:57:LEU:HA	61:u:60:ARG:HD2	1.89	0.54
66:z:78:LYS:CD	66:z:117:LEU:CD2	2.84	0.54
2:1:62:ASP:OD1	2:1:62:ASP:O	2.24	0.54
16:AG:448:LEU:HD22	16:AG:467:LEU:HD22	1.89	0.54
10:B:32:C:H5'	18:D:1340:A:O3'	2.06	0.54
10:B:60:U:P	10:B:61:C:H41	2.30	0.54
17:C:13:PHE:CZ	17:C:21:ILE:HG12	2.42	0.54
18:D:695:A:OP1	31:Q:53:ARG:HD3	2.07	0.54
24:J:175:ALA:O	24:J:178:MET:SD	2.65	0.54
25:K:14:LYS:HD3	25:K:117:VAL:CG1	2.38	0.54
25:K:77:ASN:HB2	25:K:82:GLN:HG3	1.89	0.54
28:N:78:VAL:HG12	28:N:85:ILE:HG21	1.89	0.54
34:T:3:LEU:HD22	34:T:8:THR:HG22	1.88	0.54
39:Y:44:LYS:O	39:Y:44:LYS:HD2	2.07	0.54
41:a:1019:U:O4	41:a:1142:A:N1	2.40	0.54
41:a:1563:U:H2'	41:a:1564:C:C6	2.43	0.54
41:a:2328:A:H2'	41:a:2329:U:H6	1.68	0.54
48:h:107:PRO:HD2	48:h:110:LEU:HD22	1.89	0.54
50:j:55:LYS:NZ	50:j:60:VAL:N	2.54	0.54
58:r:33:GLN:HB3	58:r:35:LYS:HZ3	1.72	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:r:143:ILE:O	58:r:143:ILE:HG13	2.08	0.54
65:y:9:GLU:OE2	65:y:55:LEU:N	2.37	0.54
4:3:7:ARG:HB3	41:a:85:G:OP2	2.07	0.54
5:4:6:ALA:HB3	5:4:65:VAL:CG2	2.37	0.54
7:6:20:DA:N6	8:7:35:G:C2	2.76	0.54
8:7:3:G:C3'	18:D:1500:A:N6	2.71	0.54
11:AA:29:SER:O	11:AA:33:ASP:HB2	2.07	0.54
11:AA:377:THR:HB	12:AB:65:HIS:NE2	2.23	0.54
12:AB:51:PHE:CZ	14:AE:288:PRO:CG	2.89	0.54
14:AE:87:LYS:HE2	30:P:89:ARG:CA	2.36	0.54
16:AG:320:ARG:HB2	16:AG:323:GLN:HB2	1.88	0.54
18:D:73:C:O2	18:D:73:C:H2'	2.07	0.54
18:D:662:U:O2'	18:D:836:G:OP1	2.21	0.54
19:E:24:ARG:O	19:E:28:MET:HG2	2.08	0.54
19:E:78:ASN:C	19:E:82:GLN:OE1	2.50	0.54
21:G:19:GLN:CD	22:H:76:GLU:HB3	2.33	0.54
25:K:131:THR:O	25:K:131:THR:HG22	2.08	0.54
26:L:39:LEU:O	26:L:39:LEU:HD12	2.07	0.54
30:P:5:ARG:HG3	30:P:7:ARG:NH1	2.23	0.54
41:a:728:G:C4	41:a:730:A:C8	2.95	0.54
41:a:1000:A:H2'	41:a:1001:A:C8	2.43	0.54
41:a:1321:A:C4	41:a:1322:A:C8	2.95	0.54
41:a:1348:C:C5	41:a:1349:C:C5	2.95	0.54
41:a:2297:A:C2	41:a:2320:U:O4'	2.61	0.54
62:v:45:GLN:HE21	62:v:124:LEU:HD23	1.72	0.54
65:y:31:TRP:CZ3	65:y:40:LEU:HD11	2.43	0.54
5:4:35:GLU:OE1	5:4:93:ARG:CZ	2.56	0.54
8:7:1:A:C4	8:7:2:U:C5	2.95	0.54
9:9:3:LEU:HD12	9:9:4:ASN:CA	2.37	0.54
12:AB:8:TYR:OH	14:AE:278:ARG:NH2	2.40	0.54
16:AG:168:LEU:CD2	16:AG:231:GLY:HA2	2.09	0.54
10:B:31:G:O2'	18:D:1340:A:H4'	2.08	0.54
17:C:34:THR:HG22	17:C:36:SER:H	1.73	0.54
18:D:280:C:H1'	36:V:40:ARG:CZ	2.37	0.54
18:D:547:A:OP1	24:J:70:ARG:NH2	2.41	0.54
33:S:42:TRP:CH2	47:g:66:ILE:HG23	2.42	0.54
41:a:3:U:H2'	41:a:4:U:C6	2.43	0.54
41:a:151:C:C2	41:a:152:A:C8	2.95	0.54
41:a:1980:G:O2'	41:a:1982:U:OP2	2.23	0.54
41:a:2649:C:H2'	41:a:2650:U:H6	1.73	0.54
52:l:175:ILE:CG2	52:l:180:LEU:HD11	2.38	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:n:5:HIS:HD2	54:n:97:TRP:CE2	2.24	0.54
1:0:10:LYS:CE	41:a:996:A:OP1	2.56	0.54
2:1:25:ARG:NH2	41:a:519:U:O3'	2.40	0.54
13:AD:314:LEU:CB	16:AG:68:VAL:CG1	2.63	0.54
14:AE:287:ALA:CB	14:AE:292:VAL:HG22	2.37	0.54
10:B:75:C:P	41:a:2602:A:O2'	2.60	0.54
17:C:54:GLN:HG3	17:C:55:LEU:N	2.22	0.54
18:D:17:U:H2'	18:D:18:C:C6	2.42	0.54
18:D:106:C:N4	19:E:10:ARG:NH2	2.56	0.54
18:D:679:C:C2	18:D:680:C:C5	2.95	0.54
19:E:25:ARG:HD3	19:E:66:LEU:HD21	1.90	0.54
20:F:31:GLU:O	20:F:34:ARG:HG2	2.08	0.54
22:H:9:PHE:O	22:H:13:LEU:HD23	2.07	0.54
23:I:85:GLU:HG3	23:I:89:LYS:NZ	2.23	0.54
25:K:99:ALA:HB2	25:K:124:LEU:HG	1.88	0.54
27:M:23:LEU:O	27:M:27:VAL:HG13	2.07	0.54
27:M:79:ARG:O	27:M:79:ARG:HD2	2.06	0.54
27:M:103:TRP:HB3	27:M:137:LYS:HD3	1.89	0.54
32:R:56:ARG:HA	32:R:62:GLU:OE2	2.08	0.54
41:a:1084:A:N7	41:a:1085:A:C6	2.76	0.54
41:a:1386:C:H2'	41:a:1387:A:C8	2.42	0.54
41:a:2020:A:C2	41:a:2022:U:O4'	2.61	0.54
41:a:2833:U:O2	50:j:58:ASN:ND2	2.41	0.54
48:h:62:TYR:CD2	48:h:64:ILE:HD13	2.41	0.54
51:k:5:ILE:HG23	51:k:28:ARG:NH1	2.22	0.54
54:n:16:LEU:HD11	54:n:169:LEU:CD1	2.38	0.54
60:t:73:ASP:OD2	65:y:80:VAL:HG11	2.08	0.54
7:6:20:DA:C6	8:7:35:G:N2	2.76	0.54
9:9:61:ARG:NH2	41:a:1045:C:O3'	2.40	0.54
16:AG:131:ARG:O	16:AG:134:GLU:CG	2.47	0.54
16:AG:334:TRP:N	16:AG:334:TRP:CD1	2.73	0.54
16:AG:358:THR:O	16:AG:358:THR:OG1	2.25	0.54
19:E:9:LYS:C	19:E:13:GLN:NE2	2.62	0.54
20:F:63:GLU:HG2	20:F:67:ARG:NH2	2.23	0.54
21:G:148:LEU:HD22	21:G:151:ILE:HD11	1.89	0.54
22:H:279:LYS:HA	22:H:331:MET:HB3	1.89	0.54
25:K:86:LYS:N	25:K:86:LYS:HD2	2.23	0.54
41:a:2766:A:C2	41:a:2767:C:C6	2.96	0.54
41:a:2838:G:C4	41:a:2839:G:C8	2.95	0.54
45:e:28:LEU:HD23	45:e:43:LEU:HD22	1.89	0.54
50:j:4:LEU:HG	50:j:32:ASN:OD1	2.08	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:s:15:TRP:HE3	59:s:135:GLN:O	1.90	0.54
60:t:2:ILE:CG2	60:t:8:LEU:HD11	2.38	0.54
1:0:13:ARG:NH2	66:z:97:ASP:OD1	2.40	0.54
11:AA:684:ASN:OD1	11:AA:687:ARG:NH2	2.41	0.54
16:AG:223:ILE:HD13	16:AG:223:ILE:C	2.32	0.54
16:AG:362:TYR:CE1	16:AG:414:LEU:HD21	2.43	0.54
17:C:60:LYS:HD2	18:D:734:G:O2'	2.07	0.54
18:D:197:A:H1'	18:D:198:G:OP2	2.08	0.54
22:H:71:ALA:C	22:H:72:LEU:HD12	2.32	0.54
28:N:50:LYS:HE2	28:N:50:LYS:HA	1.89	0.54
31:Q:79:ILE:O	31:Q:105:PHE:HE1	1.91	0.54
32:R:110:ARG:NE	32:R:117:TYR:CD2	2.76	0.54
36:V:31:HIS:ND1	36:V:32:PRO:HD2	2.23	0.54
41:a:581:C:H2'	41:a:582:A:H8	1.73	0.54
41:a:588:U:H2'	41:a:589:U:C6	2.43	0.54
41:a:1656:C:OP1	50:j:141:ARG:CD	2.56	0.54
41:a:2064:C:H2'	41:a:2065:C:C6	2.42	0.54
47:g:61:ASN:OD1	47:g:65:ASN:ND2	2.40	0.54
61:u:76:GLU:CG	61:u:111:ILE:HD13	2.37	0.54
63:w:94:TYR:C	63:w:116:VAL:HG23	2.32	0.54
65:y:27:GLU:HB3	65:y:87:LYS:NZ	2.22	0.54
66:z:92:ARG:HA	66:z:95:LEU:HD12	1.89	0.54
5:4:57:TYR:HB3	62:v:136:MET:HE3	1.87	0.54
9:9:3:LEU:CG	9:9:4:ASN:H	2.21	0.54
9:9:129:LEU:HD12	9:9:129:LEU:C	2.32	0.54
10:A:41:C:O4'	27:M:143:ARG:NH1	2.41	0.54
12:AB:5:TYR:HA	12:AB:88:VAL:HG22	1.90	0.54
16:AG:305:MET:HG3	16:AG:336:LEU:HB3	1.89	0.54
22:H:332:VAL:HG12	22:H:334:ASP:H	1.73	0.54
23:I:132:ARG:HA	23:I:135:LYS:HE3	1.89	0.54
26:L:42:TRP:CZ2	26:L:102:MET:SD	3.01	0.54
28:N:87:LYS:HD2	28:N:91:GLU:CB	2.37	0.54
29:O:67:VAL:C	29:O:68:LYS:HD2	2.33	0.54
32:R:74:LEU:HD11	32:R:80:ILE:HD11	1.90	0.54
39:Y:32:VAL:HA	39:Y:60:VAL:HG21	1.90	0.54
41:a:16:C:O4'	49:i:15:MET:CE	2.55	0.54
41:a:1830:C:C2	41:a:1831:G:C8	2.96	0.54
57:q:9:LYS:HZ3	57:q:11:CYS:C	2.16	0.54
3:2:56:GLU:OE1	3:2:87:LEU:CA	2.56	0.54
6:5:9:DG:H2'	12:AB:71:ALA:HA	1.90	0.54
11:AA:103:VAL:HB	11:AA:114:VAL:HG11	1.89	0.54

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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	0.54
17:C:40:VAL:HG13	22:H:339:ARG:HD3	1.88	0.54
19:E:19:LYS:HG3	19:E:20:HIS:N	2.22	0.54
19:E:32:ILE:CG2	19:E:75:HIS:NE2	2.71	0.54
26:L:3:HIS:CG	26:L:65:GLU:OE1	2.61	0.54
28:N:87:LYS:HG2	28:N:92:LEU:HA	1.90	0.54
29:O:10:GLY:HA3	29:O:78:ALA:O	2.08	0.54
31:Q:46:THR:OG1	31:Q:49:GLY:N	2.34	0.54
39:Y:80:LYS:CG	39:Y:86:LYS:O	2.56	0.54
51:k:9:ILE:CG2	51:k:27:LYS:HZ1	2.20	0.54
52:l:62:GLN:O	52:l:69:ARG:CD	2.56	0.54
60:t:18:ARG:HB3	60:t:45:GLU:HB3	1.89	0.54
61:u:111:ILE:HD12	61:u:111:ILE:N	2.23	0.54
63:w:44:LEU:HD22	63:w:113:ILE:HD13	1.90	0.54
64:x:38:GLN:HG2	64:x:50:ALA:CB	2.38	0.54
64:x:48:LEU:CD2	64:x:87:ILE:HD11	2.38	0.54
12:AB:21:LEU:HB3	12:AB:26:VAL:CG1	2.38	0.53
12:AB:112:PRO:HB3	12:AB:132:GLU:OE1	2.07	0.53
12:AB:115:LYS:CD	12:AB:129:ILE:CD1	2.63	0.53
14:AE:77:ARG:HD3	14:AE:78:LEU:H	1.73	0.53
14:AE:1000:GLY:HA3	14:AE:1026:PRO:HG2	1.90	0.53
16:AG:299:ASP:HB2	16:AG:303:HIS:HA	1.89	0.53
16:AG:363:LEU:CG	16:AG:410:ALA:CB	2.71	0.53
18:D:76:G:C4	18:D:77:A:C8	2.95	0.53
18:D:375:U:OP1	35:U:70:ARG:CG	2.54	0.53
19:E:22:ALA:CA	19:E:25:ARG:HH21	2.21	0.53
24:J:61:VAL:HG21	24:J:200:ILE:HD11	1.90	0.53
27:M:79:ARG:HB2	27:M:84:THR:HG23	1.90	0.53
29:O:5:GLN:NE2	29:O:22:LYS:NZ	2.56	0.53
30:P:6:ILE:HG21	30:P:100:ILE:HD11	1.89	0.53
39:Y:33:ASN:HB2	39:Y:36:GLU:OE2	2.08	0.53
41:a:151:C:H2'	41:a:152:A:H8	1.72	0.53
41:a:1779:U:H5	41:a:1784:A:N7	2.06	0.53
41:a:2002:G:OP1	63:w:17:ARG:NH2	2.26	0.53
48:h:17:VAL:HB	48:h:204:VAL:HG12	1.89	0.53
50:j:48:ILE:HG12	50:j:84:LEU:HD21	1.90	0.53
50:j:55:LYS:NZ	50:j:59:ARG:HB3	2.23	0.53
50:j:124:ARG:NH1	50:j:161:MET:O	2.41	0.53
52:l:69:ARG:HA	52:l:69:ARG:CZ	2.38	0.53
54:n:46:ASP:CG	54:n:49:LEU:HD13	2.33	0.53
62:v:97:GLN:H	62:v:100:LYS:CE	2.21	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:31:GLN:O	2:1:35:ILE:HG12	2.07	0.53
2:1:41:LYS:HE3	41:a:2010:G:P	2.48	0.53
3:2:30:ILE:HG22	3:2:32:LEU:CD2	2.39	0.53
9:9:97:LYS:HD3	9:9:130:PRO:HG3	1.89	0.53
18:D:750:C:C2	18:D:751:U:C5	2.96	0.53
26:L:36:ILE:O	26:L:36:ILE:HG23	2.09	0.53
31:Q:20:VAL:HB	31:Q:35:THR:HG23	1.89	0.53
31:Q:84:VAL:CG2	31:Q:107:ILE:HD11	2.37	0.53
38:X:81:MET:CE	38:X:92:ARG:HD3	2.38	0.53
41:a:2747:G:O6	41:a:2755:C:H5''	2.08	0.53
48:h:74:ILE:CG2	48:h:96:TYR:HD1	2.21	0.53
51:k:29:THR:HG23	51:k:30:LYS:HG2	1.90	0.53
54:n:132:VAL:CG2	54:n:152:LEU:HD23	2.39	0.53
59:s:133:ALA:C	59:s:135:GLN:H	2.16	0.53
60:t:14:SER:OG	60:t:86:LEU:HD12	2.08	0.53
3:2:6:ARG:NH2	3:2:10:VAL:HG22	2.24	0.53
9:9:52:MET:HE1	9:9:85:SER:CA	2.38	0.53
11:AA:143:ARG:NH1	11:AA:507:GLY:O	2.33	0.53
11:AA:1117:LEU:HD12	11:AA:1195:ILE:HG12	1.90	0.53
16:AG:374:VAL:O	16:AG:374:VAL:HG12	2.08	0.53
18:D:37:U:O4	18:D:397:A:N1	2.40	0.53
18:D:1329:A:P	38:X:28:THR:HB	2.48	0.53
18:D:1399:C:O2	18:D:1502:A:N6	2.40	0.53
21:G:53:ALA:CA	21:G:56:GLU:OE1	2.57	0.53
21:G:58:ASN:OD1	21:G:223:GLU:OE1	2.26	0.53
23:I:58:GLU:OE2	23:I:60:PRO:HD3	2.08	0.53
23:I:155:GLY:O	23:I:196:ILE:HG12	2.08	0.53
27:M:85:TYR:CD2	27:M:151:PHE:CZ	2.97	0.53
32:R:35:THR:OG1	32:R:56:ARG:HG3	2.08	0.53
38:X:96:PRO:HG3	38:X:102:THR:HG22	1.89	0.53
39:Y:77:VAL:O	39:Y:77:VAL:HG12	2.08	0.53
39:Y:78:LEU:HD13	39:Y:108:ILE:HG12	1.90	0.53
39:Y:116:MET:HG2	39:Y:124:MET:HB3	1.91	0.53
41:a:134:G:H2'	41:a:135:U:C6	2.43	0.53
41:a:839:U:H2'	41:a:840:C:H6	1.73	0.53
41:a:1412:U:C4	41:a:1413:A:N7	2.77	0.53
41:a:1567:G:OP2	48:h:83:TYR:OH	2.19	0.53
41:a:1665:A:C3'	60:t:66:LYS:HZ2	2.21	0.53
41:a:2038:G:H2'	41:a:2039:U:O4'	2.08	0.53
46:f:10:THR:HB	46:f:56:LYS:NZ	2.22	0.53
56:p:89:LEU:HD22	56:p:162:VAL:HG22	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:t:1:MET:CE	60:t:32:TYR:CB	2.87	0.53
62:v:97:GLN:N	62:v:100:LYS:CE	2.72	0.53
5:4:19:ARG:NH1	44:d:95:U:OP2	2.41	0.53
5:4:80:HIS:ND1	5:4:83:LYS:HB2	2.23	0.53
8:7:3:G:H3'	18:D:1500:A:N6	2.24	0.53
14:AE:901:ARG:HH21	14:AE:906:GLY:HA2	1.73	0.53
16:AG:355:ALA:CB	16:AG:382:GLU:CG	2.54	0.53
18:D:274:A:H4'	36:V:16:LYS:NZ	2.24	0.53
18:D:736:C:H2'	18:D:737:C:C6	2.43	0.53
18:D:1208:C:H2'	18:D:1209:C:C6	2.40	0.53
26:L:62:MET:HA	26:L:62:MET:HE3	1.90	0.53
27:M:4:ARG:HG3	27:M:5:ARG:CG	2.22	0.53
27:M:4:ARG:CG	27:M:5:ARG:NH1	2.72	0.53
27:M:31:MET:SD	27:M:36:LYS:HA	2.47	0.53
28:N:31:LYS:HE3	28:N:31:LYS:HA	1.90	0.53
32:R:25:GLU:OE1	32:R:59:ASN:ND2	2.42	0.53
39:Y:77:VAL:HA	39:Y:80:LYS:HD3	1.91	0.53
39:Y:102:ARG:HG3	39:Y:140:GLU:C	2.33	0.53
41:a:2849:U:O5'	65:y:93:ARG:NH2	2.42	0.53
52:l:60:TRP:NE1	52:l:69:ARG:HH12	2.07	0.53
54:n:72:LYS:HA	54:n:81:GLN:HE22	1.74	0.53
62:v:21:ALA:HB2	62:v:100:LYS:HG3	1.90	0.53
4:3:26:LYS:HE3	4:3:37:GLU:HB2	1.90	0.53
7:6:14:DC:H2'	7:6:15:DC:C6	2.43	0.53
13:AD:28:LEU:HD12	13:AD:201:LEU:HD23	1.91	0.53
13:AD:314:LEU:CB	16:AG:68:VAL:HG11	2.36	0.53
14:AE:66:LYS:HB2	14:AE:69:GLU:CB	2.38	0.53
16:AG:327:LEU:HD12	16:AG:327:LEU:O	2.07	0.53
18:D:1358:U:O4	18:D:1363:A:N1	2.41	0.53
24:J:105:MET:HE1	24:J:171:LEU:HB3	1.89	0.53
25:K:137:VAL:O	25:K:141:ILE:HG12	2.09	0.53
27:M:38:THR:O	27:M:42:ILE:HG12	2.08	0.53
28:N:83:LEU:HD21	32:R:4:VAL:HG11	1.89	0.53
30:P:27:GLU:HA	30:P:30:LYS:NZ	2.23	0.53
41:a:78:U:H2'	41:a:79:C:C6	2.44	0.53
41:a:372:G:O2'	43:c:54:LYS:HE3	2.09	0.53
41:a:1348:C:C4	41:a:1349:C:C6	2.97	0.53
41:a:2454:G:C4	41:a:2455:G:C8	2.96	0.53
47:g:47:LYS:HD3	54:n:178:ARG:HH22	1.74	0.53
50:j:4:LEU:HD23	50:j:29:VAL:HG11	1.89	0.53
56:p:85:LYS:CE	56:p:164:TYR:CD1	2.86	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:v:96:ILE:HA	62:v:100:LYS:CE	2.38	0.53
63:w:14:SER:HA	63:w:17:ARG:CZ	2.39	0.53
1:0:10:LYS:CE	41:a:994:C:O2'	2.56	0.53
8:7:9:U:C4	18:D:1196:A:C8	2.97	0.53
9:9:31:ARG:CD	41:a:1053:C:O2'	2.47	0.53
12:AB:147:ASN:CB	30:P:100:ILE:N	2.72	0.53
16:AG:447:LYS:O	16:AG:470:ILE:HD11	2.05	0.53
18:D:399:G:H2'	18:D:400:C:C6	2.43	0.53
18:D:552:U:O2'	32:R:83:ARG:O	2.18	0.53
23:I:49:LYS:NZ	23:I:75:ILE:HD11	2.24	0.53
23:I:85:GLU:O	23:I:89:LYS:HE2	2.09	0.53
23:I:142:MET:SD	23:I:170:GLU:OE1	2.67	0.53
27:M:27:VAL:HG12	27:M:43:VAL:HG21	1.90	0.53
38:X:28:THR:CA	38:X:31:LYS:HE3	2.37	0.53
40:Z:18:ASP:HB3	40:Z:22:LEU:CD1	2.39	0.53
41:a:414:C:H2'	41:a:415:A:C8	2.44	0.53
41:a:537:G:P	59:s:2:LYS:HE2	2.49	0.53
41:a:1167:C:C2	41:a:1168:G:C8	2.97	0.53
41:a:1278:C:H5'	63:w:24:MET:SD	2.49	0.53
41:a:1668:A:O2'	41:a:1674:G:N7	2.32	0.53
41:a:2259:U:C2	41:a:2260:C:C6	2.96	0.53
41:a:2867:G:C6	65:y:21:ARG:NH1	2.76	0.53
54:n:42:GLU:HG3	54:n:49:LEU:HD23	1.91	0.53
56:p:33:LEU:HD11	56:p:136:ALA:HB1	1.89	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
6:5:10:DT:C7	11:AA:62:TYR:HB3	2.37	0.53
8:7:13:U:H6	8:7:13:U:H5''	1.73	0.53
11:AA:628:HIS:HB3	11:AA:647:ARG:HH21	1.73	0.53
12:AB:38:ILE:CD1	12:AB:160:ARG:HH11	2.21	0.53
13:AD:100:LEU:HD21	13:AD:121:VAL:HG11	1.90	0.53
14:AE:968:ASN:HA	14:AE:1117:SER:HB2	1.90	0.53
14:AE:1346:GLY:O	14:AE:1350:ASN:ND2	2.41	0.53
19:E:56:PRO:HG2	19:E:57:ILE:HD12	1.90	0.53
20:F:17:ARG:HA	20:F:20:LYS:NZ	2.24	0.53
24:J:67:VAL:HB	24:J:72:PHE:CE1	2.43	0.53
34:T:11:ILE:HA	34:T:14:GLU:OE1	2.09	0.53
41:a:67:U:N3	41:a:74:A:C6	2.77	0.53
41:a:590:A:H2'	41:a:591:U:C6	2.44	0.53
41:a:2308:G:C5	54:n:77:PHE:HZ	2.26	0.53
52:l:60:TRP:NE1	52:l:69:ARG:NH1	2.56	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:m:25:LYS:HG3	53:m:29:GLN:HE22	1.73	0.53
54:n:29:PRO:HB2	54:n:169:LEU:HD22	1.91	0.53
54:n:94:GLU:HA	54:n:97:TRP:CE3	2.43	0.53
60:t:1:MET:CE	60:t:32:TYR:HB3	2.38	0.53
14:AE:122:SER:HB2	14:AE:132:LEU:HD12	1.91	0.53
10:B:38:A:O2'	18:D:790:A:O5'	2.27	0.53
17:C:12:ARG:NH2	17:C:13:PHE:CE1	2.77	0.53
18:D:1308:U:H3'	38:X:98:ARG:CZ	2.39	0.53
21:G:18:HIS:HA	22:H:43:LYS:HD2	1.90	0.53
21:G:23:TRP:HB3	21:G:39:HIS:CE1	2.44	0.53
30:P:47:GLU:OE1	30:P:67:ILE:HG23	2.09	0.53
39:Y:78:LEU:HD12	39:Y:112:LYS:HZ1	1.73	0.53
41:a:1818:U:O2'	48:h:153:GLN:O	2.23	0.53
41:a:2063:C:O2	41:a:2063:C:H2'	2.07	0.53
41:a:2387:U:O4'	42:b:41:ARG:NH1	2.41	0.53
41:a:2473:U:O2	41:a:2473:U:H2'	2.09	0.53
51:k:8:LYS:NZ	51:k:54:ILE:HG12	2.23	0.53
60:t:2:ILE:HG23	60:t:8:LEU:HD11	1.91	0.53
62:v:45:GLN:NE2	62:v:125:PRO:HD2	2.22	0.53
2:1:41:LYS:HZ2	41:a:2009:A:P	2.31	0.53
8:7:3:G:C4'	18:D:1500:A:H62	2.22	0.53
11:AA:811:ASN:HA	11:AA:815:SER:HB2	1.90	0.53
12:AB:148:LYS:NZ	30:P:101:SER:CA	2.71	0.53
13:AC:100:LEU:HD23	13:AC:115:ILE:HG21	1.90	0.53
31:Q:84:VAL:HG21	31:Q:97:ILE:CD1	2.39	0.53
41:a:813:U:H2'	41:a:814:C:H6	1.74	0.53
41:a:1295:C:C2	41:a:1296:G:C8	2.97	0.53
41:a:1790:C:H2'	41:a:1791:A:C5	2.43	0.53
41:a:1820:U:C4	48:h:159:GLY:HA3	2.44	0.53
50:j:131:ASP:OD2	50:j:132:ALA:N	2.42	0.53
53:m:26:ASN:O	53:m:30:VAL:HG23	2.08	0.53
61:u:54:GLN:NE2	61:u:60:ARG:HH12	2.07	0.53
11:AA:243:PRO:HB2	11:AA:274:ILE:HG23	1.90	0.53
11:AA:360:LEU:HD13	11:AA:378:ARG:HH11	1.72	0.53
12:AB:129:ILE:O	12:AB:142:LEU:CB	2.57	0.53
16:AG:213:VAL:HG22	16:AG:213:VAL:O	2.08	0.53
16:AG:233:ARG:C	16:AG:327:LEU:HD21	2.34	0.53
16:AG:398:LEU:HG	16:AG:398:LEU:O	2.09	0.53
18:D:769:G:H4'	18:D:1513:A:H4'	1.90	0.53
18:D:1175:G:N3	18:D:1176:A:C8	2.77	0.53
32:R:102:LEU:O	32:R:103:ASP:OD1	2.26	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:W:66:MET:HG2	37:W:74:PHE:CZ	2.44	0.53
41:a:15:G:H2'	49:i:15:MET:HE1	1.90	0.53
41:a:1266:G:O2'	41:a:2012:G:O6	2.22	0.53
41:a:2822:G:O2'	41:a:2824:C:OP2	2.20	0.53
52:l:62:GLN:HA	52:l:69:ARG:HH21	1.74	0.53
52:l:188:MET:HE2	52:l:193:VAL:HA	1.89	0.53
66:z:108:ALA:O	66:z:111:GLU:HG3	2.09	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:27:ASN:ND2	12:AB:58:GLU:HB2	2.24	0.52
12:AB:135:GLY:C	12:AB:137:ALA:H	2.17	0.52
14:AE:1175:LEU:O	14:AE:1187:GLU:HA	2.08	0.52
16:AG:21:GLU:HB3	16:AG:49:ILE:HD12	1.91	0.52
21:G:23:TRP:HZ3	21:G:25:PRO:CA	2.22	0.52
41:a:995:C:N4	59:s:2:LYS:HG3	2.24	0.52
41:a:2315:G:O2'	54:n:125:ARG:HD3	2.09	0.52
41:a:2847:U:H2'	41:a:2848:G:O4'	2.09	0.52
59:s:9:GLU:HG2	59:s:10:THR:HG23	1.90	0.52
62:v:111:GLU:OE1	62:v:111:GLU:N	2.32	0.52
9:9:87:GLU:OE2	9:9:95:LEU:HG	2.09	0.52
9:9:93:ALA:O	9:9:129:LEU:O	2.27	0.52
12:AB:120:GLU:N	12:AB:162:LEU:HG	2.24	0.52
14:AE:679:TYR:OH	14:AE:754:ILE:O	2.23	0.52
10:B:38:A:O2'	18:D:790:A:P	2.66	0.52
31:Q:86:VAL:O	31:Q:113:VAL:HG22	2.08	0.52
39:Y:16:MET:HG2	39:Y:16:MET:O	2.09	0.52
39:Y:126:ARG:NH1	41:a:1082:U:C5'	2.73	0.52
41:a:998:C:OP1	66:z:84:LYS:NZ	2.39	0.52
41:a:1657:U:O2'	50:j:138:LEU:HD22	2.08	0.52
41:a:1666:G:OP1	60:t:66:LYS:HD3	2.10	0.52
41:a:2093:G:OP2	58:r:22:LYS:HE3	2.09	0.52
41:a:2308:G:C6	54:n:77:PHE:CZ	2.97	0.52
41:a:2356:U:C5'	42:b:20:ARG:HD2	2.36	0.52
48:h:108:LYS:HD3	48:h:194:GLU:HB2	1.92	0.52
50:j:131:ASP:OD1	50:j:134:HIS:HB2	2.10	0.52
59:s:25:LEU:CD1	59:s:101:ILE:HD13	2.39	0.52
2:1:27:LYS:O	2:1:71:VAL:HG22	2.10	0.52
3:2:19:LYS:O	3:2:22:THR:OG1	2.22	0.52
3:2:33:LYS:HG3	3:2:80:TRP:CE3	2.44	0.52
7:6:17:DC:H42	8:7:37:G:H1	1.58	0.52
10:A:16:C:O2	41:a:2181:U:C5'	2.57	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AB:10:LYS:HB2	12:AB:73:ARG:HB3	1.90	0.52
13:AC:43:LEU:HD13	13:AC:217:ILE:HD11	1.90	0.52
13:AD:16:ILE:HG23	13:AD:26:VAL:HG22	1.91	0.52
14:AE:342:LEU:HD23	14:AE:1352:ILE:HG23	1.90	0.52
16:AG:402:THR:HA	16:AG:405:ALA:HB3	1.91	0.52
18:D:73:C:O2	18:D:73:C:C2'	2.57	0.52
29:O:47:VAL:O	29:O:80:ARG:HD2	2.09	0.52
39:Y:9:LYS:CG	39:Y:55:PRO:HB3	2.39	0.52
41:a:617:G:C4'	52:l:199:MET:HE1	2.39	0.52
41:a:858:G:OP2	42:b:78:LYS:NZ	2.34	0.52
41:a:2649:C:C2	41:a:2650:U:C5	2.97	0.52
46:f:10:THR:HG23	46:f:11:ARG:HG2	1.90	0.52
47:g:11:GLU:HA	47:g:25:ARG:HA	1.90	0.52
54:n:71:ARG:O	54:n:81:GLN:NE2	2.40	0.52
54:n:93:GLY:HA2	54:n:97:TRP:CZ3	2.44	0.52
2:1:61:ASN:OD1	41:a:496:G:HI1'	2.09	0.52
12:AB:141:LEU:HA	12:AB:152:HIS:CA	2.39	0.52
18:D:339:C:H2'	18:D:340:U:H6	1.73	0.52
18:D:739:C:HO2'	34:T:42:HIS:CE1	2.24	0.52
21:G:127:ASP:O	21:G:128:LYS:HB3	2.09	0.52
21:G:168:HIS:HB3	21:G:169:GLU:OE1	2.10	0.52
22:H:321:VAL:HG13	22:H:322:VAL:HG23	1.91	0.52
23:I:142:MET:CE	23:I:170:GLU:OE1	2.58	0.52
24:J:74:ASN:O	24:J:77:LYS:HG2	2.09	0.52
25:K:158:GLY:C	25:K:159:LYS:HD2	2.34	0.52
34:T:3:LEU:HD22	34:T:8:THR:HG23	1.92	0.52
39:Y:78:LEU:HD12	39:Y:112:LYS:NZ	2.25	0.52
41:a:271:G:C4	41:a:272:A:N7	2.77	0.52
41:a:645:C:H2'	41:a:647:G:C8	2.45	0.52
41:a:1145:C:N3	41:a:1146:C:C5	2.77	0.52
41:a:1818:U:C6	48:h:156:ARG:NH2	2.77	0.52
56:p:32:GLU:C	56:p:33:LEU:HD12	2.34	0.52
62:v:1:MET:CE	62:v:44:ARG:HA	2.38	0.52
62:v:112:LEU:HA	62:v:115:GLU:OE1	2.10	0.52
8:7:8:U:OP2	18:D:1397:C:C2	2.62	0.52
11:AA:524:ILE:HG21	11:AA:708:VAL:HG13	1.92	0.52
14:AE:795:TYR:OH	14:AE:1326:GLN:NE2	2.42	0.52
16:AG:285:ILE:CD1	16:AG:285:ILE:N	2.73	0.52
16:AG:442:ARG:C	16:AG:446:PHE:CD2	2.85	0.52
18:D:936:C:C2	18:D:937:A:C8	2.98	0.52
22:H:45:GLU:OE1	22:H:45:GLU:N	2.41	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:I:24:ALA:C	23:I:29:PHE:CE2	2.87	0.52
33:S:79:LEU:HB2	33:S:84:VAL:HG22	1.91	0.52
41:a:150:U:H2'	41:a:151:C:C6	2.44	0.52
41:a:265:A:N1	41:a:427:U:O2'	2.40	0.52
41:a:632:A:H2'	41:a:633:A:C8	2.44	0.52
41:a:1145:C:C2	41:a:1146:C:C5	2.97	0.52
41:a:2287:A:C8	41:a:2289:G:C8	2.96	0.52
41:a:2537:U:H2'	41:a:2538:C:C6	2.43	0.52
41:a:2727:A:O2'	60:t:70:ARG:NH2	2.43	0.52
48:h:34:LEU:HD12	48:h:61:ALA:HB1	1.92	0.52
54:n:71:ARG:C	54:n:81:GLN:HE22	2.17	0.52
55:o:25:LYS:HB3	61:u:62:PRO:CG	2.40	0.52
61:u:56:PRO:O	61:u:60:ARG:HG3	2.10	0.52
61:u:90:VAL:CG1	61:u:95:LEU:HD21	2.33	0.52
62:v:1:MET:HA	62:v:1:MET:CE	2.38	0.52
62:v:115:GLU:O	62:v:119:LEU:HD23	2.10	0.52
66:z:78:LYS:HD3	66:z:117:LEU:HD23	1.88	0.52
4:3:6:ARG:HG3	41:a:84:A:H3'	1.91	0.52
9:9:61:ARG:NE	41:a:1046:A:P	2.83	0.52
13:AC:140:ILE:HD12	13:AC:142:MET:HE3	1.91	0.52
18:D:842:U:H3'	18:D:843:U:C5'	2.39	0.52
18:D:1371:G:O3'	29:O:71:GLY:HA3	2.10	0.52
23:I:105:GLU:OE1	23:I:107:ARG:NE	2.42	0.52
24:J:50:ASP:O	24:J:53:VAL:HG22	2.09	0.52
27:M:111:ARG:N	27:M:119:ARG:NH2	2.58	0.52
29:O:9:THR:HB	29:O:85:ARG:NH1	2.25	0.52
29:O:112:GLU:HG3	29:O:115:LYS:HZ3	1.73	0.52
34:T:15:PHE:CD2	34:T:30:ALA:CB	2.92	0.52
37:W:47:LEU:O	37:W:62:VAL:HG23	2.09	0.52
39:Y:139:VAL:HG22	39:Y:140:GLU:N	2.25	0.52
41:a:1340:U:C5	41:a:1603:A:C8	2.97	0.52
41:a:1801:A:OP2	48:h:146:MET:HE1	2.09	0.52
41:a:1996:C:H4'	50:j:128:ARG:HH12	1.75	0.52
48:h:52:ARG:NE	48:h:53:HIS:HE1	2.07	0.52
56:p:9:VAL:HG22	56:p:69:ARG:NH1	2.24	0.52
59:s:15:TRP:CE3	59:s:135:GLN:O	2.63	0.52
60:t:38:ILE:HD11	60:t:112:PHE:CZ	2.43	0.52
60:t:99:ILE:HD13	60:t:118:LEU:CB	2.39	0.52
62:v:20:LEU:H	62:v:20:LEU:HD23	1.73	0.52
9:9:58:THR:HG21	9:9:81:LEU:CD2	2.31	0.52
9:9:88:HIS:O	9:9:89:PRO:C	2.51	0.52

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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	0.52
12:AB:81:PHE:CB	14:AE:141:PHE:O	2.58	0.52
12:AB:89:PRO:HG2	14:AE:290:ILE:HG22	1.91	0.52
12:AB:141:LEU:CA	12:AB:152:HIS:C	2.80	0.52
16:AG:9:VAL:HG22	16:AG:24:PHE:CE2	2.45	0.52
16:AG:243:LYS:CB	21:G:178:ASN:O	2.56	0.52
16:AG:434:LEU:CG	16:AG:456:LEU:N	2.71	0.52
18:D:1086:U:C2	18:D:1087:G:C8	2.97	0.52
18:D:1240:U:C5	27:M:116:MET:HE2	2.44	0.52
20:F:37:PHE:HB3	31:Q:124:PRO:O	2.10	0.52
29:O:123:ARG:O	29:O:123:ARG:CG	2.57	0.52
38:X:68:ASP:O	38:X:71:ARG:HG3	2.09	0.52
39:Y:99:LYS:HZ3	39:Y:138:VAL:HG13	1.74	0.52
39:Y:129:GLU:CB	39:Y:133:ARG:HH12	2.16	0.52
41:a:833:A:H2'	41:a:834:G:C8	2.44	0.52
41:a:1379:U:H4'	41:a:1380:G:OP1	2.09	0.52
41:a:2049:G:N2	50:j:161:MET:HE1	2.24	0.52
41:a:2298:A:P	54:n:72:LYS:HZ3	2.33	0.52
51:k:21:TYR:CE2	51:k:49:TYR:CD2	2.98	0.52
52:l:6:LYS:CE	52:l:119:ILE:HG23	2.40	0.52
61:u:122:VAL:HG13	61:u:125:LEU:CD1	2.34	0.52
63:w:37:THR:OG1	63:w:40:LYS:CD	2.57	0.52
1:0:5:PHE:HB3	1:0:59:ILE:HD12	1.91	0.52
8:7:13:U:H5''	8:7:13:U:C6	2.45	0.52
9:9:51:TYR:HB2	9:9:88:HIS:HB2	1.90	0.52
9:9:55:VAL:HG12	9:9:56:ARG:N	2.25	0.52
14:AE:287:ALA:HB2	14:AE:292:VAL:HG11	1.85	0.52
16:AG:12:VAL:HG23	16:AG:16:LYS:HE2	1.92	0.52
16:AG:444:LEU:HD22	16:AG:473:LEU:HD21	1.92	0.52
10:B:76:A:H1'	41:a:2494:G:P	2.50	0.52
18:D:978:A:C4	18:D:1319:A:C2	2.98	0.52
18:D:1158:C:O2'	21:G:132:LYS:HE2	2.09	0.52
21:G:17:GLY:HA3	21:G:41:ILE:HD11	1.92	0.52
22:H:36:VAL:O	22:H:48:ILE:HB	2.10	0.52
23:I:183:ASP:HB3	23:I:204:LYS:NZ	2.25	0.52
25:K:111:MET:HE2	25:K:125:ALA:HB1	1.90	0.52
25:K:134:ILE:HG23	25:K:135:ASN:N	2.24	0.52
29:O:57:MET:HA	29:O:60:LYS:CE	2.40	0.52
31:Q:23:ILE:N	31:Q:87:LYS:HZ1	2.08	0.52
41:a:1198:U:C2	41:a:1199:U:C5	2.98	0.52
41:a:1204:A:O4'	41:a:1206:G:C8	2.63	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:a:1243:C:H1'	61:u:4:ASN:O	2.09	0.52
41:a:2355:G:H2'	41:a:2356:U:H5'	1.91	0.52
51:k:19:HIS:CE1	51:k:41:PRO:HD3	2.45	0.52
54:n:136:ILE:HD12	54:n:141:ILE:HG23	1.92	0.52
57:q:25:VAL:CB	57:q:35:GLN:OE1	2.56	0.52
58:r:29:PHE:CE2	58:r:35:LYS:HE3	2.45	0.52
61:u:58:TYR:CE2	61:u:59:ARG:HG2	2.44	0.52
63:w:33:ILE:CD1	63:w:112:TYR:CD1	2.91	0.52
66:z:74:ILE:HG13	66:z:78:LYS:CE	2.40	0.52
7:6:19:DC:H2'	7:6:20:DA:H8	1.74	0.52
9:9:43:LYS:O	9:9:47:GLU:OE1	2.28	0.52
11:AA:1287:LEU:HD13	14:AE:1357:ILE:HD11	1.91	0.52
12:AB:141:LEU:HA	12:AB:152:HIS:HA	1.92	0.52
14:AE:510:LEU:HD22	14:AE:601:ILE:HD12	1.91	0.52
14:AE:514:THR:HG21	14:AE:596:LEU:HD12	1.90	0.52
14:AE:959:LYS:HB3	14:AE:983:LYS:HB2	1.92	0.52
15:AF:35:LYS:HZ1	16:AG:174:ARG:HH22	1.57	0.52
16:AG:285:ILE:HD12	16:AG:293:VAL:HG21	1.92	0.52
16:AG:353:HIS:O	16:AG:356:ILE:CB	2.58	0.52
17:C:60:LYS:CE	18:D:735:C:C4'	2.88	0.52
18:D:925:G:C2	18:D:927:G:C8	2.98	0.52
23:I:23:PHE:HD2	30:P:97:ASP:HB2	1.74	0.52
28:N:79:SER:HB2	28:N:85:ILE:HG22	1.92	0.52
29:O:21:ILE:HD11	29:O:87:LEU:HD22	1.90	0.52
31:Q:20:VAL:HG13	31:Q:85:MET:HE1	1.90	0.52
31:Q:52:PHE:CZ	31:Q:65:VAL:HG21	2.45	0.52
39:Y:126:ARG:NH1	41:a:1083:U:P	2.83	0.52
41:a:65:U:H2'	41:a:66:C:H6	1.75	0.52
41:a:125:A:OP2	53:m:19:ARG:NH2	2.39	0.52
41:a:1024:G:OP2	41:a:1025:G:O2'	2.25	0.52
41:a:1707:G:C8	41:a:1756:G:C5	2.98	0.52
44:d:15:A:O4'	44:d:109:A:C8	2.63	0.52
48:h:76:ALA:HB1	48:h:94:VAL:CG1	2.39	0.52
50:j:152:PRO:CG	50:j:156:PHE:CZ	2.91	0.52
52:l:170:ARG:CZ	52:l:176:ASP:OD1	2.58	0.52
58:r:2:GLN:HG3	58:r:39:ALA:CB	2.40	0.52
5:4:48:MET:CE	5:4:86:LEU:HG	2.40	0.52
5:4:63:ILE:CD1	5:4:91:PHE:CD2	2.93	0.52
9:9:59:LEU:HB2	9:9:62:ARG:HG3	1.92	0.52
10:B:48:C:C5	10:B:59:A:C8	2.98	0.52
17:C:38:LYS:HE2	17:C:38:LYS:CA	2.37	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:C:70:TYR:CE2	26:L:49:TYR:CZ	2.98	0.52
18:D:62:U:H2'	18:D:63:C:C6	2.44	0.52
18:D:452:A:H2'	18:D:453:G:O4'	2.10	0.52
18:D:512:U:P	24:J:44:ARG:NH1	2.83	0.52
18:D:679:C:H2'	18:D:680:C:H6	1.74	0.52
18:D:932:C:C5'	27:M:4:ARG:HH11	2.22	0.52
18:D:1151:A:O2'	18:D:1152:A:O5'	2.13	0.52
21:G:26:LYS:HE3	21:G:194:ASP:OD1	2.10	0.52
30:P:73:LEU:HD21	30:P:75:ASP:OD2	2.10	0.52
31:Q:61:PHE:CD1	31:Q:64:GLN:NE2	2.78	0.52
33:S:54:ASP:HA	33:S:59:ARG:HD2	1.90	0.52
34:T:64:ARG:NH2	34:T:89:ARG:HH22	2.07	0.52
36:V:7:THR:CB	36:V:60:GLU:OE2	2.56	0.52
38:X:13:LYS:HE3	38:X:17:ILE:HG21	1.91	0.52
38:X:22:ILE:HB	38:X:25:VAL:CG1	2.39	0.52
41:a:960:A:H61	62:v:82:MET:CE	2.23	0.52
41:a:2086:U:H2'	41:a:2087:G:C8	2.46	0.52
63:w:24:MET:HA	63:w:24:MET:CE	2.33	0.52
5:4:2:PHE:CE2	5:4:55:GLU:HG2	2.45	0.51
6:5:10:DT:O3'	12:AB:68:THR:C	2.47	0.51
10:A:6:G:C4	10:A:7:G:C8	2.98	0.51
16:AG:11:ALA:HB3	16:AG:12:VAL:HA	1.92	0.51
16:AG:282:GLN:NE2	16:AG:282:GLN:CA	2.73	0.51
16:AG:440:VAL:HG21	16:AG:481:LEU:HD22	1.88	0.51
17:C:71:THR:H	17:C:74:HIS:HE1	1.58	0.51
18:D:122:G:C5	18:D:123:U:C5	2.98	0.51
18:D:1176:A:H2'	18:D:1177:G:C8	2.45	0.51
19:E:75:HIS:CE1	19:E:79:LEU:CD1	2.93	0.51
29:O:118:LEU:HD23	29:O:124:ARG:HA	1.91	0.51
30:P:7:ARG:HD3	30:P:75:ASP:OD1	2.10	0.51
34:T:63:ARG:HD2	34:T:67:LEU:CD2	2.40	0.51
38:X:96:PRO:CG	38:X:102:THR:HG22	2.40	0.51
39:Y:58:ILE:HG23	39:Y:66:PHE:CD2	2.45	0.51
41:a:743:A:O2'	41:a:1659:G:OP1	2.25	0.51
41:a:2473:U:C4	41:a:2474:U:C5	2.97	0.51
41:a:2723:C:H4'	63:w:1:MET:HE3	1.92	0.51
42:b:51:VAL:N	42:b:62:LYS:HZ3	2.08	0.51
59:s:31:GLU:HG2	59:s:142:ILE:HG12	1.92	0.51
59:s:98:GLU:O	59:s:99:ARG:C	2.53	0.51
2:1:25:ARG:NH1	41:a:519:U:O3'	2.43	0.51
9:9:136:ILE:HG13	9:9:136:ILE:O	2.09	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AB:6:LEU:CD1	14:AE:291:ILE:CD1	2.84	0.51
14:AE:1179:PRO:HB2	14:AE:1182:GLY:H	1.75	0.51
16:AG:63:LEU:HA	16:AG:92:TYR:HA	1.92	0.51
16:AG:442:ARG:C	16:AG:446:PHE:HD2	2.15	0.51
16:AG:453:VAL:HG11	16:AG:459:LEU:CD2	2.41	0.51
21:G:23:TRP:CD1	21:G:39:HIS:CE1	2.97	0.51
21:G:165:ASP:O	21:G:169:GLU:OE1	2.28	0.51
28:N:66:PHE:CD2	28:N:67:GLN:OE1	2.62	0.51
29:O:88:MET:HE1	29:O:95:ARG:HG3	1.91	0.51
34:T:21:ASP:OD1	34:T:22:THR:N	2.34	0.51
36:V:62:ARG:CA	36:V:73:TRP:CZ3	2.93	0.51
40:Z:26:MET:HA	40:Z:30:PHE:CD1	2.45	0.51
41:a:139:U:OP2	41:a:140:C:N4	2.43	0.51
41:a:414:C:H2'	41:a:415:A:H8	1.75	0.51
41:a:626:A:N3	61:u:78:ARG:CZ	2.73	0.51
41:a:628:G:C5	41:a:636:G:N2	2.79	0.51
41:a:963:U:C2	41:a:964:C:C5	2.97	0.51
41:a:1314:C:C2	41:a:1315:C:C5	2.98	0.51
41:a:1681:G:H2'	41:a:1757:A:N1	2.25	0.51
41:a:2758:A:H1'	56:p:38:ASN:HD21	1.74	0.51
48:h:175:ARG:CG	48:h:181:MET:HE1	2.34	0.51
50:j:55:LYS:HZ2	50:j:60:VAL:HB	1.74	0.51
55:o:19:LYS:HE2	55:o:19:LYS:HA	1.91	0.51
58:r:6:LEU:CD1	58:r:37:VAL:HG23	2.39	0.51
61:u:14:LYS:HE2	61:u:14:LYS:HA	1.91	0.51
62:v:45:GLN:HE21	62:v:124:LEU:HA	1.75	0.51
62:v:115:GLU:HA	62:v:118:LYS:NZ	2.25	0.51
1:0:71:LYS:HG3	1:0:73:LYS:HE3	1.91	0.51
4:3:66:GLN:OE1	4:3:69:ASN:ND2	2.44	0.51
16:AG:243:LYS:CE	25:K:69:ARG:HH11	2.23	0.51
16:AG:329:SER:HA	16:AG:336:LEU:HG	1.92	0.51
10:B:6:G:C4	10:B:7:G:C8	2.98	0.51
10:B:31:G:H2'	10:B:32:C:O4'	2.10	0.51
18:D:500:G:H2'	18:D:501:C:C6	2.46	0.51
21:G:16:PHE:HB3	22:H:43:LYS:HA	1.93	0.51
22:H:335:ILE:HG12	22:H:342:ILE:HD12	1.92	0.51
23:I:108:LYS:N	23:I:108:LYS:HD2	2.26	0.51
23:I:178:LEU:HD23	23:I:178:LEU:C	2.35	0.51
26:L:33:GLU:HG3	26:L:33:GLU:O	2.10	0.51
26:L:45:ARG:HA	26:L:45:ARG:NE	2.26	0.51
26:L:88:MET:HE2	26:L:90:MET:HE3	1.91	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:M:103:TRP:CD1	27:M:137:LYS:HZ2	2.28	0.51
32:R:62:GLU:OE2	32:R:62:GLU:HA	2.11	0.51
34:T:24:SER:O	34:T:28:GLN:HG2	2.09	0.51
41:a:872:U:H2'	41:a:873:C:H6	1.75	0.51
41:a:1791:A:C2	41:a:1829:A:C4'	2.93	0.51
47:g:47:LYS:HE2	54:n:115:ARG:NE	2.25	0.51
48:h:18:LYS:HE3	48:h:20:VAL:CG2	2.41	0.51
58:r:71:LYS:HZ2	58:r:72:ILE:HA	1.74	0.51
60:t:103:VAL:HG21	60:t:107:LEU:CD2	2.41	0.51
63:w:24:MET:HE3	63:w:24:MET:CA	2.34	0.51
63:w:82:GLU:OE1	63:w:82:GLU:N	2.44	0.51
64:x:53:THR:HG23	64:x:74:VAL:HG21	1.92	0.51
1:0:17:GLY:HA2	1:0:97:LYS:HE2	1.92	0.51
2:1:24:ILE:O	2:1:71:VAL:HG21	2.08	0.51
11:AA:855:PRO:HD2	11:AA:887:VAL:HG11	1.91	0.51
13:AD:205:MET:HE3	13:AD:213:PRO:HB3	1.91	0.51
14:AE:71:LEU:HD22	14:AE:90:VAL:HG21	1.93	0.51
14:AE:430:HIS:HB3	14:AE:925:GLU:HG3	1.93	0.51
18:D:58:C:O2	18:D:58:C:H2'	2.09	0.51
18:D:107:G:C6	19:E:10:ARG:NH2	2.79	0.51
18:D:718:A:H5'	31:Q:119:ASN:HD22	1.76	0.51
18:D:868:C:H2'	18:D:869:G:O4'	2.10	0.51
18:D:934:C:C4	18:D:1345:U:C5	2.99	0.51
21:G:9:MET:HE1	21:G:47:VAL:CG2	2.40	0.51
26:L:67:PRO:O	26:L:70:VAL:HG22	2.11	0.51
29:O:7:TYR:H	29:O:89:GLU:CD	2.19	0.51
30:P:22:THR:O	30:P:25:ILE:HG22	2.10	0.51
30:P:24:GLU:O	30:P:28:THR:HG23	2.10	0.51
33:S:87:ALA:N	33:S:90:ARG:NH1	2.58	0.51
35:U:39:PHE:CD1	35:U:50:THR:HG22	2.45	0.51
38:X:71:ARG:HH12	47:g:52:ALA:HB3	1.75	0.51
39:Y:41:PHE:O	39:Y:45:THR:OG1	2.22	0.51
41:a:1095:A:H2'	41:a:1096:A:C8	2.45	0.51
41:a:1453:A:C8	63:w:73:ASN:OD1	2.64	0.51
41:a:2466:C:N3	41:a:2467:C:C5	2.79	0.51
41:a:2812:G:H2'	41:a:2813:A:C8	2.45	0.51
50:j:68:PHE:CD2	50:j:75:ALA:HA	2.46	0.51
51:k:21:TYR:CE2	51:k:49:TYR:CE2	2.99	0.51
54:n:30:ARG:HB2	54:n:30:ARG:NH2	2.26	0.51
54:n:114:PHE:O	54:n:115:ARG:NE	2.34	0.51
54:n:134:GLU:CG	54:n:137:ILE:HG23	2.41	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
66:z:65:ILE:HB	66:z:76:TYR:CE1	2.45	0.51
3:2:3:ARG:NH2	3:2:4:GLU:HB2	2.26	0.51
8:7:2:U:H2'	8:7:3:G:C8	2.46	0.51
10:A:23:C:H2'	10:A:24:U:C6	2.45	0.51
14:AE:526:VAL:HG12	14:AE:549:LYS:HB2	1.90	0.51
16:AG:139:THR:HA	16:AG:180:ARG:HA	1.92	0.51
16:AG:244:ARG:HG3	25:K:70:ASN:C	2.31	0.51
18:D:107:G:C5	19:E:10:ARG:NH2	2.79	0.51
22:H:279:LYS:HA	22:H:331:MET:CB	2.41	0.51
32:R:24:LEU:C	32:R:25:GLU:OE1	2.52	0.51
39:Y:55:PRO:C	39:Y:71:LYS:HE2	2.36	0.51
41:a:413:C:C2	41:a:414:C:C5	2.99	0.51
41:a:888:C:C4	41:a:889:C:C4	2.97	0.51
41:a:1138:G:C2	59:s:108:MET:HE2	2.45	0.51
41:a:2133:G:O2'	41:a:2157:G:N2	2.44	0.51
41:a:2311:A:C5	54:n:77:PHE:CD2	2.98	0.51
41:a:2428:G:H21	61:u:60:ARG:CZ	2.23	0.51
41:a:2588:G:O6	41:a:2607:G:C6	2.64	0.51
41:a:2814:A:H2'	41:a:2815:C:H6	1.75	0.51
52:l:168:ASP:HB3	52:l:183:PHE:HE2	1.75	0.51
54:n:15:LYS:O	54:n:18:THR:N	2.43	0.51
62:v:105:MET:HE2	62:v:108:VAL:CG2	2.40	0.51
6:5:17:DC:H5''	6:5:17:DC:H6	1.75	0.51
8:7:22:U:C5'	23:I:80:LYS:CG	2.51	0.51
16:AG:233:ARG:NH1	16:AG:324:ASN:HB2	2.25	0.51
16:AG:360:THR:HG22	16:AG:360:THR:O	2.10	0.51
17:C:12:ARG:HG3	22:H:264:GLU:CB	2.41	0.51
18:D:512:U:P	24:J:44:ARG:HH12	2.34	0.51
18:D:754:C:OP1	34:T:72:ARG:NH1	2.44	0.51
22:H:32:ASP:OD1	22:H:35:VAL:CG2	2.57	0.51
25:K:36:LEU:HD13	25:K:134:ILE:CD1	2.41	0.51
41:a:251:A:OP1	61:u:58:TYR:OH	2.23	0.51
41:a:1154:G:OP2	66:z:58:ARG:CZ	2.58	0.51
41:a:1394:U:H4'	41:a:1603:A:H4'	1.92	0.51
41:a:2387:U:H4'	42:b:41:ARG:HH12	1.76	0.51
41:a:2420:C:H5''	51:k:8:LYS:HE2	1.92	0.51
45:e:20:ASN:HA	45:e:23:ARG:HE	1.76	0.51
50:j:122:VAL:HG21	50:j:141:ARG:HG3	1.92	0.51
59:s:72:LYS:HD3	59:s:74:TYR:CZ	2.43	0.51
66:z:82:GLY:HA3	66:z:117:LEU:CD1	2.41	0.51
1:0:37:GLU:O	1:0:37:GLU:HG3	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:4:2:PHE:CE1	5:4:56:PHE:CE1	2.99	0.51
10:A:33:U:H5''	27:M:84:THR:HG21	1.93	0.51
10:A:48:C:C5	10:A:59:A:C8	2.98	0.51
10:B:48:C:O2'	10:B:49:G:OP2	2.27	0.51
10:B:56:C:H2'	10:B:57:A:H5''	1.93	0.51
18:D:49:U:C2	18:D:361:G:N2	2.79	0.51
26:L:4:TYR:OH	26:L:68:GLN:HG2	2.11	0.51
30:P:15:HIS:HB3	30:P:70:HIS:CE1	2.46	0.51
32:R:110:ARG:HE	32:R:117:TYR:HD2	1.57	0.51
33:S:10:GLU:OE2	33:S:63:ARG:HD2	2.11	0.51
41:a:560:C:O2	66:z:48:ARG:NH1	2.37	0.51
41:a:607:U:C5	41:a:620:G:C5	2.97	0.51
41:a:703:U:H2'	41:a:704:G:O4'	2.10	0.51
41:a:1589:U:O2'	41:a:1590:A:O5'	2.28	0.51
41:a:2093:G:OP2	58:r:22:LYS:HG2	2.11	0.51
41:a:2329:U:H2'	41:a:2330:G:C8	2.45	0.51
41:a:2682:A:C2	50:j:23:PRO:HB3	2.46	0.51
41:a:2698:U:H2'	41:a:2699:C:C6	2.46	0.51
48:h:124:ILE:O	48:h:125:LYS:HD3	2.10	0.51
48:h:130:LEU:HD21	48:h:192:LEU:HD21	1.93	0.51
59:s:35:ARG:HA	59:s:40:HIS:CE1	2.46	0.51
62:v:114:ARG:C	62:v:118:LYS:HZ3	2.18	0.51
3:2:11:LEU:HD12	3:2:11:LEU:N	2.26	0.51
5:4:50:MET:CA	5:4:56:PHE:CZ	2.94	0.51
9:9:106:PHE:CG	9:9:106:PHE:O	2.63	0.51
10:B:23:C:H2'	10:B:24:U:C6	2.45	0.51
18:D:61:G:N7	19:E:6:SER:OG	2.33	0.51
18:D:564:C:H5'	36:V:34:TYR:HE1	1.76	0.51
20:F:36:GLU:OE2	20:F:36:GLU:HA	2.11	0.51
23:I:68:ILE:HG13	23:I:101:ILE:HD11	1.93	0.51
23:I:132:ARG:HG3	23:I:135:LYS:HE3	1.92	0.51
38:X:31:LYS:HG3	38:X:32:ALA:N	2.25	0.51
39:Y:126:ARG:HD2	39:Y:127:SER:N	2.26	0.51
41:a:413:C:H2'	41:a:414:C:C6	2.46	0.51
41:a:532:A:H4'	41:a:533:G:C8	2.46	0.51
41:a:2006:C:C2	41:a:2007:U:C5	2.99	0.51
41:a:2305:U:H4'	54:n:133:ARG:NH2	2.25	0.51
49:i:30:VAL:HG22	49:i:37:LYS:CD	2.41	0.51
54:n:8:TYR:HE2	54:n:30:ARG:HE	1.58	0.51
56:p:149:ARG:CZ	56:p:154:PRO:HD3	2.40	0.51
56:p:162:VAL:O	56:p:162:VAL:HG12	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:v:53:MET:HE3	62:v:120:ALA:CB	2.40	0.51
66:z:65:ILE:HB	66:z:76:TYR:HE1	1.75	0.51
5:4:80:HIS:CD2	5:4:83:LYS:HZ3	2.29	0.51
9:9:55:VAL:CG1	9:9:56:ARG:N	2.74	0.51
12:AB:155:LYS:HG3	12:AB:156:ASN:N	2.25	0.51
16:AG:5:ILE:HA	16:AG:8:VAL:HB	1.93	0.51
16:AG:399:ASP:OD2	16:AG:399:ASP:N	2.40	0.51
18:D:21:G:C2	18:D:22:G:C5	2.99	0.51
18:D:501:C:H2'	18:D:502:A:H8	1.75	0.51
18:D:678:U:H2'	18:D:679:C:H6	1.76	0.51
22:H:48:ILE:HG22	22:H:49:PRO:O	2.10	0.51
22:H:273:ARG:NH1	22:H:297:GLU:HB2	2.25	0.51
29:O:51:PRO:HA	29:O:103:PHE:HE2	1.76	0.51
32:R:3:THR:O	32:R:6:GLN:N	2.44	0.51
32:R:54:ARG:HH11	32:R:62:GLU:HG3	1.76	0.51
34:T:3:LEU:HD23	34:T:3:LEU:C	2.36	0.51
41:a:372:G:C8	43:c:61:LYS:HD2	2.46	0.51
41:a:580:U:H2'	41:a:581:C:C6	2.46	0.51
41:a:1346:G:C6	41:a:1601:G:C6	2.98	0.51
41:a:1666:G:P	60:t:66:LYS:HD3	2.50	0.51
41:a:1824:G:O2'	48:h:252:THR:HG21	2.11	0.51
41:a:1853:A:H2'	41:a:1854:A:C8	2.46	0.51
41:a:2252:G:H2'	41:a:2253:G:H8	1.76	0.51
41:a:2266:A:H4'	41:a:2267:A:N3	2.26	0.51
41:a:2298:A:O3'	54:n:72:LYS:HE2	2.11	0.51
41:a:2387:U:C4'	42:b:41:ARG:HH12	2.24	0.51
41:a:2848:G:O2'	41:a:2867:G:N2	2.37	0.51
56:p:127:THR:HG22	56:p:128:GLN:N	2.26	0.51
59:s:15:TRP:CZ3	59:s:135:GLN:CA	2.93	0.51
60:t:71:ARG:NH2	60:t:123:LEU:O	2.42	0.51
4:3:85:PHE:CE1	4:3:94:ARG:HG2	2.46	0.51
6:5:9:DG:OP2	11:AA:473:ARG:HG2	2.05	0.51
8:7:3:G:C4'	18:D:1500:A:N6	2.74	0.51
9:9:94:ARG:HB2	9:9:97:LYS:CE	2.36	0.51
10:A:19:G:N2	41:a:2112:G:O4'	2.44	0.51
10:A:56:C:C5	41:a:2168:G:C6	2.98	0.51
11:AA:786:GLY:N	11:AA:789:THR:OG1	2.41	0.51
14:AE:77:ARG:HB3	14:AE:80:HIS:HB2	1.93	0.51
14:AE:387:LEU:HD11	16:AG:147:ARG:H	1.76	0.51
16:AG:362:TYR:CE2	16:AG:382:GLU:HG2	2.45	0.51
18:D:580:C:H2'	18:D:581:G:O4'	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:D:728:A:H2'	18:D:729:A:C8	2.46	0.51
21:G:26:LYS:HD2	21:G:193:PRO:CG	2.40	0.51
29:O:30:ILE:HD13	29:O:39:PHE:HE2	1.75	0.51
31:Q:63:ALA:HB1	31:Q:96:THR:CG2	2.41	0.51
34:T:5:THR:HG23	34:T:6:GLU:N	2.25	0.51
34:T:11:ILE:HD11	34:T:30:ALA:C	2.35	0.51
41:a:69:C:O2	41:a:73:A:O2'	2.26	0.51
41:a:995:C:O2	59:s:3:THR:OG1	2.17	0.51
41:a:1790:C:C3'	41:a:1791:A:C8	2.94	0.51
41:a:1999:C:O3'	41:a:2722:G:N2	2.44	0.51
41:a:2813:A:C4	41:a:2814:A:C8	2.99	0.51
42:b:55:ARG:HA	42:b:55:ARG:CZ	2.41	0.51
47:g:7:PRO:HD2	54:n:62:GLY:O	2.11	0.51
49:i:26:THR:HG23	49:i:27:SER:N	2.25	0.51
50:j:154:LYS:HE3	50:j:156:PHE:CE1	2.46	0.51
54:n:5:HIS:HD2	54:n:97:TRP:CZ2	2.29	0.51
61:u:58:TYR:CD2	61:u:59:ARG:HG2	2.46	0.51
62:v:31:PHE:O	62:v:104:GLU:CD	2.54	0.51
62:v:105:MET:SD	62:v:113:ALA:HB1	2.51	0.51
65:y:106:LYS:HD3	65:y:109:ARG:NH2	2.26	0.51
5:4:48:MET:HE2	5:4:86:LEU:HG	1.93	0.50
11:AA:93:SER:HA	11:AA:128:PRO:HA	1.92	0.50
14:AE:209:ASN:HB3	14:AE:214:ARG:HH21	1.76	0.50
17:C:51:TYR:HD1	17:C:54:GLN:HE22	1.58	0.50
18:D:1226:C:C2'	38:X:102:THR:OG1	2.58	0.50
21:G:169:GLU:OE1	21:G:169:GLU:N	2.44	0.50
22:H:163:ARG:CA	22:H:298:GLU:HG3	2.41	0.50
30:P:24:GLU:CA	30:P:27:GLU:OE1	2.59	0.50
31:Q:27:PHE:CE2	31:Q:89:PRO:HG2	2.46	0.50
32:R:109:ASP:C	32:R:111:LYS:HZ3	2.18	0.50
34:T:3:LEU:HD12	34:T:35:GLN:OE1	2.10	0.50
37:W:41:PHE:O	37:W:44:MET:HG3	2.11	0.50
37:W:45:ILE:HA	37:W:62:VAL:HG11	1.92	0.50
40:Z:15:SER:O	40:Z:19:VAL:HG23	2.11	0.50
41:a:910:A:C8	62:v:12:MET:CE	2.94	0.50
41:a:993:G:C6	41:a:1162:G:C6	2.99	0.50
41:a:1996:C:H5''	50:j:128:ARG:NH1	2.25	0.50
41:a:2391:G:P	55:o:32:ILE:HD12	2.50	0.50
44:d:42:C:P	54:n:64:LYS:NZ	2.83	0.50
59:s:84:ILE:HG23	59:s:84:ILE:O	2.10	0.50
65:y:9:GLU:CG	65:y:55:LEU:HB2	2.40	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:4:51:GLN:OE1	5:4:57:TYR:OH	2.27	0.50
8:7:12:U:H5''	25:K:56:VAL:HG21	1.93	0.50
9:9:47:GLU:O	9:9:49:GLY:N	2.43	0.50
10:A:23:C:H2'	10:A:24:U:H6	1.77	0.50
10:A:31:G:H2'	10:A:32:C:O4'	2.10	0.50
10:A:68:C:C3'	10:A:69:C:H5''	2.42	0.50
11:AA:255:ILE:HB	11:AA:263:VAL:HB	1.92	0.50
12:AB:130:PHE:CD2	12:AB:152:HIS:CE1	2.99	0.50
14:AE:693:VAL:HG21	14:AE:743:MET:HE3	1.93	0.50
16:AG:285:ILE:HD13	16:AG:285:ILE:H	1.76	0.50
17:C:51:TYR:O	17:C:54:GLN:HG3	2.11	0.50
18:D:276:G:C5'	36:V:17:MET:CE	2.89	0.50
18:D:564:C:H5'	36:V:34:TYR:CE1	2.46	0.50
18:D:612:C:C2	18:D:613:C:C5	2.99	0.50
18:D:1145:A:HO2'	18:D:1146:A:P	2.34	0.50
21:G:35:ARG:HB3	22:H:14:LYS:NZ	2.26	0.50
21:G:90:PHE:CD2	21:G:154:MET:CE	2.94	0.50
23:I:142:MET:HE3	23:I:170:GLU:C	2.36	0.50
28:N:106:THR:HB	28:N:121:LEU:CD1	2.41	0.50
36:V:15:ASP:OD1	36:V:55:ILE:HD11	2.11	0.50
40:Z:18:ASP:HB3	40:Z:22:LEU:HD12	1.92	0.50
41:a:1318:U:C2	41:a:1319:C:C5	2.99	0.50
41:a:1656:C:OP1	50:j:141:ARG:HD3	2.10	0.50
41:a:2230:G:C5'	43:c:30:LEU:HD23	2.41	0.50
43:c:71:LEU:HB3	43:c:76:GLU:CG	2.42	0.50
53:m:25:LYS:C	53:m:29:GLN:HE22	2.20	0.50
59:s:15:TRP:CD1	59:s:53:TYR:HB2	2.45	0.50
59:s:15:TRP:CH2	59:s:135:GLN:HG3	2.46	0.50
60:t:17:ARG:NH2	60:t:47:ILE:HG23	2.25	0.50
66:z:53:ARG:HG3	66:z:57:PHE:HE2	1.75	0.50
7:6:23:DC:H5'	14:AE:259:ARG:NH1	2.11	0.50
11:AA:125:GLY:HA2	11:AA:499:SER:HB2	1.92	0.50
12:AB:78:PHE:CG	12:AB:85:PRO:HB3	2.46	0.50
14:AE:157:GLN:HE22	14:AE:188:LEU:HD22	1.76	0.50
16:AG:363:LEU:HD11	16:AG:410:ALA:HB2	1.92	0.50
17:C:60:LYS:NZ	18:D:735:C:C4'	2.74	0.50
18:D:280:C:H1'	36:V:40:ARG:HH22	1.75	0.50
18:D:501:C:H2'	18:D:502:A:C8	2.46	0.50
18:D:653:U:O5'	28:N:56:LYS:HE2	2.12	0.50
27:M:35:LYS:HE3	27:M:38:THR:OG1	2.11	0.50
29:O:88:MET:SD	29:O:95:ARG:CZ	2.99	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:P:66:GLU:CG	33:S:99:ALA:HB2	2.41	0.50
39:Y:57:VAL:HG23	39:Y:71:LYS:HD3	1.94	0.50
41:a:271:G:H4'	41:a:272:A:OP1	2.10	0.50
41:a:1598:A:C5	41:a:1599:U:C5	2.99	0.50
41:a:2063:C:O2	41:a:2450:A:N1	2.45	0.50
41:a:2259:U:C6	41:a:2427:C:C4	2.99	0.50
46:f:41:THR:N	46:f:45:ARG:HH22	2.09	0.50
52:l:155:GLU:HG2	52:l:156:ASN:N	2.26	0.50
56:p:24:ILE:HG22	56:p:35:ARG:O	2.11	0.50
63:w:12:ARG:NE	63:w:20:MET:HE1	2.26	0.50
63:w:58:ASP:OD1	63:w:63:ARG:NH2	2.44	0.50
64:x:4:LYS:N	64:x:4:LYS:HD3	2.27	0.50
3:2:49:LYS:HE2	3:2:49:LYS:HA	1.93	0.50
6:5:16:DG:O6	11:AA:451:ARG:NH1	2.45	0.50
9:9:30:SER:O	9:9:31:ARG:CZ	2.59	0.50
11:AA:974:ARG:HD2	11:AA:1014:LEU:HD21	1.92	0.50
16:AG:131:ARG:HA	16:AG:186:VAL:CG1	2.38	0.50
16:AG:422:GLU:O	16:AG:427:ASP:N	2.45	0.50
17:C:66:SER:HA	26:L:49:TYR:CE1	2.47	0.50
18:D:160:A:H2'	18:D:161:A:O4'	2.12	0.50
18:D:339:C:C2	18:D:340:U:C5	2.99	0.50
20:F:25:LYS:HE3	22:H:336:ASP:OD2	2.11	0.50
21:G:187:VAL:HG13	21:G:191:SER:HB2	1.93	0.50
37:W:17:LYS:HB3	37:W:21:LYS:HZ3	1.76	0.50
38:X:65:VAL:HG23	38:X:66:GLU:OE1	2.12	0.50
39:Y:37:PHE:HE1	39:Y:58:ILE:HD11	1.77	0.50
39:Y:76:ALA:O	39:Y:80:LYS:NZ	2.33	0.50
41:a:780:G:C2	41:a:782:A:C2	3.00	0.50
41:a:813:U:H2'	41:a:814:C:C6	2.46	0.50
41:a:851:C:C2	41:a:852:U:C5	3.00	0.50
41:a:1801:A:OP1	48:h:146:MET:HE1	2.11	0.50
41:a:2230:G:H5'	43:c:30:LEU:HD23	1.94	0.50
50:j:184:ARG:HH12	65:y:7:GLN:NE2	2.09	0.50
52:l:194:LYS:O	52:l:197:GLU:N	2.45	0.50
59:s:74:TYR:N	59:s:74:TYR:HD2	2.10	0.50
60:t:59:LYS:HZ3	60:t:92:GLU:HG2	1.76	0.50
61:u:55:MET:HE1	61:u:60:ARG:HA	1.94	0.50
63:w:87:PHE:HZ	63:w:115:LEU:HG	1.77	0.50
2:1:36:LEU:HD23	2:1:48:LYS:HB2	1.94	0.50
6:5:9:DG:OP2	11:AA:470:ARG:O	2.28	0.50
9:9:10:ALA:O	9:9:14:GLU:HG3	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:18:ARG:HE	11:AA:620:ASN:HA	1.77	0.50
14:AE:67:ASP:C	14:AE:69:GLU:H	2.18	0.50
14:AE:412:LEU:HD22	14:AE:441:LEU:HD21	1.94	0.50
16:AG:171:GLU:OE2	16:AG:267:GLY:C	2.54	0.50
16:AG:384:LEU:O	16:AG:387:VAL:HG23	2.12	0.50
17:C:60:LYS:HE3	18:D:735:C:C4'	2.42	0.50
18:D:335:C:C2	18:D:336:A:C8	2.99	0.50
18:D:1106:G:O3'	23:I:172:ARG:HG3	2.11	0.50
25:K:111:MET:O	25:K:114:VAL:HG12	2.11	0.50
37:W:49:ILE:HG23	37:W:49:ILE:O	2.12	0.50
39:Y:60:VAL:CG2	39:Y:66:PHE:HB3	2.28	0.50
39:Y:126:ARG:CZ	41:a:1083:U:P	3.00	0.50
41:a:65:U:C2	41:a:66:C:C6	3.00	0.50
41:a:125:A:C5	53:m:10:LEU:HD13	2.46	0.50
41:a:594:U:H2'	41:a:595:C:C6	2.47	0.50
51:k:34:LEU:CB	51:k:51:GLU:OE2	2.60	0.50
52:l:170:ARG:HH12	52:l:176:ASP:N	2.09	0.50
60:t:114:LYS:O	60:t:118:LEU:HD23	2.11	0.50
4:3:6:ARG:HG2	4:3:7:ARG:H	1.77	0.50
5:4:6:ALA:HB3	5:4:65:VAL:HG22	1.93	0.50
11:AA:860:ALA:H	16:AG:37:LYS:HG3	1.77	0.50
13:AD:182:ARG:NH1	14:AE:534:GLU:OE1	2.44	0.50
16:AG:448:LEU:CG	16:AG:473:LEU:HD11	2.42	0.50
17:C:24:LYS:HB3	26:L:102:MET:HE1	1.93	0.50
17:C:41:PRO:HD2	22:H:339:ARG:NE	2.26	0.50
18:D:10:A:OP2	25:K:131:THR:HG21	2.12	0.50
18:D:767:A:H2'	18:D:768:A:O4'	2.11	0.50
18:D:864:A:H2'	18:D:865:A:C8	2.46	0.50
18:D:1017:U:O2'	18:D:1018:G:O4'	2.30	0.50
19:E:54:MET:CE	19:E:75:HIS:HE1	2.24	0.50
25:K:62:LYS:HA	25:K:62:LYS:HE3	1.93	0.50
26:L:66:ALA:HB1	26:L:67:PRO:HD2	1.94	0.50
27:M:111:ARG:NH2	27:M:126:ASP:OD2	2.43	0.50
34:T:33:THR:OG1	34:T:63:ARG:NH1	2.45	0.50
41:a:672:C:O2'	52:l:77:ILE:HD11	2.11	0.50
41:a:1956:U:C4	41:a:1957:C:C5	2.99	0.50
41:a:2063:C:C4	41:a:2064:C:C5	3.00	0.50
41:a:2082:A:H2'	41:a:2083:G:O4'	2.12	0.50
41:a:2646:C:OP2	41:a:2732:G:O2'	2.25	0.50
46:f:4:THR:CB	46:f:37:GLU:OE2	2.58	0.50
54:n:122:PHE:CE2	54:n:128:TYR:CD1	3.00	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:p:137:ASP:OD2	56:p:140:VAL:HG23	2.12	0.50
63:w:58:ASP:CG	63:w:80:PHE:CZ	2.89	0.50
65:y:25:THR:OG1	65:y:88:ARG:HB3	2.12	0.50
10:A:15:G:H2'	10:A:15:G:N3	2.27	0.50
11:AA:400:VAL:HG21	11:AA:452:ARG:HE	1.76	0.50
12:AB:129:ILE:O	12:AB:142:LEU:HB2	2.12	0.50
16:AG:365:ILE:CD1	16:AG:406:LEU:HD21	2.38	0.50
16:AG:365:ILE:HD11	16:AG:406:LEU:HD22	1.87	0.50
10:B:15:G:H2'	10:B:15:G:N3	2.27	0.50
18:D:136:C:C2	18:D:137:U:C6	3.00	0.50
18:D:1073:U:O2'	21:G:105:LYS:HE3	2.11	0.50
20:F:6:VAL:HG12	31:Q:108:THR:O	2.11	0.50
21:G:109:GLN:C	21:G:113:ARG:HE	2.19	0.50
23:I:82:GLU:O	23:I:86:LYS:CD	2.60	0.50
27:M:71:PRO:HG3	27:M:103:TRP:HH2	1.76	0.50
35:U:73:ALA:HA	35:U:76:LYS:CE	2.41	0.50
38:X:71:ARG:HD2	38:X:72:GLU:N	2.26	0.50
41:a:1009:A:OP2	59:s:39:LYS:NZ	2.37	0.50
41:a:1799:G:N2	48:h:154:LEU:HD23	2.26	0.50
41:a:1945:G:C4	41:a:1946:U:C5	2.99	0.50
41:a:2063:C:C2	41:a:2064:C:C6	2.99	0.50
49:i:40:ARG:NH1	49:i:41:HIS:CD2	2.80	0.50
52:l:97:ASN:ND2	52:l:100:MET:HE2	2.27	0.50
60:t:34:GLY:N	60:t:37:ASP:OD2	2.40	0.50
60:t:121:GLU:HG3	60:t:123:LEU:HD12	1.94	0.50
62:v:50:ARG:CA	62:v:53:MET:SD	3.00	0.50
3:2:10:VAL:HG12	3:2:11:LEU:HD12	1.93	0.50
3:2:12:ARG:HH21	45:e:29:ARG:CZ	2.25	0.50
6:5:10:DT:N1	11:AA:62:TYR:HE2	2.07	0.50
9:9:78:GLY:H	9:9:79:PRO:HD2	1.75	0.50
16:AG:296:ILE:HD11	16:AG:307:ILE:HD13	1.93	0.50
18:D:36:C:C4	18:D:37:U:C5	3.00	0.50
18:D:109:A:H2'	18:D:326:G:N2	2.27	0.50
18:D:744:C:H2'	18:D:745:G:C8	2.46	0.50
18:D:1175:G:HO2'	18:D:1176:A:P	2.34	0.50
23:I:77:ILE:HA	23:I:84:VAL:HG13	1.94	0.50
28:N:35:ALA:O	28:N:39:VAL:HG23	2.12	0.50
41:a:4:U:C2	41:a:5:A:C8	3.00	0.50
41:a:1199:U:H2'	41:a:1200:C:H6	1.77	0.50
41:a:2065:C:H2'	41:a:2066:C:H6	1.77	0.50
41:a:2547:A:H2'	41:a:2548:U:H6	1.77	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:a:2636:C:O2'	50:j:45:TYR:OH	1.99	0.50
41:a:2884:U:H3	49:i:40:ARG:NH1	2.09	0.50
43:c:65:ASP:CG	43:c:66:THR:N	2.70	0.50
47:g:36:VAL:HG21	47:g:41:HIS:ND1	2.27	0.50
56:p:26:ILE:HG22	56:p:75:MET:HE2	1.93	0.50
58:r:90:LEU:HD21	58:r:94:ILE:CD1	2.42	0.50
59:s:13:ARG:HH22	59:s:49:ASP:C	2.19	0.50
3:2:14:PRO:HA	3:2:32:LEU:HD13	1.94	0.50
9:9:67:THR:N	9:9:68:PRO:CD	2.75	0.50
9:9:108:VAL:O	9:9:109:LYS:HB3	2.12	0.50
14:AE:425:ARG:NH1	14:AE:458:ASN:O	2.45	0.50
16:AG:283:PHE:CE2	16:AG:332:SER:HA	2.47	0.50
10:B:32:C:H2'	10:B:33:U:H5'	1.94	0.50
17:C:60:LYS:NZ	18:D:735:C:C5'	2.75	0.50
18:D:626:G:O3'	35:U:51:ARG:NH1	2.45	0.50
18:D:736:C:H2'	18:D:737:C:H6	1.77	0.50
18:D:1071:C:H2'	18:D:1072:G:C8	2.47	0.50
22:H:303:LEU:O	22:H:303:LEU:CG	2.60	0.50
22:H:342:ILE:HG12	22:H:344:LEU:HD12	1.93	0.50
24:J:104:ARG:NE	24:J:104:ARG:HA	2.27	0.50
25:K:113:ALA:CA	25:K:116:GLU:OE1	2.60	0.50
26:L:11:HIS:HB3	26:L:14:GLN:OE1	2.11	0.50
27:M:74:GLU:OE1	27:M:75:VAL:O	2.30	0.50
30:P:37:ARG:HB3	30:P:75:ASP:HB2	1.94	0.50
39:Y:126:ARG:HD2	39:Y:126:ARG:C	2.36	0.50
41:a:16:C:O4'	49:i:15:MET:HE3	2.12	0.50
41:a:234:U:C2	41:a:235:U:C6	3.00	0.50
41:a:532:A:N7	41:a:2021:C:O2'	2.44	0.50
41:a:756:A:H2'	41:a:757:G:O4'	2.11	0.50
41:a:1823:G:O2'	41:a:1824:G:H5'	2.12	0.50
50:j:55:LYS:NZ	50:j:59:ARG:C	2.70	0.50
5:4:2:PHE:HB2	5:4:61:LEU:HG	1.94	0.49
9:9:52:MET:HG2	9:9:95:LEU:CD1	2.39	0.49
9:9:52:MET:CE	9:9:85:SER:HB2	2.42	0.49
14:AE:814:CYS:SG	14:AE:815:GLY:N	2.85	0.49
18:D:373:A:C2	18:D:482:A:C6	3.00	0.49
18:D:555:U:H2'	18:D:556:C:C6	2.47	0.49
18:D:653:U:O4'	28:N:56:LYS:CE	2.60	0.49
21:G:109:GLN:O	21:G:113:ARG:NE	2.45	0.49
22:H:304:VAL:HG11	22:H:346:LEU:HB2	1.93	0.49
25:K:157:ARG:HH12	28:N:43:GLU:CD	2.20	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:T:33:THR:HG21	34:T:85:LEU:HD12	1.94	0.49
41:a:44:A:H2'	41:a:45:G:O4'	2.12	0.49
41:a:57:C:H2'	41:a:58:G:O4'	2.12	0.49
41:a:2179:C:C2	41:a:2180:U:C5	3.00	0.49
41:a:2489:U:H2'	41:a:2490:G:O4'	2.12	0.49
48:h:124:ILE:C	48:h:125:LYS:HD3	2.36	0.49
48:h:131:PRO:HD3	48:h:189:ARG:NH1	2.27	0.49
59:s:30:THR:HG23	59:s:31:GLU:N	2.26	0.49
62:v:73:ILE:HD12	62:v:73:ILE:N	2.26	0.49
5:4:62:THR:OG1	5:4:71:LYS:HE3	2.11	0.49
8:7:30:U:O2	8:7:30:U:H2'	2.11	0.49
11:AA:146:VAL:HG21	11:AA:513:GLN:HE21	1.77	0.49
11:AA:529:ARG:HH11	11:AA:572:ILE:HG22	1.77	0.49
11:AA:1340:GLU:HB2	14:AE:19:ALA:HB3	1.94	0.49
12:AB:148:LYS:CE	30:P:101:SER:HA	2.42	0.49
13:AD:288:GLU:C	13:AD:290:LEU:N	2.69	0.49
14:AE:417:ARG:NH1	15:AF:43:ASN:O	2.45	0.49
14:AE:1045:THR:O	14:AE:1067:ARG:NH2	2.41	0.49
16:AG:216:ILE:HG12	16:AG:221:ILE:HB	1.93	0.49
16:AG:353:HIS:HA	16:AG:356:ILE:HG21	1.94	0.49
10:B:68:C:C3'	10:B:69:C:H5''	2.42	0.49
17:C:13:PHE:CB	17:C:51:TYR:CD1	2.96	0.49
18:D:657:U:C1'	34:T:28:GLN:HE22	2.24	0.49
18:D:953:G:O6	38:X:103:LYS:CE	2.60	0.49
18:D:1492:A:O2'	18:D:1493:A:H5''	2.11	0.49
21:G:38:VAL:HG22	22:H:75:VAL:HG21	1.92	0.49
26:L:35:LYS:HG3	26:L:36:ILE:N	2.27	0.49
26:L:99:ALA:HB3	26:L:104:LYS:HZ1	1.77	0.49
28:N:110:VAL:C	28:N:111:MET:SD	2.95	0.49
33:S:87:ALA:HA	33:S:90:ARG:HG2	1.94	0.49
41:a:1205:A:C2	52:l:165:HIS:CE1	3.00	0.49
41:a:2193:G:O2'	41:a:2194:U:OP1	2.28	0.49
47:g:47:LYS:NZ	54:n:115:ARG:HA	2.27	0.49
48:h:261:LYS:HA	48:h:264:ASP:OD2	2.12	0.49
52:l:6:LYS:HZ2	52:l:119:ILE:HA	1.77	0.49
59:s:55:ILE:CG1	59:s:123:LYS:HE2	2.42	0.49
59:s:98:GLU:HB3	59:s:102:GLU:OE2	2.12	0.49
63:w:37:THR:HG21	63:w:40:LYS:HZ2	1.77	0.49
63:w:103:ARG:HA	63:w:110:MET:HE2	1.93	0.49
2:1:71:VAL:O	2:1:71:VAL:HG23	2.13	0.49
10:A:56:C:H2'	10:A:57:A:H5''	1.93	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:232:ILE:HG12	11:AA:237:LEU:HG	1.93	0.49
14:AE:749:LYS:HD3	14:AE:753:SER:HB2	1.94	0.49
18:D:35:G:H2'	18:D:36:C:C6	2.47	0.49
18:D:718:A:C8	31:Q:118:HIS:HB3	2.48	0.49
18:D:925:G:C6	18:D:927:G:N7	2.81	0.49
18:D:958:A:O4'	37:W:55:ARG:NH1	2.45	0.49
18:D:1439:G:P	19:E:33:LYS:NZ	2.82	0.49
21:G:110:SER:CA	21:G:113:ARG:HE	2.25	0.49
22:H:267:TRP:CE3	22:H:340:ARG:HG3	2.47	0.49
24:J:170:TRP:CD2	24:J:186:PRO:HB3	2.47	0.49
38:X:92:ARG:HD2	41:a:888:C:OP1	2.12	0.49
39:Y:77:VAL:HG13	39:Y:81:LYS:NZ	2.27	0.49
41:a:537:G:P	59:s:2:LYS:CE	3.00	0.49
41:a:851:C:H2'	41:a:852:U:C6	2.46	0.49
41:a:1036:G:C6	41:a:1120:G:C5	3.00	0.49
41:a:1199:U:H2'	41:a:1200:C:C6	2.47	0.49
41:a:1342:A:O2'	41:a:1344:U:OP2	2.31	0.49
41:a:2362:C:O5'	55:o:40:ARG:NH2	2.45	0.49
55:o:31:HIS:O	55:o:32:ILE:C	2.54	0.49
63:w:73:ASN:C	63:w:73:ASN:HD22	2.17	0.49
65:y:9:GLU:HG3	65:y:55:LEU:CB	2.42	0.49
2:1:23:LEU:HD21	2:1:35:ILE:HG22	1.95	0.49
9:9:3:LEU:CD1	9:9:4:ASN:N	2.63	0.49
9:9:87:GLU:OE2	9:9:95:LEU:HB2	2.12	0.49
9:9:97:LYS:HZ1	9:9:130:PRO:HA	1.77	0.49
12:AB:27:ASN:OD1	12:AB:58:GLU:HB2	2.11	0.49
16:AG:65:VAL:HG12	16:AG:66:ASP:H	1.76	0.49
16:AG:123:ARG:NH1	16:AG:123:ARG:HG2	2.26	0.49
16:AG:369:PHE:O	16:AG:373:LEU:HG	2.12	0.49
18:D:406:G:C5	18:D:495:A:C5	3.01	0.49
18:D:821:G:H2'	18:D:822:U:C6	2.47	0.49
21:G:111:ILE:HD13	21:G:148:LEU:HD13	1.95	0.49
25:K:34:THR:HG22	25:K:52:LYS:HD3	1.95	0.49
25:K:134:ILE:O	25:K:137:VAL:HG12	2.12	0.49
32:R:38:TYR:HE2	32:R:40:THR:CG2	2.25	0.49
41:a:272:A:N3	41:a:273:G:C8	2.80	0.49
41:a:840:C:C2	41:a:841:G:C8	3.00	0.49
41:a:1590:A:H2'	41:a:1591:A:C8	2.47	0.49
41:a:1790:C:H2'	41:a:1791:A:C8	2.48	0.49
41:a:2014:A:H2'	41:a:2015:A:C8	2.47	0.49
41:a:2290:G:H2'	41:a:2291:U:C6	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:a:2485:G:O3'	62:v:125:PRO:HB3	2.12	0.49
52:l:195:GLN:HA	52:l:198:GLU:OE1	2.13	0.49
56:p:94:TYR:CE1	56:p:152:ARG:HD2	2.48	0.49
60:t:7:MET:SD	60:t:18:ARG:NE	2.85	0.49
62:v:41:LEU:HD22	62:v:45:GLN:NE2	2.27	0.49
9:9:43:LYS:HA	9:9:46:ARG:NH1	2.27	0.49
11:AA:9:LYS:HG2	11:AA:1171:ARG:HH12	1.77	0.49
12:AB:142:LEU:HD12	12:AB:150:ILE:O	2.13	0.49
16:AG:168:LEU:CD2	16:AG:230:PRO:C	2.74	0.49
16:AG:183:LEU:HD23	16:AG:197:VAL:HG22	1.94	0.49
16:AG:433:ASP:O	16:AG:456:LEU:HD21	2.12	0.49
17:C:25:ASP:O	17:C:29:LEU:HD13	2.11	0.49
18:D:311:C:O5'	18:D:311:C:H6	1.94	0.49
18:D:373:A:C2	18:D:374:A:C8	3.01	0.49
18:D:376:G:OP2	35:U:70:ARG:HD3	2.13	0.49
18:D:1218:C:H2'	18:D:1219:A:C8	2.48	0.49
18:D:1227:A:H5'	38:X:110:LYS:NZ	2.28	0.49
20:F:63:GLU:O	20:F:67:ARG:HD2	2.12	0.49
21:G:126:PHE:C	21:G:127:ASP:O	2.55	0.49
25:K:45:ARG:NH1	25:K:71:MET:SD	2.85	0.49
26:L:9:MET:O	26:L:84:VAL:HA	2.12	0.49
27:M:66:LEU:CD1	27:M:101:MET:CE	2.84	0.49
29:O:52:LEU:O	29:O:55:VAL:O	2.31	0.49
34:T:5:THR:O	34:T:8:THR:OG1	2.27	0.49
39:Y:20:SER:CB	39:Y:21:PRO:HD3	2.43	0.49
41:a:3:U:C2	41:a:4:U:C5	3.00	0.49
41:a:235:U:C2	41:a:236:C:C5	3.00	0.49
41:a:583:G:OP1	66:z:11:ARG:NH2	2.46	0.49
41:a:1454:C:H4'	63:w:63:ARG:NH1	2.27	0.49
41:a:2349:G:O6	41:a:2369:A:N6	2.46	0.49
41:a:2849:U:OP2	65:y:93:ARG:CZ	2.60	0.49
47:g:58:ASP:CG	47:g:62:LYS:NZ	2.68	0.49
48:h:52:ARG:HG3	48:h:53:HIS:ND1	2.27	0.49
48:h:160:THR:O	48:h:195:VAL:HG12	2.13	0.49
52:l:141:MET:O	52:l:142:ALA:HB3	2.13	0.49
62:v:29:GLY:HA3	62:v:104:GLU:HG3	1.94	0.49
62:v:70:ASP:C	62:v:92:TRP:CZ3	2.90	0.49
66:z:79:PHE:CE1	66:z:110:VAL:HG22	2.48	0.49
5:4:1:MET:SD	5:4:3:THR:OG1	2.71	0.49
5:4:31:TYR:OH	44:d:103:U:O2'	2.20	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)
8:7:23:U:C3'	14:AE:94:GLN:HG3	2.42	0.49
9:9:24:SER:HB3	9:9:116:GLU:HG3	1.94	0.49
9:9:67:THR:O	9:9:72:LEU:HG	2.12	0.49
13:AD:100:LEU:HB2	13:AD:144:ILE:HG23	1.94	0.49
13:AD:285:THR:HA	13:AD:315:GLY:HA2	1.94	0.49
14:AE:1289:ASN:ND2	14:AE:1300:ALA:O	2.46	0.49
18:D:56:U:H2'	18:D:57:G:C8	2.48	0.49
28:N:83:LEU:HD11	32:R:4:VAL:HB	1.95	0.49
35:U:12:LYS:HD3	35:U:13:LYS:HG2	1.93	0.49
35:U:18:GLN:NE2	35:U:35:ARG:HE	2.10	0.49
38:X:3:ARG:HH22	47:g:36:VAL:HG12	1.77	0.49
38:X:81:MET:HG2	41:a:888:C:C4	2.48	0.49
39:Y:126:ARG:HH12	41:a:1082:U:C3'	2.26	0.49
41:a:299:A:N1	41:a:322:A:O2'	2.42	0.49
41:a:1348:C:O2	41:a:1348:C:H2'	2.11	0.49
41:a:1791:A:C2	41:a:1829:A:O4'	2.65	0.49
41:a:2682:A:C5'	50:j:11:MET:HE1	2.42	0.49
52:l:5:LEU:HD23	52:l:122:GLU:HG3	1.95	0.49
54:n:70:ALA:O	54:n:81:GLN:OE1	2.31	0.49
56:p:94:TYR:C	56:p:95:ARG:HD2	2.38	0.49
57:q:10:LEU:HD23	57:q:33:HIS:CD2	2.47	0.49
59:s:125:TYR:HE2	59:s:130:HIS:HB2	1.78	0.49
62:v:57:VAL:HG22	62:v:60:GLN:O	2.13	0.49
4:3:6:ARG:NH1	41:a:84:A:H2'	2.28	0.49
6:5:9:DG:P	11:AA:473:ARG:HG3	2.51	0.49
9:9:6:GLN:HA	9:9:9:GLN:HE22	1.75	0.49
11:AA:562:GLU:OE1	11:AA:662:SER:OG	2.28	0.49
12:AB:19:GLU:HG2	12:AB:23:ARG:CZ	2.42	0.49
12:AB:29:LEU:HB3	12:AB:56:PHE:HD2	1.77	0.49
12:AB:50:LEU:HD21	14:AE:285:LEU:HB3	1.94	0.49
12:AB:141:LEU:O	12:AB:151:LYS:N	2.46	0.49
16:AG:248:VAL:HG21	16:AG:275:LEU:HG	1.94	0.49
17:C:73:ARG:HH12	31:Q:113:VAL:HB	1.76	0.49
18:D:922:G:H2'	18:D:923:A:C8	2.47	0.49
18:D:1215:G:C2	18:D:1216:A:C8	3.01	0.49
25:K:88:VAL:HG12	25:K:93:ARG:HA	1.93	0.49
30:P:7:ARG:HD3	30:P:75:ASP:CG	2.36	0.49
34:T:35:GLN:HB3	34:T:59:MET:HE1	1.95	0.49
36:V:17:MET:HG3	36:V:20:SER:HB2	1.95	0.49
36:V:42:THR:HG22	36:V:44:LEU:HD12	1.95	0.49
39:Y:21:PRO:CB	39:Y:22:PRO:HD3	2.41	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:Y:86:LYS:HD3	39:Y:86:LYS:O	2.11	0.49
41:a:807:U:OP2	61:u:41:ARG:NH1	2.42	0.49
41:a:1607:C:N4	41:a:1622:G:OP2	2.35	0.49
41:a:1792:G:H5''	48:h:204:VAL:HG23	1.95	0.49
41:a:1808:A:O2'	43:c:3:ARG:NH1	2.46	0.49
41:a:1843:C:C2	41:a:1844:C:C5	3.00	0.49
41:a:2684:U:C4	41:a:2685:G:N7	2.81	0.49
41:a:2902:C:N4	41:a:2903:U:O4	2.45	0.49
59:s:123:LYS:CE	59:s:132:HIS:HD2	2.25	0.49
59:s:131:ASN:OD1	59:s:131:ASN:O	2.30	0.49
60:t:1:MET:HE3	60:t:32:TYR:HB3	1.95	0.49
60:t:88:ASN:OD1	60:t:89:ASN:N	2.46	0.49
66:z:51:ARG:N	66:z:51:ARG:HD2	2.28	0.49
8:7:3:G:H5''	18:D:1501:C:N4	2.27	0.49
12:AB:158:GLU:HB3	12:AB:162:LEU:CD2	2.41	0.49
16:AG:130:PHE:C	16:AG:186:VAL:CG1	2.86	0.49
16:AG:323:GLN:CA	16:AG:323:GLN:NE2	2.75	0.49
10:B:23:C:H2'	10:B:24:U:H6	1.77	0.49
18:D:816:A:OP1	18:D:1526:G:O2'	2.27	0.49
18:D:975:A:H8	18:D:1357:A:HO2'	1.59	0.49
21:G:114:LEU:HD13	21:G:144:LEU:HB3	1.94	0.49
23:I:188:GLU:OE1	23:I:188:GLU:N	2.45	0.49
24:J:113:GLU:O	24:J:117:LEU:HG	2.13	0.49
27:M:108:ALA:O	27:M:119:ARG:NH2	2.45	0.49
27:M:109:ARG:O	27:M:119:ARG:NH2	2.46	0.49
31:Q:31:ILE:HD12	31:Q:46:THR:HG22	1.94	0.49
36:V:62:ARG:HA	36:V:73:TRP:CZ3	2.47	0.49
41:a:15:G:C2'	49:i:15:MET:HE1	2.42	0.49
41:a:1932:A:H2'	41:a:1933:G:O4'	2.13	0.49
41:a:2159:G:H2'	41:a:2160:C:C6	2.47	0.49
41:a:2313:C:H5''	54:n:88:LYS:HD2	1.95	0.49
41:a:2351:G:O6	55:o:39:LYS:HE3	2.13	0.49
41:a:2392:A:C8	41:a:2429:G:C2	3.00	0.49
43:c:6:GLN:CD	43:c:49:LEU:HD22	2.38	0.49
46:f:41:THR:CA	46:f:45:ARG:HH22	2.26	0.49
47:g:63:ARG:HG3	47:g:64:PHE:CD1	2.48	0.49
57:q:2:LYS:CE	57:q:35:GLN:HE21	2.25	0.49
61:u:77:ILE:HD11	61:u:108:ALA:HB1	1.95	0.49
64:x:90:VAL:HG22	64:x:115:LEU:HD11	1.94	0.49
66:z:74:ILE:HG13	66:z:78:LYS:HE3	1.94	0.49
1:0:73:LYS:HE2	1:0:73:LYS:HA	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:35:ILE:O	2:1:39:THR:HG23	2.12	0.49
5:4:89:ILE:CG2	5:4:91:PHE:CE1	2.95	0.49
9:9:25:ALA:CB	9:9:99:PHE:HD2	2.26	0.49
9:9:77:VAL:CG1	9:9:82:ILE:HG21	2.41	0.49
10:A:47:U:O2'	10:A:50:U:P	2.71	0.49
12:AB:35:LEU:HA	12:AB:106:ASP:CG	2.33	0.49
16:AG:453:VAL:HG11	16:AG:459:LEU:HD23	1.95	0.49
10:B:72:A:H2'	10:B:73:A:H5''	1.95	0.49
18:D:739:C:O2	34:T:42:HIS:HE1	1.94	0.49
18:D:877:G:H5''	28:N:80:ARG:HD2	1.93	0.49
18:D:1324:A:H2'	18:D:1325:C:H6	1.78	0.49
18:D:1439:G:OP1	19:E:33:LYS:CE	2.61	0.49
29:O:32:GLN:HG3	29:O:32:GLN:O	2.13	0.49
31:Q:98:ARG:HG2	31:Q:98:ARG:HH11	1.78	0.49
32:R:80:ILE:HG22	32:R:81:LEU:N	2.27	0.49
34:T:64:ARG:CZ	34:T:64:ARG:CB	2.90	0.49
41:a:132:G:H2'	41:a:133:U:C6	2.47	0.49
41:a:145:C:H2'	41:a:146:A:H8	1.77	0.49
41:a:1142:A:C4	41:a:1144:A:N7	2.80	0.49
41:a:2189:U:O2'	41:a:2190:G:O5'	2.31	0.49
41:a:2677:G:C6	41:a:2731:G:C6	3.01	0.49
41:a:2740:A:H2'	41:a:2741:A:C8	2.47	0.49
41:a:2754:U:O3'	57:q:19:ARG:NH2	2.46	0.49
41:a:2771:C:C2	41:a:2772:C:C5	3.01	0.49
41:a:2809:A:H2'	41:a:2810:A:C8	2.48	0.49
46:f:3:LYS:HE2	46:f:3:LYS:HA	1.95	0.49
47:g:47:LYS:HE2	54:n:115:ARG:HA	1.95	0.49
51:k:21:TYR:CE2	51:k:38:LYS:CG	2.96	0.49
54:n:8:TYR:HA	54:n:12:VAL:HB	1.95	0.49
59:s:1:MET:HE2	66:z:97:ASP:OD2	2.13	0.49
59:s:54:ILE:O	59:s:123:LYS:HG2	2.12	0.49
59:s:73:VAL:CG1	59:s:74:TYR:N	2.75	0.49
63:w:82:GLU:O	63:w:86:ARG:HG2	2.13	0.49
4:3:94:ARG:CB	4:3:103:ILE:HD12	2.43	0.49
6:5:9:DG:H5''	11:AA:473:ARG:HB3	0.54	0.49
10:A:70:G:C3'	10:A:71:C:H5''	2.43	0.49
14:AE:53:ARG:HA	14:AE:54:ASP:HA	1.59	0.49
14:AE:678:ARG:NH1	14:AE:756:GLU:OE1	2.46	0.49
14:AE:977:SER:OG	14:AE:980:THR:OG1	2.31	0.49
16:AG:305:MET:HG2	16:AG:336:LEU:HA	1.94	0.49
16:AG:433:ASP:C	16:AG:456:LEU:HD11	2.23	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:D:718:A:C5	31:Q:118:HIS:ND1	2.81	0.49
19:E:54:MET:HE1	19:E:75:HIS:HE1	1.77	0.49
21:G:23:TRP:CZ3	21:G:25:PRO:HA	2.47	0.49
22:H:112:ILE:HA	22:H:121:THR:O	2.12	0.49
25:K:13:GLU:C	25:K:14:LYS:HD2	2.37	0.49
26:L:70:VAL:O	26:L:74:LEU:CD2	2.56	0.49
27:M:138:ARG:HG2	27:M:142:HIS:CE1	2.48	0.49
29:O:12:ARG:HD3	29:O:13:LYS:H	1.78	0.49
30:P:64:GLN:OE1	30:P:65:TYR:O	2.31	0.49
36:V:42:THR:HG22	36:V:44:LEU:HD11	1.95	0.49
41:a:636:G:N2	61:u:76:GLU:OE2	2.45	0.49
41:a:1385:A:O2'	41:a:1396:U:O2	2.31	0.49
41:a:1571:A:H2'	41:a:1572:A:C8	2.47	0.49
41:a:2093:G:N7	41:a:2225:A:H2'	2.28	0.49
45:e:2:LYS:HZ1	45:e:49:ASP:C	2.21	0.49
48:h:141:VAL:HG23	48:h:162:VAL:HG12	1.94	0.49
56:p:69:ARG:NH1	56:p:73:ASN:HD21	2.11	0.49
63:w:35:LYS:NZ	63:w:112:TYR:CE2	2.76	0.49
8:7:21:U:H5'	23:I:80:LYS:CG	2.43	0.48
10:A:22:G:O2'	10:A:23:C:O5'	2.31	0.48
11:AA:318:SER:OG	11:AA:320:ASP:OD1	2.31	0.48
12:AB:9:CYS:N	12:AB:53:ASN:HB3	2.23	0.48
12:AB:146:ILE:O	30:P:98:VAL:O	2.31	0.48
16:AG:244:ARG:CD	16:AG:244:ARG:N	2.73	0.48
16:AG:453:VAL:HG11	16:AG:459:LEU:CG	2.42	0.48
18:D:43:C:P	35:U:12:LYS:NZ	2.86	0.48
18:D:71:A:N1	18:D:100:G:C8	2.81	0.48
18:D:123:U:H5''	18:D:311:C:O2'	2.13	0.48
18:D:377:G:OP1	35:U:5:ARG:CZ	2.60	0.48
18:D:429:U:N3	18:D:431:A:N6	2.61	0.48
18:D:1319:A:C8	18:D:1323:G:C6	3.01	0.48
23:I:142:MET:HG3	23:I:170:GLU:OE1	2.13	0.48
25:K:112:ARG:C	25:K:116:GLU:OE1	2.56	0.48
29:O:86:ALA:HA	29:O:89:GLU:HG2	1.95	0.48
41:a:26:G:H2'	41:a:27:G:O4'	2.13	0.48
50:j:101:PHE:CZ	50:j:203:VAL:HG12	2.48	0.48
62:v:58:LYS:O	62:v:59:ARG:HG3	2.13	0.48
63:w:114:GLU:N	63:w:114:GLU:OE1	2.46	0.48
65:y:7:GLN:NE2	65:y:10:GLN:HE21	2.11	0.48
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AG:467:LEU:HD12	16:AG:482:ILE:HD11	1.95	0.48
18:D:331:G:H2'	19:E:4:ILE:HD11	1.95	0.48
18:D:563:A:N1	18:D:884:U:O4	2.46	0.48
18:D:908:A:H2'	18:D:909:A:C8	2.48	0.48
18:D:1227:A:H5'	38:X:110:LYS:HZ1	1.79	0.48
23:I:164:ARG:HD2	23:I:166:GLU:OE2	2.12	0.48
24:J:76:TYR:HE2	24:J:204:TYR:CB	2.25	0.48
28:N:96:MET:HG2	28:N:96:MET:O	2.13	0.48
29:O:52:LEU:HB3	29:O:58:VAL:HG12	1.94	0.48
30:P:63:ASP:OD1	30:P:65:TYR:CZ	2.66	0.48
34:T:71:LYS:HE2	34:T:78:TYR:CE2	2.48	0.48
39:Y:99:LYS:NZ	39:Y:138:VAL:O	2.44	0.48
41:a:379:G:N1	41:a:396:G:C6	2.82	0.48
52:l:119:ILE:O	52:l:188:MET:N	2.35	0.48
54:n:67:ILE:HD13	54:n:87:CYS:HB3	1.95	0.48
65:y:40:LEU:HD12	65:y:40:LEU:N	2.28	0.48
66:z:58:ARG:HA	66:z:61:TRP:CE3	2.47	0.48
2:1:17:VAL:HG12	2:1:76:VAL:HG21	1.94	0.48
9:9:31:ARG:HH22	41:a:1106:G:N2	2.10	0.48
10:A:21:A:H4'	10:A:21:A:OP1	2.13	0.48
16:AG:37:LYS:HD3	16:AG:37:LYS:HA	1.67	0.48
16:AG:148:ASP:HA	16:AG:164:ARG:CD	2.44	0.48
16:AG:440:VAL:HG22	16:AG:481:LEU:HD21	1.95	0.48
17:C:60:LYS:NZ	18:D:734:G:C3'	2.76	0.48
18:D:1127:G:C2	18:D:1128:C:C6	3.01	0.48
18:D:1314:C:H2'	18:D:1315:U:H6	1.78	0.48
20:F:4:ILE:CD1	20:F:19:PHE:HA	2.43	0.48
23:I:134:MET:HE2	23:I:168:TYR:CG	2.49	0.48
27:M:132:GLY:O	27:M:136:LYS:NZ	2.45	0.48
41:a:1141:U:H5	59:s:68:LYS:HZ1	1.60	0.48
41:a:1921:G:C2'	41:a:1922:G:H5'	2.43	0.48
41:a:2515:C:H2'	41:a:2516:A:H8	1.78	0.48
41:a:2591:C:H2'	41:a:2592:G:H8	1.78	0.48
42:b:45:PHE:HD2	42:b:80:ILE:HD11	1.77	0.48
46:f:41:THR:N	46:f:45:ARG:NH2	2.61	0.48
63:w:33:ILE:HD11	63:w:112:TYR:CE1	2.48	0.48
63:w:60:VAL:HG22	63:w:63:ARG:HH12	1.78	0.48
66:z:72:ASN:ND2	66:z:106:PHE:CE2	2.81	0.48
5:4:77:VAL:HG13	5:4:77:VAL:O	2.14	0.48
7:6:19:DC:H2'	7:6:20:DA:C8	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)
11:AA:400:VAL:HG11	11:AA:452:ARG:HD2	1.94	0.48
12:AB:112:PRO:HA	12:AB:133:PRO:HG2	1.95	0.48
12:AB:148:LYS:HZ1	30:P:102:LEU:C	2.22	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
16:AG:349:GLN:C	16:AG:351:GLU:N	2.71	0.48
10:B:21:A:H4'	10:B:21:A:OP1	2.13	0.48
18:D:562:U:O3'	32:R:14:ARG:NH1	2.46	0.48
18:D:744:C:H2'	18:D:745:G:H8	1.77	0.48
23:I:119:SER:O	23:I:123:GLN:HG2	2.13	0.48
26:L:38:ARG:HD2	26:L:40:GLU:OE2	2.13	0.48
38:X:9:ILE:HG13	38:X:10:PRO:HD2	1.95	0.48
41:a:39:G:H1'	52:l:43:THR:HG21	1.96	0.48
41:a:1321:A:C5	41:a:1322:A:C8	3.02	0.48
41:a:1664:A:C2'	41:a:1665:A:H5'	2.43	0.48
41:a:1800:C:HO2'	41:a:1818:U:H3	1.61	0.48
41:a:2061:G:C2	41:a:2063:C:C5	3.01	0.48
41:a:2420:C:C5'	51:k:8:LYS:NZ	2.76	0.48
41:a:2455:G:H2'	41:a:2456:C:C6	2.48	0.48
42:b:47:ALA:HB2	42:b:59:LEU:HD11	1.94	0.48
45:e:14:LEU:HD13	45:e:57:LEU:HD22	1.95	0.48
52:l:149:ILE:CG2	52:l:175:ILE:HD11	2.43	0.48
54:n:22:TYR:HE2	54:n:29:PRO:HD3	1.79	0.48
61:u:117:THR:HG23	61:u:118:THR:N	2.28	0.48
65:y:9:GLU:HG3	65:y:55:LEU:HB2	1.95	0.48
4:3:84:GLY:HA3	4:3:95:PHE:CZ	2.48	0.48
5:4:1:MET:O	5:4:1:MET:HE3	2.13	0.48
11:AA:363:LEU:HB3	11:AA:381:ALA:HB1	1.96	0.48
12:AB:6:LEU:O	12:AB:7:LEU:HD23	2.13	0.48
12:AB:141:LEU:CG	12:AB:143:LEU:CD1	2.88	0.48
14:AE:287:ALA:HB3	14:AE:292:VAL:HG22	1.94	0.48
16:AG:200:SER:C	16:AG:230:PRO:HG2	2.38	0.48
16:AG:361:LYS:HD2	16:AG:417:ILE:HG12	1.92	0.48
17:C:60:LYS:NZ	18:D:734:G:H2'	2.25	0.48
18:D:123:U:C2	18:D:124:C:C5	3.01	0.48
18:D:500:G:H2'	18:D:501:C:H6	1.77	0.48
18:D:610:U:O2	18:D:610:U:H2'	2.12	0.48
24:J:62:ARG:CZ	24:J:69:GLU:HG2	2.44	0.48
24:J:124:MET:HE2	24:J:128:ARG:CA	2.43	0.48
25:K:157:ARG:CZ	28:N:43:GLU:HG3	2.43	0.48
26:L:65:GLU:OE1	26:L:65:GLU:HA	2.12	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:Q:94:GLU:O	31:Q:97:ILE:HG22	2.13	0.48
32:R:7:LEU:HD23	36:V:34:TYR:OH	2.12	0.48
33:S:47:LYS:O	33:S:50:THR:OG1	2.25	0.48
39:Y:126:ARG:NH1	41:a:1082:U:O5'	2.46	0.48
40:Z:29:LYS:HG3	40:Z:30:PHE:CE2	2.49	0.48
41:a:6:A:O3'	59:s:132:HIS:CE1	2.67	0.48
41:a:1042:G:C4	41:a:1043:C:C6	3.02	0.48
41:a:1830:C:N3	41:a:1831:G:N7	2.61	0.48
41:a:2040:G:OP1	59:s:106:LYS:NZ	2.38	0.48
44:d:117:G:OP1	64:x:56:LYS:HD3	2.14	0.48
45:e:10:SER:OG	45:e:13:GLU:HG2	2.13	0.48
52:l:112:LEU:CD1	52:l:117:ARG:HB2	2.39	0.48
59:s:15:TRP:HD1	59:s:53:TYR:HB2	1.78	0.48
61:u:59:ARG:HH11	61:u:59:ARG:HG3	1.77	0.48
62:v:29:GLY:H	62:v:104:GLU:HG2	1.78	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
13:AD:182:ARG:O	13:AD:205:MET:HA	2.14	0.48
14:AE:107:LEU:HD22	14:AE:299:LEU:HD21	1.95	0.48
16:AG:59:PHE:CD1	16:AG:97:ILE:HG23	2.48	0.48
16:AG:389:MET:HA	16:AG:407:ARG:NH1	2.29	0.48
16:AG:444:LEU:HD22	16:AG:473:LEU:CD2	2.43	0.48
10:B:22:G:O2'	10:B:23:C:O5'	2.32	0.48
17:C:21:ILE:HG13	17:C:54:GLN:NE2	2.29	0.48
17:C:65:LEU:HD23	17:C:67:LEU:HD11	1.96	0.48
18:D:429:U:O2	18:D:430:A:C8	2.66	0.48
18:D:537:G:OP1	32:R:110:ARG:NH2	2.38	0.48
18:D:1314:C:H2'	18:D:1315:U:C6	2.48	0.48
19:E:22:ALA:HA	19:E:25:ARG:HE	1.79	0.48
23:I:156:ARG:HG2	23:I:193:TYR:HB2	1.95	0.48
24:J:62:ARG:NE	24:J:72:PHE:CE2	2.81	0.48
25:K:16:ILE:H	25:K:16:ILE:HD12	1.79	0.48
25:K:157:ARG:NH2	28:N:43:GLU:OE2	2.46	0.48
25:K:159:LYS:HZ3	28:N:44:GLY:HA3	1.78	0.48
32:R:74:LEU:HD11	32:R:80:ILE:CD1	2.43	0.48
34:T:64:ARG:HA	34:T:64:ARG:HH11	1.75	0.48
36:V:50:ASN:HB2	36:V:52:GLU:OE2	2.13	0.48
38:X:16:VAL:HG23	38:X:17:ILE:N	2.29	0.48
38:X:86:TYR:HE2	38:X:90:ARG:NH2	2.11	0.48
41:a:272:A:C2	41:a:273:G:C5	3.02	0.48
41:a:920:A:C5	41:a:921:C:C5	3.01	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:a:1021:A:H3'	41:a:1021:A:N3	2.27	0.48
49:i:40:ARG:NH1	49:i:41:HIS:CG	2.81	0.48
51:k:7:GLU:HG2	51:k:27:LYS:NZ	2.29	0.48
52:l:147:LEU:HD11	52:l:170:ARG:CD	2.43	0.48
59:s:88:THR:O	59:s:92:MET:HE2	2.13	0.48
62:v:42:THR:HA	62:v:93:VAL:HG12	1.95	0.48
62:v:95:LEU:HD23	62:v:95:LEU:H	1.78	0.48
65:y:13:MET:HG3	65:y:77:HIS:CE1	2.49	0.48
1:0:61:ALA:HB1	1:0:96:VAL:CG2	2.43	0.48
3:2:11:LEU:HD11	3:2:46:ALA:HB3	1.95	0.48
9:9:103:ASN:HA	9:9:107:GLU:HG3	1.96	0.48
11:AA:411:ARG:NH2	11:AA:427:ASP:OD2	2.44	0.48
11:AA:554:HIS:HD2	11:AA:558:VAL:HB	1.77	0.48
11:AA:565:GLU:HA	11:AA:569:ILE:HG12	1.95	0.48
14:AE:79:LYS:CB	14:AE:81:ARG:NH1	2.73	0.48
16:AG:18:LEU:HB3	16:AG:19:PRO:HD2	1.95	0.48
16:AG:243:LYS:CB	21:G:179:LEU:HA	2.43	0.48
16:AG:288:MET:O	16:AG:288:MET:HG2	2.13	0.48
10:B:12:G:C2'	10:B:13:C:OP1	2.61	0.48
10:B:47:U:O2'	10:B:50:U:P	2.70	0.48
17:C:45:THR:HA	22:H:340:ARG:HH21	1.77	0.48
18:D:1530:G:H2'	18:D:1531:A:C8	2.49	0.48
20:F:62:ARG:HD2	20:F:63:GLU:N	2.29	0.48
21:G:49:MET:CE	21:G:201:PRO:CD	2.87	0.48
21:G:131:LYS:HE3	21:G:132:LYS:NZ	2.29	0.48
24:J:61:VAL:HA	24:J:64:ILE:HD12	1.96	0.48
24:J:139:PRO:N	24:J:182:PHE:HE2	2.12	0.48
27:M:129:GLU:O	27:M:130:ASN:HB2	2.13	0.48
30:P:15:HIS:O	30:P:18:ILE:HG22	2.14	0.48
41:a:67:U:N3	41:a:74:A:N6	2.62	0.48
41:a:208:C:H2'	41:a:209:C:H6	1.78	0.48
41:a:760:G:H2'	41:a:761:A:O4'	2.14	0.48
41:a:2193:G:HO2'	41:a:2194:U:P	2.36	0.48
41:a:2884:U:N3	49:i:40:ARG:NH1	2.62	0.48
50:j:55:LYS:HZ1	50:j:59:ARG:HB3	1.78	0.48
50:j:55:LYS:HZ2	50:j:60:VAL:CA	2.27	0.48
50:j:124:ARG:HA	50:j:165:MET:CE	2.44	0.48
52:l:6:LYS:HZ1	52:l:120:VAL:N	2.12	0.48
59:s:39:LYS:HA	59:s:44:TYR:HD1	1.78	0.48
59:s:98:GLU:OE1	59:s:124:VAL:HG13	2.13	0.48
63:w:38:LEU:N	63:w:39:PRO:CD	2.76	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:2:69:ARG:HG3	3:2:74:ILE:HD13	1.96	0.48
6:5:17:DC:C5	11:AA:542:ARG:HD3	2.48	0.48
10:A:72:A:H2'	10:A:73:A:H5''	1.95	0.48
11:AA:618:GLN:HG3	14:AE:770:LEU:HD13	1.95	0.48
12:AB:50:LEU:HD21	14:AE:285:LEU:CB	2.44	0.48
12:AB:92:VAL:HG13	12:AB:96:LEU:O	2.13	0.48
12:AB:136:GLU:OE1	12:AB:160:ARG:CZ	2.61	0.48
14:AE:67:ASP:C	14:AE:69:GLU:N	2.71	0.48
14:AE:520:ALA:HB3	14:AE:546:ALA:HB2	1.95	0.48
16:AG:243:LYS:O	16:AG:243:LYS:HD3	2.14	0.48
16:AG:244:ARG:O	25:K:69:ARG:CB	2.61	0.48
18:D:110:C:H2'	18:D:111:G:O4'	2.14	0.48
18:D:652:U:C3'	28:N:56:LYS:HZ1	2.19	0.48
18:D:674:G:P	26:L:86:ARG:HH22	2.35	0.48
18:D:1428:A:H2'	18:D:1429:A:O4'	2.13	0.48
24:J:170:TRP:CZ3	24:J:190:ASP:HB3	2.48	0.48
26:L:36:ILE:HD12	26:L:63:ASN:O	2.14	0.48
26:L:62:MET:HE3	26:L:62:MET:CA	2.43	0.48
29:O:118:LEU:HD22	29:O:123:ARG:C	2.39	0.48
33:S:74:LEU:HD23	33:S:77:PHE:CD2	2.49	0.48
37:W:44:MET:SD	37:W:62:VAL:CG1	2.99	0.48
39:Y:99:LYS:CD	39:Y:138:VAL:O	2.61	0.48
41:a:1666:G:H1'	60:t:3:GLN:NE2	2.29	0.48
41:a:1858:A:N6	41:a:1884:G:H1'	2.29	0.48
41:a:2043:C:C2	41:a:2044:C:C5	3.02	0.48
41:a:2373:G:H2'	41:a:2374:C:C6	2.49	0.48
41:a:2685:G:OP1	60:t:78:ARG:NH2	2.47	0.48
43:c:67:VAL:HA	43:c:70:GLU:OE1	2.14	0.48
58:r:137:GLU:CG	58:r:138:VAL:HG23	2.39	0.48
59:s:123:LYS:HD2	59:s:132:HIS:HD2	1.78	0.48
64:x:41:ALA:HB2	64:x:48:LEU:HD11	1.95	0.48
64:x:115:LEU:HD23	64:x:117:PHE:CE1	2.48	0.48
4:3:28:VAL:HG23	4:3:34:VAL:HG12	1.96	0.48
9:9:24:SER:O	9:9:116:GLU:HB2	2.14	0.48
9:9:24:SER:HG	9:9:85:SER:C	2.22	0.48
10:A:65:C:C2'	10:A:66:C:H5'	2.44	0.48
11:AA:560:PRO:O	14:AE:780:ARG:NH2	2.47	0.48
11:AA:836:LEU:HD13	11:AA:1054:LEU:HD13	1.95	0.48
16:AG:61:ARG:HD2	16:AG:73:LYS:CD	2.44	0.48
18:D:72:A:C5	18:D:73:C:C5	3.02	0.48
18:D:106:C:N4	19:E:10:ARG:HH22	2.12	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:D:893:C:C2	18:D:894:G:C8	3.01	0.48
23:I:134:MET:HG3	23:I:151:VAL:CG2	2.44	0.48
24:J:195:ILE:HG13	24:J:195:ILE:O	2.14	0.48
25:K:156:LYS:NZ	28:N:71:VAL:O	2.42	0.48
25:K:157:ARG:NH1	28:N:43:GLU:HA	2.29	0.48
27:M:142:HIS:O	27:M:146:GLU:HG2	2.13	0.48
28:N:40:LEU:O	28:N:44:GLY:N	2.47	0.48
32:R:99:ARG:NE	32:R:104:CYS:SG	2.87	0.48
38:X:86:TYR:CE2	38:X:90:ARG:NE	2.82	0.48
38:X:94:GLY:C	38:X:95:LEU:HD22	2.38	0.48
41:a:576:U:H2'	41:a:577:G:C8	2.48	0.48
41:a:962:G:C5	41:a:963:U:C5	3.01	0.48
41:a:2012:G:H8	41:a:2012:G:O5'	1.96	0.48
49:i:28:LEU:O	49:i:37:LYS:NZ	2.46	0.48
52:l:40:ARG:HD2	52:l:92:HIS:CE1	2.48	0.48
54:n:16:LEU:HD12	54:n:28:VAL:CG2	2.43	0.48
56:p:94:TYR:HD1	56:p:107:LEU:HD23	1.79	0.48
57:q:1:MET:CA	57:q:1:MET:HE3	2.43	0.48
1:0:68:ARG:NH2	1:0:90:ARG:HD3	2.29	0.48
2:1:1:MET:CG	2:1:62:ASP:OD2	2.61	0.48
2:1:23:LEU:HD21	2:1:35:ILE:CG2	2.44	0.48
2:1:25:ARG:HH12	41:a:520:G:P	2.37	0.48
7:6:10:DG:OP1	14:AE:311:ARG:NH2	2.47	0.48
9:9:95:LEU:HD12	9:9:99:PHE:CZ	2.48	0.48
11:AA:1280:ALA:HB1	14:AE:918:ILE:HG22	1.96	0.48
14:AE:516:ASP:OD1	14:AE:516:ASP:N	2.47	0.48
16:AG:285:ILE:O	16:AG:288:MET:HE3	2.14	0.48
16:AG:434:LEU:CD2	16:AG:455:THR:O	2.50	0.48
10:B:35:A:H2'	10:B:36:U:C6	2.49	0.48
18:D:126:G:OP1	18:D:605:U:O2'	2.19	0.48
18:D:1172:C:H2'	18:D:1173:U:C6	2.49	0.48
37:W:9:PRO:HD3	47:g:64:PHE:CD2	2.49	0.48
37:W:62:VAL:HG13	37:W:66:MET:CE	2.44	0.48
39:Y:19:PRO:HG2	39:Y:24:GLY:H	1.79	0.48
41:a:208:C:C2	41:a:209:C:C5	3.01	0.48
41:a:247:G:H4'	41:a:386:G:C5	2.49	0.48
41:a:624:C:O2'	41:a:657:U:OP1	2.29	0.48
41:a:654:A:N6	55:o:19:LYS:HD2	2.29	0.48
41:a:689:A:H2'	41:a:690:G:C8	2.49	0.48
41:a:984:A:N3	41:a:984:A:H2'	2.29	0.48
41:a:2193:G:O2'	41:a:2194:U:P	2.72	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:a:2259:U:C2	41:a:2260:C:C5	3.01	0.48
41:a:2327:A:H2'	41:a:2328:A:C8	2.49	0.48
41:a:2419:U:O2'	41:a:2420:C:H5'	2.14	0.48
56:p:9:VAL:HG23	56:p:69:ARG:HD2	1.95	0.48
60:t:42:THR:HG22	60:t:44:LYS:HZ1	1.79	0.48
62:v:41:LEU:HG	62:v:96:ILE:HG13	1.95	0.48
2:1:20:VAL:O	2:1:23:LEU:HB3	2.13	0.47
2:1:28:LYS:HB2	2:1:31:GLN:OE1	2.14	0.47
10:A:32:C:H2'	10:A:33:U:H5'	1.94	0.47
11:AA:732:ILE:HD11	11:AA:769:PRO:HB3	1.95	0.47
11:AA:848:GLU:HG2	11:AA:888:THR:HG22	1.96	0.47
11:AA:856:ASN:H	16:AG:35:THR:HG21	1.79	0.47
11:AA:1311:GLY:O	15:AF:31:GLN:NE2	2.47	0.47
11:AA:1314:GLN:HB2	15:AF:28:ARG:HH12	1.79	0.47
12:AB:32:MET:HE2	12:AB:32:MET:HA	1.95	0.47
18:D:61:G:O6	19:E:10:ARG:NH2	2.47	0.47
18:D:1149:C:H2'	18:D:1150:A:H8	1.79	0.47
18:D:1176:A:H2'	18:D:1177:G:O4'	2.14	0.47
18:D:1307:U:H2'	18:D:1308:U:C6	2.49	0.47
18:D:1412:C:H2'	18:D:1413:A:C8	2.49	0.47
19:E:19:LYS:CG	19:E:20:HIS:N	2.76	0.47
21:G:110:SER:CA	21:G:113:ARG:HH21	2.27	0.47
22:H:5:PHE:CE1	22:H:9:PHE:HE1	2.31	0.47
26:L:9:MET:HE2	26:L:51:ILE:CD1	2.44	0.47
29:O:21:ILE:HD12	29:O:86:ALA:HB1	1.96	0.47
29:O:49:ARG:O	29:O:53:GLU:OE1	2.32	0.47
34:T:77:ARG:HH21	34:T:80:GLN:NE2	2.11	0.47
36:V:11:ARG:HD2	36:V:56:GLY:C	2.39	0.47
41:a:880:G:C2	41:a:881:G:C8	3.02	0.47
41:a:2814:A:C4	41:a:2815:C:C5	3.02	0.47
42:b:26:PHE:H	42:b:29:GLU:HG3	1.79	0.47
47:g:47:LYS:HE2	54:n:115:ARG:CZ	2.44	0.47
51:k:19:HIS:CD2	51:k:20:PHE:N	2.82	0.47
52:l:42:GLY:HA3	52:l:92:HIS:CE1	2.49	0.47
56:p:18:LYS:HE2	56:p:18:LYS:HA	1.96	0.47
62:v:53:MET:HB2	62:v:116:ALA:HB1	1.96	0.47
66:z:78:LYS:CD	66:z:117:LEU:HD21	2.43	0.47
5:4:11:GLU:OE2	5:4:19:ARG:NH2	2.47	0.47
5:4:59:GLU:OE1	5:4:59:GLU:N	2.47	0.47
9:9:52:MET:HE2	9:9:85:SER:HB2	1.95	0.47
10:A:26:G:H1	10:A:44:A:N6	2.12	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:A:35:A:H2'	10:A:36:U:C6	2.49	0.47
12:AB:118:ILE:HG12	12:AB:130:PHE:CD2	2.49	0.47
12:AB:120:GLU:H	12:AB:162:LEU:HG	1.80	0.47
13:AC:102:LEU:HD12	13:AC:115:ILE:HG12	1.96	0.47
14:AE:640:GLY:N	14:AE:643:ASP:OD2	2.42	0.47
16:AG:27:LEU:HD22	16:AG:114:ILE:HG12	1.96	0.47
16:AG:62:TRP:CD1	16:AG:95:ASP:HB2	2.49	0.47
18:D:636:U:H5'	36:V:6:ARG:NE	2.29	0.47
21:G:26:LYS:O	21:G:26:LYS:HD3	2.14	0.47
27:M:135:VAL:HG23	27:M:136:LYS:HD2	1.96	0.47
28:N:34:VAL:HG22	28:N:59:LEU:HD21	1.96	0.47
30:P:5:ARG:HG3	30:P:7:ARG:HH12	1.78	0.47
33:S:12:LYS:HD2	33:S:16:LEU:CD2	2.44	0.47
36:V:31:HIS:HD2	36:V:34:TYR:H	1.62	0.47
39:Y:126:ARG:NH1	41:a:1083:U:OP2	2.47	0.47
41:a:1818:U:H6	48:h:156:ARG:NH2	2.12	0.47
41:a:1825:U:P	48:h:52:ARG:NH1	2.86	0.47
41:a:2070:A:H2'	41:a:2071:A:O4'	2.14	0.47
41:a:2246:G:H2'	41:a:2247:A:C8	2.49	0.47
41:a:2296:U:H4'	41:a:2297:A:OP1	2.14	0.47
41:a:2297:A:N1	41:a:2321:U:O4	2.47	0.47
41:a:2298:A:H5''	54:n:72:LYS:CE	2.44	0.47
41:a:2299:U:P	54:n:72:LYS:HE2	2.54	0.47
47:g:45:THR:O	47:g:49:ARG:CZ	2.62	0.47
48:h:130:LEU:HG	48:h:135:ILE:HG13	1.96	0.47
51:k:25:LYS:HD3	51:k:51:GLU:OE2	2.14	0.47
2:1:95:ARG:NH1	2:1:97:LEU:CD2	2.77	0.47
5:4:21:ARG:HA	5:4:25:LYS:O	2.14	0.47
12:AB:2:GLN:HB2	12:AB:60:ASP:HB2	1.95	0.47
16:AG:209:PHE:CE1	16:AG:262:VAL:HG21	2.49	0.47
16:AG:299:ASP:CB	16:AG:303:HIS:HA	2.44	0.47
16:AG:342:ASP:N	16:AG:342:ASP:OD1	2.45	0.47
16:AG:400:GLU:H	16:AG:400:GLU:HG2	1.40	0.47
16:AG:448:LEU:HD23	16:AG:473:LEU:HD12	1.95	0.47
18:D:109:A:C6	18:D:326:G:C6	3.02	0.47
18:D:977:A:O2'	18:D:979:C:OP2	2.25	0.47
18:D:1308:U:H3'	38:X:98:ARG:NH2	2.29	0.47
20:F:33:ARG:O	20:F:36:GLU:HG2	2.14	0.47
24:J:74:ASN:CA	24:J:77:LYS:HZ3	2.27	0.47
24:J:138:SER:O	24:J:139:PRO:C	2.57	0.47
27:M:109:ARG:C	27:M:119:ARG:HH21	2.23	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:O:49:ARG:C	29:O:53:GLU:OE1	2.57	0.47
30:P:26:VAL:HG12	30:P:30:LYS:HZ2	1.79	0.47
30:P:27:GLU:HA	30:P:30:LYS:HZ1	1.78	0.47
33:S:63:ARG:HD3	33:S:68:GLY:O	2.15	0.47
35:U:26:ASN:ND2	35:U:31:ARG:HE	2.11	0.47
38:X:5:ALA:HB3	38:X:66:GLU:OE2	2.14	0.47
39:Y:52:LEU:O	39:Y:54:ILE:HG12	2.14	0.47
39:Y:74:PRO:O	39:Y:78:LEU:HG	2.13	0.47
41:a:783:A:N3	41:a:783:A:H2'	2.29	0.47
41:a:871:U:H2'	41:a:872:U:H6	1.78	0.47
41:a:1141:U:H4'	41:a:1142:A:O5'	2.13	0.47
41:a:1349:C:N3	41:a:1350:C:C5	2.83	0.47
41:a:1385:A:C4	41:a:1386:C:C5	3.02	0.47
41:a:1429:G:H2'	41:a:1430:G:H8	1.79	0.47
41:a:1708:C:H2'	41:a:1709:U:H6	1.79	0.47
41:a:2537:U:H2'	41:a:2538:C:H6	1.79	0.47
41:a:2788:C:H2'	41:a:2789:C:C6	2.49	0.47
45:e:24:GLU:O	45:e:25:GLN:C	2.57	0.47
52:l:6:LYS:HZ1	52:l:119:ILE:C	2.23	0.47
59:s:13:ARG:NH2	59:s:50:THR:HA	2.27	0.47
9:9:31:ARG:NE	9:9:31:ARG:HA	2.28	0.47
10:A:33:U:H4'	27:M:84:THR:HB	1.96	0.47
10:A:75:C:O2'	10:A:76:A:N7	2.48	0.47
11:AA:1070:HIS:NE2	11:AA:1114:GLU:OE1	2.36	0.47
10:B:70:G:C3'	10:B:71:C:H5''	2.44	0.47
18:D:977:A:H1'	18:D:982:U:O4	2.15	0.47
18:D:1308:U:P	38:X:98:ARG:CG	3.03	0.47
34:T:29:VAL:HG22	34:T:66:LEU:HD23	1.96	0.47
41:a:1333:G:C2	41:a:1334:G:C8	3.03	0.47
41:a:2091:C:O2	43:c:34:HIS:CE1	2.67	0.47
41:a:2314:A:C1'	54:n:155:THR:HG21	2.42	0.47
47:g:5:ILE:CD1	54:n:64:LYS:CE	2.92	0.47
48:h:108:LYS:HZ3	48:h:194:GLU:N	2.12	0.47
54:n:93:GLY:C	54:n:97:TRP:CZ3	2.92	0.47
62:v:53:MET:SD	62:v:53:MET:N	2.86	0.47
66:z:53:ARG:HG2	66:z:57:PHE:CE2	2.49	0.47
1:0:6:GLN:OE1	1:0:11:GLN:HG2	2.14	0.47
4:3:40:ASN:OD1	4:3:65:ILE:HB	2.14	0.47
5:4:2:PHE:CE1	5:4:56:PHE:CZ	3.03	0.47
11:AA:380:ALA:HA	12:AB:65:HIS:ND1	2.28	0.47
14:AE:77:ARG:HA	14:AE:77:ARG:CZ	2.44	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:AE:1321:SER:OG	14:AE:1349:GLU:OE2	2.32	0.47
16:AG:35:THR:HG21	16:AG:106:THR:HG22	1.95	0.47
16:AG:64:VAL:HA	16:AG:75:ILE:HB	1.94	0.47
16:AG:233:ARG:O	16:AG:327:LEU:CD2	2.62	0.47
18:D:306:A:C5	18:D:307:C:C5	3.02	0.47
18:D:309:A:O2'	18:D:607:A:N1	2.45	0.47
18:D:311:C:P	35:U:31:ARG:NH2	2.85	0.47
18:D:330:C:O2	18:D:330:C:H2'	2.13	0.47
19:E:9:LYS:O	19:E:12:ILE:HG12	2.14	0.47
24:J:76:TYR:CE2	24:J:204:TYR:CB	2.95	0.47
25:K:57:PRO:HA	25:K:60:ILE:HG12	1.96	0.47
25:K:157:ARG:NH1	28:N:43:GLU:CD	2.72	0.47
27:M:71:PRO:O	27:M:96:ARG:NH1	2.47	0.47
33:S:57:PRO:HA	33:S:60:GLN:OE1	2.13	0.47
34:T:77:ARG:NH2	34:T:80:GLN:NE2	2.62	0.47
37:W:33:THR:HG21	37:W:49:ILE:HD11	1.94	0.47
41:a:600:G:H2'	41:a:601:C:C6	2.50	0.47
41:a:1794:A:H2'	41:a:1795:C:H6	1.80	0.47
41:a:1841:U:C2	41:a:1842:G:C8	3.02	0.47
41:a:2297:A:C6	41:a:2321:U:O4	2.68	0.47
41:a:2513:A:H2'	41:a:2514:U:C6	2.50	0.47
53:m:25:LYS:HE2	53:m:28:ARG:HH21	1.78	0.47
54:n:38:MET:HE3	54:n:57:LEU:HG	1.96	0.47
55:o:62:LEU:HG	55:o:65:ALA:HA	1.95	0.47
62:v:59:ARG:CZ	62:v:59:ARG:O	2.63	0.47
2:1:105:VAL:HG13	2:1:105:VAL:O	2.14	0.47
3:2:56:GLU:OE2	3:2:88:LYS:CA	2.61	0.47
9:9:16:SER:HB2	9:9:20:LYS:NZ	2.29	0.47
10:A:8:U:O2'	10:A:47:U:O4	2.29	0.47
10:A:19:G:C6	41:a:2112:G:O5'	2.67	0.47
10:A:48:C:C2'	10:A:49:G:OP2	2.62	0.47
11:AA:207:THR:OG1	11:AA:354:ASP:OD2	2.32	0.47
13:AD:59:VAL:HG22	13:AD:144:ILE:HA	1.97	0.47
14:AE:79:LYS:CB	14:AE:81:ARG:HH12	2.28	0.47
14:AE:616:PRO:HA	14:AE:619:ILE:HG22	1.96	0.47
14:AE:1350:ASN:HA	14:AE:1353:VAL:HG12	1.97	0.47
16:AG:220:VAL:CG1	16:AG:245:ILE:HG21	2.44	0.47
16:AG:362:TYR:HA	16:AG:413:ALA:HB3	1.94	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
10:B:70:G:C2'	10:B:71:C:H5''	2.45	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:C:16:GLU:OE1	17:C:18:VAL:HB	2.14	0.47
18:D:307:C:O2	18:D:307:C:H2'	2.15	0.47
18:D:375:U:H1'	35:U:28:ARG:HH22	1.79	0.47
18:D:378:G:H2'	18:D:379:C:C6	2.49	0.47
18:D:864:A:H5'	25:K:90:THR:O	2.14	0.47
18:D:1227:A:C2	18:D:1228:C:C6	3.02	0.47
20:F:25:LYS:NZ	22:H:336:ASP:CG	2.68	0.47
21:G:112:LYS:HE2	21:G:112:LYS:HA	1.95	0.47
21:G:117:LEU:HD21	21:G:141:LEU:HB2	1.96	0.47
22:H:70:VAL:HA	22:H:85:SER:HA	1.95	0.47
25:K:156:LYS:HE3	28:N:71:VAL:CG1	2.42	0.47
27:M:18:PHE:CD2	27:M:59:LEU:HD21	2.47	0.47
28:N:3:MET:O	28:N:3:MET:HE3	2.14	0.47
31:Q:85:MET:HB3	31:Q:113:VAL:HG11	1.95	0.47
32:R:2:ALA:N	32:R:7:LEU:HD11	2.29	0.47
36:V:62:ARG:C	36:V:73:TRP:CE3	2.92	0.47
41:a:591:U:C2	41:a:592:A:C8	3.03	0.47
41:a:1048:A:C4	41:a:1049:C:C5	3.02	0.47
41:a:2298:A:C4	41:a:2321:U:H5	2.31	0.47
46:f:41:THR:O	46:f:42:PRO:C	2.58	0.47
48:h:205:LEU:HD12	48:h:210:ALA:CB	2.44	0.47
57:q:14:CYS:SG	57:q:33:HIS:HB3	2.53	0.47
60:t:20:MET:HB3	60:t:44:LYS:HE2	1.95	0.47
62:v:41:LEU:HD22	62:v:45:GLN:HE22	1.78	0.47
62:v:57:VAL:HG22	62:v:57:VAL:O	2.14	0.47
64:x:115:LEU:HD23	64:x:117:PHE:HE1	1.79	0.47
1:0:82:HIS:CD2	61:u:23:ILE:HG12	2.50	0.47
2:1:11:ARG:CZ	2:1:11:ARG:HB3	2.45	0.47
3:2:1:MET:HE1	41:a:139:U:C4	2.50	0.47
4:3:96:PHE:CE1	4:3:103:ILE:HG12	2.50	0.47
5:4:53:LYS:O	5:4:56:PHE:HD2	1.97	0.47
6:5:10:DT:C4'	11:AA:62:TYR:OH	2.61	0.47
8:7:8:U:OP2	18:D:1397:C:O2	2.33	0.47
9:9:3:LEU:O	9:9:4:ASN:OD1	2.33	0.47
9:9:38:MET:SD	39:Y:117:THR:CG2	3.02	0.47
9:9:51:TYR:CD2	9:9:88:HIS:HB2	2.50	0.47
10:A:12:G:C2'	10:A:13:C:OP1	2.61	0.47
10:A:30:G:O2'	10:A:31:G:H5'	2.15	0.47
10:A:70:G:C2'	10:A:71:C:H5''	2.45	0.47
11:AA:1286:THR:O	11:AA:1290:MET:HB2	2.14	0.47
12:AB:146:ILE:CG2	30:P:97:ASP:OD1	2.62	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AG:33:THR:CG2	16:AG:43:ILE:HD11	2.44	0.47
16:AG:61:ARG:HA	16:AG:94:GLU:HA	1.97	0.47
16:AG:240:THR:HG21	16:AG:247:PRO:HG3	1.92	0.47
16:AG:314:LEU:HB3	16:AG:318:ILE:HD12	1.97	0.47
16:AG:353:HIS:O	16:AG:356:ILE:CA	2.63	0.47
16:AG:440:VAL:CG2	16:AG:481:LEU:HD21	2.41	0.47
17:C:12:ARG:CZ	17:C:13:PHE:CE1	2.97	0.47
17:C:60:LYS:HE3	18:D:735:C:H4'	1.97	0.47
18:D:35:G:H2'	18:D:36:C:H6	1.79	0.47
18:D:520:A:O2'	32:R:70:GLU:CD	2.57	0.47
18:D:611:C:C2	18:D:612:C:C5	3.02	0.47
18:D:687:A:C2	18:D:704:A:C4	3.02	0.47
18:D:1149:C:C2	18:D:1150:A:C8	3.03	0.47
18:D:1325:C:C2	18:D:1326:U:C5	3.02	0.47
18:D:1382:C:N3	18:D:1383:C:C5	2.83	0.47
18:D:1397:C:OP1	18:D:1397:C:H2'	2.13	0.47
20:F:58:LYS:O	20:F:62:ARG:NE	2.45	0.47
21:G:19:GLN:OE1	21:G:21:ARG:CG	2.63	0.47
23:I:132:ARG:CA	23:I:135:LYS:HE3	2.44	0.47
24:J:41:HIS:ND1	24:J:44:ARG:NH1	2.63	0.47
24:J:62:ARG:HA	24:J:72:PHE:CZ	2.50	0.47
25:K:148:ASN:ND2	25:K:153:VAL:CG1	2.77	0.47
25:K:165:LEU:HD12	28:N:114:ARG:NH1	2.30	0.47
29:O:89:GLU:O	29:O:92:GLU:OE1	2.32	0.47
30:P:13:PHE:CE1	30:P:67:ILE:HD11	2.50	0.47
32:R:18:LYS:NZ	32:R:19:SER:O	2.47	0.47
33:S:63:ARG:NH2	33:S:70:PRO:HD3	2.30	0.47
36:V:30:LYS:HD3	36:V:35:GLY:HA2	1.97	0.47
40:Z:26:MET:O	40:Z:30:PHE:HB2	2.14	0.47
41:a:6:A:N3	59:s:135:GLN:NE2	2.58	0.47
41:a:104:A:C5	41:a:105:C:C5	3.02	0.47
41:a:257:C:O2	61:u:104:GLN:NE2	2.48	0.47
41:a:581:C:C2	41:a:582:A:C8	3.02	0.47
41:a:626:A:C2	61:u:78:ARG:CZ	2.98	0.47
41:a:872:U:H2'	41:a:873:C:C6	2.50	0.47
41:a:1197:G:C4	41:a:1198:U:C5	3.02	0.47
41:a:1477:A:N6	41:a:1514:G:O2'	2.45	0.47
41:a:1770:G:C6	41:a:1983:G:C5	3.03	0.47
41:a:1790:C:O3'	41:a:1791:A:C8	2.68	0.47
41:a:1844:C:C2	41:a:1845:G:C8	3.02	0.47
41:a:2013:A:C2	41:a:2613:U:O4	2.68	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:a:2243:U:H2'	41:a:2244:U:H6	1.80	0.47
41:a:2250:G:OP1	62:v:84:LYS:NZ	2.48	0.47
41:a:2294:G:OP1	64:x:10:ARG:HD3	2.15	0.47
41:a:2345:G:C5	41:a:2347:C:C5	3.03	0.47
41:a:2520:C:C6	41:a:2567:G:H1'	2.50	0.47
41:a:2702:G:C5	41:a:2703:C:C5	3.03	0.47
41:a:2803:G:H2'	41:a:2804:U:C5	2.50	0.47
45:e:20:ASN:HA	45:e:23:ARG:NE	2.30	0.47
48:h:181:MET:HE2	48:h:181:MET:CA	2.45	0.47
49:i:4:GLN:OE1	49:i:8:PRO:CD	2.63	0.47
52:l:23:PHE:CE2	52:l:25:GLU:HA	2.50	0.47
52:l:59:PRO:HB2	52:l:60:TRP:CE3	2.50	0.47
52:l:112:LEU:HD21	52:l:186:VAL:HB	1.97	0.47
54:n:12:VAL:O	54:n:16:LEU:HG	2.14	0.47
61:u:19:LEU:CD2	61:u:27:LEU:HD12	2.45	0.47
62:v:97:GLN:H	62:v:100:LYS:NZ	2.13	0.47
64:x:83:LEU:HD23	64:x:88:LYS:HE3	1.97	0.47
1:0:4:VAL:CG2	1:0:40:MET:HB3	2.45	0.47
11:AA:689:ALA:HB2	11:AA:1233:LEU:HD23	1.97	0.47
12:AB:116:VAL:N	12:AB:129:ILE:CD1	2.78	0.47
14:AE:288:PRO:HD2	14:AE:291:ILE:CB	2.42	0.47
16:AG:87:LEU:HD22	16:AG:93:VAL:HG21	1.96	0.47
16:AG:207:GLU:HG3	16:AG:210:ARG:HB3	1.96	0.47
16:AG:233:ARG:HG2	16:AG:270:ARG:CB	2.45	0.47
16:AG:434:LEU:HD11	16:AG:454:CYS:C	2.39	0.47
18:D:22:G:C5	18:D:23:C:C5	3.03	0.47
18:D:808:C:OP1	34:T:48:LYS:HE3	2.14	0.47
18:D:1225:A:H2'	18:D:1226:C:C5	2.49	0.47
18:D:1363:A:C5	18:D:1365:G:C6	3.03	0.47
22:H:277:GLY:CA	22:H:331:MET:CE	2.93	0.47
30:P:13:PHE:CZ	30:P:67:ILE:HD11	2.50	0.47
41:a:858:G:P	42:b:78:LYS:HZ1	2.36	0.47
41:a:879:G:H2'	41:a:880:G:O4'	2.14	0.47
41:a:921:C:C2	41:a:922:C:C5	3.03	0.47
41:a:1467:U:C4	41:a:1546:G:C2	3.03	0.47
41:a:1790:C:H2'	41:a:1791:A:N7	2.29	0.47
41:a:1791:A:C2	41:a:1829:A:H4'	2.49	0.47
41:a:1936:A:N7	41:a:1945:G:C8	2.83	0.47
41:a:2294:G:OP1	64:x:98:GLN:OE1	2.33	0.47
41:a:2700:A:H2'	41:a:2701:U:C6	2.50	0.47
41:a:2748:A:C2	41:a:2757:A:C5	3.02	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:j:9:VAL:O	50:j:197:THR:HG23	2.15	0.47
52:l:168:ASP:HB3	52:l:183:PHE:CE2	2.49	0.47
58:r:18:GLN:HE22	58:r:39:ALA:HB2	1.78	0.47
64:x:90:VAL:HG13	64:x:115:LEU:HD11	1.96	0.47
1:0:4:VAL:HG23	1:0:39:LEU:HB2	1.97	0.47
3:2:18:GLU:O	3:2:22:THR:HG23	2.15	0.47
4:3:47:LYS:NZ	41:a:482:A:O5'	2.48	0.47
5:4:48:MET:HE3	5:4:85:LYS:HA	1.97	0.47
8:7:7:U:C6	8:7:7:U:C3'	2.97	0.47
12:AB:7:LEU:HD22	12:AB:78:PHE:HA	1.96	0.47
12:AB:115:LYS:CD	12:AB:129:ILE:CB	2.92	0.47
14:AE:66:LYS:HB2	14:AE:69:GLU:HB3	1.97	0.47
14:AE:437:PHE:HZ	14:AE:453:VAL:HG11	1.79	0.47
14:AE:1037:PHE:HB3	14:AE:1040:MET:HB2	1.97	0.47
16:AG:422:GLU:CA	16:AG:426:GLY:N	2.62	0.47
10:B:26:G:H1	10:B:44:A:N6	2.12	0.47
10:B:47:U:H2'	10:B:48:C:H4'	1.97	0.47
17:C:60:LYS:CD	18:D:734:G:O2'	2.62	0.47
18:D:13:U:C4	18:D:21:G:C2	3.03	0.47
18:D:821:G:H2'	18:D:822:U:H6	1.80	0.47
18:D:1189:U:OP1	33:S:98:LYS:NZ	2.48	0.47
20:F:19:PHE:HE2	31:Q:110:ILE:C	2.23	0.47
20:F:37:PHE:HA	31:Q:123:PRO:HB2	1.97	0.47
20:F:64:ASN:HA	20:F:67:ARG:HD3	1.97	0.47
26:L:17:GLN:C	26:L:21:MET:HE1	2.40	0.47
27:M:69:VAL:HA	27:M:138:ARG:HD3	1.97	0.47
27:M:69:VAL:HG23	27:M:100:ALA:HB1	1.97	0.47
27:M:111:ARG:O	27:M:119:ARG:CZ	2.63	0.47
29:O:7:TYR:O	29:O:89:GLU:CD	2.58	0.47
30:P:10:LEU:C	30:P:11:LYS:HD3	2.40	0.47
32:R:74:LEU:HD11	32:R:80:ILE:HG13	1.96	0.47
39:Y:102:ARG:HH11	39:Y:141:ASP:CG	2.23	0.47
41:a:592:A:C2	55:o:4:ILE:HD11	2.49	0.47
41:a:909:A:H2'	41:a:912:C:H5	1.80	0.47
41:a:963:U:H2'	41:a:964:C:H6	1.79	0.47
41:a:1006:C:C2	41:a:1138:G:N2	2.83	0.47
41:a:2314:A:P	54:n:88:LYS:NZ	2.87	0.47
41:a:2517:C:O2	41:a:2542:A:N6	2.48	0.47
42:b:51:VAL:HG12	42:b:59:LEU:HD12	1.96	0.47
59:s:56:VAL:O	59:s:124:VAL:HA	2.14	0.47
66:z:108:ALA:O	66:z:112:LYS:HG2	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:230:PHE:HB2	11:AA:333:ILE:HB	1.97	0.47
11:AA:855:PRO:HD3	16:AG:105:ILE:CD1	2.41	0.47
12:AB:104:ILE:C	12:AB:106:ASP:N	2.72	0.47
12:AB:130:PHE:HA	12:AB:152:HIS:HE2	1.77	0.47
13:AD:35:PHE:HA	13:AD:38:THR:HG22	1.97	0.47
14:AE:218:THR:HA	14:AE:221:ILE:HG22	1.96	0.47
14:AE:287:ALA:CB	14:AE:292:VAL:CG2	2.93	0.47
14:AE:290:ILE:O	14:AE:290:ILE:HG12	2.14	0.47
16:AG:36:LYS:HB2	16:AG:101:THR:HG21	1.97	0.47
10:B:30:G:O2'	10:B:31:G:H5'	2.15	0.47
18:D:745:G:H2'	18:D:746:A:C8	2.50	0.47
18:D:829:G:O3'	21:G:23:TRP:HZ2	1.95	0.47
18:D:1238:A:H2	18:D:1241:G:N3	2.13	0.47
21:G:197:ASP:OD2	21:G:198:PHE:CE2	2.68	0.47
22:H:277:GLY:HA2	22:H:331:MET:HE3	1.97	0.47
23:I:22:TRP:CZ2	23:I:32:ASN:HB2	2.50	0.47
23:I:107:ARG:HB3	23:I:108:LYS:HD2	1.97	0.47
25:K:96:MET:HG2	25:K:125:ALA:HB2	1.97	0.47
29:O:127:PHE:CD1	29:O:128:SER:N	2.83	0.47
33:S:79:LEU:HB2	33:S:84:VAL:CG2	2.45	0.47
34:T:11:ILE:HG21	34:T:31:LEU:CD1	2.45	0.47
34:T:71:LYS:HZ3	34:T:78:TYR:HD2	1.61	0.47
36:V:27:ARG:HH12	36:V:42:THR:CB	2.26	0.47
37:W:77:THR:OG1	37:W:78:ARG:HD2	2.15	0.47
39:Y:96:LYS:HD2	39:Y:136:GLY:O	2.15	0.47
39:Y:106:GLN:OE1	39:Y:125:THR:HG21	2.14	0.47
41:a:1656:C:P	50:j:141:ARG:HD2	2.54	0.47
41:a:2362:C:OP2	55:o:40:ARG:CZ	2.63	0.47
41:a:2646:C:O5'	41:a:2646:C:H6	1.98	0.47
41:a:2766:A:C5	41:a:2767:C:C5	3.03	0.47
41:a:2784:U:H2'	41:a:2785:C:H6	1.80	0.47
42:b:53:CYS:SG	42:b:57:HIS:HA	2.55	0.47
55:o:33:LEU:O	55:o:41:LYS:NZ	2.45	0.47
56:p:52:PHE:CZ	56:p:72:LEU:HD22	2.50	0.47
63:w:24:MET:HG3	63:w:44:LEU:HD12	1.97	0.47
66:z:69:ALA:HA	66:z:106:PHE:HZ	1.80	0.47
9:9:18:VAL:CG1	9:9:71:CYS:HB2	2.45	0.46
9:9:38:MET:HA	9:9:41:LEU:HD12	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:103:VAL:HG12	11:AA:117:ILE:HG22	1.97	0.46
13:AD:182:ARG:HD2	14:AE:581:MET:HE1	1.97	0.46
16:AG:1:MET:SD	16:AG:53:SER:HA	2.55	0.46
18:D:216:U:H2'	18:D:217:C:C6	2.50	0.46
18:D:339:C:H2'	18:D:340:U:C6	2.50	0.46
18:D:436:C:C2	18:D:437:U:C5	3.02	0.46
23:I:25:ASN:O	23:I:27:LYS:N	2.47	0.46
27:M:17:LYS:HZ2	27:M:18:PHE:HD1	1.58	0.46
28:N:112:THR:HG23	28:N:115:ALA:H	1.80	0.46
37:W:63:THR:HG22	37:W:64:ASP:N	2.30	0.46
41:a:1200:C:C2	41:a:1201:U:C5	3.03	0.46
41:a:1598:A:C4	41:a:1599:U:C6	3.03	0.46
41:a:1786:A:H1'	41:a:1938:A:N6	2.31	0.46
41:a:2299:U:H2'	41:a:2300:C:C6	2.49	0.46
41:a:2300:C:H2'	41:a:2301:C:H6	1.79	0.46
41:a:2351:G:O6	55:o:39:LYS:NZ	2.48	0.46
41:a:2840:C:C2	41:a:2841:C:C5	3.03	0.46
52:l:42:GLY:HA3	52:l:92:HIS:HE1	1.80	0.46
56:p:155:GLU:O	56:p:159:GLY:HA2	2.14	0.46
61:u:110:VAL:HG23	61:u:125:LEU:HD12	1.97	0.46
62:v:31:PHE:O	62:v:104:GLU:OE1	2.33	0.46
1:0:71:LYS:HE2	1:0:90:ARG:HD2	1.97	0.46
5:4:53:LYS:HB3	5:4:55:GLU:OE1	2.16	0.46
10:A:24:U:H2'	10:A:25:C:C6	2.51	0.46
11:AA:28:LEU:HD21	11:AA:524:ILE:HG13	1.97	0.46
11:AA:800:MET:HE3	11:AA:800:MET:HB2	1.69	0.46
16:AG:277:ASP:HB2	16:AG:282:GLN:HG3	1.95	0.46
10:B:75:C:O2'	10:B:76:A:N7	2.48	0.46
17:C:12:ARG:NH1	17:C:13:PHE:CE1	2.84	0.46
17:C:21:ILE:CD1	17:C:54:GLN:NE2	2.79	0.46
17:C:31:ASN:OD1	22:H:268:VAL:HG12	2.15	0.46
18:D:1109:C:C2	18:D:1110:A:C8	3.04	0.46
18:D:1368:A:OP1	29:O:113:ARG:NH2	2.48	0.46
21:G:18:HIS:CE1	21:G:205:ASP:OD1	2.69	0.46
21:G:110:SER:HA	21:G:113:ARG:NE	2.29	0.46
21:G:110:SER:HA	21:G:113:ARG:HH21	1.79	0.46
22:H:287:LEU:HG	22:H:292:CYS:HA	1.98	0.46
22:H:304:VAL:O	22:H:304:VAL:CG1	2.63	0.46
29:O:63:LEU:HD13	29:O:65:ILE:HD11	1.97	0.46
34:T:15:PHE:CD2	34:T:30:ALA:HB2	2.49	0.46
34:T:48:LYS:O	34:T:50:HIS:N	2.48	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:a:78:U:OP1	45:e:4:LYS:CE	2.63	0.46
41:a:404:A:H4'	41:a:405:U:O5'	2.15	0.46
41:a:753:A:C6	41:a:754:U:C5	3.04	0.46
41:a:1441:G:H2'	41:a:1442:U:C6	2.50	0.46
41:a:2064:C:H2'	41:a:2065:C:H6	1.80	0.46
41:a:2700:A:H2'	41:a:2701:U:H6	1.80	0.46
41:a:2725:A:C4	41:a:2727:A:N7	2.83	0.46
47:g:18:CYS:HB2	47:g:40:CYS:HB3	1.96	0.46
48:h:138:GLY:H	48:h:164:ILE:HG23	1.79	0.46
49:i:55:ILE:HD13	63:w:112:TYR:CE1	2.50	0.46
50:j:91:THR:HB	50:j:94:GLN:CG	2.44	0.46
52:l:148:ILE:CD1	52:l:187:VAL:HB	2.44	0.46
60:t:50:GLY:O	60:t:53:LYS:NZ	2.47	0.46
62:v:111:GLU:O	62:v:112:LEU:C	2.57	0.46
66:z:113:ALA:O	66:z:117:LEU:HD13	2.15	0.46
3:2:57:VAL:HG12	3:2:86:THR:OG1	2.15	0.46
5:4:23:ALA:O	5:4:24:ASN:OD1	2.33	0.46
10:A:52:G:C6	10:A:63:G:O6	2.68	0.46
11:AA:856:ASN:N	16:AG:35:THR:HG21	2.30	0.46
14:AE:86:GLU:N	14:AE:86:GLU:CD	2.73	0.46
16:AG:36:LYS:HE3	16:AG:43:ILE:HG12	1.95	0.46
16:AG:233:ARG:HB2	16:AG:327:LEU:CD2	2.42	0.46
10:B:24:U:H2'	10:B:25:C:C6	2.51	0.46
18:D:983:A:H5'	18:D:984:C:OP2	2.15	0.46
21:G:207:ILE:HG23	21:G:208:ARG:N	2.30	0.46
23:I:134:MET:HE2	23:I:168:TYR:CB	2.46	0.46
23:I:181:ASP:HB2	23:I:207:ILE:HD11	1.97	0.46
26:L:43:GLY:HA2	26:L:58:HIS:CE1	2.51	0.46
27:M:74:GLU:CG	27:M:91:VAL:CG1	2.94	0.46
27:M:116:MET:HA	27:M:119:ARG:HD3	1.97	0.46
41:a:136:G:C6	41:a:144:A:C6	3.04	0.46
41:a:396:G:C6	41:a:397:U:C4	3.04	0.46
41:a:581:C:H2'	41:a:582:A:C8	2.50	0.46
41:a:1065:U:HO2'	41:a:1066:U:C5'	2.26	0.46
41:a:1405:U:H2'	41:a:1406:U:C5	2.49	0.46
41:a:1499:C:C2	41:a:1500:G:C8	3.03	0.46
41:a:2200:C:OP2	43:c:37:ARG:NH2	2.48	0.46
41:a:2454:G:C6	41:a:2499:C:N4	2.83	0.46
43:c:71:LEU:O	43:c:76:GLU:HG3	2.16	0.46
52:l:1:MET:CE	52:l:20:GLY:N	2.79	0.46
57:q:2:LYS:HE2	57:q:35:GLN:HG3	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:r:58:LEU:O	58:r:61:VAL:HG22	2.14	0.46
62:v:30:SER:N	62:v:104:GLU:OE2	2.48	0.46
9:9:43:LYS:HE3	9:9:102:ALA:HB2	1.97	0.46
12:AB:146:ILE:HD13	30:P:98:VAL:HG22	1.94	0.46
16:AG:434:LEU:HD11	16:AG:455:THR:CA	2.46	0.46
18:D:110:C:O4'	35:U:25:ARG:NH2	2.49	0.46
18:D:771:G:C6	18:D:809:G:C6	3.03	0.46
18:D:1055:A:H1'	23:I:156:ARG:NH2	2.31	0.46
18:D:1324:A:H2'	18:D:1325:C:C6	2.51	0.46
18:D:1328:C:O3'	38:X:28:THR:HB	2.16	0.46
19:E:54:MET:CE	19:E:75:HIS:CE1	2.99	0.46
22:H:37:LEU:HD11	22:H:47:ALA:HA	1.96	0.46
22:H:302:GLY:HA3	22:H:344:LEU:HD13	1.96	0.46
41:a:6:A:H5'	59:s:131:ASN:OD1	2.15	0.46
41:a:15:G:O2'	49:i:15:MET:HE2	2.15	0.46
41:a:57:C:C2	41:a:58:G:C8	3.04	0.46
41:a:1278:C:H2'	41:a:1279:G:H8	1.80	0.46
41:a:1794:A:H2'	41:a:1795:C:C6	2.50	0.46
41:a:2197:U:C5	41:a:2224:G:C6	3.03	0.46
41:a:2236:U:H2'	41:a:2237:G:O4'	2.15	0.46
41:a:2683:C:H4'	50:j:13:ARG:NH1	2.30	0.46
41:a:2743:U:O2'	56:p:153:ARG:NH1	2.49	0.46
44:d:42:C:C5	54:n:66:LEU:HD12	2.49	0.46
48:h:2:ALA:N	48:h:20:VAL:O	2.48	0.46
50:j:1:MET:O	50:j:204:LYS:HD2	2.15	0.46
52:l:130:LYS:HB2	52:l:133:LEU:HD12	1.97	0.46
63:w:44:LEU:C	63:w:44:LEU:HD23	2.39	0.46
66:z:69:ALA:O	66:z:74:ILE:HG22	2.15	0.46
9:9:59:LEU:HB2	9:9:62:ARG:CG	2.45	0.46
9:9:60:LEU:O	9:9:64:VAL:HB	2.15	0.46
10:A:19:G:O6	41:a:2112:G:O5'	2.34	0.46
11:AA:176:ILE:HD11	11:AA:428:VAL:HG21	1.98	0.46
12:AB:141:LEU:O	12:AB:150:ILE:O	2.33	0.46
12:AB:155:LYS:CG	12:AB:156:ASN:H	2.26	0.46
14:AE:210:SER:O	14:AE:214:ARG:N	2.43	0.46
14:AE:287:ALA:HB3	14:AE:292:VAL:CG2	2.46	0.46
16:AG:244:ARG:O	25:K:69:ARG:HB3	2.16	0.46
16:AG:442:ARG:O	16:AG:446:PHE:CE2	2.63	0.46
10:B:48:C:C2'	10:B:49:G:OP2	2.62	0.46
17:C:34:THR:HB	17:C:38:LYS:H	1.81	0.46
17:C:63:ARG:HB3	17:C:70:TYR:CE1	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:D:35:G:N3	32:R:115:SER:OG	2.47	0.46
18:D:611:C:C2	18:D:612:C:C6	3.04	0.46
18:D:826:C:O2	28:N:16:ASN:ND2	2.49	0.46
18:D:928:G:H2'	18:D:929:G:H8	1.81	0.46
18:D:1458:G:H5''	19:E:26:SER:OG	2.14	0.46
20:F:16:LEU:HD12	31:Q:98:ARG:HH21	1.80	0.46
25:K:143:GLY:O	25:K:146:ASN:OD1	2.34	0.46
27:M:95:ARG:CZ	27:M:99:LEU:HD21	2.45	0.46
37:W:32:ARG:NH2	37:W:34:TRP:CZ3	2.84	0.46
39:Y:19:PRO:HG2	39:Y:23:VAL:CG2	2.42	0.46
39:Y:59:THR:C	39:Y:66:PHE:HB2	2.41	0.46
41:a:1421:G:C2	41:a:1422:G:C8	3.03	0.46
41:a:1796:U:H2'	41:a:1797:G:C8	2.50	0.46
41:a:2190:G:H2'	41:a:2191:A:C8	2.50	0.46
45:e:12:GLU:CG	45:e:13:GLU:N	2.78	0.46
49:i:4:GLN:OE1	49:i:7:LYS:HA	2.16	0.46
50:j:74:GLU:HG2	50:j:75:ALA:N	2.31	0.46
52:l:6:LYS:HE2	52:l:6:LYS:HB2	1.75	0.46
52:l:35:TYR:CD2	52:l:178:VAL:HG11	2.51	0.46
58:r:72:ILE:O	58:r:72:ILE:HG22	2.16	0.46
59:s:25:LEU:HD11	59:s:101:ILE:HD13	1.97	0.46
60:t:1:MET:CE	60:t:32:TYR:CG	2.99	0.46
60:t:59:LYS:HZ3	60:t:92:GLU:CG	2.29	0.46
62:v:41:LEU:HG	62:v:96:ILE:CG1	2.45	0.46
14:AE:482:ALA:HA	15:AF:6:VAL:HG21	1.98	0.46
14:AE:1341:ARG:NH1	14:AE:1343:GLU:OE2	2.49	0.46
16:AG:26:ALA:HB1	16:AG:117:LYS:HG2	1.95	0.46
16:AG:197:VAL:HG11	16:AG:199:ARG:NH2	2.30	0.46
16:AG:479:GLY:O	16:AG:483:MET:HG2	2.15	0.46
18:D:737:C:C2	18:D:738:C:C5	3.03	0.46
18:D:789:U:O2'	18:D:791:G:N7	2.45	0.46
18:D:1226:C:H4'	18:D:1227:A:OP1	2.16	0.46
18:D:1435:G:H2'	18:D:1436:U:C6	2.51	0.46
20:F:12:PHE:CD1	31:Q:101:ASN:ND2	2.84	0.46
23:I:58:GLU:OE2	30:P:94:ALA:HB1	2.16	0.46
26:L:29:ILE:HG21	26:L:64:VAL:HG13	1.97	0.46
27:M:17:LYS:HZ2	27:M:18:PHE:HE1	1.57	0.46
29:O:58:VAL:HG23	29:O:59:GLU:N	2.31	0.46
34:T:3:LEU:HD23	34:T:4:SER:O	2.15	0.46
37:W:9:PRO:HB3	47:g:64:PHE:CZ	2.51	0.46
37:W:32:ARG:NH2	37:W:34:TRP:HZ3	2.14	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:Y:126:ARG:HH12	41:a:1082:U:C5'	2.29	0.46
41:a:391:A:C5	41:a:392:U:C5	3.04	0.46
41:a:584:C:N4	41:a:585:G:C6	2.83	0.46
41:a:658:U:O2'	52:l:97:ASN:OD1	2.28	0.46
41:a:666:A:H4'	61:u:48:ARG:HD2	1.97	0.46
41:a:1223:G:N2	41:a:1226:A:OP2	2.43	0.46
41:a:1433:A:H2'	41:a:1434:A:C1'	2.46	0.46
41:a:2373:G:H2'	41:a:2374:C:H6	1.81	0.46
41:a:2683:C:OP1	65:y:51:ARG:NH2	2.46	0.46
44:d:44:G:H3'	54:n:92:ARG:HH22	1.81	0.46
47:g:8:LYS:NZ	47:g:10:GLU:HB2	2.31	0.46
51:k:34:LEU:HB2	51:k:51:GLU:OE2	2.16	0.46
52:l:195:GLN:CA	52:l:198:GLU:OE1	2.64	0.46
9:9:25:ALA:HB3	9:9:99:PHE:CE2	2.51	0.46
10:A:32:C:C2'	10:A:33:U:H5'	2.46	0.46
11:AA:400:VAL:HG22	11:AA:584:TYR:HB3	1.96	0.46
14:AE:438:GLU:OE2	14:AE:481:ARG:NH1	2.45	0.46
14:AE:797:THR:HG22	14:AE:924:GLY:HA3	1.97	0.46
14:AE:804:ALA:O	14:AE:806:ASP:N	2.47	0.46
15:AF:25:ARG:NH1	15:AF:61:ASN:OD1	2.49	0.46
16:AG:80:ALA:HB1	16:AG:87:LEU:HB2	1.98	0.46
16:AG:226:ALA:HB1	16:AG:228:ARG:HH11	1.81	0.46
10:B:50:U:H2'	10:B:51:C:C6	2.51	0.46
18:D:878:A:P	28:N:80:ARG:HH11	2.39	0.46
18:D:915:A:C5	18:D:916:U:C6	3.04	0.46
18:D:1359:C:OP2	33:S:75:ARG:NE	2.43	0.46
20:F:12:PHE:CE1	31:Q:107:ILE:CG2	2.98	0.46
22:H:115:LYS:HA	22:H:119:GLY:C	2.40	0.46
25:K:16:ILE:HD11	25:K:38:VAL:CG1	2.46	0.46
30:P:59:LYS:HE2	30:P:62:ARG:NH2	2.31	0.46
31:Q:116:ILE:HG13	31:Q:116:ILE:O	2.14	0.46
32:R:5:ASN:HB3	32:R:9:ARG:HH22	1.79	0.46
36:V:61:ILE:C	36:V:73:TRP:HZ3	2.23	0.46
38:X:3:ARG:HB3	47:g:35:ASP:OD2	2.15	0.46
39:Y:59:THR:O	39:Y:66:PHE:HB2	2.16	0.46
41:a:374:A:C2	41:a:375:G:H1'	2.51	0.46
41:a:2314:A:P	54:n:88:LYS:HZ2	2.38	0.46
41:a:2314:A:O2'	54:n:155:THR:HG21	2.15	0.46
41:a:2357:G:P	42:b:20:ARG:CZ	3.04	0.46
41:a:2529:G:N7	57:q:32:LYS:NZ	2.63	0.46
47:g:47:LYS:CD	54:n:178:ARG:HH22	2.29	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:i:28:LEU:HB2	49:i:37:LYS:HE3	1.97	0.46
52:l:175:ILE:HG21	52:l:180:LEU:HD11	1.97	0.46
54:n:142:ASP:CB	54:n:145:LYS:HE2	2.40	0.46
56:p:8:PRO:C	56:p:69:ARG:HH21	2.23	0.46
58:r:18:GLN:OE1	58:r:39:ALA:HB1	2.15	0.46
58:r:135:HIS:CE1	58:r:137:GLU:OE1	2.62	0.46
59:s:55:ILE:HG13	59:s:123:LYS:CE	2.46	0.46
59:s:136:GLN:N	59:s:137:PRO:CD	2.78	0.46
60:t:76:VAL:HG12	65:y:73:VAL:HB	1.97	0.46
3:2:3:ARG:CZ	3:2:5:GLU:OE1	2.64	0.46
5:4:53:LYS:HD2	5:4:56:PHE:CZ	2.50	0.46
10:A:50:U:H2'	10:A:51:C:C6	2.51	0.46
11:AA:712:SER:OG	11:AA:713:GLY:N	2.49	0.46
12:AB:6:LEU:N	12:AB:88:VAL:HG21	2.31	0.46
12:AB:120:GLU:CB	12:AB:162:LEU:HB2	2.46	0.46
12:AB:147:ASN:HB2	30:P:100:ILE:CG2	2.42	0.46
13:AC:64:VAL:HG11	13:AC:78:ILE:HG21	1.97	0.46
16:AG:219:GLU:HB2	21:G:156:GLY:HA2	1.98	0.46
16:AG:429:LYS:HD2	16:AG:429:LYS:N	2.24	0.46
10:B:32:C:C2'	10:B:33:U:H5'	2.46	0.46
17:C:33:ILE:O	22:H:338:GLU:CG	2.64	0.46
17:C:65:LEU:HG	17:C:65:LEU:O	2.16	0.46
18:D:371:A:H2'	18:D:372:C:O4'	2.15	0.46
18:D:413:G:N2	18:D:428:G:H1'	2.31	0.46
18:D:440:C:C2	18:D:441:A:C8	3.04	0.46
18:D:520:A:O3'	32:R:70:GLU:OE2	2.32	0.46
18:D:653:U:N1	28:N:56:LYS:HE3	2.29	0.46
18:D:739:C:O2'	34:T:42:HIS:CE1	2.68	0.46
18:D:915:A:C6	18:D:916:U:C5	3.04	0.46
19:E:82:GLN:HA	19:E:85:LYS:NZ	2.31	0.46
22:H:270:ILE:HG23	22:H:270:ILE:O	2.15	0.46
23:I:134:MET:HE1	23:I:167:TRP:CA	2.43	0.46
26:L:94:HIS:CG	26:L:95:ALA:H	2.34	0.46
27:M:66:LEU:HD13	27:M:101:MET:HE3	1.93	0.46
28:N:114:ARG:HD2	28:N:114:ARG:C	2.41	0.46
32:R:68:GLY:O	32:R:99:ARG:NH1	2.48	0.46
33:S:82:ILE:HG23	33:S:83:LYS:N	2.31	0.46
34:T:47:LYS:HD3	34:T:47:LYS:N	2.31	0.46
36:V:7:THR:CG2	36:V:60:GLU:OE2	2.63	0.46
39:Y:37:PHE:HZ	39:Y:56:VAL:HG11	1.79	0.46
41:a:182:A:H2'	41:a:183:C:H6	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:a:306:U:H2'	41:a:307:G:O4'	2.16	0.46
41:a:1068:G:O6	41:a:1069:A:N6	2.48	0.46
41:a:1588:G:C6	41:a:1589:U:O4	2.69	0.46
41:a:2393:U:C5'	55:o:30:ARG:NH1	2.76	0.46
43:c:76:GLU:OE1	43:c:77:LYS:O	2.34	0.46
46:f:12:SER:C	46:f:54:MET:HE1	2.40	0.46
47:g:1:MET:SD	47:g:3:LYS:HE2	2.56	0.46
50:j:5:VAL:HG22	50:j:202:ILE:CD1	2.46	0.46
54:n:171:ALA:O	54:n:174:ASP:N	2.47	0.46
59:s:17:VAL:HG23	59:s:137:PRO:HB2	1.98	0.46
63:w:115:LEU:HD23	63:w:117:ASP:N	2.30	0.46
2:1:50:VAL:HG12	2:1:105:VAL:CG1	2.45	0.46
3:2:3:ARG:HH22	3:2:4:GLU:HB2	1.81	0.46
4:3:46:GLN:NE2	4:3:54:GLN:HG2	2.31	0.46
8:7:31:U:H6	8:7:31:U:H3'	1.80	0.46
10:A:46:G:H1'	10:A:47:U:C5	2.51	0.46
11:AA:812:PHE:HZ	14:AE:503:SER:HB2	1.81	0.46
12:AB:51:PHE:CZ	14:AE:288:PRO:HG3	2.47	0.46
12:AB:131:THR:HG23	12:AB:142:LEU:HD22	1.97	0.46
14:AE:388:ARG:NH2	14:AE:414:GLU:OE1	2.49	0.46
10:B:65:C:C2'	10:B:66:C:H5'	2.44	0.46
17:C:14:THR:HG21	17:C:48:ARG:CD	2.46	0.46
18:D:610:U:N3	18:D:611:C:C5	2.83	0.46
18:D:642:A:H2'	18:D:643:C:H6	1.80	0.46
18:D:1209:C:C2	18:D:1210:C:C5	3.04	0.46
22:H:24:VAL:HG23	22:H:24:VAL:O	2.16	0.46
25:K:150:PRO:O	25:K:153:VAL:HG22	2.16	0.46
26:L:96:VAL:O	26:L:96:VAL:HG23	2.16	0.46
34:T:75:VAL:HG13	34:T:76:ALA:N	2.31	0.46
39:Y:102:ARG:NE	39:Y:139:VAL:CG2	2.78	0.46
41:a:67:U:N3	41:a:68:G:C5	2.84	0.46
41:a:644:A:H2'	41:a:645:C:O4'	2.15	0.46
41:a:1209:U:O2'	41:a:1237:A:N1	2.46	0.46
41:a:1406:U:O2'	41:a:1407:G:P	2.74	0.46
41:a:1585:C:H2'	41:a:1586:A:O4'	2.15	0.46
41:a:2616:C:N3	41:a:2617:U:C5	2.83	0.46
44:d:82:U:O2'	46:f:53:PHE:HE2	1.98	0.46
44:d:83:G:H1'	46:f:53:PHE:CE1	2.51	0.46
47:g:56:ARG:HH21	47:g:59:ARG:HH21	1.62	0.46
65:y:106:LYS:CD	65:y:109:ARG:HH22	2.29	0.46
11:AA:735:LYS:HA	11:AA:748:ILE:HG22	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AB:111:TYR:HB3	12:AB:112:PRO:HD2	1.96	0.46
12:AB:146:ILE:CB	30:P:98:VAL:CG2	2.89	0.46
14:AE:420:PRO:HA	14:AE:437:PHE:O	2.16	0.46
16:AG:183:LEU:CD2	16:AG:197:VAL:HG22	2.45	0.46
10:B:6:G:O2'	10:B:7:G:H8	1.98	0.46
18:D:197:A:C6	18:D:221:C:H4'	2.50	0.46
18:D:269:C:H2'	18:D:270:A:C8	2.51	0.46
18:D:1173:U:H2'	18:D:1174:G:O4'	2.16	0.46
20:F:63:GLU:HG2	20:F:67:ARG:CZ	2.46	0.46
26:L:47:LEU:HD13	26:L:51:ILE:HG12	1.98	0.46
31:Q:20:VAL:HB	31:Q:35:THR:CG2	2.45	0.46
32:R:18:LYS:HD3	32:R:19:SER:O	2.16	0.46
33:S:6:MET:HE3	33:S:63:ARG:NH1	2.31	0.46
33:S:12:LYS:NZ	33:S:16:LEU:HD21	2.31	0.46
38:X:56:LEU:HA	38:X:59:GLU:OE1	2.16	0.46
39:Y:79:LEU:O	39:Y:83:ALA:HB3	2.16	0.46
39:Y:102:ARG:HE	39:Y:139:VAL:HG21	1.79	0.46
41:a:247:G:O6	55:o:12:LYS:NZ	2.39	0.46
41:a:1406:U:O2	41:a:1407:G:C8	2.69	0.46
41:a:1408:G:N3	41:a:1408:G:H2'	2.31	0.46
41:a:2756:U:N3	41:a:2758:A:N6	2.64	0.46
48:h:33:LEU:O	48:h:64:ILE:HG12	2.16	0.46
48:h:52:ARG:NE	48:h:53:HIS:CE1	2.83	0.46
49:i:40:ARG:HH12	49:i:41:HIS:CD2	2.34	0.46
49:i:52:ARG:HA	49:i:52:ARG:NE	2.30	0.46
52:l:149:ILE:CD1	52:l:188:MET:HG2	2.46	0.46
55:o:26:HIS:CE1	55:o:48:ALA:HB2	2.51	0.46
55:o:49:MET:H	55:o:49:MET:HE2	1.81	0.46
57:q:1:MET:HE1	57:q:35:GLN:HA	1.95	0.46
57:q:1:MET:HE3	57:q:1:MET:HA	1.97	0.46
59:s:123:LYS:HD2	59:s:132:HIS:CD2	2.50	0.46
62:v:41:LEU:HD22	62:v:124:LEU:HD22	1.97	0.46
63:w:48:VAL:CG1	63:w:49:GLU:OE1	2.64	0.46
5:4:50:MET:C	5:4:56:PHE:CZ	2.94	0.45
9:9:6:GLN:CA	9:9:9:GLN:NE2	2.78	0.45
14:AE:83:VAL:CG2	23:I:100:GLN:OE1	2.64	0.45
14:AE:1108:GLN:HE21	14:AE:1123:ARG:HH12	1.62	0.45
16:AG:288:MET:HE3	16:AG:289:ALA:N	2.31	0.45
10:B:75:C:P	41:a:2602:A:H2'	2.55	0.45
18:D:696:A:H2'	18:D:697:U:H6	1.81	0.45
18:D:1202:U:C5	18:D:1203:C:C5	3.05	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:D:1512:U:H2'	18:D:1513:A:C8	2.51	0.45
18:D:1513:A:H2'	18:D:1514:G:C8	2.51	0.45
22:H:32:ASP:OD1	22:H:35:VAL:HG23	2.16	0.45
24:J:95:GLU:HG3	24:J:186:PRO:HG3	1.98	0.45
25:K:86:LYS:HE3	25:K:95:PHE:CD1	2.51	0.45
26:L:35:LYS:HD2	26:L:36:ILE:H	1.82	0.45
26:L:38:ARG:NE	26:L:97:THR:O	2.49	0.45
27:M:16:PRO:CB	29:O:46:MET:HG3	2.42	0.45
27:M:132:GLY:O	27:M:136:LYS:HD3	2.17	0.45
27:M:134:ALA:HA	27:M:137:LYS:CD	2.46	0.45
28:N:6:PRO:O	28:N:33:LYS:NZ	2.48	0.45
28:N:89:LYS:HG3	28:N:90:ASP:N	2.31	0.45
29:O:46:MET:HB3	29:O:50:GLN:NE2	2.31	0.45
30:P:10:LEU:HD22	30:P:22:THR:HG22	1.98	0.45
34:T:15:PHE:CE2	34:T:30:ALA:HB1	2.51	0.45
39:Y:126:ARG:NH2	41:a:1082:U:O3'	2.47	0.45
41:a:396:G:C5	41:a:397:U:C5	3.03	0.45
41:a:607:U:C6	41:a:620:G:C5	3.04	0.45
41:a:609:A:H3'	41:a:610:C:H6	1.80	0.45
41:a:644:A:C2	41:a:2369:A:H1'	2.51	0.45
41:a:923:G:H4'	42:b:29:GLU:OE1	2.16	0.45
41:a:1107:G:C5	41:a:1108:U:C5	3.04	0.45
41:a:1656:C:H2'	41:a:1657:U:H6	1.81	0.45
41:a:1665:A:O3'	60:t:66:LYS:NZ	2.44	0.45
41:a:1803:A:O2'	48:h:257:THR:HG21	2.16	0.45
41:a:2814:A:C5	41:a:2815:C:C5	3.05	0.45
45:e:10:SER:OG	45:e:12:GLU:HG2	2.15	0.45
45:e:12:GLU:HG2	45:e:13:GLU:H	1.80	0.45
50:j:48:ILE:CD1	50:j:84:LEU:HD11	2.46	0.45
51:k:19:HIS:CE1	51:k:41:PRO:CD	2.99	0.45
55:o:55:LEU:CD2	55:o:59:ILE:HD11	2.45	0.45
57:q:30:GLU:HB3	57:q:33:HIS:ND1	2.32	0.45
58:r:31:VAL:HB	58:r:32:PRO:HD3	1.97	0.45
63:w:56:LYS:NZ	63:w:90:ARG:O	2.47	0.45
64:x:90:VAL:CG2	64:x:115:LEU:HD21	2.46	0.45
2:1:11:ARG:NH1	2:1:11:ARG:HB3	2.30	0.45
6:5:10:DT:OP1	11:AA:476:LYS:HD2	2.16	0.45
9:9:3:LEU:HD12	9:9:5:LEU:H	1.82	0.45
9:9:11:ILE:HG12	9:9:65:GLU:HG2	1.98	0.45
9:9:23:LEU:HA	9:9:118:ILE:HD11	1.99	0.45
9:9:61:ARG:CD	41:a:1046:A:O5'	2.64	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:AD:185:TYR:HA	13:AD:202:VAL:O	2.16	0.45
14:AE:848:VAL:HB	14:AE:858:VAL:HG22	1.98	0.45
18:D:1132:C:O2	18:D:1132:C:H2'	2.16	0.45
19:E:54:MET:O	19:E:58:VAL:HG23	2.16	0.45
21:G:19:GLN:NE2	22:H:75:VAL:HG13	2.30	0.45
22:H:303:LEU:C	22:H:305:HIS:N	2.73	0.45
25:K:145:GLU:CD	25:K:146:ASN:N	2.75	0.45
29:O:113:ARG:HD2	33:S:101:TRP:CD1	2.52	0.45
32:R:2:ALA:CA	32:R:7:LEU:HD11	2.45	0.45
37:W:44:MET:HE1	37:W:62:VAL:CG2	2.46	0.45
38:X:13:LYS:HZ2	38:X:17:ILE:HG21	1.81	0.45
39:Y:102:ARG:HH21	39:Y:105:LEU:HD12	1.81	0.45
41:a:392:U:C2	41:a:393:C:C5	3.04	0.45
41:a:493:G:H2'	41:a:494:G:O4'	2.16	0.45
41:a:669:G:H2'	41:a:670:A:N7	2.31	0.45
41:a:783:A:O2'	41:a:785:G:OP1	2.35	0.45
41:a:1064:C:O2'	41:a:1065:U:C6	2.63	0.45
41:a:1250:G:OP2	61:u:21:ARG:NE	2.47	0.45
41:a:1370:C:H2'	41:a:1371:G:O4'	2.15	0.45
41:a:1613:G:O2'	53:m:3:ARG:CZ	2.64	0.45
41:a:1707:G:C4	41:a:1708:C:C5	3.04	0.45
41:a:2309:A:H2'	41:a:2310:C:O4'	2.16	0.45
42:b:26:PHE:O	42:b:29:GLU:HG2	2.15	0.45
52:l:60:TRP:CD1	52:l:69:ARG:HH12	2.33	0.45
52:l:108:ILE:HD11	52:l:180:LEU:HD13	1.98	0.45
55:o:31:HIS:O	55:o:32:ILE:O	2.33	0.45
60:t:8:LEU:N	60:t:8:LEU:HD12	2.30	0.45
65:y:106:LYS:CD	65:y:109:ARG:NH2	2.79	0.45
66:z:89:GLU:N	66:z:89:GLU:OE1	2.50	0.45
9:9:34:THR:HA	9:9:37:LYS:NZ	2.32	0.45
9:9:94:ARG:CB	9:9:97:LYS:CE	2.94	0.45
11:AA:746:ALA:O	11:AA:974:ARG:NH2	2.45	0.45
12:AB:129:ILE:H	12:AB:142:LEU:HB3	1.81	0.45
13:AD:286:GLU:N	13:AD:315:GLY:HA2	2.18	0.45
14:AE:781:LYS:HD2	14:AE:933:ARG:HH12	1.81	0.45
16:AG:123:ARG:HG2	16:AG:123:ARG:HH11	1.81	0.45
16:AG:138:ILE:HD12	16:AG:183:LEU:CD1	2.45	0.45
17:C:12:ARG:NH2	17:C:28:THR:CG2	2.79	0.45
17:C:12:ARG:HB2	22:H:264:GLU:CB	2.46	0.45
18:D:377:G:H2'	18:D:378:G:H8	1.81	0.45
18:D:511:C:C2	18:D:512:U:C5	3.05	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:D:736:C:H5'	26:L:90:MET:HE2	1.97	0.45
18:D:765:G:C6	18:D:812:G:C4	3.04	0.45
18:D:915:A:C5	18:D:916:U:C5	3.04	0.45
18:D:1315:U:O2	18:D:1360:A:H2	2.00	0.45
21:G:117:LEU:HD23	21:G:141:LEU:HA	1.98	0.45
23:I:72:ARG:NE	23:I:75:ILE:HB	2.32	0.45
25:K:13:GLU:OE1	25:K:13:GLU:N	2.50	0.45
27:M:31:MET:HE1	27:M:36:LYS:CD	2.46	0.45
27:M:138:ARG:HG2	27:M:142:HIS:HE1	1.80	0.45
28:N:8:ALA:N	28:N:77:ARG:HH11	2.14	0.45
28:N:25:VAL:HG23	28:N:63:LEU:CD1	2.46	0.45
30:P:26:VAL:C	30:P:30:LYS:HZ3	2.25	0.45
31:Q:88:GLY:H	31:Q:114:THR:HG22	1.81	0.45
32:R:110:ARG:N	32:R:111:LYS:HZ3	2.15	0.45
35:U:73:ALA:HA	35:U:76:LYS:HE3	1.98	0.45
41:a:152:A:H2'	41:a:153:U:C6	2.51	0.45
41:a:219:A:H2'	41:a:220:G:C8	2.52	0.45
41:a:582:A:H5''	66:z:11:ARG:HH12	1.82	0.45
41:a:893:C:H2'	41:a:894:U:C5	2.51	0.45
41:a:1790:C:C2'	41:a:1791:A:C8	3.00	0.45
41:a:1796:U:H2'	41:a:1797:G:H8	1.81	0.45
41:a:2049:G:N2	50:j:161:MET:CE	2.80	0.45
41:a:2065:C:C2	41:a:2066:C:C5	3.04	0.45
41:a:2364:C:H2'	41:a:2365:G:O4'	2.15	0.45
41:a:2723:C:H2'	41:a:2724:U:O4'	2.16	0.45
41:a:2755:C:H3'	57:q:19:ARG:NH2	2.31	0.45
41:a:2848:G:C2	41:a:2867:G:C4	3.05	0.45
44:d:45:A:C5'	54:n:92:ARG:NH1	2.79	0.45
47:g:16:CYS:SG	47:g:37:CYS:N	2.89	0.45
50:j:5:VAL:HB	50:j:32:ASN:ND2	2.31	0.45
52:l:21:ARG:HA	52:l:21:ARG:NE	2.31	0.45
56:p:11:VAL:HG13	56:p:11:VAL:O	2.17	0.45
56:p:69:ARG:NH1	56:p:73:ASN:CG	2.74	0.45
2:1:20:VAL:CG1	2:1:47:VAL:HG11	2.46	0.45
5:4:50:MET:CB	5:4:56:PHE:CE1	2.98	0.45
5:4:53:LYS:HD2	5:4:56:PHE:HE2	1.77	0.45
7:6:25:DT:OP1	11:AA:496:LYS:O	2.34	0.45
10:A:6:G:O2'	10:A:7:G:H8	1.98	0.45
10:A:68:C:H3'	10:A:69:C:H5''	1.97	0.45
12:AB:6:LEU:HD13	14:AE:291:ILE:CG1	2.46	0.45
16:AG:339:MET:HE2	16:AG:343:ASP:HB3	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:D:13:U:O2	18:D:915:A:N7	2.49	0.45
18:D:827:U:O4	18:D:872:A:C2	2.69	0.45
18:D:983:A:H2	18:D:984:C:C6	2.34	0.45
18:D:1287:A:H2'	18:D:1288:A:C8	2.52	0.45
20:F:12:PHE:CD1	31:Q:101:ASN:CG	2.95	0.45
21:G:128:LYS:C	21:G:129:LEU:HD12	2.42	0.45
23:I:84:VAL:HG23	23:I:85:GLU:N	2.32	0.45
25:K:13:GLU:O	25:K:13:GLU:HG2	2.16	0.45
26:L:9:MET:C	26:L:9:MET:SD	3.00	0.45
26:L:98:GLU:HA	26:L:98:GLU:OE1	2.16	0.45
27:M:44:TYR:C	27:M:44:TYR:CD2	2.94	0.45
27:M:78:ARG:CG	27:M:80:VAL:HG13	2.46	0.45
27:M:87:VAL:HG12	27:M:151:PHE:HD2	1.81	0.45
29:O:80:ARG:NH2	29:O:103:PHE:CE1	2.85	0.45
30:P:90:LEU:HD12	30:P:90:LEU:N	2.31	0.45
33:S:86:GLU:OE2	33:S:90:ARG:HD3	2.16	0.45
38:X:55:THR:C	38:X:59:GLU:OE1	2.60	0.45
38:X:104:THR:O	38:X:104:THR:HG22	2.16	0.45
39:Y:60:VAL:HG22	39:Y:66:PHE:CD1	2.52	0.45
41:a:685:A:C8	41:a:773:U:C4	3.04	0.45
41:a:985:C:N3	41:a:986:C:C5	2.84	0.45
41:a:2289:G:C2	41:a:2290:G:C8	3.04	0.45
49:i:30:VAL:HG22	49:i:37:LYS:HD2	1.99	0.45
50:j:71:ALA:HB3	50:j:73:VAL:HG22	1.98	0.45
51:k:7:GLU:CG	51:k:27:LYS:HZ3	2.29	0.45
52:l:23:PHE:CD1	52:l:111:GLU:CD	2.95	0.45
53:m:12:ARG:CG	53:m:44:VAL:HG21	2.47	0.45
59:s:73:VAL:CG1	59:s:86:GLN:HG2	2.46	0.45
62:v:39:GLY:O	62:v:96:ILE:N	2.33	0.45
65:y:14:LYS:NZ	65:y:76:THR:O	2.49	0.45
2:1:86:MET:SD	2:1:88:ARG:HD2	2.56	0.45
3:2:64:LYS:CE	41:a:1312:U:O4	2.64	0.45
8:7:1:A:H2'	8:7:2:U:C6	2.50	0.45
9:9:61:ARG:HE	41:a:1046:A:P	2.39	0.45
9:9:87:GLU:OE2	9:9:95:LEU:CG	2.64	0.45
11:AA:1314:GLN:HA	15:AF:28:ARG:HH22	1.80	0.45
14:AE:230:SER:OG	14:AE:231:GLY:N	2.49	0.45
16:AG:102:PHE:HB3	16:AG:103:ASP:CG	2.41	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
18:D:277:C:OP1	36:V:43:LYS:HD2	2.15	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:D:829:G:H4'	21:G:23:TRP:CH2	2.51	0.45
18:D:878:A:P	28:N:80:ARG:NH1	2.89	0.45
18:D:984:C:C2	18:D:985:C:C5	3.05	0.45
19:E:54:MET:C	19:E:54:MET:SD	3.00	0.45
21:G:19:GLN:HE21	22:H:75:VAL:C	2.24	0.45
26:L:73:GLU:O	26:L:76:THR:OG1	2.33	0.45
28:N:26:THR:OG1	28:N:58:GLU:CG	2.65	0.45
30:P:47:GLU:HB2	30:P:67:ILE:HG22	1.98	0.45
32:R:30:LYS:O	32:R:81:LEU:HD12	2.16	0.45
32:R:31:ARG:O	32:R:57:LEU:HD12	2.17	0.45
39:Y:126:ARG:HH12	41:a:1083:U:P	2.40	0.45
41:a:1019:U:O4	41:a:1142:A:C2	2.69	0.45
41:a:1042:G:C5	41:a:1043:C:C5	3.05	0.45
41:a:1442:U:H2'	41:a:1443:U:H6	1.79	0.45
41:a:1797:G:O2'	48:h:257:THR:HG22	2.16	0.45
41:a:2061:G:N2	41:a:2063:C:C6	2.84	0.45
41:a:2262:U:N3	41:a:2263:C:C5	2.85	0.45
41:a:2727:A:O3'	60:t:70:ARG:NH2	2.50	0.45
41:a:2743:U:H2'	41:a:2744:G:O4'	2.17	0.45
44:d:8:C:O3'	64:x:25:ARG:NH1	2.48	0.45
47:g:37:CYS:N	47:g:40:CYS:SG	2.71	0.45
50:j:55:LYS:NZ	50:j:56:LYS:O	2.49	0.45
51:k:7:GLU:OE2	51:k:27:LYS:HG3	2.16	0.45
52:l:194:LYS:HG3	52:l:198:GLU:OE2	2.16	0.45
56:p:149:ARG:CZ	56:p:162:VAL:C	2.89	0.45
60:t:24:VAL:HG23	60:t:33:ALA:HB2	1.97	0.45
60:t:108:ARG:CG	60:t:116:ILE:HD13	2.46	0.45
64:x:88:LYS:O	64:x:115:LEU:HD12	2.16	0.45
2:1:20:VAL:HG11	2:1:47:VAL:HG11	1.99	0.45
3:2:5:GLU:HA	45:e:22:LEU:CD2	2.45	0.45
3:2:64:LYS:HD2	41:a:1312:U:C4	2.51	0.45
8:7:34:U:H4'	14:AE:322:ARG:CZ	2.46	0.45
12:AB:76:SER:O	12:AB:77:HIS:HB3	2.17	0.45
12:AB:140:MET:O	12:AB:151:LYS:O	2.34	0.45
14:AE:708:ASN:OD1	14:AE:708:ASN:N	2.50	0.45
17:C:70:TYR:C	17:C:71:THR:HG23	2.42	0.45
18:D:1108:G:C5	18:D:1109:C:C5	3.04	0.45
21:G:66:LYS:HB3	21:G:154:MET:HE3	1.99	0.45
21:G:77:SER:O	21:G:80:VAL:HG12	2.17	0.45
22:H:303:LEU:O	22:H:304:VAL:C	2.59	0.45
23:I:114:LYS:HB2	23:I:185:ASN:ND2	2.32	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:L:18:VAL:N	26:L:19:PRO:CD	2.80	0.45
27:M:134:ALA:O	27:M:137:LYS:CG	2.65	0.45
29:O:88:MET:CE	29:O:95:ARG:HG3	2.46	0.45
33:S:77:PHE:CE1	33:S:93:ILE:HD13	2.51	0.45
34:T:8:THR:O	34:T:11:ILE:HG22	2.16	0.45
38:X:55:THR:HG22	38:X:59:GLU:OE2	2.17	0.45
39:Y:102:ARG:HD3	39:Y:141:ASP:OD1	2.16	0.45
41:a:532:A:OP1	66:z:45:TYR:OH	2.32	0.45
41:a:575:A:C2	41:a:576:U:C6	3.05	0.45
41:a:1444:G:C4	41:a:1445:G:C8	3.05	0.45
41:a:2093:G:O2'	41:a:2198:A:N1	2.41	0.45
41:a:2149:U:H2'	41:a:2150:C:C6	2.52	0.45
41:a:2650:U:H2'	41:a:2651:C:H6	1.81	0.45
41:a:2783:U:H2'	41:a:2784:U:C6	2.52	0.45
54:n:22:TYR:CE2	54:n:28:VAL:HA	2.52	0.45
56:p:91:GLY:HA3	56:p:94:TYR:CD2	2.52	0.45
57:q:1:MET:HE3	57:q:2:LYS:N	2.31	0.45
63:w:12:ARG:HE	63:w:20:MET:HE1	1.82	0.45
64:x:15:ARG:C	64:x:19:GLN:HE22	2.24	0.45
65:y:103:ARG:HD3	65:y:107:ALA:C	2.41	0.45
2:1:78:GLU:OE2	41:a:1262:A:OP1	2.35	0.45
5:4:57:TYR:HD2	62:v:136:MET:HE2	1.82	0.45
8:7:22:U:C4'	23:I:80:LYS:CG	2.75	0.45
9:9:23:LEU:O	9:9:87:GLU:CD	2.60	0.45
12:AB:6:LEU:CD2	14:AE:291:ILE:HD11	2.46	0.45
12:AB:16:ARG:C	12:AB:19:GLU:H	2.25	0.45
12:AB:146:ILE:CG1	30:P:98:VAL:HG22	2.47	0.45
12:AB:146:ILE:HG21	30:P:98:VAL:O	2.05	0.45
13:AD:212:ASP:OD1	13:AD:212:ASP:N	2.48	0.45
16:AG:362:TYR:HE1	16:AG:414:LEU:HD21	1.80	0.45
16:AG:393:LEU:CG	16:AG:398:LEU:HD22	2.22	0.45
18:D:110:C:H1'	35:U:25:ARG:NH1	2.31	0.45
18:D:653:U:O4'	28:N:56:LYS:HE3	2.16	0.45
18:D:723:U:O2	20:F:49:LYS:HE3	2.16	0.45
18:D:958:A:C4	37:W:55:ARG:HD3	2.52	0.45
18:D:982:U:P	33:S:6:MET:HE2	2.56	0.45
20:F:38:TYR:O	31:Q:126:LYS:HE3	2.17	0.45
20:F:58:LYS:HD2	20:F:58:LYS:C	2.42	0.45
22:H:32:ASP:OD1	22:H:35:VAL:HG22	2.17	0.45
22:H:53:PHE:CE1	22:H:68:VAL:HG21	2.52	0.45
22:H:54:LYS:HD3	22:H:58:GLY:C	2.42	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:H:288:THR:O	22:H:288:THR:HG22	2.16	0.45
23:I:39:VAL:HG23	23:I:40:ARG:N	2.32	0.45
23:I:72:ARG:HD3	23:I:75:ILE:HG22	1.99	0.45
23:I:85:GLU:O	23:I:89:LYS:CE	2.64	0.45
26:L:85:ILE:HG22	26:L:86:ARG:HG2	1.99	0.45
29:O:51:PRO:CA	29:O:103:PHE:HE2	2.30	0.45
34:T:11:ILE:HD13	34:T:31:LEU:HA	1.99	0.45
34:T:15:PHE:HE2	34:T:30:ALA:HB1	1.82	0.45
38:X:14:HIS:HB2	38:X:17:ILE:HD13	1.99	0.45
39:Y:45:THR:HG22	39:Y:45:THR:O	2.16	0.45
41:a:78:U:P	45:e:4:LYS:NZ	2.89	0.45
41:a:152:A:H2'	41:a:153:U:H6	1.82	0.45
41:a:535:G:H2'	41:a:536:G:O4'	2.17	0.45
41:a:598:U:H2'	41:a:599:A:C8	2.52	0.45
41:a:782:A:N1	48:h:225:MET:HE2	2.32	0.45
41:a:837:C:N3	41:a:941:A:N6	2.65	0.45
41:a:1007:C:H5''	59:s:37:ARG:NE	2.31	0.45
41:a:1753:G:N2	41:a:1755:A:H3'	2.32	0.45
41:a:1856:U:H2'	41:a:1857:G:O4'	2.17	0.45
41:a:2095:A:O5'	58:r:11:ASN:OD1	2.35	0.45
45:e:24:GLU:O	45:e:28:LEU:HD13	2.17	0.45
47:g:16:CYS:CB	47:g:37:CYS:CB	2.90	0.45
48:h:123:ALA:HB1	48:h:125:LYS:CE	2.47	0.45
50:j:11:MET:HE3	50:j:11:MET:HB3	1.64	0.45
54:n:4:LEU:HD21	54:n:101:GLU:HG3	1.98	0.45
54:n:127:ASN:OD1	54:n:157:THR:HA	2.16	0.45
60:t:17:ARG:NH2	60:t:47:ILE:CG2	2.80	0.45
61:u:103:ILE:HG23	61:u:104:GLN:HG2	1.99	0.45
65:y:15:GLN:NE2	65:y:16:ASP:CG	2.75	0.45
2:1:24:ILE:HG21	2:1:36:LEU:CD1	2.42	0.45
3:2:65:GLY:H	3:2:76:ARG:HH12	1.64	0.45
4:3:47:LYS:HZ3	41:a:482:A:P	2.40	0.45
4:3:66:GLN:OE1	41:a:329:G:OP2	2.34	0.45
8:7:2:U:OP2	18:D:926:G:N2	2.50	0.45
8:7:22:U:H5''	23:I:80:LYS:HB2	1.95	0.45
9:9:68:PRO:O	9:9:72:LEU:HD21	2.16	0.45
9:9:129:LEU:H	9:9:129:LEU:HG	1.72	0.45
10:A:3:C:H2'	10:A:4:G:H8	1.82	0.45
11:AA:694:ARG:HH22	13:AC:80:GLU:HG3	1.82	0.45
12:AB:52:PRO:O	12:AB:54:TYR:N	2.50	0.45
16:AG:19:PRO:HG2	16:AG:19:PRO:O	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AG:104:ARG:N	16:AG:105:ILE:HG12	2.32	0.45
18:D:151:A:C5	18:D:152:A:C8	3.04	0.45
18:D:604:G:H2'	18:D:605:U:O4'	2.17	0.45
21:G:27:MET:HG3	21:G:27:MET:O	2.16	0.45
22:H:37:LEU:HG	22:H:46:SER:O	2.16	0.45
23:I:142:MET:HE3	23:I:170:GLU:HB3	1.98	0.45
25:K:76:LEU:HD12	25:K:76:LEU:O	2.17	0.45
29:O:86:ALA:O	29:O:89:GLU:CG	2.64	0.45
35:U:6:LEU:HD23	35:U:17:TYR:CB	2.47	0.45
35:U:45:GLU:HG3	35:U:46:LYS:CD	2.45	0.45
37:W:13:LEU:O	37:W:17:LYS:HG2	2.17	0.45
38:X:11:ASP:HA	38:X:45:ILE:HB	1.99	0.45
41:a:111:A:O2'	45:e:58:ASN:ND2	2.46	0.45
41:a:235:U:N3	41:a:236:C:C5	2.84	0.45
41:a:730:A:C2	41:a:731:C:C5	3.05	0.45
41:a:952:G:C6	41:a:966:G:C6	3.04	0.45
41:a:980:A:N7	41:a:1136:G:H5'	2.32	0.45
41:a:2572:A:OP2	50:j:149:ASN:O	2.35	0.45
41:a:2747:G:N2	41:a:2756:U:C6	2.85	0.45
44:d:57:A:C5	54:n:26:MET:CE	2.99	0.45
48:h:52:ARG:CD	48:h:53:HIS:CE1	3.00	0.45
48:h:265:LYS:HG3	48:h:266:PHE:CD2	2.52	0.45
52:l:95:LYS:HE2	52:l:97:ASN:OD1	2.17	0.45
56:p:11:VAL:HG12	56:p:48:ASN:O	2.17	0.45
59:s:35:ARG:HA	59:s:40:HIS:ND1	2.32	0.45
2:1:86:MET:HE1	2:1:88:ARG:CD	2.42	0.45
5:4:16:ALA:O	5:4:20:LEU:HG	2.17	0.45
8:7:11:U:C4'	25:K:20:ARG:HH21	2.16	0.45
9:9:58:THR:HG23	41:a:1108:U:OP1	2.17	0.45
11:AA:856:ASN:HA	16:AG:109:THR:HG21	1.98	0.45
12:AB:130:PHE:HZ	12:AB:160:ARG:HG3	1.80	0.45
12:AB:141:LEU:HB2	12:AB:153:SER:OG	2.15	0.45
16:AG:3:LYS:HB3	16:AG:6:LEU:HD12	1.99	0.45
16:AG:429:LYS:HB2	16:AG:430:PRO:HD2	1.99	0.45
10:B:3:C:H2'	10:B:4:G:H8	1.82	0.45
18:D:980:C:C5	18:D:981:U:C2	3.04	0.45
21:G:96:TRP:CZ2	21:G:100:MET:HE3	2.52	0.45
21:G:109:GLN:C	21:G:113:ARG:NE	2.75	0.45
32:R:122:PRO:C	32:R:123:LYS:HE2	2.42	0.45
38:X:2:ALA:HB1	38:X:9:ILE:CG2	2.47	0.45
39:Y:93:ASN:O	39:Y:94:LYS:HD2	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:a:590:A:H2'	41:a:591:U:H6	1.80	0.45
41:a:607:U:C6	41:a:620:G:N7	2.85	0.45
41:a:1069:A:O2'	41:a:1073:A:N6	2.38	0.45
41:a:1131:G:OP1	59:s:81:ILE:O	2.34	0.45
41:a:1398:C:C2	41:a:1399:C:C5	3.04	0.45
41:a:1565:C:O2'	41:a:1567:G:N7	2.47	0.45
41:a:1665:A:C5'	60:t:66:LYS:NZ	2.79	0.45
41:a:2356:U:H4'	42:b:20:ARG:HD2	1.99	0.45
43:c:41:GLU:O	43:c:44:LYS:HD2	2.16	0.45
46:f:12:SER:CA	46:f:32:ILE:HD11	2.46	0.45
52:l:73:ILE:HG13	52:l:73:ILE:O	2.17	0.45
54:n:16:LEU:HD11	54:n:169:LEU:HD13	1.99	0.45
59:s:31:GLU:HG2	59:s:142:ILE:HG23	1.98	0.45
60:t:48:PRO:HB2	60:t:49:ARG:HE	1.81	0.45
61:u:101:ILE:C	61:u:105:ILE:HD12	2.42	0.45
1:0:71:LYS:CG	1:0:73:LYS:HE3	2.47	0.45
5:4:31:TYR:O	5:4:92:VAL:HA	2.17	0.45
7:6:25:DT:H2'	11:AA:496:LYS:CG	2.45	0.45
9:9:14:GLU:OE1	9:9:63:ALA:HA	2.17	0.45
10:A:71:C:H2'	10:A:72:A:N9	2.32	0.45
12:AB:102:LYS:NZ	14:AE:285:LEU:HG	2.27	0.45
12:AB:148:LYS:NZ	30:P:101:SER:HA	2.31	0.45
16:AG:63:LEU:HD22	16:AG:92:TYR:CD1	2.48	0.45
10:B:18:G:N7	10:B:57:A:N6	2.65	0.45
10:B:71:C:H2'	10:B:72:A:N9	2.32	0.45
10:B:71:C:C3'	10:B:72:A:C8	2.99	0.45
18:D:198:G:OP2	18:D:198:G:C8	2.70	0.45
18:D:280:C:O2	36:V:40:ARG:NE	2.48	0.45
18:D:1060:U:H5''	30:P:53:ILE:HD12	1.99	0.45
18:D:1333:A:H2'	18:D:1334:G:O4'	2.17	0.45
18:D:1389:C:H2'	18:D:1390:U:O4'	2.17	0.45
20:F:26:ALA:CB	20:F:28:VAL:HG23	2.47	0.45
21:G:52:GLU:C	21:G:56:GLU:OE1	2.60	0.45
21:G:100:MET:SD	21:G:101:LEU:HD23	2.56	0.45
22:H:49:PRO:CD	22:H:84:LEU:HD21	2.47	0.45
22:H:332:VAL:O	22:H:344:LEU:HA	2.17	0.45
23:I:24:ALA:HB3	23:I:29:PHE:CD2	2.51	0.45
26:L:17:GLN:CB	26:L:21:MET:HE1	2.47	0.45
33:S:6:MET:HE3	33:S:63:ARG:HH11	1.82	0.45
34:T:3:LEU:CD2	34:T:8:THR:HG23	2.47	0.45
37:W:44:MET:HE1	37:W:66:MET:HE1	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:X:90:ARG:HD3	38:X:96:PRO:O	2.17	0.45
41:a:372:G:O2'	43:c:54:LYS:CE	2.64	0.45
41:a:2766:A:C6	41:a:2767:C:C5	3.05	0.45
46:f:41:THR:C	46:f:45:ARG:NH2	2.75	0.45
48:h:146:MET:HE2	48:h:153:GLN:OE1	2.17	0.45
48:h:164:ILE:O	48:h:164:ILE:CG2	2.65	0.45
56:p:141:ILE:HG13	56:p:142:GLY:N	2.32	0.45
64:x:35:ILE:HD11	64:x:102:ARG:HH21	1.81	0.45
66:z:76:TYR:O	66:z:80:ILE:HG12	2.16	0.45
4:3:5:ILE:HG13	4:3:72:ILE:HD11	1.99	0.44
4:3:49:VAL:HG23	4:3:51:ALA:O	2.17	0.44
5:4:29:ILE:HD13	44:d:74:U:O2	2.17	0.44
6:5:10:DT:H73	11:AA:62:TYR:HB3	1.99	0.44
14:AE:41:PRO:HB2	14:AE:270:ARG:HG3	1.99	0.44
14:AE:907:HIS:ND1	14:AE:908:ILE:O	2.48	0.44
16:AG:252:VAL:HG13	16:AG:256:GLY:HA2	1.99	0.44
16:AG:288:MET:HE2	16:AG:288:MET:HB3	1.75	0.44
10:B:3:C:H2'	10:B:4:G:C8	2.52	0.44
10:B:38:A:HO2'	18:D:790:A:P	2.35	0.44
17:C:65:LEU:HD23	17:C:67:LEU:CD1	2.47	0.44
18:D:636:U:H2'	18:D:637:C:C6	2.52	0.44
18:D:753:A:OP1	34:T:73:LYS:NZ	2.50	0.44
18:D:918:A:H2'	18:D:919:A:C8	2.52	0.44
23:I:55:ILE:HD12	23:I:68:ILE:HG12	1.98	0.44
23:I:135:LYS:O	23:I:138:VAL:HG12	2.17	0.44
26:L:9:MET:HE3	26:L:9:MET:HB3	1.85	0.44
29:O:5:GLN:HE21	29:O:20:PHE:HB3	1.81	0.44
30:P:63:ASP:OD2	30:P:63:ASP:C	2.59	0.44
30:P:64:GLN:HG2	33:S:101:TRP:CH2	2.52	0.44
31:Q:52:PHE:CE1	31:Q:65:VAL:HG21	2.52	0.44
31:Q:84:VAL:HG21	31:Q:97:ILE:HD11	1.99	0.44
34:T:71:LYS:HE2	34:T:78:TYR:CD2	2.52	0.44
37:W:5:LEU:HD12	37:W:6:LYS:N	2.32	0.44
39:Y:5:GLN:NE2	39:Y:60:VAL:C	2.74	0.44
41:a:451:U:C5'	52:l:47:LYS:HZ3	2.30	0.44
41:a:730:A:C2	41:a:731:C:C6	3.05	0.44
41:a:1020:A:C2	41:a:1141:U:C2	3.06	0.44
41:a:1310:G:N2	41:a:1313:U:C4	2.85	0.44
41:a:1441:G:H2'	41:a:1442:U:H6	1.82	0.44
41:a:1889:A:H2'	41:a:1890:A:C8	2.51	0.44
41:a:2262:U:OP1	41:a:2387:U:O2'	2.33	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:a:2646:C:H2'	41:a:2647:U:O4'	2.18	0.44
47:g:30:HIS:CG	47:g:31:ASP:N	2.85	0.44
52:l:23:PHE:CE2	52:l:25:GLU:HB2	2.52	0.44
52:l:23:PHE:CD1	52:l:111:GLU:CG	3.00	0.44
52:l:117:ARG:NH1	61:u:1:MET:HE2	2.31	0.44
54:n:122:PHE:HZ	54:n:170:LEU:HD12	1.81	0.44
55:o:39:LYS:HG2	55:o:42:ARG:HH12	1.82	0.44
56:p:18:LYS:HG3	56:p:27:LYS:NZ	2.32	0.44
59:s:28:LEU:HD12	59:s:142:ILE:CG2	2.47	0.44
61:u:55:MET:SD	61:u:60:ARG:N	2.90	0.44
61:u:101:ILE:HG13	61:u:102:GLY:H	1.82	0.44
63:w:79:LEU:HD23	63:w:83:LEU:HD12	1.99	0.44
11:AA:560:PRO:HB2	14:AE:776:THR:HG21	2.00	0.44
16:AG:228:ARG:HB3	16:AG:234:ALA:HA	1.98	0.44
16:AG:403:VAL:C	16:AG:405:ALA:N	2.73	0.44
17:C:70:TYR:CE2	26:L:49:TYR:CE1	3.05	0.44
18:D:13:U:O4	18:D:20:U:O4	2.34	0.44
18:D:278:G:OP2	36:V:43:LYS:NZ	2.49	0.44
18:D:1240:U:OP1	27:M:116:MET:HB2	2.17	0.44
18:D:1250:A:H2'	18:D:1251:A:C8	2.52	0.44
21:G:64:LYS:HE2	21:G:64:LYS:HA	1.99	0.44
23:I:165:THR:C	23:I:166:GLU:OE1	2.60	0.44
24:J:49:SER:O	24:J:53:VAL:HG13	2.18	0.44
26:L:100:SER:HB2	26:L:101:PRO:HD2	1.98	0.44
27:M:138:ARG:O	27:M:142:HIS:ND1	2.46	0.44
29:O:86:ALA:C	29:O:89:GLU:HG2	2.43	0.44
30:P:28:THR:HG22	30:P:90:LEU:HD23	1.98	0.44
31:Q:51:GLY:O	31:Q:56:ARG:NH1	2.50	0.44
34:T:15:PHE:CE2	34:T:30:ALA:CB	2.99	0.44
37:W:79:THR:HG23	37:W:79:THR:O	2.18	0.44
41:a:30:G:H2'	41:a:31:C:H6	1.82	0.44
41:a:132:G:H2'	41:a:133:U:H6	1.80	0.44
41:a:861:A:H2'	41:a:862:G:O4'	2.17	0.44
41:a:1182:G:H2'	41:a:1183:U:O4'	2.17	0.44
41:a:1432:G:H2'	41:a:1433:A:H8	1.79	0.44
41:a:1434:A:H2'	41:a:1435:G:C8	2.53	0.44
41:a:1792:G:C5'	48:h:204:VAL:HG23	2.47	0.44
41:a:2478:A:C8	41:a:2529:G:C5	3.04	0.44
41:a:2839:G:C5	41:a:2840:C:C5	3.05	0.44
45:e:13:GLU:C	45:e:17:GLU:OE1	2.60	0.44
48:h:251:GLN:OE1	48:h:255:LYS:CB	2.65	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:j:172:VAL:HG11	50:j:175:LEU:HD11	1.99	0.44
52:l:1:MET:HE3	52:l:19:PHE:C	2.42	0.44
52:l:90:GLN:OE1	52:l:92:HIS:CD2	2.70	0.44
55:o:31:HIS:C	55:o:33:LEU:HG	2.42	0.44
58:r:127:GLU:OE2	58:r:143:ILE:HB	2.17	0.44
61:u:91:ASP:HB2	61:u:93:ASN:OD1	2.17	0.44
1:0:13:ARG:CZ	66:z:97:ASP:CG	2.91	0.44
9:9:4:ASN:OD1	41:a:1046:A:N7	2.50	0.44
9:9:19:ALA:CB	9:9:69:PHE:HE2	2.31	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:C1'	2.47	0.44
11:AA:11:ILE:HG22	11:AA:1172:LEU:HD11	2.00	0.44
11:AA:829:THR:HG23	11:AA:1059:ARG:HG2	1.99	0.44
11:AA:1002:LEU:HD21	11:AA:1007:LYS:HB2	1.98	0.44
14:AE:71:LEU:HD12	14:AE:71:LEU:HA	1.78	0.44
14:AE:774:ILE:HA	14:AE:777:HIS:HD2	1.82	0.44
16:AG:127:VAL:HG22	16:AG:192:GLY:CA	2.46	0.44
16:AG:143:LYS:HG3	16:AG:153:ASP:HB2	1.99	0.44
10:B:18:G:N2	10:B:58:A:N7	2.65	0.44
10:B:71:C:H2'	10:B:72:A:C1'	2.47	0.44
18:D:1086:U:O2	18:D:1086:U:H2'	2.16	0.44
18:D:1146:A:C5	18:D:1147:C:C5	3.06	0.44
18:D:1408:A:H2'	18:D:1409:C:C6	2.52	0.44
18:D:1436:U:H2'	18:D:1437:A:C8	2.52	0.44
18:D:1436:U:H2'	18:D:1437:A:H8	1.82	0.44
18:D:1437:A:C2	18:D:1438:G:C8	3.04	0.44
21:G:101:LEU:HD22	21:G:157:LEU:HD12	1.99	0.44
22:H:308:GLU:C	22:H:310:ASP:H	2.25	0.44
22:H:332:VAL:O	22:H:333:LEU:HB2	2.17	0.44
23:I:14:ILE:HG13	23:I:178:LEU:HD21	1.99	0.44
26:L:72:ASP:O	26:L:76:THR:HG23	2.17	0.44
30:P:24:GLU:OE2	30:P:92:LEU:CD2	2.66	0.44
30:P:40:ILE:HD12	30:P:73:LEU:CD2	2.48	0.44
30:P:73:LEU:C	30:P:73:LEU:HD23	2.42	0.44
32:R:38:TYR:CE2	32:R:40:THR:CG2	3.01	0.44
35:U:8:ARG:H	35:U:28:ARG:HD3	1.82	0.44
41:a:15:G:O2'	49:i:15:MET:HE1	2.16	0.44
41:a:145:C:H2'	41:a:146:A:C8	2.53	0.44
41:a:580:U:O3'	66:z:31:VAL:HG13	2.17	0.44
41:a:597:G:H2'	41:a:598:U:C6	2.52	0.44
41:a:1997:C:OP1	50:j:128:ARG:NH1	2.51	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:a:2175:C:C2'	41:a:2176:A:C8	3.00	0.44
41:a:2347:C:C2	41:a:2348:U:C5	3.05	0.44
41:a:2492:U:C2'	41:a:2493:U:H5'	2.48	0.44
41:a:2718:G:O2'	41:a:2847:U:H5''	2.18	0.44
44:d:45:A:C4	44:d:46:A:C8	3.05	0.44
46:f:27:LEU:O	46:f:38:ARG:NE	2.44	0.44
46:f:51:VAL:O	46:f:55:VAL:HG12	2.17	0.44
50:j:3:GLY:O	50:j:82:PHE:CE2	2.69	0.44
63:w:20:MET:HE3	63:w:20:MET:HB2	1.83	0.44
65:y:7:GLN:HE21	65:y:10:GLN:HE21	1.65	0.44
1:0:58:VAL:HG13	1:0:60:LYS:HZ3	1.82	0.44
1:0:74:ILE:HD12	1:0:74:ILE:N	2.32	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
11:AA:24:VAL:HG11	11:AA:704:MET:HE1	1.98	0.44
12:AB:31:PRO:C	12:AB:50:LEU:H	2.22	0.44
16:AG:227:ALA:CB	16:AG:331:LEU:HA	2.46	0.44
17:C:34:THR:OG1	17:C:38:LYS:HB2	2.18	0.44
18:D:153:C:C2	18:D:154:U:C5	3.06	0.44
18:D:375:U:OP2	35:U:70:ARG:NE	2.51	0.44
18:D:675:A:C1'	31:Q:118:HIS:CD2	2.99	0.44
18:D:715:A:H2'	18:D:716:A:C8	2.52	0.44
18:D:1080:A:OP1	25:K:50:TYR:OH	2.29	0.44
18:D:1186:G:O2'	29:O:112:GLU:OE2	2.33	0.44
18:D:1308:U:H3'	38:X:98:ARG:NE	2.32	0.44
18:D:1323:G:H2'	18:D:1324:A:H8	1.78	0.44
18:D:1486:G:H2'	18:D:1487:G:O4'	2.18	0.44
19:E:16:LYS:HG3	19:E:19:LYS:HE3	1.98	0.44
19:E:49:LYS:O	19:E:53:GLU:HG2	2.16	0.44
21:G:163:VAL:CG1	21:G:185:ALA:HA	2.47	0.44
22:H:12:SER:O	22:H:16:ILE:HG13	2.18	0.44
22:H:49:PRO:HD3	22:H:84:LEU:HD21	1.99	0.44
23:I:151:VAL:CG1	23:I:200:VAL:HG23	2.47	0.44
24:J:35:GLU:HG2	24:J:36:GLN:N	2.32	0.44
24:J:172:GLU:CD	24:J:183:LYS:HD2	2.42	0.44
30:P:5:ARG:HE	30:P:7:ARG:CZ	2.29	0.44
33:S:13:ARG:HB3	33:S:60:GLN:HE21	1.81	0.44
34:T:26:GLU:HG3	34:T:27:VAL:N	2.33	0.44
38:X:16:VAL:HG23	38:X:17:ILE:CD1	2.47	0.44
38:X:106:ALA:HB3	38:X:110:LYS:CD	2.48	0.44
41:a:65:U:N3	41:a:66:C:C5	2.86	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:a:66:C:N4	41:a:74:A:N6	2.66	0.44
41:a:966:G:O4'	41:a:2267:A:N6	2.51	0.44
41:a:1146:C:C2	41:a:1147:A:C8	3.05	0.44
41:a:1349:C:O2	41:a:1349:C:H2'	2.17	0.44
41:a:1656:C:C2	41:a:1657:U:C5	3.05	0.44
41:a:2345:G:N3	41:a:2381:A:H2'	2.33	0.44
43:c:43:GLU:OE1	43:c:45:ARG:CB	2.65	0.44
48:h:220:VAL:HG23	48:h:225:MET:HE3	2.00	0.44
50:j:81:GLU:O	50:j:82:PHE:HD1	2.01	0.44
54:n:10:ASP:OD1	54:n:11:GLU:HG3	2.17	0.44
54:n:117:LEU:N	54:n:177:PHE:O	2.51	0.44
56:p:85:LYS:HA	56:p:85:LYS:HD2	1.77	0.44
59:s:98:GLU:O	59:s:100:VAL:N	2.51	0.44
60:t:18:ARG:NE	60:t:18:ARG:HA	2.33	0.44
61:u:95:LEU:HD12	61:u:100:ILE:HG21	1.99	0.44
63:w:87:PHE:HE2	63:w:115:LEU:HD11	1.83	0.44
4:3:6:ARG:CG	4:3:7:ARG:H	2.31	0.44
5:4:55:GLU:OE1	5:4:55:GLU:N	2.42	0.44
8:7:4:U:C5	18:D:1403:C:H1'	2.52	0.44
8:7:9:U:OP2	8:7:9:U:C6	2.71	0.44
9:9:92:ALA:HB3	9:9:129:LEU:HB2	1.99	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:557:ARG:HB3	11:AA:587:LEU:HD13	2.00	0.44
11:AA:813:GLU:HB2	14:AE:461:PHE:HD2	1.83	0.44
12:AB:6:LEU:HD22	14:AE:291:ILE:HD11	1.99	0.44
13:AD:78:ILE:HA	13:AD:81:ILE:HG22	2.00	0.44
14:AE:68:TYR:CA	14:AE:92:VAL:HG23	2.45	0.44
16:AG:425:LEU:HD23	16:AG:429:LYS:HZ3	1.80	0.44
16:AG:440:VAL:HG13	16:AG:444:LEU:HB2	2.00	0.44
10:B:18:G:C5	10:B:57:A:N6	2.85	0.44
10:B:75:C:P	41:a:2602:A:C2'	3.06	0.44
18:D:33:A:H2'	18:D:34:C:C6	2.53	0.44
18:D:360:G:H2'	18:D:361:G:C8	2.53	0.44
18:D:376:G:C2	18:D:389:A:C2	3.06	0.44
18:D:564:C:OP1	32:R:12:ARG:CZ	2.66	0.44
18:D:598:U:C2	18:D:599:C:C5	3.06	0.44
18:D:704:A:C4	18:D:705:G:C8	3.06	0.44
18:D:735:C:C2	18:D:736:C:C5	3.05	0.44
18:D:824:G:C6	18:D:877:G:C6	3.05	0.44
19:E:78:ASN:O	19:E:82:GLN:CD	2.61	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:G:171:ILE:H	21:G:171:ILE:HD12	1.82	0.44
22:H:294:VAL:HG11	22:H:330:VAL:HG21	2.00	0.44
23:I:58:GLU:OE1	23:I:65:ARG:CZ	2.65	0.44
24:J:69:GLU:HA	24:J:72:PHE:HD2	1.83	0.44
25:K:50:TYR:C	25:K:66:LYS:HE3	2.43	0.44
26:L:5:GLU:CD	26:L:61:LEU:HD11	2.42	0.44
26:L:36:ILE:HD12	26:L:36:ILE:HA	1.82	0.44
27:M:106:GLU:O	27:M:110:LYS:HG2	2.18	0.44
34:T:10:LYS:CD	34:T:14:GLU:OE2	2.65	0.44
34:T:11:ILE:HD11	34:T:30:ALA:HB1	1.98	0.44
37:W:39:THR:HG22	37:W:40:ILE:N	2.33	0.44
39:Y:12:VAL:HG22	39:Y:54:ILE:O	2.17	0.44
39:Y:19:PRO:CG	39:Y:23:VAL:CG2	2.95	0.44
41:a:221:A:C4	41:a:266:G:N7	2.85	0.44
41:a:400:G:OP2	43:c:57:ARG:NH1	2.46	0.44
41:a:677:A:O2'	41:a:2071:A:H5'	2.18	0.44
41:a:1084:A:N6	41:a:1085:A:N1	2.66	0.44
41:a:1414:C:H2'	41:a:1415:U:C6	2.52	0.44
41:a:1824:G:P	48:h:52:ARG:CZ	3.06	0.44
41:a:1863:G:H2'	41:a:1864:U:H6	1.82	0.44
41:a:1936:A:C8	41:a:1945:G:N7	2.86	0.44
46:f:41:THR:O	46:f:43:ALA:N	2.51	0.44
48:h:74:ILE:HB	48:h:96:TYR:CD1	2.53	0.44
48:h:240:PHE:CD2	48:h:240:PHE:O	2.71	0.44
50:j:61:THR:OG1	50:j:63:PRO:HD2	2.18	0.44
52:l:147:LEU:HB2	52:l:183:PHE:CD2	2.48	0.44
55:o:30:ARG:HH12	61:u:62:PRO:N	2.15	0.44
56:p:8:PRO:C	56:p:69:ARG:NH2	2.75	0.44
59:s:124:VAL:O	59:s:125:TYR:HD1	2.01	0.44
60:t:44:LYS:N	60:t:44:LYS:HD2	2.33	0.44
63:w:60:VAL:HA	63:w:63:ARG:CZ	2.48	0.44
63:w:98:LEU:N	63:w:112:TYR:O	2.50	0.44
10:A:48:C:O2'	10:A:49:G:OP2	2.27	0.44
11:AA:444:ASP:OD1	11:AA:444:ASP:N	2.51	0.44
11:AA:557:ARG:NH2	11:AA:607:SER:O	2.50	0.44
12:AB:118:ILE:HG21	12:AB:141:LEU:CG	2.44	0.44
14:AE:83:VAL:CB	23:I:100:GLN:NE2	2.55	0.44
14:AE:291:ILE:HD13	14:AE:291:ILE:HA	1.85	0.44
16:AG:314:LEU:HD22	16:AG:318:ILE:HD11	1.98	0.44
16:AG:413:ALA:C	16:AG:416:THR:HG1	2.17	0.44
17:C:41:PRO:HD2	22:H:339:ARG:CZ	2.47	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:D:414:A:C4	18:D:415:A:C8	3.05	0.44
18:D:429:U:O2	18:D:430:A:N7	2.50	0.44
18:D:545:C:C5'	24:J:69:GLU:HG3	2.38	0.44
18:D:1062:U:H2'	18:D:1063:C:C6	2.53	0.44
18:D:1434:A:H2'	18:D:1435:G:O4'	2.18	0.44
22:H:5:PHE:CZ	22:H:9:PHE:CE1	3.06	0.44
22:H:19:ARG:O	22:H:72:LEU:HD13	2.18	0.44
22:H:53:PHE:HE1	22:H:68:VAL:HG21	1.82	0.44
22:H:76:GLU:OE1	22:H:79:PHE:HA	2.18	0.44
23:I:147:LYS:HE2	23:I:204:LYS:C	2.42	0.44
25:K:50:TYR:O	25:K:66:LYS:HE3	2.17	0.44
26:L:16:GLU:H	26:L:16:GLU:CD	2.26	0.44
30:P:66:GLU:HG3	33:S:99:ALA:HB2	2.00	0.44
31:Q:83:GLU:OE1	31:Q:83:GLU:N	2.51	0.44
32:R:24:LEU:HD23	32:R:95:TYR:HE1	1.83	0.44
33:S:13:ARG:HB3	33:S:60:GLN:CG	2.46	0.44
34:T:63:ARG:HD2	34:T:67:LEU:HD21	2.00	0.44
39:Y:14:ALA:O	39:Y:16:MET:N	2.51	0.44
39:Y:82:ALA:HB3	39:Y:108:ILE:CD1	2.48	0.44
41:a:27:G:C4	41:a:512:G:N2	2.86	0.44
41:a:536:G:H4'	66:z:57:PHE:HZ	1.82	0.44
41:a:564:C:H1'	66:z:37:GLN:NE2	2.32	0.44
41:a:594:U:C2	41:a:595:C:C5	3.05	0.44
41:a:1021:A:C2	41:a:1141:U:O4	2.71	0.44
41:a:1144:A:C4	41:a:1145:C:C5	3.05	0.44
41:a:2021:C:OP1	49:i:9:THR:HG21	2.18	0.44
41:a:2063:C:N3	41:a:2064:C:C5	2.86	0.44
41:a:2450:A:C2	41:a:2451:A:C4	3.06	0.44
43:c:33:LEU:O	43:c:34:HIS:CG	2.70	0.44
45:e:59:GLU:CD	45:e:60:LYS:N	2.76	0.44
48:h:108:LYS:HZ3	48:h:194:GLU:H	1.64	0.44
50:j:131:ASP:OD1	50:j:133:THR:O	2.36	0.44
54:n:63:GLN:HG3	54:n:95:ARG:HD3	1.99	0.44
54:n:175:PHE:CG	54:n:176:PRO:HD2	2.52	0.44
56:p:27:LYS:HG2	56:p:32:GLU:HG3	2.00	0.44
56:p:69:ARG:NH1	56:p:73:ASN:ND2	2.66	0.44
6:5:11:DA:C5'	12:AB:67:THR:O	2.66	0.44
8:7:38:A:O3'	11:AA:688:GLN:NE2	2.51	0.44
9:9:59:LEU:HD22	9:9:62:ARG:HE	1.81	0.44
10:A:3:C:H2'	10:A:4:G:C8	2.52	0.44
12:AB:17:ALA:O	12:AB:20:HIS:HB2	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AB:33:ILE:HD11	12:AB:104:ILE:HA	2.00	0.44
12:AB:117:ILE:HG21	12:AB:161:LYS:HE2	1.99	0.44
12:AB:146:ILE:CD1	30:P:98:VAL:CG2	2.91	0.44
16:AG:433:ASP:HB3	16:AG:456:LEU:CD1	2.47	0.44
18:D:123:U:OP1	18:D:311:C:O2'	2.33	0.44
18:D:219:U:C2	18:D:220:G:C8	3.05	0.44
18:D:284:C:C2	18:D:285:C:C5	3.06	0.44
18:D:524:G:H2'	18:D:525:C:C6	2.52	0.44
18:D:610:U:C2	18:D:611:C:C6	3.06	0.44
18:D:1006:G:H2'	18:D:1007:U:H6	1.81	0.44
19:E:22:ALA:CA	19:E:25:ARG:HE	2.31	0.44
26:L:78:PHE:HD1	26:L:87:SER:HB3	1.82	0.44
28:N:35:ALA:HB1	28:N:110:VAL:HG11	1.99	0.44
29:O:89:GLU:HG3	29:O:90:TYR:N	2.33	0.44
29:O:94:LEU:O	29:O:97:GLU:CD	2.60	0.44
31:Q:21:ALA:HB3	31:Q:84:VAL:HG22	1.99	0.44
31:Q:91:PRO:HD2	31:Q:92:GLY:H	1.83	0.44
32:R:18:LYS:HD3	32:R:19:SER:N	2.33	0.44
32:R:25:GLU:OE2	32:R:30:LYS:HE3	2.18	0.44
34:T:32:LEU:HD12	34:T:63:ARG:HA	1.98	0.44
38:X:71:ARG:NH1	38:X:72:GLU:HG3	2.33	0.44
39:Y:33:ASN:OD1	39:Y:35:MET:HE2	2.18	0.44
41:a:128:C:C2	41:a:129:C:C5	3.06	0.44
41:a:153:U:H2'	41:a:154:U:C6	2.53	0.44
41:a:957:C:H5'	62:v:75:GLU:OE1	2.18	0.44
41:a:1360:G:C8	41:a:1361:G:C8	3.06	0.44
41:a:2093:G:P	58:r:22:LYS:HG2	2.58	0.44
41:a:2098:U:H2'	41:a:2099:U:O4'	2.18	0.44
41:a:2175:C:H2'	41:a:2176:A:N7	2.33	0.44
41:a:2747:G:C2	41:a:2756:U:C5	3.05	0.44
48:h:200:HIS:O	48:h:203:ARG:HG2	2.17	0.44
49:i:17:ARG:CA	49:i:20:ASP:OD1	2.66	0.44
53:m:41:ARG:NE	53:m:41:ARG:HA	2.33	0.44
56:p:83:PHE:HB2	56:p:141:ILE:HD13	2.00	0.44
63:w:13:ASN:O	63:w:17:ARG:HG3	2.17	0.44
64:x:50:ALA:O	64:x:81:ARG:NH2	2.51	0.44
65:y:31:TRP:CZ3	65:y:40:LEU:CD1	3.00	0.44
1:0:60:LYS:N	1:0:60:LYS:HD3	2.33	0.44
1:0:73:LYS:HD3	1:0:86:GLN:HE21	1.82	0.44
3:2:6:ARG:NE	3:2:42:GLU:CD	2.76	0.44
8:7:13:U:H3	24:J:47:ARG:NH1	2.10	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:9:4:ASN:HB3	9:9:8:LYS:HZ2	1.81	0.44
10:A:18:G:N7	10:A:57:A:N6	2.65	0.44
13:AD:68:TYR:HE1	13:AD:79:LEU:HD13	1.82	0.44
16:AG:15:GLU:HA	16:AG:18:LEU:HB2	2.00	0.44
16:AG:320:ARG:HH11	16:AG:320:ARG:HG2	1.79	0.44
17:C:18:VAL:HG13	17:C:51:TYR:HE1	1.83	0.44
18:D:262:A:H2'	18:D:263:A:C8	2.53	0.44
18:D:622:A:C8	18:D:623:C:C5	3.06	0.44
18:D:642:A:C5	18:D:643:C:C5	3.06	0.44
18:D:754:C:O5'	34:T:72:ARG:NH1	2.51	0.44
18:D:1120:C:C2	18:D:1121:U:C5	3.06	0.44
18:D:1120:C:H2'	18:D:1121:U:H6	1.83	0.44
18:D:1152:A:OP1	30:P:72:ARG:NH1	2.43	0.44
19:E:21:ASN:HB3	19:E:25:ARG:CZ	2.48	0.44
19:E:58:VAL:HG12	19:E:72:ALA:HB1	1.99	0.44
20:F:32:VAL:HG11	31:Q:89:PRO:HG3	1.99	0.44
22:H:71:ALA:HB3	22:H:83:LEU:O	2.18	0.44
23:I:112:ASP:O	23:I:116:VAL:HG23	2.18	0.44
28:N:110:VAL:O	28:N:111:MET:SD	2.75	0.44
33:S:87:ALA:CA	33:S:90:ARG:CZ	2.96	0.44
36:V:28:PHE:CZ	36:V:37:PHE:HB3	2.53	0.44
38:X:3:ARG:NH2	54:n:110:ARG:HD2	2.32	0.44
39:Y:44:LYS:HG2	39:Y:68:PHE:HE2	1.83	0.44
41:a:6:A:O2'	59:s:132:HIS:ND1	2.50	0.44
41:a:208:C:H2'	41:a:209:C:C6	2.53	0.44
41:a:479:A:H4'	41:a:480:A:OP1	2.18	0.44
41:a:782:A:C6	48:h:225:MET:HE2	2.53	0.44
41:a:1799:G:N7	48:h:178:SER:OG	2.45	0.44
41:a:2016:U:H2'	41:a:2017:U:C6	2.52	0.44
41:a:2297:A:C2	41:a:2320:U:C1'	3.00	0.44
41:a:2484:G:OP1	62:v:44:ARG:HD2	2.18	0.44
41:a:2616:C:C2	41:a:2617:U:C6	3.06	0.44
41:a:2806:C:H2'	41:a:2807:U:O4'	2.18	0.44
46:f:4:THR:CG2	46:f:37:GLU:OE2	2.66	0.44
46:f:31:ARG:HG2	46:f:34:HIS:HB2	2.00	0.44
50:j:55:LYS:HZ2	50:j:60:VAL:N	2.16	0.44
50:j:104:VAL:HG12	50:j:105:LYS:N	2.33	0.44
52:l:6:LYS:CE	52:l:119:ILE:CG2	2.94	0.44
55:o:45:ARG:HD2	55:o:45:ARG:C	2.43	0.44
57:q:3:VAL:HG12	57:q:36:ARG:HB3	2.00	0.44
59:s:132:HIS:HA	59:s:135:GLN:OE1	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:v:38:ARG:HB2	62:v:98:PRO:HD3	2.00	0.44
2:1:36:LEU:N	2:1:36:LEU:HD12	2.33	0.44
3:2:56:GLU:CD	3:2:88:LYS:N	2.76	0.44
8:7:12:U:C3'	8:7:12:U:C6	3.00	0.44
12:AB:120:GLU:H	12:AB:162:LEU:CG	2.31	0.44
13:AC:48:LEU:HA	13:AC:48:LEU:HD23	1.86	0.44
15:AF:58:LEU:HD12	15:AF:59:ILE:HG12	2.00	0.44
16:AG:219:GLU:CD	21:G:156:GLY:HA3	2.42	0.44
10:B:11:A:H2'	10:B:12:G:O4'	2.17	0.44
18:D:108:G:H5''	18:D:108:G:N3	2.33	0.44
18:D:404:G:N7	24:J:2:ALA:HB3	2.33	0.44
19:E:25:ARG:O	19:E:28:MET:HB2	2.18	0.44
21:G:48:PRO:O	21:G:52:GLU:HG2	2.18	0.44
23:I:34:ASP:HB2	33:S:65:ARG:CZ	2.48	0.44
23:I:152:GLU:OE2	23:I:165:THR:HG23	2.18	0.44
25:K:12:GLN:HB3	25:K:14:LYS:HZ2	1.81	0.44
29:O:91:ASP:HB3	29:O:94:LEU:HG	1.99	0.44
32:R:74:LEU:HD11	32:R:80:ILE:CG1	2.48	0.44
36:V:27:ARG:HH22	36:V:42:THR:N	2.15	0.44
41:a:579:G:H2'	41:a:580:U:C6	2.53	0.44
41:a:1013:C:C2	41:a:1014:A:C8	3.04	0.44
41:a:1996:C:OP1	60:t:31:ARG:NH2	2.51	0.44
41:a:2025:C:H2'	41:a:2026:U:C6	2.53	0.44
41:a:2092:U:C2	41:a:2225:A:O2'	2.71	0.44
41:a:2305:U:H5''	54:n:131:GLY:HA3	2.00	0.44
44:d:69:G:C5	44:d:70:C:C6	3.06	0.44
45:e:2:LYS:HZ1	45:e:49:ASP:CA	2.31	0.44
46:f:6:LYS:HD3	46:f:6:LYS:N	2.33	0.44
55:o:8:ARG:HA	55:o:8:ARG:HE	1.82	0.44
62:v:3:GLN:OE1	62:v:4:PRO:O	2.35	0.44
65:y:31:TRP:CH2	65:y:40:LEU:HD11	2.52	0.44
66:z:66:ASN:CG	66:z:76:TYR:HB2	2.42	0.44
1:0:77:PHE:CD2	66:z:40:ILE:HG21	2.53	0.43
1:0:93:PHE:CD1	1:0:93:PHE:C	2.96	0.43
3:2:56:GLU:OE1	3:2:86:THR:C	2.61	0.43
9:9:129:LEU:CD1	9:9:130:PRO:HD3	2.45	0.43
9:9:138:ARG:NH1	40:Z:10:ALA:O	2.51	0.43
10:A:11:A:H2'	10:A:12:G:O4'	2.17	0.43
12:AB:31:PRO:HG2	12:AB:51:PHE:CE2	2.53	0.43
12:AB:38:ILE:HA	12:AB:42:LYS:O	2.18	0.43
12:AB:123:PHE:O	12:AB:123:PHE:CD2	2.70	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:AD:31:LEU:HD21	13:AD:39:LEU:HD12	2.00	0.43
14:AE:283:LEU:HD23	14:AE:292:VAL:HG11	1.99	0.43
16:AG:320:ARG:HB2	16:AG:323:GLN:CB	2.48	0.43
17:C:29:LEU:CD2	17:C:59:ILE:HD13	2.48	0.43
18:D:877:G:H5''	28:N:80:ARG:CD	2.49	0.43
18:D:882:C:O2'	18:D:883:C:H5'	2.18	0.43
18:D:1160:G:C6	18:D:1161:C:C5	3.06	0.43
18:D:1240:U:H5	27:M:116:MET:HE2	1.83	0.43
18:D:1325:C:N3	18:D:1326:U:C5	2.86	0.43
21:G:9:MET:HE2	21:G:43:LEU:HD22	2.00	0.43
21:G:134:ALA:HA	21:G:137:ARG:HE	1.83	0.43
22:H:297:GLU:OE1	22:H:297:GLU:N	2.49	0.43
23:I:156:ARG:CG	23:I:193:TYR:HB2	2.47	0.43
25:K:132:ASN:OD1	25:K:134:ILE:HG22	2.18	0.43
31:Q:14:LYS:HD3	31:Q:15:GLN:N	2.32	0.43
31:Q:63:ALA:CB	31:Q:92:GLY:HA3	2.48	0.43
33:S:86:GLU:O	33:S:90:ARG:HG2	2.17	0.43
36:V:30:LYS:HB2	36:V:37:PHE:CE1	2.52	0.43
38:X:79:ARG:NH1	47:g:56:ARG:NH1	2.66	0.43
39:Y:99:LYS:CE	39:Y:140:GLU:OE2	2.66	0.43
41:a:536:G:H4'	66:z:57:PHE:CZ	2.53	0.43
41:a:832:U:H2'	41:a:833:A:C8	2.50	0.43
41:a:1409:U:C2	41:a:1410:G:C8	3.06	0.43
41:a:1657:U:C2	41:a:1658:C:C5	3.06	0.43
41:a:1820:U:C2	48:h:201:MET:HE2	2.53	0.43
41:a:1956:U:C2	41:a:1957:C:C6	3.06	0.43
41:a:2548:U:C2	41:a:2549:G:C8	3.06	0.43
41:a:2617:U:C2	41:a:2618:G:C8	3.06	0.43
50:j:204:LYS:HD3	50:j:205:PRO:HD2	2.00	0.43
52:l:198:GLU:OE1	52:l:198:GLU:N	2.43	0.43
54:n:132:VAL:CG2	54:n:152:LEU:CD2	2.96	0.43
55:o:45:ARG:HB3	55:o:46:PRO:CD	2.48	0.43
55:o:55:LEU:C	55:o:55:LEU:HD23	2.42	0.43
58:r:90:LEU:HD21	58:r:94:ILE:HD11	2.00	0.43
60:t:1:MET:HE1	60:t:32:TYR:CB	2.49	0.43
66:z:76:TYR:OH	66:z:92:ARG:HG2	2.19	0.43
1:0:1:MET:HE3	1:0:43:ASN:OD1	2.18	0.43
4:3:7:ARG:NH2	41:a:84:A:O2'	2.51	0.43
9:9:18:VAL:HG13	9:9:71:CYS:HB2	2.00	0.43
11:AA:641:GLU:OE2	14:AE:749:LYS:NZ	2.42	0.43
11:AA:1157:GLN:HG3	11:AA:1159:VAL:HG13	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:1246:ARG:HH11	11:AA:1266:GLY:HA2	1.82	0.43
12:AB:2:GLN:HA	12:AB:59:PHE:C	2.43	0.43
13:AD:15:ASP:OD1	13:AD:27:THR:OG1	2.30	0.43
16:AG:142:VAL:HB	16:AG:175:PRO:HA	1.99	0.43
16:AG:339:MET:SD	16:AG:347:LYS:CD	2.94	0.43
10:B:75:C:OP1	41:a:2602:A:C8	2.71	0.43
17:C:40:VAL:HG22	22:H:339:ARG:HE	1.83	0.43
18:D:323:U:H4'	19:E:17:ALA:HB3	1.99	0.43
18:D:337:G:H2'	18:D:338:A:H8	1.80	0.43
18:D:415:A:C6	18:D:416:G:C5	3.06	0.43
18:D:621:A:H2'	18:D:622:A:C8	2.54	0.43
18:D:678:U:H2'	18:D:679:C:C6	2.53	0.43
18:D:986:U:H2'	18:D:987:G:C8	2.53	0.43
21:G:117:LEU:HD21	21:G:141:LEU:CA	2.48	0.43
22:H:8:LEU:HD12	22:H:11:GLU:OE2	2.18	0.43
22:H:52:GLN:OE1	22:H:52:GLN:HA	2.18	0.43
23:I:157:LEU:CD1	23:I:166:GLU:OE1	2.66	0.43
28:N:84:ARG:HD2	28:N:124:GLU:OE1	2.17	0.43
32:R:30:LYS:C	32:R:81:LEU:HD12	2.42	0.43
34:T:10:LYS:HE2	34:T:10:LYS:HA	2.00	0.43
39:Y:14:ALA:O	39:Y:15:GLY:C	2.61	0.43
41:a:74:A:N7	41:a:88:G:C5	2.87	0.43
41:a:870:U:N3	41:a:871:U:C5	2.86	0.43
41:a:910:A:H8	62:v:12:MET:CE	2.31	0.43
41:a:1319:C:O2'	41:a:1320:C:H5'	2.18	0.43
41:a:1839:G:C4	41:a:1840:G:C8	3.06	0.43
41:a:2179:C:H2'	41:a:2180:U:H6	1.83	0.43
41:a:2466:C:C2	41:a:2467:C:C5	3.06	0.43
41:a:2579:C:O3'	50:j:137:SER:OG	2.32	0.43
41:a:2702:G:C4	41:a:2703:C:C5	3.06	0.43
41:a:2768:U:OP1	59:s:85:LYS:HE3	2.19	0.43
46:f:10:THR:CB	46:f:56:LYS:NZ	2.81	0.43
5:4:31:TYR:HE2	44:d:104:A:O4'	2.01	0.43
9:9:23:LEU:HA	9:9:118:ILE:HG13	2.01	0.43
11:AA:646:SER:OG	11:AA:647:ARG:N	2.52	0.43
11:AA:811:ASN:ND2	11:AA:1098:LEU:O	2.51	0.43
14:AE:384:LYS:NZ	16:AG:147:ARG:NH1	2.66	0.43
16:AG:38:LYS:HB3	16:AG:39:TYR:H	1.55	0.43
16:AG:167:MET:HE3	16:AG:173:PHE:CZ	2.53	0.43
16:AG:343:ASP:HB3	16:AG:347:LYS:HE3	2.01	0.43
16:AG:353:HIS:C	16:AG:357:ASP:HB2	2.43	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:B:72:A:C3'	10:B:73:A:H5''	2.47	0.43
17:C:34:THR:HG22	17:C:35:GLU:N	2.33	0.43
18:D:1317:C:OP2	33:S:28:LYS:CE	2.67	0.43
20:F:51:SER:OG	20:F:55:ARG:NH2	2.52	0.43
21:G:206:ALA:O	21:G:210:VAL:HG23	2.18	0.43
22:H:163:ARG:N	22:H:298:GLU:CG	2.81	0.43
22:H:303:LEU:CD2	22:H:305:HIS:HB3	2.48	0.43
23:I:149:ILE:HG13	23:I:201:TRP:O	2.18	0.43
26:L:2:ARG:HB2	26:L:4:TYR:CE1	2.53	0.43
28:N:31:LYS:N	28:N:31:LYS:HD2	2.34	0.43
29:O:56:ASP:OD1	29:O:56:ASP:N	2.51	0.43
30:P:45:ARG:HD3	30:P:47:GLU:OE2	2.18	0.43
31:Q:84:VAL:HG11	31:Q:97:ILE:HD13	2.00	0.43
32:R:23:ALA:O	32:R:25:GLU:OE1	2.36	0.43
34:T:15:PHE:HD2	34:T:30:ALA:CB	2.31	0.43
35:U:9:HIS:O	35:U:16:PHE:HB3	2.18	0.43
39:Y:82:ALA:HB3	39:Y:108:ILE:HD12	2.01	0.43
41:a:78:U:C5'	45:e:4:LYS:NZ	2.81	0.43
41:a:234:U:C4	41:a:235:U:C5	3.06	0.43
41:a:598:U:H2'	41:a:599:A:H8	1.82	0.43
41:a:841:G:C6	41:a:938:G:C6	3.06	0.43
41:a:2273:A:H2'	41:a:2274:A:C8	2.54	0.43
41:a:2313:C:O3'	54:n:88:LYS:NZ	2.48	0.43
41:a:2387:U:C4'	42:b:41:ARG:NH1	2.81	0.43
41:a:2514:U:H2'	41:a:2515:C:H6	1.81	0.43
41:a:2846:G:H2'	41:a:2847:U:O4'	2.18	0.43
47:g:59:ARG:HH11	47:g:63:ARG:CD	2.31	0.43
49:i:55:ILE:CD1	63:w:112:TYR:CD2	3.02	0.43
52:l:112:LEU:HD23	52:l:118:LEU:HD13	1.99	0.43
54:n:92:ARG:CZ	54:n:92:ARG:HB3	2.47	0.43
58:r:6:LEU:C	58:r:15:LEU:HD13	2.43	0.43
58:r:54:LEU:HA	58:r:57:LYS:HZ3	1.83	0.43
61:u:95:LEU:HD13	61:u:100:ILE:HD12	2.01	0.43
62:v:104:GLU:OE1	62:v:104:GLU:HA	2.17	0.43
66:z:14:HIS:O	66:z:18:LEU:HD23	2.18	0.43
2:1:19:LEU:HD23	2:1:19:LEU:C	2.43	0.43
2:1:99:ARG:CZ	2:1:99:ARG:HB2	2.49	0.43
4:3:4:LYS:O	4:3:94:ARG:NH2	2.40	0.43
6:5:18:DG:C4	6:5:19:DC:C5	3.06	0.43
9:9:70:GLU:HG3	9:9:71:CYS:N	2.34	0.43
10:A:19:G:O6	41:a:2111:U:H3'	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AB:37:LYS:HE3	12:AB:109:THR:HG21	1.99	0.43
12:AB:104:ILE:C	12:AB:106:ASP:H	2.26	0.43
14:AE:233:LYS:HD3	18:D:1030:U:OP1	2.18	0.43
14:AE:1036:ARG:HE	14:AE:1081:VAL:HG21	1.83	0.43
16:AG:227:ALA:HB2	16:AG:330:GLN:O	2.18	0.43
16:AG:434:LEU:CD1	16:AG:455:THR:O	2.62	0.43
17:C:27:ALA:CA	17:C:30:LYS:HE3	2.49	0.43
18:D:511:C:C2	18:D:512:U:C6	3.06	0.43
18:D:562:U:C3'	32:R:14:ARG:NH1	2.81	0.43
18:D:746:A:H2'	18:D:747:A:C8	2.53	0.43
18:D:892:A:H2'	18:D:893:C:H6	1.83	0.43
18:D:953:G:O6	38:X:103:LYS:HE3	2.18	0.43
18:D:1125:U:O2'	18:D:1126:U:O5'	2.32	0.43
18:D:1208:C:C2	18:D:1209:C:C6	3.07	0.43
18:D:1437:A:N3	18:D:1438:G:C8	2.86	0.43
19:E:16:LYS:HA	19:E:19:LYS:HE3	2.00	0.43
20:F:66:ARG:NH2	20:F:67:ARG:NH2	2.66	0.43
21:G:9:MET:HE1	21:G:47:VAL:HG22	1.99	0.43
21:G:23:TRP:CZ3	21:G:25:PRO:CA	3.01	0.43
22:H:123:GLU:HA	22:H:128:ARG:HA	2.00	0.43
23:I:54:ARG:NH1	23:I:69:HIS:NE2	2.66	0.43
23:I:69:HIS:CD2	23:I:104:ALA:HB3	2.54	0.43
27:M:4:ARG:HG2	27:M:5:ARG:NH2	2.32	0.43
28:N:35:ALA:HB1	28:N:110:VAL:CG1	2.48	0.43
29:O:21:ILE:CD1	29:O:86:ALA:CB	2.97	0.43
33:S:20:TYR:CD2	33:S:55:SER:OG	2.67	0.43
35:U:7:ALA:HA	35:U:28:ARG:HD3	2.01	0.43
38:X:90:ARG:NH1	38:X:96:PRO:O	2.51	0.43
41:a:841:G:H2'	41:a:842:U:C6	2.52	0.43
44:d:55:U:O2'	54:n:26:MET:CE	2.67	0.43
50:j:107:VAL:HG13	50:j:177:VAL:HG11	2.01	0.43
54:n:6:ASP:O	54:n:10:ASP:OD2	2.36	0.43
54:n:15:LYS:O	54:n:19:GLU:OE1	2.35	0.43
54:n:66:LEU:HD23	54:n:67:ILE:N	2.34	0.43
54:n:126:GLY:HA2	54:n:163:ASP:HA	2.00	0.43
56:p:94:TYR:CE1	56:p:152:ARG:CD	3.02	0.43
62:v:53:MET:O	62:v:57:VAL:HG12	2.19	0.43
62:v:111:GLU:HG2	62:v:112:LEU:N	2.33	0.43
63:w:96:ARG:O	63:w:113:ILE:HA	2.18	0.43
9:9:6:GLN:CA	9:9:9:GLN:HE22	2.30	0.43
9:9:105:LYS:O	9:9:106:PHE:HB3	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:A:32:C:O3'	27:M:86:GLN:NE2	2.51	0.43
10:A:35:A:H2'	10:A:36:U:O4'	2.18	0.43
10:A:49:G:H8	10:A:49:G:O5'	2.01	0.43
12:AB:60:ASP:HA	12:AB:61:PRO:HD3	1.88	0.43
12:AB:126:PHE:CD2	12:AB:126:PHE:O	2.71	0.43
13:AD:29:GLU:HB3	13:AD:200:LYS:HG3	1.99	0.43
16:AG:226:ALA:HB1	16:AG:228:ARG:NH1	2.34	0.43
16:AG:227:ALA:CB	16:AG:330:GLN:C	2.91	0.43
16:AG:277:ASP:HB2	16:AG:282:GLN:CB	2.49	0.43
16:AG:429:LYS:CB	16:AG:430:PRO:HD2	2.47	0.43
10:B:19:G:N3	10:B:57:A:C4	2.87	0.43
18:D:235:C:H2'	18:D:236:A:H8	1.83	0.43
18:D:633:G:H2'	18:D:634:C:H6	1.82	0.43
18:D:676:A:H2'	18:D:677:U:H6	1.82	0.43
18:D:736:C:H4'	26:L:88:MET:HE2	1.99	0.43
18:D:1244:G:C6	18:D:1294:G:C6	3.06	0.43
18:D:1408:A:H2'	18:D:1409:C:H6	1.84	0.43
22:H:31:ILE:O	22:H:31:ILE:HG13	2.18	0.43
22:H:76:GLU:OE2	22:H:78:GLY:C	2.61	0.43
22:H:310:ASP:HB2	22:H:316:ILE:HD11	2.00	0.43
23:I:22:TRP:CZ2	23:I:32:ASN:CB	3.01	0.43
25:K:15:LEU:HD23	25:K:15:LEU:H	1.83	0.43
25:K:134:ILE:CG2	25:K:135:ASN:N	2.81	0.43
26:L:53:LYS:HD2	26:L:53:LYS:O	2.18	0.43
29:O:63:LEU:CD1	29:O:65:ILE:HD11	2.47	0.43
32:R:57:LEU:HD23	32:R:59:ASN:CG	2.43	0.43
34:T:10:LYS:HA	34:T:10:LYS:CE	2.49	0.43
36:V:31:HIS:NE2	36:V:34:TYR:HD2	2.15	0.43
41:a:39:G:H2'	41:a:40:U:H6	1.83	0.43
41:a:66:C:H42	41:a:74:A:H62	1.67	0.43
41:a:197:A:N6	41:a:2430:A:H2'	2.34	0.43
41:a:271:G:C2	41:a:272:A:C5	3.07	0.43
41:a:838:C:C2	41:a:839:U:C6	3.07	0.43
41:a:900:A:C5	41:a:901:C:C5	3.06	0.43
41:a:997:G:H5''	66:z:92:ARG:NH1	2.34	0.43
41:a:1385:A:C4	41:a:1403:A:C2	3.07	0.43
41:a:1406:U:O2'	41:a:1407:G:C5'	2.66	0.43
41:a:2391:G:P	55:o:32:ILE:CD1	3.06	0.43
41:a:2477:U:O2	57:q:4:ARG:NH2	2.51	0.43
44:d:46:A:C5	44:d:47:C:C5	3.06	0.43
44:d:48:U:P	64:x:30:ARG:HH22	2.41	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:e:56:LEU:C	45:e:59:GLU:HG3	2.44	0.43
56:p:149:ARG:HD2	56:p:162:VAL:O	2.18	0.43
58:r:93:SER:OG	58:r:121:VAL:HG13	2.18	0.43
66:z:12:ALA:O	66:z:16:LYS:HG2	2.19	0.43
1:0:46:GLU:HG2	1:0:48:LYS:NZ	2.32	0.43
2:1:36:LEU:HD23	2:1:48:LYS:CA	2.48	0.43
5:4:53:LYS:HB2	5:4:56:PHE:HE2	1.83	0.43
11:AA:674:ASP:OD2	11:AA:1070:HIS:ND1	2.50	0.43
11:AA:998:LEU:HG	11:AA:1011:LEU:HB3	1.99	0.43
12:AB:130:PHE:HB3	12:AB:133:PRO:HD3	2.00	0.43
14:AE:79:LYS:HG3	14:AE:81:ARG:HH12	1.83	0.43
16:AG:224:LYS:HB2	16:AG:276:TRP:CH2	2.54	0.43
10:B:31:G:H5'	18:D:1339:A:C2	2.54	0.43
18:D:76:G:C5	18:D:77:A:C8	3.06	0.43
18:D:1125:U:N3	18:D:1127:G:C8	2.86	0.43
18:D:1149:C:N3	18:D:1150:A:N7	2.67	0.43
22:H:74:ALA:HB3	22:H:83:LEU:HD23	1.99	0.43
23:I:134:MET:HG3	23:I:151:VAL:HG21	2.00	0.43
28:N:10:MET:HB2	28:N:33:LYS:HZ2	1.83	0.43
29:O:39:PHE:CD1	29:O:44:ALA:HB1	2.53	0.43
32:R:56:ARG:HG2	32:R:62:GLU:CD	2.41	0.43
34:T:3:LEU:HD23	34:T:4:SER:N	2.33	0.43
36:V:15:ASP:OD1	36:V:15:ASP:N	2.49	0.43
38:X:64:VAL:O	38:X:64:VAL:HG13	2.19	0.43
41:a:61:C:C2	41:a:94:A:C2	3.06	0.43
41:a:404:A:HO2'	41:a:405:U:P	2.37	0.43
41:a:533:G:H2'	41:a:534:U:C6	2.54	0.43
41:a:573:U:O2'	41:a:574:A:H3'	2.19	0.43
41:a:685:A:N1	41:a:787:C:H1'	2.33	0.43
41:a:1074:G:C6	41:a:1075:C:N4	2.87	0.43
41:a:1141:U:H4'	41:a:1142:A:O4'	2.18	0.43
41:a:1665:A:O3'	60:t:66:LYS:CD	2.67	0.43
41:a:2615:U:H2'	41:a:2616:C:H6	1.83	0.43
50:j:181:ASP:HB3	50:j:186:LEU:HB2	1.99	0.43
55:o:13:ARG:HG2	61:u:62:PRO:O	2.18	0.43
60:t:108:ARG:HG2	60:t:116:ILE:HD13	2.01	0.43
62:v:112:LEU:HD12	62:v:112:LEU:N	2.34	0.43
66:z:76:TYR:CZ	66:z:80:ILE:HD11	2.53	0.43
2:1:1:MET:SD	2:1:62:ASP:OD2	2.76	0.43
3:2:37:ASP:OD2	3:2:37:ASP:C	2.62	0.43
4:3:7:ARG:HG3	4:3:8:ASP:N	2.33	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:5:20:DC:H1'	6:5:21:DA:H5'	2.00	0.43
10:A:19:G:N2	41:a:2112:G:C1'	2.82	0.43
10:A:19:G:N3	10:A:57:A:C4	2.87	0.43
14:AE:708:ASN:HA	14:AE:713:GLU:HA	2.00	0.43
16:AG:126:VAL:HG13	16:AG:130:PHE:CE2	2.53	0.43
16:AG:363:LEU:CD2	16:AG:409:ARG:N	2.81	0.43
10:B:35:A:H2'	10:B:36:U:O4'	2.18	0.43
18:D:43:C:P	35:U:12:LYS:HE3	2.59	0.43
18:D:384:G:H2'	18:D:385:C:C6	2.54	0.43
18:D:416:G:C4	18:D:417:G:C8	3.07	0.43
18:D:1060:U:OP1	33:S:85:ARG:NH1	2.48	0.43
22:H:19:ARG:HD3	22:H:19:ARG:N	2.33	0.43
22:H:305:HIS:CG	22:H:306:VAL:H	2.36	0.43
22:H:332:VAL:CG1	22:H:335:ILE:HG13	2.47	0.43
26:L:1:MET:HE2	26:L:67:PRO:N	2.34	0.43
26:L:9:MET:HE3	26:L:86:ARG:N	2.33	0.43
26:L:18:VAL:HA	26:L:21:MET:CE	2.47	0.43
31:Q:85:MET:HG3	31:Q:111:THR:HB	2.00	0.43
34:T:63:ARG:HD2	34:T:67:LEU:HD23	2.01	0.43
35:U:8:ARG:HD3	35:U:17:TYR:CE1	2.54	0.43
37:W:12:ASP:OD2	37:W:35:SER:CB	2.66	0.43
39:Y:64:ARG:O	39:Y:64:ARG:HG3	2.17	0.43
39:Y:102:ARG:NH1	39:Y:139:VAL:HG11	2.33	0.43
40:Z:29:LYS:O	40:Z:30:PHE:HD2	2.02	0.43
41:a:39:G:H2'	41:a:40:U:C6	2.53	0.43
41:a:150:U:C2	41:a:151:C:C5	3.06	0.43
41:a:250:G:H2'	41:a:251:A:C8	2.54	0.43
41:a:307:G:N1	41:a:310:A:OP2	2.47	0.43
41:a:523:C:O2	41:a:554:U:O2'	2.37	0.43
41:a:577:G:OP1	41:a:2502:G:O2'	2.36	0.43
41:a:963:U:H2'	41:a:964:C:C6	2.53	0.43
41:a:1169:A:N3	41:a:1169:A:O4'	2.51	0.43
41:a:2332:C:P	42:b:77:ARG:HH21	2.42	0.43
41:a:2462:C:C2	41:a:2463:C:C5	3.07	0.43
44:d:31:C:C2	44:d:32:U:C5	3.06	0.43
49:i:17:ARG:CB	49:i:20:ASP:OD1	2.67	0.43
49:i:23:THR:O	49:i:23:THR:HG23	2.17	0.43
49:i:55:ILE:HD13	63:w:112:TYR:CE2	2.54	0.43
50:j:16:THR:HG23	50:j:20:VAL:O	2.19	0.43
52:l:23:PHE:CE2	52:l:25:GLU:CB	3.01	0.43
59:s:88:THR:OG1	59:s:91:GLU:HG3	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:v:1:MET:SD	62:v:44:ARG:HA	2.59	0.43
62:v:72:PRO:C	62:v:73:ILE:HD12	2.43	0.43
63:w:38:LEU:HD12	63:w:38:LEU:HA	1.72	0.43
66:z:78:LYS:HG2	66:z:117:LEU:HD21	2.00	0.43
6:5:10:DT:H2''	12:AB:71:ALA:H	1.79	0.43
11:AA:22:LEU:HB3	11:AA:655:VAL:HG11	2.01	0.43
11:AA:481:LEU:HD23	12:AB:16:ARG:HD3	1.79	0.43
12:AB:136:GLU:HG3	12:AB:160:ARG:HH12	1.84	0.43
12:AB:141:LEU:HB2	12:AB:143:LEU:HD11	1.98	0.43
14:AE:117:LEU:HG	14:AE:118:LYS:HG3	2.00	0.43
16:AG:402:THR:C	16:AG:405:ALA:HB3	2.41	0.43
16:AG:431:ALA:O	16:AG:435:LEU:HG	2.18	0.43
17:C:20:GLU:OE1	17:C:21:ILE:O	2.36	0.43
17:C:54:GLN:HA	17:C:57:ARG:NH1	2.33	0.43
18:D:246:A:C2	18:D:282:A:C4	3.06	0.43
18:D:320:A:H2'	18:D:321:A:O4'	2.19	0.43
18:D:553:A:H2'	18:D:554:A:H8	1.84	0.43
18:D:622:A:C8	18:D:623:C:C6	3.06	0.43
18:D:674:G:H2'	18:D:675:A:H8	1.84	0.43
18:D:1477:U:H2'	18:D:1478:U:C6	2.53	0.43
18:D:1513:A:H2'	18:D:1514:G:H8	1.84	0.43
19:E:60:ARG:HG3	19:E:64:LYS:NZ	2.34	0.43
21:G:110:SER:OG	21:G:113:ARG:NH2	2.47	0.43
23:I:22:TRP:CH2	23:I:32:ASN:HB2	2.54	0.43
27:M:23:LEU:H	27:M:23:LEU:CD1	2.30	0.43
36:V:64:CYS:SG	36:V:74:THR:OG1	2.69	0.43
38:X:22:ILE:HG23	38:X:66:GLU:CD	2.43	0.43
39:Y:14:ALA:C	39:Y:50:LYS:HD2	2.44	0.43
41:a:538:A:H2'	41:a:539:G:O4'	2.18	0.43
41:a:639:U:H2'	41:a:640:C:H6	1.83	0.43
41:a:1095:A:O2'	41:a:1096:A:O4'	2.36	0.43
41:a:1269:A:H2'	41:a:1270:C:C6	2.54	0.43
41:a:1587:G:H2'	41:a:1588:G:C8	2.54	0.43
41:a:1839:G:O4'	41:a:1927:A:O4'	2.37	0.43
41:a:2216:G:H2'	41:a:2217:G:H8	1.82	0.43
41:a:2615:U:C2	49:i:4:GLN:HA	2.53	0.43
41:a:2649:C:H2'	41:a:2650:U:C6	2.51	0.43
41:a:2665:A:C2	41:a:2666:C:C6	3.07	0.43
41:a:2884:U:O2	49:i:40:ARG:NH2	2.51	0.43
50:j:156:PHE:CE2	59:s:81:ILE:HD13	2.54	0.43
51:k:9:ILE:HG22	51:k:27:LYS:HZ1	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:l:6:LYS:NZ	52:l:119:ILE:C	2.77	0.43
52:l:47:LYS:HA	52:l:51:GLU:CD	2.44	0.43
56:p:121:ILE:HD12	56:p:141:ILE:CG2	2.39	0.43
60:t:59:LYS:NZ	60:t:92:GLU:CG	2.81	0.43
63:w:12:ARG:NH1	63:w:20:MET:HE1	2.33	0.43
65:y:106:LYS:CA	65:y:109:ARG:NH2	2.81	0.43
10:A:22:G:OP2	10:A:22:G:C8	2.72	0.43
10:A:57:A:O5'	10:A:58:A:P	2.77	0.43
12:AB:90:SER:HB2	12:AB:94:HIS:CE1	2.54	0.43
14:AE:59:ALA:HB3	14:AE:71:LEU:CD2	2.42	0.43
16:AG:43:ILE:HB	16:AG:44:ASP:H	1.53	0.43
16:AG:183:LEU:HD22	16:AG:195:LEU:HD13	2.00	0.43
18:D:57:G:H2'	18:D:58:C:C6	2.54	0.43
18:D:316:C:C2	18:D:317:U:C5	3.06	0.43
18:D:381:C:H2'	18:D:382:A:O4'	2.19	0.43
18:D:671:G:H4'	26:L:79:ARG:HH12	1.83	0.43
18:D:1184:G:C2	18:D:1185:G:C8	3.07	0.43
19:E:60:ARG:O	19:E:64:LYS:HD3	2.18	0.43
21:G:26:LYS:CE	21:G:193:PRO:HG2	2.49	0.43
22:H:124:LEU:O	22:H:127:ILE:O	2.36	0.43
22:H:336:ASP:HB2	22:H:341:ARG:H	1.84	0.43
23:I:14:ILE:HB	23:I:178:LEU:HD21	2.01	0.43
24:J:105:MET:HE3	24:J:171:LEU:HD13	1.97	0.43
25:K:93:ARG:NH2	25:K:93:ARG:CB	2.80	0.43
30:P:56:HIS:C	30:P:57:VAL:HG23	2.44	0.43
35:U:5:ARG:HA	35:U:71:VAL:HG21	2.01	0.43
36:V:63:GLU:HB2	36:V:73:TRP:CZ2	2.53	0.43
37:W:44:MET:HE1	37:W:62:VAL:HG22	2.01	0.43
37:W:68:GLY:HA3	47:g:59:ARG:HH22	1.82	0.43
40:Z:14:MET:CG	40:Z:15:SER:H	2.26	0.43
41:a:471:A:H2'	41:a:472:A:O4'	2.19	0.43
41:a:531:C:C5	41:a:2035:G:C2	3.07	0.43
41:a:1139:G:O3'	59:s:26:GLY:HA3	2.19	0.43
41:a:1141:U:O2	41:a:1142:A:N6	2.52	0.43
41:a:1144:A:C5	41:a:1145:C:C5	3.07	0.43
41:a:1683:U:H2'	41:a:1684:G:H8	1.83	0.43
41:a:1900:A:N1	41:a:1970:A:C6	2.87	0.43
41:a:2215:C:H2'	41:a:2216:G:C8	2.54	0.43
41:a:2297:A:C2	41:a:2321:U:C5	3.07	0.43
41:a:2332:C:OP1	42:b:77:ARG:NH2	2.52	0.43
41:a:2516:A:O2'	41:a:2517:C:H5'	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:a:2547:A:H5'	60:t:29:HIS:NE2	2.34	0.43
44:d:82:U:O2	46:f:53:PHE:HZ	2.02	0.43
44:d:89:U:O2'	44:d:90:C:P	2.76	0.43
47:g:62:LYS:HE2	47:g:62:LYS:HB2	1.87	0.43
48:h:71:LYS:HB2	48:h:96:TYR:CZ	2.54	0.43
50:j:151:THR:HG23	50:j:151:THR:O	2.19	0.43
51:k:21:TYR:CE2	51:k:38:LYS:HB3	2.54	0.43
51:k:34:LEU:HB3	51:k:51:GLU:OE2	2.19	0.43
52:l:131:THR:HG22	52:l:160:ALA:O	2.18	0.43
54:n:20:PHE:HB3	54:n:22:TYR:CE1	2.54	0.43
54:n:93:GLY:O	54:n:94:GLU:C	2.61	0.43
59:s:125:TYR:CD2	59:s:130:HIS:HB3	2.54	0.43
62:v:74:THR:HA	62:v:88:ASN:O	2.19	0.43
63:w:33:ILE:CD1	63:w:112:TYR:HD1	2.32	0.43
4:3:35:ILE:HD11	4:3:62:GLU:C	2.44	0.43
8:7:23:U:H3'	14:AE:94:GLN:CG	2.47	0.43
9:9:3:LEU:CD1	9:9:5:LEU:H	2.31	0.43
9:9:118:ILE:HB	9:9:119:PRO:CD	2.42	0.43
10:A:47:U:O2'	10:A:50:U:OP1	2.37	0.43
11:AA:678:ARG:HD3	11:AA:678:ARG:HA	1.84	0.43
12:AB:141:LEU:CG	12:AB:143:LEU:HD12	2.29	0.43
13:AD:192:VAL:HG12	13:AD:193:GLU:H	1.83	0.43
14:AE:362:ARG:H	14:AE:365:GLN:HE21	1.66	0.43
14:AE:658:GLU:HA	14:AE:661:VAL:HG22	2.00	0.43
16:AG:219:GLU:HG3	21:G:157:LEU:CB	2.49	0.43
16:AG:226:ALA:O	16:AG:228:ARG:N	2.52	0.43
18:D:283:U:C2	18:D:284:C:C6	3.06	0.43
18:D:619:U:O4'	24:J:128:ARG:CZ	2.67	0.43
18:D:682:G:C2	18:D:683:G:C8	3.06	0.43
18:D:771:G:H2'	18:D:772:U:C6	2.54	0.43
18:D:796:C:N3	18:D:797:C:C5	2.87	0.43
18:D:1103:C:O2	21:G:106:THR:HG21	2.18	0.43
18:D:1157:A:C2	18:D:1181:G:C5	3.06	0.43
18:D:1172:C:H2'	18:D:1173:U:H6	1.82	0.43
18:D:1194:U:H2'	18:D:1195:C:C6	2.54	0.43
18:D:1436:U:C2	18:D:1437:A:C8	3.07	0.43
21:G:131:LYS:O	21:G:135:LEU:HD13	2.19	0.43
24:J:41:HIS:ND1	24:J:44:ARG:CZ	2.82	0.43
28:N:10:MET:CG	28:N:27:MET:HE1	2.47	0.43
28:N:66:PHE:C	28:N:67:GLN:OE1	2.62	0.43
29:O:113:ARG:HG3	29:O:115:LYS:HZ2	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:Q:47:ALA:O	31:Q:52:PHE:HB2	2.19	0.43
31:Q:87:LYS:CG	31:Q:113:VAL:CG2	2.89	0.43
39:Y:81:LYS:N	39:Y:81:LYS:CD	2.79	0.43
41:a:192:C:C5	41:a:193:U:C6	3.07	0.43
41:a:587:C:O2	61:u:33:ARG:NH2	2.52	0.43
41:a:1443:U:H2'	41:a:1444:G:C8	2.54	0.43
41:a:1792:G:H5'	48:h:204:VAL:CG2	2.49	0.43
41:a:1824:G:H3'	48:h:52:ARG:HH12	1.84	0.43
41:a:2228:G:H2'	41:a:2229:U:C6	2.54	0.43
41:a:2392:A:N3	61:u:55:MET:HE2	2.34	0.43
41:a:2557:G:H2'	41:a:2558:C:H6	1.84	0.43
47:g:47:LYS:CE	54:n:115:ARG:HA	2.49	0.43
48:h:45:ASN:OD1	48:h:46:ASN:N	2.51	0.43
48:h:144:VAL:HG21	48:h:162:VAL:HG11	2.01	0.43
53:m:26:ASN:HA	53:m:29:GLN:HE21	1.83	0.43
54:n:79:ILE:O	54:n:79:ILE:HG13	2.18	0.43
59:s:1:MET:SD	59:s:2:LYS:C	3.02	0.43
61:u:122:VAL:CG1	61:u:125:LEU:CD2	2.90	0.43
62:v:96:ILE:HA	62:v:100:LYS:HE3	2.00	0.43
63:w:58:ASP:HB2	63:w:80:PHE:CE1	2.54	0.43
8:7:1:A:C6	10:B:37:A:N1	2.86	0.42
9:9:24:SER:O	9:9:96:PHE:CE1	2.72	0.42
9:9:80:THR:O	41:a:1108:U:OP1	2.37	0.42
14:AE:412:LEU:HA	14:AE:415:VAL:HG22	2.01	0.42
16:AG:10:GLU:C	16:AG:12:VAL:HG22	2.44	0.42
17:C:60:LYS:CE	18:D:735:C:O4'	2.64	0.42
18:D:679:C:N3	18:D:680:C:C5	2.87	0.42
18:D:1107:C:OP1	23:I:172:ARG:HG3	2.19	0.42
18:D:1255:G:O2'	18:D:1258:G:N3	2.48	0.42
18:D:1410:A:H2'	18:D:1411:C:C6	2.54	0.42
35:U:14:ARG:CD	35:U:42:ILE:HG21	2.47	0.42
37:W:17:LYS:O	37:W:21:LYS:HD3	2.19	0.42
40:Z:2:ILE:CG2	40:Z:5:ASP:H	2.28	0.42
41:a:68:G:N2	41:a:74:A:OP2	2.51	0.42
41:a:553:G:C5	41:a:554:U:C5	3.07	0.42
41:a:996:A:N6	41:a:1160:G:C6	2.87	0.42
41:a:1114:C:H2'	41:a:1115:G:C8	2.53	0.42
41:a:1509:A:N3	41:a:1510:G:C8	2.87	0.42
41:a:1565:C:OP1	48:h:18:LYS:HD2	2.19	0.42
41:a:1657:U:H2'	41:a:1658:C:H6	1.83	0.42
41:a:1695:G:N7	48:h:14:ARG:NH2	2.66	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:a:1709:U:H2'	41:a:1710:G:H8	1.82	0.42
41:a:1770:G:C5	41:a:1983:G:C6	3.07	0.42
41:a:1789:A:OP2	48:h:221:ARG:NH1	2.52	0.42
41:a:2821:A:C2	41:a:2822:G:C4	3.07	0.42
44:d:57:A:N7	54:n:26:MET:CE	2.82	0.42
48:h:183:LYS:CE	48:h:265:LYS:O	2.67	0.42
54:n:12:VAL:HG13	54:n:172:ALA:CB	2.49	0.42
54:n:33:LYS:CA	54:n:96:MET:SD	3.07	0.42
54:n:40:VAL:HG13	54:n:42:GLU:CD	2.43	0.42
60:t:43:ILE:HD12	60:t:56:ASP:HB2	2.01	0.42
65:y:106:LYS:CB	65:y:109:ARG:HH22	2.32	0.42
66:z:47:TYR:CZ	66:z:51:ARG:NH2	2.87	0.42
66:z:82:GLY:CA	66:z:117:LEU:HD11	2.48	0.42
1:0:77:PHE:CD1	1:0:77:PHE:C	2.98	0.42
2:1:95:ARG:C	2:1:95:ARG:HD2	2.44	0.42
3:2:42:GLU:OE1	3:2:42:GLU:HA	2.19	0.42
4:3:7:ARG:O	4:3:25:VAL:O	2.36	0.42
11:AA:590:PRO:HB2	11:AA:655:VAL:HG21	2.01	0.42
11:AA:755:LYS:HD2	11:AA:755:LYS:HA	1.86	0.42
11:AA:1072:ASN:OD1	11:AA:1072:ASN:N	2.52	0.42
12:AB:5:TYR:HA	12:AB:88:VAL:CG2	2.49	0.42
12:AB:29:LEU:H	12:AB:56:PHE:HB2	1.84	0.42
12:AB:145:LEU:HB2	12:AB:146:ILE:H	1.67	0.42
12:AB:146:ILE:HD12	12:AB:146:ILE:N	2.34	0.42
14:AE:97:VAL:HG12	14:AE:101:ARG:HG3	2.01	0.42
16:AG:87:LEU:CD2	16:AG:93:VAL:HG21	2.50	0.42
17:C:60:LYS:NZ	18:D:735:C:O5'	2.52	0.42
18:D:13:U:N3	18:D:915:A:C6	2.87	0.42
18:D:68:G:H3'	18:D:69:G:H5''	2.01	0.42
18:D:119:A:C2	18:D:240:G:C8	3.07	0.42
18:D:393:A:C2	18:D:394:G:C8	3.07	0.42
18:D:687:A:C2	18:D:704:A:C6	3.07	0.42
18:D:689:C:H2'	18:D:690:G:O4'	2.18	0.42
18:D:723:U:C2	20:F:49:LYS:HE3	2.54	0.42
18:D:1104:G:H4'	21:G:113:ARG:HH22	1.83	0.42
18:D:1127:G:C6	18:D:1128:C:C5	3.07	0.42
18:D:1499:A:H2'	18:D:1500:A:H8	1.84	0.42
19:E:50:ALA:O	19:E:54:MET:HG3	2.20	0.42
20:F:5:LYS:HD3	31:Q:109:ASN:OD1	2.20	0.42
21:G:30:PHE:CG	21:G:45:LYS:NZ	2.87	0.42
21:G:208:ARG:NH1	21:G:211:THR:CG2	2.82	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:I:156:ARG:O	23:I:156:ARG:HG3	2.19	0.42
24:J:76:TYR:HE1	24:J:86:THR:HG21	1.84	0.42
24:J:117:LEU:HD23	24:J:154:ARG:HH21	1.84	0.42
24:J:139:PRO:N	24:J:182:PHE:CE2	2.88	0.42
25:K:77:ASN:O	25:K:80:THR:O	2.37	0.42
29:O:35:LEU:CD2	29:O:45:ARG:HG2	2.49	0.42
30:P:52:LEU:HB2	33:S:81:ARG:NH1	2.33	0.42
30:P:64:GLN:HG2	33:S:101:TRP:HH2	1.84	0.42
32:R:3:THR:O	32:R:4:VAL:C	2.62	0.42
37:W:45:ILE:HA	37:W:62:VAL:HG12	2.01	0.42
37:W:69:HIS:ND1	37:W:74:PHE:HZ	2.17	0.42
38:X:71:ARG:CZ	47:g:50:ASP:O	2.67	0.42
41:a:310:A:C2	41:a:330:A:C4	3.07	0.42
41:a:814:C:C2	41:a:815:C:C5	3.07	0.42
41:a:858:G:OP1	42:b:78:LYS:HE3	2.18	0.42
41:a:969:G:H2'	41:a:970:U:C6	2.54	0.42
41:a:973:A:O4'	41:a:1188:U:C6	2.73	0.42
41:a:1361:G:H2'	41:a:1362:C:C6	2.54	0.42
41:a:1879:C:H2'	41:a:1880:U:O4'	2.18	0.42
41:a:2037:A:H2'	41:a:2038:G:C8	2.54	0.42
41:a:2469:A:C6	41:a:2482:A:C8	3.08	0.42
41:a:2856:A:C6	41:a:2862:G:C6	3.07	0.42
48:h:130:LEU:CD2	48:h:192:LEU:HD21	2.48	0.42
50:j:68:PHE:CE1	50:j:79:LEU:HD21	2.54	0.42
54:n:15:LYS:C	54:n:19:GLU:OE1	2.62	0.42
54:n:30:ARG:C	54:n:158:THR:HG1	2.28	0.42
65:y:55:LEU:HA	65:y:77:HIS:CD2	2.54	0.42
2:1:36:LEU:CD2	2:1:48:LYS:HA	2.48	0.42
2:1:75:PHE:HE2	2:1:77:ASP:OD2	2.02	0.42
5:4:80:HIS:HE1	5:4:82:TYR:CG	2.37	0.42
9:9:94:ARG:N	9:9:94:ARG:HD3	2.34	0.42
10:A:18:G:H2'	10:A:57:A:C2	2.55	0.42
11:AA:27:LEU:O	11:AA:528:ARG:NH1	2.43	0.42
11:AA:300:ASP:OD1	11:AA:313:ALA:N	2.51	0.42
11:AA:1275:VAL:HG13	11:AA:1287:LEU:HD11	2.01	0.42
11:AA:1313:HIS:CD2	15:AF:31:GLN:HE22	2.37	0.42
12:AB:116:VAL:H	12:AB:129:ILE:CD1	2.31	0.42
12:AB:119:THR:HG21	12:AB:123:PHE:CE1	2.54	0.42
14:AE:66:LYS:HB2	14:AE:69:GLU:HB2	2.01	0.42
14:AE:319:SER:HA	14:AE:320:ASN:HA	1.73	0.42
14:AE:694:SER:OG	14:AE:738:ARG:NE	2.52	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AG:402:THR:C	16:AG:405:ALA:H	2.26	0.42
16:AG:442:ARG:HB3	16:AG:446:PHE:CE2	2.44	0.42
10:B:22:G:C8	10:B:22:G:OP2	2.72	0.42
18:D:563:A:C2	18:D:567:G:C6	3.07	0.42
18:D:588:G:C4'	28:N:3:MET:HE1	2.48	0.42
18:D:611:C:O2	18:D:611:C:H2'	2.18	0.42
18:D:619:U:H1'	24:J:128:ARG:NH1	2.34	0.42
18:D:662:U:H2'	18:D:663:A:C8	2.55	0.42
18:D:684:U:H2'	18:D:685:G:O4'	2.19	0.42
18:D:690:G:H2'	18:D:691:G:C8	2.54	0.42
18:D:768:A:C5	18:D:769:G:C8	3.08	0.42
18:D:1071:C:C5'	25:K:54:ARG:HH21	2.33	0.42
18:D:1464:U:C2	18:D:1465:A:C8	3.07	0.42
20:F:3:VAL:HG22	31:Q:111:THR:HG23	2.01	0.42
22:H:74:ALA:HB3	22:H:83:LEU:CD2	2.50	0.42
23:I:54:ARG:NH2	23:I:56:VAL:CG2	2.82	0.42
26:L:24:ARG:O	26:L:25:TYR:C	2.62	0.42
26:L:29:ILE:HD12	26:L:29:ILE:H	1.83	0.42
27:M:78:ARG:HG3	27:M:80:VAL:HG13	1.99	0.42
29:O:51:PRO:HB3	29:O:103:PHE:HD2	1.83	0.42
34:T:71:LYS:NZ	34:T:78:TYR:CD2	2.87	0.42
35:U:12:LYS:HD2	35:U:13:LYS:HG2	2.00	0.42
39:Y:9:LYS:CE	39:Y:55:PRO:HB3	2.43	0.42
39:Y:32:VAL:HG13	39:Y:58:ILE:HG21	2.00	0.42
41:a:125:A:C6	53:m:10:LEU:HD13	2.54	0.42
41:a:133:U:H2'	41:a:134:G:C8	2.53	0.42
41:a:407:G:C2	41:a:408:G:C8	3.07	0.42
41:a:580:U:C2	41:a:581:C:C5	3.07	0.42
41:a:607:U:N3	41:a:608:A:N7	2.66	0.42
41:a:635:C:OP1	61:u:126:ARG:CZ	2.68	0.42
41:a:1008:A:OP2	59:s:37:ARG:NH1	2.52	0.42
41:a:1028:A:N6	41:a:1125:G:H2'	2.34	0.42
41:a:1145:C:H2'	41:a:1146:C:H6	1.84	0.42
41:a:1282:U:H2'	41:a:1283:G:O4'	2.18	0.42
41:a:1506:U:H2'	41:a:1507:C:C6	2.54	0.42
41:a:2061:G:N3	41:a:2063:C:C5	2.87	0.42
41:a:2093:G:P	58:r:22:LYS:CG	3.07	0.42
41:a:2377:A:O2'	64:x:117:PHE:O	2.36	0.42
41:a:2554:U:H2'	41:a:2555:U:C6	2.55	0.42
41:a:2723:C:C5'	63:w:1:MET:HE3	2.49	0.42
41:a:2838:G:C6	41:a:2839:G:C5	3.08	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:b:21:LEU:HD23	42:b:40:GLN:HA	2.01	0.42
44:d:39:A:C2	44:d:44:G:C2	3.07	0.42
45:e:20:ASN:O	45:e:24:GLU:HG2	2.20	0.42
48:h:91:ILE:HG22	48:h:92:ALA:N	2.33	0.42
48:h:94:VAL:HG12	48:h:95:LEU:N	2.34	0.42
54:n:73:SER:OG	54:n:80:ARG:HA	2.19	0.42
58:r:8:LYS:NZ	58:r:9:VAL:O	2.52	0.42
60:t:110:GLU:OE1	60:t:110:GLU:HA	2.19	0.42
60:t:118:LEU:O	60:t:119:ALA:C	2.62	0.42
62:v:31:PHE:C	62:v:104:GLU:OE1	2.62	0.42
63:w:73:ASN:C	63:w:73:ASN:ND2	2.76	0.42
66:z:79:PHE:CE1	66:z:110:VAL:HA	2.46	0.42
66:z:111:GLU:OE2	66:z:112:LYS:HD2	2.19	0.42
3:2:76:ARG:CZ	3:2:77:ARG:O	2.67	0.42
8:7:7:U:H6	8:7:7:U:H3'	1.84	0.42
8:7:12:U:H4'	25:K:56:VAL:HG11	2.01	0.42
9:9:15:VAL:HG22	9:9:66:GLY:HA3	2.00	0.42
9:9:69:PHE:O	9:9:72:LEU:HD11	2.20	0.42
11:AA:861:ALA:HB1	11:AA:882:ILE:HD13	2.01	0.42
12:AB:6:LEU:HB2	12:AB:56:PHE:CE1	2.55	0.42
12:AB:26:VAL:HG13	12:AB:58:GLU:H	1.84	0.42
16:AG:21:GLU:HB3	16:AG:49:ILE:CD1	2.49	0.42
16:AG:56:PHE:CD1	16:AG:56:PHE:N	2.88	0.42
16:AG:288:MET:HE3	16:AG:288:MET:C	2.44	0.42
17:C:27:ALA:HB1	17:C:30:LYS:HE3	2.00	0.42
17:C:30:LYS:HA	17:C:33:ILE:HG12	2.01	0.42
17:C:44:ILE:CG2	22:H:340:ARG:HB2	2.50	0.42
18:D:21:G:H2'	18:D:22:G:C8	2.54	0.42
18:D:197:A:N6	18:D:221:C:H4'	2.35	0.42
18:D:323:U:H2'	18:D:324:G:O4'	2.19	0.42
18:D:792:A:H1'	18:D:794:A:N7	2.34	0.42
18:D:946:A:C2	18:D:947:G:C5	3.08	0.42
20:F:31:GLU:CD	20:F:34:ARG:NH2	2.77	0.42
21:G:55:ALA:O	21:G:59:LYS:HG2	2.19	0.42
21:G:187:VAL:N	21:G:200:ILE:O	2.40	0.42
23:I:72:ARG:O	23:I:75:ILE:HG22	2.19	0.42
24:J:67:VAL:C	24:J:72:PHE:CE2	2.98	0.42
25:K:157:ARG:HG2	25:K:159:LYS:HD3	2.01	0.42
27:M:99:LEU:O	27:M:103:TRP:CG	2.73	0.42
39:Y:139:VAL:HG22	39:Y:140:GLU:H	1.82	0.42
41:a:6:A:O3'	59:s:132:HIS:HE1	2.03	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:a:196:A:C5	41:a:805:G:C6	3.07	0.42
41:a:938:G:C2	41:a:939:G:C8	3.08	0.42
41:a:1212:G:O2'	41:a:1236:G:N2	2.47	0.42
41:a:1386:C:H2'	41:a:1387:A:H8	1.82	0.42
41:a:1399:C:C2	41:a:1400:U:C5	3.08	0.42
41:a:1443:U:H2'	41:a:1444:G:H8	1.83	0.42
41:a:1709:U:H2'	41:a:1710:G:C8	2.55	0.42
41:a:1906:G:C8	41:a:1929:G:C5	3.07	0.42
41:a:1913:A:OP2	41:a:1913:A:H3'	2.18	0.42
41:a:2002:G:OP1	63:w:13:ASN:HA	2.20	0.42
41:a:2287:A:N7	41:a:2289:G:C8	2.87	0.42
41:a:2783:U:H2'	41:a:2784:U:H6	1.85	0.42
41:a:2845:U:H5''	65:y:52:ASN:O	2.18	0.42
41:a:2859:G:H2'	41:a:2860:A:C8	2.54	0.42
43:c:76:GLU:CD	43:c:76:GLU:C	2.87	0.42
47:g:58:ASP:C	47:g:62:LYS:HZ1	2.28	0.42
50:j:37:VAL:HG13	50:j:48:ILE:CD1	2.49	0.42
54:n:104:ILE:HD11	54:n:174:ASP:O	2.19	0.42
56:p:94:TYR:HE1	56:p:152:ARG:HD2	1.84	0.42
60:t:7:MET:C	60:t:18:ARG:NH1	2.77	0.42
62:v:49:ALA:O	62:v:50:ARG:C	2.62	0.42
62:v:115:GLU:O	62:v:116:ALA:C	2.61	0.42
6:5:10:DT:C4	11:AA:62:TYR:HE2	2.27	0.42
6:5:16:DG:N2	11:AA:445:ILE:HG21	2.34	0.42
8:7:33:G:C2'	8:7:34:U:H5'	2.49	0.42
10:A:11:A:H2'	10:A:12:G:C8	2.54	0.42
11:AA:144:VAL:HG23	11:AA:515:MET:HB2	2.02	0.42
12:AB:112:PRO:HA	12:AB:133:PRO:CG	2.49	0.42
16:AG:398:LEU:C	16:AG:398:LEU:HD12	2.44	0.42
10:B:57:A:O5'	10:B:58:A:P	2.77	0.42
17:C:33:ILE:O	22:H:338:GLU:HB3	2.20	0.42
18:D:611:C:N3	18:D:612:C:C5	2.87	0.42
18:D:1276:G:O5'	18:D:1276:G:H8	2.02	0.42
18:D:1328:C:H5''	38:X:28:THR:HG21	2.01	0.42
18:D:1329:A:OP1	38:X:28:THR:CB	2.66	0.42
18:D:1439:G:H2'	18:D:1440:U:O4'	2.20	0.42
22:H:135:LEU:CB	22:H:157:ILE:CB	2.97	0.42
23:I:72:ARG:HD3	23:I:75:ILE:H	1.84	0.42
23:I:149:ILE:HG13	23:I:202:ILE:HG12	2.01	0.42
25:K:97:GLN:NE2	25:K:98:PRO:O	2.52	0.42
26:L:25:TYR:O	26:L:26:THR:C	2.61	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:L:94:HIS:CG	26:L:95:ALA:N	2.88	0.42
29:O:80:ARG:O	29:O:84:THR:HG23	2.19	0.42
32:R:80:ILE:CG2	32:R:81:LEU:N	2.82	0.42
32:R:116:LYS:O	32:R:117:TYR:HD1	2.02	0.42
33:S:63:ARG:HH22	33:S:70:PRO:HD3	1.85	0.42
34:T:70:LEU:CD2	34:T:78:TYR:HA	2.49	0.42
38:X:3:ARG:CZ	54:n:110:ARG:HD2	2.49	0.42
41:a:239:C:O2'	41:a:622:G:O2'	2.32	0.42
41:a:320:A:N3	52:l:163:ASN:ND2	2.67	0.42
41:a:874:G:C6	41:a:904:G:C6	3.08	0.42
41:a:1064:C:H2'	41:a:1065:U:C6	2.55	0.42
41:a:1083:U:O2'	41:a:1085:A:OP2	2.32	0.42
41:a:1707:G:C5	41:a:1708:C:C5	3.07	0.42
41:a:2249:U:H3'	41:a:2250:G:C5'	2.49	0.42
41:a:2465:C:O2	41:a:2465:C:H2'	2.18	0.42
41:a:2590:A:H2'	41:a:2591:C:H6	1.83	0.42
43:c:66:THR:O	43:c:69:ALA:N	2.53	0.42
54:n:38:MET:HE3	54:n:57:LEU:HD23	2.01	0.42
62:v:71:LYS:C	62:v:92:TRP:CE3	2.97	0.42
64:x:83:LEU:HD23	64:x:88:LYS:HD3	2.02	0.42
64:x:88:LYS:O	64:x:116:GLN:OE1	2.38	0.42
65:y:27:GLU:HB3	65:y:87:LYS:HZ3	1.84	0.42
65:y:106:LYS:HB3	65:y:109:ARG:HH22	1.85	0.42
3:2:3:ARG:HG3	3:2:5:GLU:OE1	2.19	0.42
3:2:6:ARG:HE	3:2:42:GLU:CD	2.27	0.42
9:9:88:HIS:CB	9:9:89:PRO:CD	2.81	0.42
12:AB:132:GLU:HB3	12:AB:151:LYS:HE3	2.01	0.42
14:AE:513:MET:HE1	14:AE:579:LEU:HD13	2.01	0.42
14:AE:836:ARG:HG3	14:AE:869:CYS:HB3	2.02	0.42
16:AG:162:ILE:HD13	16:AG:167:MET:CE	2.49	0.42
16:AG:185:SER:O	16:AG:185:SER:OG	2.37	0.42
16:AG:430:PRO:CG	16:AG:435:LEU:CD2	2.85	0.42
10:B:11:A:H2'	10:B:12:G:C8	2.54	0.42
10:B:49:G:O5'	10:B:49:G:H8	2.01	0.42
18:D:34:C:H2'	18:D:35:G:H8	1.83	0.42
18:D:256:U:H2'	18:D:257:G:C8	2.54	0.42
18:D:745:G:H2'	18:D:746:A:H8	1.84	0.42
18:D:1261:A:C5	18:D:1262:C:C6	3.07	0.42
18:D:1315:U:H2'	18:D:1316:G:O4'	2.19	0.42
18:D:1381:U:C4	18:D:1382:C:C5	3.07	0.42
18:D:1499:A:O2'	18:D:1500:A:H5'	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:G:134:ALA:HA	21:G:137:ARG:NE	2.35	0.42
22:H:308:GLU:HB2	22:H:347:LYS:HB3	2.02	0.42
22:H:309:MET:HE1	22:H:318:PRO:HG3	2.02	0.42
23:I:132:ARG:CB	23:I:135:LYS:HE3	2.49	0.42
24:J:76:TYR:HE1	24:J:86:THR:CG2	2.33	0.42
25:K:111:MET:O	25:K:112:ARG:C	2.63	0.42
26:L:2:ARG:C	26:L:65:GLU:OE1	2.62	0.42
30:P:7:ARG:HA	30:P:75:ASP:OD1	2.20	0.42
32:R:66:TYR:CE2	32:R:68:GLY:HA2	2.55	0.42
39:Y:99:LYS:CE	39:Y:138:VAL:O	2.68	0.42
41:a:136:G:H2'	41:a:137:U:H6	1.85	0.42
41:a:136:G:H2'	41:a:137:U:C6	2.54	0.42
41:a:780:G:O2'	41:a:783:A:N6	2.53	0.42
41:a:1289:C:H2'	41:a:1290:C:H6	1.84	0.42
41:a:2585:U:O2	41:a:2585:U:O4'	2.37	0.42
50:j:100:LEU:O	50:j:100:LEU:HD12	2.20	0.42
52:l:23:PHE:CD1	52:l:111:GLU:HG3	2.55	0.42
52:l:170:ARG:NH1	52:l:175:ILE:HA	2.34	0.42
52:l:193:VAL:O	52:l:194:LYS:C	2.62	0.42
56:p:137:ASP:OD2	56:p:140:VAL:N	2.45	0.42
59:s:28:LEU:HD12	59:s:142:ILE:HG21	2.01	0.42
60:t:7:MET:SD	60:t:18:ARG:HG3	2.59	0.42
63:w:38:LEU:HB3	63:w:39:PRO:HD3	2.02	0.42
3:2:26:LYS:CE	3:2:26:LYS:HA	2.50	0.42
4:3:6:ARG:N	4:3:9:ASP:OD2	2.49	0.42
5:4:2:PHE:CD1	5:4:56:PHE:CE1	3.08	0.42
5:4:77:VAL:HG21	5:4:79:ARG:HE	1.84	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:145:LEU:N	12:AB:145:LEU:CD1	2.74	0.42
16:AG:41:GLN:HB2	16:AG:42:GLU:H	1.74	0.42
16:AG:152:LEU:HD11	16:AG:162:ILE:HD12	2.01	0.42
16:AG:354:ALA:O	16:AG:358:THR:HG22	2.19	0.42
10:B:18:G:H2'	10:B:57:A:C2	2.55	0.42
18:D:414:A:C2	18:D:415:A:H1'	2.54	0.42
18:D:505:G:C2	18:D:506:G:C5	3.07	0.42
18:D:964:A:C2	18:D:969:A:N3	2.87	0.42
18:D:980:C:H2'	18:D:981:U:H5'	2.01	0.42
18:D:1241:G:H2'	18:D:1242:G:H8	1.85	0.42
18:D:1437:A:C4	18:D:1438:G:C8	3.08	0.42
19:E:66:LEU:HD12	19:E:66:LEU:HA	1.85	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:F:14:VAL:O	20:F:18:ARG:HG3	2.19	0.42
20:F:39:GLU:OE2	20:F:44:GLU:HA	2.18	0.42
23:I:36:ASP:OD1	23:I:57:ILE:HG21	2.19	0.42
23:I:172:ARG:NH1	23:I:174:PRO:HG3	2.35	0.42
25:K:123:VAL:C	25:K:124:LEU:HD23	2.45	0.42
30:P:59:LYS:HE2	30:P:62:ARG:CZ	2.50	0.42
32:R:4:VAL:CG1	32:R:5:ASN:N	2.83	0.42
34:T:77:ARG:HA	34:T:77:ARG:NE	2.35	0.42
35:U:67:ILE:O	35:U:67:ILE:HG13	2.20	0.42
38:X:101:ARG:C	38:X:103:LYS:H	2.26	0.42
39:Y:99:LYS:HD2	39:Y:140:GLU:OE2	2.19	0.42
41:a:104:A:C4	41:a:105:C:C6	3.08	0.42
41:a:353:C:C2	41:a:354:A:C8	3.07	0.42
41:a:404:A:O2'	41:a:405:U:P	2.78	0.42
41:a:751:A:C6	41:a:789:A:C5	3.08	0.42
41:a:1778:U:C4	41:a:1784:A:C4	3.07	0.42
41:a:1874:C:H2'	41:a:1875:G:O4'	2.20	0.42
41:a:1964:G:H4'	41:a:1965:C:OP2	2.19	0.42
41:a:2072:C:C2	41:a:2073:C:C5	3.08	0.42
41:a:2673:G:C2	41:a:2674:G:C8	3.08	0.42
43:c:4:VAL:HG22	43:c:11:ARG:HG2	2.00	0.42
44:d:39:A:C2	44:d:44:G:C4	3.07	0.42
44:d:83:G:O4'	46:f:53:PHE:CE2	2.72	0.42
45:e:14:LEU:HA	45:e:17:GLU:OE1	2.20	0.42
45:e:25:GLN:OE1	45:e:50:VAL:HG21	2.19	0.42
50:j:61:THR:HG23	50:j:63:PRO:HD2	2.00	0.42
50:j:152:PRO:HG3	50:j:156:PHE:CE1	2.53	0.42
52:l:149:ILE:HG21	52:l:175:ILE:HD11	2.01	0.42
54:n:136:ILE:HA	54:n:141:ILE:HG21	2.01	0.42
58:r:137:GLU:OE1	58:r:137:GLU:N	2.42	0.42
60:t:116:ILE:HG13	60:t:117:SER:N	2.34	0.42
62:v:45:GLN:HE22	62:v:125:PRO:HD2	1.84	0.42
62:v:104:GLU:CD	62:v:105:MET:H	2.28	0.42
64:x:14:ALA:O	64:x:15:ARG:C	2.61	0.42
64:x:79:ALA:CB	64:x:113:ALA:HB3	2.49	0.42
3:2:5:GLU:HA	45:e:22:LEU:HD21	2.02	0.42
3:2:11:LEU:HD11	3:2:46:ALA:CB	2.50	0.42
9:9:33:VAL:H	9:9:36:ASP:CG	2.28	0.42
9:9:35:VAL:O	9:9:35:VAL:HG22	2.19	0.42
11:AA:741:MET:SD	11:AA:974:ARG:NH2	2.93	0.42
14:AE:975:ILE:HG22	14:AE:977:SER:H	1.83	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:AE:1022:PRO:O	14:AE:1126:GLN:NE2	2.45	0.42
16:AG:244:ARG:N	16:AG:244:ARG:HE	2.18	0.42
16:AG:296:ILE:CD1	16:AG:307:ILE:HA	2.49	0.42
17:C:38:LYS:NZ	18:D:718:A:C6	2.79	0.42
18:D:820:U:H4'	18:D:821:G:OP2	2.20	0.42
18:D:1073:U:C2	18:D:1074:G:C8	3.07	0.42
18:D:1073:U:O2	21:G:103:ASN:ND2	2.52	0.42
18:D:1493:A:O2'	18:D:1494:G:P	2.78	0.42
18:D:1526:G:P	20:F:42:THR:HG23	2.59	0.42
20:F:5:LYS:CD	31:Q:109:ASN:OD1	2.68	0.42
22:H:331:MET:SD	22:H:348:GLN:HG2	2.60	0.42
23:I:105:GLU:CD	23:I:107:ARG:HH21	2.28	0.42
24:J:153:SER:OG	24:J:156:LYS:NZ	2.53	0.42
24:J:170:TRP:CD1	24:J:171:LEU:HG	2.54	0.42
25:K:80:THR:OG1	25:K:81:LEU:N	2.53	0.42
25:K:123:VAL:O	25:K:124:LEU:HD23	2.20	0.42
27:M:16:PRO:HB3	29:O:46:MET:CG	2.47	0.42
27:M:23:LEU:N	27:M:23:LEU:CD1	2.81	0.42
27:M:37:SER:HA	29:O:41:ARG:HH22	1.85	0.42
31:Q:85:MET:HB3	31:Q:113:VAL:HG21	2.00	0.42
34:T:21:ASP:C	34:T:22:THR:HG1	2.16	0.42
36:V:48:ASP:HB3	36:V:75:LEU:CD2	2.49	0.42
36:V:61:ILE:HA	36:V:75:LEU:HA	2.02	0.42
41:a:579:G:H2'	41:a:580:U:H6	1.85	0.42
41:a:1511:G:H2'	41:a:1512:C:H6	1.84	0.42
41:a:2547:A:H4'	60:t:29:HIS:NE2	2.34	0.42
41:a:2708:G:O4'	63:w:71:ARG:NH1	2.53	0.42
41:a:2756:U:N3	41:a:2758:A:C6	2.87	0.42
48:h:196:GLY:O	48:h:198:ALA:N	2.53	0.42
50:j:34:VAL:HG13	50:j:48:ILE:CG2	2.50	0.42
62:v:105:MET:HG2	62:v:117:PHE:CZ	2.54	0.42
63:w:70:THR:O	63:w:71:ARG:HB2	2.20	0.42
64:x:36:TYR:CD2	64:x:37:ALA:N	2.88	0.42
64:x:48:LEU:CD2	64:x:87:ILE:CD1	2.98	0.42
1:0:40:MET:HE1	66:z:105:ALA:HB1	2.01	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
9:9:129:LEU:N	9:9:130:PRO:CD	2.81	0.42
10:A:68:C:C4	10:A:69:C:C5	3.08	0.42
11:AA:699:LEU:HG	11:AA:799:ASN:HD22	1.84	0.42
11:AA:741:MET:HE3	11:AA:974:ARG:HH12	1.85	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AB:3:SER:HB3	12:AB:5:TYR:CE2	2.55	0.42
12:AB:81:PHE:CD1	14:AE:141:PHE:O	2.72	0.42
13:AD:288:GLU:C	13:AD:290:LEU:H	2.27	0.42
14:AE:74:LYS:HB2	14:AE:74:LYS:HE2	1.60	0.42
16:AG:36:LYS:HB3	16:AG:36:LYS:HE2	1.88	0.42
16:AG:434:LEU:HG	16:AG:455:THR:CA	2.50	0.42
18:D:36:C:N4	18:D:37:U:C4	2.88	0.42
18:D:105:G:C5	18:D:106:C:C4	3.08	0.42
18:D:119:A:C4	18:D:240:G:N7	2.88	0.42
18:D:678:U:C2	18:D:679:C:C5	3.08	0.42
18:D:1152:A:P	30:P:72:ARG:HH22	2.43	0.42
18:D:1202:U:C2	33:S:82:ILE:HD13	2.55	0.42
18:D:1381:U:N3	18:D:1382:C:C5	2.88	0.42
21:G:30:PHE:CE1	21:G:201:PRO:HG3	2.53	0.42
26:L:88:MET:SD	26:L:90:MET:HE3	2.60	0.42
27:M:74:GLU:HG3	27:M:91:VAL:CG1	2.50	0.42
29:O:116:VAL:HG11	30:P:62:ARG:HD3	2.02	0.42
30:P:45:ARG:CD	30:P:47:GLU:OE2	2.67	0.42
31:Q:20:VAL:CG1	31:Q:21:ALA:N	2.82	0.42
32:R:3:THR:O	32:R:6:GLN:HB2	2.20	0.42
35:U:4:ILE:N	35:U:4:ILE:HD12	2.34	0.42
35:U:26:ASN:ND2	35:U:31:ARG:CD	2.83	0.42
36:V:43:LYS:C	36:V:44:LEU:HD12	2.45	0.42
37:W:66:MET:SD	37:W:66:MET:C	3.03	0.42
38:X:25:VAL:O	38:X:25:VAL:HG13	2.19	0.42
39:Y:96:LYS:CD	39:Y:136:GLY:HA3	2.50	0.42
41:a:299:A:C5	41:a:322:A:C2	3.07	0.42
41:a:301:G:C4	41:a:302:C:C5	3.07	0.42
41:a:367:G:C4	41:a:368:A:C8	3.07	0.42
41:a:592:A:N3	55:o:4:ILE:HD11	2.35	0.42
41:a:667:U:H2'	41:a:668:A:O4'	2.20	0.42
41:a:729:G:C8	48:h:207:LYS:HD2	2.54	0.42
41:a:789:A:N1	53:m:3:ARG:NH2	2.68	0.42
41:a:1076:C:H2'	41:a:1077:A:C8	2.54	0.42
41:a:1281:G:H2'	41:a:1282:U:C6	2.55	0.42
41:a:1597:A:H5''	41:a:1598:A:H5'	2.01	0.42
41:a:1827:U:O2'	41:a:1828:G:H5'	2.19	0.42
41:a:1906:G:C8	41:a:1929:G:C4	3.08	0.42
41:a:1946:U:H2'	41:a:1947:C:H6	1.83	0.42
41:a:2040:G:H2'	41:a:2041:U:O4'	2.20	0.42
41:a:2218:G:C5'	43:c:45:ARG:HH12	2.33	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:a:2571:U:O2'	50:j:151:THR:HG23	2.20	0.42
41:a:2586:U:H2'	41:a:2587:A:O4'	2.20	0.42
41:a:2759:G:O2'	56:p:35:ARG:NH1	2.52	0.42
45:e:8:GLU:O	45:e:9:LYS:HD3	2.19	0.42
48:h:18:LYS:HE3	48:h:20:VAL:HG21	2.02	0.42
50:j:91:THR:HG22	50:j:92:VAL:N	2.35	0.42
52:l:31:VAL:HG21	52:l:104:ALA:CB	2.50	0.42
52:l:105:LEU:O	52:l:109:LEU:HG	2.18	0.42
54:n:4:LEU:HD11	54:n:101:GLU:CB	2.50	0.42
55:o:45:ARG:HB3	55:o:46:PRO:HD3	2.02	0.42
58:r:8:LYS:HD2	58:r:13:GLY:O	2.20	0.42
58:r:114:GLU:OE2	58:r:133:GLN:N	2.53	0.42
63:w:45:ARG:O	63:w:49:GLU:CD	2.63	0.42
3:2:22:THR:O	3:2:25:GLU:HG2	2.20	0.42
6:5:10:DT:C2	11:AA:62:TYR:HE2	2.37	0.42
9:9:87:GLU:OE1	9:9:91:ALA:O	2.38	0.42
10:A:59:A:C5	10:A:60:U:C5	3.08	0.42
11:AA:478:ARG:HD2	11:AA:492:MET:HA	2.02	0.42
12:AB:155:LYS:HB3	12:AB:158:GLU:CD	2.45	0.42
12:AB:161:LYS:HA	12:AB:161:LYS:HD3	1.55	0.42
14:AE:87:LYS:HZ1	30:P:89:ARG:CB	2.33	0.42
14:AE:859:PRO:HD2	14:AE:862:THR:HG21	2.01	0.42
16:AG:206:ILE:HD11	16:AG:226:ALA:HB2	2.02	0.42
10:B:5:G:C2'	10:B:6:G:C5'	2.98	0.42
17:C:12:ARG:CB	22:H:264:GLU:CB	2.98	0.42
17:C:40:VAL:HG13	22:H:339:ARG:CD	2.48	0.42
18:D:76:G:C5	18:D:77:A:N7	2.88	0.42
18:D:122:G:C4	18:D:123:U:C6	3.08	0.42
18:D:255:G:H2'	18:D:256:U:C6	2.55	0.42
18:D:299:G:H2'	18:D:300:A:C8	2.55	0.42
18:D:407:U:C2	18:D:408:A:C8	3.08	0.42
18:D:519:C:H2'	18:D:520:A:O4'	2.20	0.42
18:D:539:A:H2'	18:D:540:G:C8	2.54	0.42
18:D:545:C:OP2	24:J:62:ARG:NH1	2.53	0.42
18:D:552:U:H2'	18:D:553:A:H8	1.85	0.42
18:D:1035:A:C6	18:D:1036:A:N7	2.88	0.42
18:D:1524:C:H2'	18:D:1525:G:C8	2.55	0.42
19:E:9:LYS:CG	19:E:13:GLN:NE2	2.82	0.42
22:H:330:VAL:HB	22:H:344:LEU:HD23	2.01	0.42
23:I:66:VAL:HB	23:I:101:ILE:CD1	2.50	0.42
23:I:184:TYR:O	23:I:185:ASN:CG	2.63	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:J:67:VAL:CG1	24:J:71:GLN:HB3	2.50	0.42
25:K:100:SER:O	25:K:103:THR:HG22	2.20	0.42
28:N:27:MET:CA	28:N:58:GLU:OE2	2.67	0.42
28:N:47:GLU:OE1	28:N:63:LEU:C	2.62	0.42
29:O:97:GLU:HG2	29:O:98:LEU:N	2.35	0.42
31:Q:35:THR:HA	31:Q:42:LEU:HG	2.01	0.42
31:Q:64:GLN:HB2	31:Q:99:ALA:HB2	2.01	0.42
32:R:57:LEU:HG	32:R:58:THR:N	2.35	0.42
32:R:79:VAL:O	32:R:103:ASP:HB2	2.20	0.42
33:S:77:PHE:HE1	33:S:93:ILE:CG2	2.30	0.42
34:T:26:GLU:CG	34:T:27:VAL:N	2.83	0.42
34:T:70:LEU:HG	34:T:78:TYR:HB2	2.02	0.42
38:X:71:ARG:NH1	47:g:51:VAL:O	2.52	0.42
41:a:340:A:H2'	41:a:341:C:O4'	2.19	0.42
41:a:826:U:OP1	41:a:2428:G:H3'	2.20	0.42
41:a:859:G:O2'	41:a:916:G:O6	2.37	0.42
41:a:1080:A:C6	41:a:1081:U:C4	3.08	0.42
41:a:1958:C:O2'	41:a:1959:G:H5'	2.20	0.42
41:a:2066:C:O2'	41:a:2067:G:H5'	2.20	0.42
41:a:2259:U:C5	41:a:2427:C:N4	2.88	0.42
44:d:57:A:C4	44:d:58:A:C8	3.07	0.42
45:e:13:GLU:O	45:e:14:LEU:C	2.63	0.42
49:i:14:GLY:HA2	49:i:17:ARG:HG2	2.02	0.42
50:j:170:VAL:HG13	50:j:194:PRO:CG	2.50	0.42
50:j:175:LEU:HB3	50:j:189:VAL:CG1	2.50	0.42
51:k:9:ILE:HD12	51:k:51:GLU:HG2	2.01	0.42
52:l:46:GLN:O	52:l:88:ARG:NH2	2.53	0.42
53:m:4:THR:HG23	53:m:5:PHE:N	2.34	0.42
55:o:22:PHE:CE1	55:o:62:LEU:HD23	2.55	0.42
56:p:70:ALA:HA	56:p:73:ASN:HD22	1.84	0.42
62:v:105:MET:HE1	62:v:113:ALA:HA	2.01	0.42
63:w:60:VAL:CG2	63:w:63:ARG:NH1	2.78	0.42
66:z:111:GLU:OE2	66:z:112:LYS:HG2	2.19	0.42
2:1:23:LEU:CD2	2:1:39:THR:HG21	2.50	0.41
2:1:49:LYS:NZ	41:a:491:G:O6	2.50	0.41
11:AA:616:ILE:HG13	11:AA:652:TYR:HB2	2.02	0.41
11:AA:998:LEU:HD21	11:AA:1015:ALA:HB2	2.02	0.41
12:AB:4:TRP:CE2	12:AB:27:ASN:ND2	2.87	0.41
12:AB:90:SER:HB2	12:AB:94:HIS:NE2	2.34	0.41
13:AD:46:ILE:HD11	13:AD:224:LEU:HD13	2.02	0.41
16:AG:265:GLU:HB3	16:AG:266:LEU:H	1.76	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AG:266:LEU:CD2	16:AG:266:LEU:N	2.73	0.41
16:AG:277:ASP:HB2	16:AG:282:GLN:CG	2.50	0.41
17:C:70:TYR:HE2	26:L:49:TYR:CZ	2.38	0.41
18:D:13:U:C2	18:D:914:A:C8	3.08	0.41
18:D:112:G:N1	18:D:330:C:C5	2.88	0.41
18:D:687:A:C8	18:D:701:U:C4	3.08	0.41
18:D:1202:U:N3	33:S:82:ILE:HD13	2.35	0.41
19:E:48:GLN:CD	19:E:49:LYS:N	2.78	0.41
19:E:53:GLU:O	19:E:57:ILE:CD1	2.68	0.41
21:G:101:LEU:HD22	21:G:157:LEU:HD11	1.99	0.41
22:H:70:VAL:O	22:H:71:ALA:HB2	2.20	0.41
22:H:86:ARG:O	22:H:89:ALA:HB3	2.20	0.41
22:H:287:LEU:HD23	22:H:318:PRO:HB2	2.02	0.41
32:R:21:VAL:HG23	32:R:21:VAL:O	2.19	0.41
39:Y:60:VAL:CG2	39:Y:66:PHE:CB	2.96	0.41
39:Y:79:LEU:HD11	39:Y:132:ALA:HA	2.02	0.41
41:a:134:G:H2'	41:a:135:U:H6	1.85	0.41
41:a:958:U:C4	62:v:40:ARG:NH1	2.88	0.41
41:a:1065:U:O2'	41:a:1066:U:P	2.77	0.41
41:a:1128:G:C6	41:a:2518:A:C6	3.08	0.41
41:a:1246:A:H2'	41:a:1247:A:O4'	2.20	0.41
41:a:1252:G:H1	66:z:37:GLN:HE21	1.68	0.41
41:a:1820:U:C2	48:h:201:MET:CE	3.03	0.41
41:a:2049:G:H21	50:j:161:MET:HE2	1.84	0.41
41:a:2590:A:C2	41:a:2591:C:C5	3.08	0.41
41:a:2708:G:C2	41:a:2709:G:C8	3.08	0.41
53:m:25:LYS:O	53:m:28:ARG:N	2.52	0.41
54:n:38:MET:HE3	54:n:57:LEU:CD2	2.50	0.41
54:n:38:MET:HE3	54:n:57:LEU:CG	2.49	0.41
54:n:67:ILE:CD1	54:n:87:CYS:HB3	2.50	0.41
54:n:132:VAL:HG11	54:n:137:ILE:HD11	2.01	0.41
56:p:109:PHE:CD1	56:p:152:ARG:NH1	2.88	0.41
64:x:88:LYS:HB3	64:x:116:GLN:OE1	2.20	0.41
65:y:110:ILE:O	65:y:110:ILE:HG13	2.19	0.41
2:1:31:GLN:H	2:1:31:GLN:CD	2.22	0.41
2:1:74:ILE:HD12	2:1:74:ILE:N	2.34	0.41
5:4:18:ARG:NH1	44:d:93:C:OP2	2.53	0.41
8:7:12:U:H3'	8:7:12:U:C6	2.53	0.41
8:7:13:U:C6	8:7:13:U:C3'	3.03	0.41
9:9:11:ILE:O	9:9:15:VAL:HG23	2.20	0.41
9:9:129:LEU:HD12	9:9:130:PRO:CD	2.43	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:812:PHE:O	14:AE:504:GLN:NE2	2.40	0.41
11:AA:859:GLU:OE1	16:AG:38:LYS:HG3	2.20	0.41
12:AB:118:ILE:CG2	12:AB:128:ALA:HB3	2.50	0.41
14:AE:134:ASP:HB3	14:AE:159:ILE:HG21	2.02	0.41
16:AG:161:VAL:HB	16:AG:196:PHE:CE1	2.54	0.41
16:AG:207:GLU:HG3	16:AG:210:ARG:CB	2.51	0.41
10:B:12:G:H2'	10:B:13:C:OP1	2.20	0.41
18:D:124:C:H2'	18:D:125:U:C6	2.55	0.41
18:D:250:A:O4'	18:D:252:U:C6	2.72	0.41
18:D:374:A:C6	18:D:375:U:C4	3.08	0.41
18:D:415:A:C4	18:D:416:G:C8	3.07	0.41
18:D:429:U:H3	18:D:431:A:N6	2.18	0.41
18:D:520:A:C2'	32:R:70:GLU:OE1	2.67	0.41
18:D:603:U:C2	18:D:604:G:C8	3.08	0.41
18:D:860:A:H2'	18:D:861:G:O4'	2.20	0.41
18:D:997:U:O2'	18:D:998:C:H5'	2.21	0.41
18:D:1061:G:H5'	30:P:61:ALA:HB2	2.02	0.41
18:D:1174:G:H2'	18:D:1175:G:H5'	2.01	0.41
18:D:1186:G:H4'	29:O:112:GLU:OE2	2.20	0.41
18:D:1382:C:O2	18:D:1382:C:H2'	2.19	0.41
21:G:49:MET:HE2	21:G:49:MET:HB3	1.79	0.41
22:H:54:LYS:HD3	22:H:58:GLY:HA2	2.03	0.41
23:I:155:GLY:HA2	23:I:163:ALA:HB1	2.02	0.41
25:K:88:VAL:HG12	25:K:93:ARG:HG2	2.02	0.41
30:P:85:ASP:OD1	30:P:88:MET:CE	2.68	0.41
32:R:59:ASN:C	32:R:59:ASN:OD1	2.62	0.41
34:T:18:ASP:O	34:T:19:ALA:HB3	2.20	0.41
37:W:40:ILE:HG22	37:W:67:VAL:HA	2.01	0.41
39:Y:91:LYS:HZ3	39:Y:97:VAL:HG21	1.82	0.41
41:a:826:U:O2'	61:u:53:GLY:HA3	2.20	0.41
41:a:1172:C:C2'	41:a:1173:U:O4'	2.68	0.41
41:a:1223:G:N1	41:a:1226:A:OP2	2.49	0.41
41:a:1773:A:C8	41:a:1829:A:C8	3.08	0.41
41:a:2226:C:H2'	41:a:2227:A:O4'	2.20	0.41
41:a:2511:U:C5'	50:j:130:GLN:OE1	2.68	0.41
41:a:2722:G:C2'	41:a:2723:C:H5'	2.50	0.41
41:a:2756:U:C4	41:a:2759:G:O6	2.73	0.41
49:i:22:LEU:CG	49:i:23:THR:N	2.84	0.41
50:j:5:VAL:HB	50:j:32:ASN:HD21	1.86	0.41
50:j:55:LYS:HD3	50:j:55:LYS:C	2.45	0.41
59:s:15:TRP:CE3	59:s:135:GLN:HB3	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:s:125:TYR:HE2	59:s:130:HIS:CB	2.32	0.41
61:u:98:ALA:O	61:u:100:ILE:HG13	2.20	0.41
61:u:123:ARG:C	61:u:125:LEU:HD22	2.45	0.41
63:w:37:THR:CG2	63:w:40:LYS:HZ2	2.32	0.41
1:0:71:LYS:HD2	1:0:73:LYS:HZ1	1.85	0.41
3:2:30:ILE:HG22	3:2:32:LEU:HD22	2.02	0.41
4:3:6:ARG:HG2	4:3:7:ARG:N	2.35	0.41
9:9:60:LEU:HD23	9:9:60:LEU:HA	1.93	0.41
9:9:95:LEU:O	9:9:98:GLU:HG2	2.20	0.41
10:A:9:G:O2'	10:A:45:G:H2'	2.20	0.41
14:AE:211:GLU:HA	14:AE:214:ARG:HD2	2.01	0.41
16:AG:131:ARG:HG2	16:AG:186:VAL:CG1	2.48	0.41
16:AG:148:ASP:HA	16:AG:164:ARG:HD2	2.03	0.41
18:D:21:G:N2	18:D:22:G:C6	2.88	0.41
18:D:517:G:O2'	18:D:530:G:H4'	2.21	0.41
18:D:671:G:O2'	26:L:79:ARG:NH1	2.54	0.41
18:D:673:A:H2'	18:D:674:G:H8	1.79	0.41
18:D:986:U:H2'	18:D:987:G:O4'	2.19	0.41
18:D:1113:C:C2	18:D:1114:C:C5	3.08	0.41
18:D:1189:U:H4'	23:I:10:ILE:CD1	2.50	0.41
18:D:1217:C:P	33:S:9:ARG:HE	2.41	0.41
18:D:1458:G:OP1	19:E:30:THR:OG1	2.30	0.41
22:H:277:GLY:C	22:H:331:MET:HE3	2.45	0.41
24:J:76:TYR:O	24:J:76:TYR:CD1	2.73	0.41
26:L:1:MET:CE	26:L:67:PRO:HD3	2.50	0.41
28:N:96:MET:HE2	28:N:99:LEU:HD12	2.03	0.41
29:O:50:GLN:OE1	29:O:50:GLN:HA	2.20	0.41
34:T:64:ARG:CZ	34:T:89:ARG:HH12	2.33	0.41
41:a:138:U:C5	41:a:142:A:C6	3.08	0.41
41:a:700:G:H2'	41:a:701:G:O4'	2.20	0.41
41:a:749:A:H2'	41:a:749:A:N3	2.35	0.41
41:a:920:A:H2'	41:a:921:C:H6	1.85	0.41
41:a:1069:A:C2	41:a:1073:A:C8	3.08	0.41
41:a:1170:C:O2	41:a:1170:C:H2'	2.18	0.41
41:a:1343:G:C8	41:a:1597:A:C6	3.08	0.41
41:a:1560:G:C5	41:a:1561:C:C5	3.08	0.41
41:a:1580:A:C8	41:a:1581:G:C8	3.08	0.41
41:a:1588:G:N1	41:a:1589:U:O4	2.53	0.41
41:a:1829:A:C8	41:a:1830:C:C5	3.08	0.41
41:a:2884:U:C2	49:i:40:ARG:CZ	3.02	0.41
43:c:3:ARG:CD	43:c:30:LEU:HD11	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:h:71:LYS:CB	48:h:96:TYR:CZ	3.03	0.41
48:h:108:LYS:CG	48:h:109:GLY:N	2.83	0.41
49:i:4:GLN:OE1	49:i:8:PRO:HD3	2.19	0.41
50:j:57:ALA:O	50:j:60:VAL:HG12	2.19	0.41
50:j:184:ARG:NH2	65:y:7:GLN:CD	2.72	0.41
54:n:138:PHE:O	54:n:141:ILE:HG22	2.20	0.41
56:p:17:VAL:O	56:p:18:LYS:CE	2.65	0.41
56:p:52:PHE:CE1	56:p:69:ARG:HD3	2.55	0.41
58:r:5:LEU:CD1	58:r:17:ASP:HB3	2.50	0.41
59:s:123:LYS:CD	59:s:132:HIS:HD2	2.33	0.41
59:s:133:ALA:O	59:s:134:ALA:C	2.62	0.41
60:t:113:MET:SD	60:t:113:MET:C	3.03	0.41
62:v:112:LEU:CA	62:v:115:GLU:OE1	2.68	0.41
66:z:91:ASP:O	66:z:95:LEU:HG	2.20	0.41
3:2:19:LYS:HE2	3:2:84:TYR:OH	2.21	0.41
5:4:48:MET:CE	5:4:85:LYS:HA	2.50	0.41
6:5:23:DA:H2''	6:5:24:DC:C6	2.56	0.41
8:7:1:A:H61	10:B:37:A:N6	2.18	0.41
10:A:12:G:H2'	10:A:13:C:OP1	2.20	0.41
10:A:71:C:C3'	10:A:72:A:C8	2.99	0.41
11:AA:125:GLY:H	11:AA:495:ALA:HB1	1.84	0.41
13:AC:228:LEU:HD21	13:AD:224:LEU:HD23	2.01	0.41
14:AE:1272:SER:HB2	14:AE:1292:LEU:HD11	2.02	0.41
16:AG:323:GLN:HE21	16:AG:323:GLN:C	2.28	0.41
17:C:13:PHE:CG	17:C:51:TYR:CD1	3.08	0.41
18:D:338:A:C5	18:D:339:C:C5	3.08	0.41
18:D:1064:G:O2'	18:D:1190:G:N2	2.53	0.41
18:D:1172:C:C2	18:D:1173:U:C5	3.08	0.41
18:D:1288:A:H2'	18:D:1289:A:O4'	2.21	0.41
18:D:1411:C:H2'	18:D:1412:C:H6	1.85	0.41
18:D:1515:G:H2'	18:D:1516:G:C8	2.54	0.41
21:G:30:PHE:HA	21:G:45:LYS:NZ	2.35	0.41
21:G:56:GLU:HG2	21:G:198:PHE:CZ	2.55	0.41
22:H:309:MET:HE1	22:H:318:PRO:CA	2.51	0.41
24:J:65:TYR:CE1	24:J:100:ASN:CG	2.98	0.41
27:M:18:PHE:CD2	27:M:59:LEU:HG	2.56	0.41
27:M:93:PRO:O	27:M:96:ARG:HG2	2.21	0.41
28:N:59:LEU:HD23	28:N:59:LEU:HA	1.93	0.41
29:O:50:GLN:HA	29:O:53:GLU:OE1	2.20	0.41
30:P:88:MET:HE2	30:P:88:MET:HB2	1.89	0.41
31:Q:79:ILE:O	31:Q:105:PHE:CE1	2.72	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:S:10:GLU:OE1	33:S:63:ARG:HG3	2.21	0.41
33:S:86:GLU:CD	33:S:90:ARG:HD3	2.45	0.41
39:Y:45:THR:HG21	39:Y:50:LYS:NZ	2.33	0.41
41:a:67:U:C4	41:a:74:A:N6	2.89	0.41
41:a:209:C:N3	41:a:210:C:C5	2.87	0.41
41:a:320:A:H2'	52:l:131:THR:HG21	2.03	0.41
41:a:888:C:C4	41:a:889:C:N4	2.89	0.41
41:a:985:C:O2	41:a:986:C:C6	2.73	0.41
41:a:1676:A:H2'	41:a:1677:A:C8	2.56	0.41
41:a:2686:G:H2'	41:a:2687:U:C6	2.56	0.41
41:a:2813:A:H2'	41:a:2814:A:H8	1.84	0.41
41:a:2884:U:P	49:i:40:ARG:NH2	2.93	0.41
45:e:37:LEU:HD21	45:e:43:LEU:CD2	2.49	0.41
48:h:53:HIS:NE2	48:h:219:THR:HG23	2.35	0.41
50:j:68:PHE:CZ	50:j:79:LEU:HD21	2.56	0.41
52:l:194:LYS:C	52:l:198:GLU:OE1	2.63	0.41
53:m:25:LYS:HG3	53:m:29:GLN:NE2	2.34	0.41
55:o:29:LEU:O	55:o:29:LEU:HG	2.19	0.41
55:o:30:ARG:CZ	61:u:62:PRO:HB3	2.50	0.41
56:p:89:LEU:HD22	56:p:162:VAL:HA	2.02	0.41
59:s:37:ARG:HA	59:s:118:MET:HE1	2.00	0.41
62:v:57:VAL:CG2	62:v:60:GLN:O	2.68	0.41
63:w:18:GLN:HE22	63:w:22:ARG:NE	2.18	0.41
63:w:28:LEU:HD23	63:w:48:VAL:HG21	2.03	0.41
64:x:21:LEU:C	64:x:21:LEU:HD23	2.46	0.41
1:0:52:PRO:HB3	66:z:89:GLU:CD	2.44	0.41
1:0:74:ILE:HD13	1:0:87:GLN:OE1	2.20	0.41
3:2:26:LYS:HA	3:2:26:LYS:HE3	2.02	0.41
8:7:31:U:C3'	8:7:31:U:C6	3.04	0.41
9:9:17:GLU:OE2	9:9:53:ARG:NH2	2.53	0.41
9:9:33:VAL:O	9:9:36:ASP:OD1	2.39	0.41
10:A:5:G:C2'	10:A:6:G:C5'	2.98	0.41
11:AA:135:THR:HG22	11:AA:144:VAL:HG22	2.02	0.41
12:AB:72:THR:HG22	12:AB:73:ARG:N	2.36	0.41
13:AD:76:GLU:HB3	13:AD:80:GLU:HB3	2.01	0.41
14:AE:609:TYR:HD2	14:AE:610:ARG:HD2	1.85	0.41
16:AG:285:ILE:CA	16:AG:293:VAL:HG11	2.51	0.41
16:AG:307:ILE:HG13	16:AG:338:VAL:HG23	2.02	0.41
16:AG:316:GLN:HE21	16:AG:316:GLN:HB2	1.49	0.41
16:AG:363:LEU:HG	16:AG:410:ALA:HA	1.94	0.41
10:B:1:C:C5	10:B:2:G:N7	2.89	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:C:73:ARG:NH1	31:Q:113:VAL:CG1	2.76	0.41
18:D:5:U:O2	18:D:5:U:O4'	2.37	0.41
18:D:18:C:C2	18:D:19:A:C8	3.09	0.41
18:D:124:C:H2'	18:D:125:U:H6	1.84	0.41
18:D:376:G:O3'	35:U:5:ARG:NE	2.54	0.41
18:D:501:C:H1'	18:D:549:C:H1'	2.01	0.41
18:D:1309:G:C8	38:X:98:ARG:NH2	2.88	0.41
19:E:22:ALA:N	19:E:25:ARG:HE	2.17	0.41
21:G:96:TRP:CH2	21:G:100:MET:CE	3.03	0.41
21:G:115:LYS:C	21:G:115:LYS:HD3	2.45	0.41
22:H:116:VAL:O	22:H:279:LYS:HG2	2.21	0.41
22:H:293:PHE:HA	22:H:302:GLY:O	2.20	0.41
22:H:322:VAL:HG12	22:H:323:ASN:HB2	2.02	0.41
23:I:6:HIS:CD2	33:S:89:MET:HB3	2.55	0.41
23:I:183:ASP:HB3	23:I:204:LYS:HZ2	1.85	0.41
26:L:9:MET:SD	26:L:57:ALA:HB1	2.60	0.41
26:L:14:GLN:NE2	26:L:83:ALA:HB2	2.35	0.41
29:O:50:GLN:CA	29:O:53:GLU:OE1	2.69	0.41
32:R:7:LEU:HD21	32:R:12:ARG:HH21	1.82	0.41
35:U:4:ILE:HG22	35:U:71:VAL:HG11	2.03	0.41
35:U:25:ARG:HA	35:U:25:ARG:HD2	1.95	0.41
38:X:16:VAL:HG12	38:X:34:LEU:CD1	2.50	0.41
39:Y:100:ILE:HG13	39:Y:139:VAL:CB	2.51	0.41
40:Z:29:LYS:C	40:Z:30:PHE:HD2	2.28	0.41
41:a:126:A:OP1	53:m:45:SER:OG	2.37	0.41
41:a:152:A:C6	41:a:153:U:C4	3.09	0.41
41:a:235:U:C2	41:a:236:C:C6	3.08	0.41
41:a:370:G:C6	41:a:424:G:N7	2.89	0.41
41:a:967:U:H2'	41:a:968:C:C6	2.56	0.41
41:a:1427:A:H4'	41:a:1428:C:O4'	2.21	0.41
41:a:1996:C:OP1	60:t:31:ARG:NE	2.52	0.41
41:a:2072:C:C2	41:a:2073:C:C6	3.08	0.41
41:a:2223:G:OP1	48:h:171:TYR:OH	2.37	0.41
41:a:2291:U:H2'	41:a:2292:U:H6	1.85	0.41
41:a:2310:C:O2'	54:n:74:VAL:HG12	2.20	0.41
41:a:2461:A:H2'	41:a:2462:C:C6	2.55	0.41
41:a:2507:C:C2	41:a:2583:G:C2	3.07	0.41
41:a:2526:G:O2'	57:q:1:MET:HG2	2.21	0.41
41:a:2589:A:H2'	41:a:2590:A:H8	1.85	0.41
42:b:30:SER:HA	42:b:66:LYS:HD2	2.03	0.41
50:j:47:ALA:O	50:j:48:ILE:HD13	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
64:x:15:ARG:C	64:x:19:GLN:NE2	2.78	0.41
9:9:6:GLN:HA	9:9:9:GLN:HE21	1.85	0.41
10:A:19:G:O6	41:a:2112:G:P	2.79	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:855:PRO:HD3	16:AG:105:ILE:CG1	2.51	0.41
12:AB:142:LEU:CA	12:AB:150:ILE:O	2.50	0.41
13:AD:48:LEU:HG	14:AE:535:ARG:HG3	2.02	0.41
16:AG:26:ALA:CA	16:AG:117:LYS:HG2	2.51	0.41
16:AG:318:ILE:CG1	16:AG:338:VAL:HG11	2.48	0.41
16:AG:434:LEU:CD1	16:AG:455:THR:CA	2.98	0.41
10:B:59:A:C5	10:B:60:U:C5	3.08	0.41
10:B:68:C:C4	10:B:69:C:C5	3.08	0.41
18:D:1119:C:C2	18:D:1120:C:C5	3.09	0.41
18:D:1368:A:OP1	29:O:116:VAL:HG23	2.20	0.41
20:F:39:GLU:OE1	20:F:44:GLU:OE1	2.38	0.41
21:G:20:THR:O	21:G:23:TRP:CD1	2.74	0.41
21:G:58:ASN:HB2	21:G:220:THR:OG1	2.21	0.41
22:H:267:TRP:CD2	22:H:340:ARG:HG3	2.56	0.41
23:I:72:ARG:CD	23:I:75:ILE:HB	2.51	0.41
24:J:62:ARG:CG	24:J:72:PHE:CZ	3.02	0.41
28:N:83:LEU:HD11	32:R:4:VAL:CB	2.51	0.41
29:O:44:ALA:HA	29:O:47:VAL:HG22	2.03	0.41
30:P:22:THR:HG21	30:P:72:ARG:HG3	2.03	0.41
30:P:79:PRO:HG2	30:P:102:LEU:HD11	2.03	0.41
31:Q:49:GLY:C	31:Q:51:GLY:H	2.29	0.41
33:S:10:GLU:CD	33:S:63:ARG:HD2	2.45	0.41
41:a:66:C:H42	41:a:74:A:N6	2.19	0.41
41:a:465:G:H2'	41:a:466:A:C8	2.56	0.41
41:a:630:G:N2	41:a:633:A:OP2	2.45	0.41
41:a:1009:A:N3	41:a:1153:C:O2'	2.48	0.41
41:a:1365:A:H4'	43:c:11:ARG:HH12	1.85	0.41
41:a:1542:U:H2'	41:a:1543:G:O4'	2.20	0.41
41:a:1957:C:C2	41:a:1958:C:C5	3.09	0.41
41:a:2244:U:O2'	41:a:2245:U:H5'	2.20	0.41
41:a:2357:G:OP1	42:b:20:ARG:CZ	2.68	0.41
41:a:2636:C:O2'	50:j:45:TYR:CZ	2.70	0.41
41:a:2650:U:C2	41:a:2651:C:C5	3.08	0.41
42:b:40:GLN:NE2	42:b:59:LEU:HD23	2.35	0.41
44:d:55:U:H2'	44:d:56:G:C8	2.56	0.41
48:h:91:ILE:HG21	48:h:103:TYR:HB3	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:h:210:ALA:HA	48:h:213:TRP:CE3	2.56	0.41
48:h:220:VAL:CG2	48:h:225:MET:HE3	2.51	0.41
48:h:246:THR:N	48:h:250:VAL:O	2.49	0.41
51:k:21:TYR:CZ	51:k:38:LYS:CG	3.04	0.41
51:k:26:ASN:OD1	51:k:28:ARG:CZ	2.69	0.41
52:l:6:LYS:NZ	52:l:119:ILE:CG2	2.82	0.41
52:l:108:ILE:HD11	52:l:180:LEU:CD1	2.50	0.41
52:l:171:ASP:OD1	52:l:172:ALA:N	2.53	0.41
54:n:16:LEU:HD11	54:n:169:LEU:HD12	2.03	0.41
56:p:91:GLY:HA2	56:p:160:LYS:CD	2.50	0.41
56:p:149:ARG:HH12	56:p:154:PRO:HB3	1.85	0.41
58:r:66:ASN:CG	58:r:135:HIS:HB2	2.45	0.41
59:s:1:MET:SD	59:s:2:LYS:O	2.79	0.41
1:0:47:VAL:C	1:0:48:LYS:HD3	2.45	0.41
5:4:2:PHE:CZ	5:4:56:PHE:CZ	3.08	0.41
6:5:10:DT:C2'	12:AB:69:ILE:C	2.89	0.41
6:5:25:DA:N3	7:6:5:DG:N2	2.68	0.41
9:9:41:LEU:CD1	39:Y:117:THR:HG22	2.50	0.41
12:AB:109:THR:HA	12:AB:110:PRO:HD3	1.82	0.41
13:AC:42:ALA:HB1	13:AC:224:LEU:HD11	2.03	0.41
14:AE:83:VAL:CB	23:I:100:GLN:CD	2.94	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
10:B:31:G:H2'	10:B:32:C:C6	2.55	0.41
10:B:47:U:O2'	10:B:50:U:OP1	2.37	0.41
18:D:375:U:H1'	35:U:28:ARG:NH2	2.36	0.41
18:D:695:A:O5'	31:Q:53:ARG:CZ	2.69	0.41
18:D:718:A:C2	31:Q:118:HIS:CE1	3.09	0.41
18:D:960:U:O2'	18:D:1223:C:H4'	2.20	0.41
20:F:66:ARG:NH2	20:F:67:ARG:HH22	2.19	0.41
22:H:303:LEU:O	22:H:305:HIS:HA	2.21	0.41
22:H:309:MET:HE2	22:H:309:MET:HB3	1.93	0.41
24:J:74:ASN:OD1	24:J:74:ASN:C	2.64	0.41
26:L:42:TRP:HB2	26:L:59:TYR:O	2.20	0.41
28:N:83:LEU:HD21	32:R:4:VAL:HG21	2.02	0.41
32:R:57:LEU:HD23	32:R:59:ASN:OD1	2.20	0.41
35:U:34:GLU:OE1	35:U:60:TRP:NE1	2.54	0.41
35:U:73:ALA:HA	35:U:76:LYS:HE2	2.03	0.41
36:V:7:THR:C	36:V:8:LEU:HD12	2.46	0.41
36:V:11:ARG:HD3	36:V:57:ASP:C	2.46	0.41
39:Y:57:VAL:CG2	39:Y:71:LYS:HD3	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:Y:63:ASP:C	39:Y:65:SER:H	2.28	0.41
39:Y:99:LYS:HD3	39:Y:99:LYS:HA	1.86	0.41
41:a:235:U:H2'	41:a:236:C:H6	1.86	0.41
41:a:458:G:N2	41:a:469:G:H2'	2.36	0.41
41:a:1651:G:P	63:w:40:LYS:NZ	2.94	0.41
41:a:2024:G:C5	41:a:2040:G:C2	3.09	0.41
41:a:2531:A:C4	41:a:2532:G:C8	3.08	0.41
41:a:2649:C:C2	41:a:2650:U:C6	3.09	0.41
48:h:161:TYR:HB3	48:h:194:GLU:HG2	2.03	0.41
48:h:189:ARG:HG3	48:h:190:ALA:N	2.36	0.41
48:h:245:VAL:HA	48:h:250:VAL:O	2.20	0.41
50:j:146:ILE:HA	50:j:159:LYS:HZ1	1.86	0.41
54:n:66:LEU:HD23	54:n:67:ILE:C	2.45	0.41
54:n:170:LEU:HB2	54:n:177:PHE:HZ	1.86	0.41
56:p:45:HIS:HA	56:p:50:LEU:HD13	2.01	0.41
62:v:111:GLU:HA	62:v:114:ARG:NE	2.35	0.41
63:w:98:LEU:CD1	63:w:114:GLU:OE2	2.68	0.41
66:z:74:ILE:CD1	66:z:79:PHE:HA	2.40	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
12:AB:6:LEU:HB2	12:AB:56:PHE:HE1	1.86	0.41
12:AB:140:MET:C	12:AB:152:HIS:C	2.85	0.41
12:AB:147:ASN:CB	30:P:100:ILE:HG22	2.45	0.41
14:AE:1003:LEU:HD23	14:AE:1018:ALA:HB2	2.02	0.41
14:AE:1216:ALA:HA	14:AE:1217:PRO:HD3	1.93	0.41
16:AG:27:LEU:CD2	16:AG:114:ILE:HG23	2.51	0.41
16:AG:202:PRO:C	16:AG:204:MET:N	2.79	0.41
16:AG:211:ILE:HD12	16:AG:211:ILE:HA	1.85	0.41
16:AG:296:ILE:HD11	16:AG:307:ILE:CD1	2.50	0.41
16:AG:393:LEU:CB	16:AG:398:LEU:HD22	1.90	0.41
17:C:44:ILE:HG21	22:H:339:ARG:C	2.45	0.41
17:C:44:ILE:HG22	22:H:340:ARG:HB2	2.02	0.41
18:D:958:A:H5'	37:W:55:ARG:HH12	1.86	0.41
18:D:1227:A:OP2	38:X:110:LYS:HE3	2.20	0.41
18:D:1251:A:H2'	18:D:1252:A:O4'	2.20	0.41
18:D:1411:C:H2'	18:D:1412:C:C6	2.56	0.41
21:G:6:MET:HA	21:G:9:MET:SD	2.61	0.41
21:G:137:ARG:HG3	21:G:138:THR:N	2.36	0.41
22:H:34:ASP:OD1	22:H:50:ALA:HB3	2.20	0.41
22:H:308:GLU:N	22:H:308:GLU:OE1	2.53	0.41
23:I:8:ASN:O	23:I:12:LEU:CD2	2.69	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:I:23:PHE:CD2	30:P:97:ASP:HB2	2.53	0.41
25:K:115:LEU:O	25:K:120:VAL:HG12	2.20	0.41
26:L:35:LYS:CG	26:L:36:ILE:N	2.84	0.41
27:M:47:LEU:HD21	27:M:58:GLU:HB3	2.03	0.41
30:P:40:ILE:HD12	30:P:73:LEU:HD22	2.02	0.41
31:Q:20:VAL:HG12	31:Q:21:ALA:N	2.35	0.41
31:Q:76:GLU:OE1	31:Q:76:GLU:HA	2.21	0.41
33:S:91:GLY:C	33:S:92:GLU:OE1	2.62	0.41
39:Y:23:VAL:HG23	39:Y:27:LEU:HD23	2.01	0.41
39:Y:34:ILE:O	39:Y:34:ILE:HG22	2.20	0.41
39:Y:60:VAL:CG2	39:Y:66:PHE:CD1	3.03	0.41
40:Z:6:GLN:CD	40:Z:10:ALA:HB2	2.45	0.41
41:a:271:G:C2	41:a:272:A:C4	3.08	0.41
41:a:272:A:C2	41:a:273:G:C8	3.09	0.41
41:a:909:A:C4	41:a:912:C:C5	3.09	0.41
41:a:1248:G:O2'	66:z:3:ARG:HA	2.21	0.41
41:a:1289:C:H2'	41:a:1290:C:C6	2.56	0.41
41:a:2097:A:H2'	41:a:2098:U:C6	2.55	0.41
44:d:113:C:O2'	64:x:46:GLU:CD	2.64	0.41
44:d:113:C:HO2'	64:x:46:GLU:CD	2.29	0.41
46:f:4:THR:O	46:f:5:ILE:HD13	2.19	0.41
51:k:8:LYS:HA	51:k:24:THR:HA	2.02	0.41
60:t:20:MET:CB	60:t:44:LYS:HE2	2.51	0.41
63:w:78:LYS:HA	63:w:82:GLU:OE1	2.21	0.41
1:0:4:VAL:HG23	1:0:4:VAL:O	2.20	0.41
1:0:77:PHE:HE1	1:0:79:ARG:HA	1.85	0.41
2:1:85:ILE:HG13	2:1:85:ILE:O	2.19	0.41
4:3:86:ARG:CZ	4:3:95:PHE:CD2	3.04	0.41
8:7:21:U:C6	8:7:21:U:C3'	3.04	0.41
8:7:34:U:H4'	14:AE:322:ARG:NH1	2.35	0.41
9:9:2:ALA:HB3	9:9:6:GLN:HB2	2.01	0.41
9:9:38:MET:SD	9:9:41:LEU:HD12	2.61	0.41
9:9:59:LEU:HD22	9:9:62:ARG:CD	2.51	0.41
9:9:117:LEU:O	9:9:117:LEU:CD2	2.67	0.41
12:AB:31:PRO:HG2	12:AB:51:PHE:CD2	2.55	0.41
12:AB:72:THR:HG22	12:AB:73:ARG:H	1.86	0.41
12:AB:104:ILE:O	12:AB:106:ASP:N	2.53	0.41
12:AB:141:LEU:HD22	12:AB:143:LEU:HD11	2.02	0.41
14:AE:205:LEU:HA	14:AE:205:LEU:HD23	1.90	0.41
14:AE:247:PRO:HA	14:AE:250:ARG:HE	1.86	0.41
14:AE:975:ILE:HD11	14:AE:1003:LEU:HG	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AG:125:MET:SD	16:AG:125:MET:O	2.79	0.41
16:AG:204:MET:SD	16:AG:204:MET:O	2.79	0.41
16:AG:302:LYS:HE3	16:AG:302:LYS:CA	2.51	0.41
16:AG:374:VAL:O	16:AG:374:VAL:CG1	2.68	0.41
16:AG:437:LEU:CD2	16:AG:488:ILE:HD13	2.51	0.41
17:C:12:ARG:NH1	17:C:13:PHE:CD1	2.89	0.41
18:D:71:A:C6	18:D:100:G:N7	2.89	0.41
18:D:104:G:C2	18:D:105:G:C5	3.09	0.41
18:D:124:C:C2	18:D:125:U:C5	3.08	0.41
18:D:306:A:C4	18:D:307:C:C6	3.08	0.41
18:D:356:A:C5	18:D:357:G:C8	3.08	0.41
18:D:414:A:C2	18:D:415:A:N9	2.89	0.41
18:D:502:A:H2'	18:D:503:C:H6	1.86	0.41
18:D:511:C:O3'	24:J:44:ARG:NH1	2.53	0.41
18:D:643:C:C2	18:D:644:U:C5	3.08	0.41
18:D:908:A:H2'	18:D:909:A:H8	1.85	0.41
18:D:951:G:C6	18:D:1231:G:C6	3.08	0.41
18:D:1228:C:OP1	38:X:107:ARG:CZ	2.69	0.41
19:E:28:MET:HE3	19:E:28:MET:HB3	1.94	0.41
21:G:47:VAL:N	21:G:48:PRO:HD2	2.35	0.41
21:G:94:HIS:O	21:G:95:ARG:C	2.64	0.41
21:G:117:LEU:CD2	21:G:141:LEU:HA	2.51	0.41
25:K:82:GLN:OE1	25:K:147:MET:SD	2.78	0.41
29:O:21:ILE:HD12	29:O:86:ALA:CB	2.50	0.41
29:O:25:ASN:HB2	29:O:27:LYS:NZ	2.36	0.41
30:P:6:ILE:CG2	30:P:100:ILE:HG13	2.51	0.41
31:Q:75:LYS:HG3	31:Q:76:GLU:N	2.35	0.41
32:R:24:LEU:CD2	32:R:95:TYR:CE1	3.04	0.41
34:T:67:LEU:CD1	34:T:78:TYR:CE1	3.04	0.41
37:W:17:LYS:HB3	37:W:21:LYS:NZ	2.36	0.41
41:a:16:C:C4'	49:i:15:MET:CE	2.99	0.41
41:a:16:C:O4'	49:i:15:MET:HE1	2.20	0.41
41:a:151:C:C2	41:a:152:A:N7	2.89	0.41
41:a:205:G:O2'	41:a:206:U:OP2	2.39	0.41
41:a:209:C:C2	41:a:210:C:C6	3.09	0.41
41:a:244:A:H2'	41:a:245:G:O4'	2.21	0.41
41:a:319:G:H2'	41:a:320:A:O4'	2.20	0.41
41:a:485:C:N3	41:a:486:C:C5	2.89	0.41
41:a:638:G:H2'	41:a:639:U:C6	2.56	0.41
41:a:833:A:OP2	61:u:39:LYS:NZ	2.49	0.41
41:a:873:C:C2	41:a:874:G:C8	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:a:945:A:C4	41:a:2448:A:C2	3.09	0.41
41:a:1026:G:C8	41:a:1134:A:C4	3.08	0.41
41:a:1057:A:C2	41:a:1082:U:N3	2.89	0.41
41:a:1322:A:C4	41:a:1323:C:C6	3.08	0.41
41:a:1430:G:H2'	41:a:1431:A:C8	2.56	0.41
41:a:1558:C:O4'	41:a:1560:G:C8	2.74	0.41
41:a:1824:G:O5'	48:h:52:ARG:NH1	2.53	0.41
41:a:1827:U:H2'	41:a:1828:G:O4'	2.20	0.41
41:a:1945:G:H2'	41:a:1946:U:C6	2.56	0.41
41:a:1946:U:H2'	41:a:1947:C:C6	2.56	0.41
41:a:2065:C:N3	41:a:2066:C:C5	2.89	0.41
41:a:2366:A:H2'	41:a:2367:G:O4'	2.21	0.41
41:a:2511:U:O4'	50:j:130:GLN:OE1	2.39	0.41
41:a:2619:C:O2'	41:a:2620:C:H5'	2.21	0.41
41:a:2808:G:N1	41:a:2891:U:C5	2.89	0.41
47:g:57:VAL:O	47:g:58:ASP:C	2.62	0.41
48:h:53:HIS:CD2	48:h:218:PRO:O	2.74	0.41
48:h:84:ASP:OD2	48:h:91:ILE:HD11	2.21	0.41
48:h:165:VAL:HG12	48:h:175:ARG:NH2	2.35	0.41
49:i:28:LEU:CB	49:i:37:LYS:HE3	2.51	0.41
50:j:37:VAL:HG22	50:j:48:ILE:HD12	2.02	0.41
50:j:108:ASP:OD1	50:j:173:GLN:HA	2.21	0.41
50:j:146:ILE:HA	50:j:159:LYS:NZ	2.36	0.41
50:j:175:LEU:HB3	50:j:189:VAL:HG12	2.02	0.41
51:k:7:GLU:CG	51:k:27:LYS:NZ	2.84	0.41
52:l:77:ILE:O	52:l:77:ILE:HG22	2.19	0.41
52:l:170:ARG:CZ	52:l:174:GLY:O	2.66	0.41
52:l:170:ARG:HH22	52:l:176:ASP:H	1.68	0.41
56:p:80:THR:HG23	56:p:81:GLU:N	2.36	0.41
56:p:149:ARG:CZ	56:p:154:PRO:CD	2.98	0.41
59:s:49:ASP:OD1	59:s:121:LYS:NZ	2.54	0.41
60:t:61:VAL:HG11	60:t:112:PHE:CE2	2.56	0.41
60:t:80:ASP:OD1	65:y:68:GLU:OE2	2.39	0.41
62:v:31:PHE:CZ	62:v:110:GLU:HG3	2.56	0.41
62:v:112:LEU:HD12	62:v:112:LEU:H	1.86	0.41
62:v:115:GLU:HA	62:v:118:LYS:HE2	2.02	0.41
63:w:49:GLU:OE2	63:w:95:THR:CG2	2.69	0.41
64:x:86:GLY:HA2	64:x:88:LYS:HZ3	1.86	0.41
65:y:37:LYS:CA	65:y:37:LYS:HE3	2.49	0.41
66:z:66:ASN:OD1	66:z:70:ARG:NE	2.54	0.41
1:0:51:VAL:CG2	66:z:87:SER:HG	2.34	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:86:ARG:NH2	4:3:95:PHE:CB	2.84	0.41
5:4:78:GLN:OE1	5:4:88:HIS:HB3	2.21	0.41
9:9:47:GLU:C	9:9:49:GLY:H	2.28	0.41
9:9:94:ARG:O	9:9:98:GLU:HG2	2.21	0.41
10:A:5:G:C2'	10:A:6:G:H5'	2.50	0.41
10:A:16:C:O2	10:A:16:C:H2'	2.21	0.41
10:A:33:U:H5''	27:M:84:THR:CG2	2.50	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
11:AA:849:GLU:HB2	11:AA:887:VAL:HG23	2.02	0.41
11:AA:859:GLU:OE2	16:AG:38:LYS:CG	2.62	0.41
11:AA:987:GLU:HG2	11:AA:991:LYS:HE3	2.03	0.41
12:AB:2:GLN:N	12:AB:60:ASP:OD1	2.54	0.41
12:AB:32:MET:O	12:AB:50:LEU:HD12	2.21	0.41
12:AB:95:GLN:C	12:AB:96:LEU:HD12	2.46	0.41
12:AB:120:GLU:C	12:AB:162:LEU:HD12	2.46	0.41
12:AB:123:PHE:HB2	30:P:88:MET:CE	2.50	0.41
13:AD:44:ARG:HA	13:AD:183:ILE:HD12	2.03	0.41
16:AG:284:VAL:HG22	16:AG:305:MET:CE	2.51	0.41
16:AG:285:ILE:O	16:AG:288:MET:HE2	2.19	0.41
17:C:71:THR:OG1	17:C:74:HIS:ND1	2.45	0.41
18:D:105:G:H2'	18:D:106:C:C6	2.56	0.41
18:D:195:A:H5''	19:E:64:LYS:HZ1	1.84	0.41
18:D:218:U:H2'	18:D:219:U:O4'	2.20	0.41
18:D:695:A:OP1	31:Q:54:GLY:HA3	2.21	0.41
18:D:1141:C:O2'	18:D:1142:G:P	2.79	0.41
18:D:1318:A:OP1	37:W:7:LYS:NZ	2.52	0.41
18:D:1319:A:C8	18:D:1323:G:C5	3.08	0.41
21:G:85:LEU:HD23	21:G:85:LEU:C	2.46	0.41
21:G:90:PHE:CD2	21:G:154:MET:SD	3.14	0.41
22:H:42:LEU:HD23	22:H:81:GLU:HB3	2.03	0.41
23:I:113:ALA:HB1	23:I:200:VAL:HG13	2.02	0.41
24:J:197:GLU:HA	24:J:200:ILE:HD12	2.03	0.41
27:M:35:LYS:CE	27:M:38:THR:OG1	2.69	0.41
29:O:35:LEU:HD21	29:O:45:ARG:HG2	2.02	0.41
31:Q:94:GLU:O	31:Q:94:GLU:OE2	2.39	0.41
31:Q:97:ILE:HD12	31:Q:97:ILE:HA	1.95	0.41
32:R:25:GLU:CD	32:R:30:LYS:HE3	2.46	0.41
35:U:19:VAL:HG11	35:U:52:LEU:CD2	2.50	0.41
35:U:69:ASP:OD1	35:U:69:ASP:C	2.63	0.41
38:X:3:ARG:NH2	47:g:35:ASP:HB2	2.36	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:Y:9:LYS:O	39:Y:10:LEU:HG	2.21	0.41
39:Y:28:GLY:HA3	39:Y:32:VAL:HB	2.03	0.41
39:Y:82:ALA:CB	39:Y:108:ILE:HD12	2.50	0.41
40:Z:2:ILE:HG22	40:Z:4:LYS:N	2.28	0.41
41:a:30:G:H2'	41:a:31:C:C6	2.55	0.41
41:a:126:A:O5'	53:m:19:ARG:HG3	2.21	0.41
41:a:529:A:C4	41:a:2023:C:C5	3.09	0.41
41:a:1398:C:H2'	41:a:1399:C:H6	1.86	0.41
41:a:1548:A:H2'	41:a:1549:A:C8	2.56	0.41
41:a:1589:U:C2	41:a:1590:A:C8	3.09	0.41
41:a:1607:C:H4'	41:a:1608:A:O5'	2.21	0.41
41:a:1858:A:C2	41:a:1885:A:C1'	3.04	0.41
41:a:1944:U:C5	41:a:1955:U:C2	3.09	0.41
41:a:2848:G:N2	41:a:2867:G:C4	2.89	0.41
43:c:3:ARG:HD2	43:c:30:LEU:CD1	2.51	0.41
47:g:9:TYR:OH	54:n:98:GLU:OE2	2.32	0.41
52:l:194:LYS:O	52:l:195:GLN:C	2.64	0.41
53:m:26:ASN:HA	53:m:29:GLN:NE2	2.36	0.41
54:n:101:GLU:O	54:n:105:THR:OG1	2.23	0.41
54:n:136:ILE:HA	54:n:141:ILE:CG2	2.51	0.41
58:r:54:LEU:HD12	58:r:57:LYS:HE2	2.03	0.41
58:r:76:GLU:OE2	58:r:142:VAL:HA	2.21	0.41
58:r:110:VAL:HG21	58:r:114:GLU:OE1	2.21	0.41
61:u:96:LYS:HG2	61:u:102:GLY:O	2.21	0.41
61:u:123:ARG:HG3	61:u:143:GLU:OE2	2.21	0.41
63:w:17:ARG:O	63:w:21:PHE:HD2	2.04	0.41
63:w:24:MET:CG	63:w:44:LEU:HD12	2.51	0.41
65:y:4:ILE:O	65:y:8:LEU:HD13	2.21	0.41
2:1:93:ALA:HB2	41:a:1614:A:C2	2.57	0.40
3:2:6:ARG:NH2	3:2:10:VAL:CG2	2.84	0.40
3:2:50:LEU:HD23	45:e:26:PHE:CE1	2.56	0.40
4:3:6:ARG:NH1	41:a:84:A:C2'	2.84	0.40
4:3:84:GLY:C	4:3:95:PHE:CE2	2.99	0.40
6:5:27:DG:N2	7:6:3:DC:O2	2.53	0.40
11:AA:469:VAL:HA	11:AA:472:GLU:HG2	2.02	0.40
12:AB:2:GLN:HA	12:AB:59:PHE:O	2.21	0.40
12:AB:120:GLU:H	12:AB:162:LEU:CD1	2.33	0.40
13:AD:305:ASP:C	13:AD:307:LEU:H	2.28	0.40
16:AG:108:GLN:HA	16:AG:111:LYS:HD2	2.03	0.40
18:D:562:U:O3'	32:R:12:ARG:HD2	2.20	0.40
18:D:982:U:H4'	18:D:983:A:O4'	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:D:1061:G:C6	18:D:1197:A:C6	3.09	0.40
21:G:138:THR:O	21:G:142:GLU:HG2	2.22	0.40
21:G:187:VAL:HG11	21:G:193:PRO:HB3	2.02	0.40
23:I:147:LYS:CE	23:I:204:LYS:O	2.68	0.40
24:J:138:SER:C	24:J:182:PHE:CE2	3.00	0.40
24:J:188:ARG:NH2	24:J:195:ILE:HG13	2.36	0.40
25:K:46:VAL:HG12	25:K:47:GLY:N	2.36	0.40
26:L:51:ILE:CG2	26:L:86:ARG:HH21	2.34	0.40
29:O:91:ASP:C	29:O:92:GLU:OE2	2.64	0.40
30:P:26:VAL:HG12	30:P:30:LYS:HZ3	1.85	0.40
32:R:25:GLU:O	32:R:25:GLU:HG2	2.20	0.40
35:U:3:THR:HG22	35:U:22:ALA:O	2.21	0.40
38:X:71:ARG:NH1	38:X:72:GLU:CG	2.84	0.40
41:a:397:U:H2'	41:a:398:C:C6	2.56	0.40
41:a:409:G:H2'	41:a:410:G:C8	2.55	0.40
41:a:443:A:N1	52:l:40:ARG:NH2	2.69	0.40
41:a:690:G:H2'	41:a:691:C:H6	1.85	0.40
41:a:975:A:H1'	41:a:990:A:C2	2.56	0.40
41:a:1144:A:C6	41:a:1145:C:C4	3.09	0.40
41:a:1294:U:C4	41:a:1295:C:C5	3.10	0.40
41:a:1589:U:O2'	41:a:1590:A:P	2.79	0.40
41:a:2065:C:C2	41:a:2066:C:C6	3.09	0.40
41:a:2205:A:H2'	41:a:2206:C:C6	2.56	0.40
41:a:2216:G:H2'	41:a:2217:G:C8	2.57	0.40
41:a:2314:A:O2'	54:n:155:THR:CG2	2.69	0.40
41:a:2639:A:H2'	41:a:2640:G:O4'	2.21	0.40
46:f:34:HIS:CD2	46:f:36:VAL:CG2	3.04	0.40
48:h:183:LYS:NZ	48:h:266:PHE:O	2.52	0.40
54:n:8:TYR:O	54:n:13:VAL:HG23	2.21	0.40
54:n:141:ILE:HD11	54:n:146:VAL:CG1	2.50	0.40
60:t:1:MET:HE3	60:t:32:TYR:CB	2.50	0.40
60:t:24:VAL:O	60:t:24:VAL:HG13	2.20	0.40
62:v:95:LEU:C	62:v:96:ILE:HD13	2.45	0.40
62:v:105:MET:HG2	62:v:117:PHE:HZ	1.86	0.40
63:w:60:VAL:HG22	63:w:63:ARG:HH11	1.80	0.40
1:0:13:ARG:NH2	66:z:97:ASP:CG	2.79	0.40
4:3:47:LYS:NZ	41:a:482:A:H5''	2.37	0.40
9:9:43:LYS:HA	9:9:46:ARG:NH2	2.35	0.40
9:9:77:VAL:O	9:9:77:VAL:CG1	2.67	0.40
9:9:139:LEU:HD22	40:Z:11:VAL:HG22	2.02	0.40
11:AA:148:GLN:NE2	11:AA:535:PRO:O	2.40	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:176:ILE:HD12	11:AA:184:LEU:HD23	2.03	0.40
12:AB:4:TRP:CZ3	12:AB:93:ILE:HG13	2.56	0.40
12:AB:36:GLU:O	12:AB:37:LYS:HD2	2.21	0.40
14:AE:367:GLY:HA3	14:AE:448:GLN:HB2	2.03	0.40
14:AE:416:ILE:HD13	14:AE:416:ILE:HA	1.92	0.40
14:AE:1155:ILE:HG13	14:AE:1210:ILE:HB	2.02	0.40
16:AG:168:LEU:CB	16:AG:171:GLU:HB2	2.46	0.40
16:AG:234:ALA:HB3	16:AG:271:ILE:HD13	2.01	0.40
16:AG:271:ILE:H	16:AG:271:ILE:HG12	1.49	0.40
16:AG:433:ASP:O	16:AG:456:LEU:CD2	2.69	0.40
17:C:38:LYS:HA	17:C:38:LYS:CE	2.37	0.40
18:D:107:G:C6	18:D:108:G:C4	3.09	0.40
18:D:407:U:O4'	24:J:116:GLN:OE1	2.39	0.40
18:D:570:G:H1'	18:D:820:U:C4	2.56	0.40
18:D:575:G:O2'	18:D:821:G:OP2	2.33	0.40
18:D:963:G:C2	18:D:964:A:C8	3.09	0.40
18:D:985:C:C2	18:D:986:U:C5	3.08	0.40
18:D:1367:C:O3'	29:O:116:VAL:HG22	2.22	0.40
19:E:9:LYS:HG2	19:E:13:GLN:NE2	2.36	0.40
19:E:15:GLU:CD	19:E:16:LYS:N	2.80	0.40
21:G:161:LEU:HD13	21:G:176:ALA:HB2	2.03	0.40
21:G:185:ALA:O	21:G:200:ILE:N	2.54	0.40
23:I:123:GLN:HB3	23:I:128:VAL:HG21	2.02	0.40
23:I:132:ARG:HA	23:I:135:LYS:HG2	2.04	0.40
23:I:135:LYS:HA	23:I:138:VAL:HG12	2.04	0.40
26:L:3:HIS:CD2	26:L:95:ALA:HA	2.56	0.40
27:M:17:LYS:NZ	27:M:18:PHE:CE1	2.78	0.40
31:Q:36:ASP:OD1	31:Q:40:ASN:N	2.53	0.40
34:T:3:LEU:HB2	34:T:35:GLN:OE1	2.21	0.40
34:T:70:LEU:HD23	34:T:78:TYR:HD1	1.85	0.40
36:V:31:HIS:HD2	36:V:34:TYR:HB2	1.86	0.40
38:X:55:THR:CG2	38:X:59:GLU:OE2	2.69	0.40
39:Y:102:ARG:CZ	39:Y:139:VAL:HG21	2.50	0.40
41:a:62:U:O2	41:a:62:U:H2'	2.20	0.40
41:a:184:C:C2	41:a:213:A:N1	2.89	0.40
41:a:392:U:N3	41:a:393:C:C5	2.90	0.40
41:a:841:G:H2'	41:a:842:U:H6	1.86	0.40
41:a:1005:C:H1'	41:a:1012:U:N3	2.37	0.40
41:a:1142:A:N3	41:a:1142:A:H2'	2.36	0.40
41:a:1198:U:H2'	41:a:1199:U:H6	1.83	0.40
41:a:1709:U:C2	41:a:1710:G:C8	3.10	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:a:1746:A:H2'	41:a:1747:U:C6	2.56	0.40
41:a:2146:C:O2'	41:a:2147:A:O5'	2.34	0.40
41:a:2364:C:O2'	42:b:58:THR:HG21	2.21	0.40
41:a:2422:C:C4	41:a:2424:C:C4	3.09	0.40
41:a:2454:G:C5	41:a:2455:G:C8	3.08	0.40
41:a:2520:C:O2'	41:a:2521:C:H5'	2.20	0.40
41:a:2569:G:C2	41:a:2570:G:C8	3.09	0.40
41:a:2839:G:C4	41:a:2840:C:C6	3.09	0.40
42:b:55:ARG:CZ	42:b:55:ARG:CA	2.99	0.40
47:g:7:PRO:CG	54:n:62:GLY:O	2.69	0.40
48:h:137:VAL:HA	48:h:164:ILE:HG23	2.03	0.40
49:i:34:SER:OG	49:i:36:GLU:HG2	2.20	0.40
50:j:11:MET:SD	50:j:12:THR:N	2.94	0.40
59:s:99:ARG:O	59:s:100:VAL:C	2.63	0.40
60:t:7:MET:CE	60:t:20:MET:HB2	2.51	0.40
60:t:59:LYS:NZ	60:t:92:GLU:HG2	2.36	0.40
63:w:18:GLN:CD	63:w:18:GLN:C	2.88	0.40
63:w:47:VAL:C	63:w:50:PRO:HD2	2.47	0.40
2:1:32:ALA:O	2:1:36:LEU:CD1	2.70	0.40
8:7:10:U:O2	8:7:10:U:H3'	2.21	0.40
9:9:96:PHE:O	9:9:125:ARG:NH1	2.54	0.40
11:AA:856:ASN:N	16:AG:35:THR:CG2	2.85	0.40
12:AB:36:GLU:HA	12:AB:44:THR:O	2.22	0.40
12:AB:147:ASN:ND2	30:P:101:SER:CB	2.82	0.40
16:AG:208:LEU:HD23	16:AG:208:LEU:HA	1.78	0.40
16:AG:363:LEU:HD21	16:AG:407:ARG:C	2.45	0.40
10:B:70:G:H3'	10:B:71:C:H5''	2.04	0.40
17:C:70:TYR:CD2	18:D:674:G:H4'	2.55	0.40
18:D:74:A:C4	18:D:75:G:C8	3.09	0.40
18:D:262:A:C4	18:D:263:A:C8	3.10	0.40
18:D:338:A:H2'	18:D:339:C:H6	1.86	0.40
18:D:436:C:N3	18:D:437:U:C5	2.89	0.40
18:D:602:A:H2'	18:D:603:U:H6	1.86	0.40
18:D:920:U:H2'	18:D:921:U:C6	2.56	0.40
18:D:1302:C:OP1	38:X:13:LYS:NZ	2.30	0.40
19:E:59:ASP:OD1	19:E:76:LYS:HE2	2.21	0.40
20:F:4:ILE:HD12	20:F:19:PHE:HA	2.03	0.40
23:I:6:HIS:CD2	23:I:9:GLY:H	2.39	0.40
25:K:133:PRO:HA	25:K:136:VAL:HG12	2.02	0.40
26:L:9:MET:CE	26:L:86:ARG:HG2	2.52	0.40
27:M:59:LEU:HA	27:M:59:LEU:HD23	1.93	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:O:5:GLN:NE2	29:O:22:LYS:HZ2	2.19	0.40
35:U:18:GLN:CD	35:U:35:ARG:HE	2.30	0.40
38:X:13:LYS:CE	38:X:17:ILE:HG21	2.51	0.40
39:Y:55:PRO:C	39:Y:71:LYS:CE	2.95	0.40
40:Z:6:GLN:O	40:Z:6:GLN:HG3	2.21	0.40
40:Z:20:VAL:O	40:Z:20:VAL:CG1	2.65	0.40
41:a:181:A:H2'	41:a:182:A:C8	2.56	0.40
41:a:241:A:N1	41:a:255:A:H5''	2.36	0.40
41:a:706:A:C2	41:a:707:G:H1'	2.56	0.40
41:a:752:A:P	53:m:1:MET:HE1	2.62	0.40
41:a:814:C:N3	41:a:815:C:C5	2.89	0.40
41:a:1048:A:C5	41:a:1049:C:C5	3.09	0.40
41:a:1177:G:O2'	41:a:1178:C:O4'	2.39	0.40
41:a:1494:A:H2'	41:a:1495:A:C8	2.56	0.40
41:a:1571:A:H2'	41:a:1572:A:H8	1.86	0.40
41:a:1816:C:H3'	48:h:62:TYR:CE1	2.57	0.40
41:a:1843:C:H2'	41:a:1844:C:H6	1.85	0.40
41:a:2422:C:N4	41:a:2424:C:N4	2.70	0.40
41:a:2483:C:N3	62:v:123:LYS:NZ	2.54	0.40
41:a:2728:U:H5'	60:t:70:ARG:HH22	1.85	0.40
41:a:2784:U:H2'	41:a:2785:C:C6	2.55	0.40
43:c:67:VAL:CA	43:c:70:GLU:OE1	2.69	0.40
45:e:10:SER:HG	45:e:12:GLU:HG2	1.85	0.40
46:f:25:LEU:HD23	46:f:25:LEU:C	2.46	0.40
50:j:176:ASP:OD2	50:j:176:ASP:C	2.65	0.40
51:k:19:HIS:CD2	51:k:20:PHE:H	2.39	0.40
53:m:12:ARG:HG3	53:m:44:VAL:HG21	2.03	0.40
53:m:42:LEU:N	53:m:42:LEU:HD12	2.36	0.40
54:n:9:LYS:HE3	54:n:9:LYS:HB3	1.91	0.40
54:n:150:ARG:HG2	54:n:151:GLY:N	2.36	0.40
56:p:149:ARG:NH1	56:p:154:PRO:CG	2.84	0.40
61:u:95:LEU:HD13	61:u:100:ILE:CD1	2.51	0.40
61:u:101:ILE:HG13	61:u:102:GLY:N	2.36	0.40
63:w:45:ARG:HB3	63:w:45:ARG:CZ	2.50	0.40
5:4:79:ARG:HA	5:4:79:ARG:HD3	1.82	0.40
9:9:31:ARG:NH1	41:a:1054:A:C1'	2.80	0.40
10:A:1:C:C5	10:A:2:G:N7	2.89	0.40
11:AA:836:LEU:HD21	11:AA:921:PRO:HD3	2.02	0.40
12:AB:120:GLU:HB3	12:AB:162:LEU:HD12	2.02	0.40
14:AE:79:LYS:NZ	14:AE:79:LYS:HB3	2.36	0.40
14:AE:438:GLU:HG3	14:AE:485:MET:HE1	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:AE:802:ASP:OD1	14:AE:1348:LYS:NZ	2.42	0.40
16:AG:216:ILE:HG12	16:AG:221:ILE:CB	2.52	0.40
16:AG:314:LEU:HD23	16:AG:314:LEU:HA	1.85	0.40
10:B:25:C:C4	10:B:26:G:C8	3.09	0.40
10:B:38:A:H4'	18:D:790:A:C1'	2.49	0.40
17:C:34:THR:HB	17:C:38:LYS:N	2.35	0.40
18:D:276:G:H5''	36:V:17:MET:HE3	2.03	0.40
18:D:333:U:OP1	19:E:2:ALA:N	2.55	0.40
18:D:520:A:O2'	32:R:70:GLU:OE1	2.39	0.40
18:D:953:G:O6	38:X:103:LYS:HE2	2.22	0.40
18:D:983:A:C2	18:D:984:C:C6	3.10	0.40
18:D:1140:C:O2'	18:D:1141:C:O5'	2.39	0.40
19:E:27:MET:SD	19:E:31:PHE:CE2	3.15	0.40
22:H:308:GLU:HG3	22:H:346:LEU:H	1.86	0.40
23:I:156:ARG:HD3	23:I:160:ALA:O	2.21	0.40
25:K:147:MET:HE3	25:K:147:MET:O	2.21	0.40
26:L:42:TRP:HB3	26:L:59:TYR:HB2	2.03	0.40
28:N:50:LYS:HA	28:N:50:LYS:CE	2.52	0.40
29:O:118:LEU:HD23	29:O:118:LEU:HA	1.87	0.40
29:O:118:LEU:HB3	29:O:120:LYS:O	2.21	0.40
31:Q:20:VAL:HG13	31:Q:85:MET:CE	2.51	0.40
31:Q:21:ALA:HA	31:Q:34:ILE:HD13	2.01	0.40
31:Q:82:LEU:CD1	31:Q:105:PHE:CG	3.05	0.40
33:S:63:ARG:HB3	33:S:68:GLY:HA2	2.04	0.40
34:T:64:ARG:NH2	34:T:89:ARG:NH2	2.69	0.40
36:V:26:GLU:OE2	36:V:39:LYS:C	2.65	0.40
39:Y:100:ILE:CG1	39:Y:139:VAL:CB	2.97	0.40
41:a:10:A:C6	41:a:2800:A:C2	3.09	0.40
41:a:540:C:C2	41:a:541:A:C8	3.09	0.40
41:a:654:A:H61	55:o:19:LYS:CD	2.31	0.40
41:a:708:G:H2'	41:a:709:U:H6	1.86	0.40
41:a:1275:A:N1	41:a:1295:C:O2'	2.50	0.40
41:a:1406:U:C2	41:a:1407:G:N7	2.89	0.40
41:a:1783:A:C2	41:a:2587:A:C4	3.10	0.40
41:a:1814:G:OP2	41:a:1815:A:O2'	2.32	0.40
41:a:1881:C:C4	41:a:1882:U:C5	3.09	0.40
41:a:2298:A:N3	41:a:2321:U:C5	2.89	0.40
41:a:2393:U:H2'	41:a:2394:C:C6	2.56	0.40
41:a:2627:G:H2'	41:a:2628:C:C6	2.56	0.40
41:a:2680:U:H1'	50:j:192:ALA:CB	2.52	0.40
42:b:55:ARG:NE	42:b:55:ARG:CA	2.84	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:b:58:THR:O	42:b:58:THR:HG23	2.21	0.40
42:b:70:GLU:HG3	42:b:72:LYS:HG2	2.03	0.40
44:d:8:C:O2'	64:x:40:ILE:HD13	2.21	0.40
44:d:57:A:N7	54:n:26:MET:HE3	2.36	0.40
45:e:14:LEU:CA	45:e:17:GLU:OE1	2.70	0.40
46:f:5:ILE:HG22	46:f:6:LYS:N	2.36	0.40
47:g:2:LYS:HB2	47:g:5:ILE:CD1	2.52	0.40
51:k:12:VAL:HG12	51:k:50:LYS:O	2.22	0.40
52:l:97:ASN:CG	52:l:100:MET:HE2	2.46	0.40
60:t:1:MET:HE1	60:t:32:TYR:HB3	2.03	0.40
62:v:106:ASP:OD1	62:v:106:ASP:C	2.64	0.40
64:x:4:LYS:O	64:x:8:ILE:HG12	2.22	0.40
64:x:29:HIS:O	64:x:36:TYR:N	2.48	0.40
1:0:13:ARG:C	1:0:14:VAL:HG13	2.46	0.40
4:3:47:LYS:NZ	41:a:482:A:C5'	2.85	0.40
6:5:16:DG:N1	11:AA:451:ARG:NH2	2.66	0.40
8:7:21:U:C5	23:I:80:LYS:C	2.80	0.40
11:AA:1247:SER:OG	11:AA:1248:THR:N	2.55	0.40
12:AB:8:TYR:C	12:AB:76:SER:HB3	2.46	0.40
14:AE:138:VAL:HG21	14:AE:145:VAL:HB	2.03	0.40
16:AG:291:ALA:HA	16:AG:316:GLN:HE22	1.87	0.40
16:AG:437:LEU:CD2	16:AG:488:ILE:CD1	2.98	0.40
10:B:9:G:H5''	10:B:11:A:OP2	2.21	0.40
17:C:54:GLN:HG3	17:C:55:LEU:H	1.85	0.40
18:D:105:G:C6	18:D:106:C:C4	3.10	0.40
18:D:619:U:C1'	24:J:128:ARG:NH1	2.85	0.40
18:D:932:C:OP1	27:M:4:ARG:NH1	2.55	0.40
18:D:1149:C:H2'	18:D:1150:A:C8	2.57	0.40
18:D:1326:U:H2'	18:D:1327:C:C6	2.56	0.40
18:D:1372:U:H2'	18:D:1373:G:O4'	2.22	0.40
18:D:1499:A:H3'	18:D:1499:A:OP2	2.22	0.40
18:D:1508:A:H2'	18:D:1509:C:H6	1.87	0.40
19:E:16:LYS:CG	19:E:19:LYS:HE3	2.52	0.40
20:F:12:PHE:O	20:F:16:LEU:HG	2.21	0.40
25:K:45:ARG:CG	25:K:45:ARG:NE	2.72	0.40
25:K:86:LYS:HE3	25:K:95:PHE:HD1	1.86	0.40
26:L:11:HIS:HE1	26:L:13:ASP:OD2	2.05	0.40
26:L:38:ARG:CZ	26:L:99:ALA:HB2	2.52	0.40
29:O:56:ASP:O	29:O:60:LYS:CE	2.69	0.40
30:P:85:ASP:CA	30:P:88:MET:HE1	2.42	0.40
34:T:32:LEU:HD13	34:T:62:GLN:OE1	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:W:34:TRP:O	37:W:36:ARG:N	2.54	0.40
38:X:65:VAL:CG2	38:X:66:GLU:OE1	2.69	0.40
39:Y:102:ARG:NH2	39:Y:139:VAL:HG11	2.36	0.40
41:a:48:G:C2	41:a:178:G:C6	3.10	0.40
41:a:581:C:C2	41:a:582:A:N7	2.90	0.40
41:a:1348:C:C4	41:a:1349:C:C5	3.10	0.40
41:a:1351:C:H2'	41:a:1352:U:O4'	2.21	0.40
41:a:1355:G:C2	41:a:1356:G:C8	3.09	0.40
41:a:1366:A:H2'	41:a:1367:A:O4'	2.21	0.40
41:a:2049:G:H21	50:j:161:MET:CE	2.33	0.40
41:a:2654:A:N1	41:a:2665:A:H5''	2.37	0.40
41:a:2821:A:H4'	50:j:167:ASN:ND2	2.36	0.40
41:a:2839:G:H2'	41:a:2840:C:H6	1.87	0.40
44:d:47:C:C4	44:d:48:U:C5	3.09	0.40
46:f:42:PRO:N	46:f:45:ARG:NH1	2.69	0.40
47:g:58:ASP:O	47:g:59:ARG:C	2.64	0.40
50:j:104:VAL:CG1	50:j:106:LYS:O	2.69	0.40
51:k:26:ASN:OD1	51:k:28:ARG:NH1	2.54	0.40
54:n:30:ARG:O	54:n:159:THR:HG23	2.22	0.40
58:r:8:LYS:HD2	58:r:9:VAL:H	1.87	0.40
62:v:76:LYS:HE3	62:v:82:MET:O	2.22	0.40
62:v:135:VAL:HG12	62:v:136:MET:CE	2.50	0.40
65:y:48:ILE:HD11	65:y:101:ARG:NH1	2.36	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

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

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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	24
11	AA	1312/1342 (98%)	1197 (91%)	114 (9%)	1 (0%)	48	78
12	AB	159/162 (98%)	106 (67%)	42 (26%)	11 (7%)	1	6
13	AC	217/329 (66%)	204 (94%)	11 (5%)	2 (1%)	14	42
13	AD	293/329 (89%)	263 (90%)	27 (9%)	3 (1%)	12	40
14	AE	1331/1407 (95%)	1212 (91%)	113 (8%)	6 (0%)	24	54
15	AF	80/91 (88%)	77 (96%)	3 (4%)	0	100	100
16	AG	493/495 (100%)	376 (76%)	86 (17%)	31 (6%)	1	7
17	C	64/75 (85%)	63 (98%)	1 (2%)	0	100	100
19	E	84/87 (97%)	83 (99%)	1 (1%)	0	100	100
20	F	68/71 (96%)	68 (100%)	0	0	100	100
21	G	223/241 (92%)	212 (95%)	10 (4%)	1 (0%)	30	59
22	H	255/557 (46%)	182 (71%)	66 (26%)	7 (3%)	4	20
23	I	206/233 (88%)	193 (94%)	13 (6%)	0	100	100
24	J	203/206 (98%)	201 (99%)	2 (1%)	0	100	100
25	K	154/167 (92%)	146 (95%)	7 (4%)	1 (1%)	21	50
26	L	102/135 (76%)	97 (95%)	4 (4%)	1 (1%)	12	40
27	M	149/179 (83%)	140 (94%)	8 (5%)	1 (1%)	18	47
28	N	127/130 (98%)	123 (97%)	4 (3%)	0	100	100
29	O	125/130 (96%)	116 (93%)	8 (6%)	1 (1%)	16	44
30	P	97/103 (94%)	89 (92%)	8 (8%)	0	100	100
31	Q	115/129 (89%)	107 (93%)	8 (7%)	0	100	100
32	R	117/124 (94%)	112 (96%)	5 (4%)	0	100	100
33	S	98/101 (97%)	97 (99%)	1 (1%)	0	100	100
34	T	86/89 (97%)	83 (96%)	3 (4%)	0	100	100
35	U	80/82 (98%)	76 (95%)	4 (5%)	0	100	100
36	V	78/84 (93%)	74 (95%)	4 (5%)	0	100	100
37	W	81/92 (88%)	80 (99%)	1 (1%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
38	X	114/118 (97%)	103 (90%)	9 (8%)	2 (2%)	6	26
39	Y	139/142 (98%)	102 (73%)	37 (27%)	0	100	100
40	Z	28/121 (23%)	22 (79%)	6 (21%)	0	100	100
42	b	74/85 (87%)	73 (99%)	1 (1%)	0	100	100
43	c	75/78 (96%)	72 (96%)	3 (4%)	0	100	100
45	e	60/63 (95%)	57 (95%)	3 (5%)	0	100	100
46	f	56/59 (95%)	52 (93%)	4 (7%)	0	100	100
47	g	64/70 (91%)	62 (97%)	2 (3%)	0	100	100
48	h	269/273 (98%)	255 (95%)	14 (5%)	0	100	100
49	i	54/57 (95%)	49 (91%)	5 (9%)	0	100	100
50	j	207/209 (99%)	198 (96%)	9 (4%)	0	100	100
51	k	50/55 (91%)	50 (100%)	0	0	100	100
52	l	199/201 (99%)	188 (94%)	11 (6%)	0	100	100
53	m	44/46 (96%)	43 (98%)	1 (2%)	0	100	100
54	n	175/179 (98%)	160 (91%)	14 (8%)	1 (1%)	21	50
55	o	62/65 (95%)	57 (92%)	4 (6%)	1 (2%)	7	29
56	p	173/177 (98%)	162 (94%)	11 (6%)	0	100	100
57	q	36/38 (95%)	35 (97%)	1 (3%)	0	100	100
58	r	147/149 (99%)	139 (95%)	8 (5%)	0	100	100
59	s	140/142 (99%)	133 (95%)	7 (5%)	0	100	100
60	t	121/123 (98%)	114 (94%)	7 (6%)	0	100	100
61	u	142/144 (99%)	134 (94%)	8 (6%)	0	100	100
62	v	134/136 (98%)	129 (96%)	5 (4%)	0	100	100
63	w	117/127 (92%)	112 (96%)	5 (4%)	0	100	100
64	x	114/117 (97%)	107 (94%)	7 (6%)	0	100	100
65	y	112/115 (97%)	105 (94%)	7 (6%)	0	100	100
66	z	115/118 (98%)	111 (96%)	4 (4%)	0	100	100
All	All	10058/11053 (91%)	9180 (91%)	805 (8%)	73 (1%)	20	47

All (73) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
12	AB	107	PRO

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Mol	Chain	Res	Type
12	AB	125	GLY
12	AB	130	PHE
12	AB	137	ALA
12	AB	141	LEU
12	AB	152	HIS
12	AB	160	ARG
13	AD	286	GLU
16	AG	34	ALA
16	AG	105	ILE
16	AG	187	ARG
16	AG	227	ALA
21	G	127	ASP
22	H	304	VAL
27	M	56	LYS
55	o	32	ILE
12	AB	105	VAL
14	AE	92	VAL
14	AE	175	GLU
16	AG	63	LEU
16	AG	104	ARG
16	AG	242	ASP
16	AG	268	GLY
16	AG	279	ASN
16	AG	350	ALA
16	AG	365	ILE
22	H	171	ARG
22	H	305	HIS
22	H	309	MET
12	AB	127	GLN
16	AG	33	THR
16	AG	102	PHE
16	AG	200	SER
16	AG	305	MET
16	AG	319	GLY
16	AG	355	ALA
16	AG	396	GLU
16	AG	425	LEU
25	K	78	ASN
26	L	96	VAL
29	O	13	LYS
54	n	177	PHE
13	AC	193	GLU

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Mol	Chain	Res	Type
16	AG	48	GLN
16	AG	265	GLU
16	AG	363	LEU
16	AG	401	PRO
22	H	82	THR
12	AB	53	ASN
13	AD	289	LEU
14	AE	74	LYS
14	AE	286	ALA
16	AG	224	LYS
16	AG	399	ASP
22	H	143	ASP
38	X	6	GLY
38	X	66	GLU
9	9	79	PRO
9	9	88	HIS
13	AC	192	VAL
13	AD	306	VAL
14	AE	290	ILE
16	AG	43	ILE
16	AG	70	GLN
16	AG	169	PRO
16	AG	323	GLN
16	AG	364	ASP
16	AG	382	GLU
22	H	71	ALA
14	AE	292	VAL
9	9	129	LEU
11	AA	1317	PRO
12	AB	116	VAL

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	0	84/84 (100%)	84 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
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%)	122 (86%)	19 (14%)	4	15
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	AG	409/409 (100%)	288 (70%)	121 (30%)	0	1
17	C	57/65 (88%)	57 (100%)	0	100	100
19	E	65/66 (98%)	65 (100%)	0	100	100
20	F	60/61 (98%)	60 (100%)	0	100	100
21	G	187/199 (94%)	187 (100%)	0	100	100
22	H	137/461 (30%)	137 (100%)	0	100	100
23	I	171/190 (90%)	171 (100%)	0	100	100
24	J	172/173 (99%)	171 (99%)	1 (1%)	78	80
25	K	119/126 (94%)	117 (98%)	2 (2%)	53	67
26	L	91/116 (78%)	91 (100%)	0	100	100
27	M	124/147 (84%)	124 (100%)	0	100	100
28	N	104/105 (99%)	104 (100%)	0	100	100
29	O	105/107 (98%)	105 (100%)	0	100	100
30	P	86/90 (96%)	85 (99%)	1 (1%)	63	72
31	Q	90/99 (91%)	90 (100%)	0	100	100
32	R	101/104 (97%)	101 (100%)	0	100	100
33	S	83/84 (99%)	83 (100%)	0	100	100
34	T	76/77 (99%)	76 (100%)	0	100	100
35	U	65/65 (100%)	65 (100%)	0	100	100
36	V	74/78 (95%)	74 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
37	W	72/79 (91%)	72 (100%)	0	100	100
38	X	94/96 (98%)	94 (100%)	0	100	100
39	Y	109/110 (99%)	109 (100%)	0	100	100
40	Z	26/85 (31%)	26 (100%)	0	100	100
42	b	58/63 (92%)	58 (100%)	0	100	100
43	c	67/68 (98%)	67 (100%)	0	100	100
45	e	54/55 (98%)	54 (100%)	0	100	100
46	f	48/49 (98%)	48 (100%)	0	100	100
47	g	59/62 (95%)	59 (100%)	0	100	100
48	h	216/218 (99%)	216 (100%)	0	100	100
49	i	47/48 (98%)	47 (100%)	0	100	100
50	j	164/164 (100%)	164 (100%)	0	100	100
51	k	47/49 (96%)	47 (100%)	0	100	100
52	l	165/165 (100%)	165 (100%)	0	100	100
53	m	38/38 (100%)	38 (100%)	0	100	100
54	n	148/150 (99%)	148 (100%)	0	100	100
55	o	51/52 (98%)	51 (100%)	0	100	100
56	p	136/138 (99%)	136 (100%)	0	100	100
57	q	34/34 (100%)	34 (100%)	0	100	100
58	r	114/114 (100%)	114 (100%)	0	100	100
59	s	116/116 (100%)	116 (100%)	0	100	100
60	t	104/104 (100%)	104 (100%)	0	100	100
61	u	103/103 (100%)	103 (100%)	0	100	100
62	v	109/109 (100%)	109 (100%)	0	100	100
63	w	99/103 (96%)	99 (100%)	0	100	100
64	x	86/87 (99%)	86 (100%)	0	100	100
65	y	99/100 (99%)	99 (100%)	0	100	100
66	z	89/90 (99%)	89 (100%)	0	100	100
All	All	8299/9132 (91%)	8131 (98%)	168 (2%)	48	65

All (168) 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	115	LYS
12	AB	116	VAL
12	AB	117	ILE
12	AB	118	ILE
12	AB	119	THR
12	AB	120	GLU
12	AB	123	PHE
12	AB	124	GLU
12	AB	129	ILE
12	AB	143	LEU
12	AB	144	ASN
12	AB	145	LEU
12	AB	147	ASN
12	AB	148	LYS
12	AB	149	GLU
12	AB	150	ILE
12	AB	159	PHE
12	AB	160	ARG
12	AB	161	LYS
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

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Mol	Chain	Res	Type
16	AG	5	ILE
16	AG	12	VAL
16	AG	16	LYS
16	AG	36	LYS
16	AG	37	LYS
16	AG	40	GLU
16	AG	43	ILE
16	AG	47	VAL
16	AG	49	ILE
16	AG	50	ASP
16	AG	56	PHE
16	AG	57	ASP
16	AG	61	ARG
16	AG	63	LEU
16	AG	75	ILE
16	AG	97	ILE
16	AG	103	ASP
16	AG	104	ARG
16	AG	114	ILE
16	AG	117	LYS
16	AG	123	ARG
16	AG	125	MET
16	AG	126	VAL
16	AG	131	ARG
16	AG	138	ILE
16	AG	139	THR
16	AG	144	LYS
16	AG	150	ILE
16	AG	154	LEU
16	AG	157	ASN
16	AG	162	ILE
16	AG	167	MET
16	AG	173	PHE
16	AG	174	ARG
16	AG	179	VAL
16	AG	180	ARG
16	AG	182	VAL
16	AG	187	ARG
16	AG	189	GLU
16	AG	195	LEU
16	AG	197	VAL
16	AG	199	ARG

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Mol	Chain	Res	Type
16	AG	201	LYS
16	AG	203	GLU
16	AG	204	MET
16	AG	205	LEU
16	AG	206	ILE
16	AG	207	GLU
16	AG	210	ARG
16	AG	211	ILE
16	AG	213	VAL
16	AG	218	GLU
16	AG	219	GLU
16	AG	221	ILE
16	AG	223	ILE
16	AG	232	SER
16	AG	235	LYS
16	AG	236	ILE
16	AG	238	VAL
16	AG	239	LYS
16	AG	240	THR
16	AG	241	ASN
16	AG	243	LYS
16	AG	244	ARG
16	AG	245	ILE
16	AG	254	MET
16	AG	255	ARG
16	AG	258	ARG
16	AG	259	VAL
16	AG	260	GLN
16	AG	262	VAL
16	AG	265	GLU
16	AG	270	ARG
16	AG	271	ILE
16	AG	273	ILE
16	AG	274	VAL
16	AG	276	TRP
16	AG	278	ASP
16	AG	282	GLN
16	AG	285	ILE
16	AG	288	MET
16	AG	296	ILE
16	AG	297	VAL
16	AG	299	ASP

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Mol	Chain	Res	Type
16	AG	300	GLU
16	AG	301	ASP
16	AG	302	LYS
16	AG	303	HIS
16	AG	305	MET
16	AG	309	VAL
16	AG	310	GLU
16	AG	313	ASN
16	AG	316	GLN
16	AG	320	ARG
16	AG	321	ASN
16	AG	323	GLN
16	AG	327	LEU
16	AG	331	LEU
16	AG	335	GLU
16	AG	336	LEU
16	AG	337	ASN
16	AG	338	VAL
16	AG	340	THR
16	AG	341	VAL
16	AG	342	ASP
16	AG	344	LEU
16	AG	356	ILE
16	AG	358	THR
16	AG	359	PHE
16	AG	361	LYS
16	AG	365	ILE
16	AG	380	THR
16	AG	387	VAL
16	AG	390	LYS
16	AG	396	GLU
16	AG	398	LEU
16	AG	399	ASP
16	AG	400	GLU
16	AG	425	LEU
16	AG	428	ASN
16	AG	429	LYS
24	J	47	ARG
25	K	70	ASN
25	K	71	MET
30	P	89	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (117)

such sidechains are listed below:

Mol	Chain	Res	Type
1	0	6	GLN
1	0	82	HIS
2	1	7	HIS
2	1	9	HIS
3	2	15	HIS
9	9	9	GLN
11	AA	69	GLN
11	AA	314	ASN
11	AA	330	HIS
11	AA	343	HIS
11	AA	387	ASN
11	AA	513	GLN
11	AA	554	HIS
11	AA	580	GLN
11	AA	688	GLN
11	AA	808	ASN
11	AA	1237	HIS
11	AA	1288	GLN
11	AA	1313	HIS
12	AB	65	HIS
13	AC	147	GLN
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	1108	GLN
14	AE	1197	ASN
14	AE	1235	ASN
14	AE	1238	GLN
14	AE	1326	GLN

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Mol	Chain	Res	Type
15	AF	31	GLN
15	AF	62	GLN
16	AG	194	GLN
16	AG	241	ASN
16	AG	260	GLN
16	AG	282	GLN
16	AG	316	GLN
16	AG	323	GLN
16	AG	324	ASN
16	AG	337	ASN
16	AG	428	ASN
17	C	54	GLN
19	E	13	GLN
19	E	61	GLN
20	F	9	ASN
21	G	18	HIS
21	G	39	HIS
21	G	94	HIS
21	G	109	GLN
23	I	3	GLN
23	I	6	HIS
23	I	8	ASN
23	I	190	HIS
24	J	36	GLN
24	J	131	ASN
24	J	198	HIS
25	K	89	HIS
26	L	3	HIS
26	L	68	GLN
27	M	68	ASN
27	M	86	GLN
29	O	5	GLN
29	O	81	HIS
29	O	126	GLN
30	P	58	ASN
32	R	77	HIS
33	S	4	GLN
34	T	80	GLN
35	U	26	ASN
35	U	59	HIS
37	W	83	HIS
39	Y	5	GLN

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Mol	Chain	Res	Type
45	e	25	GLN
45	e	31	GLN
46	f	20	HIS
46	f	49	ASN
47	g	33	ASN
48	h	53	HIS
48	h	90	ASN
50	j	173	GLN
51	k	19	HIS
52	l	92	HIS
52	l	156	ASN
52	l	163	ASN
53	m	29	GLN
54	n	5	HIS
54	n	81	GLN
55	o	24	HIS
55	o	28	ASN
57	q	13	ASN
58	r	133	GLN
59	s	86	GLN
59	s	132	HIS
62	v	13	HIS
62	v	45	GLN
62	v	97	GLN
63	w	18	GLN
64	x	19	GLN
64	x	29	HIS
64	x	38	GLN
65	y	10	GLN
65	y	77	HIS
66	z	37	GLN
66	z	72	ASN
66	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%)
18	D	1514/1542 (98%)	290 (19%)	20 (1%)
41	a	2859/2904 (98%)	510 (17%)	0

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Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
44	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
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

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

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

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Mol	Chain	Res	Type
18	D	149	A
18	D	160	A
18	D	164	G
18	D	173	U
18	D	181	A
18	D	182	A
18	D	183	C
18	D	184	G
18	D	197	A
18	D	198	G
18	D	204	G
18	D	208	U
18	D	209	U
18	D	210	C
18	D	211	G
18	D	212	G
18	D	216	U
18	D	226	G
18	D	245	U
18	D	247	G
18	D	251	G
18	D	253	A
18	D	258	G
18	D	262	A
18	D	266	G
18	D	267	C
18	D	271	C
18	D	279	A
18	D	289	G
18	D	299	G
18	D	306	A
18	D	321	A
18	D	328	C
18	D	329	A
18	D	332	G
18	D	347	G
18	D	352	C
18	D	353	A
18	D	354	G
18	D	355	C
18	D	367	U
18	D	372	C

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Mol	Chain	Res	Type
18	D	373	A
18	D	376	G
18	D	382	A
18	D	384	G
18	D	392	C
18	D	397	A
18	D	398	U
18	D	406	G
18	D	411	A
18	D	412	A
18	D	413	G
18	D	414	A
18	D	421	U
18	D	422	C
18	D	424	G
18	D	429	U
18	D	446	G
18	D	451	A
18	D	457	G
18	D	458	U
18	D	463	U
18	D	464	U
18	D	467	U
18	D	468	A
18	D	469	C
18	D	478	A
18	D	479	U
18	D	481	G
18	D	484	G
18	D	485	U
18	D	486	U
18	D	496	A
18	D	497	G
18	D	505	G
18	D	511	C
18	D	518	C
18	D	519	C
18	D	526	C
18	D	531	U
18	D	532	A
18	D	533	A
18	D	542	G

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Mol	Chain	Res	Type
18	D	547	A
18	D	559	A
18	D	564	C
18	D	568	G
18	D	572	A
18	D	573	A
18	D	576	C
18	D	577	G
18	D	579	A
18	D	596	A
18	D	628	G
18	D	633	G
18	D	649	A
18	D	650	G
18	D	653	U
18	D	665	A
18	D	695	A
18	D	700	G
18	D	723	U
18	D	724	G
18	D	731	G
18	D	734	G
18	D	735	C
18	D	747	A
18	D	748	G
18	D	755	G
18	D	760	G
18	D	777	A
18	D	793	U
18	D	794	A
18	D	815	A
18	D	817	C
18	D	828	U
18	D	829	G
18	D	832	G
18	D	841	C
18	D	843	U
18	D	844	G
18	D	845	A
18	D	846	G
18	D	849	G
18	D	874	G

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Mol	Chain	Res	Type
18	D	887	G
18	D	902	G
18	D	914	A
18	D	916	U
18	D	926	G
18	D	934	C
18	D	935	A
18	D	960	U
18	D	963	G
18	D	965	U
18	D	969	A
18	D	972	C
18	D	975	A
18	D	976	G
18	D	987	G
18	D	991	U
18	D	992	U
18	D	993	G
18	D	996	A
18	D	1004	A
18	D	1008	U
18	D	1009	U
18	D	1017	U
18	D	1018	G
18	D	1021	A
18	D	1024	G
18	D	1026	G
18	D	1028	C
18	D	1030	U
18	D	1031	C
18	D	1037	C
18	D	1043	G
18	D	1044	A
18	D	1046	A
18	D	1065	U
18	D	1085	U
18	D	1094	G
18	D	1095	U
18	D	1099	G
18	D	1101	A
18	D	1108	G
18	D	1124	G

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Mol	Chain	Res	Type
18	D	1133	G
18	D	1135	U
18	D	1136	C
18	D	1137	C
18	D	1139	G
18	D	1140	C
18	D	1141	C
18	D	1142	G
18	D	1143	G
18	D	1145	A
18	D	1146	A
18	D	1151	A
18	D	1152	A
18	D	1159	U
18	D	1167	A
18	D	1171	A
18	D	1174	G
18	D	1175	G
18	D	1176	A
18	D	1184	G
18	D	1193	G
18	D	1196	A
18	D	1197	A
18	D	1206	G
18	D	1211	U
18	D	1212	U
18	D	1213	A
18	D	1214	C
18	D	1215	G
18	D	1226	C
18	D	1227	A
18	D	1228	C
18	D	1238	A
18	D	1257	A
18	D	1260	G
18	D	1275	A
18	D	1276	G
18	D	1278	G
18	D	1279	G
18	D	1280	A
18	D	1285	A
18	D	1286	U

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Mol	Chain	Res	Type
18	D	1287	A
18	D	1299	A
18	D	1300	G
18	D	1302	C
18	D	1305	G
18	D	1312	G
18	D	1317	C
18	D	1320	C
18	D	1323	G
18	D	1338	G
18	D	1340	A
18	D	1346	A
18	D	1347	G
18	D	1353	G
18	D	1363	A
18	D	1370	G
18	D	1378	C
18	D	1379	G
18	D	1381	U
18	D	1391	U
18	D	1396	A
18	D	1397	C
18	D	1398	A
18	D	1404	C
18	D	1419	G
18	D	1429	A
18	D	1441	A
18	D	1446	A
18	D	1447	A
18	D	1448	C
18	D	1452	C
18	D	1453	G
18	D	1475	G
18	D	1487	G
18	D	1491	G
18	D	1492	A
18	D	1493	A
18	D	1494	G
18	D	1497	G
18	D	1503	A
18	D	1506	U
18	D	1517	G

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Mol	Chain	Res	Type
18	D	1529	G
18	D	1530	G
18	D	1534	A
41	a	4	U
41	a	10	A
41	a	15	G
41	a	23	G
41	a	34	U
41	a	35	G
41	a	46	G
41	a	58	G
41	a	60	G
41	a	62	U
41	a	63	A
41	a	71	A
41	a	74	A
41	a	75	G
41	a	83	A
41	a	84	A
41	a	85	G
41	a	96	C
41	a	101	A
41	a	102	U
41	a	103	A
41	a	110	G
41	a	118	A
41	a	119	A
41	a	120	U
41	a	131	A
41	a	136	G
41	a	139	U
41	a	140	C
41	a	141	G
41	a	163	C
41	a	165	A
41	a	181	A
41	a	196	A
41	a	215	G
41	a	216	A
41	a	222	A
41	a	225	C
41	a	248	G

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Mol	Chain	Res	Type
41	a	249	C
41	a	261	G
41	a	264	C
41	a	265	A
41	a	266	G
41	a	267	C
41	a	271	G
41	a	272	A
41	a	275	C
41	a	276	U
41	a	278	A
41	a	285	G
41	a	291	G
41	a	311	A
41	a	329	G
41	a	330	A
41	a	353	C
41	a	361	G
41	a	362	A
41	a	371	A
41	a	372	G
41	a	373	U
41	a	375	G
41	a	383	C
41	a	386	G
41	a	396	G
41	a	405	U
41	a	411	G
41	a	412	A
41	a	420	C
41	a	424	G
41	a	451	U
41	a	457	A
41	a	477	A
41	a	481	G
41	a	491	G
41	a	501	A
41	a	503	A
41	a	504	A
41	a	505	A
41	a	509	C
41	a	522	A

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Mol	Chain	Res	Type
41	a	529	A
41	a	531	C
41	a	532	A
41	a	537	G
41	a	543	G
41	a	545	U
41	a	546	U
41	a	547	A
41	a	549	G
41	a	551	G
41	a	563	A
41	a	569	U
41	a	573	U
41	a	575	A
41	a	588	U
41	a	603	A
41	a	609	A
41	a	613	A
41	a	614	A
41	a	615	U
41	a	616	A
41	a	627	A
41	a	637	A
41	a	645	C
41	a	647	G
41	a	654	A
41	a	668	A
41	a	686	U
41	a	710	U
41	a	717	C
41	a	730	A
41	a	738	G
41	a	757	G
41	a	764	A
41	a	765	C
41	a	775	G
41	a	776	G
41	a	782	A
41	a	784	G
41	a	785	G
41	a	800	A
41	a	805	G

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Mol	Chain	Res	Type
41	a	812	C
41	a	819	A
41	a	827	U
41	a	828	U
41	a	845	A
41	a	846	U
41	a	858	G
41	a	859	G
41	a	869	G
41	a	878	A
41	a	881	G
41	a	884	U
41	a	885	C
41	a	888	C
41	a	891	G
41	a	895	U
41	a	896	A
41	a	897	C
41	a	899	A
41	a	907	G
41	a	910	A
41	a	914	G
41	a	915	C
41	a	931	U
41	a	941	A
41	a	945	A
41	a	946	C
41	a	953	G
41	a	961	C
41	a	974	G
41	a	983	A
41	a	995	C
41	a	996	A
41	a	999	U
41	a	1005	C
41	a	1012	U
41	a	1013	C
41	a	1022	G
41	a	1023	U
41	a	1026	G
41	a	1033	U
41	a	1041	G

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Mol	Chain	Res	Type
41	a	1045	C
41	a	1046	A
41	a	1047	G
41	a	1060	U
41	a	1061	U
41	a	1064	C
41	a	1066	U
41	a	1067	A
41	a	1068	G
41	a	1070	A
41	a	1071	G
41	a	1073	A
41	a	1074	G
41	a	1079	C
41	a	1080	A
41	a	1081	U
41	a	1082	U
41	a	1083	U
41	a	1084	A
41	a	1087	G
41	a	1088	A
41	a	1090	A
41	a	1095	A
41	a	1101	U
41	a	1107	G
41	a	1110	G
41	a	1111	A
41	a	1112	G
41	a	1119	U
41	a	1122	G
41	a	1128	G
41	a	1132	U
41	a	1134	A
41	a	1135	C
41	a	1142	A
41	a	1169	A
41	a	1170	C
41	a	1173	U
41	a	1174	U
41	a	1175	A
41	a	1176	U
41	a	1177	G

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Mol	Chain	Res	Type
41	a	1178	C
41	a	1179	G
41	a	1180	U
41	a	1186	G
41	a	1238	G
41	a	1248	G
41	a	1253	A
41	a	1256	G
41	a	1266	G
41	a	1271	G
41	a	1272	A
41	a	1273	U
41	a	1300	G
41	a	1301	A
41	a	1321	A
41	a	1345	C
41	a	1352	U
41	a	1365	A
41	a	1368	G
41	a	1378	A
41	a	1379	U
41	a	1380	G
41	a	1383	A
41	a	1392	A
41	a	1395	A
41	a	1406	U
41	a	1408	G
41	a	1409	U
41	a	1414	C
41	a	1416	G
41	a	1417	C
41	a	1419	A
41	a	1420	A
41	a	1428	C
41	a	1452	G
41	a	1453	A
41	a	1460	U
41	a	1482	G
41	a	1490	A
41	a	1497	U
41	a	1503	A
41	a	1508	A

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Mol	Chain	Res	Type
41	a	1509	A
41	a	1510	G
41	a	1515	A
41	a	1529	G
41	a	1534	U
41	a	1535	A
41	a	1536	C
41	a	1537	G
41	a	1554	U
41	a	1559	U
41	a	1566	A
41	a	1569	A
41	a	1578	U
41	a	1580	A
41	a	1581	G
41	a	1582	C
41	a	1583	A
41	a	1584	U
41	a	1585	C
41	a	1589	U
41	a	1590	A
41	a	1608	A
41	a	1610	A
41	a	1613	G
41	a	1647	U
41	a	1648	U
41	a	1649	G
41	a	1651	G
41	a	1665	A
41	a	1674	G
41	a	1677	A
41	a	1703	G
41	a	1714	U
41	a	1715	G
41	a	1729	U
41	a	1730	C
41	a	1732	C
41	a	1738	G
41	a	1750	G
41	a	1758	U
41	a	1764	C
41	a	1773	A

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Mol	Chain	Res	Type
41	a	1791	A
41	a	1800	C
41	a	1808	A
41	a	1811	G
41	a	1816	C
41	a	1829	A
41	a	1833	C
41	a	1847	A
41	a	1848	A
41	a	1858	A
41	a	1859	U
41	a	1862	G
41	a	1864	U
41	a	1869	G
41	a	1870	C
41	a	1872	A
41	a	1873	G
41	a	1906	G
41	a	1907	G
41	a	1913	A
41	a	1914	C
41	a	1919	A
41	a	1920	C
41	a	1922	G
41	a	1923	U
41	a	1924	C
41	a	1925	C
41	a	1926	U
41	a	1929	G
41	a	1930	G
41	a	1936	A
41	a	1938	A
41	a	1955	U
41	a	1965	C
41	a	1967	C
41	a	1970	A
41	a	1971	U
41	a	1972	G
41	a	1987	A
41	a	1991	U
41	a	1992	G
41	a	1993	U

Continued on next page...

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Mol	Chain	Res	Type
41	a	1997	C
41	a	2002	G
41	a	2020	A
41	a	2022	U
41	a	2023	C
41	a	2027	G
41	a	2033	A
41	a	2043	C
41	a	2051	A
41	a	2052	A
41	a	2055	C
41	a	2056	G
41	a	2060	A
41	a	2061	G
41	a	2062	A
41	a	2063	C
41	a	2097	A
41	a	2099	U
41	a	2100	G
41	a	2108	A
41	a	2110	G
41	a	2111	U
41	a	2113	U
41	a	2115	G
41	a	2116	G
41	a	2117	A
41	a	2118	U
41	a	2121	G
41	a	2122	U
41	a	2124	G
41	a	2125	G
41	a	2126	A
41	a	2127	G
41	a	2128	G
41	a	2131	U
41	a	2132	U
41	a	2133	G
41	a	2134	A
41	a	2139	U
41	a	2141	G
41	a	2146	C
41	a	2147	A

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Mol	Chain	Res	Type
41	a	2154	A
41	a	2157	G
41	a	2158	A
41	a	2159	G
41	a	2162	G
41	a	2163	A
41	a	2164	C
41	a	2165	C
41	a	2169	A
41	a	2171	A
41	a	2172	U
41	a	2178	C
41	a	2182	U
41	a	2183	A
41	a	2185	U
41	a	2189	U
41	a	2190	G
41	a	2193	G
41	a	2194	U
41	a	2198	A
41	a	2204	G
41	a	2211	A
41	a	2212	A
41	a	2225	A
41	a	2226	C
41	a	2229	U
41	a	2238	G
41	a	2239	G
41	a	2250	G
41	a	2268	A
41	a	2278	A
41	a	2283	C
41	a	2287	A
41	a	2288	A
41	a	2297	A
41	a	2305	U
41	a	2308	G
41	a	2309	A
41	a	2322	A
41	a	2325	G
41	a	2327	A
41	a	2333	A

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Mol	Chain	Res	Type
41	a	2335	A
41	a	2339	C
41	a	2345	G
41	a	2347	C
41	a	2350	C
41	a	2361	G
41	a	2372	U
41	a	2376	A
41	a	2383	G
41	a	2385	C
41	a	2402	U
41	a	2403	C
41	a	2406	A
41	a	2423	U
41	a	2424	C
41	a	2425	A
41	a	2426	A
41	a	2429	G
41	a	2430	A
41	a	2431	U
41	a	2434	A
41	a	2435	A
41	a	2441	U
41	a	2447	G
41	a	2448	A
41	a	2470	G
41	a	2474	U
41	a	2476	A
41	a	2478	A
41	a	2484	G
41	a	2491	U
41	a	2502	G
41	a	2506	U
41	a	2512	C
41	a	2513	A
41	a	2518	A
41	a	2520	C
41	a	2525	G
41	a	2529	G
41	a	2535	G
41	a	2554	U
41	a	2566	A

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Mol	Chain	Res	Type
41	a	2567	G
41	a	2573	C
41	a	2574	G
41	a	2585	U
41	a	2586	U
41	a	2602	A
41	a	2603	G
41	a	2609	U
41	a	2610	C
41	a	2611	C
41	a	2613	U
41	a	2629	U
41	a	2630	G
41	a	2663	G
41	a	2669	G
41	a	2671	G
41	a	2689	U
41	a	2690	U
41	a	2714	G
41	a	2716	C
41	a	2726	A
41	a	2744	G
41	a	2748	A
41	a	2758	A
41	a	2765	A
41	a	2777	G
41	a	2778	A
41	a	2791	G
41	a	2793	C
41	a	2796	U
41	a	2797	U
41	a	2798	U
41	a	2799	A
41	a	2801	G
41	a	2818	U
41	a	2820	A
41	a	2823	A
41	a	2825	G
41	a	2835	A
41	a	2849	U
41	a	2859	G
41	a	2861	U

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Mol	Chain	Res	Type
41	a	2867	G
41	a	2873	A
41	a	2874	C
41	a	2880	C
41	a	2883	A
41	a	2884	U
41	a	2885	G
41	a	2891	U
41	a	2902	C
44	d	2	G
44	d	13	G
44	d	16	G
44	d	17	C
44	d	35	C
44	d	45	A
44	d	51	G
44	d	56	G
44	d	57	A
44	d	66	A
44	d	88	C
44	d	89	U
44	d	90	C
44	d	99	A
44	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

Continued on next page...

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

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

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

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

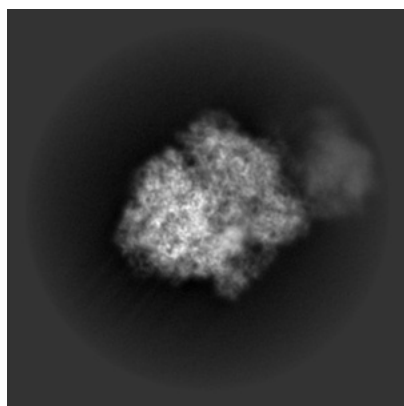
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-42479. These allow visual inspection of the internal detail of the map and identification of artifacts.

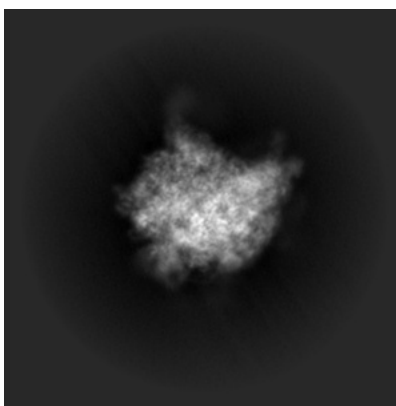
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

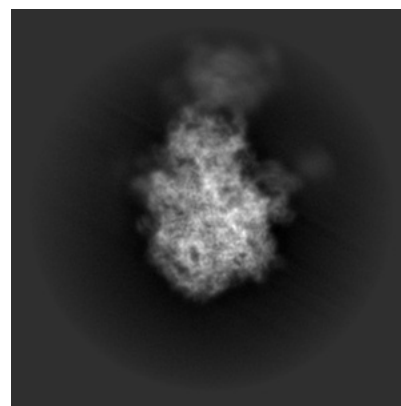
6.1.1 Primary map



X

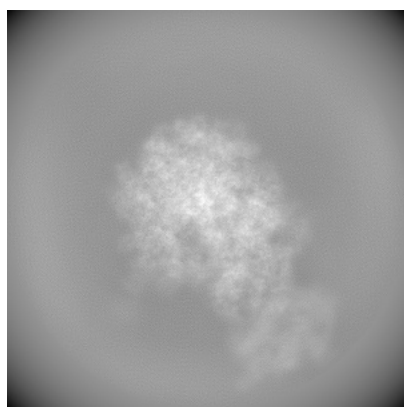


Y

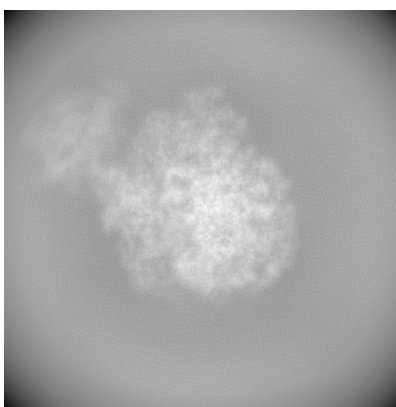


Z

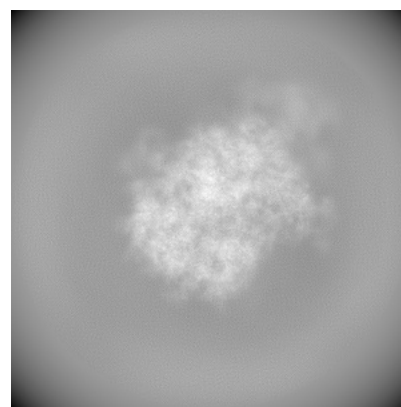
6.1.2 Raw map



X



Y

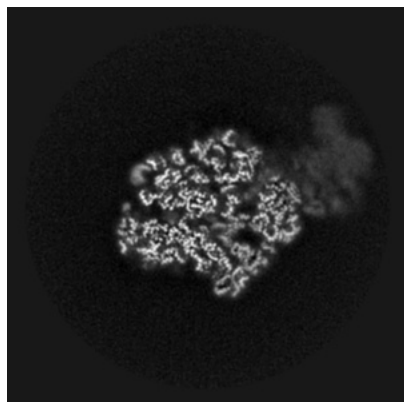


Z

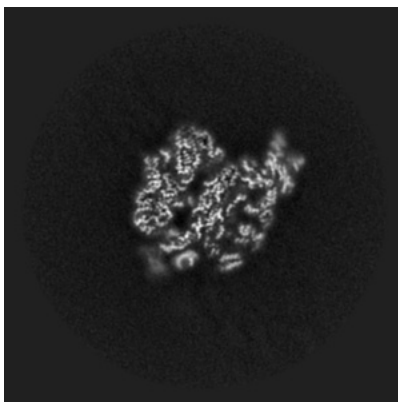
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

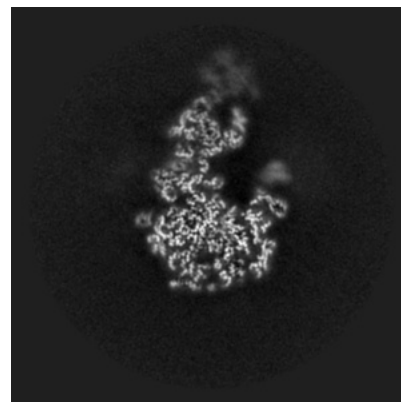
6.2.1 Primary map



X Index: 256

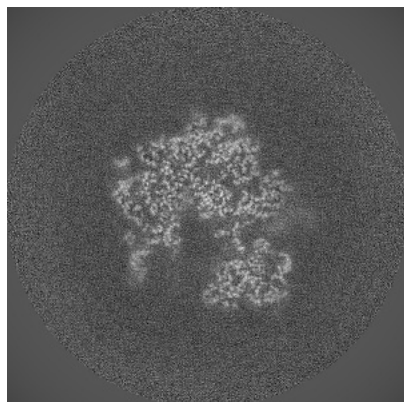


Y Index: 256

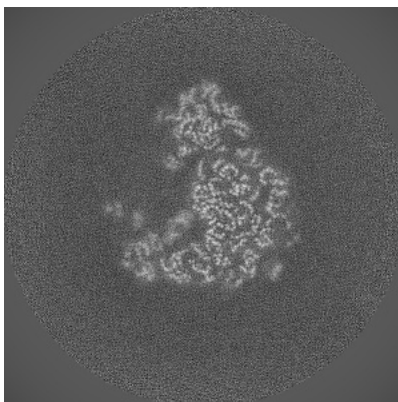


Z Index: 256

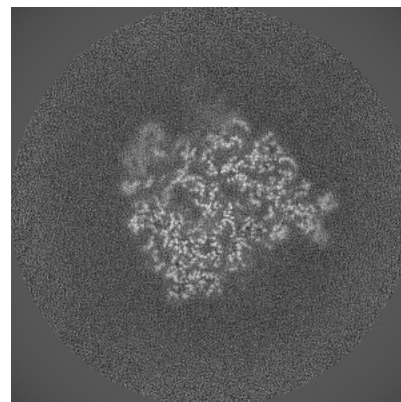
6.2.2 Raw map



X Index: 288



Y Index: 288

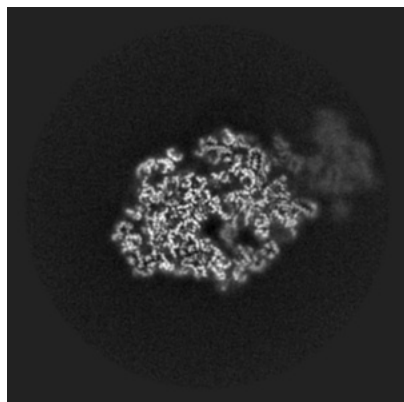


Z Index: 288

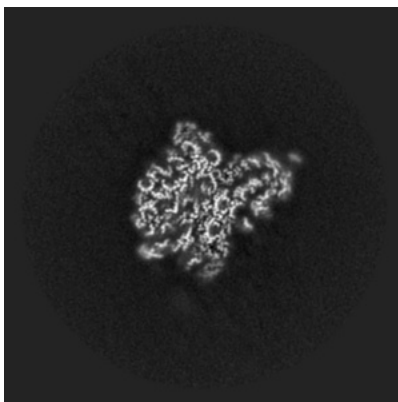
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

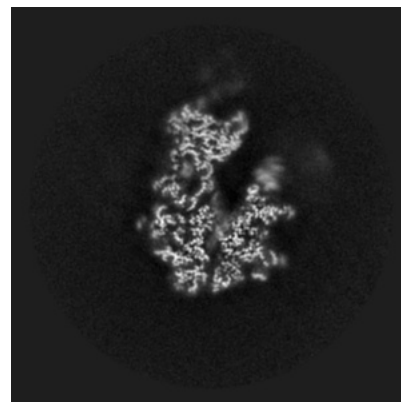
6.3.1 Primary map



X Index: 245

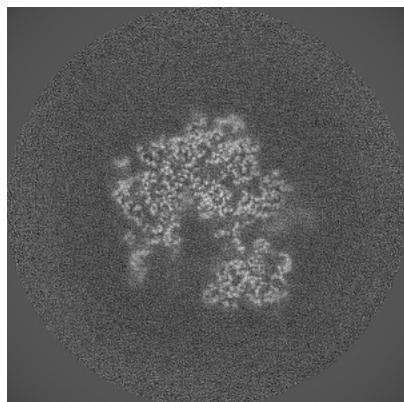


Y Index: 246

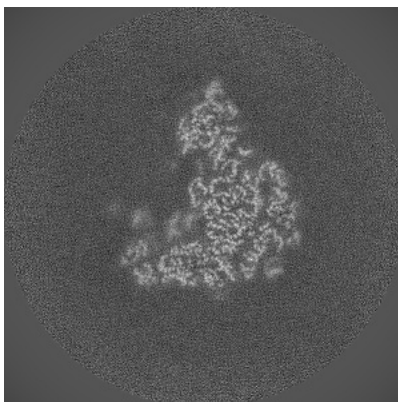


Z Index: 243

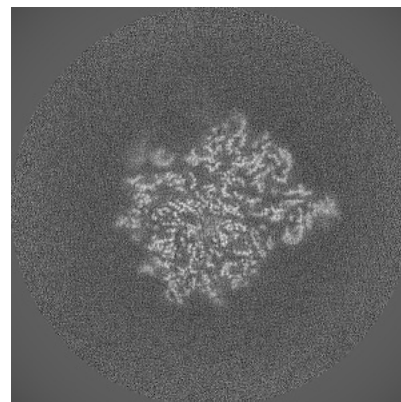
6.3.2 Raw map



X Index: 288



Y Index: 281

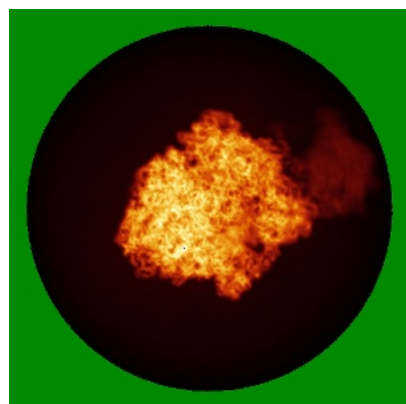


Z Index: 300

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

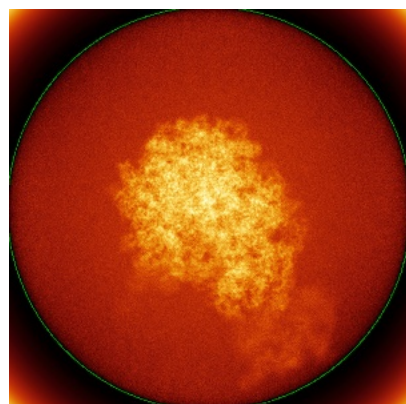


Y

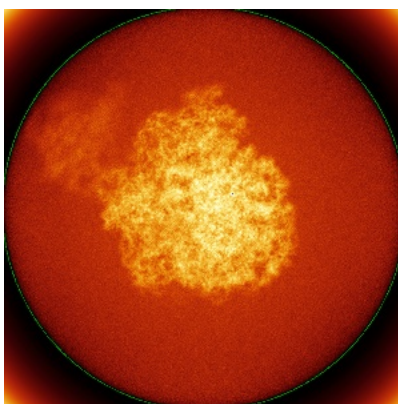


Z

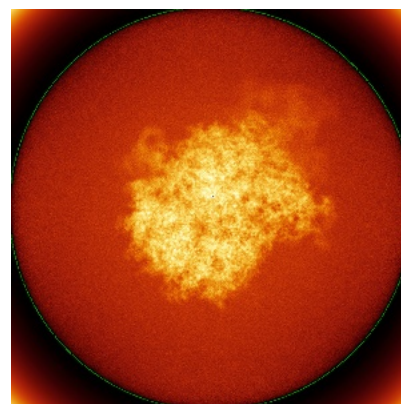
6.4.2 Raw map



X



Y

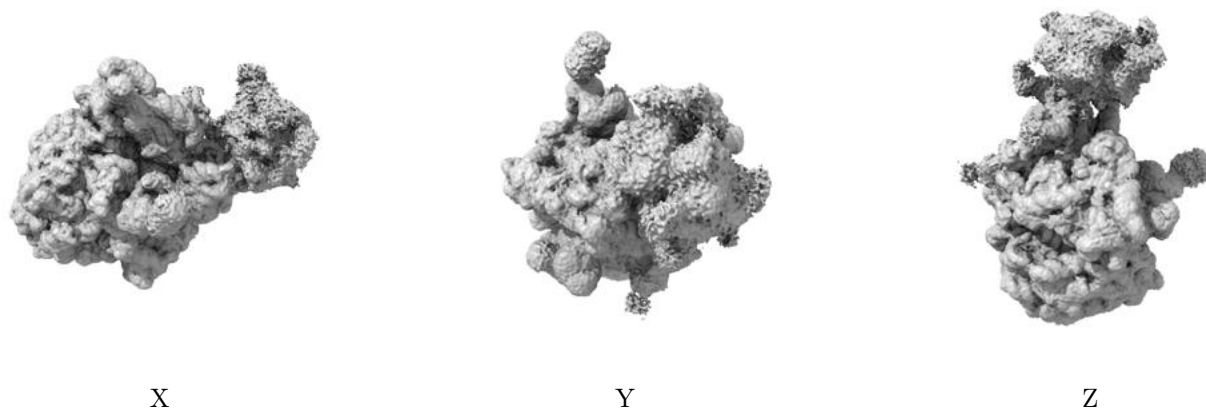


Z

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.

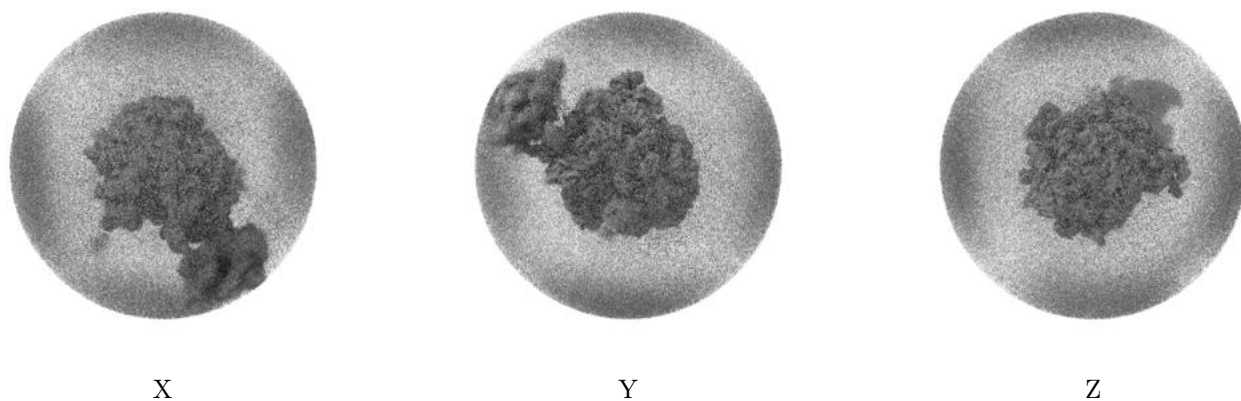
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.0017. 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.

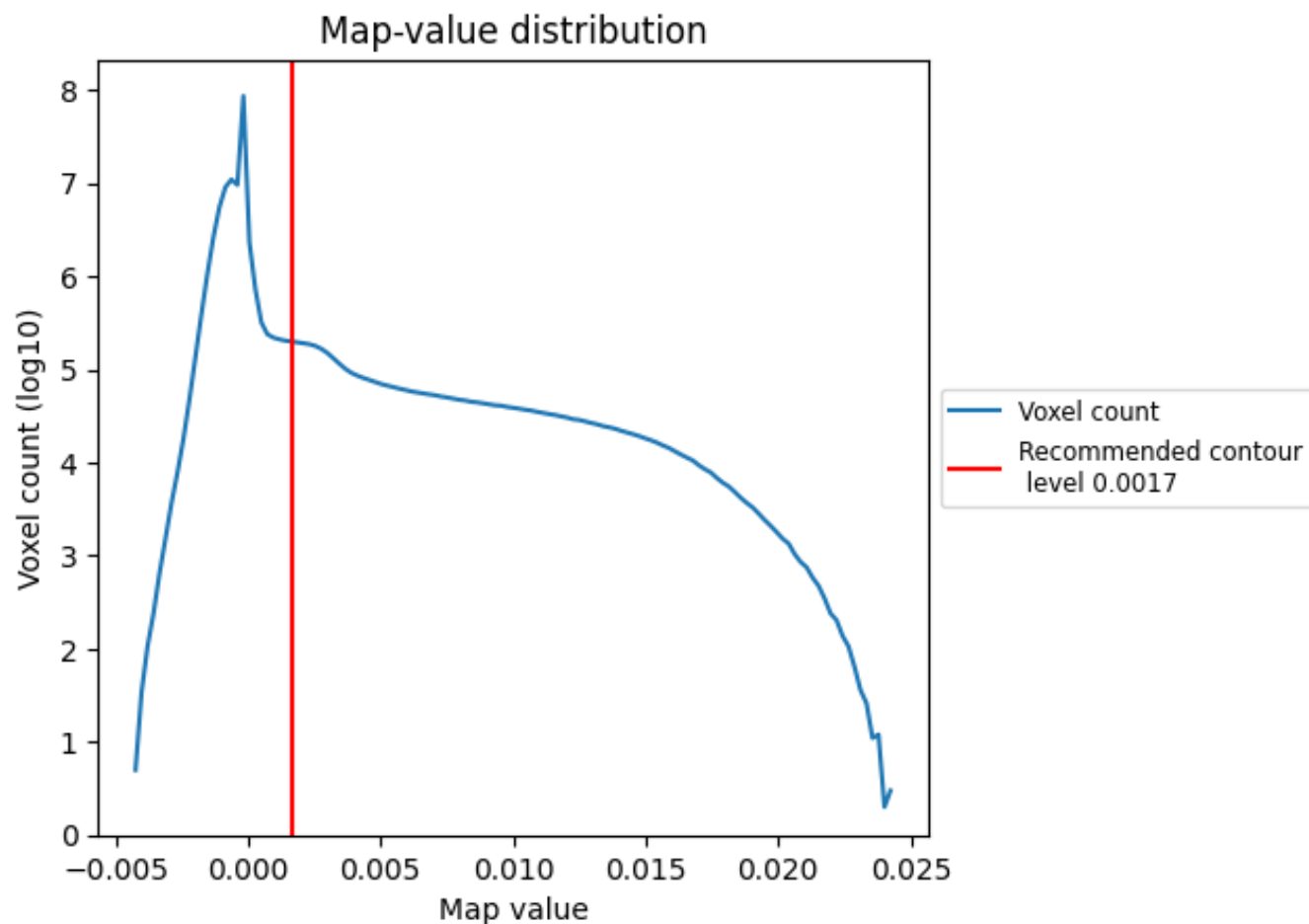
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

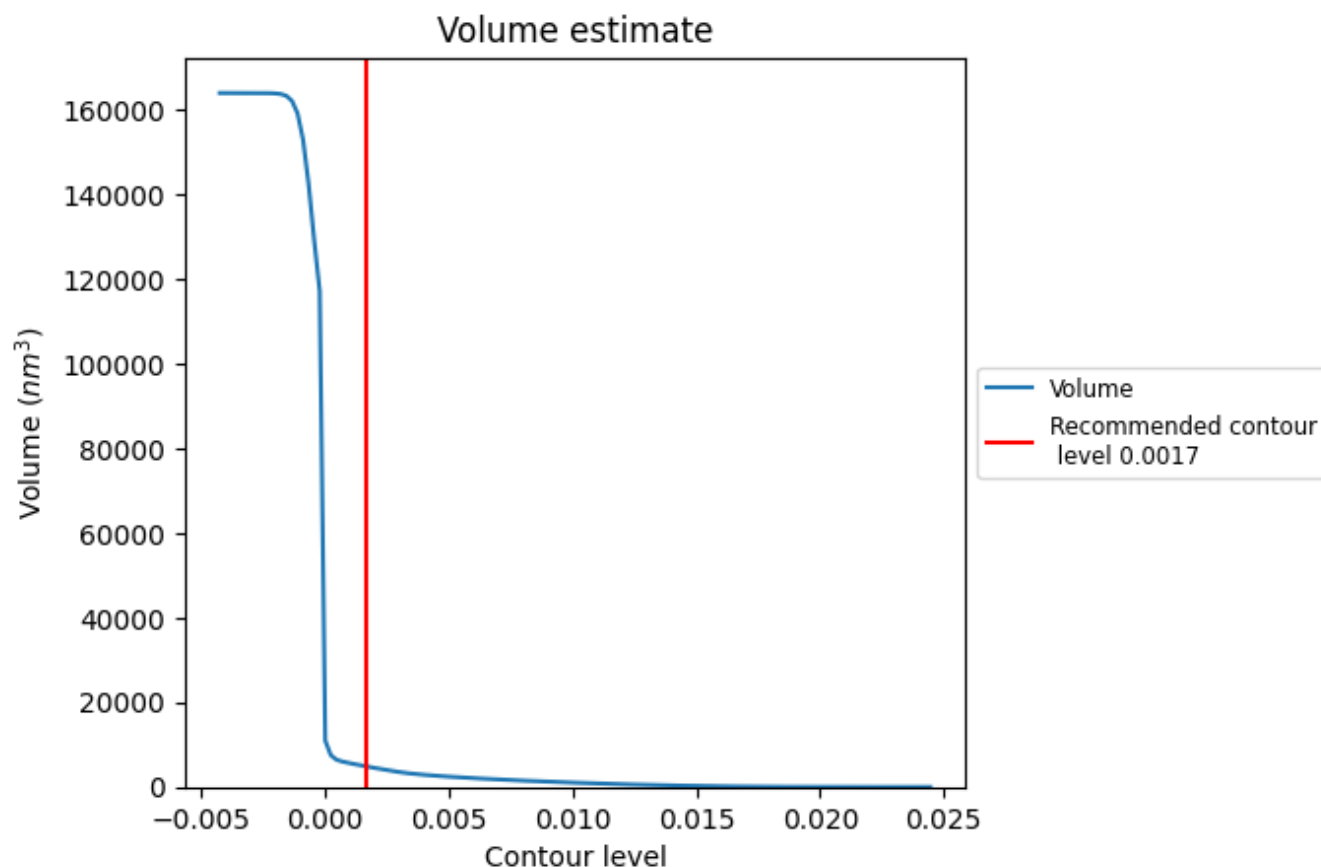
This section contains the results of statistical analysis of the map.

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.

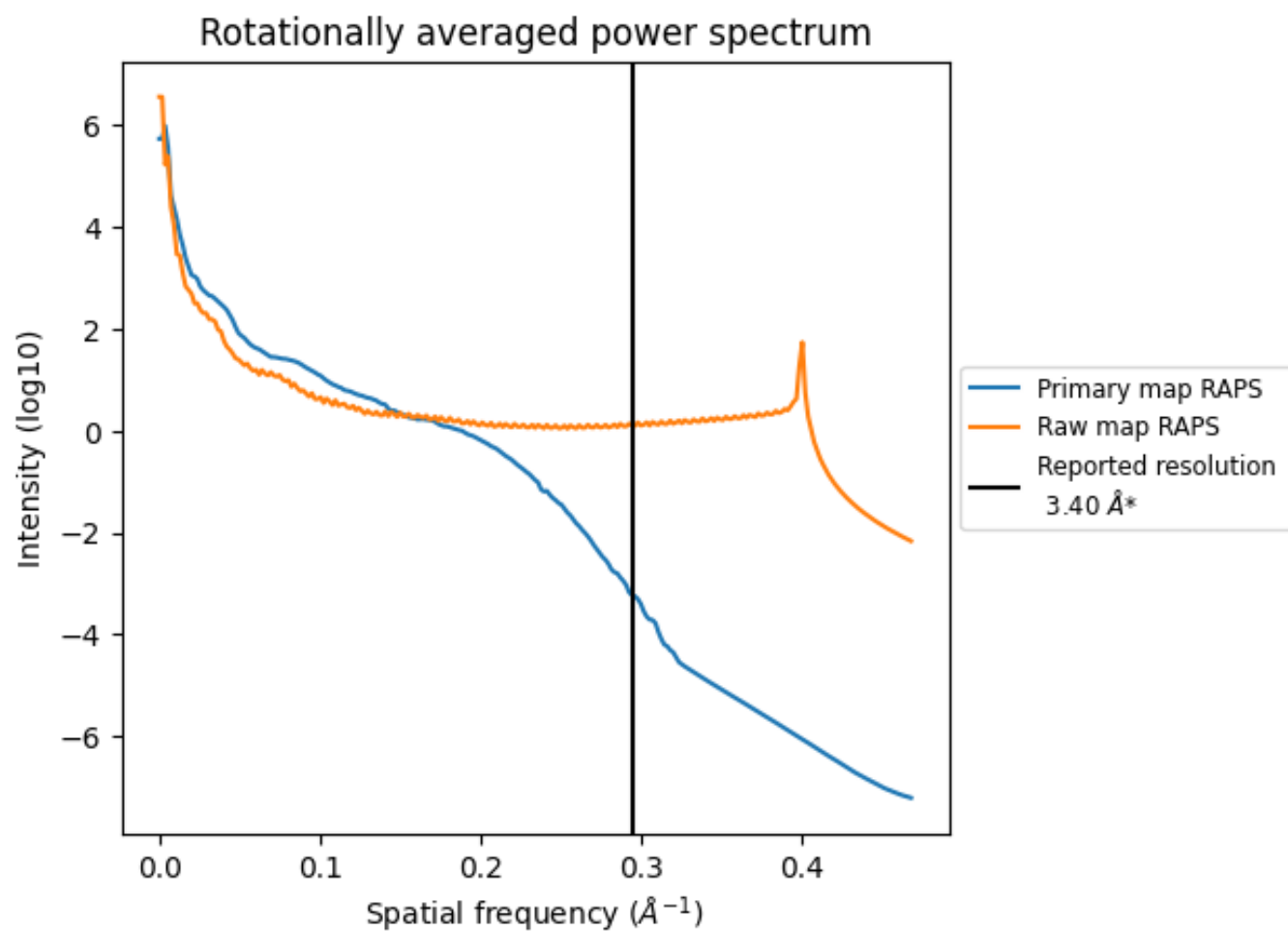
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 4832 nm³; this corresponds to an approximate mass of 4365 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 ⓘ

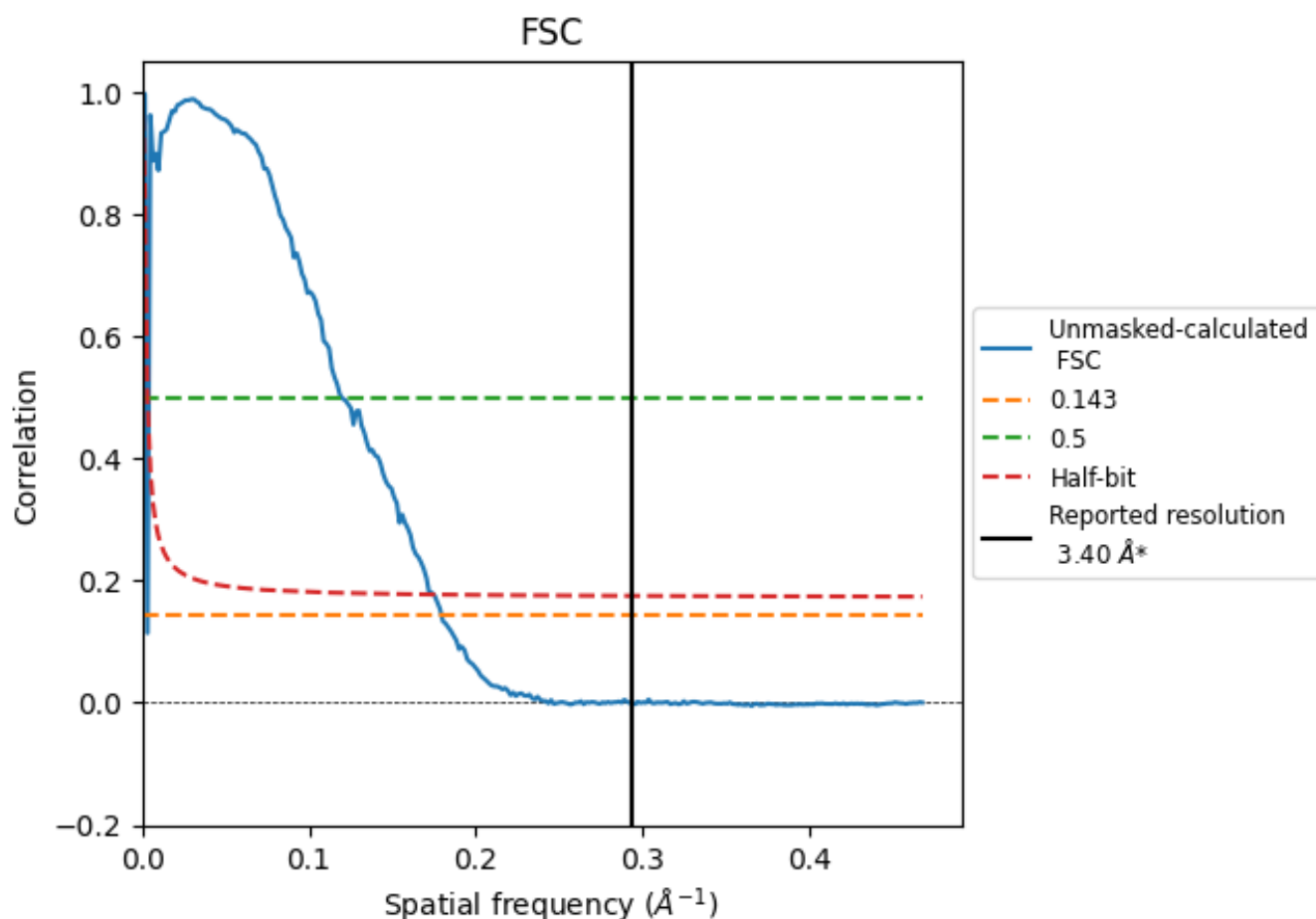


*Reported resolution corresponds to spatial frequency of $0.294 \text{ \AA}^{-1}$

8 Fourier-Shell correlation [i](#)

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

8.1 FSC [i](#)



*Reported resolution corresponds to spatial frequency of 0.294 $\text{\AA}^{-1}$

8.2 Resolution estimates [i](#)

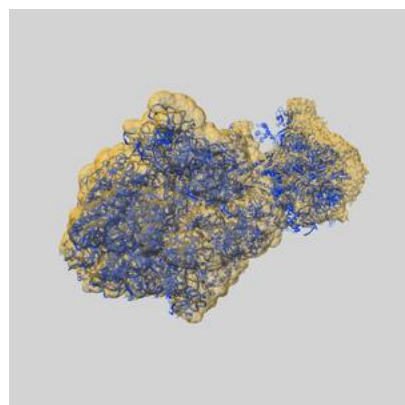
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.40	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	312.50	400.00	476.19

*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 312.50 differs from the reported value 3.4 by more than 10 %

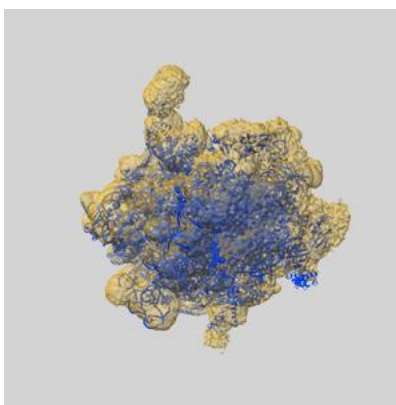
9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-42479 and PDB model 8UR0. Per-residue inclusion information can be found in section 3 on page 17.

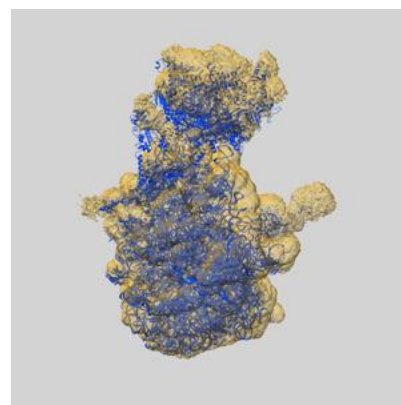
9.1 Map-model overlay [i](#)



X



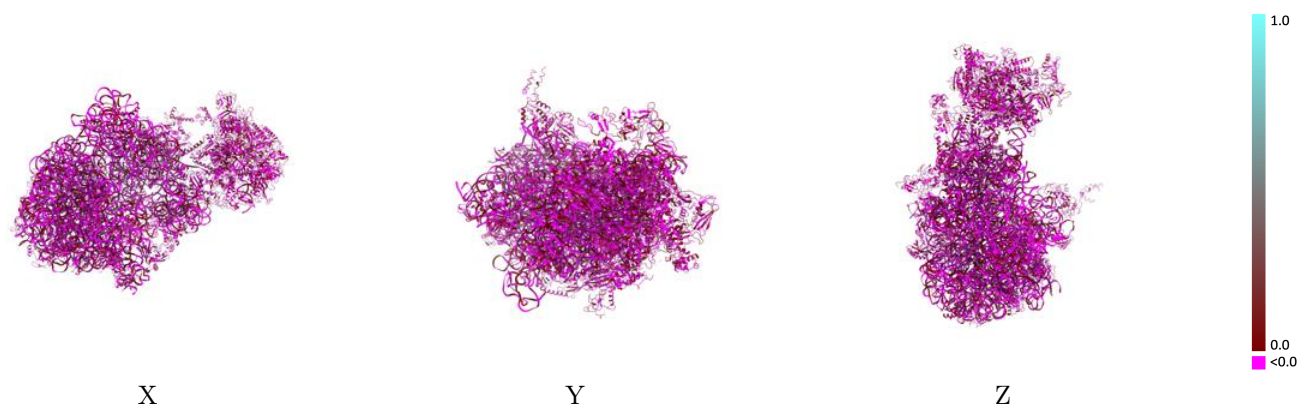
Y



Z

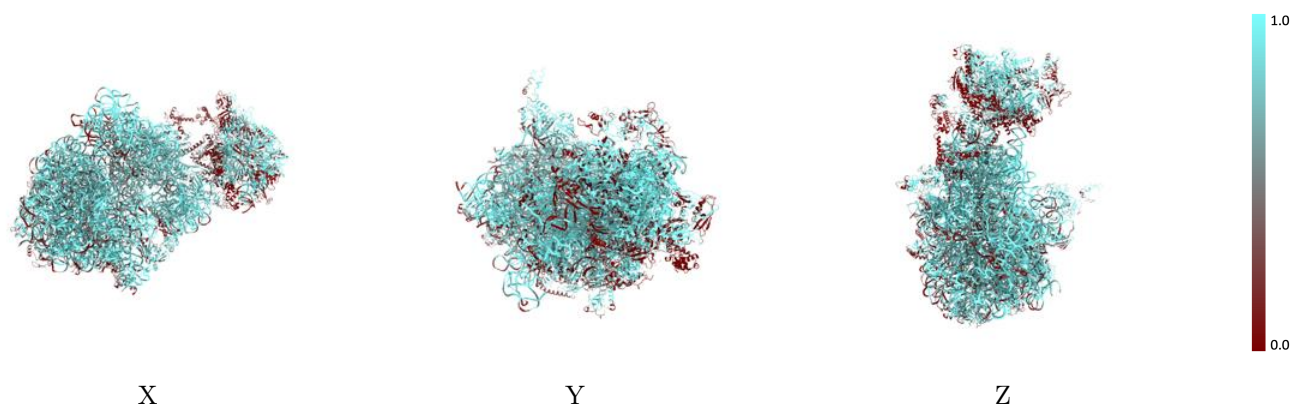
The images above show the 3D surface view of the map at the recommended contour level 0.0017 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



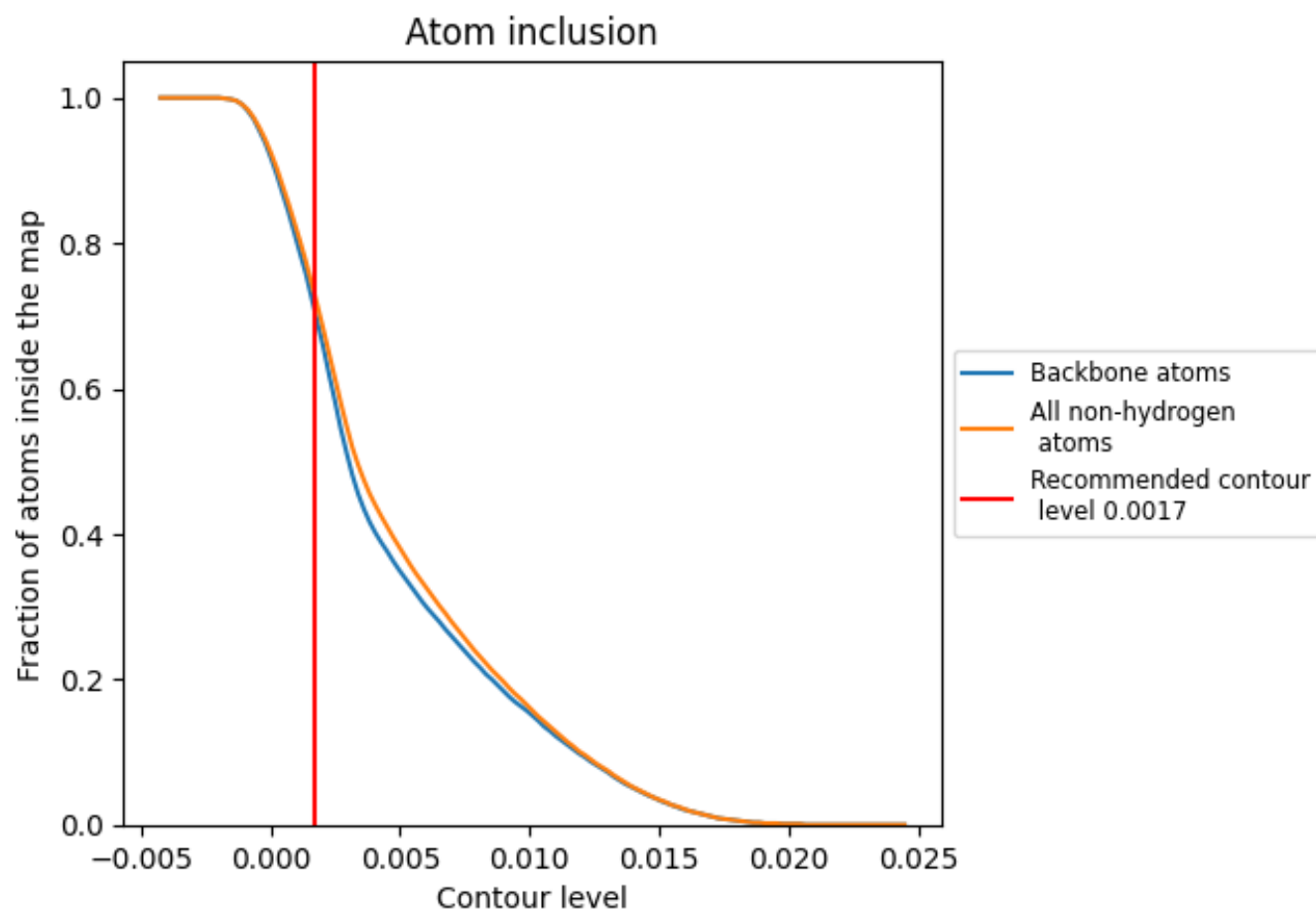
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.0017).

9.4 Atom inclusion ⓘ



At the recommended contour level, 71% of all backbone atoms, 73% 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 (0.0017) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.7300	 -0.0190
0	 0.5720	 0.0060
1	 0.7340	 -0.0160
2	 0.8780	 -0.0080
3	 0.6240	 -0.0180
4	 0.7520	 -0.0120
5	 0.5790	 0.0040
6	 0.6440	 -0.0190
7	 0.7970	 -0.0060
9	 0.8550	 0.0110
A	 0.8820	 0.0170
AA	 0.6580	 -0.0020
AB	 0.4930	 -0.0040
AC	 0.3820	 0.0060
AD	 0.2530	 0.0050
AE	 0.5830	 0.0040
AF	 0.3960	 0.0070
AG	 0.3200	 -0.0070
B	 0.5800	 -0.0370
C	 0.8030	 -0.0220
D	 0.8270	 -0.0270
E	 0.6650	 -0.0280
F	 0.7530	 -0.0110
G	 0.8500	 -0.0090
H	 0.7140	 -0.0020
I	 0.9130	 -0.0060
J	 0.9270	 -0.0050
K	 0.8540	 -0.0240
L	 0.5150	 -0.0420
M	 0.5780	 -0.0190
N	 0.8520	 -0.0460
O	 0.6890	 -0.0110
P	 0.9690	 -0.0120
Q	 0.7580	 -0.0340
R	 0.7520	 0.0040



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Chain	Atom inclusion	Q-score
S	 0.9690	 -0.0360
T	 0.5220	 -0.0290
U	 0.9070	 -0.0210
V	 0.5650	 -0.0180
W	 0.6630	 -0.0130
X	 0.5350	 -0.0430
Y	 0.8710	 0.0130
Z	 0.5680	 -0.0100
a	 0.7970	 -0.0270
b	 0.7170	 -0.0100
c	 0.5320	 -0.0370
d	 0.8140	 -0.0140
e	 0.5670	 -0.0580
f	 0.6950	 0.0120
g	 0.6670	 -0.0170
h	 0.7890	 -0.0330
i	 0.5790	 -0.0310
j	 0.8850	 -0.0290
k	 0.7110	 -0.0250
l	 0.6330	 -0.0120
m	 0.8540	 -0.0420
n	 0.7420	 -0.0340
o	 0.8660	 -0.0390
p	 0.7650	 -0.0170
q	 0.9900	 0.0020
r	 0.6030	 0.0110
s	 0.8790	 -0.0200
t	 0.8830	 -0.0030
u	 0.6950	 -0.0270
v	 0.9090	 -0.0390
w	 0.8580	 -0.0180
x	 0.5550	 -0.0090
y	 0.8480	 -0.0460
z	 0.8470	 -0.0100