Full wwPDB EM Validation Report

Mar 6, 2026 – 05:37 AM UTC

PDB ID	:	8URX / pdb_00008urx
EMDB ID	:	EMD-42503
Title	:	Escherichia coli transcription-translation coupled complex class B (TTC-B) containing RfaH bound to ops signal, mRNA with a 30 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	:	2023-10-27
Resolution	:	6.60 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 (i) 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 (i)) were used in the production of this report:

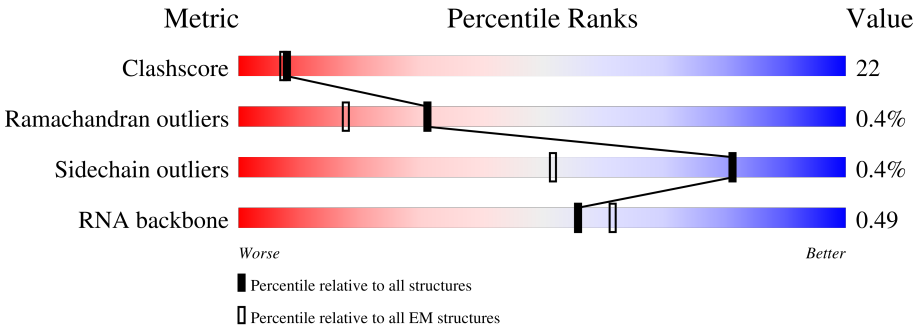
EMDB validation analysis	:	0.0.1.dev132
MolProbity	:	4-5-2 with Phenix2.0
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics	:	202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh &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

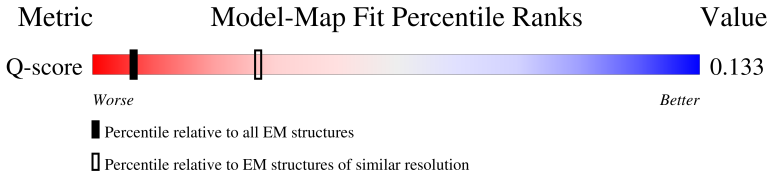
1 Overall quality at a glance

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

The reported resolution of this entry is 6.60 Å.

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





Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
RNA backbone	8273	3508	-
Q-score	-	25397	531 (6.10 - 7.10)

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 <=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	59% 41%
2	1	110	58% 42%
3	2	100	51% 42% • 6%

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Mol	Chain	Length	Quality of chain
4	3	104	65% 34%
5	4	94	44% 56%
6	5	38	8% 55% 37% 8%
7	6	38	21% 63% 29% 8%
8	7	47	32% 32% 30%
9	9	165	5% 20% 66% 10%
10	A	76	14% 49% 37%
10	B	76	5% 17% 46% 37%
11	AA	1342	31% 81% 17%
12	AB	162	56% 22% 65% 8%
13	AC	329	33% 59% 8% 33%
13	AD	329	57% 54% 12% 34%
14	AE	1407	50% 78% 16% 5%
15	AF	91	89% 77% 13% 10%
16	C	75	35% 52% 12%
17	D	1542	49% 43% 7%
18	E	87	48% 51%
19	F	71	41% 58%
20	G	241	49% 42% 7%
21	H	557	15% 24% 21% 54%
22	I	233	45% 43% 11%
23	J	206	67% 33%
24	K	167	44% 47% 7%
25	L	135	27% 48% 23%
26	M	179	41% 42% 16%

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Mol	Chain	Length	Quality of chain
27	N	130	51% 48%
28	O	130	48% 45%
29	P	103	49% 46%
30	Q	129	44% 44% 9%
31	R	124	57% 40%
32	S	101	53% 46%
33	T	89	42% 56%
34	U	82	54% 46%
35	V	84	42% 54% 5%
36	W	92	54% 34% 10%
37	X	118	55% 41%
38	Y	142	13% 34% 65%
39	Z	121	9% 16% 75%
40	a	2904	50% 42% 7%
41	b	85	56% 33% 11%
42	c	78	65% 33%
43	d	120	64% 31% 5%
44	e	63	43% 54%
45	f	59	46% 53%
46	g	70	41% 51% 6%
47	h	273	63% 36%
48	i	57	54% 44%
49	j	209	58% 41%
50	k	55	47% 47% 5%
51	l	201	59% 40%

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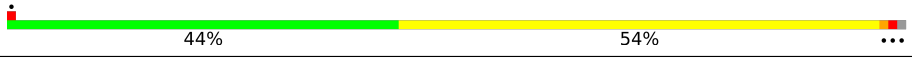
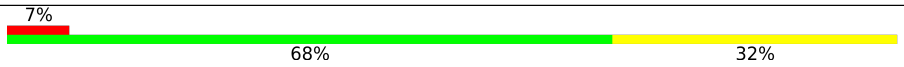
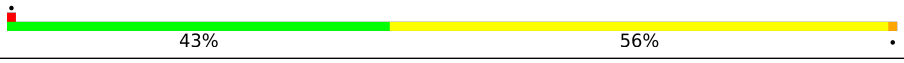
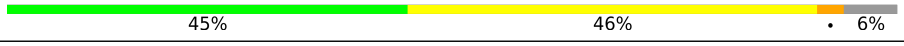
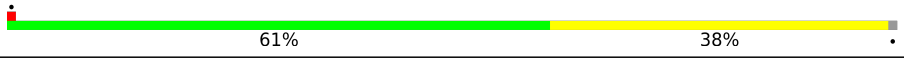
Mol	Chain	Length	Quality of chain
52	m	46	
53	n	179	
54	o	65	
55	p	177	
56	q	38	
57	r	149	
58	s	142	
59	t	123	
60	u	144	
61	v	136	
62	w	127	
63	x	117	
64	y	115	
65	z	118	

2 Entry composition

There are 67 unique types of molecules in this entry. The entry contains 275954 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 30 nt long spacer.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	7	33	Total	C	N	O	P	0	0
			687	307	96	251	33		

- 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	C	H	N	O	P	0	0
			2446	723	826	295	527	75		
10	B	76	Total	C	H	N	O	P	0	0
			2434	723	814	295	527	75		

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

There is a discrepancy between the modelled and reference sequences:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

3 Residue-property plots (i)

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

• Molecule 1: Ribosomal protein L21

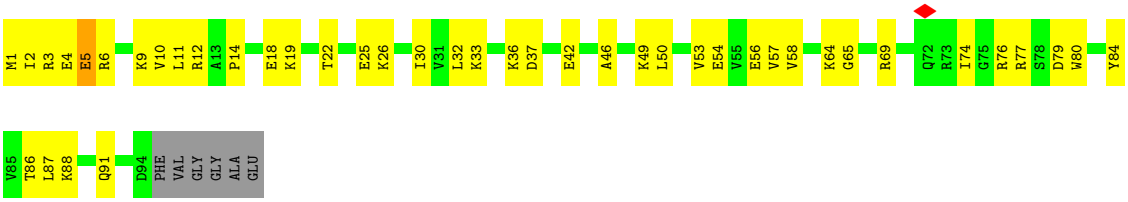
Chain 0:

• Molecule 2: 50S ribosomal protein L22

Chain 1:

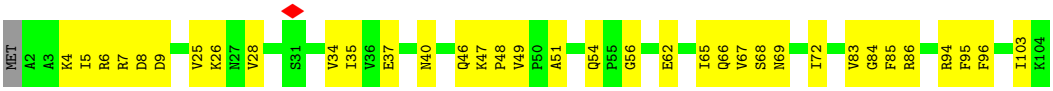
• Molecule 3: 50S ribosomal protein L23

Chain 2:



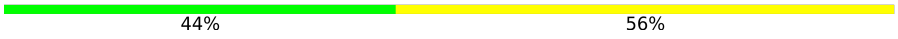
• Molecule 4: 50S ribosomal protein L24

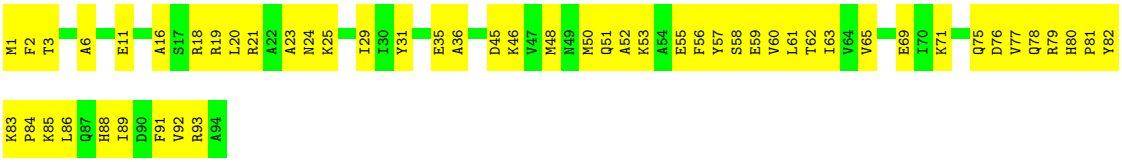
Chain 3:



• Molecule 5: 50S ribosomal protein L25

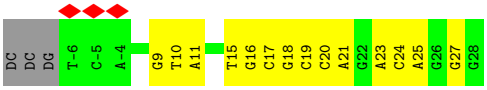
Chain 4:





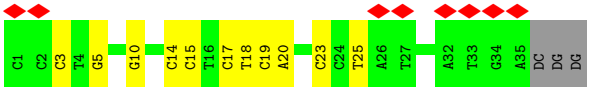
• Molecule 6: NT DNA ops

Chain 5:



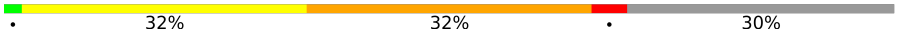
• Molecule 7: T DNA ops

Chain 6:



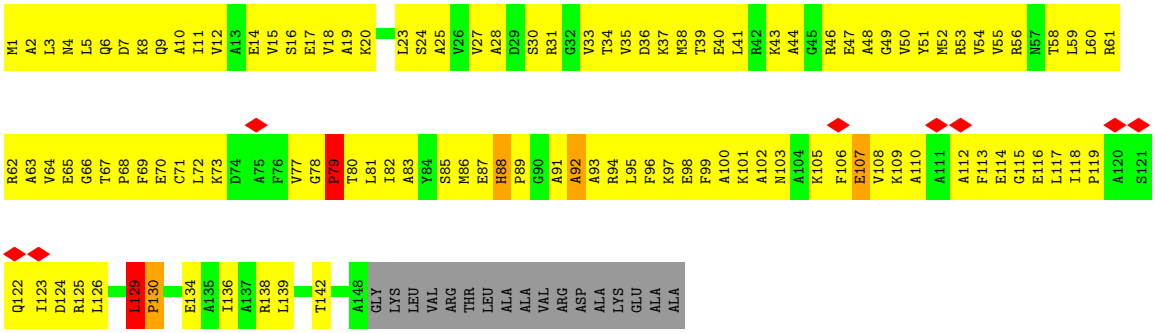
• Molecule 8: mRNA with 30 nt long spacer

Chain 7:



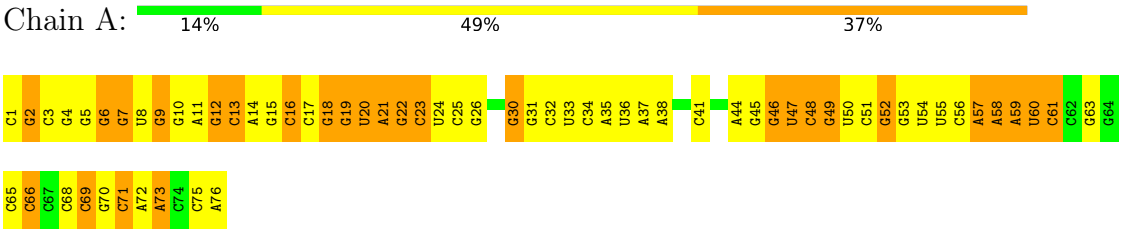
• Molecule 9: 50S ribosomal protein L10

Chain 9:



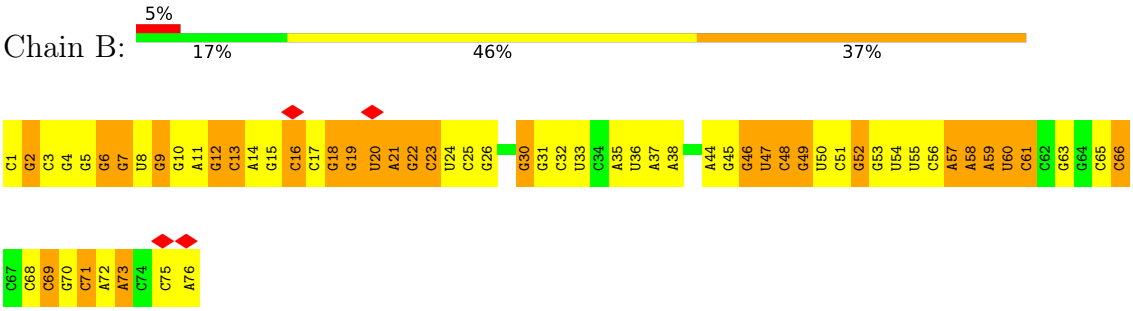
• Molecule 10: E-site and P-site fMet-tRNA

Chain A:



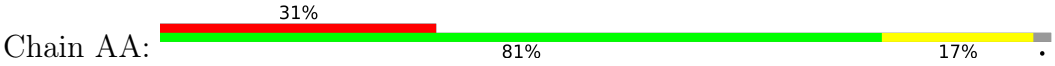
• Molecule 10: E-site and P-site fMet-tRNA

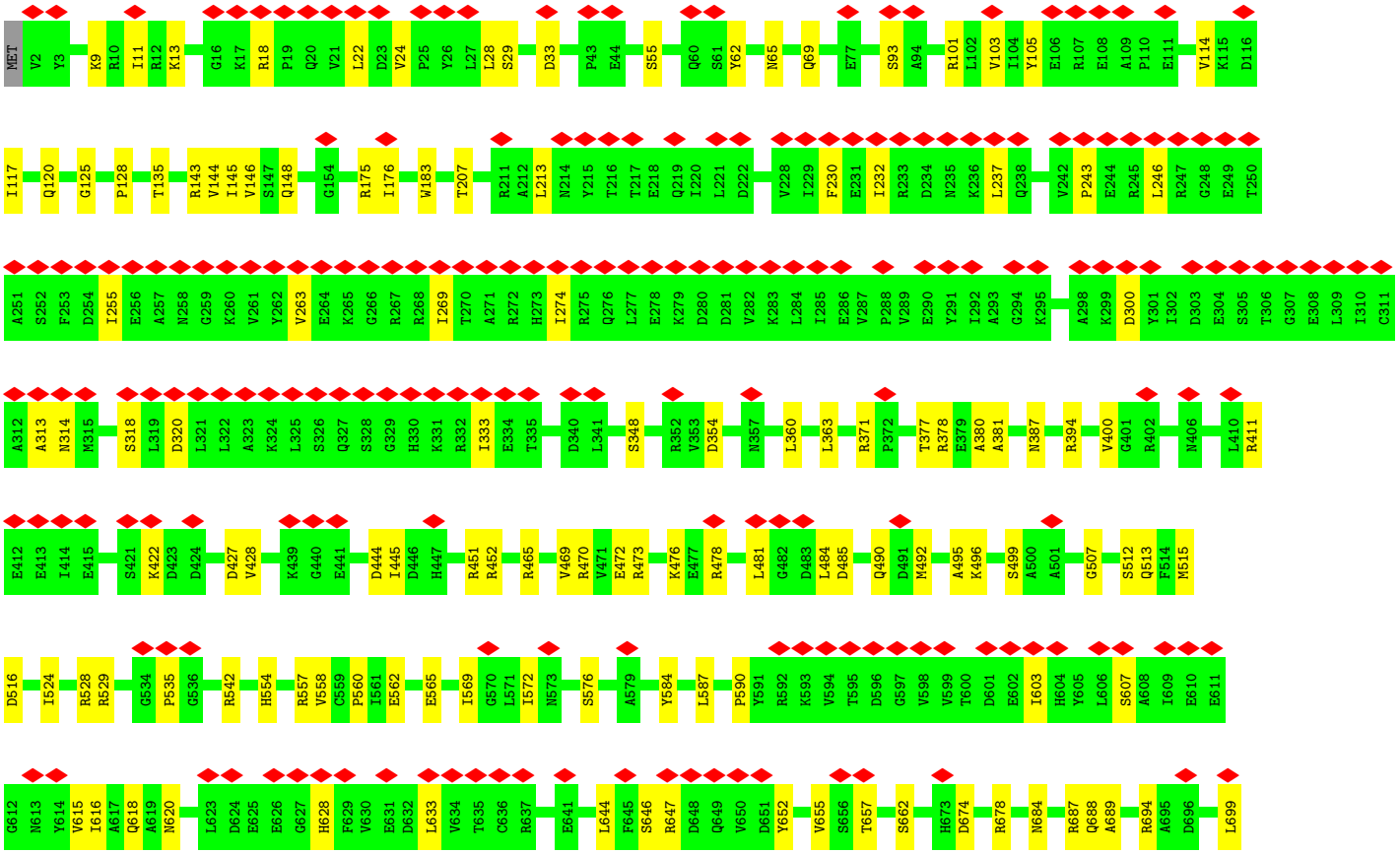
Chain B:

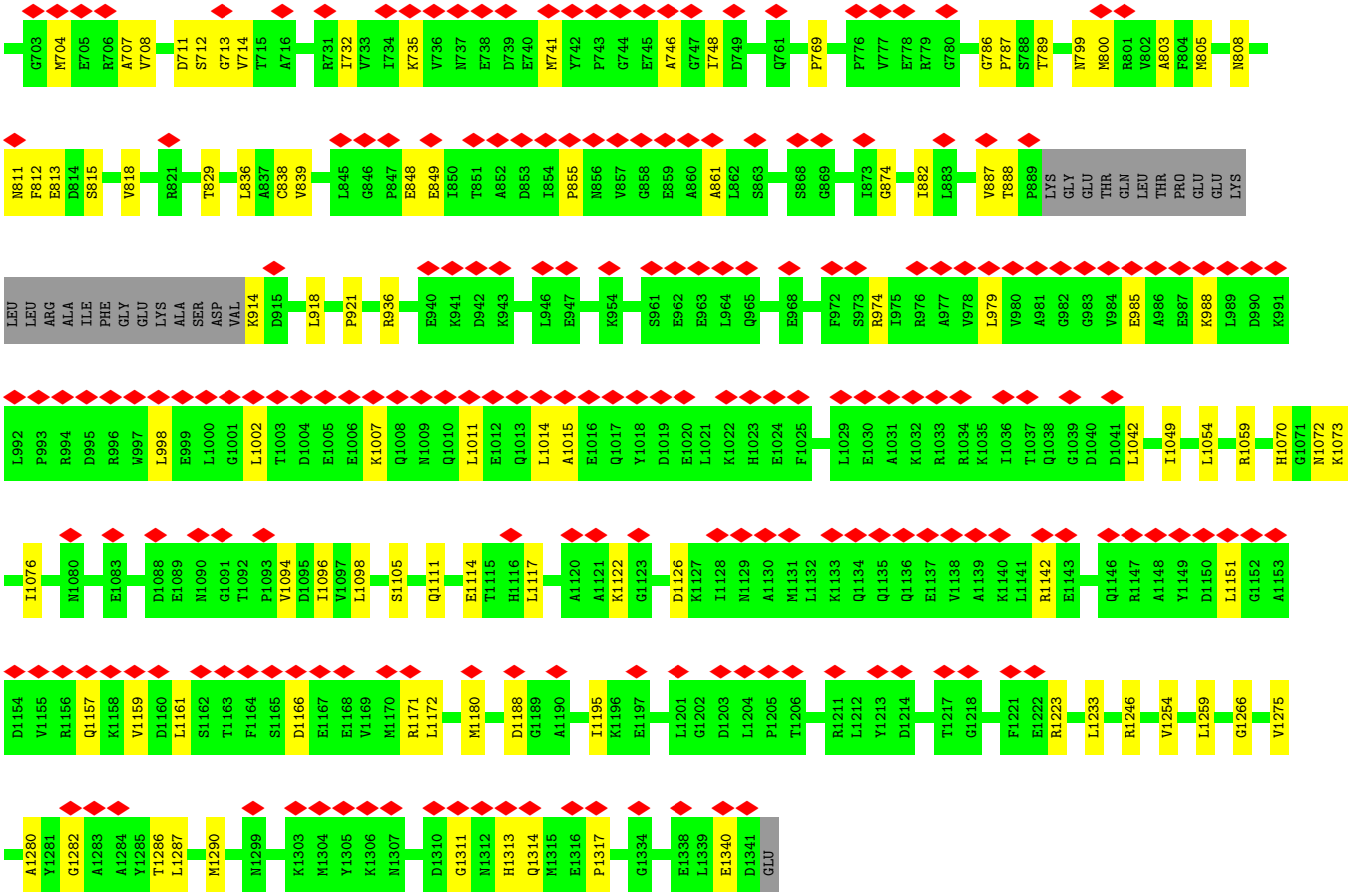


• Molecule 11: DNA-directed RNA polymerase subunit beta

Chain AA:

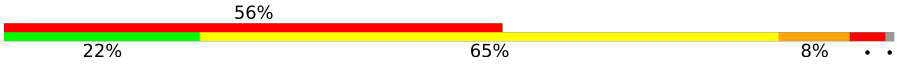


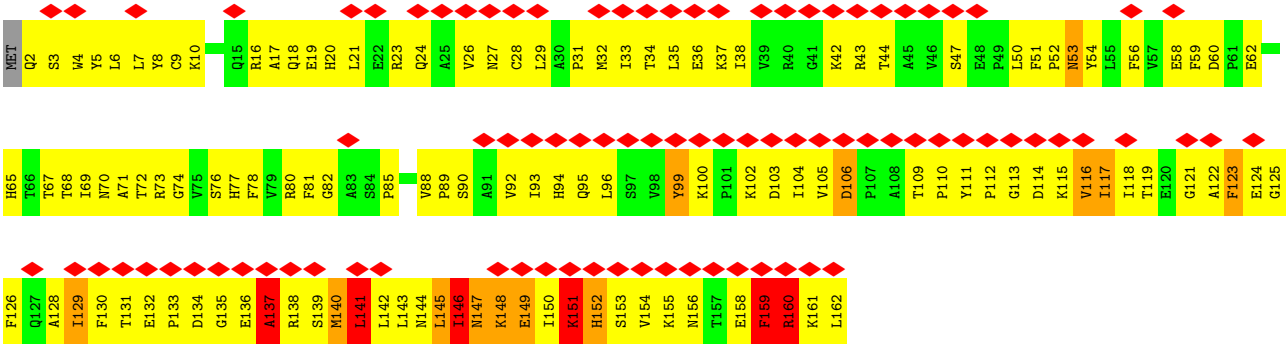




• Molecule 12: Transcription antitermination protein RfaH

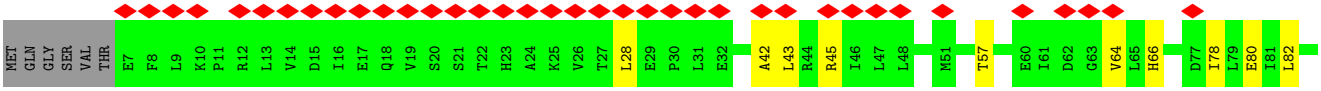
Chain AB:

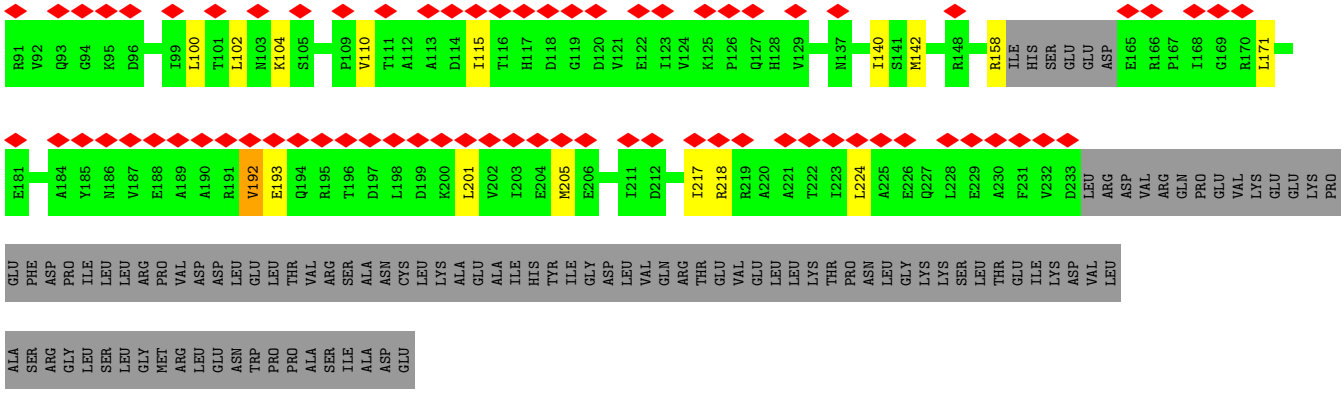




• Molecule 13: DNA-directed RNA polymerase subunit alpha

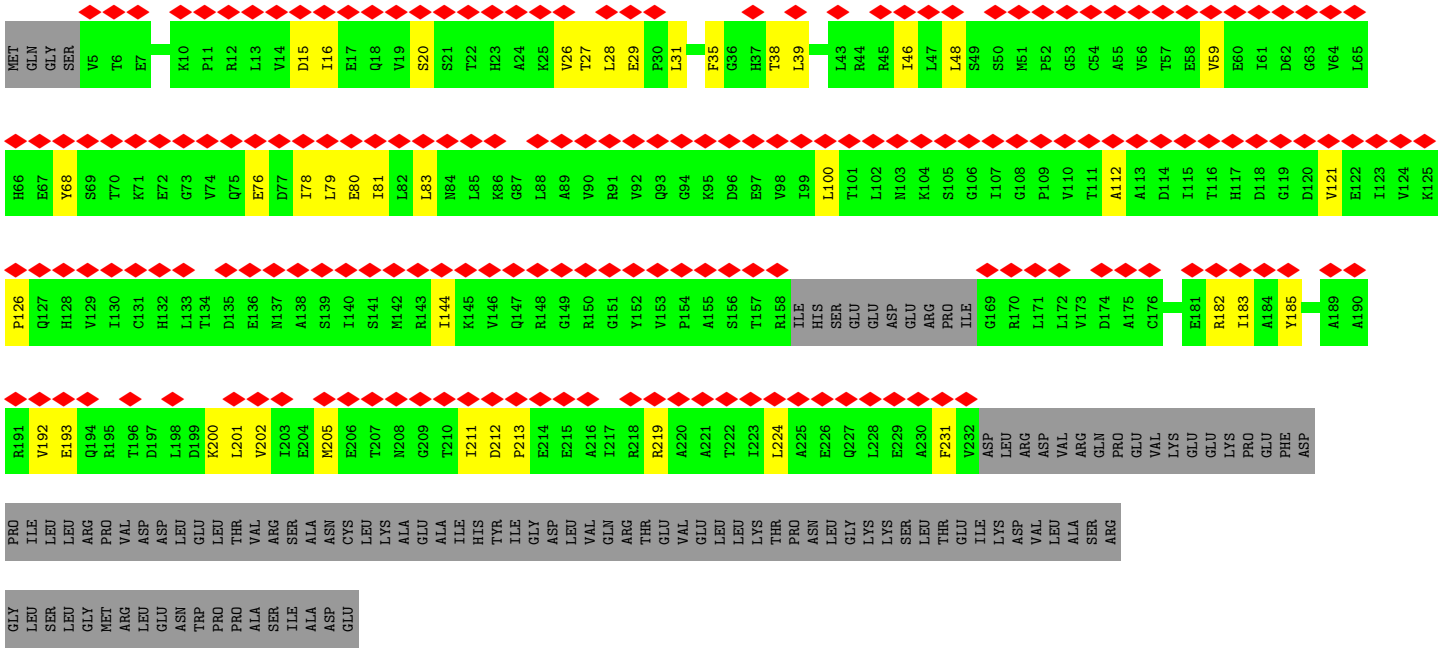
Chain AC:





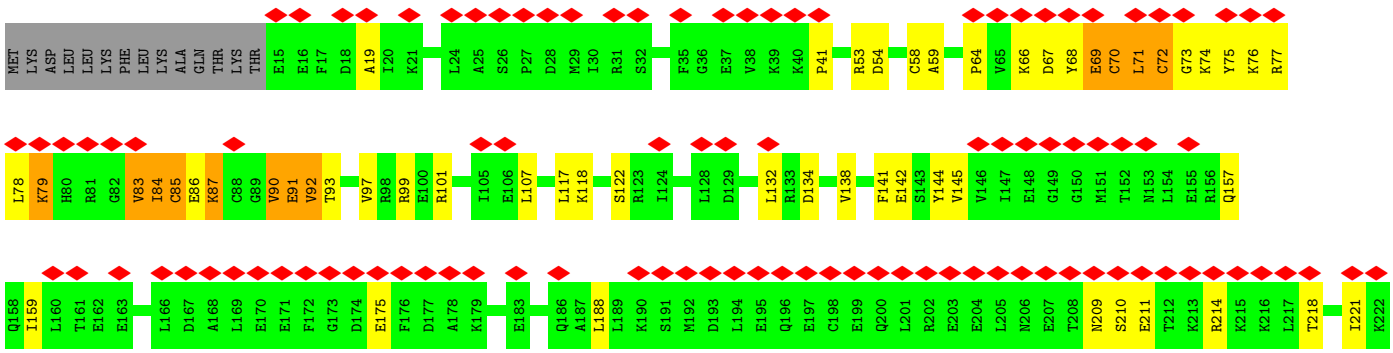
• Molecule 13: DNA-directed RNA polymerase subunit alpha

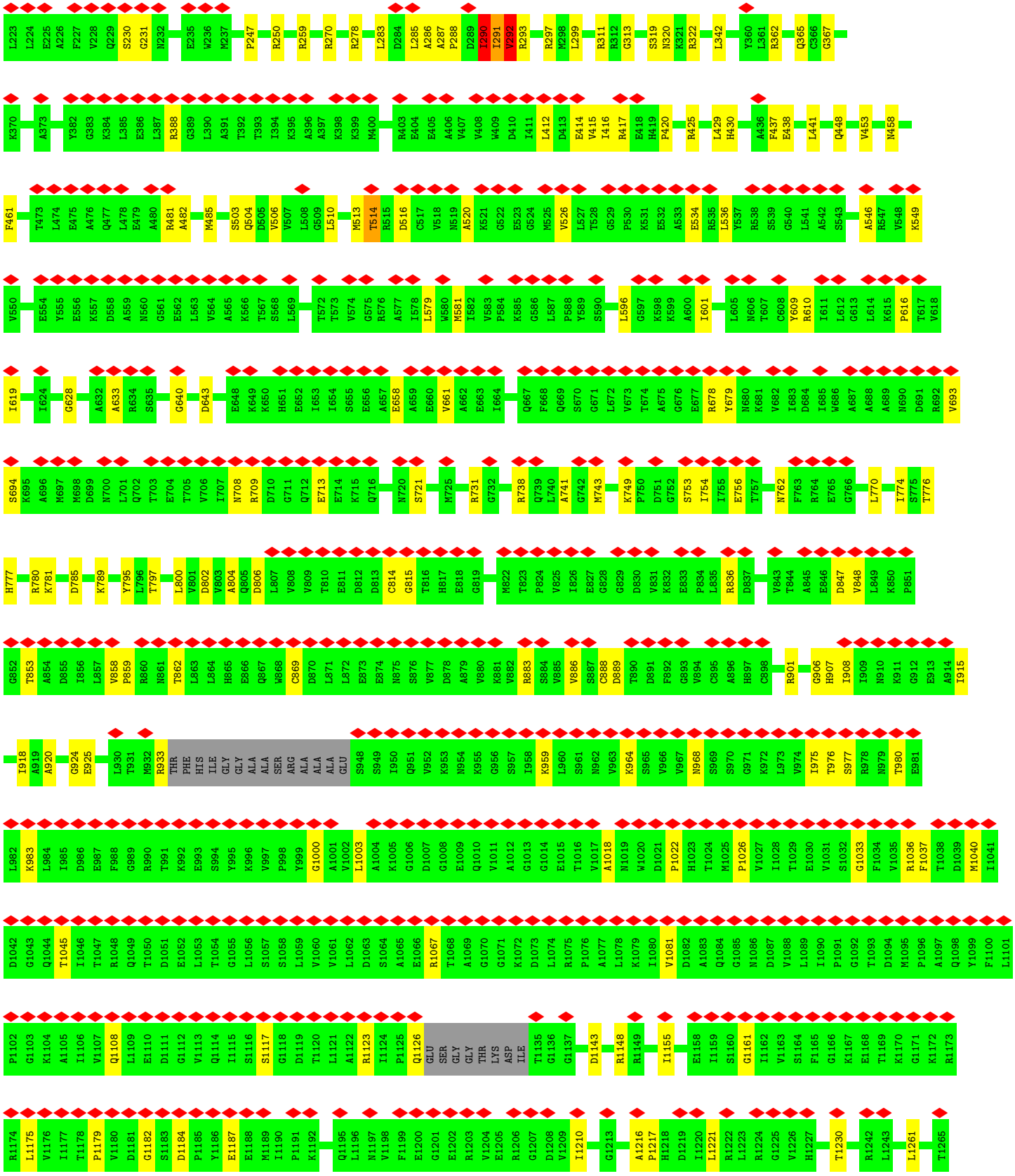
Chain AD:

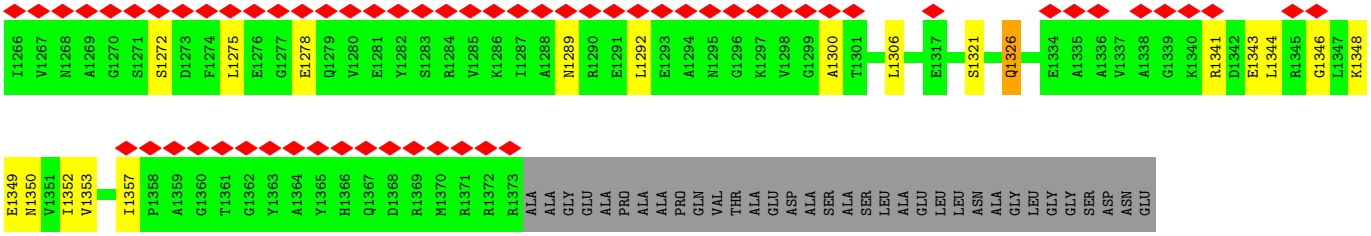


• Molecule 14: DNA-directed RNA polymerase subunit beta'

Chain AE:

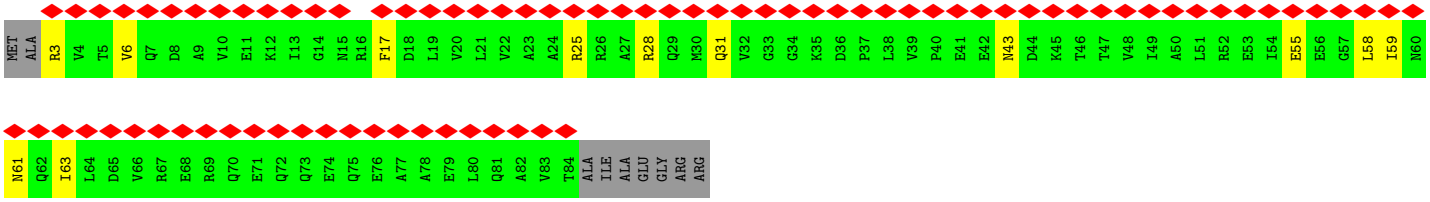



L223 L224 E225 A226 F227 V228 Q229 S230 G231 N232 E235 W236 M237 P247 R250 R259 R270 R278 L283 D284 L285 A286 A287 P288 D289 I290 I291 V292 R293 R297 M298 L299 R311 R312 G313 S319 N320 K321 R322 L342 Y360 L361 R362 Q365 C366 G367
K370 A373 Y382 G383 K384 L385 E386 L387 R388 G389 L390 A391 T392 T393 I394 K395 A396 A397 K398 K399 M400 R403 E404 E405 A406 V407 V408 W409 D410 I411 L412 D413 E414 V415 I416 R417 E418 H419 P420 R425 L429 H430 A436 F437 E438 L441 Q448 V453 N458
F461 T473 L474 E475 A476 Q477 L478 E479 A480 R481 A482 M485 S503 Q504 D505 V506 V507 L508 Q509 L510 M513 T514 R515 D516 C517 V518 N519 A520 K521 G522 E523 G524 M525 V526 L527 T528 G529 P530 K531 E532 A533 E534 R535 L536 Y537 R538 S539 G540 L541 A542 S543 A546 R547 V548 K549
V550 E554 Y555 E556 K557 D558 A559 N560 G561 E562 L563 V564 A565 K566 T567 S568 L569 T572 T573 V574 G575 R576 A577 I578 L579 W580 M581 I582 V583 P584 K585 G586 L587 P588 Y589 S590 L596 G597 K598 K599 A600 I601 L605 N606 T607 C608 Y609 R610 T611 L612 G613 L614 K615 P616 T617 V618
I619 I624 G628 A632 A633 R634 S635 G640 D643 E648 K649 K650 H651 E652 I653 I654 S655 E656 A657 E658 A659 E660 V661 A662 E663 I664 Q667 F668 Q669 S670 G671 L672 V673 T674 A675 G676 E677 R678 Y679 N680 K681 V682 I683 D684 I685 W686 A687 A688 A689 N690 D691 R692 V693
S694 K695 A696 M697 M698 D699 N700 L701 Q702 T703 E704 T705 V706 I707 N708 R709 D710 G711 Q712 E713 E714 K715 Q716 N720 S721 M725 R731 G732 R738 Q739 L740 A741 G742 M743 K749 P750 D751 G752 S753 I754 I755 E756 T757 N762 F763 R764 E765 G766 L770 I774 S775 T776
H777 R780 K781 D785 K789 Y795 L796 T797 L800 V801 D802 V803 A804 Q805 D806 L807 V808 V809 T810 E811 D812 D813 C814 C815 T816 H817 E818 G819 M822 T823 P824 V825 I826 E827 G828 G829 D830 V831 K832 E833 P834 L835 R836 D837 V843 T844 A845 E846 D847 V848 L849 K850 P851
G852 T853 A854 D855 I856 L857 V858 P859 R860 N861 T862 L863 L864 H865 E866 Q867 W868 C869 D870 L871 L872 E873 E874 N875 S876 V877 D878 A879 V880 K881 V882 R883 S884 V885 V886 S887 C888 D889 T890 D891 F892 G893 V894 C895 A896 H897 C898 R901 G906 H907 I908 I909 N910 K911 G912 E913 A914 I915
I918 A919 A920 G924 E925 L930 T931 M932 R933 THR PHE HIS ILE GLY GLY ALA ALA SER ARG ALA ALA ALA GLU S948 S949 I950 Q951 V952 K953 N954 K955 G956 S957 I958 K959 L960 S961 N962 V963 K964 S965 V966 V967 N968 S969 S970 G971 K972 L973 V974 I975 T976 S977 R978 N979 T980 E981
L982 K983 L984 I985 D986 E987 F988 G989 R990 T991 K992 E993 S994 Y995 K996 V997 P998 Y999 G1000 A1001 V1002 L1003 A1004 K1005 G1006 D1007 G1008 E1009 Q1010 V1011 A1012 G1013 G1014 E1015 T1016 V1017 A1018 N1019 W1020 D1021 P1022 H1023 T1024 M1025 P1026 V1027 I1028 T1029 E1030 V1031 S1032 G1033 F1034 V1035 R1036 F1037 T1038 D1039 M1040 I1041
D1042 G1043 Q1044 T1045 I1046 T1047 R1048 Q1049 T1050 D1051 E1052 L1053 T1054 G1055 L1056 S1057 S1058 L1059 V1060 V1061 L1062 D1063 S1064 A1065 E1066 R1067 T1068 A1069 G1070 G1071 K1072 D1073 L1074 R1075 P1076 A1077 L1078 K1079 I1080 V1081 D1082 A1083 Q1084 G1085 N1086 D1087 V1088 L1089 I1090 P1091 G1092 T1093 D1094 M1095 P1096 A1097 Q1098 Y1099 F1100 L1101
P1102 G1103 K1104 A1105 I1106 V1107 Q1108 L1109 E1110 D1111 G1112 V1113 Q1114 I1115 S1116 S1117 G1118 D1119 T1120 L1121 A1122 R1123 I1124 P1125 Q1126 GLU SER GLY GLY THR LYS ASP ILE T1135 G1136 G1137 D1143 R1148 R1149 I1155 E1158 I1159 S1160 G1161 I1162 V1163 S1164 F1165 G1166 K1167 E1168 T1169 K1170 G1171 K1172 R1173
R1174 L1175 V1176 I1177 I1178 P1179 V1180 D1181 G1182 S1183 D1184 P1185 Y1186 E1187 E1188 M1189 I1190 P1191 K1192 Q1195 L1196 N1197 V1198 F1199 E1200 G1201 E1202 R1203 V1204 E1205 R1206 G1207 D1208 V1209 I1210 G1213 A1216 P1217 H1218 D1219 I1220 L1221 R1222 L1223 R1224 G1225 V1226 H1227 T1230 R1242 L1243 L1261 T1265



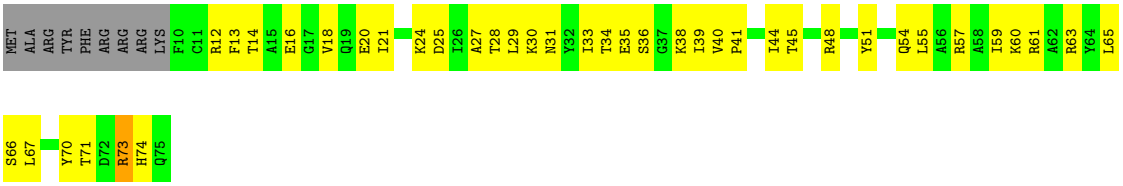
• Molecule 15: DNA-directed RNA polymerase subunit omega

Chain AF:



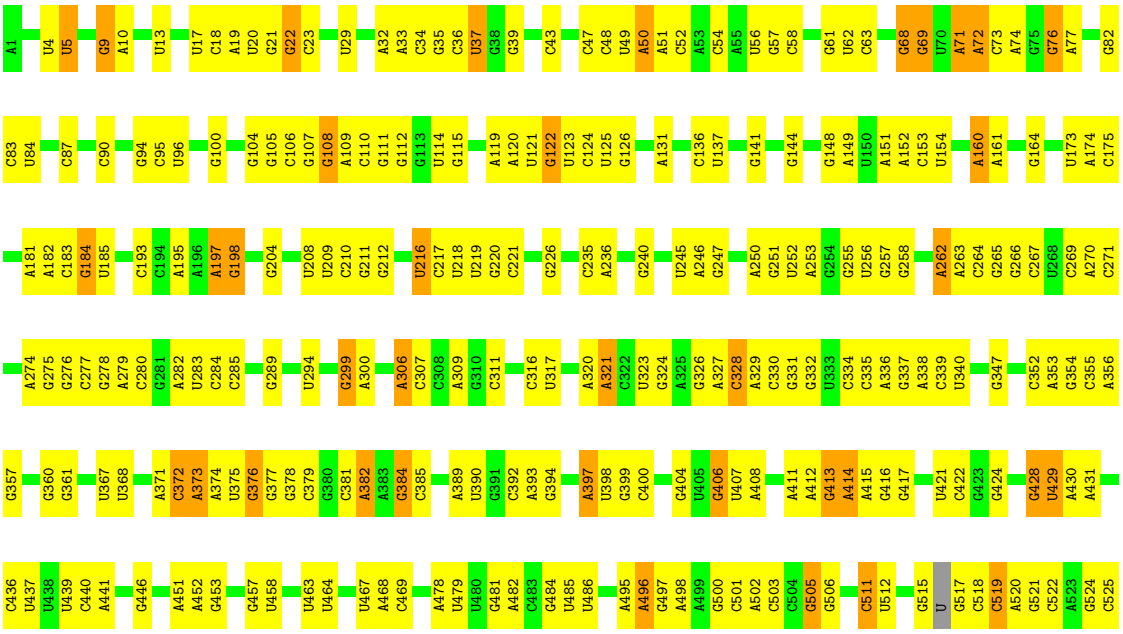
• Molecule 16: 30S ribosomal protein S18

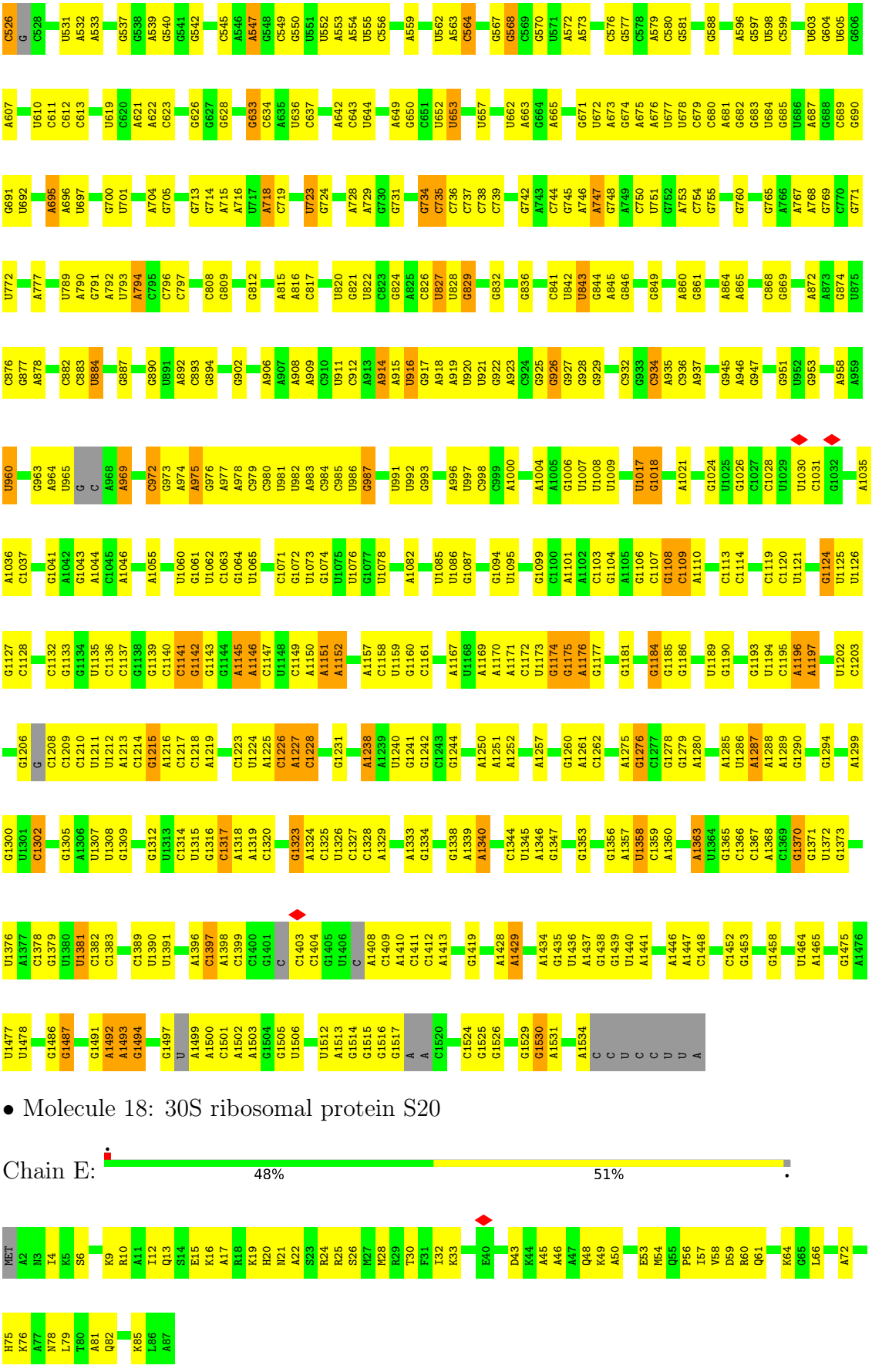
Chain C:



• Molecule 17: 16S rRNA

Chain D:



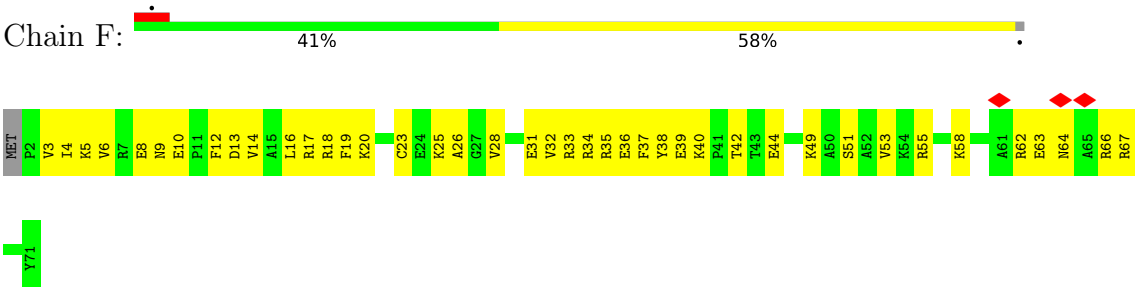


• Molecule 18: 30S ribosomal protein S20

Chain E:

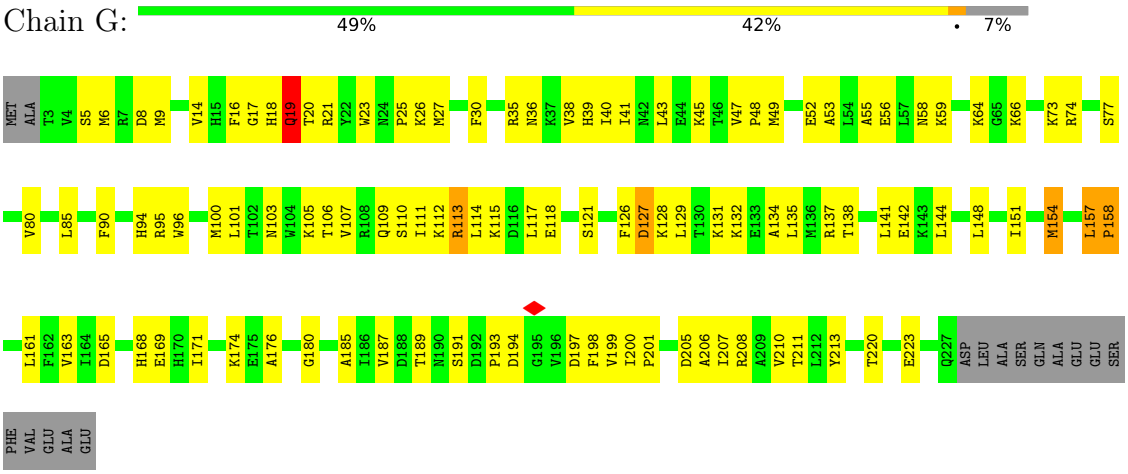
• Molecule 19: 30S ribosomal protein S21

Chain F:



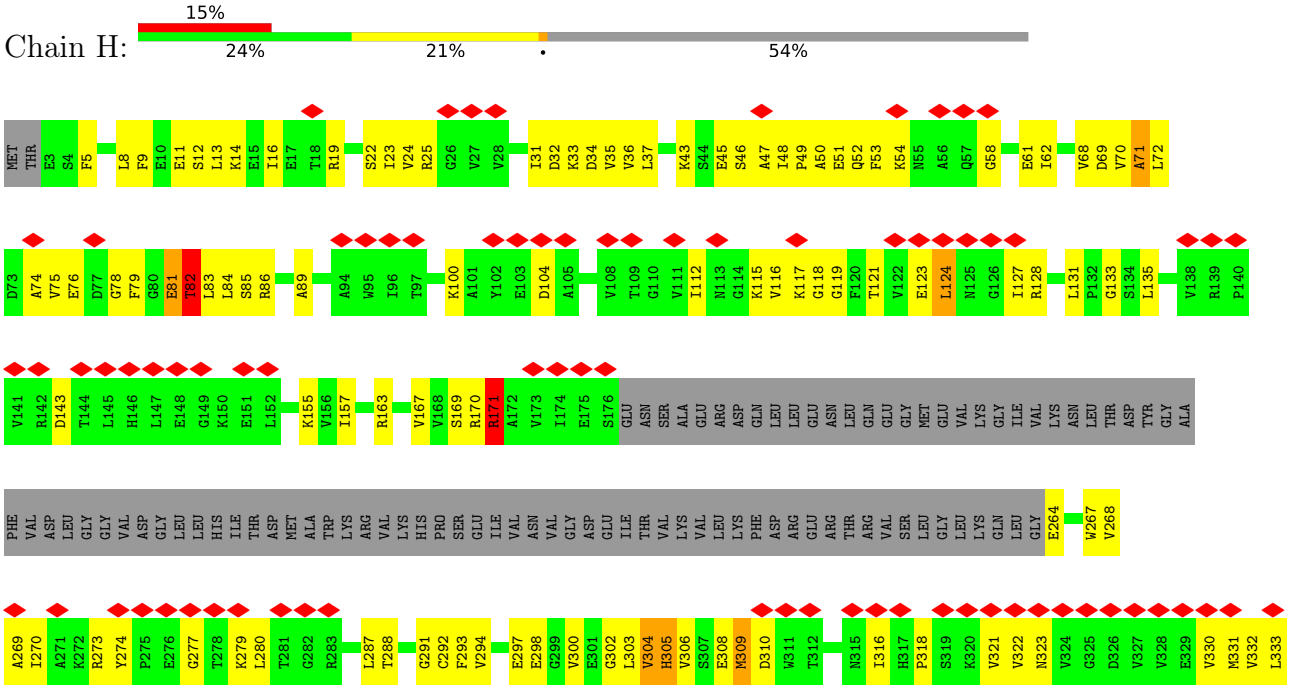
• Molecule 20: 30S ribosomal protein S2

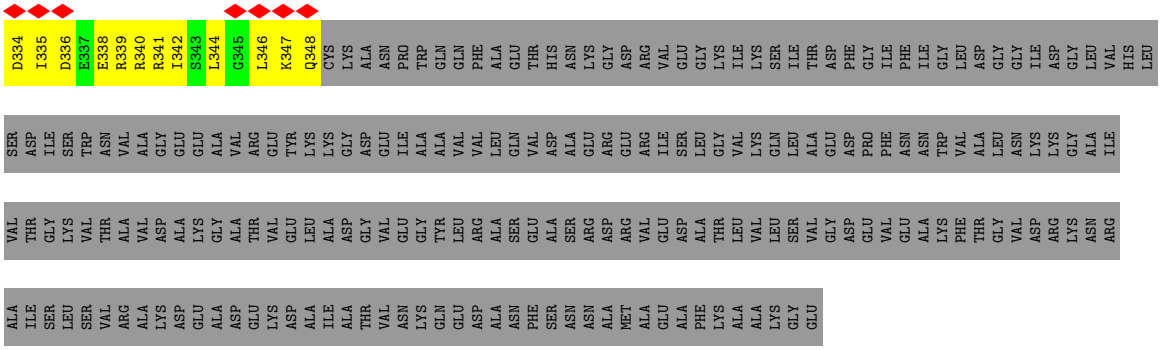
Chain G:



• Molecule 21: 30S ribosomal protein S1

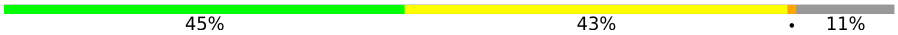
Chain H:

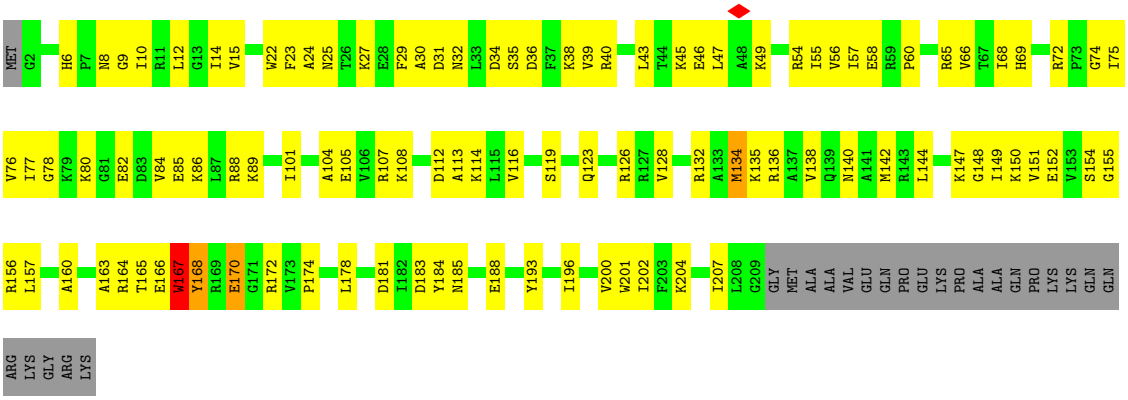




• Molecule 22: 30S ribosomal protein S3

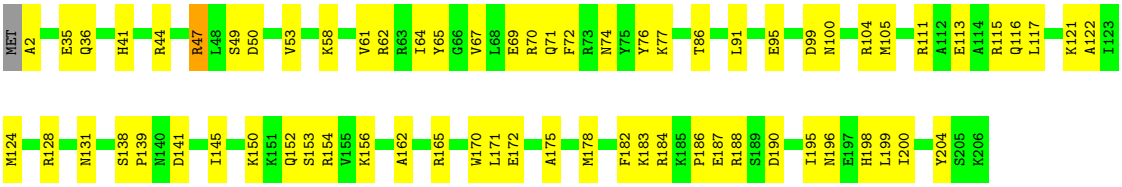
Chain I:





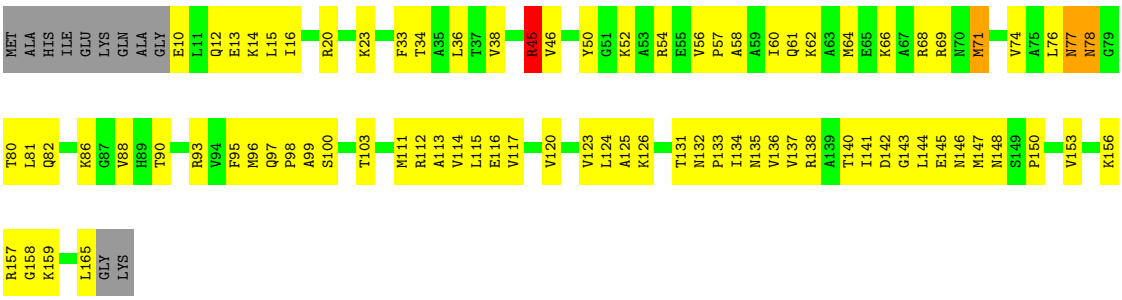
• Molecule 23: 30S ribosomal protein S4

Chain J:



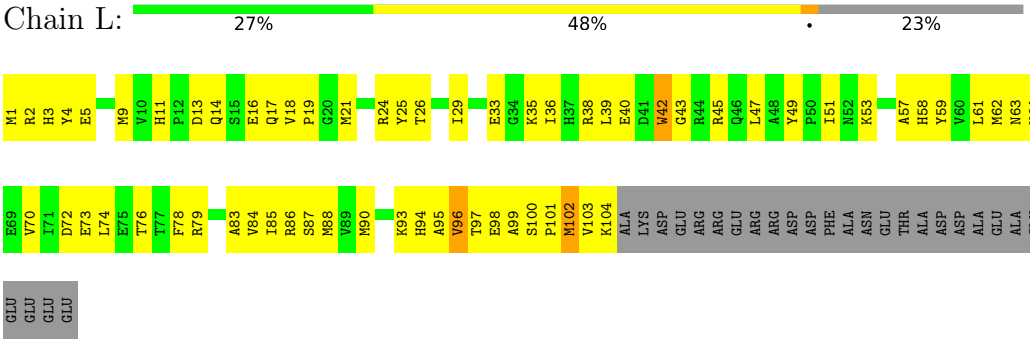
• Molecule 24: 30S ribosomal protein S5

Chain K:



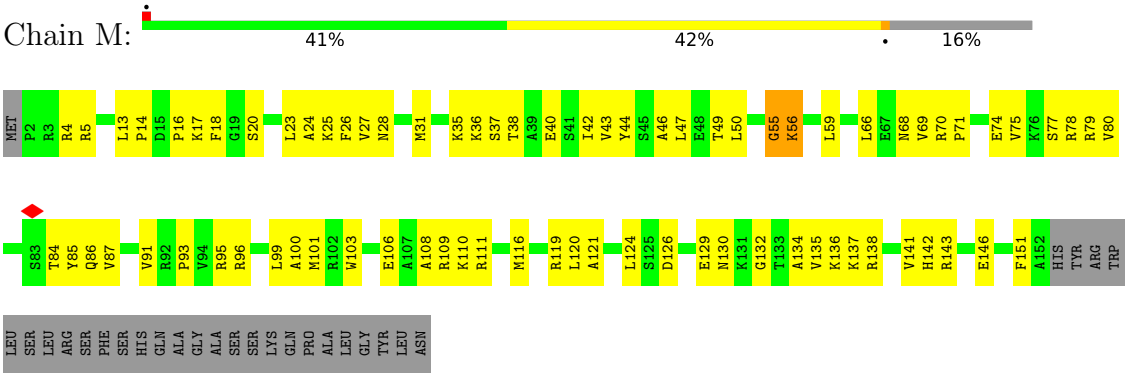
• Molecule 25: 30S ribosomal protein S6

Chain L:



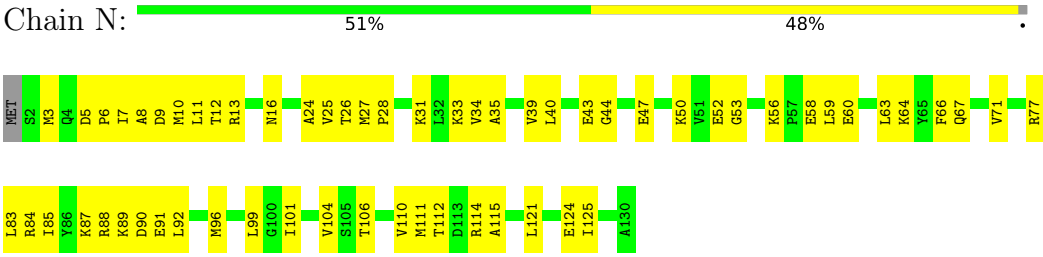
• Molecule 26: 30S ribosomal protein S7

Chain M:



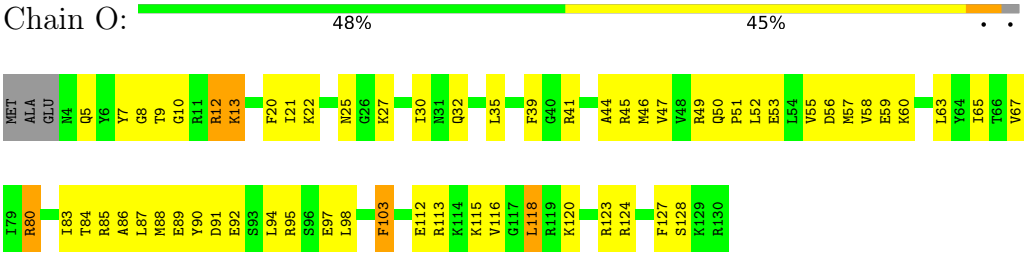
• Molecule 27: 30S ribosomal protein S8

Chain N:



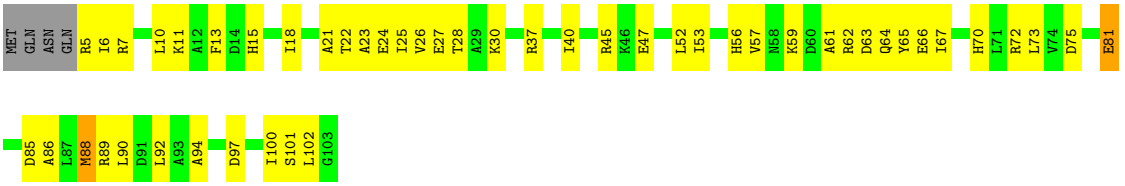
• Molecule 28: 30S ribosomal protein S9

Chain O:



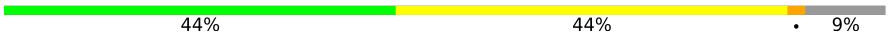
• Molecule 29: 30S ribosomal protein S10

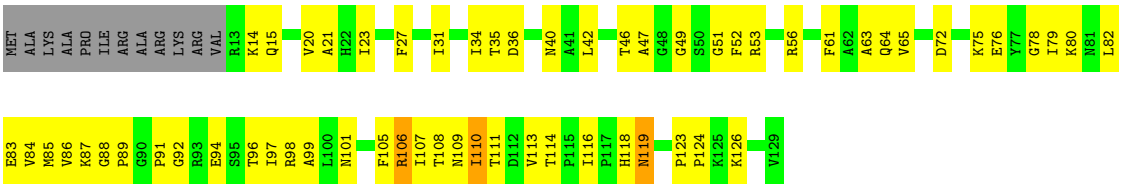
Chain P:



• Molecule 30: 30S ribosomal protein S11

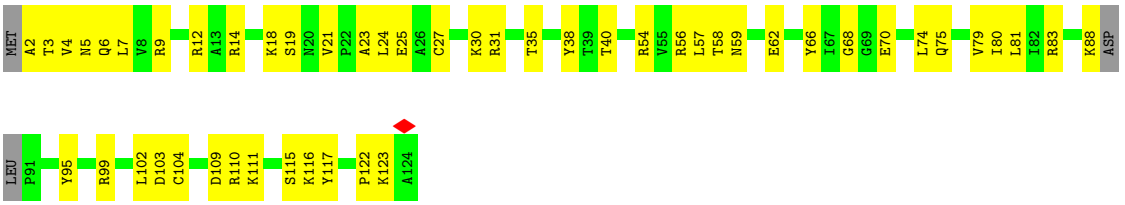
Chain Q:





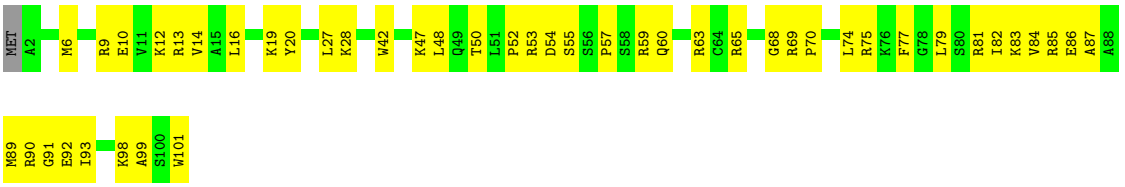
• Molecule 31: 30S ribosomal protein S12

Chain R:



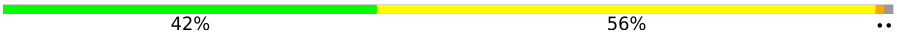
• Molecule 32: 30S ribosomal protein S14

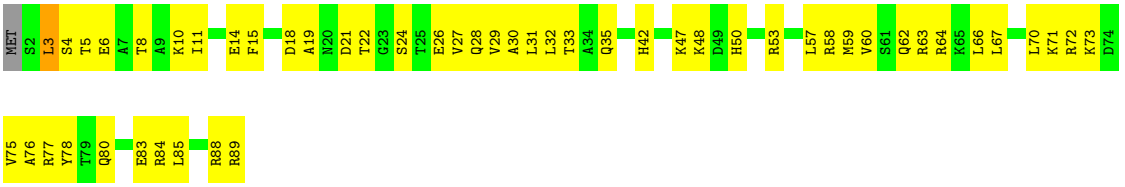
Chain S:



• Molecule 33: 30S ribosomal protein S15

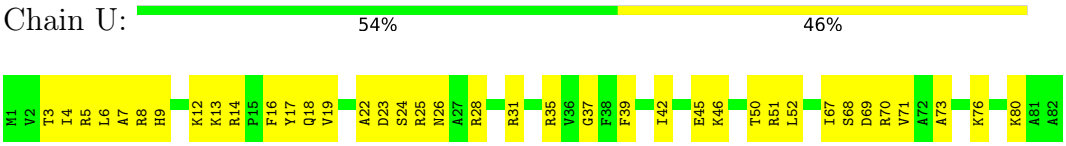
Chain T:





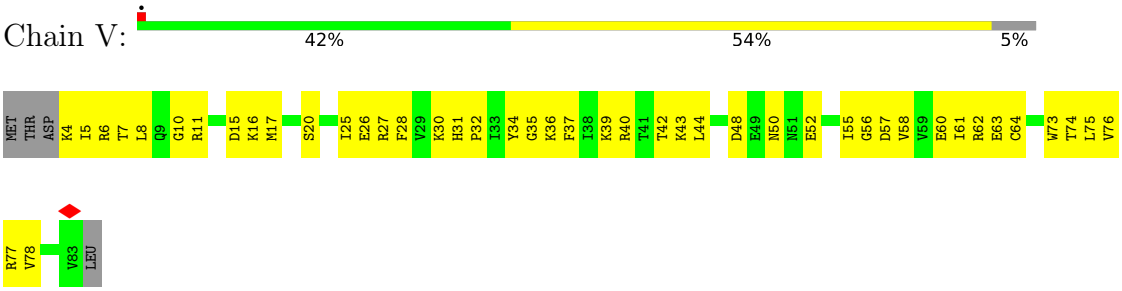
• Molecule 34: 30S ribosomal protein S16

Chain U:



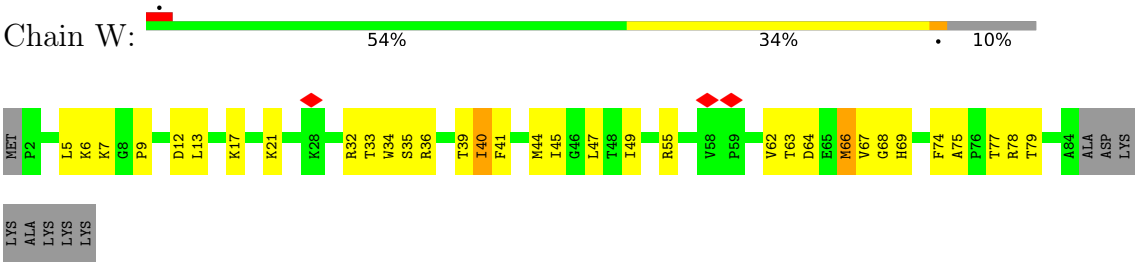
• Molecule 35: 30S ribosomal protein S17

Chain V:



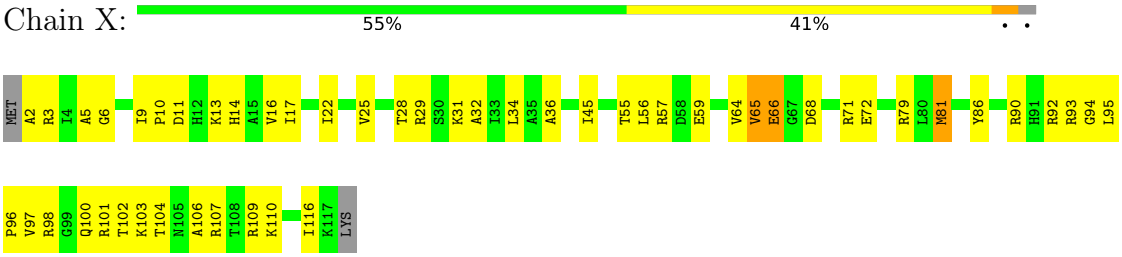
• Molecule 36: 30S ribosomal protein S19

Chain W:



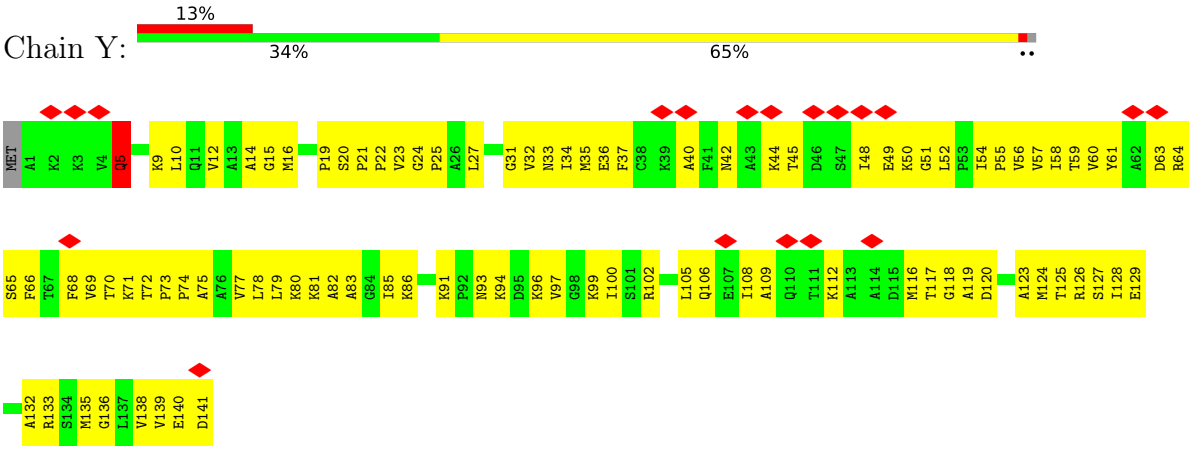
• Molecule 37: 30S ribosomal protein S13

Chain X:



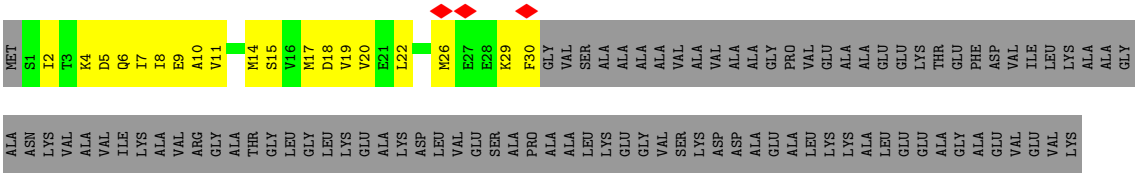
• Molecule 38: 50S ribosomal protein L11

Chain Y:



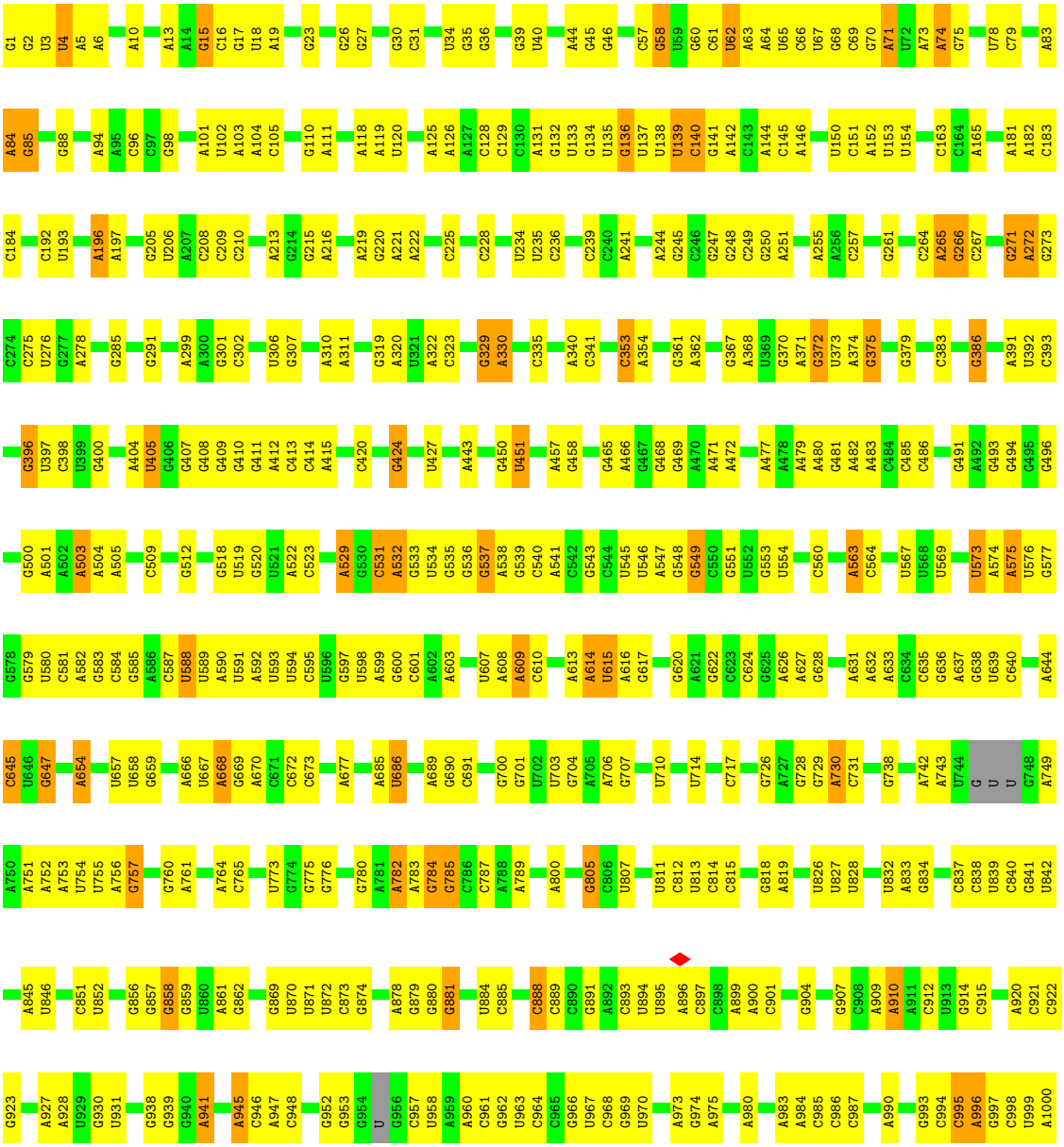
• Molecule 39: 50S ribosomal protein L7/L12

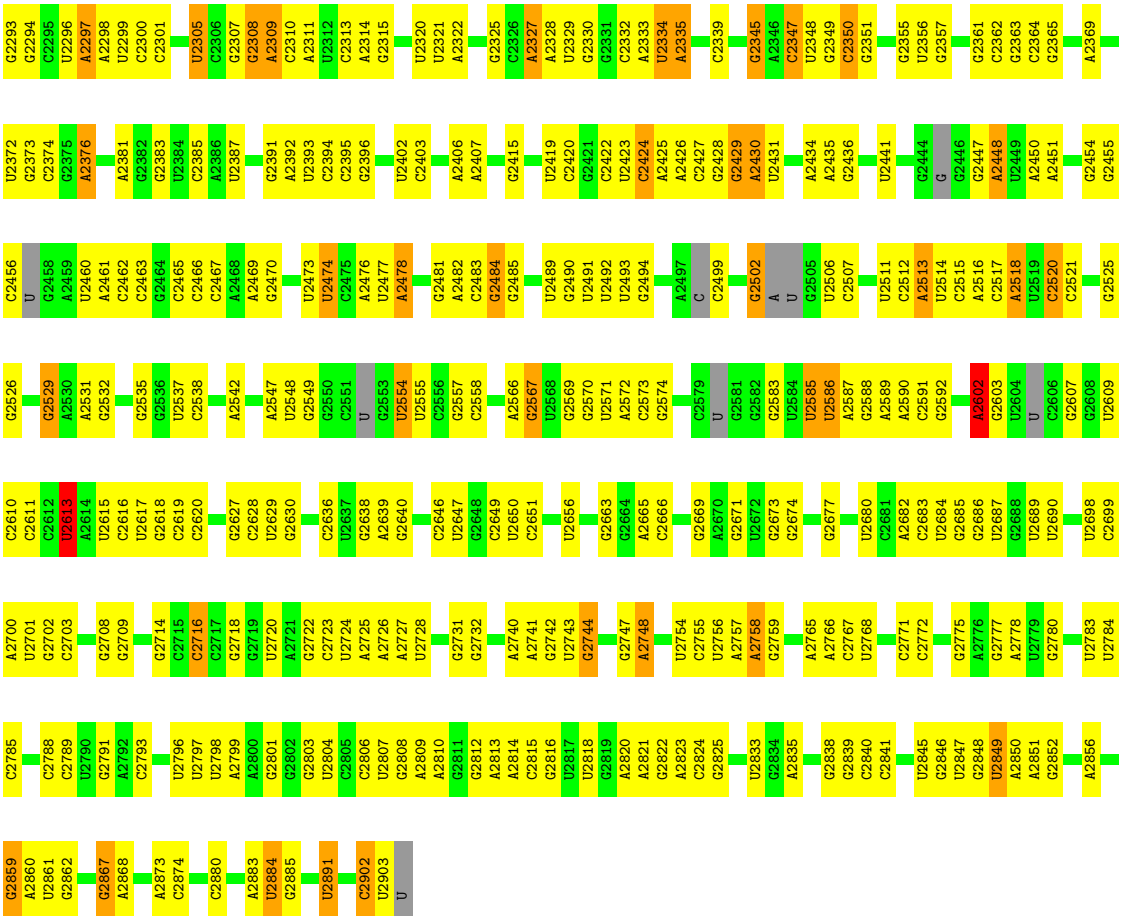
Chain Z:



• Molecule 40: 23S rRNA

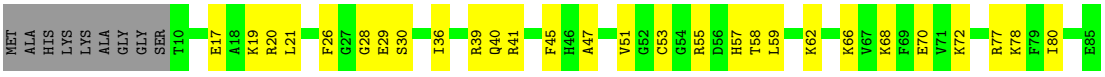
Chain a:





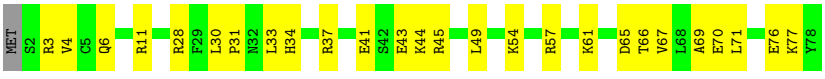
• Molecule 41: 50S ribosomal protein L27

Chain b:



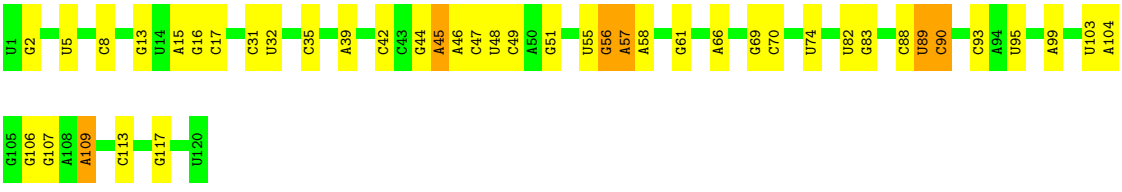
• Molecule 42: 50S ribosomal protein L28

Chain c:



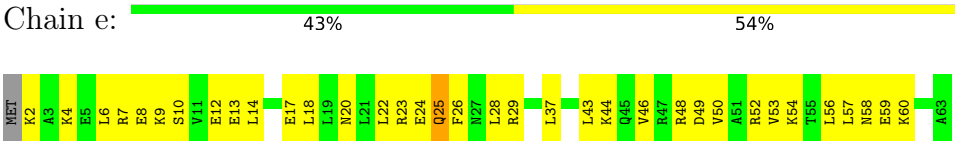
• Molecule 43: 5S rRNA

Chain d:



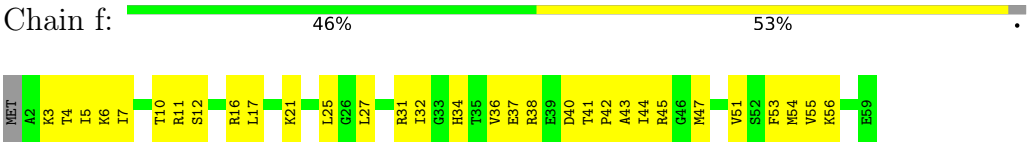
• Molecule 44: 50S ribosomal protein L29

Chain e:



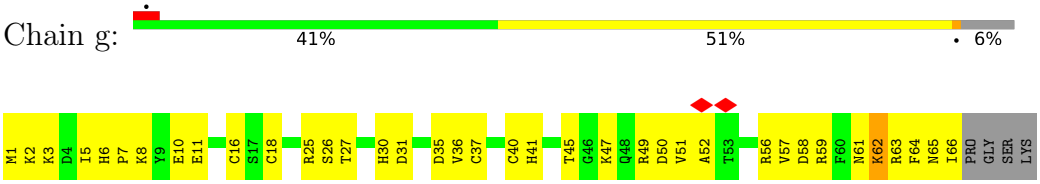
• Molecule 45: 50S ribosomal protein L30

Chain f:



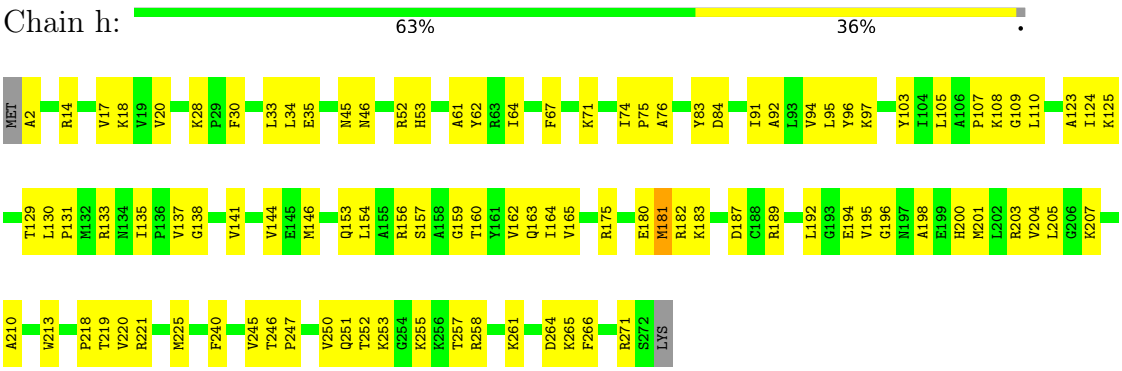
• Molecule 46: 50S ribosomal protein L31

Chain g:



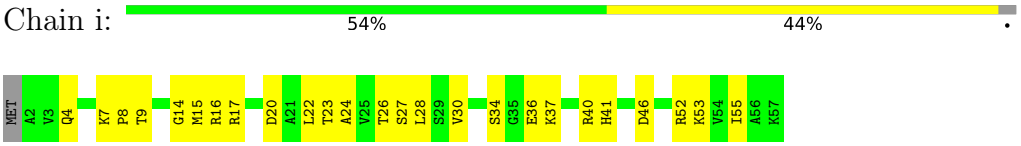
• Molecule 47: 50S ribosomal protein L2

Chain h:



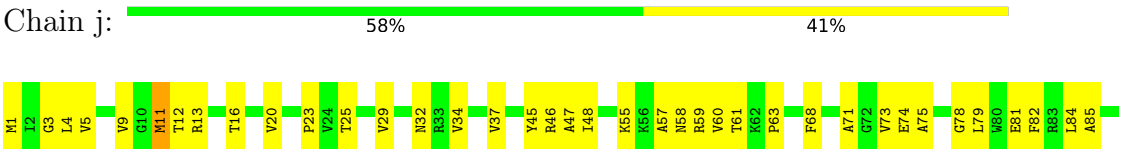
• Molecule 48: 50S ribosomal protein L32

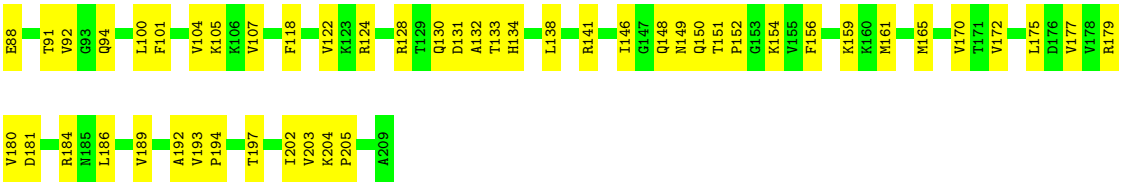
Chain i:



• Molecule 49: 50S ribosomal protein L3

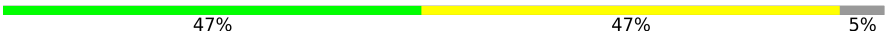
Chain j:





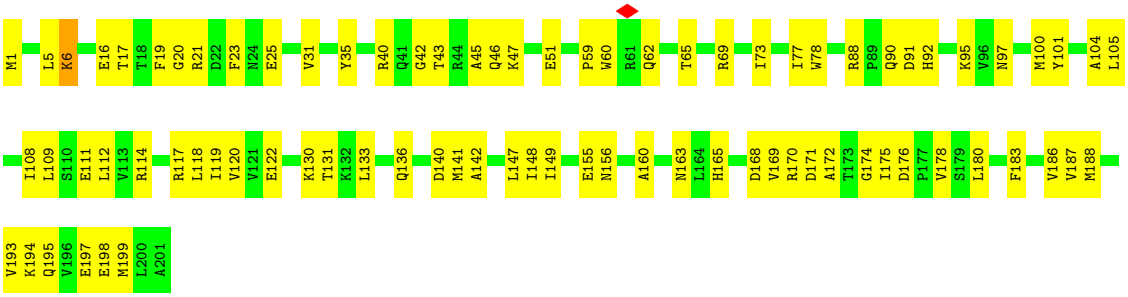
• Molecule 50: 50S ribosomal protein L33

Chain k:



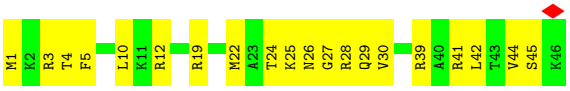
• Molecule 51: 50S ribosomal protein L4

Chain l:



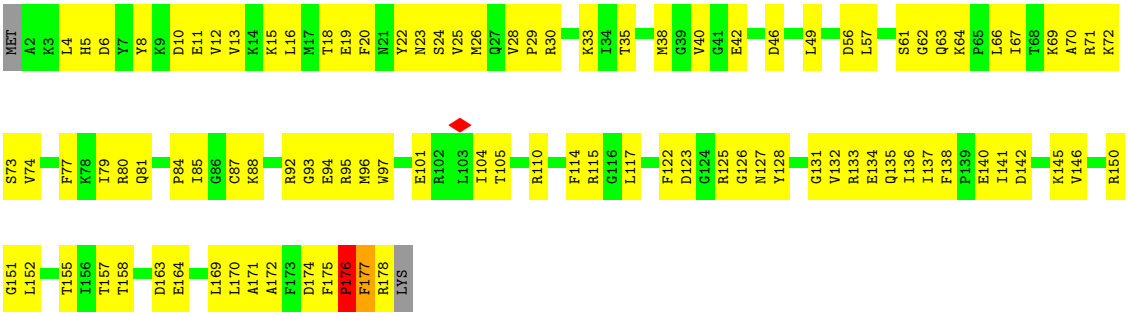
• Molecule 52: 50S ribosomal protein L34

Chain m:



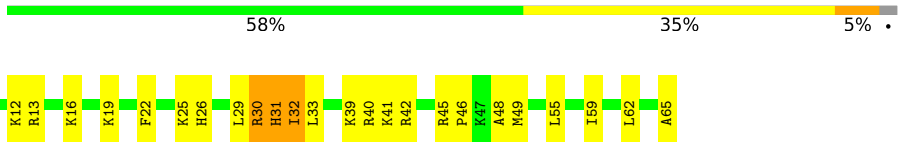
• Molecule 53: 50S ribosomal protein L5

Chain n:



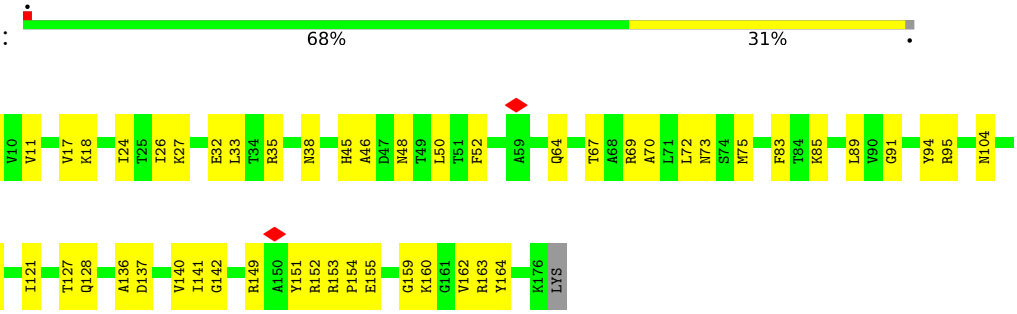
• Molecule 54: 50S ribosomal protein L35

Chain o:



• Molecule 55: 50S ribosomal protein L6

Chain p:

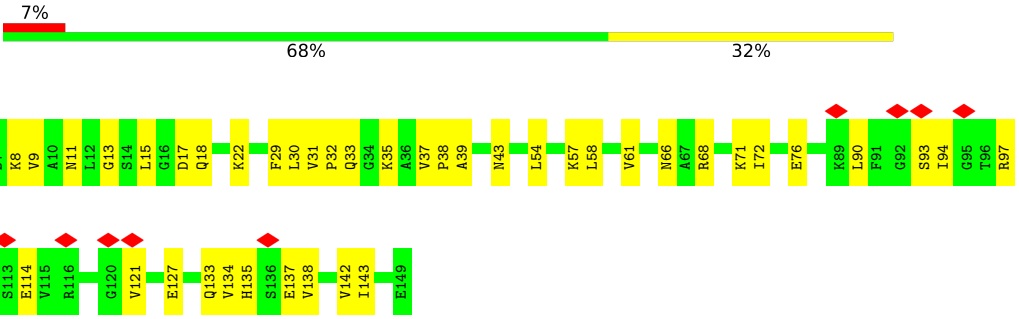


• Molecule 56: 50S ribosomal protein L36

Chain q:

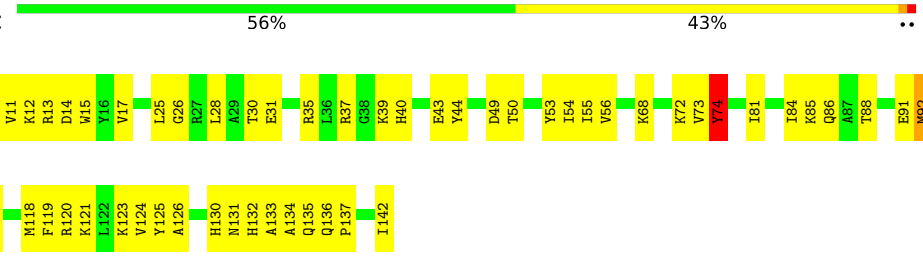
• Molecule 57: 50S ribosomal protein L9

Chain r:



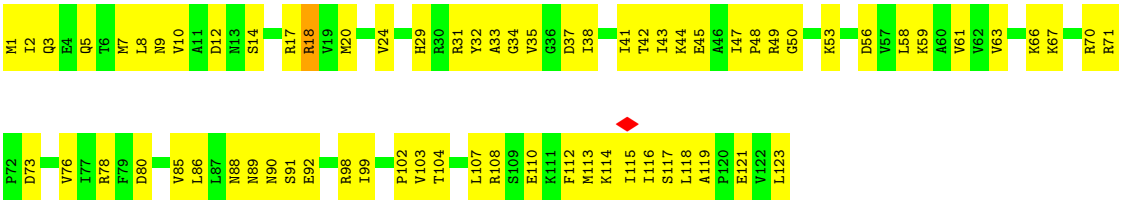
• Molecule 58: 50S ribosomal protein L13

Chain s:



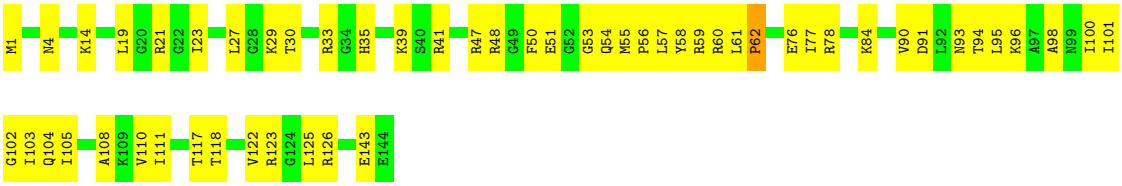
• Molecule 59: 50S ribosomal protein L14

Chain t:



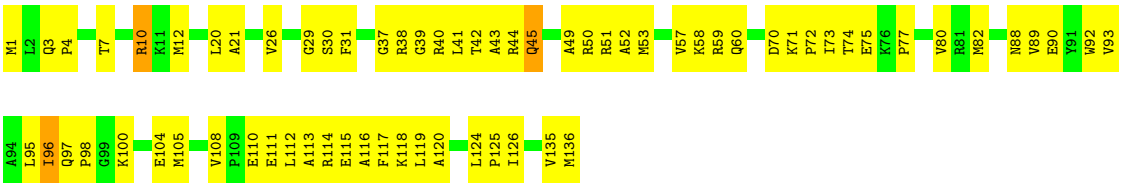
• Molecule 60: 50S ribosomal protein L15

Chain u:



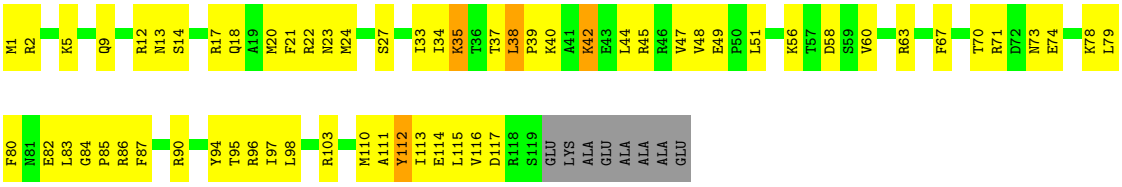
• Molecule 61: 50S ribosomal protein L16

Chain v:



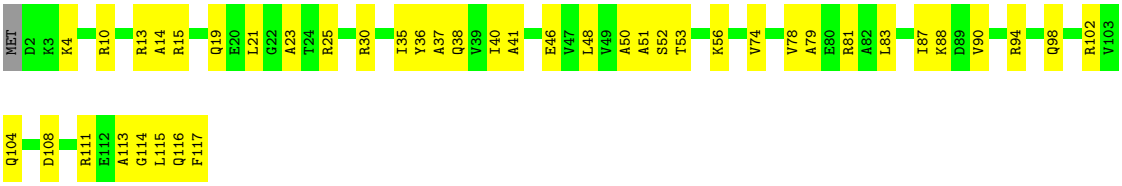
• Molecule 62: 50S ribosomal protein L17

Chain w:



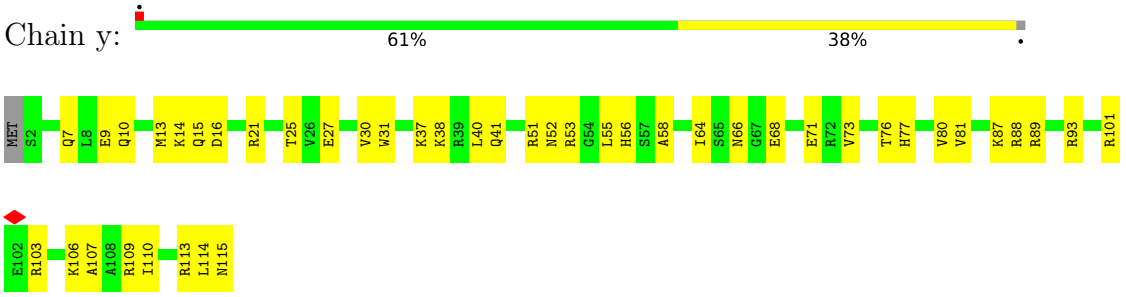
• Molecule 63: 50S ribosomal protein L18

Chain x:



• Molecule 64: 50S ribosomal protein L19

Chain y:



• Molecule 65: 50S ribosomal protein L20

Chain z:

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	2632	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 ($e^-/Å^2$)	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	0.027	Depositor
Minimum map value	-0.016	Depositor
Average map value	-0.001	Depositor
Map value standard deviation	0.002	Depositor
Recommended contour level	0.0039	Depositor
Map size (Å)	531.968, 531.968, 531.968	wwPDB
Map dimensions	512, 512, 512	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.039, 1.039, 1.039	Depositor

5 Model quality

5.1 Standard geometry

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

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#$\|Z\|$ >5	RMSZ	#$\|Z\|$ >5
1	0	0.43	0/829	0.51	0/1107
2	1	0.60	0/864	0.63	0/1156
3	2	0.55	1/752 (0.1%)	0.67	0/1005
4	3	0.35	0/796	0.49	0/1062
5	4	0.57	0/766	0.63	0/1025
6	5	0.56	0/816	0.77	0/1259
7	6	0.56	0/783	0.78	0/1203
8	7	0.57	2/761 (0.3%)	0.88	3/1178 (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	0.43	0/1317	1.11	10/1786 (0.6%)
13	AC	0.37	0/1718	0.61	0/2328
13	AD	0.32	0/1696	0.60	0/2298
14	AE	0.37	0/10561	0.64	5/14258 (0.0%)
15	AF	0.29	0/652	0.61	0/879
16	C	0.67	0/553	0.80	1/743 (0.1%)
17	D	0.29	0/36610	0.41	9/57091 (0.0%)
18	E	0.61	0/675	0.72	0/895
19	F	0.53	0/597	0.60	0/792
20	G	0.68	5/1791 (0.3%)	0.79	8/2413 (0.3%)
21	H	0.38	0/1746	0.81	0/2382
22	I	0.57	1/1663 (0.1%)	0.68	5/2241 (0.2%)
23	J	0.46	0/1665	0.58	0/2227
24	K	0.72	2/1165 (0.2%)	0.86	6/1568 (0.4%)
25	L	0.68	1/867 (0.1%)	0.79	1/1171 (0.1%)
26	M	0.56	0/1195	0.69	2/1602 (0.1%)
27	N	0.50	0/989	0.58	0/1326
28	O	0.65	3/1034 (0.3%)	0.79	3/1375 (0.2%)
29	P	0.49	0/800	0.66	1/1082 (0.1%)
30	Q	0.72	2/893 (0.2%)	0.76	2/1205 (0.2%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
31	R	0.49	0/952	0.59	0/1274
32	S	0.53	0/817	0.61	0/1088
33	T	0.57	1/722 (0.1%)	0.68	0/964
34	U	0.41	0/659	0.53	0/884
35	V	0.48	0/657	0.63	0/881
36	W	0.56	1/680 (0.1%)	0.62	1/915 (0.1%)
37	X	0.45	0/909	0.72	1/1215 (0.1%)
38	Y	0.38	2/1046 (0.2%)	0.66	2/1410 (0.1%)
39	Z	0.12	0/227	0.41	0/304
40	a	0.30	0/69247	0.43	10/107985 (0.0%)
41	b	0.41	0/589	0.56	0/779
42	c	0.51	0/635	0.61	0/848
43	d	0.25	0/2872	0.37	0/4478
44	e	0.68	2/502 (0.4%)	0.65	1/667 (0.1%)
45	f	0.52	0/452	0.57	0/605
46	g	0.45	1/531 (0.2%)	0.64	0/709
47	h	0.49	1/2121 (0.0%)	0.58	1/2852 (0.0%)
48	i	0.41	0/450	0.55	0/599
49	j	0.51	0/1586	0.57	1/2134 (0.0%)
50	k	0.45	0/433	0.62	0/576
51	l	0.51	1/1571 (0.1%)	0.62	0/2113
52	m	0.45	0/380	0.56	0/498
53	n	0.46	0/1434	0.66	1/1926 (0.1%)
54	o	0.51	0/513	0.71	1/676 (0.1%)
55	p	0.41	0/1333	0.62	2/1805 (0.1%)
56	q	0.46	0/303	0.64	0/397
57	r	0.28	0/1122	0.48	0/1515
58	s	0.70	2/1152 (0.2%)	0.73	2/1551 (0.1%)
59	t	0.52	0/955	0.75	3/1279 (0.2%)
60	u	0.43	0/1062	0.59	0/1413
61	v	0.60	1/1093 (0.1%)	0.77	3/1460 (0.2%)
62	w	0.83	3/964 (0.3%)	0.80	3/1289 (0.2%)
63	x	0.34	0/902	0.50	0/1209
64	y	0.41	0/929	0.54	0/1242
65	z	0.62	2/960 (0.2%)	0.62	0/1278
All	All	0.38	34/190612 (0.0%)	0.53	90/280873 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
9	9	0	3
12	AB	0	9
13	AC	0	1
13	AD	0	1
14	AE	0	5
20	G	0	1
21	H	0	5
22	I	0	1
24	K	0	2
28	O	0	1
37	X	0	1
38	Y	0	1
53	n	0	1
54	o	0	1
58	s	0	1
60	u	0	2
All	All	0	36

All (34) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
62	w	35	LYS	CE-NZ	-12.79	1.10	1.49
28	O	80	ARG	CD-NE	-10.46	1.31	1.46
62	w	42	LYS	CD-CE	-9.39	1.24	1.52
24	K	45	ARG	CG-CD	7.72	1.75	1.52
8	7	46	G	C1'-N9	-7.60	1.36	1.48
65	z	74	ILE	CG1-CD1	7.60	1.81	1.51
20	G	19	GLN	CB-CG	-7.57	1.29	1.52
28	O	118	LEU	CG-CD2	-7.32	1.28	1.52
36	W	66	MET	CG-SD	-7.20	1.62	1.80
25	L	42	TRP	CB-CG	-7.19	1.27	1.50
58	s	74	TYR	CZ-OH	-7.10	1.23	1.38
44	e	46	VAL	CB-CG1	-7.08	1.29	1.52
8	7	2	U	C1'-N1	7.04	1.59	1.48
3	2	5	GLU	CG-CD	-6.97	1.34	1.52
30	Q	106	ARG	CD-NE	-6.39	1.37	1.46
28	O	80	ARG	CZ-NH2	6.29	1.41	1.33
20	G	158	PRO	CA-C	-6.25	1.44	1.52
20	G	158	PRO	CG-CD	6.02	1.71	1.50
38	Y	5	GLN	CB-CG	-6.01	1.34	1.52
65	z	74	ILE	CB-CG2	-6.01	1.32	1.52
47	h	181	MET	CG-SD	-6.01	1.65	1.80
58	s	92	MET	CG-SD	-5.95	1.65	1.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
24	K	45	ARG	CD-NE	5.87	1.54	1.46
51	l	6	LYS	CE-NZ	-5.81	1.31	1.49
20	G	157	LEU	C-O	-5.77	1.15	1.24
33	T	3	LEU	CG-CD2	-5.63	1.33	1.52
38	Y	5	GLN	CA-C	-5.56	1.45	1.52
46	g	62	LYS	CE-NZ	-5.52	1.32	1.49
44	e	25	GLN	CB-CG	-5.32	1.36	1.52
22	I	134	MET	CB-CG	-5.30	1.36	1.52
30	Q	119	ASN	CG-ND2	5.13	1.44	1.33
20	G	19	GLN	CD-NE2	-5.13	1.22	1.33
62	w	38	LEU	N-CA	-5.12	1.42	1.46
61	v	45	GLN	CB-CG	-5.11	1.37	1.52

All (90) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	K	71	MET	CG-SD-CE	-11.30	76.03	100.90
20	G	158	PRO	N-CD-CG	-10.98	86.72	103.20
12	AB	141	LEU	CA-C-N	-10.57	106.30	122.16
12	AB	141	LEU	C-N-CA	-10.57	106.30	122.16
12	AB	123	PHE	N-CA-C	-9.74	93.47	108.96
25	L	102	MET	CA-CB-CG	-9.62	94.87	114.10
58	s	92	MET	CG-SD-CE	-9.36	80.31	100.90
20	G	113	ARG	NE-CZ-NH2	9.20	127.48	119.20
8	7	1	A	O3'-P-O5'	-8.65	91.02	104.00
24	K	78	ASN	N-CA-CB	-8.53	96.07	110.49
8	7	4	U	C2'-C3'-O3'	8.26	121.89	109.50
59	t	18	ARG	NE-CZ-NH2	8.01	126.41	119.20
54	o	30	ARG	NE-CZ-NH1	-7.62	113.88	121.50
16	C	73	ARG	NE-CZ-NH2	7.46	125.92	119.20
28	O	80	ARG	CG-CD-NE	7.41	128.29	112.00
62	w	112	TYR	CZ-CE2-CD2	-7.37	106.33	119.60
22	I	134	MET	CB-CG-SD	-7.18	91.16	112.70
61	v	96	ILE	CA-C-N	7.08	132.35	121.03
61	v	96	ILE	C-N-CA	7.08	132.35	121.03
20	G	158	PRO	CA-N-CD	-7.06	102.12	112.00
20	G	19	GLN	CA-CB-CG	7.01	128.12	114.10
59	t	18	ARG	NE-CZ-NH1	-6.97	114.53	121.50
40	a	2334	U	OP2-P-O3'	-6.93	87.22	108.00
28	O	80	ARG	CB-CG-CD	-6.92	95.39	111.30
17	D	37	U	N3-C4-O4	-6.63	99.52	119.40
62	w	112	TYR	OH-CZ-CE2	-6.57	100.20	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
17	D	718	A	P-O5'-C5'	-6.56	111.06	120.90
30	Q	110	ILE	N-CA-C	-6.48	99.04	108.11
17	D	827	U	N3-C4-O4	-6.40	100.19	119.40
40	a	1019	U	N3-C4-O4	-6.36	100.33	119.40
17	D	1358	U	N3-C4-O4	-6.35	100.36	119.40
12	AB	99	TYR	CA-C-N	6.32	137.22	121.80
12	AB	99	TYR	C-N-CA	6.32	137.22	121.80
58	s	92	MET	CB-CG-SD	-6.31	93.77	112.70
36	W	40	ILE	CA-CB-CG1	-6.30	99.69	110.40
40	a	1019	U	C5-C4-O4	6.12	144.27	125.90
28	O	103	PHE	CD1-CE1-CZ	-6.01	109.19	120.00
40	a	1082	U	N3-C4-O4	-5.94	101.58	119.40
40	a	1141	U	C5-C4-O4	5.93	143.69	125.90
40	a	2613	U	N3-C4-O4	-5.91	101.66	119.40
17	D	37	U	C5-C4-O4	5.88	143.53	125.90
20	G	157	LEU	C-N-CD	-5.87	100.94	125.00
53	n	176	PRO	N-CA-C	5.86	121.24	114.20
17	D	1358	U	C5-C4-O4	5.85	143.46	125.90
12	AB	129	ILE	CA-C-N	5.84	132.70	121.54
12	AB	129	ILE	C-N-CA	5.84	132.70	121.54
22	I	168	TYR	N-CA-CB	5.83	120.21	110.59
37	X	81	MET	CG-SD-CE	-5.82	88.10	100.90
26	M	55	GLY	CA-C-N	5.77	132.57	121.54
26	M	55	GLY	C-N-CA	5.77	132.57	121.54
17	D	884	U	N3-C4-O4	-5.75	102.15	119.40
20	G	154	MET	CA-CB-CG	-5.75	102.61	114.10
14	AE	853	THR	CA-C-N	5.72	130.97	122.74
14	AE	853	THR	C-N-CA	5.72	130.97	122.74
17	D	827	U	C5-C4-O4	5.72	143.05	125.90
22	I	134	MET	CG-SD-CE	-5.67	88.43	100.90
9	9	130	PRO	CA-N-CD	-5.65	104.09	112.00
24	K	45	ARG	CB-CG-CD	-5.63	98.35	111.30
20	G	154	MET	CG-SD-CE	-5.62	88.55	100.90
24	K	45	ARG	CA-C-N	5.61	130.31	122.23
24	K	45	ARG	C-N-CA	5.61	130.31	122.23
40	a	1141	U	N3-C4-O4	-5.56	102.73	119.40
59	t	18	ARG	CG-CD-NE	-5.55	99.78	112.00
12	AB	151	LYS	CA-C-N	5.53	132.10	121.54
12	AB	151	LYS	C-N-CA	5.53	132.10	121.54
49	j	11	MET	CB-CG-SD	-5.51	96.16	112.70
14	AE	1184	ASP	N-CA-C	5.47	121.90	109.81
30	Q	106	ARG	NE-CZ-NH1	-5.44	116.06	121.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
9	9	129	LEU	C-N-CD	-5.40	102.84	125.00
61	v	10	ARG	NE-CZ-NH1	-5.38	116.12	121.50
62	w	38	LEU	N-CA-C	-5.32	105.23	112.35
8	7	10	U	C2'-C3'-O3'	5.27	117.40	109.50
38	Y	5	GLN	CB-CA-C	-5.26	99.96	110.42
24	K	45	ARG	O-C-N	-5.23	116.84	123.01
55	p	46	ALA	CA-C-N	5.23	131.53	121.54
55	p	46	ALA	C-N-CA	5.23	131.53	121.54
29	P	88	MET	CG-SD-CE	-5.23	89.40	100.90
40	a	2613	U	C5-C4-O4	5.23	141.58	125.90
20	G	158	PRO	N-CA-CB	-5.18	97.94	103.38
38	Y	5	GLN	CA-CB-CG	5.18	124.46	114.10
40	a	2602	A	C4'-C3'-O3'	5.14	117.11	109.40
22	I	170	GLU	CB-CG-CD	5.13	121.33	112.60
40	a	2334	U	C2'-C3'-O3'	-5.10	101.84	109.50
44	e	25	GLN	CG-CD-NE2	-5.09	108.76	116.40
17	D	884	U	C5-C4-O4	5.08	141.13	125.90
12	AB	159	PHE	CA-CB-CG	5.06	118.86	113.80
14	AE	709	ARG	CA-C-N	5.05	135.38	126.45
14	AE	709	ARG	C-N-CA	5.05	135.38	126.45
22	I	167	TRP	CA-C-O	-5.04	115.71	121.40
47	h	181	MET	CG-SD-CE	-5.00	89.89	100.90

There are no chirality outliers.

All (36) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
9	9	107	GLU	Peptide
9	9	79	PRO	Peptide
9	9	92	ALA	Peptide
12	AB	106	ASP	Peptide
12	AB	116	VAL	Peptide
12	AB	117	ILE	Peptide
12	AB	128	ALA	Peptide
12	AB	137	ALA	Peptide
12	AB	140	MET	Peptide
12	AB	151	LYS	Peptide
12	AB	159	PHE	Peptide
12	AB	160	ARG	Peptide
13	AC	192	VAL	Peptide
13	AD	20	SER	Peptide
14	AE	1326	GLN	Peptide

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Mol	Chain	Res	Type	Group
14	AE	1344	LEU	Peptide
14	AE	313	GLY	Peptide
14	AE	416	ILE	Peptide
14	AE	90	VAL	Mainchain
20	G	19	GLN	Sidechain
21	H	124	LEU	Peptide
21	H	171	ARG	Peptide
21	H	274	TYR	Peptide
21	H	81	GLU	Peptide
21	H	82	THR	Peptide
22	I	167	TRP	Mainchain
24	K	45	ARG	Mainchain
24	K	77	ASN	Peptide
28	O	12	ARG	Peptide
37	X	65	VAL	Peptide
38	Y	5	GLN	Peptide
53	n	176	PRO	Peptide
54	o	31	HIS	Peptide
58	s	74	TYR	Sidechain
60	u	35	HIS	Peptide
60	u	62	PRO	Peptide

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	0	816	839	839	55	0
2	1	857	922	922	73	0
3	2	746	811	811	59	0
4	3	788	844	844	45	0
5	4	753	780	780	87	0
6	5	726	0	392	111	0
7	6	703	0	396	35	0
8	7	687	0	342	110	0
9	9	1117	0	1155	258	0
10	A	1620	826	827	111	0
10	B	1620	814	827	111	0
11	AA	10381	0	10390	233	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
12	AB	1286	0	1302	340	0
13	AC	1698	0	1718	15	0
13	AD	1677	0	1713	26	0
14	AE	10404	0	10624	286	0
15	AF	650	0	658	10	0
16	C	544	559	560	111	0
17	D	32703	16423	16453	736	0
18	E	669	719	719	78	0
19	F	589	629	629	62	0
20	G	1760	1785	1787	158	0
21	H	1730	1454	1455	166	0
22	I	1636	1710	1710	154	0
23	J	1643	1707	1707	82	0
24	K	1152	1196	1196	120	0
25	L	848	846	846	106	0
26	M	1181	1235	1238	122	0
27	N	979	1031	1031	94	0
28	O	1022	1070	1070	92	0
29	P	790	831	831	122	0
30	Q	877	887	887	94	0
31	R	939	1001	1001	93	0
32	S	805	844	844	72	0
33	T	714	734	734	89	0
34	U	649	666	666	63	0
35	V	648	691	691	71	0
36	W	663	688	688	47	0
37	X	900	964	965	111	0
38	Y	1032	0	1088	212	0
39	Z	227	0	237	30	0
40	a	61841	31077	31120	1312	0
41	b	582	599	599	45	0
42	c	625	652	652	35	0
43	d	2569	1301	1301	44	0
44	e	501	531	531	45	0
45	f	448	488	488	39	0
46	g	522	520	520	62	0
47	h	2082	2154	2154	136	0
48	i	444	459	458	48	0
49	j	1565	1617	1616	116	0
50	k	426	464	464	43	0
51	l	1552	1619	1619	126	0
52	m	377	418	418	32	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
53	n	1410	1443	1444	155	0
54	o	504	572	572	52	0
55	p	1313	1358	1358	75	0
56	q	302	343	343	27	0
57	r	1111	1148	1148	52	0
58	s	1129	1162	1162	126	0
59	t	946	1023	1023	107	0
60	u	1053	1129	1129	78	0
61	v	1074	1157	1157	119	0
62	w	951	994	994	102	0
63	x	892	923	923	46	0
64	y	917	962	962	53	0
65	z	947	1020	1019	79	0
66	AE	1	0	0	0	0
67	AE	2	0	0	1	0
All	All	177315	98639	128747	6798	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 22.

All (6798) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:5:11:DA:C5'	12:AB:67:THR:HG22	1.20	1.65
6:5:10:DT:C7	11:AA:62:TYR:CD2	1.84	1.57
24:K:45:ARG:CD	24:K:45:ARG:CG	1.75	1.56
6:5:10:DT:C5	11:AA:62:TYR:CD2	1.95	1.54
6:5:9:DG:C5'	11:AA:473:ARG:HB3	1.34	1.53
65:z:74:ILE:CG1	65:z:74:ILE:CD1	1.81	1.53
6:5:9:DG:H5"	11:AA:473:ARG:CB	1.29	1.51
7:6:23:DC:C5'	14:AE:259:ARG:HH12	1.21	1.50
6:5:10:DT:C6	11:AA:62:TYR:CE2	2.00	1.47
14:AE:68:TYR:C	14:AE:92:VAL:HG12	1.38	1.47
12:AB:81:PHE:CD2	14:AE:293:ARG:NH1	1.77	1.45
6:5:10:DT:C5	11:AA:62:TYR:CE2	2.04	1.45
12:AB:81:PHE:CE1	14:AE:293:ARG:CB	1.92	1.42
12:AB:144:ASN:CB	12:AB:149:GLU:OE1	1.67	1.40
6:5:11:DA:P	12:AB:68:THR:HA	1.58	1.40
11:AA:380:ALA:N	12:AB:65:HIS:CE1	1.84	1.34
6:5:9:DG:OP2	11:AA:473:ARG:CB	1.73	1.34
11:AA:377:THR:OG1	12:AB:62:GLU:HB3	1.20	1.33

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AB:81:PHE:CE1	14:AE:293:ARG:HB3	1.32	1.33
11:AA:481:LEU:CD2	12:AB:16:ARG:CD	2.02	1.32
12:AB:51:PHE:HE2	14:AE:288:PRO:CG	1.44	1.31
12:AB:82:GLY:CA	14:AE:142:GLU:HB2	1.62	1.29
8:7:22:U:C5'	22:I:80:LYS:HG3	1.63	1.29
6:5:11:DA:C3'	12:AB:67:THR:HG21	1.63	1.28
12:AB:146:ILE:HD13	29:P:100:ILE:CG2	1.62	1.28
11:AA:387:ASN:CG	11:AA:394:ARG:NH1	1.92	1.27
6:5:11:DA:C5'	12:AB:67:THR:CG2	2.12	1.27
6:5:10:DT:C1'	12:AB:71:ALA:H	1.46	1.27
14:AE:287:ALA:CB	14:AE:292:VAL:HG13	1.61	1.27
11:AA:377:THR:OG1	12:AB:62:GLU:CB	1.80	1.27
6:5:11:DA:OP2	12:AB:68:THR:CA	1.81	1.26
12:AB:81:PHE:HA	14:AE:141:PHE:O	1.27	1.25
8:7:21:U:H5	22:I:80:LYS:O	1.17	1.25
14:AE:288:PRO:HD2	14:AE:291:ILE:CG2	1.66	1.24
14:AE:68:TYR:C	14:AE:92:VAL:CG1	2.11	1.23
8:7:11:U:H4'	24:K:20:ARG:NH2	1.50	1.23
7:6:25:DT:OP1	11:AA:496:LYS:CA	1.80	1.22
6:5:10:DT:H1'	12:AB:71:ALA:N	1.21	1.22
12:AB:51:PHE:CE2	14:AE:288:PRO:CG	2.22	1.21
6:5:10:DT:H71	11:AA:62:TYR:CG	1.75	1.21
6:5:11:DA:OP2	12:AB:68:THR:N	1.73	1.21
7:6:23:DC:C5'	14:AE:259:ARG:NH1	2.05	1.20
8:7:22:U:H5"	22:I:80:LYS:CG	1.71	1.19
6:5:11:DA:OP2	12:AB:68:THR:HA	1.36	1.18
55:p:159:GLY:O	55:p:163:ARG:NH1	1.77	1.18
6:5:9:DG:C5'	11:AA:473:ARG:CG	2.22	1.17
6:5:9:DG:H5'	11:AA:473:ARG:CG	1.76	1.16
14:AE:72:CYS:SG	29:P:89:ARG:CZ	2.33	1.16
57:r:135:HIS:ND1	57:r:137:GLU:OE1	1.77	1.16
6:5:9:DG:OP2	11:AA:473:ARG:HB2	0.97	1.14
8:7:21:U:C5	22:I:80:LYS:O	1.99	1.14
9:9:46:ARG:HG3	9:9:94:ARG:HH21	1.12	1.14
10:A:76:A:O2'	40:a:2394:C:N3	1.81	1.14
11:AA:380:ALA:N	12:AB:65:HIS:HE1	1.29	1.13
12:AB:54:TYR:CE2	14:AE:291:ILE:HG23	1.84	1.13
12:AB:102:LYS:CE	14:AE:285:LEU:HG	1.78	1.13
12:AB:147:ASN:ND2	29:P:102:LEU:O	1.80	1.13
6:5:10:DT:C7	11:AA:62:TYR:CG	2.31	1.13
14:AE:287:ALA:HB2	14:AE:292:VAL:CG1	1.78	1.13

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:2335:A:OP2	63:x:13:ARG:NE	1.81	1.13
37:X:81:MET:HE1	37:X:92:ARG:HB3	1.20	1.12
12:AB:144:ASN:HB3	12:AB:149:GLU:OE1	1.37	1.12
25:L:9:MET:HE1	25:L:85:ILE:HB	1.17	1.12
7:6:23:DC:H5"	14:AE:259:ARG:HH12	1.14	1.12
12:AB:138:ARG:HA	12:AB:154:VAL:O	1.50	1.11
10:B:75:C:OP2	40:a:2602:A:O2'	1.67	1.11
6:5:9:DG:C5'	11:AA:473:ARG:CB	2.02	1.11
6:5:10:DT:H73	11:AA:62:TYR:CD2	1.77	1.11
11:AA:387:ASN:CG	11:AA:394:ARG:HH11	1.55	1.11
6:5:11:DA:H5'	12:AB:67:THR:HG22	1.14	1.10
35:V:7:THR:OG1	35:V:60:GLU:OE2	1.66	1.10
38:Y:96:LYS:HE3	38:Y:136:GLY:HA3	1.29	1.10
36:W:40:ILE:HD13	36:W:66:MET:SD	1.89	1.10
45:f:4:THR:OG1	45:f:37:GLU:OE2	1.68	1.10
38:Y:5:GLN:HG2	38:Y:61:TYR:CE1	1.87	1.09
11:AA:469:VAL:O	11:AA:473:ARG:HG2	1.53	1.09
12:AB:146:ILE:HD13	29:P:100:ILE:HG23	1.34	1.09
6:5:10:DT:O3'	12:AB:67:THR:O	1.67	1.08
12:AB:144:ASN:HA	12:AB:149:GLU:CD	1.79	1.08
14:AE:288:PRO:HD2	14:AE:291:ILE:HG21	1.10	1.08
57:r:135:HIS:HD1	57:r:137:GLU:CD	1.59	1.08
6:5:9:DG:H5'	11:AA:473:ARG:HG3	1.09	1.08
9:9:50:VAL:HG22	38:Y:119:ALA:HB3	1.33	1.08
12:AB:81:PHE:CE2	14:AE:293:ARG:NH1	1.88	1.08
12:AB:82:GLY:HA2	14:AE:142:GLU:HB2	1.13	1.08
7:6:25:DT:C3'	11:AA:496:LYS:HG3	1.74	1.08
12:AB:28:CYS:HA	12:AB:56:PHE:O	1.52	1.08
12:AB:143:LEU:HD13	12:AB:150:ILE:HD11	1.27	1.08
60:u:122:VAL:HG12	60:u:125:LEU:HD21	1.35	1.08
14:AE:287:ALA:HB2	14:AE:292:VAL:HG13	1.08	1.08
8:7:11:U:C4'	24:K:20:ARG:NH2	2.16	1.07
19:F:37:PHE:HB2	30:Q:126:LYS:HE2	1.35	1.07
12:AB:51:PHE:CZ	14:AE:288:PRO:HD3	1.88	1.07
12:AB:102:LYS:HE2	14:AE:285:LEU:HG	1.07	1.07
12:AB:82:GLY:HA2	14:AE:142:GLU:CB	1.85	1.07
26:M:4:ARG:HG3	26:M:5:ARG:HG3	1.33	1.07
7:6:23:DC:O5'	14:AE:259:ARG:NH1	1.87	1.06
17:D:1309:G:OP2	37:X:98:ARG:NE	1.88	1.06
52:m:22:MET:O	52:m:28:ARG:NH1	1.87	1.06
12:AB:123:PHE:CZ	29:P:81:GLU:HA	1.90	1.06

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:481:LEU:HD21	12:AB:16:ARG:CD	1.60	1.06
6:5:9:DG:C5'	11:AA:473:ARG:HG3	1.82	1.05
12:AB:146:ILE:HD13	29:P:100:ILE:HG21	1.34	1.05
38:Y:14:ALA:HB1	38:Y:50:LYS:HD2	1.37	1.05
12:AB:51:PHE:HE2	14:AE:288:PRO:HG2	1.21	1.05
19:F:25:LYS:NZ	21:H:336:ASP:OD1	1.90	1.05
6:5:11:DA:H3'	12:AB:67:THR:HG21	1.05	1.04
17:D:564:C:OP2	31:R:12:ARG:NH2	1.91	1.04
25:L:9:MET:HE1	25:L:85:ILE:CB	1.86	1.04
7:6:18:DT:H3	8:7:43:A:N6	1.55	1.03
9:9:48:ALA:HB3	9:9:51:TYR:HE1	1.20	1.03
12:AB:81:PHE:CA	14:AE:141:PHE:O	2.06	1.03
49:j:184:ARG:NH2	64:y:7:GLN:OE1	1.90	1.03
9:9:136:ILE:HD12	9:9:139:LEU:HD12	1.38	1.03
49:j:179:ARG:NH1	49:j:180:VAL:O	1.92	1.03
64:y:51:ARG:NH1	64:y:56:HIS:O	1.91	1.03
12:AB:144:ASN:CA	12:AB:149:GLU:OE1	2.06	1.03
14:AE:64:PRO:CG	14:AE:91:GLU:O	2.06	1.03
38:Y:56:VAL:HA	38:Y:71:LYS:HZ1	1.21	1.03
8:7:11:U:O2'	24:K:33:PHE:CE1	2.10	1.02
55:p:149:ARG:NH2	55:p:152:ARG:O	1.91	1.02
25:L:42:TRP:CH2	25:L:102:MET:HG3	1.94	1.02
38:Y:93:ASN:HA	38:Y:135:MET:CE	1.89	1.02
7:6:25:DT:H3'	11:AA:496:LYS:HG3	1.41	1.02
8:7:4:U:O2'	17:D:1403:C:O2	1.75	1.02
9:9:103:ASN:ND2	9:9:107:GLU:OE2	1.90	1.02
51:l:1:MET:HE2	51:l:16:GLU:HA	1.40	1.02
6:5:11:DA:P	12:AB:68:THR:CA	2.45	1.02
9:9:31:ARG:NH1	40:a:1054:A:O4'	1.91	1.02
11:AA:481:LEU:HD23	12:AB:16:ARG:CD	1.87	1.02
22:I:123:GLN:OE1	22:I:126:ARG:NH2	1.92	1.02
46:g:58:ASP:OD1	46:g:62:LYS:NZ	1.90	1.02
12:AB:102:LYS:HE2	14:AE:285:LEU:CG	1.90	1.01
14:AE:68:TYR:CA	14:AE:92:VAL:HG12	1.90	1.01
20:G:49:MET:HE1	20:G:201:PRO:HD3	1.42	1.01
58:s:72:LYS:HD3	58:s:74:TYR:OH	1.59	1.01
8:7:3:G:H5"	17:D:1500:A:N6	1.75	1.01
6:5:11:DA:H5'	12:AB:67:THR:CG2	1.82	1.01
14:AE:68:TYR:HA	14:AE:92:VAL:O	1.59	1.01
17:D:377:G:OP1	34:U:5:ARG:NH1	1.94	1.01
12:AB:82:GLY:CA	14:AE:142:GLU:CB	2.39	1.01

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:5:11:DA:H3'	12:AB:67:THR:CG2	1.91	1.00
7:6:25:DT:OP1	11:AA:496:LYS:HA	1.12	1.00
51:l:1:MET:HE1	51:l:20:GLY:HA3	1.43	1.00
12:AB:143:LEU:CD1	12:AB:150:ILE:HD11	1.92	1.00
38:Y:60:VAL:HG22	38:Y:66:PHE:HB3	1.44	1.00
12:AB:146:ILE:H	12:AB:146:ILE:HD12	1.24	1.00
6:5:10:DT:O5'	11:AA:62:TYR:OH	1.80	1.00
14:AE:70:CYS:SG	14:AE:85:CYS:SG	2.60	1.00
14:AE:288:PRO:CD	14:AE:291:ILE:HG21	1.92	1.00
9:9:43:LYS:HG3	9:9:46:ARG:HH12	1.22	0.99
20:G:154:MET:HE2	20:G:158:PRO:HD3	1.44	0.99
22:I:152:GLU:OE2	22:I:154:SER:OG	1.77	0.99
38:Y:93:ASN:HA	38:Y:135:MET:HE1	1.00	0.99
12:AB:126:PHE:CE1	14:AE:87:LYS:HE2	1.98	0.99
9:9:88:HIS:HB3	9:9:89:PRO:HD3	1.44	0.99
12:AB:146:ILE:CD1	29:P:100:ILE:CG2	2.40	0.99
9:9:30:SER:O	9:9:31:ARG:NE	1.95	0.99
14:AE:74:LYS:HD2	29:P:89:ARG:HB3	1.41	0.99
57:r:38:PRO:O	57:r:43:ASN:ND2	1.96	0.99
32:S:86:GLU:OE1	32:S:90:ARG:NH1	1.96	0.98
12:AB:140:MET:N	12:AB:152:HIS:O	1.96	0.98
11:AA:387:ASN:ND2	11:AA:394:ARG:HH12	1.61	0.98
9:9:3:LEU:HD12	9:9:4:ASN:H	1.25	0.98
6:5:11:DA:H5"	12:AB:67:THR:CG2	1.86	0.97
58:s:12:LYS:NZ	58:s:14:ASP:OD1	1.96	0.97
14:AE:287:ALA:CB	14:AE:292:VAL:CG1	2.38	0.97
12:AB:51:PHE:CE2	14:AE:288:PRO:HG3	1.99	0.97
6:5:10:DT:H71	11:AA:62:TYR:CD2	1.77	0.97
8:7:2:U:P	17:D:1505:G:H8	1.88	0.97
32:S:92:GLU:OE1	32:S:92:GLU:N	1.97	0.97
38:Y:93:ASN:CA	38:Y:135:MET:HE1	1.94	0.97
11:AA:481:LEU:HD21	12:AB:16:ARG:HD3	1.48	0.96
7:6:18:DT:H3	8:7:43:A:H61	1.05	0.96
40:a:1042:G:HO2'	40:a:1043:C:H6	1.10	0.96
63:x:111:ARG:NH2	63:x:117:PHE:OXT	1.99	0.96
6:5:11:DA:C3'	12:AB:67:THR:CG2	2.42	0.96
14:AE:83:VAL:HG22	14:AE:84:ILE:HG13	1.48	0.95
22:I:164:ARG:NH2	22:I:166:GLU:OE2	1.99	0.95
6:5:10:DT:C7	11:AA:62:TYR:HD2	1.70	0.95
17:D:562:U:O2'	31:R:14:ARG:NH1	1.98	0.95
8:7:22:U:H4'	22:I:80:LYS:CD	1.96	0.95

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:5:10:DT:C1'	12:AB:71:ALA:N	2.10	0.95
12:AB:51:PHE:CE2	14:AE:288:PRO:CD	2.48	0.95
17:D:1344:C:OP1	28:O:124:ARG:NH1	1.98	0.95
40:a:2093:G:OP1	57:r:22:LYS:NZ	1.98	0.95
9:9:95:LEU:HD13	9:9:98:GLU:OE2	1.65	0.95
40:a:30:G:OP2	65:z:5:LYS:NZ	2.00	0.95
11:AA:387:ASN:ND2	11:AA:394:ARG:NH1	2.15	0.95
9:9:3:LEU:HD12	9:9:4:ASN:N	1.82	0.94
9:9:23:LEU:HD13	9:9:92:ALA:HB1	1.49	0.94
6:5:11:DA:H5"	12:AB:67:THR:HG22	0.97	0.94
39:Z:14:MET:HB3	39:Z:17:MET:HG2	1.46	0.94
9:9:88:HIS:HB3	9:9:89:PRO:CD	1.97	0.94
12:AB:82:GLY:N	14:AE:142:GLU:CB	2.30	0.94
9:9:23:LEU:HD13	9:9:92:ALA:CB	1.98	0.94
8:7:22:U:H4'	22:I:80:LYS:HD2	1.48	0.94
55:p:38:ASN:ND2	55:p:64:GLN:OE1	2.01	0.94
6:5:9:DG:OP2	11:AA:473:ARG:CG	2.16	0.94
9:9:50:VAL:HG22	38:Y:119:ALA:CB	1.98	0.94
38:Y:14:ALA:O	38:Y:50:LYS:HE3	1.67	0.94
35:V:7:THR:OG1	35:V:61:ILE:O	1.85	0.94
1:0:18:GLN:N	1:0:18:GLN:OE1	2.01	0.94
9:9:61:ARG:NH1	40:a:1047:G:N7	2.15	0.94
12:AB:123:PHE:CE2	29:P:81:GLU:HA	2.01	0.93
12:AB:146:ILE:CD1	29:P:100:ILE:HG21	1.96	0.93
25:L:9:MET:CE	25:L:85:ILE:HB	1.97	0.93
9:9:58:THR:HG21	9:9:81:LEU:HD23	1.48	0.93
12:AB:6:LEU:HD13	14:AE:291:ILE:HD11	1.46	0.93
6:5:11:DA:OP2	12:AB:67:THR:C	2.11	0.93
14:AE:59:ALA:CB	14:AE:71:LEU:HD21	1.98	0.93
8:7:22:U:H5"	22:I:80:LYS:HG3	0.95	0.93
10:B:76:A:N3	40:a:2493:U:H4'	1.84	0.93
38:Y:33:ASN:HB3	38:Y:36:GLU:HG2	1.48	0.93
8:7:11:U:H4'	24:K:20:ARG:HH22	1.18	0.93
7:6:25:DT:H2'	11:AA:496:LYS:HE3	1.51	0.93
9:9:31:ARG:HD2	40:a:1053:C:O2'	1.66	0.93
38:Y:75:ALA:HB2	38:Y:112:LYS:HE3	1.48	0.93
59:t:90:ASN:OD1	59:t:91:SER:N	2.02	0.92
38:Y:5:GLN:HG2	38:Y:61:TYR:HE1	1.32	0.92
8:7:21:U:H5"	22:I:80:LYS:H	1.35	0.92
17:D:526:C:OP2	31:R:88:LYS:NZ	2.01	0.92
6:5:9:DG:H5"	11:AA:473:ARG:CG	1.95	0.92

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:5:10:DT:C5	11:AA:62:TYR:HD2	1.81	0.92
14:AE:74:LYS:CD	29:P:89:ARG:HB3	1.99	0.92
10:B:30:G:HO2'	17:D:1339:A:H2	1.01	0.92
24:K:45:ARG:CD	24:K:45:ARG:CB	2.49	0.91
25:L:42:TRP:HH2	25:L:102:MET:HG3	1.25	0.91
35:V:27:ARG:NH1	35:V:42:THR:OG1	2.03	0.91
40:a:2682:A:O4'	49:j:11:MET:SD	2.29	0.91
26:M:50:LEU:HD21	26:M:121:ALA:HA	1.52	0.91
40:a:1818:U:OP2	47:h:156:ARG:NH1	2.03	0.91
6:5:9:DG:P	11:AA:473:ARG:HB2	2.10	0.91
11:AA:481:LEU:CD2	12:AB:16:ARG:HD3	1.99	0.91
30:Q:51:GLY:O	30:Q:56:ARG:NH2	2.03	0.91
8:7:38:U:H5'	11:AA:1259:LEU:HD21	1.52	0.91
12:AB:140:MET:C	12:AB:152:HIS:O	2.13	0.91
9:9:92:ALA:O	9:9:129:LEU:HD13	1.71	0.90
12:AB:144:ASN:HB2	12:AB:149:GLU:OE1	1.69	0.90
40:a:2293:G:OP1	63:x:94:ARG:NH1	2.04	0.90
14:AE:74:LYS:CG	29:P:89:ARG:HB3	2.00	0.90
26:M:13:LEU:HD12	26:M:14:PRO:HD2	1.54	0.90
12:AB:3:SER:O	12:AB:58:GLU:HA	1.71	0.90
17:D:1526:G:N7	19:F:40:LYS:NZ	2.18	0.90
62:w:24:MET:HA	62:w:24:MET:HE3	1.54	0.90
26:M:66:LEU:HD13	26:M:101:MET:CE	2.02	0.90
63:x:36:TYR:OH	63:x:38:GLN:NE2	2.05	0.90
8:7:2:U:P	17:D:1505:G:C8	2.64	0.90
46:g:16:CYS:HB2	46:g:37:CYS:HB3	1.54	0.90
58:s:37:ARG:HA	58:s:118:MET:HE3	1.54	0.90
11:AA:380:ALA:H	12:AB:65:HIS:CE1	1.61	0.90
38:Y:45:THR:CG2	38:Y:50:LYS:HD3	2.02	0.89
46:g:27:THR:OG1	53:n:140:GLU:OE1	1.88	0.89
51:l:170:ARG:NH1	51:l:174:GLY:O	2.05	0.89
8:7:22:U:C4'	22:I:80:LYS:HG3	2.03	0.89
6:5:11:DA:P	12:AB:67:THR:O	2.30	0.89
16:C:60:LYS:NZ	17:D:735:C:O4'	2.06	0.89
3:2:54:GLU:OE1	3:2:91:GLN:NE2	2.06	0.89
40:a:78:U:OP1	44:e:4:LYS:NZ	2.06	0.89
61:v:111:GLU:O	61:v:114:ARG:HG2	1.71	0.89
12:AB:81:PHE:CE1	14:AE:293:ARG:HB2	1.92	0.89
17:D:545:C:H5'	23:J:69:GLU:HG3	1.55	0.89
10:B:38:A:H4'	17:D:790:A:O4'	1.71	0.89
38:Y:129:GLU:HB3	38:Y:133:ARG:NH1	1.87	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:M:4:ARG:HG2	26:M:5:ARG:CZ	2.03	0.89
30:Q:15:GLN:NE2	30:Q:76:GLU:O	2.06	0.89
6:5:10:DT:H2"	12:AB:70:ASN:N	1.87	0.89
12:AB:51:PHE:CE2	14:AE:288:PRO:HD3	2.08	0.89
40:a:2756:U:OP2	56:q:19:ARG:NE	2.06	0.89
60:u:93:ASN:OD1	60:u:94:THR:N	2.05	0.89
6:5:10:DT:C6	11:AA:62:TYR:HE2	1.85	0.89
40:a:585:G:N7	65:z:6:ARG:NH1	2.21	0.89
64:y:89:ARG:NE	64:y:113:ARG:O	2.05	0.89
16:C:38:LYS:NZ	17:D:718:A:N1	2.19	0.88
44:e:23:ARG:NH1	44:e:24:GLU:OE2	2.06	0.88
12:AB:82:GLY:N	14:AE:142:GLU:HB3	1.86	0.88
17:D:280:C:O2	35:V:40:ARG:CZ	2.21	0.88
16:C:27:ALA:O	16:C:30:LYS:HG2	1.74	0.88
40:a:404:A:O2'	40:a:405:U:OP2	1.90	0.88
38:Y:79:LEU:HD21	38:Y:105:LEU:HD21	1.52	0.88
59:t:20:MET:HB3	59:t:44:LYS:HZ3	1.38	0.88
40:a:2393:U:OP1	54:o:30:ARG:NE	2.05	0.88
58:s:98:GLU:OE2	58:s:126:ALA:N	2.07	0.88
9:9:8:LYS:O	9:9:12:VAL:HG23	1.73	0.88
17:D:1439:G:OP1	18:E:33:LYS:NZ	2.05	0.88
19:F:31:GLU:OE2	19:F:35:ARG:NE	2.06	0.88
37:X:81:MET:HE2	40:a:888:C:C5	2.09	0.88
58:s:13:ARG:NH1	58:s:49:ASP:O	2.07	0.88
38:Y:100:ILE:HD12	38:Y:105:LEU:HD11	1.54	0.87
32:S:90:ARG:HG3	32:S:92:GLU:OE1	1.73	0.87
10:A:76:A:N6	40:a:2422:C:O4'	2.06	0.87
23:J:67:VAL:HB	23:J:72:PHE:CZ	2.09	0.87
40:a:2780:G:OP2	58:s:120:ARG:NH1	2.07	0.87
12:AB:121:GLY:HA3	12:AB:162:LEU:HD12	1.57	0.87
35:V:77:ARG:NH2	35:V:78:VAL:O	2.08	0.87
14:AE:74:LYS:HD2	29:P:89:ARG:CB	2.04	0.87
38:Y:99:LYS:HD2	38:Y:140:GLU:OE1	1.75	0.87
38:Y:100:ILE:HD12	38:Y:105:LEU:CD1	2.05	0.86
7:6:25:DT:C2'	11:AA:496:LYS:HG3	2.05	0.86
14:AE:64:PRO:HG2	14:AE:91:GLU:O	1.73	0.86
22:I:58:GLU:OE1	22:I:65:ARG:NH1	2.08	0.86
27:N:5:ASP:OD2	27:N:77:ARG:NH1	2.07	0.86
51:l:170:ARG:NH1	51:l:176:ASP:OD1	2.08	0.86
60:u:90:VAL:HG13	60:u:95:LEU:HD21	1.57	0.86
1:0:87:GLN:NE2	1:0:88:GLY:O	2.09	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:9:48:ALA:HB3	9:9:51:TYR:CE1	2.09	0.86
61:v:77:PRO:HG2	61:v:80:VAL:HG21	1.57	0.86
14:AE:59:ALA:CB	14:AE:71:LEU:CD2	2.53	0.86
6:5:10:DT:O4'	11:AA:62:TYR:OH	1.94	0.86
25:L:102:MET:N	25:L:102:MET:SD	2.46	0.86
38:Y:129:GLU:HB3	38:Y:133:ARG:HH12	1.38	0.86
12:AB:81:PHE:HD2	14:AE:293:ARG:NH1	1.35	0.86
14:AE:69:GLU:N	14:AE:92:VAL:HG12	1.89	0.86
29:P:85:ASP:HA	29:P:88:MET:HE1	1.58	0.86
46:g:26:SER:OG	53:n:140:GLU:OE2	1.94	0.86
12:AB:6:LEU:CD1	14:AE:291:ILE:HD11	2.05	0.85
43:d:55:U:H1'	53:n:26:MET:HE2	1.57	0.85
38:Y:48:ILE:HG13	38:Y:49:GLU:H	1.41	0.85
53:n:23:ASN:OD1	53:n:24:SER:N	2.09	0.85
9:9:58:THR:CG2	9:9:81:LEU:HD23	2.06	0.85
1:0:68:ARG:NH1	40:a:1223:G:OP1	2.10	0.85
12:AB:51:PHE:HE2	14:AE:288:PRO:CD	1.85	0.85
61:v:95:LEU:O	61:v:100:LYS:NZ	2.08	0.85
35:V:25:ILE:O	35:V:27:ARG:NH2	2.10	0.85
47:h:175:ARG:HG3	47:h:181:MET:HE1	1.58	0.85
10:A:33:U:OP1	26:M:77:SER:OG	1.95	0.85
41:b:36:ILE:HG21	41:b:39:ARG:HD3	1.59	0.85
12:AB:141:LEU:HA	12:AB:153:SER:N	1.92	0.84
12:AB:51:PHE:HZ	14:AE:288:PRO:HD3	1.40	0.84
38:Y:15:GLY:HA2	38:Y:50:LYS:HG3	1.57	0.84
58:s:102:GLU:OE1	58:s:102:GLU:N	2.10	0.84
18:E:9:LYS:O	18:E:13:GLN:NE2	2.10	0.84
60:u:122:VAL:CG1	60:u:125:LEU:HD21	2.07	0.84
6:5:10:DT:C6	11:AA:62:TYR:CZ	2.66	0.84
65:z:74:ILE:HD11	65:z:79:PHE:HA	1.60	0.84
62:w:38:LEU:HD13	62:w:111:ALA:HB2	1.59	0.84
11:AA:377:THR:CB	12:AB:62:GLU:HB3	2.08	0.84
61:v:7:THR:OG1	61:v:10:ARG:NH1	2.11	0.84
6:5:9:DG:P	11:AA:473:ARG:CB	2.66	0.83
53:n:73:SER:OG	53:n:79:ILE:O	1.96	0.83
11:AA:481:LEU:HD23	12:AB:16:ARG:HD2	1.60	0.83
10:A:6:G:O2'	10:A:7:G:O5'	1.96	0.83
12:AB:141:LEU:HB3	12:AB:143:LEU:HD12	1.60	0.83
40:a:2682:A:O2'	49:j:13:ARG:NE	2.12	0.83
5:4:58:SER:OG	5:4:59:GLU:OE1	1.95	0.83
17:D:742:G:OP1	33:T:58:ARG:NH2	2.12	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:5:10:DT:C2	12:AB:72:THR:OG1	2.29	0.83
14:AE:287:ALA:HB1	14:AE:292:VAL:HG13	1.60	0.83
55:p:104:ASN:ND2	55:p:114:ASP:OD1	2.12	0.83
55:p:121:ILE:HD12	55:p:141:ILE:HG22	1.60	0.83
8:7:2:U:OP2	17:D:1505:G:C8	2.30	0.83
22:I:22:TRP:CZ3	22:I:24:ALA:HB2	2.14	0.83
38:Y:75:ALA:CB	38:Y:112:LYS:HE3	2.07	0.83
38:Y:116:MET:HG2	38:Y:124:MET:HG2	1.59	0.83
6:5:11:DA:C2'	12:AB:67:THR:HG21	2.08	0.83
9:9:43:LYS:HG3	9:9:46:ARG:NH1	1.94	0.83
49:j:152:PRO:HG3	49:j:156:PHE:CZ	2.14	0.83
9:9:1:MET:HE1	9:9:7:ASP:HB3	1.61	0.82
40:a:2393:U:H5"	54:o:30:ARG:CZ	2.09	0.82
65:z:78:LYS:HD3	65:z:117:LEU:CD2	2.09	0.82
9:9:43:LYS:O	9:9:46:ARG:HG2	1.78	0.82
12:AB:54:TYR:HE2	14:AE:291:ILE:HG23	1.44	0.82
38:Y:96:LYS:CE	38:Y:136:GLY:HA3	2.08	0.82
9:9:3:LEU:HD11	9:9:5:LEU:HD23	1.62	0.82
38:Y:45:THR:HG22	38:Y:50:LYS:HD3	1.59	0.82
40:a:2298:A:OP1	53:n:72:LYS:NZ	2.11	0.82
37:X:81:MET:CE	37:X:92:ARG:HB3	2.06	0.82
8:7:21:U:H5	22:I:80:LYS:C	1.88	0.82
47:h:53:HIS:HE2	47:h:219:THR:HA	1.45	0.82
11:AA:387:ASN:CB	11:AA:394:ARG:HH11	1.93	0.82
12:AB:38:ILE:HG12	12:AB:43:ARG:HG2	1.61	0.82
10:B:6:G:O2'	10:B:7:G:O5'	1.96	0.82
40:a:1257:C:H4'	51:l:78:TRP:CE2	2.14	0.82
60:u:122:VAL:HG13	60:u:125:LEU:HD11	1.62	0.82
8:7:22:U:H4'	22:I:80:LYS:CG	2.10	0.82
28:O:84:THR:HG21	28:O:103:PHE:HB3	1.59	0.82
9:9:46:ARG:HG3	9:9:94:ARG:NH2	1.94	0.82
12:AB:144:ASN:HA	12:AB:149:GLU:OE2	1.78	0.82
40:a:1613:G:O2'	52:m:3:ARG:NH2	2.12	0.82
55:p:7:ALA:O	55:p:69:ARG:NE	2.12	0.81
8:7:3:G:C5'	17:D:1500:A:H62	1.92	0.81
9:9:25:ALA:HB3	9:9:99:PHE:CD2	2.16	0.81
19:F:37:PHE:HB2	30:Q:126:LYS:CE	2.10	0.81
59:t:12:ASP:OD2	59:t:85:VAL:HG13	1.80	0.81
6:5:11:DA:C4'	12:AB:67:THR:HG22	2.10	0.81
9:9:129:LEU:H	9:9:130:PRO:HD2	1.45	0.81
40:a:2356:U:O3'	41:b:20:ARG:NH1	2.14	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:b:28:GLY:O	41:b:66:LYS:NZ	2.13	0.81
6:5:10:DT:C4	11:AA:62:TYR:CD2	2.68	0.81
14:AE:68:TYR:O	14:AE:92:VAL:HG11	1.79	0.81
17:D:107:G:O6	18:E:10:ARG:NE	2.13	0.81
40:a:1655:A:H1'	49:j:118:PHE:HE2	1.45	0.81
40:a:2356:U:H5"	41:b:20:ARG:HD2	1.61	0.81
1:0:86:GLN:OE1	40:a:1225:G:H4'	1.81	0.81
38:Y:74:PRO:HG2	38:Y:77:VAL:HB	1.60	0.81
51:l:112:LEU:HD12	51:l:117:ARG:HB2	1.62	0.81
8:7:2:U:OP1	17:D:1505:G:C8	2.33	0.81
20:G:105:LYS:O	20:G:109:GLN:NE2	2.12	0.81
38:Y:9:LYS:HE2	38:Y:55:PRO:HB3	1.63	0.81
6:5:10:DT:C2	12:AB:71:ALA:CB	2.61	0.81
25:L:70:VAL:O	25:L:74:LEU:HD23	1.81	0.81
40:a:2393:U:P	54:o:30:ARG:HE	2.04	0.81
40:a:1818:U:O5'	47:h:156:ARG:NH2	2.14	0.80
47:h:130:LEU:HA	47:h:189:ARG:HH11	1.46	0.80
51:l:1:MET:HE1	51:l:20:GLY:CA	2.11	0.80
14:AE:64:PRO:HG3	14:AE:91:GLU:O	1.81	0.80
12:AB:141:LEU:HA	12:AB:152:HIS:C	2.06	0.80
59:t:7:MET:HG3	59:t:18:ARG:CZ	2.10	0.80
9:9:52:MET:HG2	9:9:95:LEU:HD11	1.62	0.80
11:AA:377:THR:OG1	12:AB:62:GLU:CA	2.30	0.80
12:AB:140:MET:CA	12:AB:152:HIS:O	2.29	0.80
14:AE:72:CYS:SG	29:P:89:ARG:NE	2.54	0.80
40:a:2682:A:C8	49:j:11:MET:CE	2.65	0.80
4:3:46:GLN:OE1	4:3:56:GLY:HA2	1.82	0.80
47:h:258:ARG:NH1	47:h:264:ASP:OD1	2.14	0.80
57:r:137:GLU:HG2	57:r:138:VAL:HG23	1.61	0.80
38:Y:40:ALA:HB1	38:Y:68:PHE:CE1	2.16	0.80
38:Y:58:ILE:HG22	38:Y:60:VAL:HG23	1.62	0.80
6:5:10:DT:C2'	12:AB:71:ALA:H	1.95	0.80
9:9:5:LEU:O	9:9:9:GLN:NE2	2.15	0.80
65:z:69:ALA:HB1	65:z:74:ILE:HG23	1.63	0.80
6:5:10:DT:H73	11:AA:62:TYR:HD2	1.29	0.80
27:N:9:ASP:OD2	27:N:13:ARG:NH1	2.15	0.79
65:z:74:ILE:HD13	65:z:79:PHE:HD1	1.46	0.79
12:AB:152:HIS:HB3	12:AB:154:VAL:HG12	1.62	0.79
17:D:311:C:OP1	34:U:31:ARG:NH2	2.13	0.79
17:D:652:U:O3'	27:N:56:LYS:NZ	2.13	0.79
40:a:1276:A:O2'	62:w:20:MET:CE	2.30	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:9:112:ALA:O	9:9:123:ILE:HD11	1.83	0.79
26:M:20:SER:HB3	26:M:23:LEU:HD13	1.63	0.79
38:Y:14:ALA:HB3	38:Y:51:GLY:H	1.45	0.79
48:i:46:ASP:OD2	48:i:53:LYS:NZ	2.15	0.79
12:AB:81:PHE:HE1	14:AE:293:ARG:CB	1.55	0.79
51:l:111:GLU:OE2	51:l:114:ARG:NH1	2.14	0.79
14:AE:68:TYR:O	14:AE:92:VAL:CG1	2.28	0.79
16:C:38:LYS:HE2	16:C:38:LYS:HA	1.64	0.79
28:O:56:ASP:O	28:O:60:LYS:NZ	2.16	0.79
9:9:77:VAL:HG13	9:9:114:GLU:OE1	1.81	0.79
8:7:22:U:H4'	22:I:80:LYS:HG3	1.64	0.79
37:X:81:MET:HE1	37:X:92:ARG:CB	2.08	0.79
16:C:60:LYS:HZ2	17:D:734:G:H2'	1.48	0.79
26:M:18:PHE:HE2	26:M:47:LEU:HD21	1.48	0.79
46:g:18:CYS:HB3	46:g:40:CYS:CB	2.13	0.79
53:n:142:ASP:HB3	53:n:145:LYS:HE2	1.65	0.79
55:p:107:LEU:HB3	55:p:152:ARG:HE	1.47	0.79
38:Y:9:LYS:HE2	38:Y:55:PRO:CG	2.13	0.78
59:t:98:ARG:NH2	59:t:118:LEU:O	2.14	0.78
27:N:27:MET:N	27:N:58:GLU:OE2	2.16	0.78
9:9:118:ILE:HB	9:9:119:PRO:HD3	1.64	0.78
12:AB:9:CYS:H	12:AB:53:ASN:HB3	1.48	0.78
12:AB:144:ASN:HA	12:AB:149:GLU:OE1	1.74	0.78
18:E:28:MET:HE1	18:E:58:VAL:HA	1.64	0.78
63:x:104:GLN:NE2	63:x:108:ASP:OD2	2.16	0.78
23:J:62:ARG:NH1	23:J:69:GLU:OE2	2.16	0.78
38:Y:102:ARG:HD2	38:Y:141:ASP:CA	2.13	0.78
10:A:18:G:N2	10:A:55:U:O2	2.17	0.78
12:AB:54:TYR:CE2	14:AE:291:ILE:CG2	2.65	0.78
39:Z:14:MET:HG3	39:Z:15:SER:H	1.48	0.78
40:a:2393:U:H5"	54:o:30:ARG:NH1	1.97	0.78
7:6:25:DT:H3'	11:AA:496:LYS:CG	2.13	0.78
32:S:12:LYS:O	32:S:16:LEU:HD23	1.83	0.78
40:a:1453:A:N1	62:w:74:GLU:OE1	2.16	0.78
40:a:2636:C:H4'	49:j:81:GLU:OE1	1.82	0.78
9:9:60:LEU:HD23	9:9:64:VAL:HG21	1.65	0.78
26:M:40:GLU:OE2	28:O:41:ARG:NH2	2.17	0.78
34:U:3:THR:HG21	34:U:5:ARG:CZ	2.14	0.78
36:W:40:ILE:HG23	36:W:44:MET:SD	2.24	0.78
8:7:3:G:C5'	17:D:1500:A:N6	2.46	0.78
42:c:30:LEU:HD12	42:c:31:PRO:HD2	1.63	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:1406:U:O2'	40:a:1407:G:O5'	2.02	0.78
2:1:98:LYS:HD2	40:a:2012:G:OP1	1.83	0.77
9:9:34:THR:O	9:9:38:MET:HG2	1.83	0.77
59:t:8:LEU:C	59:t:18:ARG:HH12	1.92	0.77
17:D:375:U:OP2	34:U:70:ARG:NH2	2.17	0.77
17:D:375:U:P	34:U:70:ARG:HE	2.07	0.77
17:D:673:A:H2'	17:D:674:G:C8	2.18	0.77
17:D:275:G:H4'	35:V:16:LYS:HD2	1.64	0.77
59:t:20:MET:HB3	59:t:44:LYS:NZ	1.98	0.77
8:7:2:U:OP1	17:D:1505:G:H8	1.65	0.77
7:6:23:DC:H5'	14:AE:259:ARG:HH12	1.42	0.77
5:4:50:MET:O	5:4:56:PHE:CE2	2.38	0.77
21:H:306:VAL:HA	21:H:309:MET:SD	2.23	0.77
58:s:15:TRP:HZ3	58:s:135:GLN:HA	1.50	0.77
12:AB:110:PRO:HG3	12:AB:116:VAL:HG11	1.65	0.77
9:9:81:LEU:HD21	40:a:1107:G:H4'	1.64	0.77
17:D:1227:A:OP1	37:X:93:ARG:NH2	2.18	0.77
9:9:19:ALA:HA	9:9:70:GLU:HG2	1.66	0.77
12:AB:51:PHE:CZ	14:AE:288:PRO:CD	2.66	0.77
23:J:58:LYS:NZ	23:J:69:GLU:OE2	2.15	0.77
40:a:2297:A:N1	40:a:2321:U:C4	2.53	0.77
56:q:2:LYS:NZ	56:q:32:LYS:O	2.17	0.77
38:Y:81:LYS:HZ2	38:Y:86:LYS:HE2	1.49	0.76
53:n:117:LEU:HD13	53:n:176:PRO:HG2	1.64	0.76
12:AB:152:HIS:HB3	12:AB:154:VAL:CG1	2.15	0.76
40:a:2314:A:OP1	53:n:88:LYS:NZ	2.18	0.76
9:9:94:ARG:HB2	9:9:97:LYS:HE2	1.67	0.76
30:Q:87:LYS:CG	30:Q:113:VAL:HG23	2.15	0.76
41:b:21:LEU:HD21	41:b:41:ARG:HE	1.51	0.76
9:9:3:LEU:CD1	9:9:4:ASN:H	1.96	0.76
40:a:2335:A:OP2	63:x:13:ARG:CZ	2.34	0.76
41:b:68:LYS:NZ	41:b:70:GLU:OE1	2.19	0.76
2:1:11:ARG:CZ	2:1:98:LYS:HE3	2.15	0.76
12:AB:126:PHE:CZ	14:AE:87:LYS:HE2	2.20	0.76
12:AB:139:SER:O	12:AB:153:SER:HA	1.85	0.76
10:B:18:G:N2	10:B:55:U:O2	2.17	0.76
40:a:1828:G:O6	47:h:221:ARG:NH1	2.19	0.76
58:s:37:ARG:HA	58:s:118:MET:CE	2.14	0.76
17:D:376:G:H5"	34:U:5:ARG:HD2	1.67	0.76
20:G:30:PHE:CD1	20:G:201:PRO:HG3	2.21	0.76
38:Y:93:ASN:C	38:Y:94:LYS:HD2	2.10	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:2511:U:C4'	49:j:130:GLN:OE1	2.33	0.76
14:AE:59:ALA:HB1	14:AE:71:LEU:CD2	2.14	0.76
34:U:3:THR:HG21	34:U:5:ARG:NH1	1.99	0.76
40:a:686:U:O4	52:m:12:ARG:HD3	1.86	0.76
40:a:1801:A:P	47:h:146:MET:HE1	2.25	0.76
9:9:27:VAL:HG13	9:9:83:ALA:HB3	1.66	0.76
26:M:18:PHE:CE2	26:M:47:LEU:HD21	2.21	0.76
16:C:38:LYS:HD3	17:D:719:C:H1'	1.67	0.76
36:W:44:MET:SD	36:W:62:VAL:HG11	2.25	0.76
20:G:20:THR:HA	20:G:39:HIS:CE1	2.21	0.76
9:9:5:LEU:C	9:9:9:GLN:HE22	1.94	0.75
9:9:134:GLU:OE2	9:9:136:ILE:HG22	1.85	0.75
24:K:142:ASP:O	24:K:145:GLU:HG3	1.86	0.75
40:a:1405:U:H2'	40:a:1406:U:C6	2.20	0.75
38:Y:14:ALA:CB	38:Y:50:LYS:HD2	2.16	0.75
49:j:46:ARG:NH2	49:j:88:GLU:O	2.19	0.75
64:y:71:GLU:OE1	64:y:101:ARG:NE	2.19	0.75
37:X:57:ARG:NH2	46:g:35:ASP:OD1	2.19	0.75
38:Y:56:VAL:CA	38:Y:71:LYS:HZ1	1.99	0.75
6:5:11:DA:C4'	12:AB:67:THR:CG2	2.64	0.75
21:H:52:GLN:OE1	21:H:86:ARG:CB	2.34	0.75
38:Y:126:ARG:NH2	40:a:1083:U:OP1	2.19	0.75
2:1:24:ILE:HG21	2:1:36:LEU:HD11	1.68	0.75
2:1:25:ARG:HH22	40:a:520:G:P	2.10	0.75
6:5:10:DT:H2"	12:AB:69:ILE:C	2.11	0.75
17:D:550:G:O2'	31:R:116:LYS:NZ	2.18	0.75
62:w:12:ARG:O	62:w:17:ARG:NH2	2.18	0.75
17:D:404:G:OP1	23:J:115:ARG:NH1	2.19	0.75
19:F:63:GLU:OE1	19:F:67:ARG:NH1	2.20	0.75
20:G:154:MET:CE	20:G:158:PRO:HD3	2.16	0.75
30:Q:87:LYS:HG2	30:Q:113:VAL:HG23	1.67	0.75
12:AB:18:GLN:HG3	12:AB:21:LEU:HD12	1.69	0.75
30:Q:84:VAL:HG23	30:Q:107:ILE:HD11	1.67	0.75
37:X:28:THR:HG23	37:X:31:LYS:HE3	1.69	0.75
39:Z:2:ILE:HG22	39:Z:4:LYS:H	1.50	0.75
40:a:1276:A:O2'	62:w:20:MET:HE2	1.87	0.75
17:D:739:C:O2'	33:T:42:HIS:ND1	2.18	0.75
20:G:49:MET:CE	20:G:201:PRO:HD3	2.16	0.75
25:L:42:TRP:HZ3	25:L:45:ARG:HH22	1.32	0.75
38:Y:9:LYS:HE2	38:Y:55:PRO:CB	2.17	0.75
9:9:37:LYS:O	9:9:41:LEU:HG	1.86	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:196:A:OP2	60:u:47:ARG:NH1	2.18	0.74
53:n:4:LEU:HD11	53:n:101:GLU:CA	2.16	0.74
58:s:15:TRP:CZ3	58:s:135:GLN:HA	2.21	0.74
9:9:77:VAL:HG12	9:9:82:ILE:HG21	1.68	0.74
12:AB:141:LEU:O	12:AB:151:LYS:CA	2.34	0.74
23:J:105:MET:CE	23:J:171:LEU:HD13	2.18	0.74
9:9:59:LEU:HD22	9:9:62:ARG:NE	2.02	0.74
61:v:1:MET:HA	61:v:1:MET:HE3	1.67	0.74
8:7:22:U:H5"	22:I:80:LYS:CB	2.18	0.74
12:AB:144:ASN:CA	12:AB:149:GLU:CD	2.56	0.74
53:n:56:ASP:OD2	53:n:150:ARG:NH1	2.20	0.74
57:r:6:LEU:HD11	57:r:37:VAL:HG23	1.69	0.74
12:AB:126:PHE:CE1	14:AE:87:LYS:CE	2.70	0.74
14:AE:70:CYS:N	14:AE:92:VAL:CG1	2.50	0.74
39:Z:6:GLN:OE1	39:Z:10:ALA:HB2	1.88	0.74
9:9:23:LEU:HD11	9:9:96:PHE:CD2	2.23	0.74
16:C:73:ARG:NH1	30:Q:113:VAL:HG12	2.02	0.74
40:a:537:G:OP2	58:s:2:LYS:NZ	2.20	0.74
40:a:742:A:H2'	40:a:743:A:C8	2.22	0.74
12:AB:89:PRO:HD2	14:AE:290:ILE:HG21	1.68	0.74
21:H:303:LEU:O	21:H:305:HIS:N	2.20	0.74
40:a:1278:C:H4'	62:w:24:MET:HE1	1.70	0.74
2:1:23:LEU:HD11	48:i:24:ALA:HB2	1.70	0.74
9:9:59:LEU:HD13	9:9:62:ARG:HD2	1.70	0.74
38:Y:100:ILE:HG13	38:Y:139:VAL:CG2	2.18	0.74
21:H:36:VAL:O	21:H:37:LEU:HD12	1.87	0.74
59:t:42:THR:O	59:t:44:LYS:NZ	2.19	0.74
62:w:33:ILE:HD11	62:w:112:TYR:CD1	2.23	0.74
62:w:60:VAL:HG22	62:w:63:ARG:NH1	2.03	0.74
2:1:25:ARG:NH2	40:a:520:G:H5'	2.03	0.74
8:7:11:U:H4'	24:K:20:ARG:HH21	1.53	0.73
48:i:55:ILE:HD13	62:w:112:TYR:CZ	2.23	0.73
5:4:57:TYR:HB3	61:v:136:MET:CE	2.16	0.73
6:5:10:DT:N3	12:AB:72:THR:OG1	2.20	0.73
16:C:60:LYS:HZ2	17:D:734:G:C2'	2.01	0.73
38:Y:102:ARG:CD	38:Y:141:ASP:HA	2.18	0.73
9:9:36:ASP:O	9:9:39:THR:HG22	1.87	0.73
46:g:18:CYS:CB	46:g:40:CYS:HB3	2.17	0.73
9:9:78:GLY:N	9:9:79:PRO:HD2	2.04	0.73
12:AB:21:LEU:HB3	12:AB:26:VAL:HG11	1.70	0.73
47:h:130:LEU:HA	47:h:189:ARG:NH1	2.03	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:v:97:GLN:N	61:v:100:LYS:HE3	2.03	0.73
5:4:45:ASP:OD1	5:4:46:LYS:N	2.21	0.73
6:5:10:DT:C4	11:AA:62:TYR:CE2	2.74	0.73
12:AB:24:GLN:HB2	12:AB:26:VAL:HG23	1.71	0.73
33:T:64:ARG:CZ	33:T:89:ARG:HH22	2.00	0.73
38:Y:100:ILE:HD11	38:Y:139:VAL:HB	1.69	0.73
51:l:90:GLN:NE2	51:l:91:ASP:O	2.21	0.73
14:AE:70:CYS:HB2	14:AE:92:VAL:CG2	2.18	0.73
54:o:25:LYS:HB3	60:u:62:PRO:HG2	1.71	0.73
55:p:17:VAL:O	55:p:18:LYS:HE2	1.89	0.73
40:a:465:G:OP1	52:m:12:ARG:NH2	2.22	0.73
11:AA:377:THR:CG2	12:AB:62:GLU:HB3	2.18	0.73
12:AB:89:PRO:CD	14:AE:290:ILE:HG21	2.18	0.73
14:AE:70:CYS:N	14:AE:92:VAL:HG13	2.04	0.73
59:t:17:ARG:HB2	59:t:45:GLU:OE1	1.88	0.73
9:9:47:GLU:HB3	9:9:51:TYR:CZ	2.24	0.73
23:J:100:ASN:OD1	23:J:111:ARG:NH1	2.21	0.73
55:p:85:LYS:HE3	55:p:164:TYR:CD1	2.24	0.73
25:L:36:ILE:CD1	25:L:64:VAL:HG22	2.19	0.73
33:T:76:ALA:O	33:T:80:GLN:NE2	2.22	0.73
47:h:123:ALA:HB1	47:h:125:LYS:NZ	2.04	0.73
8:7:13:U:H3	23:J:47:ARG:HH11	1.37	0.72
10:A:53:G:C2	10:A:54:U:C5	2.77	0.72
17:D:1158:C:O2'	20:G:132:LYS:NZ	2.21	0.72
22:I:142:MET:HE3	22:I:170:GLU:OE1	1.89	0.72
37:X:81:MET:HE2	40:a:888:C:C6	2.24	0.72
53:n:127:ASN:OD1	53:n:158:THR:N	2.18	0.72
16:C:18:VAL:O	16:C:51:TYR:OH	2.06	0.72
42:c:71:LEU:HB3	42:c:76:GLU:OE2	1.89	0.72
43:d:42:C:O5'	53:n:64:LYS:NZ	2.20	0.72
16:C:60:LYS:HZ1	17:D:735:C:C4'	2.02	0.72
17:D:636:U:H4'	35:V:6:ARG:CZ	2.19	0.72
61:v:50:ARG:HA	61:v:53:MET:SD	2.30	0.72
17:D:375:U:OP1	34:U:70:ARG:HG2	1.88	0.72
23:J:76:TYR:CE2	23:J:204:TYR:HB2	2.24	0.72
55:p:69:ARG:NH1	55:p:73:ASN:OD1	2.21	0.72
5:4:77:VAL:CG2	5:4:79:ARG:HE	2.03	0.72
11:AA:387:ASN:OD1	11:AA:394:ARG:NH1	2.21	0.72
18:E:21:ASN:C	18:E:25:ARG:HE	1.96	0.72
19:F:13:ASP:OD1	19:F:14:VAL:N	2.22	0.72
33:T:64:ARG:NH1	33:T:64:ARG:HA	2.05	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:g:18:CYS:CB	46:g:40:CYS:CB	2.67	0.72
11:AA:377:THR:OG1	12:AB:62:GLU:CG	2.37	0.72
14:AE:69:GLU:N	14:AE:92:VAL:CG1	2.47	0.72
5:4:75:GLN:HG3	5:4:92:VAL:HG23	1.70	0.72
8:7:18:U:C6	8:7:18:U:H5"	2.24	0.72
9:9:129:LEU:HD12	9:9:130:PRO:HD3	1.70	0.72
40:a:1825:U:OP2	47:h:52:ARG:NH1	2.23	0.72
9:9:43:LYS:NZ	9:9:98:GLU:HB2	2.04	0.72
14:AE:85:CYS:SG	67:AE:1502:ZN:ZN	1.79	0.72
10:B:53:G:C2	10:B:54:U:C5	2.77	0.72
10:B:76:A:C2	40:a:2493:U:H4'	2.24	0.72
23:J:184:ARG:NH1	23:J:187:GLU:OE1	2.22	0.72
40:a:2780:G:P	58:s:120:ARG:HH11	2.12	0.72
46:g:5:ILE:HD12	53:n:64:LYS:HE3	1.72	0.72
12:AB:154:VAL:HG11	12:AB:159:PHE:HB3	1.72	0.72
22:I:39:VAL:O	22:I:43:LEU:HD23	1.90	0.72
40:a:2328:A:H2'	40:a:2329:U:C6	2.25	0.72
53:n:134:GLU:HG2	53:n:137:ILE:HG23	1.72	0.72
65:z:92:ARG:HG3	65:z:95:LEU:HD12	1.71	0.72
12:AB:148:LYS:HG2	12:AB:148:LYS:O	1.89	0.72
22:I:166:GLU:OE1	22:I:166:GLU:N	2.23	0.72
24:K:69:ARG:CZ	24:K:69:ARG:HA	2.20	0.72
2:1:86:MET:HE1	2:1:88:ARG:HD3	1.70	0.71
3:2:56:GLU:OE2	3:2:88:LYS:HA	1.90	0.71
6:5:9:DG:OP2	11:AA:470:ARG:HA	1.90	0.71
32:S:90:ARG:HG3	32:S:92:GLU:CD	2.15	0.71
33:T:63:ARG:O	33:T:67:LEU:HD23	1.90	0.71
40:a:1824:G:OP1	47:h:52:ARG:NH2	2.23	0.71
12:AB:51:PHE:CE2	14:AE:288:PRO:HG2	2.06	0.71
12:AB:141:LEU:N	12:AB:153:SER:HB3	2.05	0.71
17:D:13:U:C4	17:D:915:A:N6	2.57	0.71
17:D:1208:C:H2'	17:D:1209:C:H6	1.55	0.71
26:M:55:GLY:O	26:M:56:LYS:O	2.07	0.71
40:a:987:C:O3'	45:f:11:ARG:NH1	2.23	0.71
40:a:2682:A:C8	49:j:11:MET:HE2	2.25	0.71
58:s:15:TRP:CZ3	58:s:135:GLN:HG3	2.25	0.71
16:C:38:LYS:NZ	17:D:718:A:C2	2.57	0.71
16:C:60:LYS:NZ	17:D:734:G:O3'	2.20	0.71
22:I:142:MET:HE1	22:I:148:GLY:HA2	1.72	0.71
38:Y:102:ARG:CZ	38:Y:139:VAL:HG11	2.19	0.71
22:I:22:TRP:HZ3	22:I:24:ALA:HB2	1.53	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:g:58:ASP:C	46:g:62:LYS:HZ3	1.97	0.71
9:9:56:ARG:NH2	40:a:1084:A:O4'	2.23	0.71
17:D:1328:C:O2'	37:X:29:ARG:NH2	2.23	0.71
19:F:32:VAL:HG12	19:F:36:GLU:OE1	1.90	0.71
29:P:18:ILE:O	29:P:22:THR:HG23	1.90	0.71
17:D:653:U:C6	27:N:56:LYS:HE3	2.25	0.71
31:R:5:ASN:OD1	35:V:36:LYS:NZ	2.24	0.71
38:Y:81:LYS:HD2	38:Y:81:LYS:N	2.05	0.71
17:D:13:U:O4	17:D:21:G:C2	2.43	0.71
17:D:736:C:C5'	25:L:90:MET:HE2	2.21	0.71
18:E:75:HIS:CE1	18:E:79:LEU:HD11	2.25	0.71
28:O:47:VAL:HA	28:O:50:GLN:HG2	1.71	0.71
31:R:56:ARG:HG2	31:R:62:GLU:OE2	1.89	0.71
9:9:142:THR:OG1	39:Z:7:ILE:HG21	1.90	0.71
14:AE:64:PRO:HG3	14:AE:90:VAL:CG1	2.20	0.71
22:I:74:GLY:O	22:I:78:GLY:N	2.24	0.71
22:I:147:LYS:NZ	22:I:204:LYS:O	2.22	0.71
28:O:112:GLU:OE2	28:O:115:LYS:NZ	2.23	0.71
40:a:2884:U:OP2	48:i:40:ARG:NH2	2.23	0.71
24:K:111:MET:O	24:K:115:LEU:HD23	1.91	0.71
57:r:33:GLN:OE1	57:r:35:LYS:NZ	2.24	0.71
7:6:18:DT:N3	8:7:43:A:N6	2.36	0.71
9:9:56:ARG:O	9:9:56:ARG:HG2	1.89	0.71
16:C:57:ARG:HE	16:C:61:ARG:HH12	1.37	0.71
59:t:8:LEU:C	59:t:18:ARG:NH1	2.48	0.71
24:K:93:ARG:HB3	24:K:93:ARG:CZ	2.21	0.70
40:a:871:U:H2'	40:a:872:U:C6	2.26	0.70
1:0:10:LYS:HE2	40:a:994:C:O2'	1.90	0.70
9:9:6:GLN:HA	9:9:9:GLN:NE2	2.06	0.70
9:9:94:ARG:HB3	9:9:97:LYS:HZ3	1.55	0.70
17:D:311:C:P	34:U:31:ARG:HH22	2.13	0.70
17:D:375:U:OP1	34:U:70:ARG:NE	2.24	0.70
17:D:973:G:O4'	29:P:57:VAL:HG22	1.90	0.70
30:Q:72:ASP:O	30:Q:75:LYS:NZ	2.21	0.70
40:a:2469:A:N6	40:a:2481:G:O2'	2.23	0.70
62:w:42:LYS:N	62:w:42:LYS:HD3	2.05	0.70
17:D:1217:C:OP2	32:S:9:ARG:NH2	2.19	0.70
40:a:2350:C:OP1	54:o:45:ARG:NH2	2.25	0.70
55:p:107:LEU:O	55:p:152:ARG:NH1	2.25	0.70
10:B:13:C:OP2	40:a:1907:G:N2	2.23	0.70
17:D:564:C:P	31:R:12:ARG:NH2	2.64	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:X:71:ARG:CZ	37:X:72:GLU:HG3	2.22	0.70
61:v:73:ILE:HD11	61:v:93:VAL:HG22	1.70	0.70
20:G:19:GLN:NE2	21:H:75:VAL:O	2.23	0.70
38:Y:91:LYS:NZ	38:Y:97:VAL:HG21	2.07	0.70
38:Y:116:MET:CG	38:Y:124:MET:HG2	2.21	0.70
28:O:7:TYR:N	28:O:89:GLU:OE2	2.24	0.70
33:T:21:ASP:O	33:T:22:THR:OG1	2.07	0.70
40:a:2356:U:H5"	41:b:20:ARG:CD	2.21	0.70
47:h:133:ARG:NE	47:h:187:ASP:OD2	2.25	0.70
51:l:6:LYS:NZ	51:l:120:VAL:O	2.24	0.70
61:v:39:GLY:N	61:v:96:ILE:O	2.22	0.70
9:9:52:MET:HE1	9:9:85:SER:C	2.17	0.70
22:I:24:ALA:HB3	22:I:29:PHE:CE2	2.27	0.70
31:R:7:LEU:HD21	31:R:12:ARG:NH2	2.07	0.70
40:a:1012:U:O4	58:s:30:THR:HG21	1.92	0.70
2:1:25:ARG:HH22	40:a:520:G:C5'	2.04	0.70
4:3:46:GLN:NE2	4:3:47:LYS:O	2.24	0.70
10:B:6:G:HO2'	10:B:7:G:C5'	2.04	0.70
18:E:9:LYS:C	18:E:13:GLN:HE22	2.00	0.70
23:J:76:TYR:HE2	23:J:204:TYR:HB2	1.57	0.70
47:h:180:GLU:C	47:h:181:MET:HE2	2.17	0.70
29:P:47:GLU:N	29:P:47:GLU:OE1	2.23	0.70
46:g:16:CYS:CB	46:g:37:CYS:HB3	2.21	0.70
12:AB:6:LEU:HD13	14:AE:291:ILE:CD1	2.21	0.70
17:D:274:A:H4'	35:V:16:LYS:CE	2.22	0.70
17:D:1376:U:OP2	26:M:25:LYS:NZ	2.24	0.70
40:a:1653:G:H3'	62:w:2:ARG:HD2	1.74	0.70
53:n:69:LYS:HD3	53:n:84:PRO:HA	1.74	0.70
40:a:2511:U:H4'	49:j:130:GLN:OE1	1.91	0.69
2:1:83:LYS:HB2	2:1:95:ARG:HD3	1.72	0.69
12:AB:141:LEU:H	12:AB:153:SER:HB3	1.56	0.69
18:E:12:ILE:O	18:E:15:GLU:HG3	1.92	0.69
20:G:126:PHE:O	20:G:127:ASP:O	2.11	0.69
25:L:42:TRP:CH2	25:L:102:MET:CG	2.74	0.69
30:Q:52:PHE:HD2	30:Q:56:ARG:HG2	1.56	0.69
38:Y:19:PRO:HG2	38:Y:23:VAL:HG23	1.73	0.69
47:h:205:LEU:HD12	47:h:210:ALA:HB1	1.75	0.69
51:l:6:LYS:NZ	51:l:120:VAL:N	2.39	0.69
12:AB:18:GLN:HA	12:AB:21:LEU:HB2	1.74	0.69
26:M:66:LEU:HG	26:M:70:ARG:HE	1.58	0.69
35:V:16:LYS:HD3	35:V:16:LYS:C	2.17	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:Y:57:VAL:O	38:Y:69:VAL:HG22	1.91	0.69
40:a:2314:A:H1'	53:n:155:THR:HG21	1.73	0.69
9:9:27:VAL:CG1	9:9:83:ALA:HB3	2.20	0.69
9:9:122:GLN:HG2	9:9:123:ILE:N	2.06	0.69
33:T:76:ALA:C	33:T:80:GLN:HE22	2.00	0.69
38:Y:19:PRO:O	38:Y:24:GLY:HA2	1.92	0.69
58:s:15:TRP:NE1	58:s:53:TYR:HD2	1.90	0.69
17:D:636:U:H4'	35:V:6:ARG:NH2	2.06	0.69
37:X:28:THR:HG23	37:X:31:LYS:CE	2.22	0.69
38:Y:118:GLY:O	38:Y:124:MET:HE3	1.93	0.69
59:t:5:GLN:HA	59:t:20:MET:HE2	1.74	0.69
60:u:123:ARG:NH2	60:u:143:GLU:OE2	2.25	0.69
9:9:44:ALA:HB1	9:9:52:MET:HB3	1.74	0.69
10:A:6:G:HO2'	10:A:7:G:C5'	2.04	0.69
20:G:27:MET:SD	20:G:30:PHE:HB2	2.33	0.69
21:H:332:VAL:HG22	21:H:342:ILE:HD11	1.73	0.69
22:I:134:MET:HE3	22:I:151:VAL:HG23	1.74	0.69
37:X:90:ARG:CD	37:X:97:VAL:HA	2.23	0.69
38:Y:100:ILE:CG1	38:Y:139:VAL:HB	2.22	0.69
61:v:105:MET:SD	61:v:117:PHE:CZ	2.85	0.69
61:v:111:GLU:O	61:v:115:GLU:OE1	2.11	0.69
26:M:16:PRO:HB3	28:O:46:MET:HG3	1.73	0.69
38:Y:102:ARG:HD2	38:Y:141:ASP:HA	1.75	0.69
53:n:56:ASP:HB3	53:n:150:ARG:NH2	2.07	0.69
61:v:1:MET:HE1	61:v:43:ALA:C	2.18	0.69
62:w:45:ARG:O	62:w:49:GLU:OE1	2.11	0.69
2:1:7:HIS:CD2	2:1:10:ALA:HB2	2.27	0.69
12:AB:143:LEU:HD13	12:AB:150:ILE:CD1	2.14	0.69
14:AE:59:ALA:HB2	14:AE:71:LEU:HD21	1.73	0.69
18:E:45:ALA:O	18:E:48:GLN:HG3	1.93	0.69
26:M:4:ARG:HG2	26:M:5:ARG:NH1	2.08	0.69
37:X:66:GLU:OE1	37:X:66:GLU:N	2.23	0.69
58:s:73:VAL:C	58:s:74:TYR:CD2	2.70	0.69
60:u:55:MET:HE1	60:u:60:ARG:HG2	1.75	0.69
2:1:19:LEU:HD21	48:i:22:LEU:HB2	1.75	0.69
11:AA:380:ALA:H	12:AB:65:HIS:HE1	1.00	0.69
25:L:18:VAL:HA	25:L:21:MET:HE2	1.75	0.69
27:N:87:LYS:HD2	27:N:91:GLU:HB3	1.73	0.69
40:a:1190:G:OP1	60:u:30:THR:OG1	2.10	0.69
56:q:25:VAL:HB	56:q:35:GLN:OE1	1.92	0.69
8:7:11:U:O2'	24:K:33:PHE:HE1	1.71	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:65:ASN:HB3	11:AA:105:TYR:HB2	1.73	0.69
33:T:27:VAL:O	33:T:31:LEU:HD23	1.92	0.69
40:a:2742:G:OP1	56:q:36:ARG:NH1	2.25	0.69
17:D:1308:U:P	37:X:100:GLN:HE22	2.16	0.68
31:R:27:CYS:HB2	31:R:30:LYS:HE2	1.75	0.68
32:S:19:LYS:HG3	32:S:20:TYR:CD1	2.29	0.68
32:S:20:TYR:HE2	32:S:52:PRO:HG2	1.58	0.68
5:4:63:ILE:HD11	5:4:91:PHE:CD2	2.28	0.68
38:Y:23:VAL:HG23	38:Y:24:GLY:H	1.58	0.68
46:g:5:ILE:HB	53:n:64:LYS:HD3	1.75	0.68
14:AE:1033:GLY:HA3	14:AE:1081:VAL:O	1.93	0.68
17:D:1344:C:P	28:O:124:ARG:HH11	2.16	0.68
18:E:78:ASN:O	18:E:82:GLN:OE1	2.10	0.68
29:P:86:ALA:O	29:P:90:LEU:HD13	1.93	0.68
38:Y:85:ILE:H	38:Y:85:ILE:HD12	1.59	0.68
62:w:38:LEU:HD13	62:w:111:ALA:CB	2.24	0.68
7:6:25:DT:H2'	11:AA:496:LYS:HG3	1.73	0.68
12:AB:124:GLU:O	14:AE:87:LYS:CE	2.40	0.68
20:G:100:MET:HE1	20:G:101:LEU:HD21	1.75	0.68
30:Q:80:LYS:HB3	30:Q:106:ARG:NH1	2.09	0.68
32:S:42:TRP:CZ3	46:g:66:ILE:HG23	2.29	0.68
45:f:16:ARG:NE	45:f:54:MET:SD	2.66	0.68
53:n:94:GLU:HA	53:n:97:TRP:HE3	1.58	0.68
8:7:8:U:OP2	17:D:1397:C:N3	2.26	0.68
9:9:43:LYS:HA	9:9:46:ARG:CZ	2.23	0.68
10:A:58:A:O2'	10:A:59:A:H3'	1.93	0.68
10:B:37:A:O2'	10:B:38:A:H5'	1.93	0.68
10:B:58:A:O2'	10:B:59:A:H3'	1.93	0.68
25:L:35:LYS:NZ	25:L:36:ILE:O	2.26	0.68
7:6:20:DA:N6	8:7:42:G:N1	2.42	0.68
12:AB:103:ASP:HB3	12:AB:105:VAL:HG23	1.75	0.68
12:AB:104:ILE:O	12:AB:111:TYR:OH	2.10	0.68
24:K:111:MET:CE	24:K:125:ALA:HB1	2.23	0.68
25:L:9:MET:HE1	25:L:85:ILE:CG2	2.22	0.68
38:Y:45:THR:HG21	38:Y:50:LYS:HD3	1.76	0.68
47:h:76:ALA:HB1	47:h:94:VAL:HG12	1.76	0.68
5:4:89:ILE:HG21	5:4:91:PHE:CE1	2.29	0.68
13:AD:48:LEU:HB2	13:AD:183:ILE:HD11	1.76	0.68
10:B:75:C:P	40:a:2602:A:HO2'	2.13	0.68
17:D:876:C:H1'	27:N:12:THR:HG21	1.76	0.68
17:D:1308:U:OP1	37:X:100:GLN:NE2	2.26	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:E:79:LEU:HA	18:E:82:GLN:OE1	1.94	0.68
38:Y:100:ILE:HG13	38:Y:139:VAL:HG23	1.74	0.68
61:v:53:MET:HE3	61:v:120:ALA:HB2	1.74	0.68
51:l:101:TYR:CE2	51:l:105:LEU:HD11	2.28	0.68
9:9:43:LYS:NZ	9:9:101:LYS:HE2	2.09	0.68
12:AB:102:LYS:HE2	14:AE:285:LEU:HA	1.74	0.68
10:B:38:A:O2'	17:D:790:A:OP1	2.09	0.68
20:G:26:LYS:HD2	20:G:193:PRO:HG2	1.74	0.68
33:T:28:GLN:O	33:T:32:LEU:HG	1.93	0.68
40:a:1655:A:H1'	49:j:118:PHE:CE2	2.28	0.68
51:l:6:LYS:HE3	51:l:119:ILE:HG23	1.75	0.68
59:t:103:VAL:HG22	59:t:104:THR:H	1.58	0.68
1:0:52:PRO:HB3	65:z:89:GLU:OE2	1.94	0.68
5:4:77:VAL:HG23	5:4:89:ILE:HG12	1.76	0.68
9:9:47:GLU:HG3	9:9:94:ARG:CZ	2.24	0.68
10:A:37:A:O2'	10:A:38:A:H5'	1.93	0.68
12:AB:113:GLY:H	12:AB:133:PRO:HD2	1.58	0.68
18:E:25:ARG:CD	18:E:66:LEU:HD11	2.22	0.68
26:M:111:ARG:O	26:M:119:ARG:NH2	2.27	0.68
34:U:45:GLU:HG3	34:U:46:LYS:HD3	1.76	0.68
9:9:92:ALA:HB1	9:9:129:LEU:HD22	1.74	0.67
21:H:22:SER:N	21:H:69:ASP:OD2	2.26	0.67
39:Z:20:VAL:O	39:Z:20:VAL:HG12	1.94	0.67
57:r:37:VAL:HG12	57:r:43:ASN:ND2	2.09	0.67
62:w:24:MET:HE2	62:w:34:ILE:CD1	2.24	0.67
65:z:68:ALA:HB1	65:z:106:PHE:CE2	2.29	0.67
9:9:44:ALA:HA	9:9:47:GLU:OE1	1.94	0.67
9:9:73:LYS:HG2	9:9:117:LEU:HD12	1.76	0.67
17:D:564:C:OP1	31:R:12:ARG:NH1	2.27	0.67
22:I:134:MET:HE1	22:I:167:TRP:HA	1.76	0.67
25:L:42:TRP:HZ2	25:L:102:MET:SD	2.17	0.67
39:Z:2:ILE:HG22	39:Z:5:ASP:H	1.58	0.67
55:p:85:LYS:CE	55:p:164:TYR:HD1	2.07	0.67
58:s:15:TRP:NE1	58:s:53:TYR:CD2	2.63	0.67
59:t:9:ASN:OD1	59:t:10:VAL:N	2.27	0.67
60:u:84:LYS:HZ2	60:u:98:ALA:C	2.02	0.67
62:w:49:GLU:OE1	62:w:49:GLU:N	2.26	0.67
18:E:25:ARG:HD2	18:E:66:LEU:HD11	1.75	0.67
21:H:304:VAL:O	21:H:304:VAL:HG12	1.94	0.67
9:9:139:LEU:HD21	39:Z:11:VAL:HG22	1.76	0.67
19:F:8:GLU:OE2	19:F:9:ASN:ND2	2.26	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:K:115:LEU:HD12	24:K:120:VAL:HG11	1.75	0.67
25:L:38:ARG:NH1	25:L:99:ALA:HB2	2.09	0.67
47:h:129:THR:HG22	47:h:189:ARG:HD2	1.77	0.67
51:l:17:THR:HA	51:l:21:ARG:HH21	1.57	0.67
23:J:121:LYS:HG2	23:J:131:ASN:HD21	1.59	0.67
24:K:156:LYS:HE3	27:N:71:VAL:HG13	1.76	0.67
40:a:2420:C:H5"	50:k:8:LYS:NZ	2.09	0.67
40:a:2682:A:O4'	49:j:11:MET:HE1	1.95	0.67
4:3:72:ILE:HD12	4:3:83:VAL:HG21	1.76	0.67
5:4:53:LYS:HD2	5:4:56:PHE:CE2	2.28	0.67
12:AB:130:PHE:HA	12:AB:152:HIS:NE2	2.08	0.67
10:B:24:U:O2'	40:a:1922:G:O3'	2.12	0.67
21:H:308:GLU:O	21:H:310:ASP:N	2.26	0.67
26:M:46:ALA:CB	26:M:120:LEU:HD22	2.25	0.67
40:a:752:A:OP1	52:m:1:MET:HE1	1.95	0.67
40:a:927:A:H2'	40:a:928:A:C8	2.30	0.67
40:a:1665:A:O5'	59:t:66:LYS:NZ	2.28	0.67
2:1:25:ARG:HH22	40:a:520:G:H5'	1.58	0.67
5:4:50:MET:HA	5:4:56:PHE:CZ	2.29	0.67
8:7:8:U:H5'	17:D:1397:C:N3	2.10	0.67
12:AB:34:THR:HA	12:AB:47:SER:HA	1.76	0.67
12:AB:89:PRO:CG	14:AE:290:ILE:HG21	2.24	0.67
19:F:12:PHE:CE1	30:Q:107:ILE:HG22	2.29	0.67
36:W:36:ARG:NH2	36:W:75:ALA:O	2.26	0.67
40:a:1056:G:O2'	40:a:1103:A:N6	2.27	0.67
9:9:50:VAL:CG2	38:Y:119:ALA:HB3	2.20	0.67
10:A:32:C:H4'	26:M:86:GLN:NE2	2.10	0.67
17:D:673:A:H5"	25:L:86:ARG:NH1	2.09	0.67
38:Y:116:MET:HG2	38:Y:124:MET:CG	2.24	0.67
40:a:111:A:O3'	44:e:58:ASN:ND2	2.28	0.67
40:a:1454:C:O4'	62:w:63:ARG:NE	2.28	0.67
59:t:38:ILE:HD11	59:t:112:PHE:HZ	1.60	0.67
59:t:112:PHE:HD2	59:t:115:ILE:HD12	1.59	0.67
65:z:79:PHE:HE1	65:z:110:VAL:HA	1.60	0.67
1:0:55:ASP:OD1	1:0:56:GLY:N	2.27	0.67
9:9:24:SER:CB	9:9:116:GLU:HG3	2.24	0.67
12:AB:27:ASN:CG	12:AB:58:GLU:HB2	2.20	0.67
12:AB:115:LYS:HD3	12:AB:129:ILE:HD12	1.77	0.67
17:D:1228:C:OP2	37:X:110:LYS:NZ	2.28	0.67
21:H:163:ARG:N	21:H:298:GLU:OE2	2.28	0.67
50:k:21:TYR:OH	50:k:39:PHE:O	2.10	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:v:1:MET:HE1	61:v:44:ARG:N	2.09	0.67
14:AE:73:GLY:O	29:P:89:ARG:HD3	1.94	0.67
10:B:71:C:H3'	10:B:72:A:C8	2.30	0.67
40:a:666:A:H1'	54:o:4:ILE:HD12	1.76	0.67
45:f:10:THR:HB	45:f:56:LYS:HZ2	1.60	0.67
61:v:1:MET:HE1	61:v:44:ARG:HA	1.76	0.67
17:D:945:G:C2	17:D:946:A:C8	2.83	0.66
19:F:31:GLU:OE1	19:F:34:ARG:NH2	2.28	0.66
26:M:20:SER:CB	26:M:23:LEU:HD13	2.24	0.66
38:Y:48:ILE:HG13	38:Y:49:GLU:N	2.10	0.66
40:a:1800:C:OP2	47:h:182:ARG:NH1	2.27	0.66
6:5:10:DT:H73	11:AA:62:TYR:CB	2.25	0.66
16:C:70:TYR:CE2	17:D:674:G:H4'	2.30	0.66
26:M:109:ARG:HD2	26:M:116:MET:HE1	1.76	0.66
38:Y:60:VAL:HG22	38:Y:66:PHE:CB	2.23	0.66
17:D:588:G:H4'	27:N:3:MET:HE1	1.76	0.66
26:M:23:LEU:HD21	26:M:59:LEU:HD21	1.76	0.66
38:Y:32:VAL:HG22	38:Y:60:VAL:HG21	1.77	0.66
39:Z:14:MET:HB3	39:Z:17:MET:CG	2.21	0.66
42:c:71:LEU:HB3	42:c:76:GLU:CD	2.20	0.66
49:j:3:GLY:O	49:j:4:LEU:HD12	1.96	0.66
5:4:57:TYR:OH	5:4:79:ARG:NH2	2.24	0.66
5:4:75:GLN:HG3	5:4:92:VAL:CG2	2.24	0.66
19:F:58:LYS:O	19:F:62:ARG:HG2	1.96	0.66
38:Y:37:PHE:CZ	38:Y:56:VAL:HG11	2.30	0.66
38:Y:102:ARG:HG3	38:Y:140:GLU:O	1.96	0.66
40:a:1802:A:H2'	40:a:1803:A:C8	2.30	0.66
40:a:1816:C:N4	47:h:35:GLU:OE2	2.20	0.66
40:a:2334:U:H4'	40:a:2335:A:OP2	1.95	0.66
45:f:40:ASP:C	45:f:45:ARG:HH22	2.03	0.66
45:f:41:THR:O	45:f:44:ILE:HG22	1.94	0.66
8:7:47:G:OP1	11:AA:1073:LYS:NZ	2.24	0.66
9:9:24:SER:OG	9:9:86:MET:HE2	1.96	0.66
10:B:75:C:OP2	40:a:2602:A:C2'	2.43	0.66
32:S:42:TRP:HH2	46:g:66:ILE:HA	1.61	0.66
40:a:2682:A:H2'	40:a:2683:C:O4'	1.96	0.66
53:n:93:GLY:O	53:n:96:MET:N	2.28	0.66
5:4:50:MET:HB3	5:4:56:PHE:CE1	2.31	0.66
9:9:43:LYS:HZ2	9:9:101:LYS:HE2	1.60	0.66
10:A:71:C:H3'	10:A:72:A:C8	2.31	0.66
12:AB:129:ILE:O	12:AB:142:LEU:CB	2.44	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:274:A:H4'	35:V:16:LYS:HE3	1.76	0.66
20:G:49:MET:HE1	20:G:201:PRO:CD	2.23	0.66
20:G:53:ALA:HA	20:G:56:GLU:OE1	1.96	0.66
21:H:23:ILE:N	21:H:69:ASP:OD2	2.27	0.66
28:O:86:ALA:O	28:O:89:GLU:HG2	1.95	0.66
51:l:118:LEU:HD11	51:l:188:MET:SD	2.35	0.66
6:5:10:DT:C7	11:AA:62:TYR:CB	2.74	0.66
9:9:28:ALA:H	9:9:110:ALA:HA	1.61	0.66
14:AE:72:CYS:SG	29:P:89:ARG:NH2	2.69	0.66
16:C:13:PHE:HB3	16:C:51:TYR:CE1	2.30	0.66
21:H:308:GLU:HG2	21:H:309:MET:H	1.61	0.66
33:T:80:GLN:O	33:T:83:GLU:HG3	1.95	0.66
40:a:2175:C:H2'	40:a:2176:A:C8	2.31	0.66
20:G:90:PHE:CD2	20:G:154:MET:HE3	2.31	0.66
40:a:2682:A:C8	49:j:11:MET:HE1	2.30	0.66
9:9:43:LYS:HD3	9:9:98:GLU:HG3	1.78	0.66
17:D:375:U:P	34:U:70:ARG:NE	2.69	0.66
21:H:303:LEU:O	21:H:303:LEU:HG	1.96	0.66
38:Y:79:LEU:HD21	38:Y:105:LEU:CD2	2.24	0.66
38:Y:102:ARG:NE	38:Y:102:ARG:HA	2.11	0.66
40:a:617:G:H4'	51:l:199:MET:HE1	1.78	0.66
40:a:2420:C:H5"	50:k:8:LYS:CE	2.25	0.66
56:q:1:MET:HE1	56:q:35:GLN:CA	2.25	0.66
6:5:16:DG:H1	11:AA:451:ARG:NH2	1.95	0.66
14:AE:58:CYS:SG	14:AE:59:ALA:N	2.69	0.66
17:D:1151:A:HO2'	17:D:1152:A:P	2.18	0.66
20:G:23:TRP:CD1	20:G:39:HIS:HE1	2.14	0.66
20:G:90:PHE:CE2	20:G:154:MET:HE3	2.31	0.66
26:M:103:TRP:CG	26:M:137:LYS:HZ2	2.14	0.66
37:X:28:THR:HA	37:X:31:LYS:HE3	1.78	0.66
40:a:2355:G:C2'	40:a:2356:U:H5'	2.26	0.66
61:v:45:GLN:NE2	61:v:125:PRO:HD3	2.10	0.66
5:4:56:PHE:O	5:4:61:LEU:HD11	1.95	0.65
9:9:139:LEU:CD2	39:Z:11:VAL:HG22	2.26	0.65
16:C:51:TYR:CD1	16:C:54:GLN:NE2	2.63	0.65
36:W:40:ILE:CD1	36:W:66:MET:SD	2.77	0.65
40:a:614:A:O2'	40:a:615:U:OP2	2.12	0.65
51:l:40:ARG:HD2	51:l:92:HIS:ND1	2.11	0.65
59:t:99:ILE:HD13	59:t:118:LEU:HB2	1.77	0.65
4:3:26:LYS:HB2	4:3:35:ILE:HG23	1.78	0.65
12:AB:150:ILE:HG13	12:AB:150:ILE:O	1.95	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:5:9:DG:O5'	11:AA:473:ARG:HB3	1.95	0.65
12:AB:9:CYS:HB3	12:AB:74:GLY:HA2	1.78	0.65
18:E:21:ASN:C	18:E:25:ARG:NE	2.54	0.65
23:J:196:ASN:OD1	23:J:198:HIS:CE1	2.49	0.65
27:N:67:GLN:OE1	27:N:67:GLN:N	2.28	0.65
37:X:81:MET:CE	40:a:888:C:C5	2.78	0.65
38:Y:20:SER:HB2	38:Y:21:PRO:HD3	1.79	0.65
40:a:1596:A:H2'	40:a:1597:A:C8	2.32	0.65
65:z:85:LYS:HD2	65:z:116:ALA:HB1	1.78	0.65
5:4:84:PRO:O	5:4:85:LYS:HE2	1.96	0.65
6:5:11:DA:P	12:AB:67:THR:C	2.80	0.65
9:9:14:GLU:O	9:9:18:VAL:HG23	1.96	0.65
18:E:54:MET:HE1	18:E:75:HIS:CE1	2.31	0.65
20:G:134:ALA:O	20:G:137:ARG:HG2	1.96	0.65
22:I:132:ARG:O	22:I:135:LYS:HG2	1.97	0.65
33:T:64:ARG:NH1	33:T:89:ARG:HH22	1.94	0.65
38:Y:24:GLY:O	38:Y:27:LEU:HG	1.96	0.65
46:g:58:ASP:C	46:g:62:LYS:NZ	2.55	0.65
51:l:45:ALA:HB1	51:l:88:ARG:NH2	2.12	0.65
59:t:1:MET:HE1	59:t:32:TYR:CD1	2.31	0.65
6:5:10:DT:C2	12:AB:71:ALA:HB3	1.85	0.65
18:E:28:MET:SD	18:E:61:GLN:HG3	2.36	0.65
38:Y:81:LYS:NZ	38:Y:86:LYS:HE2	2.12	0.65
40:a:2356:U:O3'	41:b:20:ARG:CZ	2.45	0.65
53:n:117:LEU:HD13	53:n:176:PRO:CG	2.26	0.65
57:r:137:GLU:HG2	57:r:138:VAL:N	2.11	0.65
58:s:13:ARG:HH22	58:s:50:THR:HA	1.60	0.65
65:z:41:LYS:HG3	65:z:45:TYR:CE2	2.32	0.65
8:7:9:U:N3	17:D:1196:A:N7	2.45	0.65
10:A:19:G:C2	40:a:2112:G:O4'	2.50	0.65
10:A:22:G:H2'	10:A:23:C:C6	2.32	0.65
12:AB:139:SER:C	12:AB:152:HIS:O	2.40	0.65
10:B:22:G:H2'	10:B:23:C:C6	2.32	0.65
16:C:73:ARG:HH12	30:Q:113:VAL:CB	2.09	0.65
18:E:16:LYS:O	18:E:19:LYS:HG2	1.97	0.65
32:S:53:ARG:HB3	32:S:59:ARG:NH1	2.11	0.65
40:a:1839:G:H1'	40:a:1927:A:C8	2.32	0.65
40:a:2572:A:N7	49:j:150:GLN:NE2	2.45	0.65
58:s:43:GLU:OE1	58:s:43:GLU:N	2.29	0.65
2:1:25:ARG:NH2	40:a:520:G:C5'	2.60	0.65
9:9:25:ALA:HB2	9:9:96:PHE:CE1	2.31	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:C:73:ARG:HH12	30:Q:113:VAL:HA	1.62	0.65
17:D:246:A:C2	17:D:282:A:C5	2.84	0.65
17:D:280:C:H1'	35:V:40:ARG:NH2	2.12	0.65
17:D:1158:C:O2'	20:G:132:LYS:CE	2.45	0.65
20:G:26:LYS:NZ	20:G:193:PRO:HG2	2.12	0.65
20:G:27:MET:HG2	20:G:189:THR:HA	1.78	0.65
28:O:83:ILE:O	28:O:87:LEU:HD23	1.96	0.65
32:S:87:ALA:CA	32:S:90:ARG:NH1	2.60	0.65
40:a:1824:G:OP1	47:h:52:ARG:CZ	2.44	0.65
61:v:31:PHE:N	61:v:104:GLU:OE2	2.30	0.65
61:v:45:GLN:NE2	61:v:125:PRO:CD	2.59	0.65
61:v:111:GLU:HG2	61:v:112:LEU:HD12	1.78	0.65
4:3:68:SER:OG	40:a:335:C:O2	2.15	0.65
6:5:10:DT:C5	11:AA:62:TYR:HE2	1.97	0.65
10:A:76:A:N6	40:a:2422:C:O5'	2.29	0.65
14:AE:74:LYS:HB2	29:P:89:ARG:HB3	1.79	0.65
16:C:34:THR:N	16:C:38:LYS:O	2.30	0.65
20:G:19:GLN:HG3	21:H:76:GLU:HB3	1.78	0.65
20:G:101:LEU:HD22	20:G:157:LEU:CD1	2.26	0.65
24:K:148:ASN:OD1	27:N:96:MET:CE	2.45	0.65
38:Y:5:GLN:HG2	38:Y:61:TYR:CD1	2.32	0.65
60:u:122:VAL:CG1	60:u:125:LEU:HD11	2.27	0.65
4:3:34:VAL:HG13	4:3:67:VAL:HG22	1.78	0.65
9:9:47:GLU:HB3	9:9:51:TYR:OH	1.97	0.65
12:AB:129:ILE:H	12:AB:142:LEU:HB3	1.60	0.65
14:AE:84:ILE:HG22	14:AE:91:GLU:HA	1.79	0.65
17:D:714:G:H2'	17:D:715:A:C8	2.32	0.65
31:R:30:LYS:HB3	31:R:57:LEU:HD11	1.78	0.65
38:Y:14:ALA:HB3	38:Y:51:GLY:N	2.12	0.65
38:Y:126:ARG:NH2	40:a:1083:U:P	2.70	0.65
40:a:2419:U:H4'	50:k:22:THR:HG21	1.79	0.65
42:c:66:THR:HG22	42:c:70:GLU:OE2	1.97	0.65
47:h:52:ARG:HE	47:h:53:HIS:HE1	1.43	0.65
47:h:53:HIS:NE2	47:h:219:THR:HA	2.11	0.65
55:p:107:LEU:O	55:p:152:ARG:CZ	2.45	0.65
59:t:1:MET:HE1	59:t:32:TYR:CG	2.32	0.65
7:6:23:DC:H5"	14:AE:259:ARG:NH1	1.92	0.65
12:AB:129:ILE:O	12:AB:142:LEU:HB2	1.97	0.65
24:K:61:GLN:HA	24:K:64:MET:CE	2.27	0.65
28:O:5:GLN:NE2	28:O:20:PHE:HB3	2.10	0.65
32:S:10:GLU:O	32:S:14:VAL:HG23	1.97	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:W:62:VAL:HG13	36:W:66:MET:HE3	1.77	0.65
37:X:90:ARG:HD2	37:X:97:VAL:HA	1.77	0.65
38:Y:102:ARG:HD2	38:Y:141:ASP:CB	2.27	0.65
9:9:23:LEU:HD13	9:9:92:ALA:HB2	1.77	0.64
9:9:47:GLU:HG2	9:9:95:LEU:HD21	1.78	0.64
21:H:119:GLY:HA2	21:H:133:GLY:HA2	1.80	0.64
22:I:151:VAL:HG12	22:I:200:VAL:HG23	1.77	0.64
23:J:150:LYS:HE2	23:J:178:MET:HE2	1.79	0.64
35:V:60:GLU:OE1	35:V:76:VAL:CG2	2.45	0.64
38:Y:79:LEU:CD2	38:Y:105:LEU:HD21	2.27	0.64
51:l:194:LYS:O	51:l:198:GLU:OE1	2.15	0.64
8:7:38:U:C5'	11:AA:1259:LEU:HD21	2.27	0.64
17:D:1323:G:H2'	17:D:1324:A:C8	2.33	0.64
18:E:81:ALA:C	18:E:85:LYS:HZ3	2.05	0.64
19:F:10:GLU:OE2	19:F:18:ARG:NE	2.30	0.64
26:M:23:LEU:HD21	26:M:59:LEU:CD2	2.27	0.64
35:V:31:HIS:CD2	35:V:34:TYR:H	2.16	0.64
38:Y:99:LYS:NZ	38:Y:140:GLU:OE2	2.26	0.64
43:d:55:U:H1'	53:n:26:MET:CE	2.26	0.64
6:5:10:DT:H1'	12:AB:71:ALA:H	0.83	0.64
9:9:24:SER:OG	9:9:116:GLU:HG3	1.98	0.64
11:AA:314:ASN:HD21	11:AA:348:SER:HA	1.62	0.64
21:H:277:GLY:HA2	21:H:331:MET:CE	2.27	0.64
27:N:10:MET:HG3	27:N:27:MET:HE1	1.78	0.64
33:T:3:LEU:HD22	33:T:8:THR:CG2	2.28	0.64
40:a:2723:C:H5"	62:w:1:MET:HE3	1.79	0.64
51:l:147:LEU:HB2	51:l:183:PHE:HD2	1.62	0.64
55:p:52:PHE:CD1	55:p:69:ARG:HD3	2.32	0.64
61:v:105:MET:CE	61:v:108:VAL:HG21	2.27	0.64
14:AE:74:LYS:CB	29:P:89:ARG:HB3	2.27	0.64
16:C:60:LYS:HZ3	17:D:735:C:P	2.19	0.64
25:L:25:TYR:O	25:L:29:ILE:HD12	1.97	0.64
2:1:71:VAL:HB	2:1:74:ILE:HD11	1.79	0.64
6:5:11:DA:H5'	12:AB:67:THR:CB	2.27	0.64
12:AB:117:ILE:O	12:AB:118:ILE:HG13	1.98	0.64
17:D:1308:U:P	37:X:100:GLN:NE2	2.70	0.64
19:F:58:LYS:O	19:F:62:ARG:CG	2.45	0.64
38:Y:55:PRO:HB2	38:Y:71:LYS:HE2	1.80	0.64
51:l:112:LEU:HG	51:l:118:LEU:HB2	1.79	0.64
59:t:8:LEU:N	59:t:18:ARG:NH1	2.46	0.64
59:t:42:THR:HG23	59:t:44:LYS:NZ	2.12	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:2:3:ARG:NH1	3:2:5:GLU:OE2	2.30	0.64
8:7:21:U:O4	22:I:82:GLU:HB2	1.97	0.64
12:AB:155:LYS:HG3	12:AB:156:ASN:H	1.62	0.64
24:K:137:VAL:O	24:K:140:THR:OG1	2.15	0.64
37:X:16:VAL:HG23	37:X:17:ILE:HD12	1.80	0.64
40:a:537:G:OP1	58:s:2:LYS:HE2	1.98	0.64
51:l:62:GLN:O	51:l:69:ARG:NE	2.30	0.64
14:AE:68:TYR:HA	14:AE:92:VAL:HG12	1.76	0.64
23:J:138:SER:O	23:J:141:ASP:CG	2.40	0.64
25:L:2:ARG:CZ	25:L:68:GLN:NE2	2.60	0.64
26:M:26:PHE:HD1	26:M:101:MET:SD	2.19	0.64
38:Y:14:ALA:C	38:Y:50:LYS:HE3	2.22	0.64
54:o:30:ARG:HH12	60:u:62:PRO:CB	2.10	0.64
55:p:149:ARG:CZ	55:p:162:VAL:O	2.45	0.64
9:9:50:VAL:HG23	38:Y:120:ASP:OD2	1.98	0.64
22:I:45:LYS:NZ	22:I:46:GLU:OE1	2.29	0.64
26:M:23:LEU:HD12	26:M:23:LEU:N	2.13	0.64
29:P:26:VAL:HG12	29:P:30:LYS:HZ2	1.62	0.64
31:R:80:ILE:HD12	31:R:104:CYS:HB2	1.79	0.64
33:T:53:ARG:O	33:T:57:LEU:HD23	1.96	0.64
37:X:22:ILE:HB	37:X:25:VAL:HG12	1.80	0.64
40:a:2682:A:O5'	49:j:11:MET:HE1	1.98	0.64
1:0:51:VAL:HG23	65:z:86:ALA:O	1.98	0.64
9:9:56:ARG:H	9:9:56:ARG:HD3	1.63	0.64
17:D:406:G:H21	23:J:116:GLN:HE22	1.46	0.64
17:D:675:A:H1'	30:Q:118:HIS:CD2	2.32	0.64
38:Y:86:LYS:HD3	38:Y:86:LYS:C	2.23	0.64
40:a:1278:C:C4'	62:w:24:MET:HE1	2.27	0.64
40:a:2311:A:N3	53:n:85:ILE:HD11	2.13	0.64
58:s:53:TYR:CE1	58:s:121:LYS:HD2	2.32	0.64
1:0:84:ARG:NH1	40:a:813:U:OP1	2.31	0.64
9:9:129:LEU:N	9:9:130:PRO:HD2	2.12	0.64
12:AB:31:PRO:HB2	12:AB:50:LEU:HB3	1.80	0.64
14:AE:70:CYS:HB2	14:AE:92:VAL:HG22	1.79	0.64
23:J:74:ASN:HA	23:J:77:LYS:HZ3	1.61	0.64
38:Y:31:GLY:C	38:Y:60:VAL:HG11	2.23	0.64
51:l:6:LYS:HE3	51:l:119:ILE:CG2	2.28	0.64
8:7:11:U:HO2'	24:K:33:PHE:HE1	1.35	0.63
8:7:21:U:OP1	22:I:80:LYS:HG2	1.96	0.63
9:9:73:LYS:NZ	9:9:115:GLY:O	2.31	0.63
17:D:738:C:H5"	25:L:68:GLN:NE2	2.12	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:932:C:H5'	26:M:4:ARG:HH11	1.62	0.63
20:G:114:LEU:HD13	20:G:144:LEU:CB	2.28	0.63
23:J:62:ARG:HG2	23:J:72:PHE:CZ	2.33	0.63
32:S:87:ALA:HA	32:S:90:ARG:CZ	2.28	0.63
39:Z:22:LEU:O	39:Z:26:MET:HE1	1.97	0.63
40:a:998:C:OP2	65:z:92:ARG:NH2	2.29	0.63
40:a:2682:A:O4'	49:j:11:MET:CE	2.47	0.63
51:l:149:ILE:HD11	51:l:188:MET:HG2	1.78	0.63
62:w:33:ILE:CG1	62:w:112:TYR:HD1	2.11	0.63
63:x:114:GLY:O	63:x:116:GLN:NE2	2.31	0.63
24:K:111:MET:HE1	24:K:125:ALA:HB1	1.80	0.63
26:M:4:ARG:CG	26:M:5:ARG:CZ	2.75	0.63
53:n:135:GLN:HG3	53:n:150:ARG:NH2	2.12	0.63
11:AA:387:ASN:HB3	11:AA:394:ARG:HH11	1.63	0.63
12:AB:80:ARG:HB3	12:AB:82:GLY:O	1.98	0.63
14:AE:69:GLU:C	14:AE:92:VAL:HG13	2.23	0.63
21:H:70:VAL:HG12	21:H:83:LEU:O	1.98	0.63
38:Y:99:LYS:NZ	38:Y:138:VAL:HG13	2.14	0.63
40:a:2308:G:C5	53:n:77:PHE:CZ	2.85	0.63
51:l:69:ARG:NH1	51:l:69:ARG:HA	2.13	0.63
9:9:117:LEU:O	9:9:117:LEU:HD23	1.98	0.63
10:A:32:C:H4'	26:M:86:GLN:HE21	1.62	0.63
12:AB:136:GLU:O	12:AB:156:ASN:HA	1.97	0.63
17:D:1226:C:H2'	37:X:102:THR:OG1	1.98	0.63
23:J:99:ASP:OD1	23:J:100:ASN:N	2.31	0.63
32:S:77:PHE:HE1	32:S:93:ILE:HG21	1.63	0.63
38:Y:5:GLN:HE22	38:Y:60:VAL:N	1.96	0.63
38:Y:37:PHE:CE1	38:Y:56:VAL:HG11	2.33	0.63
38:Y:102:ARG:NE	38:Y:139:VAL:HG21	2.13	0.63
43:d:5:U:OP1	43:d:61:G:O2'	2.16	0.63
9:9:100:ALA:HB2	9:9:125:ARG:NE	2.13	0.63
11:AA:1282:GLY:HA3	15:AF:17:PHE:HE1	1.63	0.63
16:C:13:PHE:CE2	16:C:21:ILE:HD11	2.34	0.63
17:D:718:A:H5'	30:Q:119:ASN:ND2	2.13	0.63
31:R:25:GLU:CD	31:R:59:ASN:HD22	2.05	0.63
38:Y:99:LYS:HD2	38:Y:140:GLU:CD	2.22	0.63
38:Y:102:ARG:HG3	38:Y:141:ASP:HA	1.80	0.63
64:y:31:TRP:CZ3	64:y:38:LYS:HD3	2.33	0.63
9:9:46:ARG:CG	9:9:94:ARG:HH21	2.02	0.63
9:9:77:VAL:HG12	9:9:77:VAL:O	1.99	0.63
22:I:156:ARG:HH11	22:I:193:TYR:HB3	1.63	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:K:61:GLN:HA	24:K:64:MET:HE3	1.81	0.63
33:T:88:ARG:NH2	40:a:714:U:OP2	2.31	0.63
37:X:16:VAL:HG12	37:X:34:LEU:HD12	1.80	0.63
40:a:196:A:C2	60:u:50:PHE:HZ	2.16	0.63
1:0:82:HIS:CG	1:0:82:HIS:O	2.52	0.63
5:4:50:MET:O	5:4:52:ALA:N	2.32	0.63
8:7:9:U:O4	17:D:1196:A:N9	2.32	0.63
10:A:54:U:H3	10:A:58:A:N6	1.96	0.63
10:B:76:A:H1'	40:a:2494:G:OP1	1.98	0.63
17:D:13:U:O2	17:D:914:A:C8	2.52	0.63
34:U:5:ARG:HG2	34:U:68:SER:HB2	1.80	0.63
40:a:2725:A:C4	40:a:2727:A:C8	2.87	0.63
3:2:36:LYS:HE3	3:2:79:ASP:OD2	1.98	0.63
8:7:11:U:O2'	24:K:33:PHE:CZ	2.52	0.63
21:H:19:ARG:O	21:H:72:LEU:HB2	1.98	0.63
31:R:75:GLN:OE1	31:R:75:GLN:N	2.32	0.63
38:Y:5:GLN:CG	38:Y:61:TYR:CE1	2.76	0.63
44:e:13:GLU:O	44:e:17:GLU:OE1	2.16	0.63
9:9:7:ASP:O	9:9:11:ILE:HD12	1.98	0.63
12:AB:102:LYS:HE2	14:AE:285:LEU:CB	2.29	0.63
36:W:66:MET:SD	36:W:66:MET:O	2.57	0.63
40:a:754:U:H2'	40:a:755:U:C6	2.34	0.63
40:a:2013:A:N1	40:a:2613:U:O4	2.31	0.63
8:7:11:U:O4'	24:K:20:ARG:NH2	2.32	0.62
14:AE:59:ALA:HB1	14:AE:71:LEU:HD22	1.78	0.62
38:Y:79:LEU:CD1	38:Y:132:ALA:HA	2.29	0.62
38:Y:102:ARG:HA	38:Y:102:ARG:HE	1.64	0.62
40:a:1067:A:O2'	40:a:1068:G:O4'	2.16	0.62
50:k:21:TYR:CE2	50:k:38:LYS:HG2	2.34	0.62
61:v:88:ASN:OD1	61:v:89:VAL:N	2.32	0.62
12:AB:129:ILE:HB	12:AB:142:LEU:CD2	2.28	0.62
16:C:33:ILE:O	21:H:338:GLU:CD	2.42	0.62
20:G:30:PHE:CD1	20:G:201:PRO:CG	2.83	0.62
20:G:118:GLU:O	20:G:121:SER:OG	2.15	0.62
21:H:135:LEU:O	21:H:169:SER:HA	2.00	0.62
40:a:2307:G:O4'	40:a:2308:G:C5	2.52	0.62
63:x:90:VAL:HG21	63:x:115:LEU:HD21	1.81	0.62
5:4:77:VAL:HG22	5:4:79:ARG:HE	1.64	0.62
12:AB:118:ILE:HD11	12:AB:159:PHE:HA	1.81	0.62
12:AB:146:ILE:CG1	29:P:100:ILE:CG2	2.77	0.62
10:B:31:G:O3'	17:D:1340:A:O2'	2.17	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:B:54:U:H3	10:B:58:A:N6	1.96	0.62
17:D:1152:A:OP1	29:P:70:HIS:ND1	2.29	0.62
21:H:16:ILE:HG22	21:H:25:ARG:NH2	2.14	0.62
24:K:45:ARG:HB3	24:K:71:MET:HE2	1.81	0.62
29:P:24:GLU:HA	29:P:27:GLU:OE1	1.99	0.62
40:a:2315:G:H4'	53:n:127:ASN:ND2	2.14	0.62
40:a:2335:A:P	63:x:13:ARG:CZ	2.87	0.62
47:h:251:GLN:HE22	47:h:253:LYS:C	2.07	0.62
61:v:1:MET:HE1	61:v:44:ARG:CA	2.30	0.62
12:AB:123:PHE:CE2	29:P:81:GLU:CA	2.80	0.62
17:D:522:C:OP2	31:R:66:TYR:OH	2.17	0.62
26:M:17:LYS:HG3	26:M:18:PHE:CD1	2.35	0.62
38:Y:100:ILE:CD1	38:Y:139:VAL:HB	2.29	0.62
53:n:33:LYS:HA	53:n:96:MET:SD	2.39	0.62
9:9:52:MET:C	9:9:52:MET:HE3	2.25	0.62
12:AB:122:ALA:C	29:P:81:GLU:HG3	2.24	0.62
17:D:337:G:H2'	17:D:338:A:C8	2.34	0.62
24:K:140:THR:O	24:K:144:LEU:HD23	1.99	0.62
40:a:1277:G:N3	62:w:23:ASN:ND2	2.47	0.62
48:i:17:ARG:HA	48:i:20:ASP:OD1	1.99	0.62
51:l:23:PHE:HB2	51:l:111:GLU:OE2	1.99	0.62
58:s:37:ARG:NH2	58:s:44:TYR:OH	2.32	0.62
59:t:8:LEU:N	59:t:18:ARG:HH12	1.98	0.62
11:AA:528:ARG:NH2	11:AA:576:SER:O	2.30	0.62
12:AB:114:ASP:O	12:AB:130:PHE:HB2	1.99	0.62
20:G:73:LYS:O	20:G:74:ARG:HG2	2.00	0.62
20:G:110:SER:HA	20:G:113:ARG:HE	1.65	0.62
29:P:23:ALA:O	29:P:27:GLU:OE1	2.18	0.62
36:W:12:ASP:OD2	36:W:35:SER:OG	2.14	0.62
5:4:80:HIS:CE1	5:4:82:TYR:H	2.17	0.62
9:9:47:GLU:HA	9:9:94:ARG:HH22	1.65	0.62
17:D:43:C:OP1	34:U:12:LYS:NZ	2.29	0.62
32:S:19:LYS:HG3	32:S:20:TYR:CE1	2.35	0.62
40:a:2393:U:P	54:o:30:ARG:NE	2.69	0.62
62:w:37:THR:OG1	62:w:40:LYS:HD2	2.00	0.62
64:y:64:ILE:HG13	64:y:64:ILE:O	1.97	0.62
8:7:9:U:N3	17:D:1196:A:C8	2.66	0.62
13:AC:45:ARG:HD3	13:AD:38:THR:HB	1.82	0.62
17:D:1157:A:C2	17:D:1181:G:C4	2.88	0.62
20:G:49:MET:HE3	20:G:199:VAL:O	1.99	0.62
21:H:61:GLU:HG2	21:H:62:ILE:HG23	1.81	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:S:13:ARG:HB3	32:S:60:GLN:HG3	1.81	0.62
34:U:76:LYS:C	34:U:80:LYS:HZ3	2.08	0.62
38:Y:9:LYS:HG2	38:Y:55:PRO:HB3	1.80	0.62
39:Z:8:ILE:HG13	39:Z:9:GLU:N	2.15	0.62
61:v:38:ARG:HA	61:v:96:ILE:O	2.00	0.62
6:5:10:DT:C5'	11:AA:62:TYR:OH	2.48	0.62
12:AB:123:PHE:CD2	29:P:81:GLU:HB2	2.35	0.62
17:D:1228:C:OP1	37:X:107:ARG:NH1	2.32	0.62
20:G:126:PHE:O	20:G:126:PHE:CD1	2.53	0.62
27:N:24:ALA:HB1	27:N:60:GLU:OE2	2.00	0.62
40:a:1406:U:C2	40:a:1407:G:C8	2.88	0.62
50:k:34:LEU:HB3	50:k:51:GLU:HG3	1.82	0.62
54:o:13:ARG:HD3	60:u:58:TYR:O	2.00	0.62
65:z:74:ILE:HD11	65:z:79:PHE:CA	2.30	0.62
3:2:9:LYS:O	3:2:12:ARG:NH1	2.30	0.62
5:4:76:ASP:OD1	5:4:77:VAL:N	2.33	0.62
11:AA:120:GLN:NE2	11:AA:490:GLN:OE1	2.32	0.62
12:AB:35:LEU:HB3	12:AB:37:LYS:HD3	1.82	0.62
12:AB:122:ALA:O	29:P:81:GLU:OE1	2.16	0.62
16:C:45:THR:HA	21:H:340:ARG:NH2	2.15	0.62
24:K:69:ARG:HA	24:K:69:ARG:NE	2.15	0.62
37:X:28:THR:CG2	37:X:31:LYS:HE3	2.30	0.62
38:Y:9:LYS:HE2	38:Y:55:PRO:HG3	1.82	0.62
38:Y:56:VAL:HA	38:Y:71:LYS:NZ	2.07	0.62
11:AA:481:LEU:CD2	12:AB:16:ARG:HD2	2.12	0.61
12:AB:141:LEU:O	12:AB:151:LYS:C	2.42	0.61
22:I:14:ILE:HG22	22:I:15:VAL:HG13	1.82	0.61
34:U:18:GLN:OE1	34:U:37:GLY:O	2.17	0.61
38:Y:80:LYS:HG3	38:Y:86:LYS:O	2.00	0.61
40:a:985:C:C2	40:a:986:C:C5	2.88	0.61
49:j:55:LYS:HZ1	49:j:59:ARG:C	2.08	0.61
53:n:38:MET:SD	53:n:150:ARG:HD2	2.39	0.61
62:w:47:VAL:O	62:w:51:LEU:HD23	2.00	0.61
65:z:74:ILE:CD1	65:z:74:ILE:CB	2.76	0.61
5:4:77:VAL:HG11	5:4:79:ARG:HH21	1.64	0.61
17:D:563:A:C2	17:D:567:G:C5	2.89	0.61
17:D:687:A:C2	17:D:704:A:C5	2.88	0.61
21:H:135:LEU:CB	21:H:167:VAL:CB	2.77	0.61
27:N:88:ARG:HB2	27:N:91:GLU:OE1	2.00	0.61
40:a:2682:A:H8	49:j:11:MET:HE1	1.65	0.61
8:7:21:U:H5'	8:7:22:U:H5"	1.81	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AB:126:PHE:CE1	14:AE:87:LYS:CD	2.83	0.61
12:AB:140:MET:HA	12:AB:153:SER:HA	1.82	0.61
28:O:123:ARG:HG2	28:O:123:ARG:O	1.99	0.61
46:g:1:MET:HE2	46:g:6:HIS:CD2	2.35	0.61
49:j:1:MET:HE2	49:j:100:LEU:HD11	1.82	0.61
8:7:7:U:H6	8:7:7:U:H5"	1.64	0.61
17:D:1124:G:O2'	17:D:1145:A:N6	2.33	0.61
24:K:81:LEU:HG	24:K:96:MET:HE1	1.82	0.61
40:a:1839:G:C8	40:a:1927:A:H1'	2.35	0.61
58:s:98:GLU:O	58:s:102:GLU:OE1	2.18	0.61
9:9:25:ALA:HB3	9:9:99:PHE:HD2	1.61	0.61
9:9:113:PHE:O	9:9:123:ILE:HG13	1.99	0.61
10:B:36:U:H2'	10:B:37:A:C8	2.36	0.61
20:G:19:GLN:OE1	20:G:21:ARG:HG2	2.00	0.61
26:M:103:TRP:O	26:M:106:GLU:HG3	2.01	0.61
40:a:1065:U:O2'	40:a:1066:U:O5'	2.16	0.61
47:h:141:VAL:HG23	47:h:162:VAL:CG1	2.30	0.61
3:2:1:MET:N	40:a:142:A:O2'	2.33	0.61
8:7:21:U:O4	22:I:82:GLU:OE1	2.17	0.61
9:9:25:ALA:HB2	9:9:96:PHE:CD1	2.36	0.61
10:A:5:G:H2'	10:A:6:G:H5'	1.82	0.61
12:AB:102:LYS:CD	14:AE:285:LEU:HA	2.31	0.61
17:D:1309:G:P	37:X:98:ARG:HE	2.20	0.61
22:I:58:GLU:OE2	29:P:94:ALA:CB	2.48	0.61
30:Q:84:VAL:HG23	30:Q:107:ILE:CD1	2.30	0.61
38:Y:21:PRO:HB2	38:Y:22:PRO:HD3	1.80	0.61
40:a:1138:G:N3	58:s:108:MET:HE2	2.14	0.61
54:o:30:ARG:HH12	60:u:62:PRO:CA	2.14	0.61
59:t:20:MET:CB	59:t:44:LYS:HZ3	2.13	0.61
3:2:56:GLU:OE2	3:2:87:LEU:C	2.42	0.61
6:5:9:DG:P	11:AA:473:ARG:CG	2.88	0.61
10:A:65:C:H2'	10:A:66:C:H5'	1.83	0.61
14:AE:70:CYS:HB2	14:AE:92:VAL:HG21	1.83	0.61
16:C:60:LYS:NZ	17:D:734:G:C2'	2.64	0.61
17:D:1145:A:O2'	17:D:1146:A:O5'	2.18	0.61
26:M:18:PHE:HD2	26:M:59:LEU:HD21	1.65	0.61
33:T:67:LEU:HD12	33:T:78:TYR:CE1	2.35	0.61
40:a:372:G:O2'	40:a:400:G:O6	2.16	0.61
58:s:11:VAL:HG11	58:s:13:ARG:NH1	2.15	0.61
61:v:75:GLU:HG3	61:v:90:GLU:OE1	2.01	0.61
7:6:25:DT:H2'	11:AA:496:LYS:CE	2.28	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:9:23:LEU:HD11	9:9:96:PHE:CE2	2.34	0.61
38:Y:19:PRO:O	38:Y:24:GLY:CA	2.48	0.61
38:Y:72:THR:OG1	38:Y:73:PRO:HD2	2.01	0.61
40:a:1278:C:O2'	62:w:27:SER:OG	2.16	0.61
40:a:2363:G:OP2	54:o:40:ARG:HD2	2.01	0.61
3:2:56:GLU:OE2	3:2:87:LEU:O	2.18	0.61
9:9:47:GLU:HG3	9:9:94:ARG:NH1	2.16	0.61
9:9:61:ARG:NE	40:a:1046:A:O5'	2.34	0.61
11:AA:55:SER:OG	11:AA:465:ARG:NH1	2.33	0.61
13:AD:112:ALA:HB3	13:AD:126:PRO:HA	1.83	0.61
17:D:562:U:C2'	31:R:14:ARG:HH11	2.13	0.61
17:D:718:A:O2'	19:F:34:ARG:NH2	2.34	0.61
24:K:16:ILE:HD11	24:K:38:VAL:HG12	1.83	0.61
26:M:111:ARG:O	26:M:119:ARG:NH1	2.34	0.61
40:a:548:G:H3'	40:a:549:G:O4'	2.01	0.61
57:r:5:LEU:HD12	57:r:17:ASP:O	2.00	0.61
58:s:13:ARG:HH22	58:s:50:THR:CA	2.14	0.61
24:K:113:ALA:HA	24:K:116:GLU:OE1	2.00	0.61
32:S:87:ALA:HA	32:S:90:ARG:NH1	2.15	0.61
40:a:413:C:H2'	40:a:414:C:H6	1.66	0.61
61:v:111:GLU:HA	61:v:114:ARG:HE	1.66	0.61
2:1:1:MET:SD	2:1:3:THR:OG1	2.59	0.60
7:6:25:DT:OP1	11:AA:496:LYS:C	2.43	0.60
9:9:23:LEU:HD21	9:9:96:PHE:CG	2.36	0.60
13:AD:211:ILE:HG12	13:AD:219:ARG:HH12	1.65	0.60
14:AE:814:CYS:SG	14:AE:883:ARG:NH2	2.74	0.60
27:N:43:GLU:CD	27:N:101:ILE:HG21	2.25	0.60
58:s:13:ARG:NH2	58:s:49:ASP:O	2.34	0.60
10:B:5:G:H2'	10:B:6:G:H5'	1.83	0.60
10:B:30:G:O2'	17:D:1339:A:C2	2.52	0.60
16:C:29:LEU:HD23	16:C:59:ILE:HD13	1.83	0.60
17:D:1125:U:C2	17:D:1127:G:C8	2.89	0.60
17:D:1169:A:H2'	17:D:1170:A:C8	2.36	0.60
20:G:38:VAL:CG2	21:H:75:VAL:HG21	2.31	0.60
21:H:333:LEU:O	21:H:334:ASP:OD1	2.19	0.60
28:O:94:LEU:HB3	28:O:97:GLU:OE2	2.01	0.60
40:a:1070:A:N7	40:a:1096:A:O2'	2.35	0.60
40:a:1565:C:OP1	47:h:18:LYS:NZ	2.26	0.60
40:a:2191:A:H2'	40:a:2192:U:C6	2.36	0.60
2:1:86:MET:CE	2:1:88:ARG:HD3	2.32	0.60
6:5:11:DA:H2'	12:AB:67:THR:HG21	1.82	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:A:36:U:H2'	10:A:37:A:C8	2.36	0.60
12:AB:89:PRO:CG	14:AE:290:ILE:CG2	2.79	0.60
12:AB:142:LEU:HA	12:AB:151:LYS:HA	1.83	0.60
10:B:65:C:H2'	10:B:66:C:H5'	1.83	0.60
24:K:159:LYS:NZ	27:N:44:GLY:HA3	2.16	0.60
34:U:5:ARG:HH22	34:U:24:SER:HA	1.66	0.60
37:X:55:THR:O	37:X:59:GLU:OE1	2.18	0.60
40:a:271:G:C4	40:a:272:A:C8	2.89	0.60
53:n:25:VAL:O	53:n:28:VAL:HG12	2.02	0.60
60:u:76:GLU:HG3	60:u:111:ILE:CD1	2.31	0.60
60:u:84:LYS:NZ	60:u:98:ALA:O	2.20	0.60
12:AB:129:ILE:HB	12:AB:142:LEU:HD22	1.83	0.60
14:AE:1275:LEU:HB3	14:AE:1278:GLU:HB2	1.83	0.60
38:Y:36:GLU:HG3	38:Y:66:PHE:CE1	2.36	0.60
47:h:84:ASP:HB2	47:h:91:ILE:HD12	1.84	0.60
50:k:19:HIS:ND1	50:k:41:PRO:CD	2.65	0.60
53:n:122:PHE:CZ	53:n:170:LEU:HD12	2.36	0.60
62:w:42:LYS:HE2	62:w:97:ILE:HG21	1.82	0.60
1:0:73:LYS:NZ	40:a:1225:G:OP1	2.34	0.60
6:5:10:DT:C4	11:AA:62:TYR:HD2	2.12	0.60
12:AB:81:PHE:HE1	14:AE:293:ARG:HB3	0.85	0.60
17:D:496:A:N3	17:D:496:A:H2'	2.17	0.60
28:O:56:ASP:O	28:O:57:MET:HE2	2.02	0.60
40:a:1277:G:H5'	62:w:20:MET:HE2	1.84	0.60
40:a:2780:G:P	58:s:120:ARG:NH1	2.74	0.60
53:n:122:PHE:O	53:n:123:ASP:OD1	2.19	0.60
54:o:32:ILE:HG13	54:o:32:ILE:O	2.00	0.60
57:r:114:GLU:OE2	57:r:134:VAL:N	2.33	0.60
9:9:23:LEU:HA	9:9:118:ILE:CG1	2.31	0.60
26:M:137:LYS:O	26:M:141:VAL:HG23	2.02	0.60
35:V:61:ILE:HG13	35:V:73:TRP:CZ3	2.36	0.60
40:a:1257:C:H4'	51:l:78:TRP:CD2	2.37	0.60
47:h:67:PHE:CE1	47:h:156:ARG:HD2	2.37	0.60
49:j:25:THR:HG21	49:j:193:VAL:HG22	1.84	0.60
60:u:51:GLU:OE1	60:u:51:GLU:N	2.34	0.60
2:1:98:LYS:NZ	40:a:2011:U:O3'	2.34	0.60
3:2:56:GLU:OE1	3:2:86:THR:O	2.19	0.60
28:O:57:MET:HA	28:O:60:LYS:HE2	1.83	0.60
29:P:26:VAL:HG12	29:P:30:LYS:NZ	2.16	0.60
39:Z:14:MET:HG3	39:Z:15:SER:N	2.17	0.60
40:a:1322:A:C5	40:a:1323:C:C5	2.90	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:1824:G:C3'	47:h:52:ARG:HH12	2.13	0.60
49:j:46:ARG:NH1	49:j:85:ALA:O	2.32	0.60
62:w:60:VAL:HA	62:w:63:ARG:NH1	2.17	0.60
8:7:9:U:O4	17:D:1196:A:C8	2.55	0.60
9:9:94:ARG:CB	9:9:97:LYS:HE2	2.32	0.60
12:AB:90:SER:HB3	12:AB:93:ILE:HB	1.84	0.60
14:AE:785:ASP:O	14:AE:789:LYS:HB2	2.01	0.60
17:D:1006:G:H2'	17:D:1007:U:C6	2.36	0.60
17:D:1160:G:C2	17:D:1161:C:C6	2.89	0.60
25:L:42:TRP:CZ2	25:L:102:MET:HG3	2.36	0.60
53:n:38:MET:HG3	53:n:57:LEU:HD21	1.83	0.60
9:9:136:ILE:CD1	9:9:139:LEU:HD12	2.25	0.60
12:AB:82:GLY:HA2	14:AE:142:GLU:OE1	2.01	0.60
12:AB:92:VAL:HA	12:AB:96:LEU:HB2	1.83	0.60
12:AB:141:LEU:HB3	12:AB:143:LEU:CD1	2.29	0.60
14:AE:86:GLU:OE1	14:AE:86:GLU:N	2.34	0.60
14:AE:741:ALA:O	14:AE:762:ASN:ND2	2.32	0.60
40:a:2298:A:C4	40:a:2321:U:C5	2.90	0.60
46:g:5:ILE:HD12	53:n:64:LYS:CE	2.31	0.60
46:g:65:ASN:OD1	46:g:66:ILE:N	2.30	0.60
3:2:19:LYS:NZ	40:a:1340:U:OP1	2.34	0.60
11:AA:1072:ASN:ND2	11:AA:1111:GLN:OE1	2.34	0.60
12:AB:117:ILE:O	12:AB:160:ARG:O	2.20	0.60
14:AE:506:VAL:HG23	14:AE:628:GLY:HA3	1.83	0.60
16:C:51:TYR:HD1	16:C:54:GLN:NE2	2.00	0.60
22:I:142:MET:HE2	22:I:149:ILE:HG22	1.83	0.60
27:N:106:THR:HB	27:N:121:LEU:HD13	1.83	0.60
28:O:49:ARG:HB3	28:O:53:GLU:OE2	2.02	0.60
40:a:753:A:C2	40:a:754:U:C6	2.89	0.60
45:f:40:ASP:C	45:f:45:ARG:NH2	2.60	0.60
49:j:55:LYS:HZ1	49:j:59:ARG:HB3	1.67	0.60
9:9:14:GLU:OE1	9:9:62:ARG:O	2.19	0.59
9:9:103:ASN:HA	9:9:107:GLU:OE2	2.02	0.59
10:A:69:C:H2'	10:A:70:G:O4'	2.02	0.59
16:C:14:THR:HG21	16:C:48:ARG:NE	2.17	0.59
16:C:73:ARG:CZ	30:Q:113:VAL:HG12	2.32	0.59
18:E:28:MET:SD	18:E:57:ILE:HG22	2.42	0.59
21:H:131:LEU:CB	21:H:167:VAL:HA	2.32	0.59
22:I:24:ALA:C	22:I:29:PHE:HE2	2.10	0.59
24:K:112:ARG:O	24:K:116:GLU:OE1	2.19	0.59
27:N:104:VAL:HG23	27:N:125:ILE:HD13	1.83	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:W:67:VAL:HG21	46:g:57:VAL:HG22	1.82	0.59
40:a:2189:U:P	40:a:2189:U:O4'	2.60	0.59
45:f:41:THR:O	45:f:44:ILE:N	2.30	0.59
53:n:114:PHE:O	53:n:115:ARG:NE	2.34	0.59
58:s:74:TYR:CD2	58:s:74:TYR:N	2.69	0.59
9:9:51:TYR:HB2	9:9:88:HIS:CB	2.32	0.59
20:G:35:ARG:HD2	21:H:14:LYS:HE3	1.84	0.59
25:L:9:MET:HE2	25:L:51:ILE:HD11	1.83	0.59
28:O:55:VAL:O	28:O:57:MET:N	2.34	0.59
29:P:25:ILE:O	29:P:28:THR:OG1	2.19	0.59
40:a:575:A:C2	40:a:576:U:C5	2.90	0.59
40:a:1172:C:H2'	40:a:1173:U:O4'	2.02	0.59
41:b:51:VAL:C	41:b:62:LYS:HZ3	2.10	0.59
11:AA:69:GLN:HE21	11:AA:101:ARG:HD2	1.67	0.59
11:AA:472:GLU:HG3	11:AA:473:ARG:HD3	1.83	0.59
10:B:69:C:H2'	10:B:70:G:O4'	2.02	0.59
17:D:13:U:N3	17:D:915:A:N6	2.50	0.59
17:D:736:C:H5"	25:L:90:MET:HE2	1.85	0.59
37:X:25:VAL:HG23	37:X:29:ARG:CB	2.32	0.59
40:a:2460:U:C2	40:a:2461:A:C8	2.91	0.59
61:v:111:GLU:OE1	61:v:111:GLU:N	2.32	0.59
62:w:33:ILE:CG1	62:w:112:TYR:CD1	2.85	0.59
3:2:56:GLU:OE1	3:2:56:GLU:N	2.33	0.59
5:4:63:ILE:HD11	5:4:91:PHE:CE2	2.37	0.59
9:9:60:LEU:HA	9:9:64:VAL:HB	1.84	0.59
12:AB:31:PRO:O	12:AB:50:LEU:N	2.31	0.59
14:AE:70:CYS:N	14:AE:92:VAL:HG11	2.16	0.59
14:AE:1161:GLY:HA3	14:AE:1179:PRO:HA	1.83	0.59
14:AE:1221:LEU:HD22	14:AE:1306:LEU:HB2	1.85	0.59
17:D:878:A:OP2	27:N:80:ARG:NH1	2.35	0.59
17:D:1290:G:H4'	26:M:35:LYS:NZ	2.17	0.59
20:G:23:TRP:HZ3	20:G:25:PRO:HA	1.67	0.59
21:H:155:LYS:O	21:H:169:SER:N	2.35	0.59
23:J:62:ARG:HG2	23:J:72:PHE:CE1	2.38	0.59
24:K:10:GLU:OE1	24:K:10:GLU:N	2.35	0.59
40:a:639:U:H2'	40:a:640:C:C6	2.37	0.59
40:a:654:A:H61	54:o:19:LYS:HD2	1.68	0.59
45:f:10:THR:HG22	45:f:54:MET:C	2.27	0.59
52:m:1:MET:HE3	52:m:3:ARG:HH11	1.67	0.59
8:7:10:U:H5"	8:7:10:U:O2	2.03	0.59
8:7:15:U:OP1	22:I:132:ARG:NH2	2.35	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:9:33:VAL:HG22	9:9:36:ASP:CG	2.27	0.59
17:D:1107:C:P	22:I:172:ARG:HG3	2.43	0.59
18:E:32:ILE:HG12	18:E:75:HIS:CE1	2.38	0.59
24:K:12:GLN:HB3	24:K:14:LYS:NZ	2.18	0.59
38:Y:126:ARG:HH22	40:a:1083:U:P	2.25	0.59
40:a:993:G:OP2	65:z:51:ARG:NH2	2.36	0.59
58:s:55:ILE:HG13	58:s:123:LYS:NZ	2.17	0.59
58:s:102:GLU:CD	58:s:124:VAL:HG11	2.28	0.59
1:0:51:VAL:O	1:0:51:VAL:HG13	2.02	0.59
1:0:68:ARG:HH12	40:a:1223:G:P	2.24	0.59
6:5:9:DG:O5'	11:AA:473:ARG:CB	2.49	0.59
6:5:11:DA:C2'	12:AB:67:THR:CG2	2.77	0.59
8:7:18:U:C6	8:7:18:U:C5'	2.86	0.59
9:9:7:ASP:OD1	9:9:8:LYS:N	2.35	0.59
12:AB:124:GLU:O	14:AE:87:LYS:NZ	2.35	0.59
17:D:652:U:H4'	27:N:56:LYS:NZ	2.16	0.59
19:F:49:LYS:O	19:F:53:VAL:HG23	2.02	0.59
27:N:43:GLU:HG2	27:N:101:ILE:HD13	1.84	0.59
29:P:86:ALA:C	29:P:90:LEU:HD13	2.27	0.59
35:V:60:GLU:OE1	35:V:76:VAL:HG23	2.01	0.59
40:a:2335:A:OP2	63:x:13:ARG:CD	2.51	0.59
47:h:62:TYR:CE2	47:h:64:ILE:HD13	2.38	0.59
50:k:34:LEU:HB3	50:k:51:GLU:CG	2.31	0.59
53:n:4:LEU:HD11	53:n:101:GLU:HA	1.84	0.59
57:r:68:ARG:O	57:r:72:ILE:HD12	2.03	0.59
58:s:102:GLU:HB3	58:s:119:PHE:HZ	1.66	0.59
59:t:5:GLN:HA	59:t:20:MET:CE	2.32	0.59
59:t:42:THR:CG2	59:t:44:LYS:HZ1	2.15	0.59
64:y:7:GLN:CD	64:y:7:GLN:C	2.71	0.59
11:AA:1142:ARG:NH1	11:AA:1161:LEU:O	2.36	0.59
20:G:26:LYS:CD	20:G:193:PRO:HG2	2.32	0.59
20:G:106:THR:HA	20:G:109:GLN:NE2	2.18	0.59
22:I:54:ARG:NH2	22:I:56:VAL:HG21	2.18	0.59
24:K:93:ARG:HB3	24:K:93:ARG:NH2	2.18	0.59
30:Q:51:GLY:O	30:Q:56:ARG:CZ	2.51	0.59
35:V:10:GLY:HA3	35:V:25:ILE:HD13	1.83	0.59
36:W:45:ILE:HA	36:W:62:VAL:CG1	2.31	0.59
1:0:61:ALA:HB1	1:0:96:VAL:HG22	1.84	0.59
9:9:97:LYS:NZ	9:9:130:PRO:HA	2.17	0.59
9:9:98:GLU:HA	9:9:101:LYS:HG2	1.83	0.59
12:AB:143:LEU:HD22	12:AB:145:LEU:HD11	1.83	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:AE:288:PRO:HD2	14:AE:291:ILE:HG22	1.75	0.59
16:C:73:ARG:NH1	30:Q:113:VAL:HA	2.18	0.59
17:D:921:U:H4'	24:K:23:LYS:NZ	2.18	0.59
18:E:61:GLN:NE2	18:E:66:LEU:HD22	2.18	0.59
27:N:47:GLU:OE2	27:N:64:LYS:HA	2.02	0.59
37:X:22:ILE:HG23	37:X:66:GLU:OE2	2.03	0.59
38:Y:5:GLN:HE22	38:Y:60:VAL:C	2.10	0.59
40:a:15:G:O2'	48:i:15:MET:CE	2.51	0.59
40:a:70:G:H4'	40:a:71:A:OP1	2.02	0.59
40:a:2815:C:C2	40:a:2816:G:C8	2.91	0.59
59:t:8:LEU:CA	59:t:18:ARG:HH12	2.15	0.59
4:3:7:ARG:HH22	40:a:98:G:N2	2.00	0.59
9:9:78:GLY:N	9:9:79:PRO:CD	2.66	0.59
12:AB:77:HIS:NE2	14:AE:297:ARG:NH2	2.51	0.59
12:AB:99:TYR:O	12:AB:100:LYS:HG2	2.03	0.59
12:AB:158:GLU:HB3	12:AB:162:LEU:HD22	1.85	0.59
20:G:128:LYS:HD2	20:G:128:LYS:O	2.03	0.59
21:H:291:GLY:HA2	21:H:305:HIS:HA	1.85	0.59
26:M:50:LEU:HD21	26:M:121:ALA:CA	2.28	0.59
26:M:66:LEU:HD11	26:M:100:ALA:HB3	1.85	0.59
34:U:19:VAL:HG12	34:U:37:GLY:C	2.28	0.59
38:Y:102:ARG:CG	38:Y:141:ASP:HA	2.33	0.59
40:a:563:A:OP1	65:z:41:LYS:NZ	2.35	0.59
40:a:567:U:OP2	60:u:29:LYS:NZ	2.35	0.59
40:a:2189:U:O4'	40:a:2189:U:OP1	2.21	0.59
48:i:22:LEU:HG	48:i:23:THR:N	2.17	0.59
50:k:8:LYS:HZ1	50:k:54:ILE:HG12	1.68	0.59
61:v:97:GLN:H	61:v:100:LYS:HZ1	1.51	0.59
14:AE:64:PRO:HG3	14:AE:90:VAL:HG12	1.83	0.59
17:D:657:U:C4'	33:T:28:GLN:HE22	2.16	0.59
17:D:978:A:C5	17:D:1319:A:C2	2.90	0.59
20:G:114:LEU:HD13	20:G:144:LEU:HB2	1.83	0.59
21:H:273:ARG:CZ	21:H:297:GLU:HG3	2.33	0.59
37:X:81:MET:HE1	37:X:92:ARG:HD3	1.83	0.59
38:Y:99:LYS:HD3	38:Y:138:VAL:O	2.02	0.59
40:a:1817:G:H3'	47:h:156:ARG:HH22	1.67	0.59
59:t:88:ASN:ND2	59:t:90:ASN:OD1	2.36	0.59
60:u:76:GLU:HG3	60:u:111:ILE:HD13	1.84	0.59
7:6:20:DA:C6	8:7:42:G:C2	2.91	0.58
9:9:17:GLU:HG2	9:9:88:HIS:NE2	2.18	0.58
10:B:75:C:P	40:a:2602:A:O2'	2.61	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:736:C:O2'	25:L:88:MET:HE1	2.02	0.58
21:H:273:ARG:HD3	21:H:280:LEU:HD11	1.85	0.58
26:M:66:LEU:HD13	26:M:101:MET:HE1	1.81	0.58
27:N:7:ILE:HB	27:N:77:ARG:NH1	2.18	0.58
31:R:7:LEU:CD2	31:R:12:ARG:NH2	2.65	0.58
32:S:42:TRP:CH2	46:g:66:ILE:HA	2.38	0.58
40:a:323:C:H2'	51:l:163:ASN:OD1	2.02	0.58
40:a:1197:G:H2'	40:a:1198:U:H6	1.68	0.58
62:w:35:LYS:HZ2	62:w:112:TYR:HE2	1.49	0.58
3:2:56:GLU:OE1	3:2:87:LEU:C	2.46	0.58
6:5:9:DG:P	11:AA:470:ARG:HA	2.43	0.58
6:5:10:DT:O3'	12:AB:68:THR:CA	2.51	0.58
8:7:11:U:C4'	24:K:20:ARG:HH22	1.93	0.58
12:AB:121:GLY:HA3	12:AB:162:LEU:CD1	2.33	0.58
16:C:73:ARG:HH12	30:Q:113:VAL:CA	2.16	0.58
17:D:1055:A:C2'	22:I:156:ARG:HH21	2.15	0.58
27:N:8:ALA:O	27:N:12:THR:HG23	2.03	0.58
33:T:60:VAL:O	33:T:64:ARG:HG2	2.03	0.58
35:V:11:ARG:HE	35:V:58:VAL:CG2	2.16	0.58
38:Y:23:VAL:HG23	38:Y:24:GLY:N	2.17	0.58
38:Y:109:ALA:HB2	38:Y:128:ILE:HG13	1.85	0.58
40:a:947:A:H2'	40:a:948:C:C6	2.37	0.58
40:a:2243:U:H2'	40:a:2244:U:C6	2.38	0.58
47:h:30:PHE:O	47:h:34:LEU:HD23	2.02	0.58
47:h:164:ILE:HG23	47:h:164:ILE:O	2.01	0.58
55:p:85:LYS:NZ	55:p:164:TYR:HD1	2.01	0.58
57:r:6:LEU:HD11	57:r:37:VAL:CG2	2.33	0.58
57:r:30:LEU:HD23	57:r:35:LYS:HE2	1.86	0.58
58:s:73:VAL:HG13	58:s:86:GLN:HG2	1.84	0.58
60:u:91:ASP:O	60:u:95:LEU:HD23	2.03	0.58
10:B:15:G:N1	10:B:20:U:O2	2.36	0.58
17:D:718:A:C4	30:Q:118:HIS:ND1	2.71	0.58
17:D:829:G:O3'	20:G:23:TRP:CZ2	2.56	0.58
17:D:915:A:N6	17:D:916:U:C4	2.72	0.58
23:J:74:ASN:HA	23:J:77:LYS:NZ	2.17	0.58
50:k:7:GLU:CD	50:k:7:GLU:H	2.11	0.58
2:1:11:ARG:NH1	2:1:98:LYS:HE3	2.19	0.58
5:4:46:LYS:O	5:4:50:MET:HG2	2.04	0.58
6:5:11:DA:H2'	12:AB:67:THR:CG2	2.32	0.58
9:9:54:VAL:HG13	9:9:54:VAL:O	2.03	0.58
9:9:73:LYS:CG	9:9:117:LEU:HD12	2.32	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:9:123:ILE:O	9:9:123:ILE:HG23	2.02	0.58
10:A:70:G:H2'	10:A:71:C:H5"	1.85	0.58
10:B:70:G:H2'	10:B:71:C:H5"	1.85	0.58
32:S:20:TYR:HD2	32:S:55:SER:OG	1.85	0.58
40:a:607:U:C5	40:a:620:G:C4	2.91	0.58
40:a:1406:U:O2'	40:a:1407:G:O4'	2.20	0.58
53:n:4:LEU:HD11	53:n:101:GLU:N	2.18	0.58
57:r:37:VAL:HG12	57:r:43:ASN:HD21	1.68	0.58
1:0:15:SER:HB2	1:0:18:GLN:NE2	2.18	0.58
16:C:12:ARG:CG	21:H:264:GLU:CB	2.81	0.58
16:C:13:PHE:HB3	16:C:51:TYR:CD1	2.39	0.58
17:D:692:U:N3	17:D:695:A:OP2	2.34	0.58
24:K:146:ASN:OD1	24:K:147:MET:N	2.37	0.58
35:V:4:LYS:HD2	35:V:5:ILE:HG23	1.85	0.58
37:X:25:VAL:HG23	37:X:29:ARG:HB2	1.85	0.58
40:a:1028:A:H2'	40:a:1029:A:C8	2.38	0.58
40:a:1869:G:N2	40:a:1871:A:O2'	2.37	0.58
40:a:2349:G:C6	40:a:2369:A:C6	2.92	0.58
40:a:2547:A:H2'	40:a:2548:U:C6	2.38	0.58
47:h:181:MET:HE2	47:h:181:MET:N	2.18	0.58
58:s:132:HIS:O	58:s:135:GLN:HB2	2.03	0.58
59:t:112:PHE:CD2	59:t:115:ILE:HD12	2.39	0.58
10:A:15:G:N1	10:A:20:U:O2	2.37	0.58
12:AB:89:PRO:HG2	14:AE:290:ILE:CG2	2.33	0.58
14:AE:68:TYR:O	14:AE:75:TYR:O	2.20	0.58
17:D:439:U:O2	17:D:440:C:C5	2.56	0.58
17:D:695:A:H8	17:D:695:A:H5"	1.68	0.58
21:H:81:GLU:O	21:H:82:THR:HG23	2.02	0.58
22:I:25:ASN:N	22:I:29:PHE:HE2	2.01	0.58
23:J:91:LEU:HD21	23:J:195:ILE:HD12	1.84	0.58
32:S:90:ARG:C	32:S:92:GLU:OE1	2.47	0.58
35:V:42:THR:HG22	35:V:44:LEU:CD1	2.34	0.58
38:Y:116:MET:HG2	38:Y:124:MET:CB	2.34	0.58
39:Z:8:ILE:HG13	39:Z:9:GLU:H	1.68	0.58
40:a:685:A:O2'	40:a:773:U:O4	2.17	0.58
51:l:1:MET:CE	51:l:16:GLU:HA	2.26	0.58
51:l:62:GLN:O	51:l:69:ARG:HD3	2.03	0.58
58:s:39:LYS:HA	58:s:44:TYR:CD1	2.39	0.58
4:3:94:ARG:HB3	4:3:103:ILE:HD12	1.86	0.58
9:9:4:ASN:HB3	9:9:8:LYS:NZ	2.19	0.58
12:AB:6:LEU:H	12:AB:88:VAL:HG21	1.69	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AB:137:ALA:HA	12:AB:156:ASN:HA	1.86	0.58
20:G:96:TRP:CH2	20:G:100:MET:HE3	2.38	0.58
26:M:18:PHE:HB3	26:M:59:LEU:HD11	1.84	0.58
30:Q:20:VAL:CG1	30:Q:85:MET:HE1	2.33	0.58
34:U:12:LYS:CD	34:U:13:LYS:HG2	2.33	0.58
40:a:2225:A:H4'	40:a:2226:C:O5'	2.03	0.58
51:l:119:ILE:O	51:l:187:VAL:HA	2.03	0.58
5:4:31:TYR:OH	43:d:103:U:O2'	2.20	0.58
16:C:55:LEU:O	16:C:59:ILE:HG12	2.04	0.58
17:D:662:U:O2'	17:D:836:G:OP1	2.21	0.58
20:G:35:ARG:HD2	21:H:14:LYS:CE	2.34	0.58
21:H:75:VAL:HG23	21:H:81:GLU:OE2	2.04	0.58
33:T:21:ASP:OD1	33:T:22:THR:N	2.34	0.58
38:Y:91:LYS:HZ1	38:Y:97:VAL:HG21	1.67	0.58
60:u:61:LEU:HB3	60:u:62:PRO:HD2	1.85	0.58
8:7:7:U:H5"	8:7:7:U:C6	2.39	0.58
11:AA:387:ASN:CG	11:AA:394:ARG:HH12	1.81	0.58
11:AA:707:ALA:O	11:AA:711:ASP:HB2	2.03	0.58
17:D:890:G:O2'	17:D:906:A:N6	2.35	0.58
17:D:972:C:O2'	29:P:57:VAL:HG13	2.03	0.58
17:D:1308:U:P	37:X:98:ARG:HG3	2.43	0.58
18:E:61:GLN:HE21	18:E:66:LEU:HD22	1.69	0.58
20:G:35:ARG:HB3	21:H:14:LYS:HZ3	1.68	0.58
24:K:156:LYS:HA	27:N:66:PHE:CD2	2.39	0.58
27:N:52:GLU:OE1	27:N:53:GLY:N	2.37	0.58
40:a:782:A:C2	47:h:225:MET:HE2	2.39	0.58
40:a:856:G:H2'	40:a:857:G:C8	2.37	0.58
40:a:1432:G:H2'	40:a:1433:A:C8	2.37	0.58
44:e:2:LYS:CE	44:e:52:ARG:HE	2.15	0.58
50:k:34:LEU:H	50:k:51:GLU:CD	2.12	0.58
50:k:35:GLU:OE2	50:k:48:ILE:HG23	2.03	0.58
51:l:170:ARG:CZ	51:l:175:ILE:HA	2.33	0.58
65:z:82:GLY:CA	65:z:117:LEU:CD1	2.81	0.58
1:0:16:GLU:C	1:0:18:GLN:OE1	2.46	0.58
10:A:60:U:H4'	10:A:61:C:OP2	2.04	0.58
17:D:974:A:OP1	32:S:69:ARG:NH1	2.37	0.58
19:F:16:LEU:C	19:F:20:LYS:HZ3	2.10	0.58
26:M:24:ALA:O	26:M:27:VAL:HG22	2.04	0.58
26:M:28:ASN:HA	26:M:31:MET:HE3	1.85	0.58
26:M:50:LEU:HD11	26:M:124:LEU:HB2	1.85	0.58
29:P:21:ALA:O	29:P:24:GLU:HG3	2.04	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:R:110:ARG:NE	31:R:117:TYR:HD2	2.02	0.58
33:T:64:ARG:CZ	33:T:64:ARG:HB3	2.32	0.58
37:X:93:ARG:HG2	37:X:95:LEU:HD23	1.85	0.58
40:a:5:A:H2'	40:a:6:A:C8	2.39	0.58
40:a:857:G:H5"	41:b:78:LYS:HZ2	1.69	0.58
40:a:1798:U:OP2	47:h:271:ARG:NH2	2.36	0.58
40:a:2259:U:N3	40:a:2260:C:C5	2.71	0.58
40:a:2683:C:H4'	49:j:13:ARG:CZ	2.34	0.58
40:a:2816:G:O4'	48:i:41:HIS:CE1	2.57	0.58
41:b:55:ARG:NE	41:b:55:ARG:HA	2.19	0.58
45:f:40:ASP:OD1	45:f:45:ARG:NH2	2.37	0.58
6:5:10:DT:N1	11:AA:62:TYR:CE2	2.65	0.57
11:AA:838:CYS:HB2	11:AA:918:LEU:HD22	1.85	0.57
12:AB:19:GLU:O	12:AB:23:ARG:HB2	2.03	0.57
12:AB:141:LEU:O	12:AB:151:LYS:HA	2.04	0.57
17:D:588:G:H4'	27:N:3:MET:CE	2.33	0.57
28:O:5:GLN:NE2	28:O:20:PHE:CB	2.67	0.57
40:a:500:G:N1	40:a:503:A:OP2	2.37	0.57
40:a:580:U:H2'	40:a:581:C:H6	1.69	0.57
40:a:1568:G:N7	47:h:28:LYS:NZ	2.52	0.57
53:n:46:ASP:OD1	53:n:49:LEU:HD13	2.03	0.57
8:7:9:U:O4	17:D:1196:A:O4'	2.21	0.57
14:AE:888:CYS:SG	14:AE:889:ASP:N	2.74	0.57
17:D:110:C:O2'	34:U:25:ARG:O	2.21	0.57
20:G:107:VAL:O	20:G:111:ILE:HG12	2.04	0.57
38:Y:70:THR:O	38:Y:71:LYS:HG3	2.03	0.57
40:a:468:G:N7	52:m:39:ARG:NH2	2.42	0.57
40:a:628:G:C6	40:a:636:G:C2	2.92	0.57
40:a:1021:A:N1	40:a:1141:U:O4	2.37	0.57
40:a:2189:U:O2'	40:a:2190:G:O4'	2.22	0.57
43:d:106:G:H2'	43:d:107:G:O4'	2.04	0.57
9:9:31:ARG:CD	40:a:1053:C:O2'	2.47	0.57
11:AA:13:LYS:HB2	11:AA:1180:MET:HE2	1.86	0.57
16:C:16:GLU:OE1	16:C:18:VAL:N	2.36	0.57
17:D:1366:C:O2'	29:P:62:ARG:NH2	2.38	0.57
26:M:26:PHE:CD1	26:M:101:MET:SD	2.97	0.57
26:M:66:LEU:HD23	26:M:70:ARG:HH21	1.69	0.57
27:N:66:PHE:CG	27:N:67:GLN:OE1	2.57	0.57
33:T:11:ILE:HG21	33:T:31:LEU:HD13	1.86	0.57
44:e:2:LYS:HD2	44:e:6:LEU:HD11	1.85	0.57
52:m:12:ARG:NE	52:m:44:VAL:HG21	2.19	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:s:31:GLU:OE2	58:s:35:ARG:NH1	2.37	0.57
61:v:77:PRO:HG2	61:v:80:VAL:CG2	2.31	0.57
64:y:51:ARG:HD3	64:y:58:ALA:HB3	1.86	0.57
2:1:73:LYS:C	2:1:74:ILE:HD12	2.29	0.57
5:4:48:MET:HE3	5:4:84:PRO:O	2.04	0.57
11:AA:1122:LYS:NZ	11:AA:1126:ASP:OD1	2.38	0.57
20:G:66:LYS:HB3	20:G:154:MET:CE	2.33	0.57
33:T:28:GLN:HB2	33:T:66:LEU:HD21	1.86	0.57
34:U:39:PHE:HD1	34:U:50:THR:HG22	1.70	0.57
40:a:3:U:H2'	40:a:4:U:H6	1.69	0.57
40:a:84:A:N1	40:a:98:G:O2'	2.37	0.57
40:a:811:U:H2'	60:u:21:ARG:HA	1.86	0.57
55:p:149:ARG:NH2	55:p:162:VAL:N	2.52	0.57
59:t:121:GLU:OE2	64:y:41:GLN:NE2	2.37	0.57
60:u:55:MET:CE	60:u:60:ARG:HG2	2.33	0.57
61:v:49:ALA:O	61:v:52:ALA:N	2.37	0.57
62:w:9:GLN:O	62:w:17:ARG:HD3	2.04	0.57
9:9:24:SER:HB2	9:9:86:MET:HA	1.86	0.57
14:AE:1143:ASP:OD1	14:AE:1148:ARG:NH1	2.37	0.57
10:B:60:U:H4'	10:B:61:C:OP2	2.04	0.57
17:D:911:U:H2'	17:D:912:C:C6	2.40	0.57
21:H:100:LYS:O	21:H:104:ASP:N	2.38	0.57
22:I:6:HIS:HB3	32:S:89:MET:SD	2.45	0.57
24:K:148:ASN:OD1	27:N:96:MET:HE1	2.03	0.57
30:Q:15:GLN:OE1	30:Q:78:GLY:HA3	2.05	0.57
40:a:64:A:H2'	40:a:65:U:C6	2.40	0.57
40:a:593:U:H2'	40:a:594:U:C6	2.39	0.57
40:a:832:U:H2'	40:a:833:A:H8	1.69	0.57
40:a:2514:U:H2'	40:a:2515:C:C6	2.40	0.57
43:d:42:C:C5'	53:n:64:LYS:HZ1	2.17	0.57
44:e:18:LEU:HD11	44:e:54:LYS:HE3	1.86	0.57
58:s:53:TYR:CD1	58:s:121:LYS:HD2	2.39	0.57
61:v:105:MET:HE2	61:v:108:VAL:HG21	1.87	0.57
4:3:6:ARG:CZ	40:a:84:A:H2'	2.35	0.57
6:5:25:DA:C2	7:6:5:DG:C2	2.92	0.57
17:D:280:C:O2	35:V:40:ARG:NH2	2.37	0.57
17:D:1356:G:H2'	17:D:1357:A:C8	2.40	0.57
17:D:1439:G:P	18:E:33:LYS:HZ1	2.26	0.57
22:I:82:GLU:O	22:I:86:LYS:HD3	2.04	0.57
22:I:151:VAL:HG12	22:I:200:VAL:CG2	2.35	0.57
33:T:32:LEU:HD11	33:T:62:GLN:OE1	2.04	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:V:11:ARG:HE	35:V:58:VAL:HG22	1.69	0.57
37:X:16:VAL:CG2	37:X:17:ILE:HD12	2.35	0.57
38:Y:116:MET:HB3	38:Y:124:MET:HE2	1.87	0.57
40:a:2071:A:H2'	40:a:2072:C:C6	2.40	0.57
41:b:45:PHE:CD2	41:b:80:ILE:HD11	2.40	0.57
57:r:97:ARG:NH1	57:r:101:ASP:OD2	2.37	0.57
61:v:1:MET:HE3	61:v:1:MET:CA	2.34	0.57
5:4:2:PHE:HE2	5:4:55:GLU:HG2	1.69	0.57
12:AB:26:VAL:HA	12:AB:58:GLU:OE1	2.05	0.57
17:D:512:U:OP1	23:J:44:ARG:NH1	2.38	0.57
18:E:61:GLN:HE21	18:E:66:LEU:CD2	2.18	0.57
21:H:51:GLU:OE1	21:H:51:GLU:N	2.37	0.57
34:U:14:ARG:HD3	34:U:42:ILE:HG21	1.86	0.57
38:Y:32:VAL:HG22	38:Y:60:VAL:CG2	2.34	0.57
40:a:5:A:H2'	40:a:6:A:H8	1.70	0.57
40:a:1266:G:OP1	48:i:16:ARG:NE	2.35	0.57
40:a:1682:G:H2'	40:a:1683:U:C6	2.39	0.57
43:d:48:U:H2'	43:d:49:C:C6	2.40	0.57
52:m:24:THR:HG23	52:m:27:GLY:H	1.68	0.57
11:AA:371:ARG:NH1	12:AB:67:THR:OG1	2.34	0.57
11:AA:1223:ARG:NH2	14:AE:721:SER:OG	2.38	0.57
26:M:23:LEU:HD12	26:M:23:LEU:H	1.70	0.57
29:P:22:THR:O	29:P:26:VAL:HG23	2.03	0.57
40:a:1360:G:N7	40:a:1361:G:C8	2.73	0.57
51:l:136:GLN:NE2	51:l:140:ASP:OD2	2.37	0.57
65:z:74:ILE:HD13	65:z:79:PHE:CD1	2.34	0.57
5:4:53:LYS:HB2	5:4:56:PHE:CE2	2.40	0.57
5:4:60:VAL:HG12	5:4:71:LYS:HE2	1.86	0.57
9:9:23:LEU:N	9:9:118:ILE:HD11	2.19	0.57
11:AA:1254:VAL:O	14:AE:99:ARG:NH2	2.37	0.57
13:AC:82:LEU:HD11	13:AC:171:LEU:HD23	1.86	0.57
20:G:35:ARG:HG2	20:G:40:ILE:HG13	1.87	0.57
25:L:95:ALA:O	25:L:96:VAL:C	2.47	0.57
25:L:102:MET:HG2	25:L:103:VAL:N	2.06	0.57
28:O:94:LEU:O	28:O:98:LEU:HD13	2.04	0.57
36:W:40:ILE:HG21	36:W:66:MET:SD	2.45	0.57
37:X:93:ARG:CG	37:X:95:LEU:HD23	2.35	0.57
40:a:16:C:C4'	48:i:15:MET:HE3	2.35	0.57
40:a:839:U:H2'	40:a:840:C:C6	2.40	0.57
40:a:1693:U:O2'	47:h:14:ARG:NH2	2.38	0.57
49:j:3:GLY:N	49:j:204:LYS:HE2	2.20	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:l:62:GLN:HA	51:l:69:ARG:NH2	2.20	0.57
61:v:41:LEU:CD2	61:v:45:GLN:HE22	2.18	0.57
4:3:6:ARG:NH1	40:a:84:A:O2'	2.36	0.57
17:D:1290:G:H4'	26:M:35:LYS:HZ3	1.69	0.57
24:K:136:VAL:O	24:K:140:THR:HG23	2.04	0.57
40:a:2395:C:H2'	40:a:2396:G:O4'	2.03	0.57
53:n:62:GLY:C	53:n:95:ARG:NH2	2.63	0.57
63:x:21:LEU:HD22	63:x:23:ALA:HB2	1.87	0.57
65:z:74:ILE:HG12	65:z:79:PHE:HB2	1.86	0.57
8:7:1:A:H2'	8:7:2:U:H6	1.70	0.56
12:AB:102:LYS:HE2	14:AE:285:LEU:CA	2.34	0.56
12:AB:130:PHE:CD2	12:AB:152:HIS:HE1	2.23	0.56
17:D:521:G:O5'	31:R:70:GLU:OE1	2.23	0.56
21:H:163:ARG:CB	21:H:298:GLU:HG3	2.35	0.56
22:I:85:GLU:OE2	22:I:88:ARG:NH1	2.26	0.56
23:J:196:ASN:ND2	23:J:199:LEU:HG	2.20	0.56
33:T:32:LEU:CD1	33:T:62:GLN:OE1	2.53	0.56
33:T:80:GLN:O	33:T:84:ARG:HG2	2.06	0.56
37:X:28:THR:HG22	37:X:29:ARG:NH1	2.20	0.56
40:a:930:G:H1'	45:f:25:LEU:HD21	1.87	0.56
51:l:17:THR:HA	51:l:21:ARG:NH2	2.19	0.56
51:l:148:ILE:HD13	51:l:187:VAL:HB	1.85	0.56
64:y:106:LYS:HA	64:y:109:ARG:NH2	2.20	0.56
5:4:80:HIS:CD2	5:4:81:PRO:HD2	2.41	0.56
8:7:21:U:C4	22:I:82:GLU:HB2	2.40	0.56
9:9:43:LYS:HD3	9:9:98:GLU:CG	2.35	0.56
10:A:75:C:O2'	10:A:76:A:C8	2.58	0.56
17:D:276:G:H5'	35:V:17:MET:CE	2.35	0.56
20:G:131:LYS:HG3	20:G:132:LYS:HD2	1.87	0.56
26:M:68:ASN:ND2	26:M:130:ASN:OD1	2.38	0.56
26:M:103:TRP:CD1	26:M:137:LYS:HZ2	2.22	0.56
40:a:17:G:H2'	40:a:18:U:C6	2.41	0.56
40:a:64:A:H2'	40:a:65:U:H6	1.70	0.56
40:a:2192:U:H2'	40:a:2193:G:C8	2.40	0.56
40:a:2849:U:P	64:y:93:ARG:NH2	2.78	0.56
49:j:180:VAL:O	49:j:180:VAL:HG13	2.05	0.56
58:s:120:ARG:CZ	58:s:120:ARG:HB2	2.34	0.56
61:v:26:VAL:HG13	61:v:104:GLU:CD	2.29	0.56
9:9:94:ARG:CB	9:9:97:LYS:HZ3	2.17	0.56
9:9:124:ASP:OD2	9:9:126:LEU:HD21	2.05	0.56
10:A:5:G:H2'	10:A:6:G:C5'	2.35	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:516:ASP:OD1	11:AA:516:ASP:O	2.23	0.56
12:AB:116:VAL:HG23	12:AB:130:PHE:CE2	2.41	0.56
17:D:439:U:O2	17:D:440:C:C6	2.58	0.56
17:D:588:G:C5'	27:N:3:MET:HE1	2.36	0.56
17:D:739:C:HO2'	33:T:42:HIS:CE1	2.18	0.56
17:D:1515:G:H2'	17:D:1516:G:H8	1.70	0.56
20:G:5:SER:OG	20:G:8:ASP:OD2	2.24	0.56
20:G:19:GLN:CG	21:H:76:GLU:HB3	2.34	0.56
21:H:116:VAL:CA	21:H:279:LYS:HD2	2.35	0.56
25:L:42:TRP:CZ2	25:L:102:MET:CG	2.88	0.56
29:P:63:ASP:OD2	29:P:64:GLN:N	2.38	0.56
40:a:1198:U:H2'	40:a:1199:U:C6	2.40	0.56
40:a:1570:A:H2'	40:a:1571:A:C8	2.40	0.56
40:a:2191:A:H2'	40:a:2192:U:H6	1.71	0.56
40:a:2291:U:H2'	40:a:2292:U:C6	2.40	0.56
40:a:2822:G:O2'	40:a:2824:C:OP2	2.20	0.56
47:h:52:ARG:HE	47:h:53:HIS:CE1	2.23	0.56
47:h:183:LYS:HE2	47:h:266:PHE:HA	1.88	0.56
48:i:40:ARG:HG3	48:i:41:HIS:ND1	2.21	0.56
51:l:42:GLY:CA	51:l:92:HIS:HE1	2.18	0.56
60:u:122:VAL:HG13	60:u:125:LEU:CD1	2.34	0.56
60:u:125:LEU:HD23	60:u:125:LEU:N	2.21	0.56
61:v:49:ALA:C	61:v:53:MET:HE1	2.29	0.56
62:w:35:LYS:NZ	62:w:112:TYR:HE2	2.04	0.56
5:4:57:TYR:CD2	61:v:136:MET:HE2	2.40	0.56
9:9:38:MET:SD	38:Y:117:THR:HG22	2.45	0.56
10:B:5:G:H2'	10:B:6:G:C5'	2.36	0.56
21:H:117:LYS:CB	21:H:279:LYS:O	2.54	0.56
24:K:148:ASN:ND2	24:K:153:VAL:HG12	2.20	0.56
30:Q:87:LYS:HG3	30:Q:113:VAL:HG23	1.86	0.56
31:R:4:VAL:HG13	31:R:5:ASN:N	2.20	0.56
38:Y:58:ILE:HG23	38:Y:66:PHE:CE2	2.40	0.56
40:a:659:G:H1'	51:l:100:MET:HE1	1.87	0.56
40:a:839:U:C2	40:a:840:C:C5	2.93	0.56
40:a:1442:U:H2'	40:a:1443:U:C6	2.40	0.56
40:a:1799:G:C2	47:h:154:LEU:HD23	2.41	0.56
40:a:2483:C:O2	61:v:51:ARG:NH2	2.38	0.56
46:g:47:LYS:HG2	53:n:115:ARG:NH2	2.20	0.56
55:p:109:PHE:CE1	55:p:152:ARG:NH1	2.74	0.56
2:1:7:HIS:HD2	2:1:10:ALA:HB2	1.69	0.56
6:5:10:DT:C5'	11:AA:62:TYR:HH	2.15	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AB:138:ARG:HD2	12:AB:154:VAL:O	2.05	0.56
14:AE:144:TYR:OH	14:AE:293:ARG:NH2	2.36	0.56
17:D:827:U:O4	17:D:872:A:N1	2.39	0.56
22:I:66:VAL:HB	22:I:101:ILE:HD12	1.87	0.56
23:J:62:ARG:HA	23:J:72:PHE:CE1	2.41	0.56
33:T:10:LYS:O	33:T:14:GLU:OE1	2.23	0.56
40:a:78:U:H5"	44:e:4:LYS:NZ	2.20	0.56
5:4:57:TYR:CB	61:v:136:MET:CE	2.84	0.56
9:9:56:ARG:NH2	40:a:1084:A:C1'	2.69	0.56
17:D:375:U:OP1	34:U:70:ARG:CG	2.54	0.56
24:K:99:ALA:HB2	24:K:124:LEU:HG	1.88	0.56
30:Q:87:LYS:HG3	30:Q:113:VAL:CG2	2.35	0.56
32:S:63:ARG:NH2	32:S:68:GLY:O	2.32	0.56
40:a:1365:A:O2'	42:c:11:ARG:NH1	2.39	0.56
40:a:1824:G:H5"	47:h:52:ARG:HH22	1.69	0.56
40:a:2315:G:H4'	53:n:127:ASN:HD22	1.71	0.56
58:s:73:VAL:HG12	58:s:74:TYR:N	2.20	0.56
59:t:59:LYS:HD2	59:t:89:ASN:HA	1.87	0.56
61:v:70:ASP:C	61:v:92:TRP:HZ3	2.13	0.56
65:z:53:ARG:CG	65:z:57:PHE:HE2	2.18	0.56
2:1:31:GLN:OE1	2:1:31:GLN:N	2.28	0.56
12:AB:102:LYS:CE	14:AE:285:LEU:HA	2.34	0.56
14:AE:71:LEU:HD22	14:AE:90:VAL:HG21	1.88	0.56
21:H:297:GLU:HG2	21:H:300:VAL:HG21	1.86	0.56
22:I:140:ASN:O	22:I:144:LEU:HD23	2.06	0.56
22:I:156:ARG:NH1	22:I:193:TYR:O	2.39	0.56
25:L:14:GLN:OE1	25:L:83:ALA:HA	2.05	0.56
26:M:134:ALA:O	26:M:137:LYS:HG2	2.06	0.56
38:Y:45:THR:HG21	38:Y:50:LYS:CD	2.36	0.56
40:a:1141:U:H5	58:s:68:LYS:NZ	2.02	0.56
40:a:2517:C:C2	40:a:2542:A:N6	2.74	0.56
45:f:7:ILE:CG2	45:f:55:VAL:HG21	2.35	0.56
46:g:18:CYS:HB3	46:g:40:CYS:HB2	1.85	0.56
54:o:30:ARG:HH12	60:u:62:PRO:HB3	1.70	0.56
3:2:56:GLU:CD	3:2:87:LEU:C	2.73	0.56
17:D:280:C:H1'	35:V:40:ARG:NH1	2.21	0.56
21:H:116:VAL:HA	21:H:279:LYS:HD2	1.88	0.56
27:N:7:ILE:O	27:N:10:MET:HB3	2.05	0.56
36:W:64:ASP:OD2	46:g:57:VAL:HG23	2.06	0.56
49:j:91:THR:HB	49:j:94:GLN:HG2	1.87	0.56
53:n:5:HIS:HD2	53:n:97:TRP:CE2	2.24	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:p:85:LYS:HE3	55:p:164:TYR:CE1	2.41	0.56
55:p:94:TYR:CE1	55:p:107:LEU:O	2.59	0.56
5:4:55:GLU:O	5:4:59:GLU:OE1	2.24	0.56
5:4:80:HIS:CE1	5:4:83:LYS:HG3	2.41	0.56
6:5:10:DT:H73	11:AA:62:TYR:CG	2.18	0.56
10:A:16:C:O2	40:a:2181:U:H5'	2.06	0.56
17:D:502:A:O3'	31:R:116:LYS:HE2	2.06	0.56
17:D:671:G:O3'	25:L:79:ARG:NH2	2.39	0.56
21:H:118:GLY:O	21:H:133:GLY:HA2	2.06	0.56
22:I:164:ARG:CZ	22:I:166:GLU:OE2	2.54	0.56
24:K:112:ARG:HG3	24:K:116:GLU:OE2	2.06	0.56
26:M:79:ARG:O	26:M:79:ARG:HD2	2.06	0.56
26:M:95:ARG:O	26:M:99:LEU:HG	2.05	0.56
29:P:15:HIS:HA	29:P:18:ILE:HG22	1.87	0.56
32:S:27:LEU:HD21	32:S:48:LEU:N	2.21	0.56
37:X:71:ARG:NE	46:g:50:ASP:O	2.39	0.56
40:a:404:A:HO2'	40:a:405:U:P	2.26	0.56
40:a:1857:G:O2'	40:a:1884:G:N2	2.38	0.56
40:a:2720:U:OP1	64:y:53:ARG:NH2	2.39	0.56
50:k:19:HIS:ND1	50:k:41:PRO:HD2	2.21	0.56
51:l:1:MET:HE1	51:l:20:GLY:N	2.21	0.56
54:o:55:LEU:HD21	54:o:59:ILE:HD11	1.87	0.56
58:s:13:ARG:CZ	58:s:49:ASP:O	2.54	0.56
59:t:20:MET:HB3	59:t:44:LYS:CE	2.35	0.56
5:4:77:VAL:HG11	5:4:79:ARG:NH2	2.21	0.56
9:9:47:GLU:O	9:9:51:TYR:CE1	2.59	0.56
17:D:440:C:C4	17:D:441:A:N7	2.73	0.56
18:E:9:LYS:C	18:E:13:GLN:NE2	2.62	0.56
20:G:19:GLN:HG3	21:H:76:GLU:CB	2.35	0.56
29:P:86:ALA:O	29:P:90:LEU:CD1	2.53	0.56
40:a:1289:C:C2	40:a:1290:C:C5	2.94	0.56
40:a:1720:U:H2'	40:a:1721:G:O4'	2.06	0.56
40:a:1818:U:OP2	47:h:156:ARG:CZ	2.53	0.56
44:e:20:ASN:O	44:e:23:ARG:HG2	2.06	0.56
44:e:23:ARG:HG3	44:e:24:GLU:N	2.21	0.56
57:r:4:ILE:HD12	57:r:17:ASP:O	2.05	0.56
57:r:54:LEU:HA	57:r:57:LYS:NZ	2.20	0.56
8:7:18:U:O2	8:7:18:U:H2'	2.06	0.55
10:A:22:G:H2'	10:A:23:C:H6	1.70	0.55
10:A:33:U:O3'	26:M:84:THR:OG1	2.16	0.55
11:AA:818:VAL:HG22	11:AA:1096:ILE:HG12	1.87	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:C:40:VAL:HG13	21:H:339:ARG:HD3	1.89	0.55
17:D:562:U:C3'	31:R:14:ARG:HH11	2.17	0.55
20:G:52:GLU:O	20:G:56:GLU:OE1	2.23	0.55
40:a:923:G:O4'	41:b:29:GLU:OE2	2.24	0.55
40:a:1059:G:H2'	40:a:1060:U:C5	2.41	0.55
40:a:2335:A:OP2	63:x:13:ARG:HB3	2.06	0.55
40:a:2376:A:N3	63:x:111:ARG:NH1	2.54	0.55
42:c:66:THR:O	42:c:70:GLU:OE1	2.23	0.55
61:v:37:GLY:C	61:v:126:ILE:HD11	2.30	0.55
62:w:67:PHE:O	62:w:71:ARG:N	2.39	0.55
63:x:36:TYR:CD2	63:x:52:SER:HB2	2.41	0.55
4:3:47:LYS:HE3	40:a:483:A:OP1	2.07	0.55
5:4:57:TYR:HB3	61:v:136:MET:HE3	1.87	0.55
8:7:22:U:C5'	22:I:80:LYS:CG	2.51	0.55
10:B:32:C:H5'	17:D:1340:A:O3'	2.06	0.55
16:C:54:GLN:HG3	16:C:55:LEU:N	2.21	0.55
18:E:32:ILE:HG23	18:E:75:HIS:NE2	2.21	0.55
23:J:121:LYS:HG2	23:J:131:ASN:ND2	2.20	0.55
28:O:118:LEU:CD2	28:O:124:ARG:HA	2.35	0.55
36:W:17:LYS:HB3	36:W:21:LYS:HZ3	1.71	0.55
40:a:1038:G:H2'	40:a:1039:A:C8	2.42	0.55
40:a:2063:C:O2	40:a:2063:C:H2'	2.07	0.55
41:b:51:VAL:C	41:b:62:LYS:NZ	2.63	0.55
44:e:2:LYS:HE2	44:e:49:ASP:HA	1.88	0.55
44:e:56:LEU:O	44:e:59:GLU:HG3	2.06	0.55
47:h:62:TYR:CD2	47:h:64:ILE:HD13	2.41	0.55
47:h:67:PHE:CE1	47:h:105:LEU:HD11	2.42	0.55
54:o:30:ARG:NH1	60:u:62:PRO:HB3	2.21	0.55
59:t:42:THR:HG23	59:t:44:LYS:HZ1	1.71	0.55
59:t:59:LYS:CD	59:t:89:ASN:HA	2.36	0.55
62:w:24:MET:HA	62:w:24:MET:CE	2.33	0.55
62:w:24:MET:HE2	62:w:34:ILE:HD13	1.88	0.55
8:7:6:U:C2	17:D:1493:A:H2	2.23	0.55
9:9:24:SER:CB	9:9:86:MET:HE2	2.36	0.55
12:AB:8:TYR:OH	14:AE:278:ARG:NH2	2.40	0.55
17:D:321:A:N7	17:D:328:C:O2'	2.38	0.55
17:D:1078:U:O3'	24:K:138:ARG:NH2	2.40	0.55
22:I:150:LYS:HE3	22:I:201:TRP:CZ3	2.41	0.55
26:M:71:PRO:HG3	26:M:103:TRP:CH2	2.42	0.55
30:Q:46:THR:OG1	30:Q:49:GLY:N	2.34	0.55
31:R:109:ASP:C	31:R:111:LYS:HZ3	2.15	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:T:35:GLN:CB	33:T:59:MET:HE1	2.35	0.55
40:a:1321:A:C4	40:a:1322:A:C8	2.94	0.55
40:a:2189:U:O2'	40:a:2190:G:C5'	2.54	0.55
40:a:2803:G:H2'	40:a:2804:U:C6	2.41	0.55
41:b:68:LYS:HZ2	41:b:70:GLU:CD	2.13	0.55
50:k:7:GLU:CG	50:k:27:LYS:HZ3	2.19	0.55
57:r:135:HIS:ND1	57:r:137:GLU:CD	2.44	0.55
58:s:133:ALA:C	58:s:135:GLN:N	2.60	0.55
3:2:56:GLU:CD	3:2:88:LYS:HA	2.31	0.55
6:5:15:DT:C2	11:AA:183:TRP:CD1	2.94	0.55
9:9:27:VAL:HG13	9:9:27:VAL:O	2.05	0.55
12:AB:54:TYR:HE2	14:AE:291:ILE:CG2	2.13	0.55
12:AB:112:PRO:HB3	12:AB:132:GLU:OE1	2.07	0.55
10:B:18:G:H1'	10:B:58:A:C2	2.41	0.55
17:D:672:U:O2'	17:D:673:A:H5'	2.06	0.55
17:D:750:C:N3	17:D:751:U:C5	2.75	0.55
17:D:1329:A:OP1	37:X:28:THR:HB	2.06	0.55
22:I:49:LYS:HZ3	22:I:75:ILE:HD11	1.71	0.55
23:J:162:ALA:HA	23:J:165:ARG:CZ	2.36	0.55
27:N:7:ILE:O	27:N:11:LEU:CD1	2.55	0.55
27:N:7:ILE:O	27:N:11:LEU:HD13	2.06	0.55
32:S:87:ALA:HB1	32:S:93:ILE:HG13	1.87	0.55
40:a:1082:U:O4	40:a:1086:A:N1	2.39	0.55
40:a:1708:C:C2	40:a:1709:U:C5	2.95	0.55
46:g:61:ASN:OD1	46:g:65:ASN:ND2	2.40	0.55
49:j:55:LYS:NZ	49:j:60:VAL:N	2.55	0.55
58:s:15:TRP:HE3	58:s:135:GLN:O	1.90	0.55
58:s:37:ARG:HD3	58:s:39:LYS:HD2	1.88	0.55
8:7:8:U:H5'	17:D:1397:C:C2	2.41	0.55
8:7:11:U:O2	8:7:11:U:H2'	2.06	0.55
8:7:12:U:H3'	8:7:12:U:H6	1.70	0.55
11:AA:839:VAL:HG12	11:AA:1049:ILE:HG12	1.87	0.55
11:AA:985:GLU:HB3	11:AA:988:LYS:HB2	1.88	0.55
10:B:75:C:O2'	10:B:76:A:C8	2.58	0.55
16:C:60:LYS:HD2	17:D:734:G:O2'	2.07	0.55
33:T:3:LEU:HD22	33:T:8:THR:HG22	1.88	0.55
33:T:3:LEU:HB2	33:T:35:GLN:CD	2.31	0.55
40:a:2328:A:H2'	40:a:2329:U:H6	1.68	0.55
43:d:45:A:H5'	53:n:92:ARG:NH1	2.20	0.55
2:1:62:ASP:OD1	2:1:62:ASP:O	2.24	0.55
4:3:48:PRO:HG3	4:3:56:GLY:HA3	1.89	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:5:10:DT:O3'	12:AB:68:THR:C	2.47	0.55
11:AA:143:ARG:NH1	11:AA:507:GLY:O	2.32	0.55
24:K:74:VAL:HG11	24:K:144:LEU:HD12	1.88	0.55
29:P:26:VAL:O	29:P:30:LYS:HG3	2.07	0.55
40:a:1668:A:O2'	40:a:1674:G:N7	2.32	0.55
40:a:2741:A:O3'	56:q:36:ARG:NH1	2.40	0.55
43:d:42:C:P	53:n:64:LYS:HZ1	2.29	0.55
46:g:2:LYS:HB2	46:g:5:ILE:HD11	1.88	0.55
47:h:17:VAL:HB	47:h:204:VAL:HG12	1.89	0.55
3:2:54:GLU:OE1	3:2:54:GLU:N	2.38	0.55
4:3:26:LYS:HE2	4:3:26:LYS:HA	1.88	0.55
9:9:98:GLU:HA	9:9:101:LYS:NZ	2.22	0.55
14:AE:70:CYS:H	14:AE:92:VAL:HG11	1.71	0.55
10:B:22:G:O2'	10:B:23:C:P	2.65	0.55
17:D:17:U:H2'	17:D:18:C:C6	2.42	0.55
17:D:324:G:N1	17:D:327:A:OP2	2.39	0.55
20:G:30:PHE:CD1	20:G:45:LYS:NZ	2.74	0.55
21:H:9:PHE:O	21:H:13:LEU:HD23	2.07	0.55
29:P:6:ILE:HG21	29:P:100:ILE:HD11	1.89	0.55
37:X:95:LEU:HB3	37:X:96:PRO:CD	2.37	0.55
40:a:151:C:C2	40:a:152:A:C8	2.95	0.55
40:a:888:C:N4	40:a:889:C:N4	2.55	0.55
50:k:5:ILE:HG23	50:k:28:ARG:NH1	2.22	0.55
59:t:12:ASP:CG	59:t:85:VAL:HG13	2.31	0.55
60:u:76:GLU:CG	60:u:111:ILE:HD13	2.37	0.55
61:v:45:GLN:HE21	61:v:124:LEU:HD23	1.72	0.55
2:1:43:ALA:O	2:1:47:VAL:HG12	2.07	0.55
3:2:2:ILE:HG21	3:2:42:GLU:OE1	2.06	0.55
10:A:22:G:O2'	10:A:23:C:P	2.65	0.55
10:A:37:A:H2'	10:A:38:A:O4'	2.07	0.55
13:AC:28:LEU:HD22	13:AC:201:LEU:HD23	1.88	0.55
17:D:37:U:O4	17:D:397:A:N1	2.40	0.55
17:D:61:G:N7	18:E:6:SER:OG	2.33	0.55
17:D:1381:U:C2	17:D:1382:C:C6	2.94	0.55
18:E:6:SER:O	18:E:10:ARG:HG2	2.07	0.55
20:G:27:MET:CE	20:G:187:VAL:HG12	2.37	0.55
21:H:268:VAL:HG23	21:H:269:ALA:H	1.72	0.55
23:J:175:ALA:O	23:J:178:MET:SD	2.65	0.55
24:K:157:ARG:NE	27:N:43:GLU:O	2.40	0.55
40:a:784:G:H5'	40:a:785:G:OP1	2.06	0.55
40:a:1349:C:C2	40:a:1350:C:C5	2.95	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:e:4:LYS:HZ2	44:e:7:ARG:HH12	1.52	0.55
47:h:157:SER:O	47:h:195:VAL:HG11	2.07	0.55
56:q:1:MET:HE1	56:q:35:GLN:C	2.32	0.55
59:t:18:ARG:HB3	59:t:45:GLU:HB3	1.89	0.55
59:t:41:ILE:HD11	59:t:86:LEU:HD22	1.89	0.55
65:z:92:ARG:HA	65:z:95:LEU:HD12	1.89	0.55
5:4:31:TYR:HH	43:d:103:U:HO2'	1.54	0.55
6:5:10:DT:C7	11:AA:62:TYR:HB3	2.37	0.55
9:9:23:LEU:HD21	9:9:96:PHE:CD1	2.42	0.55
9:9:61:ARG:NH2	40:a:1045:C:O3'	2.40	0.55
10:A:56:C:H1'	40:a:2112:G:C6	2.41	0.55
10:A:76:A:N1	40:a:2422:C:C6	2.75	0.55
14:AE:74:LYS:HG3	29:P:89:ARG:HB3	1.87	0.55
14:AE:287:ALA:CB	14:AE:292:VAL:HG22	2.37	0.55
16:C:13:PHE:CZ	16:C:21:ILE:HG12	2.42	0.55
23:J:138:SER:O	23:J:141:ASP:OD1	2.24	0.55
37:X:95:LEU:O	37:X:109:ARG:NH2	2.39	0.55
39:Z:2:ILE:HB	39:Z:5:ASP:HB3	1.88	0.55
40:a:2064:C:H2'	40:a:2065:C:C6	2.42	0.55
40:a:2299:U:H2'	40:a:2300:C:H6	1.71	0.55
40:a:2742:G:P	56:q:36:ARG:NH1	2.80	0.55
44:e:28:LEU:HD23	44:e:43:LEU:HD22	1.88	0.55
2:1:31:GLN:O	2:1:35:ILE:HG12	2.07	0.55
6:5:16:DG:OP1	11:AA:175:ARG:NH2	2.39	0.55
8:7:6:U:C2	17:D:1493:A:C2	2.95	0.55
9:9:112:ALA:O	9:9:123:ILE:CD1	2.54	0.55
9:9:129:LEU:HD12	9:9:129:LEU:C	2.32	0.55
10:B:37:A:H2'	10:B:38:A:O4'	2.07	0.55
10:B:60:U:P	10:B:61:C:H41	2.30	0.55
17:D:76:G:C4	17:D:77:A:C8	2.95	0.55
17:D:946:A:H2'	17:D:947:G:C8	2.41	0.55
19:F:19:PHE:CE2	30:Q:110:ILE:HG22	2.42	0.55
24:K:86:LYS:HZ2	24:K:95:PHE:HE1	1.53	0.55
40:a:150:U:H2'	40:a:151:C:H6	1.72	0.55
40:a:608:A:H2'	40:a:609:A:C8	2.41	0.55
40:a:1019:U:O4	40:a:1142:A:N1	2.40	0.55
40:a:2002:G:OP1	62:w:17:ARG:NH2	2.26	0.55
40:a:2351:G:O6	54:o:39:LYS:CE	2.55	0.55
53:n:134:GLU:N	53:n:134:GLU:OE1	2.40	0.55
55:p:149:ARG:NE	55:p:162:VAL:O	2.40	0.55
61:v:96:ILE:HA	61:v:100:LYS:NZ	2.21	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:695:A:OP1	30:Q:53:ARG:HD3	2.07	0.54
17:D:713:G:H2'	17:D:714:G:C8	2.42	0.54
17:D:1076:U:OP1	20:G:174:LYS:NZ	2.40	0.54
17:D:1370:G:C2	17:D:1371:G:C8	2.95	0.54
19:F:19:PHE:CE1	19:F:23:CYS:SG	3.00	0.54
19:F:31:GLU:O	19:F:34:ARG:HG2	2.08	0.54
24:K:45:ARG:C	24:K:71:MET:HE2	2.32	0.54
38:Y:99:LYS:HZ3	38:Y:138:VAL:HG13	1.71	0.54
40:a:151:C:H2'	40:a:152:A:H8	1.72	0.54
2:1:33:LEU:HD23	2:1:51:LEU:HD23	1.89	0.54
9:9:73:LYS:HD2	9:9:73:LYS:O	2.06	0.54
9:9:122:GLN:HG2	9:9:123:ILE:H	1.70	0.54
10:A:18:G:H1'	10:A:58:A:C2	2.41	0.54
11:AA:1142:ARG:NH2	11:AA:1166:ASP:OD1	2.38	0.54
16:C:60:LYS:HZ3	17:D:734:G:C3'	2.20	0.54
17:D:106:C:N4	18:E:10:ARG:NH2	2.56	0.54
17:D:193:C:O2'	18:E:59:ASP:OD2	2.23	0.54
24:K:14:LYS:HD3	24:K:117:VAL:CG1	2.38	0.54
25:L:39:LEU:HB3	25:L:62:MET:HE1	1.88	0.54
27:N:87:LYS:HD2	27:N:91:GLU:CB	2.37	0.54
29:P:47:GLU:OE1	29:P:67:ILE:O	2.24	0.54
35:V:31:HIS:ND1	35:V:32:PRO:HD2	2.23	0.54
40:a:589:U:H2'	40:a:590:A:C8	2.42	0.54
40:a:1386:C:H2'	40:a:1387:A:C8	2.42	0.54
40:a:2557:G:H2'	40:a:2558:C:C6	2.42	0.54
44:e:2:LYS:HE2	44:e:52:ARG:HE	1.71	0.54
49:j:4:LEU:HD23	49:j:29:VAL:HG11	1.89	0.54
49:j:11:MET:SD	49:j:11:MET:C	2.90	0.54
53:n:163:ASP:OD1	53:n:164:GLU:N	2.39	0.54
58:s:74:TYR:CE2	58:s:92:MET:HE1	2.42	0.54
64:y:15:GLN:NE2	64:y:16:ASP:OD1	2.40	0.54
11:AA:29:SER:O	11:AA:33:ASP:HB2	2.07	0.54
16:C:39:ILE:HD12	17:D:719:C:O2	2.07	0.54
17:D:547:A:OP1	23:J:70:ARG:NH2	2.41	0.54
17:D:552:U:O2'	31:R:83:ARG:O	2.19	0.54
18:E:78:ASN:C	18:E:82:GLN:OE1	2.50	0.54
23:J:61:VAL:HG21	23:J:200:ILE:HD11	1.90	0.54
29:P:5:ARG:HG3	29:P:7:ARG:NH1	2.23	0.54
30:Q:61:PHE:O	30:Q:64:GLN:HG2	2.06	0.54
31:R:56:ARG:HA	31:R:62:GLU:OE2	2.08	0.54
37:X:28:THR:O	37:X:31:LYS:HG2	2.07	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:Y:77:VAL:HG13	38:Y:81:LYS:HZ3	1.71	0.54
40:a:589:U:H2'	40:a:590:A:H8	1.71	0.54
40:a:839:U:H2'	40:a:840:C:H6	1.73	0.54
40:a:1433:A:H2'	40:a:1434:A:O4'	2.07	0.54
40:a:2297:A:C2	40:a:2320:U:O4'	2.61	0.54
40:a:2838:G:C4	40:a:2839:G:C8	2.95	0.54
51:l:147:LEU:HD11	51:l:170:ARG:HD2	1.89	0.54
64:y:9:GLU:OE2	64:y:55:LEU:N	2.37	0.54
4:3:69:ASN:ND2	40:a:329:G:OP2	2.37	0.54
11:AA:143:ARG:NH2	11:AA:512:SER:O	2.40	0.54
12:AB:4:TRP:CD2	12:AB:27:ASN:ND2	2.75	0.54
12:AB:78:PHE:CD1	12:AB:85:PRO:HB3	2.42	0.54
12:AB:119:THR:HA	12:AB:125:GLY:H	1.73	0.54
12:AB:142:LEU:HA	12:AB:150:ILE:O	2.07	0.54
17:D:1208:C:H2'	17:D:1209:C:C6	2.40	0.54
19:F:26:ALA:HB3	19:F:28:VAL:HG23	1.88	0.54
20:G:187:VAL:HG21	20:G:199:VAL:HG23	1.89	0.54
21:H:268:VAL:HG23	21:H:269:ALA:N	2.22	0.54
30:Q:20:VAL:HG13	30:Q:85:MET:HE1	1.90	0.54
40:a:3:U:H2'	40:a:4:U:C6	2.43	0.54
40:a:1348:C:C5	40:a:1349:C:C5	2.95	0.54
40:a:1563:U:H2'	40:a:1564:C:C6	2.43	0.54
40:a:1817:G:C6	40:a:1818:U:C5	2.95	0.54
40:a:2356:U:H4'	41:b:20:ARG:HH11	1.72	0.54
40:a:2682:A:H8	49:j:11:MET:CE	2.15	0.54
40:a:2848:G:O2'	40:a:2867:G:N2	2.37	0.54
49:j:55:LYS:HZ2	49:j:60:VAL:CA	2.21	0.54
49:j:156:PHE:CD2	58:s:81:ILE:HD13	2.42	0.54
51:l:60:TRP:CD1	51:l:65:THR:HG21	2.43	0.54
62:w:94:TYR:C	62:w:116:VAL:HG23	2.32	0.54
64:y:31:TRP:CZ3	64:y:40:LEU:HD11	2.43	0.54
7:6:20:DA:C6	8:7:42:G:N2	2.76	0.54
8:7:3:G:C3'	17:D:1500:A:N6	2.71	0.54
14:AE:87:LYS:CE	29:P:85:ASP:OD2	2.55	0.54
21:H:280:LEU:N	21:H:330:VAL:O	2.31	0.54
26:M:27:VAL:HG12	26:M:43:VAL:HG21	1.90	0.54
26:M:103:TRP:HB3	26:M:137:LYS:HD3	1.89	0.54
40:a:16:C:O4'	48:i:15:MET:CE	2.55	0.54
40:a:588:U:H2'	40:a:589:U:C6	2.43	0.54
40:a:728:G:C4	40:a:730:A:C8	2.95	0.54
41:b:21:LEU:HD21	41:b:41:ARG:NE	2.20	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:g:5:ILE:CD1	53:n:64:LYS:HE3	2.36	0.54
51:l:119:ILE:O	51:l:188:MET:N	2.35	0.54
54:o:16:LYS:HD2	54:o:65:ALA:HB1	1.88	0.54
61:v:97:GLN:H	61:v:100:LYS:CE	2.21	0.54
1:0:10:LYS:CE	40:a:996:A:OP1	2.56	0.54
1:0:13:ARG:NH2	65:z:97:ASP:OD1	2.40	0.54
11:AA:243:PRO:HB2	11:AA:274:ILE:HG23	1.90	0.54
14:AE:66:LYS:HB2	14:AE:69:GLU:CB	2.38	0.54
17:D:280:C:H1'	35:V:40:ARG:CZ	2.37	0.54
25:L:39:LEU:O	25:L:39:LEU:HD12	2.07	0.54
26:M:4:ARG:HG3	26:M:5:ARG:CG	2.22	0.54
26:M:38:THR:O	26:M:42:ILE:HG12	2.08	0.54
28:O:88:MET:HE1	28:O:95:ARG:HA	1.89	0.54
30:Q:20:VAL:HB	30:Q:35:THR:HG23	1.89	0.54
40:a:1469:A:H2'	40:a:1470:A:C8	2.42	0.54
40:a:1656:C:OP1	49:j:141:ARG:CD	2.56	0.54
51:l:69:ARG:HA	51:l:69:ARG:CZ	2.38	0.54
53:n:46:ASP:CG	53:n:49:LEU:HD13	2.33	0.54
59:t:1:MET:CE	59:t:32:TYR:HB3	2.38	0.54
6:5:9:DG:OP2	11:AA:473:ARG:HG2	2.05	0.54
10:A:41:C:O4'	26:M:143:ARG:NH1	2.41	0.54
10:A:60:U:P	10:A:61:C:H41	2.30	0.54
17:D:679:C:C2	17:D:680:C:C5	2.95	0.54
18:E:32:ILE:CG2	18:E:75:HIS:NE2	2.71	0.54
20:G:19:GLN:CD	21:H:76:GLU:HB3	2.33	0.54
31:R:74:LEU:HD11	31:R:80:ILE:HD11	1.90	0.54
35:V:7:THR:CB	35:V:60:GLU:OE2	2.56	0.54
38:Y:44:LYS:O	38:Y:44:LYS:HD2	2.07	0.54
38:Y:77:VAL:O	38:Y:77:VAL:HG12	2.07	0.54
38:Y:123:ALA:O	38:Y:126:ARG:HG3	2.07	0.54
40:a:960:A:H61	61:v:82:MET:HE1	1.71	0.54
40:a:1830:C:C2	40:a:1831:G:C8	2.96	0.54
40:a:2298:A:P	53:n:72:LYS:HZ3	2.30	0.54
40:a:2308:G:C5	53:n:77:PHE:HZ	2.26	0.54
40:a:2649:C:H2'	40:a:2650:U:H6	1.73	0.54
47:h:107:PRO:HD2	47:h:110:LEU:HD22	1.89	0.54
49:j:124:ARG:NH1	49:j:161:MET:O	2.41	0.54
62:w:44:LEU:HD22	62:w:113:ILE:HD13	1.90	0.54
1:0:10:LYS:HE2	40:a:996:A:OP1	2.07	0.54
3:2:19:LYS:O	3:2:22:THR:OG1	2.22	0.54
5:4:6:ALA:HB3	5:4:65:VAL:CG2	2.37	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:4:19:ARG:NH1	43:d:95:U:OP2	2.41	0.54
5:4:80:HIS:ND1	5:4:83:LYS:HB2	2.23	0.54
8:7:1:A:C4	8:7:2:U:C5	2.95	0.54
9:9:43:LYS:HZ3	9:9:98:GLU:HB2	1.71	0.54
9:9:52:MET:HE1	9:9:85:SER:CA	2.38	0.54
11:AA:633:LEU:HD13	11:AA:644:LEU:HD23	1.89	0.54
12:AB:134:ASP:OD1	12:AB:135:GLY:N	2.37	0.54
17:D:1071:C:H2'	17:D:1072:G:H8	1.71	0.54
17:D:1358:U:O4	17:D:1363:A:N1	2.41	0.54
22:I:31:ASP:HA	32:S:65:ARG:HH22	1.72	0.54
25:L:3:HIS:CG	25:L:65:GLU:OE1	2.61	0.54
27:N:31:LYS:HE3	27:N:31:LYS:HA	1.90	0.54
27:N:78:VAL:HG12	27:N:85:ILE:HG21	1.89	0.54
28:O:10:GLY:HA3	28:O:78:ALA:O	2.08	0.54
34:U:23:ASP:HB3	34:U:26:ASN:OD1	2.07	0.54
38:Y:102:ARG:HG3	38:Y:140:GLU:C	2.33	0.54
40:a:134:G:H2'	40:a:135:U:C6	2.43	0.54
40:a:1665:A:O3'	59:t:66:LYS:HD3	2.07	0.54
44:e:53:VAL:O	44:e:57:LEU:HD23	2.06	0.54
47:h:123:ALA:HB1	47:h:125:LYS:HZ3	1.73	0.54
47:h:175:ARG:CG	47:h:181:MET:HE1	2.35	0.54
49:j:78:GLY:C	49:j:79:LEU:HD22	2.32	0.54
53:n:16:LEU:HD11	53:n:169:LEU:CD1	2.38	0.54
59:t:2:ILE:CG2	59:t:8:LEU:HD11	2.38	0.54
59:t:35:VAL:HG23	59:t:63:VAL:HA	1.89	0.54
11:AA:811:ASN:HA	11:AA:815:SER:HB2	1.90	0.54
11:AA:1117:LEU:HD12	11:AA:1195:ILE:HG12	1.90	0.54
14:AE:1000:GLY:HA3	14:AE:1026:PRO:HG2	1.90	0.54
10:B:38:A:O2'	17:D:790:A:P	2.66	0.54
18:E:24:ARG:O	18:E:28:MET:HG2	2.08	0.54
25:L:99:ALA:HB3	25:L:104:LYS:NZ	2.22	0.54
26:M:31:MET:SD	26:M:36:LYS:HA	2.48	0.54
27:N:83:LEU:HD21	31:R:4:VAL:HG11	1.89	0.54
31:R:35:THR:OG1	31:R:56:ARG:HG3	2.08	0.54
40:a:537:G:OP2	58:s:2:LYS:CE	2.55	0.54
40:a:2454:G:C4	40:a:2455:G:C8	2.96	0.54
40:a:2683:C:H4'	49:j:13:ARG:NH2	2.22	0.54
51:l:175:ILE:CG2	51:l:180:LEU:HD11	2.38	0.54
65:z:78:LYS:HD3	65:z:117:LEU:HD23	1.88	0.54
2:1:24:ILE:O	2:1:71:VAL:HG21	2.08	0.54
5:4:80:HIS:ND1	5:4:83:LYS:N	2.55	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:684:ASN:OD1	11:AA:687:ARG:NH2	2.41	0.54
10:B:31:G:O2'	17:D:1340:A:H4'	2.08	0.54
17:D:564:C:P	31:R:12:ARG:HH22	2.30	0.54
17:D:736:C:H2'	17:D:737:C:C6	2.43	0.54
19:F:63:GLU:HG2	19:F:67:ARG:NH2	2.23	0.54
23:J:105:MET:HE1	23:J:171:LEU:HB3	1.89	0.54
24:K:86:LYS:N	24:K:86:LYS:HD2	2.23	0.54
25:L:62:MET:HA	25:L:62:MET:HE3	1.90	0.54
37:X:96:PRO:HG3	37:X:102:THR:HG22	1.89	0.54
40:a:251:A:OP1	60:u:58:TYR:OH	2.23	0.54
40:a:1774:C:O2	40:a:1774:C:H2'	2.07	0.54
45:f:10:THR:HG23	45:f:11:ARG:HG2	1.90	0.54
49:j:4:LEU:HG	49:j:32:ASN:OD1	2.08	0.54
49:j:55:LYS:NZ	49:j:59:ARG:HB3	2.23	0.54
60:u:111:ILE:HD12	60:u:111:ILE:N	2.23	0.54
61:v:1:MET:CE	61:v:44:ARG:HA	2.38	0.54
64:y:27:GLU:HB3	64:y:87:LYS:NZ	2.22	0.54
1:0:10:LYS:CE	40:a:994:C:O2'	2.56	0.53
7:6:14:DC:H2'	7:6:15:DC:C6	2.43	0.53
9:9:3:LEU:HD12	9:9:4:ASN:CA	2.37	0.53
9:9:97:LYS:HD3	9:9:130:PRO:HG3	1.89	0.53
12:AB:129:ILE:N	12:AB:142:LEU:HB3	2.24	0.53
13:AD:100:LEU:HD21	13:AD:121:VAL:HG11	1.90	0.53
14:AE:342:LEU:HD23	14:AE:1352:ILE:HG23	1.90	0.53
14:AE:886:VAL:HG11	14:AE:1230:THR:HG21	1.89	0.53
17:D:50:A:O2'	17:D:360:G:N2	2.40	0.53
21:H:279:LYS:HA	21:H:331:MET:HB3	1.90	0.53
22:I:155:GLY:O	22:I:196:ILE:HG12	2.08	0.53
24:K:131:THR:O	24:K:131:THR:HG22	2.08	0.53
27:N:50:LYS:HE2	27:N:50:LYS:HA	1.89	0.53
31:R:102:LEU:O	31:R:103:ASP:OD1	2.26	0.53
37:X:28:THR:CA	37:X:31:LYS:HE3	2.37	0.53
37:X:81:MET:CE	37:X:92:ARG:HD3	2.38	0.53
38:Y:15:GLY:HA2	38:Y:50:LYS:CG	2.33	0.53
38:Y:80:LYS:CG	38:Y:86:LYS:O	2.56	0.53
40:a:1000:A:H2'	40:a:1001:A:C8	2.43	0.53
40:a:2355:G:H2'	40:a:2356:U:H5'	1.90	0.53
40:a:2766:A:C2	40:a:2767:C:C6	2.95	0.53
51:l:188:MET:HE2	51:l:193:VAL:HA	1.89	0.53
52:m:25:LYS:HG3	52:m:29:GLN:HE22	1.73	0.53
52:m:26:ASN:O	52:m:30:VAL:HG23	2.08	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:t:14:SER:OG	59:t:86:LEU:HD12	2.08	0.53
59:t:38:ILE:HD11	59:t:112:PHE:CZ	2.43	0.53
60:u:57:LEU:HA	60:u:60:ARG:HD2	1.89	0.53
7:6:20:DA:N6	8:7:42:G:C2	2.76	0.53
11:AA:628:HIS:HB3	11:AA:647:ARG:HH21	1.73	0.53
13:AD:28:LEU:HD12	13:AD:201:LEU:HD23	1.91	0.53
14:AE:1346:GLY:O	14:AE:1350:ASN:ND2	2.41	0.53
17:D:1227:A:H5'	37:X:110:LYS:HZ1	1.71	0.53
17:D:1399:C:O2	17:D:1502:A:N6	2.40	0.53
18:E:56:PRO:HG2	18:E:57:ILE:HD12	1.90	0.53
21:H:5:PHE:O	21:H:9:PHE:HD1	1.90	0.53
24:K:77:ASN:HB2	24:K:82:GLN:HG3	1.89	0.53
26:M:85:TYR:CD2	26:M:151:PHE:CZ	2.97	0.53
28:O:112:GLU:HG3	28:O:115:LYS:HZ3	1.73	0.53
31:R:25:GLU:OE1	31:R:59:ASN:ND2	2.42	0.53
32:S:42:TRP:CH2	46:g:66:ILE:HG23	2.42	0.53
40:a:15:G:H2'	48:i:15:MET:HE1	1.90	0.53
40:a:998:C:OP1	65:z:84:LYS:NZ	2.39	0.53
40:a:1779:U:H5	40:a:1784:A:N7	2.06	0.53
40:a:1790:C:H2'	40:a:1791:A:C5	2.43	0.53
40:a:1980:G:O2'	40:a:1982:U:OP2	2.23	0.53
40:a:2038:G:H2'	40:a:2039:U:O4'	2.08	0.53
40:a:2847:U:H2'	40:a:2848:G:O4'	2.09	0.53
57:r:143:ILE:O	57:r:143:ILE:HG13	2.08	0.53
58:s:133:ALA:C	58:s:135:GLN:H	2.16	0.53
2:1:25:ARG:NH2	40:a:519:U:O3'	2.40	0.53
11:AA:360:LEU:HD13	11:AA:378:ARG:HH11	1.72	0.53
12:AB:10:LYS:HB2	12:AB:73:ARG:HB3	1.90	0.53
12:AB:27:ASN:ND2	12:AB:58:GLU:HB2	2.24	0.53
14:AE:514:THR:HG21	14:AE:596:LEU:HD12	1.90	0.53
16:C:12:ARG:NH2	16:C:13:PHE:CE1	2.77	0.53
17:D:197:A:H1'	17:D:198:G:OP2	2.08	0.53
17:D:977:A:O2'	17:D:979:C:OP2	2.25	0.53
18:E:25:ARG:HD3	18:E:66:LEU:HD21	1.90	0.53
20:G:18:HIS:HA	21:H:43:LYS:HD2	1.90	0.53
21:H:71:ALA:C	21:H:72:LEU:HD12	2.32	0.53
21:H:332:VAL:HG12	21:H:334:ASP:H	1.73	0.53
22:I:85:GLU:O	22:I:89:LYS:HE2	2.08	0.53
28:O:67:VAL:C	28:O:68:LYS:HD2	2.33	0.53
28:O:118:LEU:HD23	28:O:124:ARG:HA	1.91	0.53
40:a:560:C:O2	65:z:48:ARG:NH1	2.37	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:581:C:H2'	40:a:582:A:H8	1.73	0.53
40:a:1084:A:N7	40:a:1085:A:C6	2.76	0.53
40:a:1353:A:H2'	40:a:1354:A:C8	2.43	0.53
46:g:11:GLU:HA	46:g:25:ARG:HA	1.90	0.53
50:k:8:LYS:NZ	50:k:54:ILE:HG12	2.23	0.53
50:k:29:THR:HG23	50:k:30:LYS:HG2	1.90	0.53
55:p:33:LEU:HD11	55:p:136:ALA:HB1	1.89	0.53
2:1:41:LYS:HE3	40:a:2010:G:P	2.48	0.53
5:4:35:GLU:OE1	5:4:93:ARG:CZ	2.56	0.53
10:A:16:C:O2	40:a:2181:U:C5'	2.57	0.53
12:AB:36:GLU:H	12:AB:106:ASP:CG	2.16	0.53
12:AB:123:PHE:N	29:P:81:GLU:HG3	2.23	0.53
13:AC:100:LEU:HD23	13:AC:115:ILE:HG21	1.89	0.53
16:C:34:THR:HG22	16:C:36:SER:H	1.72	0.53
28:O:21:ILE:HD11	28:O:87:LEU:HD22	1.90	0.53
30:Q:52:PHE:CD2	30:Q:56:ARG:HG2	2.39	0.53
30:Q:86:VAL:O	30:Q:113:VAL:HG22	2.08	0.53
38:Y:78:LEU:HD13	38:Y:108:ILE:HG12	1.90	0.53
40:a:2020:A:C2	40:a:2022:U:O4'	2.61	0.53
40:a:2308:G:C6	53:n:77:PHE:CZ	2.97	0.53
40:a:2638:G:O2'	40:a:2775:G:N2	2.37	0.53
40:a:2867:G:C6	64:y:21:ARG:NH1	2.76	0.53
45:f:10:THR:HB	45:f:56:LYS:NZ	2.22	0.53
51:l:62:GLN:O	51:l:69:ARG:CD	2.56	0.53
1:0:5:PHE:HB3	1:0:59:ILE:HD12	1.91	0.53
2:1:41:LYS:HZ2	40:a:2009:A:P	2.31	0.53
7:6:19:DC:H2'	7:6:20:DA:H8	1.74	0.53
11:AA:103:VAL:HB	11:AA:114:VAL:HG11	1.89	0.53
11:AA:377:THR:HB	12:AB:65:HIS:NE2	2.23	0.53
14:AE:74:LYS:HB2	29:P:89:ARG:CB	2.39	0.53
17:D:62:U:H2'	17:D:63:C:C6	2.44	0.53
18:E:19:LYS:HG3	18:E:20:HIS:N	2.22	0.53
22:I:85:GLU:HG3	22:I:89:LYS:NZ	2.23	0.53
40:a:851:C:H2'	40:a:852:U:H6	1.72	0.53
40:a:2093:G:P	57:r:22:LYS:HZ2	2.24	0.53
40:a:2387:U:O4'	41:b:41:ARG:NH1	2.41	0.53
40:a:2591:C:H2'	40:a:2592:G:C8	2.42	0.53
40:a:2833:U:O2	49:j:58:ASN:ND2	2.41	0.53
51:l:60:TRP:NE1	51:l:69:ARG:HH12	2.07	0.53
59:t:1:MET:CE	59:t:32:TYR:CB	2.87	0.53
8:7:9:U:C4	17:D:1196:A:C8	2.97	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:9:88:HIS:O	9:9:89:PRO:C	2.51	0.53
11:AA:1070:HIS:NE2	11:AA:1114:GLU:OE1	2.36	0.53
12:AB:146:ILE:CD1	29:P:100:ILE:HG23	2.19	0.53
13:AC:43:LEU:HD13	13:AC:217:ILE:HD11	1.90	0.53
14:AE:287:ALA:HB2	14:AE:292:VAL:HG11	1.85	0.53
14:AE:1175:LEU:O	14:AE:1187:GLU:HA	2.08	0.53
10:B:38:A:O2'	17:D:790:A:O5'	2.27	0.53
17:D:73:C:O2	17:D:73:C:H2'	2.07	0.53
17:D:274:A:H4'	35:V:16:LYS:NZ	2.24	0.53
17:D:1145:A:HO2'	17:D:1146:A:P	2.31	0.53
19:F:17:ARG:HA	19:F:20:LYS:NZ	2.24	0.53
20:G:58:ASN:OD1	20:G:223:GLU:OE1	2.26	0.53
22:I:49:LYS:NZ	22:I:75:ILE:HD11	2.24	0.53
22:I:132:ARG:HA	22:I:135:LYS:HE3	1.89	0.53
26:M:23:LEU:O	26:M:27:VAL:HG13	2.07	0.53
30:Q:79:ILE:O	30:Q:105:PHE:HE1	1.91	0.53
31:R:110:ARG:NE	31:R:117:TYR:CD2	2.76	0.53
40:a:537:G:P	58:s:2:LYS:HE2	2.49	0.53
40:a:1278:C:H5'	62:w:24:MET:SD	2.49	0.53
40:a:1412:U:C4	40:a:1413:A:N7	2.77	0.53
40:a:2473:U:C4	40:a:2474:U:C5	2.97	0.53
61:v:21:ALA:HB2	61:v:100:LYS:HG3	1.90	0.53
61:v:96:ILE:HA	61:v:100:LYS:CE	2.38	0.53
63:x:38:GLN:HG2	63:x:50:ALA:CB	2.38	0.53
3:2:6:ARG:NH2	3:2:10:VAL:HG22	2.24	0.53
14:AE:679:TYR:OH	14:AE:754:ILE:O	2.23	0.53
14:AE:968:ASN:HA	14:AE:1117:SER:HB2	1.90	0.53
28:O:47:VAL:O	28:O:80:ARG:HD2	2.09	0.53
30:Q:84:VAL:HG21	30:Q:97:ILE:CD1	2.39	0.53
36:W:47:LEU:O	36:W:62:VAL:HG23	2.09	0.53
37:X:22:ILE:HB	37:X:25:VAL:CG1	2.39	0.53
40:a:414:C:H2'	40:a:415:A:C8	2.44	0.53
40:a:1665:A:C3'	59:t:66:LYS:HZ2	2.21	0.53
40:a:2649:C:C2	40:a:2650:U:C5	2.97	0.53
53:n:72:LYS:HA	53:n:81:GLN:HE22	1.74	0.53
55:p:32:GLU:C	55:p:33:LEU:HD12	2.34	0.53
3:2:56:GLU:OE1	3:2:87:LEU:CA	2.56	0.53
5:4:35:GLU:OE1	5:4:36:ALA:O	2.27	0.53
9:9:94:ARG:HB2	9:9:97:LYS:CE	2.36	0.53
13:AC:140:ILE:HD12	13:AC:142:MET:HE3	1.91	0.53
10:B:22:G:H2'	10:B:23:C:H6	1.70	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:339:C:H2'	17:D:340:U:H6	1.73	0.53
17:D:404:G:O2'	17:D:498:A:N1	2.38	0.53
17:D:932:C:C5'	26:M:4:ARG:HH11	2.22	0.53
27:N:87:LYS:HG2	27:N:92:LEU:HA	1.90	0.53
38:Y:45:THR:HG21	38:Y:50:LYS:HZ2	1.74	0.53
40:a:807:U:OP2	60:u:41:ARG:NH1	2.42	0.53
40:a:1145:C:C2	40:a:1146:C:C5	2.97	0.53
40:a:1167:C:C2	40:a:1168:G:C8	2.97	0.53
40:a:1818:U:C6	47:h:156:ARG:NH2	2.77	0.53
40:a:2473:U:O2	40:a:2473:U:H2'	2.09	0.53
51:l:60:TRP:NE1	51:l:69:ARG:NH1	2.56	0.53
53:n:42:GLU:HG3	53:n:49:LEU:HD23	1.91	0.53
53:n:132:VAL:CG2	53:n:152:LEU:HD23	2.39	0.53
55:p:89:LEU:HD22	55:p:162:VAL:HG22	1.91	0.53
61:v:45:GLN:NE2	61:v:125:PRO:HD2	2.22	0.53
64:y:27:GLU:HB3	64:y:87:LYS:HZ3	1.73	0.53
2:1:61:ASN:OD1	40:a:496:G:H1'	2.08	0.53
12:AB:21:LEU:HB3	12:AB:26:VAL:CG1	2.38	0.53
13:AD:182:ARG:NH1	14:AE:534:GLU:OE1	2.42	0.53
14:AE:526:VAL:HG12	14:AE:549:LYS:HB2	1.90	0.53
17:D:750:C:C2	17:D:751:U:C5	2.96	0.53
17:D:1158:C:O2'	20:G:132:LYS:HE2	2.09	0.53
24:K:134:ILE:HG23	24:K:135:ASN:N	2.24	0.53
25:L:88:MET:HE2	25:L:90:MET:HE3	1.91	0.53
33:T:15:PHE:CD2	33:T:30:ALA:CB	2.92	0.53
39:Z:18:ASP:HB3	39:Z:22:LEU:CD1	2.39	0.53
40:a:150:U:H2'	40:a:151:C:C6	2.44	0.53
40:a:995:C:N4	58:s:2:LYS:HG3	2.24	0.53
40:a:2049:G:N2	49:j:161:MET:HE1	2.24	0.53
40:a:2849:U:O5'	64:y:93:ARG:NH2	2.42	0.53
60:u:58:TYR:CE2	60:u:59:ARG:HG2	2.44	0.53
63:x:48:LEU:CD2	63:x:87:ILE:HD11	2.38	0.53
3:2:33:LYS:HG3	3:2:80:TRP:CE3	2.44	0.53
9:9:58:THR:HG21	9:9:81:LEU:CD2	2.31	0.53
9:9:93:ALA:O	9:9:129:LEU:O	2.27	0.53
9:9:98:GLU:HA	9:9:101:LYS:HZ3	1.73	0.53
12:AB:89:PRO:HG2	14:AE:290:ILE:HG22	1.91	0.53
17:D:1329:A:P	37:X:28:THR:HB	2.48	0.53
23:J:50:ASP:O	23:J:53:VAL:HG22	2.09	0.53
23:J:67:VAL:HB	23:J:72:PHE:CE1	2.43	0.53
24:K:111:MET:HE2	24:K:125:ALA:HB1	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:K:159:LYS:HZ1	27:N:44:GLY:HA3	1.74	0.53
26:M:4:ARG:CG	26:M:5:ARG:NH1	2.72	0.53
26:M:79:ARG:HB2	26:M:84:THR:HG23	1.90	0.53
29:P:27:GLU:HA	29:P:30:LYS:NZ	2.23	0.53
33:T:11:ILE:HA	33:T:14:GLU:OE1	2.09	0.53
40:a:632:A:H2'	40:a:633:A:C8	2.44	0.53
40:a:2093:G:OP2	57:r:22:LYS:HE3	2.09	0.53
40:a:2259:U:C2	40:a:2260:C:C6	2.96	0.53
46:g:47:LYS:HD3	53:n:178:ARG:HH22	1.74	0.53
47:h:74:ILE:CG2	47:h:96:TYR:HD1	2.21	0.53
47:h:76:ALA:HB1	47:h:94:VAL:CG1	2.39	0.53
59:t:2:ILE:HG23	59:t:8:LEU:HD11	1.91	0.53
62:w:14:SER:HA	62:w:17:ARG:CZ	2.39	0.53
65:z:108:ALA:O	65:z:111:GLU:HG3	2.09	0.53
3:2:30:ILE:HG22	3:2:32:LEU:CD2	2.38	0.52
8:7:3:G:H3'	17:D:1500:A:N6	2.24	0.52
8:7:13:U:H6	8:7:13:U:H5"	1.74	0.52
12:AB:143:LEU:CD1	12:AB:150:ILE:CD1	2.78	0.52
14:AE:69:GLU:C	14:AE:92:VAL:CG1	2.82	0.52
17:D:399:G:H2'	17:D:400:C:C6	2.43	0.52
20:G:23:TRP:HZ3	20:G:25:PRO:CA	2.22	0.52
20:G:148:LEU:HD22	20:G:151:ILE:HD11	1.90	0.52
24:K:158:GLY:C	24:K:159:LYS:HD2	2.34	0.52
30:Q:84:VAL:CG2	30:Q:107:ILE:HD11	2.37	0.52
38:Y:33:ASN:HB2	38:Y:36:GLU:OE2	2.08	0.52
40:a:963:U:C2	40:a:964:C:C5	2.97	0.52
40:a:1295:C:C2	40:a:1296:G:C8	2.97	0.52
49:j:131:ASP:OD2	49:j:132:ALA:N	2.42	0.52
51:l:170:ARG:CZ	51:l:176:ASP:OD1	2.58	0.52
53:n:71:ARG:O	53:n:81:GLN:NE2	2.40	0.52
8:7:8:U:OP2	17:D:1397:C:C2	2.62	0.52
11:AA:1287:LEU:HD13	14:AE:1357:ILE:HD11	1.91	0.52
14:AE:795:TYR:OH	14:AE:1326:GLN:NE2	2.42	0.52
15:AF:3:ARG:NH1	15:AF:55:GLU:OE2	2.40	0.52
17:D:1308:U:H3'	37:X:98:ARG:CZ	2.39	0.52
21:H:32:ASP:OD1	21:H:35:VAL:CG2	2.58	0.52
22:I:23:PHE:HD2	29:P:97:ASP:HB2	1.74	0.52
22:I:24:ALA:C	22:I:29:PHE:CE2	2.87	0.52
28:O:5:GLN:NE2	28:O:22:LYS:NZ	2.56	0.52
33:T:24:SER:O	33:T:28:GLN:HG2	2.09	0.52
33:T:64:ARG:NH2	33:T:89:ARG:HH22	2.07	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:X:31:LYS:HG3	37:X:32:ALA:N	2.25	0.52
38:Y:16:MET:HG2	38:Y:16:MET:O	2.09	0.52
38:Y:33:ASN:HB3	38:Y:36:GLU:CG	2.30	0.52
38:Y:77:VAL:HA	38:Y:80:LYS:HD3	1.91	0.52
40:a:271:G:C4	40:a:272:A:N7	2.77	0.52
40:a:858:G:OP2	41:b:78:LYS:NZ	2.35	0.52
40:a:1024:G:OP2	40:a:1025:G:O2'	2.25	0.52
40:a:1340:U:C5	40:a:1603:A:C8	2.97	0.52
40:a:1818:U:O2'	47:h:153:GLN:O	2.23	0.52
40:a:2315:G:O2'	53:n:125:ARG:HD3	2.10	0.52
40:a:2747:G:O6	40:a:2755:C:H5"	2.08	0.52
55:p:9:VAL:HG22	55:p:69:ARG:NH1	2.24	0.52
61:v:20:LEU:H	61:v:20:LEU:HD23	1.73	0.52
4:3:7:ARG:HB3	40:a:85:G:OP2	2.08	0.52
9:9:36:ASP:N	9:9:36:ASP:OD1	2.40	0.52
14:AE:901:ARG:HH21	14:AE:906:GLY:HA2	1.73	0.52
16:C:60:LYS:HZ1	17:D:735:C:C5'	2.22	0.52
19:F:37:PHE:HB3	30:Q:124:PRO:O	2.10	0.52
20:G:53:ALA:CA	20:G:56:GLU:OE1	2.57	0.52
20:G:127:ASP:O	20:G:128:LYS:HB3	2.09	0.52
21:H:45:GLU:OE1	21:H:45:GLU:N	2.41	0.52
21:H:321:VAL:HG13	21:H:322:VAL:HG23	1.91	0.52
37:X:96:PRO:CG	37:X:102:THR:HG22	2.40	0.52
40:a:78:U:H2'	40:a:79:C:C6	2.44	0.52
40:a:1138:G:C2	58:s:108:MET:HE2	2.45	0.52
40:a:1379:U:H4'	40:a:1380:G:OP1	2.09	0.52
40:a:1657:U:O2'	49:j:138:LEU:HD22	2.08	0.52
40:a:2356:U:C5'	41:b:20:ARG:HD2	2.36	0.52
40:a:2537:U:H2'	40:a:2538:C:C6	2.43	0.52
47:h:124:ILE:O	47:h:125:LYS:HD3	2.10	0.52
58:s:9:GLU:HG2	58:s:10:THR:HG23	1.90	0.52
59:t:71:ARG:NH2	59:t:123:LEU:O	2.42	0.52
4:3:26:LYS:HE3	4:3:37:GLU:HB2	1.90	0.52
6:5:10:DT:N1	11:AA:62:TYR:HE2	2.07	0.52
9:9:87:GLU:OE2	9:9:95:LEU:HG	2.09	0.52
9:9:106:PHE:CG	9:9:106:PHE:O	2.63	0.52
17:D:679:C:H2'	17:D:680:C:H6	1.74	0.52
22:I:142:MET:SD	22:I:170:GLU:OE1	2.67	0.52
22:I:183:ASP:HB3	22:I:204:LYS:NZ	2.25	0.52
30:Q:23:ILE:N	30:Q:87:LYS:HZ1	2.08	0.52
38:Y:32:VAL:HA	38:Y:60:VAL:HG21	1.90	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:607:U:C5	40:a:620:G:C5	2.98	0.52
40:a:1820:U:C4	47:h:159:GLY:HA3	2.44	0.52
40:a:2287:A:C8	40:a:2289:G:C8	2.96	0.52
46:g:47:LYS:HE2	53:n:115:ARG:NE	2.25	0.52
51:l:62:GLN:HA	51:l:69:ARG:HH21	1.74	0.52
53:n:93:GLY:HA2	53:n:97:TRP:CZ3	2.44	0.52
58:s:25:LEU:CD1	58:s:101:ILE:HD13	2.39	0.52
61:v:97:GLN:N	61:v:100:LYS:CE	2.72	0.52
62:w:37:THR:OG1	62:w:40:LYS:CD	2.57	0.52
1:0:71:LYS:HG3	1:0:73:LYS:HE3	1.91	0.52
8:7:3:G:C4’	17:D:1500:A:H62	2.22	0.52
9:9:51:TYR:HB2	9:9:88:HIS:HB2	1.90	0.52
11:AA:855:PRO:HD2	11:AA:887:VAL:HG11	1.91	0.52
12:AB:5:TYR:HA	12:AB:88:VAL:HG22	1.90	0.52
12:AB:143:LEU:O	12:AB:149:GLU:HA	2.09	0.52
17:D:1371:G:O3’	28:O:71:GLY:HA3	2.10	0.52
20:G:9:MET:HE1	20:G:47:VAL:CG2	2.40	0.52
20:G:23:TRP:CD1	20:G:39:HIS:CE1	2.97	0.52
31:R:27:CYS:SG	31:R:30:LYS:NZ	2.68	0.52
38:Y:58:ILE:HG23	38:Y:66:PHE:CD2	2.45	0.52
40:a:590:A:H2’	40:a:591:U:C6	2.44	0.52
40:a:813:U:H2’	40:a:814:C:H6	1.74	0.52
40:a:1243:C:H1’	60:u:4:ASN:O	2.09	0.52
40:a:1394:U:H4’	40:a:1603:A:H4’	1.92	0.52
47:h:34:LEU:HD12	47:h:61:ALA:HB1	1.92	0.52
59:t:73:ASP:OD2	64:y:80:VAL:HG11	2.08	0.52
60:u:14:LYS:HE2	60:u:14:LYS:HA	1.91	0.52
65:z:65:ILE:HB	65:z:76:TYR:HE1	1.75	0.52
5:4:48:MET:CE	5:4:86:LEU:HG	2.40	0.52
9:9:3:LEU:CG	9:9:4:ASN:H	2.21	0.52
11:AA:524:ILE:HG21	11:AA:708:VAL:HG13	1.92	0.52
12:AB:141:LEU:HA	12:AB:152:HIS:CA	2.39	0.52
17:D:452:A:H2’	17:D:453:G:O4’	2.10	0.52
22:I:58:GLU:OE2	22:I:60:PRO:HD3	2.08	0.52
24:K:156:LYS:NZ	27:N:71:VAL:O	2.42	0.52
27:N:66:PHE:CD2	27:N:67:GLN:OE1	2.62	0.52
28:O:9:THR:HB	28:O:85:ARG:NH1	2.25	0.52
29:P:24:GLU:O	29:P:28:THR:HG23	2.10	0.52
29:P:47:GLU:OE1	29:P:67:ILE:HG23	2.09	0.52
32:S:54:ASP:HA	32:S:59:ARG:HD2	1.90	0.52
32:S:79:LEU:HB2	32:S:84:VAL:HG22	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:X:68:ASP:O	37:X:71:ARG:HG3	2.09	0.52
38:Y:78:LEU:HD12	38:Y:112:LYS:NZ	2.25	0.52
38:Y:126:ARG:NH1	40:a:1082:U:C5'	2.73	0.52
40:a:372:G:O2'	42:c:54:LYS:HE3	2.09	0.52
40:a:833:A:H2'	40:a:834:G:C8	2.44	0.52
40:a:888:C:C4	40:a:889:C:C4	2.97	0.52
40:a:1154:G:OP2	65:z:58:ARG:CZ	2.58	0.52
40:a:1198:U:C2	40:a:1199:U:C5	2.98	0.52
51:l:6:LYS:CE	51:l:119:ILE:HG23	2.40	0.52
53:n:15:LYS:O	53:n:18:THR:N	2.43	0.52
55:p:149:ARG:CZ	55:p:154:PRO:HD3	2.40	0.52
58:s:15:TRP:CE3	58:s:135:GLN:O	2.63	0.52
60:u:56:PRO:O	60:u:60:ARG:HG3	2.10	0.52
65:z:78:LYS:CD	65:z:117:LEU:CD2	2.84	0.52
5:4:63:ILE:CD1	5:4:91:PHE:CD2	2.93	0.52
6:5:9:DG:H2'	12:AB:71:ALA:HA	1.90	0.52
17:D:978:A:C4	17:D:1319:A:C2	2.98	0.52
17:D:1240:U:C5	26:M:116:MET:HE2	2.44	0.52
17:D:1439:G:P	18:E:33:LYS:NZ	2.82	0.52
38:Y:9:LYS:CG	38:Y:55:PRO:HB3	2.39	0.52
40:a:617:G:C4'	51:l:199:MET:HE1	2.39	0.52
40:a:1666:G:OP1	59:t:66:LYS:HD3	2.10	0.52
40:a:2814:A:H2'	40:a:2815:C:H6	1.75	0.52
50:k:21:TYR:CE2	50:k:49:TYR:CD2	2.98	0.52
53:n:29:PRO:HB2	53:n:169:LEU:HD22	1.91	0.52
54:o:19:LYS:HE2	54:o:19:LYS:HA	1.91	0.52
58:s:73:VAL:C	58:s:74:TYR:HD2	2.14	0.52
60:u:54:GLN:NE2	60:u:60:ARG:HH12	2.07	0.52
65:z:65:ILE:HB	65:z:76:TYR:CE1	2.45	0.52
12:AB:141:LEU:HA	12:AB:152:HIS:HA	1.92	0.52
13:AD:205:MET:HE3	13:AD:213:PRO:HB3	1.91	0.52
14:AE:122:SER:HB2	14:AE:132:LEU:HD12	1.91	0.52
14:AE:959:LYS:HB3	14:AE:983:LYS:HB2	1.92	0.52
10:B:31:G:H2'	10:B:32:C:O4'	2.10	0.52
10:B:76:A:H1'	40:a:2494:G:P	2.50	0.52
16:C:60:LYS:CE	17:D:735:C:C4'	2.88	0.52
17:D:1086:U:C2	17:D:1087:G:C8	2.97	0.52
17:D:1176:A:H2'	17:D:1177:G:C8	2.45	0.52
18:E:22:ALA:CA	18:E:25:ARG:HH21	2.21	0.52
20:G:49:MET:CE	20:G:201:PRO:CD	2.87	0.52
21:H:335:ILE:HG12	21:H:342:ILE:HD12	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:L:36:ILE:O	25:L:36:ILE:HG23	2.09	0.52
30:Q:61:PHE:CD1	30:Q:64:GLN:NE2	2.78	0.52
38:Y:126:ARG:NH1	40:a:1083:U:P	2.83	0.52
40:a:139:U:OP2	40:a:140:C:N4	2.43	0.52
40:a:703:U:H2'	40:a:704:G:O4'	2.10	0.52
40:a:1266:G:O2'	40:a:2012:G:O6	2.22	0.52
40:a:1348:C:C4	40:a:1349:C:C6	2.97	0.52
40:a:2311:A:C5	53:n:77:PHE:CD2	2.98	0.52
40:a:2391:G:P	54:o:32:ILE:HD12	2.50	0.52
43:d:42:C:P	53:n:64:LYS:NZ	2.83	0.52
57:r:33:GLN:HB3	57:r:35:LYS:HZ3	1.75	0.52
62:w:35:LYS:NZ	62:w:112:TYR:CE2	2.76	0.52
65:z:53:ARG:HG3	65:z:57:PHE:HE2	1.75	0.52
2:1:25:ARG:NH1	40:a:519:U:O3'	2.43	0.52
7:6:17:DC:H42	8:7:44:G:H1	1.58	0.52
9:9:47:GLU:O	9:9:49:GLY:N	2.43	0.52
9:9:59:LEU:HB2	9:9:62:ARG:HG3	1.92	0.52
17:D:769:G:H4'	17:D:1513:A:H4'	1.90	0.52
17:D:842:U:H3'	17:D:843:U:C5'	2.39	0.52
18:E:25:ARG:HD3	18:E:66:LEU:HD11	1.90	0.52
22:I:142:MET:CE	22:I:170:GLU:OE1	2.58	0.52
24:K:137:VAL:O	24:K:141:ILE:HG12	2.09	0.52
25:L:33:GLU:HG3	25:L:33:GLU:O	2.10	0.52
31:R:24:LEU:C	31:R:25:GLU:OE1	2.52	0.52
40:a:1095:A:H2'	40:a:1096:A:C8	2.45	0.52
40:a:1145:C:N3	40:a:1146:C:C5	2.77	0.52
40:a:1204:A:O4'	40:a:1206:G:C8	2.63	0.52
40:a:2329:U:H2'	40:a:2330:G:C8	2.45	0.52
40:a:2727:A:O2'	59:t:70:ARG:NH2	2.43	0.52
40:a:2758:A:H1'	55:p:38:ASN:HD21	1.74	0.52
48:i:26:THR:HG23	48:i:27:SER:N	2.25	0.52
49:j:48:ILE:HG12	49:j:84:LEU:HD21	1.90	0.52
53:n:71:ARG:C	53:n:81:GLN:HE22	2.17	0.52
56:q:25:VAL:CB	56:q:35:GLN:OE1	2.56	0.52
6:5:17:DC:H5"	6:5:17:DC:H6	1.75	0.52
9:9:61:ARG:NE	40:a:1046:A:P	2.83	0.52
10:A:48:C:O2'	10:A:49:G:OP2	2.27	0.52
14:AE:84:ILE:HG22	14:AE:91:GLU:CA	2.39	0.52
17:D:122:G:C5	17:D:123:U:C5	2.98	0.52
17:D:936:C:C2	17:D:937:A:C8	2.98	0.52
17:D:1175:G:N3	17:D:1176:A:C8	2.77	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:1226:C:C2'	37:X:102:THR:OG1	2.58	0.52
20:G:165:ASP:O	20:G:169:GLU:OE1	2.28	0.52
22:I:105:GLU:OE1	22:I:107:ARG:NE	2.42	0.52
23:J:74:ASN:O	23:J:77:LYS:HG2	2.09	0.52
33:T:3:LEU:HD12	33:T:35:GLN:OE1	2.10	0.52
33:T:63:ARG:HD2	33:T:67:LEU:CD2	2.40	0.52
40:a:67:U:N3	40:a:74:A:C6	2.77	0.52
40:a:872:U:H2'	40:a:873:C:H6	1.75	0.52
40:a:960:A:H61	61:v:82:MET:CE	2.23	0.52
40:a:2466:C:N3	40:a:2467:C:C5	2.78	0.52
57:r:29:PHE:CE2	57:r:35:LYS:HE3	2.45	0.52
59:t:17:ARG:NH2	59:t:47:ILE:HG23	2.25	0.52
2:1:27:LYS:O	2:1:71:VAL:HG22	2.10	0.51
3:2:53:VAL:HG21	3:2:87:LEU:HD23	1.91	0.51
9:9:55:VAL:HG12	9:9:56:ARG:N	2.25	0.51
10:A:56:C:C5	40:a:2168:G:C6	2.98	0.51
11:AA:246:LEU:HB3	11:AA:269:ILE:HD13	1.91	0.51
17:D:512:U:P	23:J:44:ARG:HH12	2.33	0.51
20:G:23:TRP:HB3	20:G:39:HIS:CE1	2.44	0.51
35:V:62:ARG:CA	35:V:73:TRP:CZ3	2.93	0.51
37:X:71:ARG:HH12	46:g:52:ALA:HB3	1.75	0.51
38:Y:116:MET:HG2	38:Y:124:MET:HB3	1.91	0.51
38:Y:139:VAL:HG22	38:Y:140:GLU:N	2.25	0.51
40:a:228:C:N4	40:a:2407:A:N3	2.52	0.51
40:a:645:C:H2'	40:a:647:G:C8	2.45	0.51
40:a:1069:A:O2'	40:a:1073:A:N6	2.38	0.51
40:a:1314:C:C2	40:a:1315:C:C5	2.98	0.51
40:a:1666:G:P	59:t:66:LYS:HD3	2.50	0.51
40:a:2420:C:H5"	50:k:8:LYS:HE2	1.92	0.51
40:a:2812:G:H2'	40:a:2813:A:C8	2.45	0.51
49:j:131:ASP:OD1	49:j:134:HIS:HB2	2.10	0.51
51:l:168:ASP:HB3	51:l:183:PHE:HE2	1.75	0.51
60:u:90:VAL:CG1	60:u:95:LEU:HD21	2.33	0.51
61:v:115:GLU:O	61:v:119:LEU:HD23	2.09	0.51
62:w:33:ILE:CD1	62:w:112:TYR:CD1	2.91	0.51
3:2:3:ARG:NH2	3:2:4:GLU:HB2	2.26	0.51
3:2:11:LEU:HD12	3:2:11:LEU:N	2.26	0.51
12:AB:135:GLY:O	12:AB:137:ALA:N	2.43	0.51
14:AE:430:HIS:HB3	14:AE:925:GLU:HG3	1.93	0.51
17:D:868:C:H2'	17:D:869:G:O4'	2.11	0.51
17:D:925:G:C2	17:D:927:G:C8	2.98	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:934:C:C4	17:D:1345:U:C5	2.99	0.51
20:G:26:LYS:HD2	20:G:193:PRO:CG	2.40	0.51
20:G:26:LYS:HE3	20:G:194:ASP:OD1	2.10	0.51
22:I:132:ARG:HG3	22:I:135:LYS:HE3	1.92	0.51
24:K:36:LEU:HD13	24:K:134:ILE:CD1	2.41	0.51
25:L:42:TRP:CZ2	25:L:102:MET:SD	3.01	0.51
27:N:79:SER:HB2	27:N:85:ILE:HG22	1.92	0.51
33:T:11:ILE:HD11	33:T:30:ALA:C	2.36	0.51
40:a:414:C:H2'	40:a:415:A:H8	1.75	0.51
40:a:1656:C:OP1	49:j:141:ARG:HD3	2.10	0.51
40:a:2133:G:O2'	40:a:2157:G:N2	2.44	0.51
60:u:58:TYR:CD2	60:u:59:ARG:HG2	2.46	0.51
61:v:115:GLU:HA	61:v:118:LYS:NZ	2.25	0.51
4:3:6:ARG:HG3	40:a:84:A:H3'	1.91	0.51
9:9:52:MET:HG2	9:9:95:LEU:CD1	2.39	0.51
10:A:48:C:C5	10:A:59:A:C8	2.98	0.51
12:AB:81:PHE:CB	14:AE:141:PHE:O	2.58	0.51
13:AD:16:ILE:HG23	13:AD:26:VAL:HG22	1.91	0.51
14:AE:87:LYS:HE3	29:P:89:ARG:HH11	1.76	0.51
17:D:58:C:O2	17:D:58:C:H2'	2.09	0.51
17:D:512:U:P	23:J:44:ARG:NH1	2.83	0.51
18:E:75:HIS:CE1	18:E:79:LEU:CD1	2.93	0.51
21:H:36:VAL:O	21:H:48:ILE:HB	2.10	0.51
22:I:178:LEU:HD23	22:I:178:LEU:C	2.35	0.51
28:O:88:MET:HE1	28:O:95:ARG:HG3	1.91	0.51
36:W:66:MET:HG2	36:W:74:PHE:CZ	2.44	0.51
40:a:413:C:C2	40:a:414:C:C5	2.99	0.51
40:a:1607:C:N4	40:a:1622:G:OP2	2.35	0.51
40:a:1791:A:C2	40:a:1829:A:C4'	2.93	0.51
40:a:1956:U:C4	40:a:1957:C:C5	2.99	0.51
40:a:2086:U:H2'	40:a:2087:G:C8	2.45	0.51
40:a:2428:G:H21	60:u:60:ARG:CZ	2.23	0.51
40:a:2723:C:H4'	62:w:1:MET:HE3	1.92	0.51
47:h:18:LYS:HE3	47:h:20:VAL:CG2	2.40	0.51
53:n:136:ILE:HD12	53:n:141:ILE:HG23	1.92	0.51
59:t:103:VAL:HG21	59:t:107:LEU:CD2	2.41	0.51
1:0:4:VAL:HG22	1:0:40:MET:HB3	1.91	0.51
4:3:85:PHE:CE1	4:3:94:ARG:HG2	2.46	0.51
9:9:55:VAL:CG1	9:9:56:ARG:N	2.74	0.51
10:A:31:G:H2'	10:A:32:C:O4'	2.10	0.51
17:D:107:G:C6	18:E:10:ARG:NH2	2.79	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:280:C:H1'	35:V:40:ARG:HH22	1.75	0.51
29:P:73:LEU:HD21	29:P:75:ASP:OD2	2.10	0.51
35:V:15:ASP:OD1	35:V:55:ILE:HD11	2.11	0.51
39:Z:18:ASP:HB3	39:Z:22:LEU:HD12	1.92	0.51
39:Z:26:MET:HA	39:Z:30:PHE:CD1	2.46	0.51
40:a:628:G:C5	40:a:636:G:N2	2.79	0.51
40:a:993:G:C6	40:a:1162:G:C6	2.98	0.51
40:a:1799:G:N2	47:h:154:LEU:HD23	2.26	0.51
40:a:1824:G:O2'	47:h:252:THR:HG21	2.11	0.51
47:h:108:LYS:HD3	47:h:194:GLU:HB2	1.92	0.51
49:j:122:VAL:HG21	49:j:141:ARG:HG3	1.92	0.51
49:j:154:LYS:HE3	49:j:156:PHE:CE1	2.46	0.51
57:r:2:GLN:HG3	57:r:39:ALA:CB	2.40	0.51
58:s:15:TRP:CD1	58:s:53:TYR:HB2	2.45	0.51
8:7:13:U:H5"	8:7:13:U:C6	2.45	0.51
14:AE:510:LEU:HD22	14:AE:601:ILE:HD12	1.91	0.51
14:AE:1045:THR:O	14:AE:1067:ARG:NH2	2.41	0.51
10:B:6:G:C4	10:B:7:G:C8	2.98	0.51
10:B:23:C:H2'	10:B:24:U:C6	2.45	0.51
10:B:48:C:O2'	10:B:49:G:OP2	2.27	0.51
16:C:70:TYR:CE2	25:L:49:TYR:CZ	2.98	0.51
18:E:54:MET:CE	18:E:75:HIS:HE1	2.24	0.51
20:G:16:PHE:HB3	21:H:43:LYS:HA	1.93	0.51
26:M:111:ARG:NH2	26:M:126:ASP:OD2	2.43	0.51
31:R:62:GLU:OE2	31:R:62:GLU:HA	2.10	0.51
38:Y:86:LYS:HD3	38:Y:86:LYS:O	2.11	0.51
40:a:271:G:H4'	40:a:272:A:OP1	2.10	0.51
40:a:910:A:C8	61:v:12:MET:CE	2.93	0.51
40:a:1707:G:C8	40:a:1756:G:C5	2.98	0.51
40:a:2252:G:H2'	40:a:2253:G:H8	1.76	0.51
43:d:15:A:O4'	43:d:109:A:C8	2.63	0.51
46:g:7:PRO:HD2	53:n:62:GLY:O	2.11	0.51
50:k:19:HIS:CE1	50:k:41:PRO:HD3	2.45	0.51
53:n:30:ARG:HB2	53:n:30:ARG:NH2	2.26	0.51
54:o:31:HIS:O	54:o:32:ILE:C	2.54	0.51
55:p:85:LYS:CE	55:p:164:TYR:CD1	2.86	0.51
58:s:31:GLU:HG2	58:s:142:ILE:HG12	1.92	0.51
62:w:58:ASP:CG	62:w:80:PHE:CZ	2.89	0.51
9:9:136:ILE:HG13	9:9:136:ILE:O	2.09	0.51
10:A:19:G:N2	40:a:2112:G:O4'	2.44	0.51
11:AA:255:ILE:HB	11:AA:263:VAL:HB	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:C:12:ARG:HG3	21:H:264:GLU:CB	2.41	0.51
17:D:564:C:H5'	35:V:34:TYR:HE1	1.75	0.51
17:D:1106:G:O3'	22:I:172:ARG:HG3	2.11	0.51
19:F:25:LYS:HE3	21:H:336:ASP:OD2	2.11	0.51
21:H:279:LYS:HA	21:H:331:MET:CB	2.41	0.51
26:M:111:ARG:N	26:M:119:ARG:NH2	2.58	0.51
28:O:7:TYR:H	28:O:89:GLU:CD	2.19	0.51
29:P:24:GLU:CA	29:P:27:GLU:OE1	2.59	0.51
37:X:13:LYS:HE3	37:X:17:ILE:HG21	1.91	0.51
39:Z:15:SER:O	39:Z:19:VAL:HG23	2.11	0.51
40:a:756:A:H2'	40:a:757:G:O4'	2.11	0.51
40:a:2298:A:O3'	53:n:72:LYS:HE2	2.11	0.51
40:a:2698:U:H2'	40:a:2699:C:C6	2.46	0.51
58:s:84:ILE:HG23	58:s:84:ILE:O	2.10	0.51
65:z:74:ILE:HG13	65:z:78:LYS:CE	2.40	0.51
4:3:66:GLN:OE1	4:3:69:ASN:ND2	2.44	0.51
5:4:50:MET:CA	5:4:56:PHE:CZ	2.94	0.51
6:5:9:DG:OP2	11:AA:470:ARG:O	2.28	0.51
10:A:23:C:H2'	10:A:24:U:C6	2.46	0.51
11:AA:974:ARG:HD2	11:AA:1014:LEU:HD21	1.92	0.51
14:AE:1179:PRO:HB2	14:AE:1182:GLY:H	1.75	0.51
10:B:56:C:H2'	10:B:57:A:H5"	1.93	0.51
17:D:500:G:H2'	17:D:501:C:C6	2.45	0.51
21:H:163:ARG:CA	21:H:298:GLU:HG3	2.41	0.51
29:P:7:ARG:HD3	29:P:75:ASP:OD1	2.10	0.51
30:Q:52:PHE:CZ	30:Q:65:VAL:HG21	2.45	0.51
33:T:5:THR:HG23	33:T:6:GLU:N	2.25	0.51
38:Y:126:ARG:HD2	38:Y:126:ARG:C	2.36	0.51
38:Y:129:GLU:CB	38:Y:133:ARG:HH12	2.16	0.51
40:a:65:U:H2'	40:a:66:C:H6	1.75	0.51
40:a:69:C:O2	40:a:73:A:O2'	2.26	0.51
40:a:626:A:N3	60:u:78:ARG:CZ	2.73	0.51
40:a:2682:A:C2	49:j:23:PRO:HB3	2.46	0.51
47:h:130:LEU:HD21	47:h:192:LEU:HD21	1.93	0.51
58:s:35:ARG:HA	58:s:40:HIS:CE1	2.46	0.51
65:z:82:GLY:HA3	65:z:117:LEU:CD1	2.41	0.51
5:4:6:ALA:HB3	5:4:65:VAL:HG22	1.93	0.51
9:9:6:GLN:HA	9:9:9:GLN:HE22	1.75	0.51
9:9:43:LYS:O	9:9:47:GLU:OE1	2.28	0.51
11:AA:786:GLY:N	11:AA:789:THR:OG1	2.41	0.51
12:AB:136:GLU:HA	12:AB:159:PHE:CZ	2.45	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:AE:72:CYS:SG	29:P:89:ARG:NH1	2.82	0.51
17:D:49:U:C2	17:D:361:G:N2	2.79	0.51
17:D:107:G:C5	18:E:10:ARG:NH2	2.79	0.51
32:S:87:ALA:N	32:S:90:ARG:NH1	2.58	0.51
40:a:1453:A:C8	62:w:73:ASN:OD1	2.64	0.51
40:a:1853:A:H2'	40:a:1854:A:C8	2.46	0.51
40:a:1996:C:H5"	49:j:128:ARG:NH1	2.25	0.51
40:a:2093:G:OP2	57:r:22:LYS:HG2	2.11	0.51
40:a:2266:A:H4'	40:a:2267:A:N3	2.26	0.51
40:a:2387:U:C4'	41:b:41:ARG:HH12	2.24	0.51
40:a:2884:U:H3	48:i:40:ARG:NH1	2.09	0.51
58:s:98:GLU:O	58:s:99:ARG:C	2.53	0.51
63:x:53:THR:HG23	63:x:74:VAL:HG21	1.92	0.51
3:2:49:LYS:HE2	3:2:49:LYS:HA	1.93	0.51
8:7:3:G:C4'	17:D:1500:A:N6	2.74	0.51
14:AE:157:GLN:HE22	14:AE:188:LEU:HD22	1.76	0.51
16:C:24:LYS:HB3	25:L:102:MET:HE1	1.93	0.51
16:C:73:ARG:HH12	30:Q:113:VAL:HB	1.76	0.51
19:F:36:GLU:OE2	19:F:36:GLU:HA	2.11	0.51
20:G:169:GLU:OE1	20:G:169:GLU:N	2.44	0.51
21:H:48:ILE:HG22	21:H:49:PRO:O	2.10	0.51
21:H:273:ARG:NH1	21:H:297:GLU:HB2	2.25	0.51
24:K:111:MET:O	24:K:114:VAL:HG12	2.11	0.51
26:M:35:LYS:HE3	26:M:38:THR:OG1	2.11	0.51
26:M:71:PRO:HG3	26:M:103:TRP:HH2	1.76	0.51
28:O:57:MET:HA	28:O:60:LYS:CE	2.40	0.51
31:R:110:ARG:HE	31:R:117:TYR:HD2	1.57	0.51
34:U:39:PHE:CD1	34:U:50:THR:HG22	2.45	0.51
36:W:41:PHE:O	36:W:44:MET:HG3	2.11	0.51
38:Y:21:PRO:CB	38:Y:22:PRO:HD3	2.41	0.51
38:Y:78:LEU:HD12	38:Y:112:LYS:HZ1	1.76	0.51
40:a:580:U:H2'	40:a:581:C:C6	2.46	0.51
40:a:624:C:O2'	40:a:657:U:OP1	2.29	0.51
40:a:1346:G:C6	40:a:1601:G:C6	2.98	0.51
40:a:1598:A:C5	40:a:1599:U:C5	2.99	0.51
40:a:1801:A:OP2	47:h:146:MET:HE1	2.09	0.51
40:a:2006:C:C2	40:a:2007:U:C5	2.99	0.51
61:v:45:GLN:HE21	61:v:124:LEU:HA	1.75	0.51
2:1:36:LEU:HD23	2:1:48:LYS:HB2	1.93	0.51
5:4:2:PHE:CE2	5:4:55:GLU:HG2	2.45	0.51
6:5:9:DG:H5"	11:AA:473:ARG:HB3	0.54	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:B:48:C:C5	10:B:59:A:C8	2.98	0.51
17:D:276:G:C5'	35:V:17:MET:CE	2.89	0.51
25:L:45:ARG:HA	25:L:45:ARG:NE	2.26	0.51
25:L:67:PRO:O	25:L:70:VAL:HG22	2.11	0.51
28:O:88:MET:SD	28:O:95:ARG:CZ	2.99	0.51
29:P:22:THR:O	29:P:25:ILE:HG22	2.10	0.51
30:Q:63:ALA:HB1	30:Q:96:THR:CG2	2.41	0.51
34:U:73:ALA:HA	34:U:76:LYS:CE	2.41	0.51
38:Y:55:PRO:C	38:Y:71:LYS:HE2	2.36	0.51
40:a:813:U:H2'	40:a:814:C:C6	2.46	0.51
40:a:1318:U:C2	40:a:1319:C:C5	2.99	0.51
40:a:1996:C:H4'	49:j:128:ARG:HH12	1.75	0.51
40:a:2230:G:C5'	42:c:30:LEU:HD23	2.41	0.51
40:a:2387:U:H4'	41:b:41:ARG:HH12	1.76	0.51
50:k:21:TYR:CE2	50:k:49:TYR:CE2	2.99	0.51
53:n:8:TYR:HE2	53:n:30:ARG:HE	1.58	0.51
61:v:31:PHE:O	61:v:104:GLU:CD	2.54	0.51
62:w:82:GLU:OE1	62:w:82:GLU:N	2.44	0.51
64:y:9:GLU:CG	64:y:55:LEU:HB2	2.40	0.51
1:0:37:GLU:O	1:0:37:GLU:HG3	2.11	0.50
5:4:62:THR:OG1	5:4:71:LYS:HE3	2.11	0.50
12:AB:130:PHE:CD2	12:AB:152:HIS:CE1	2.99	0.50
14:AE:68:TYR:HA	14:AE:92:VAL:C	2.34	0.50
14:AE:209:ASN:HB3	14:AE:214:ARG:HH21	1.77	0.50
17:D:555:U:H2'	17:D:556:C:C6	2.46	0.50
17:D:821:G:H2'	17:D:822:U:C6	2.47	0.50
20:G:109:GLN:C	20:G:113:ARG:HE	2.19	0.50
29:P:7:ARG:HD3	29:P:75:ASP:CG	2.36	0.50
29:P:15:HIS:HB3	29:P:70:HIS:CE1	2.46	0.50
32:S:10:GLU:OE2	32:S:63:ARG:HD2	2.11	0.50
33:T:3:LEU:HD22	33:T:8:THR:HG23	1.92	0.50
37:X:71:ARG:HD2	37:X:72:GLU:N	2.26	0.50
40:a:2813:A:C4	40:a:2814:A:C8	2.99	0.50
47:h:52:ARG:NE	47:h:53:HIS:HE1	2.07	0.50
51:l:155:GLU:HG2	51:l:156:ASN:N	2.26	0.50
51:l:170:ARG:HH12	51:l:176:ASP:N	2.09	0.50
53:n:142:ASP:CB	53:n:145:LYS:HE2	2.40	0.50
57:r:90:LEU:HD21	57:r:94:ILE:CD1	2.42	0.50
58:s:15:TRP:CH2	58:s:135:GLN:HG3	2.46	0.50
58:s:55:ILE:HG13	58:s:123:LYS:HZ3	1.76	0.50
58:s:72:LYS:HD3	58:s:74:TYR:CZ	2.43	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:t:114:LYS:O	59:t:118:LEU:HD23	2.11	0.50
61:v:73:ILE:HD12	61:v:73:ILE:N	2.26	0.50
61:v:105:MET:HE2	61:v:108:VAL:CG2	2.40	0.50
62:w:12:ARG:NE	62:w:20:MET:HE1	2.26	0.50
62:w:24:MET:HE3	62:w:24:MET:CA	2.34	0.50
10:A:6:G:C4	10:A:7:G:C8	2.98	0.50
10:A:33:U:H5"	26:M:84:THR:HG21	1.93	0.50
10:A:56:C:H2'	10:A:57:A:H5"	1.93	0.50
12:AB:29:LEU:HB3	12:AB:56:PHE:HD2	1.76	0.50
16:C:71:THR:H	16:C:74:HIS:HE1	1.58	0.50
17:D:311:C:O5'	17:D:311:C:H6	1.94	0.50
17:D:537:G:OP1	31:R:110:ARG:NH2	2.38	0.50
20:G:17:GLY:HA3	20:G:41:ILE:HD11	1.92	0.50
20:G:35:ARG:HB3	21:H:14:LYS:NZ	2.26	0.50
20:G:38:VAL:HG22	21:H:75:VAL:HG21	1.92	0.50
25:L:4:TYR:OH	25:L:68:GLN:HG2	2.11	0.50
25:L:11:HIS:HB3	25:L:14:GLN:OE1	2.11	0.50
25:L:65:GLU:OE1	25:L:65:GLU:HA	2.12	0.50
28:O:30:ILE:HD13	28:O:39:PHE:HE2	1.75	0.50
28:O:51:PRO:HA	28:O:103:PHE:HE2	1.76	0.50
40:a:672:C:O2'	51:l:77:ILE:HD11	2.11	0.50
40:a:2588:G:O6	40:a:2607:G:C6	2.64	0.50
48:i:30:VAL:HG22	48:i:37:LYS:CD	2.41	0.50
49:j:68:PHE:CD2	49:j:75:ALA:HA	2.46	0.50
5:4:2:PHE:CE1	5:4:56:PHE:CE1	2.99	0.50
5:4:48:MET:HE2	5:4:86:LEU:HG	1.93	0.50
9:9:43:LYS:HA	9:9:46:ARG:NH1	2.26	0.50
10:A:23:C:H2'	10:A:24:U:H6	1.77	0.50
11:AA:125:GLY:HA2	11:AA:499:SER:HB2	1.92	0.50
11:AA:411:ARG:NH2	11:AA:427:ASP:OD2	2.44	0.50
17:D:339:C:C2	17:D:340:U:C5	2.99	0.50
17:D:564:C:H5'	35:V:34:TYR:CE1	2.46	0.50
17:D:767:A:H2'	17:D:768:A:O4'	2.11	0.50
17:D:864:A:H2'	17:D:865:A:C8	2.46	0.50
22:I:142:MET:HE3	22:I:170:GLU:C	2.36	0.50
24:K:62:LYS:HA	24:K:62:LYS:HE3	1.92	0.50
25:L:70:VAL:O	25:L:74:LEU:CD2	2.56	0.50
27:N:110:VAL:C	27:N:111:MET:SD	2.95	0.50
30:Q:27:PHE:CE2	30:Q:89:PRO:HG2	2.46	0.50
40:a:851:C:H2'	40:a:852:U:C6	2.46	0.50
40:a:1681:G:H2'	40:a:1757:A:N1	2.25	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:1801:A:OP1	47:h:146:MET:HE1	2.12	0.50
62:w:58:ASP:OD1	62:w:63:ARG:NH2	2.44	0.50
2:1:35:ILE:O	2:1:39:THR:HG23	2.12	0.50
11:AA:400:VAL:HG21	11:AA:452:ARG:HE	1.77	0.50
12:AB:27:ASN:OD1	12:AB:58:GLU:HB2	2.11	0.50
12:AB:123:PHE:CE2	29:P:81:GLU:HB2	2.47	0.50
12:AB:155:LYS:HG3	12:AB:156:ASN:N	2.25	0.50
10:B:68:C:C3'	10:B:69:C:H5"	2.42	0.50
16:C:41:PRO:HD2	21:H:339:ARG:NE	2.26	0.50
20:G:187:VAL:HG13	20:G:191:SER:HB2	1.93	0.50
23:J:76:TYR:CE2	23:J:204:TYR:CB	2.95	0.50
23:J:104:ARG:NE	23:J:104:ARG:HA	2.27	0.50
25:L:66:ALA:HB1	25:L:67:PRO:HD2	1.94	0.50
31:R:3:THR:O	31:R:6:GLN:N	2.44	0.50
33:T:3:LEU:HD23	33:T:3:LEU:C	2.36	0.50
37:X:3:ARG:HH22	46:g:36:VAL:HG12	1.77	0.50
40:a:4:U:C2	40:a:5:A:C8	3.00	0.50
49:j:55:LYS:NZ	49:j:59:ARG:C	2.70	0.50
55:p:24:ILE:HG22	55:p:35:ARG:O	2.11	0.50
58:s:98:GLU:HB3	58:s:102:GLU:OE2	2.12	0.50
61:v:112:LEU:HA	61:v:115:GLU:OE1	2.10	0.50
62:w:87:PHE:HZ	62:w:115:LEU:HG	1.77	0.50
1:0:17:GLY:HA2	1:0:97:LYS:HE2	1.92	0.50
3:2:10:VAL:HG12	3:2:11:LEU:HD12	1.93	0.50
9:9:10:ALA:O	9:9:14:GLU:HG3	2.12	0.50
11:AA:400:VAL:HG11	11:AA:452:ARG:HD2	1.94	0.50
11:AA:714:VAL:HB	11:AA:787:PRO:HD2	1.92	0.50
12:AB:146:ILE:H	12:AB:146:ILE:CD1	1.97	0.50
12:AB:158:GLU:HB3	12:AB:162:LEU:CD2	2.41	0.50
14:AE:693:VAL:HG21	14:AE:743:MET:HE3	1.94	0.50
17:D:21:G:C2	17:D:22:G:C5	2.99	0.50
17:D:652:U:C3'	27:N:56:LYS:HZ1	2.18	0.50
17:D:678:U:H2'	17:D:679:C:H6	1.76	0.50
17:D:922:G:H2'	17:D:923:A:C8	2.47	0.50
17:D:975:A:H8	17:D:1357:A:HO2'	1.55	0.50
19:F:63:GLU:O	19:F:67:ARG:HD2	2.12	0.50
29:P:66:GLU:CG	32:S:99:ALA:HB2	2.41	0.50
32:S:87:ALA:HA	32:S:90:ARG:HG2	1.94	0.50
35:V:64:CYS:HG	35:V:74:THR:HG1	1.53	0.50
37:X:92:ARG:HD2	40:a:888:C:OP1	2.12	0.50
38:Y:37:PHE:HE1	38:Y:58:ILE:HD11	1.77	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:125:A:OP2	52:m:19:ARG:NH2	2.39	0.50
40:a:851:C:C2	40:a:852:U:C5	3.00	0.50
40:a:1348:C:O2	40:a:1348:C:H2'	2.11	0.50
40:a:1823:G:O2'	40:a:1824:G:H5'	2.12	0.50
40:a:2063:C:O2	40:a:2450:A:N1	2.45	0.50
40:a:2063:C:C4	40:a:2064:C:C5	3.00	0.50
40:a:2063:C:C2	40:a:2064:C:C6	3.00	0.50
55:p:137:ASP:OD2	55:p:140:VAL:HG23	2.12	0.50
58:s:54:ILE:O	58:s:123:LYS:HG2	2.12	0.50
59:t:121:GLU:HG3	59:t:123:LEU:HD12	1.94	0.50
61:v:41:LEU:HD22	61:v:45:GLN:NE2	2.27	0.50
61:v:50:ARG:CA	61:v:53:MET:SD	3.00	0.50
61:v:105:MET:SD	61:v:113:ALA:HB1	2.51	0.50
63:x:4:LYS:N	63:x:4:LYS:HD3	2.26	0.50
8:7:3:G:H5"	17:D:1501:C:N4	2.27	0.50
9:9:30:SER:O	9:9:31:ARG:CZ	2.59	0.50
16:C:66:SER:HA	25:L:49:TYR:CE1	2.47	0.50
17:D:335:C:C2	17:D:336:A:C8	2.99	0.50
17:D:728:A:H2'	17:D:729:A:C8	2.46	0.50
17:D:1073:U:O2'	20:G:105:LYS:HE3	2.11	0.50
20:G:90:PHE:CD2	20:G:154:MET:CE	2.94	0.50
31:R:80:ILE:HG22	31:R:81:LEU:N	2.27	0.50
35:V:62:ARG:HA	35:V:73:TRP:CZ3	2.47	0.50
38:Y:126:ARG:CZ	40:a:1083:U:P	3.00	0.50
40:a:6:A:N3	58:s:135:GLN:NE2	2.58	0.50
40:a:780:G:C2	40:a:782:A:C2	3.00	0.50
40:a:2849:U:OP2	64:y:93:ARG:CZ	2.60	0.50
45:f:41:THR:N	45:f:45:ARG:HH22	2.09	0.50
49:j:184:ARG:HH12	64:y:7:GLN:NE2	2.09	0.50
58:s:13:ARG:HH22	58:s:49:ASP:C	2.19	0.50
58:s:15:TRP:CZ3	58:s:135:GLN:CA	2.93	0.50
64:y:25:THR:OG1	64:y:88:ARG:HB3	2.12	0.50
2:1:86:MET:HE1	2:1:88:ARG:CD	2.42	0.50
8:7:12:U:H5"	24:K:56:VAL:HG21	1.93	0.50
9:9:87:GLU:OE2	9:9:95:LEU:HB2	2.12	0.50
11:AA:93:SER:HA	11:AA:128:PRO:HA	1.92	0.50
14:AE:287:ALA:HB3	14:AE:292:VAL:HG22	1.94	0.50
17:D:501:C:H2'	17:D:502:A:C8	2.46	0.50
17:D:674:G:P	25:L:86:ARG:HH22	2.35	0.50
17:D:718:A:H5'	30:Q:119:ASN:HD22	1.76	0.50
17:D:1492:A:O2'	17:D:1493:A:H5"	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:H:304:VAL:HG11	21:H:346:LEU:HB2	1.93	0.50
22:I:82:GLU:O	22:I:86:LYS:CD	2.60	0.50
24:K:157:ARG:HH12	27:N:43:GLU:CD	2.20	0.50
40:a:16:C:O4'	48:i:15:MET:HE3	2.12	0.50
40:a:235:U:C2	40:a:236:C:C5	3.00	0.50
40:a:372:G:C8	42:c:61:LYS:HD2	2.46	0.50
40:a:1999:C:O3'	40:a:2722:G:N2	2.44	0.50
40:a:2179:C:C2	40:a:2180:U:C5	3.00	0.50
40:a:2305:U:H4'	53:n:133:ARG:NH2	2.26	0.50
40:a:2485:G:O3'	61:v:125:PRO:HB3	2.12	0.50
41:b:47:ALA:HB2	41:b:59:LEU:HD11	1.94	0.50
50:k:34:LEU:CB	50:k:51:GLU:OE2	2.60	0.50
61:v:29:GLY:HA3	61:v:104:GLU:HG3	1.94	0.50
3:2:12:ARG:HH21	44:e:29:ARG:CZ	2.25	0.50
10:A:15:G:H2'	10:A:15:G:N3	2.27	0.50
11:AA:812:PHE:O	14:AE:504:GLN:NE2	2.40	0.50
17:D:10:A:OP2	24:K:131:THR:HG21	2.12	0.50
17:D:136:C:C2	17:D:137:U:C6	3.00	0.50
17:D:580:C:H2'	17:D:581:G:O4'	2.12	0.50
17:D:653:U:O4'	27:N:56:LYS:CE	2.60	0.50
33:T:33:THR:HG21	33:T:85:LEU:HD12	1.94	0.50
40:a:1021:A:H3'	40:a:1021:A:N3	2.27	0.50
40:a:1790:C:C3'	40:a:1791:A:C8	2.94	0.50
41:b:55:ARG:HA	41:b:55:ARG:CZ	2.41	0.50
44:e:20:ASN:HA	44:e:23:ARG:HE	1.76	0.50
58:s:55:ILE:CG1	58:s:123:LYS:HE2	2.42	0.50
58:s:131:ASN:OD1	58:s:131:ASN:O	2.30	0.50
59:t:7:MET:SD	59:t:18:ARG:NE	2.85	0.50
59:t:99:ILE:HD13	59:t:118:LEU:CB	2.39	0.50
6:5:9:DG:P	11:AA:473:ARG:HG3	2.51	0.50
8:7:2:U:H2'	8:7:3:G:C8	2.45	0.50
9:9:43:LYS:HZ2	9:9:98:GLU:HB2	1.76	0.50
9:9:67:THR:O	9:9:72:LEU:HG	2.12	0.50
12:AB:19:GLU:HG2	12:AB:23:ARG:CZ	2.42	0.50
14:AE:67:ASP:C	14:AE:69:GLU:H	2.18	0.50
14:AE:417:ARG:NH1	15:AF:43:ASN:O	2.45	0.50
17:D:73:C:O2	17:D:73:C:C2'	2.58	0.50
17:D:744:C:H2'	17:D:745:G:C8	2.47	0.50
17:D:1017:U:O2'	17:D:1018:G:O4'	2.30	0.50
20:G:168:HIS:HB3	20:G:169:GLU:OE1	2.10	0.50
21:H:342:ILE:HG12	21:H:344:LEU:HD12	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:I:68:ILE:HG13	22:I:101:ILE:HD11	1.93	0.50
24:K:113:ALA:CA	24:K:116:GLU:OE1	2.60	0.50
26:M:74:GLU:OE1	26:M:75:VAL:O	2.30	0.50
34:U:12:LYS:HD3	34:U:13:LYS:HG2	1.93	0.50
38:Y:126:ARG:HD2	38:Y:127:SER:N	2.26	0.50
40:a:65:U:C2	40:a:66:C:C6	3.00	0.50
42:c:65:ASP:CG	42:c:66:THR:N	2.70	0.50
51:l:97:ASN:ND2	51:l:100:MET:HE2	2.27	0.50
58:s:123:LYS:CE	58:s:132:HIS:HD2	2.25	0.50
60:u:59:ARG:HH11	60:u:59:ARG:HG3	1.77	0.50
61:v:53:MET:HE3	61:v:120:ALA:CB	2.40	0.50
3:2:14:PRO:HA	3:2:32:LEU:HD13	1.94	0.49
12:AB:141:LEU:CA	12:AB:152:HIS:C	2.80	0.49
14:AE:412:LEU:HD22	14:AE:441:LEU:HD21	1.94	0.49
17:D:500:G:H2'	17:D:501:C:H6	1.77	0.49
17:D:501:C:H2'	17:D:502:A:H8	1.75	0.49
17:D:653:U:O5'	27:N:56:LYS:HE2	2.12	0.49
24:K:134:ILE:O	24:K:137:VAL:HG12	2.12	0.49
31:R:54:ARG:HH11	31:R:62:GLU:HG3	1.76	0.49
38:Y:19:PRO:HG2	38:Y:23:VAL:CG2	2.42	0.49
38:Y:77:VAL:HG13	38:Y:81:LYS:NZ	2.27	0.49
40:a:15:G:C2'	48:i:15:MET:HE1	2.42	0.49
40:a:234:U:C2	40:a:235:U:C6	3.00	0.49
40:a:532:A:H4'	40:a:533:G:C8	2.46	0.49
40:a:1036:G:C6	40:a:1120:G:C5	3.00	0.49
40:a:1205:A:C2	51:l:165:HIS:CE1	3.00	0.49
40:a:1571:A:H2'	40:a:1572:A:C8	2.47	0.49
40:a:1590:A:H2'	40:a:1591:A:C8	2.47	0.49
40:a:1945:G:C4	40:a:1946:U:C5	3.00	0.49
40:a:2230:G:H5'	42:c:30:LEU:HD23	1.93	0.49
40:a:2362:C:O5'	54:o:40:ARG:NH2	2.45	0.49
47:h:124:ILE:C	47:h:125:LYS:HD3	2.36	0.49
48:i:40:ARG:NH1	48:i:41:HIS:CD2	2.80	0.49
52:m:25:LYS:C	52:m:29:GLN:HE22	2.19	0.49
53:n:5:HIS:HD2	53:n:97:TRP:CZ2	2.29	0.49
53:n:122:PHE:CE2	53:n:128:TYR:CD1	3.00	0.49
56:q:9:LYS:HZ3	56:q:11:CYS:C	2.20	0.49
64:y:9:GLU:HG3	64:y:55:LEU:CB	2.43	0.49
64:y:106:LYS:HD3	64:y:109:ARG:NH2	2.26	0.49
6:5:16:DG:O6	11:AA:451:ARG:NH1	2.45	0.49
10:B:47:U:O2'	10:B:50:U:P	2.71	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:373:A:C2	17:D:482:A:C6	3.00	0.49
17:D:612:C:C2	17:D:613:C:C5	2.99	0.49
17:D:754:C:OP1	33:T:72:ARG:NH1	2.44	0.49
17:D:925:G:C6	17:D:927:G:N7	2.81	0.49
17:D:953:G:O6	37:X:103:LYS:CE	2.60	0.49
20:G:114:LEU:HD13	20:G:144:LEU:HB3	1.94	0.49
21:H:303:LEU:O	21:H:303:LEU:CG	2.60	0.49
28:O:52:LEU:HB3	28:O:58:VAL:HG12	1.94	0.49
29:P:37:ARG:HB3	29:P:75:ASP:HB2	1.93	0.49
33:T:64:ARG:HA	33:T:64:ARG:HH11	1.74	0.49
40:a:537:G:P	58:s:2:LYS:CE	3.00	0.49
40:a:594:U:H2'	40:a:595:C:C6	2.47	0.49
40:a:1454:C:H4'	62:w:63:ARG:NH1	2.27	0.49
45:f:4:THR:CB	45:f:37:GLU:OE2	2.58	0.49
47:h:131:PRO:HD3	47:h:189:ARG:NH1	2.27	0.49
58:s:74:TYR:N	58:s:74:TYR:HD2	2.10	0.49
65:z:58:ARG:HA	65:z:61:TRP:CE3	2.48	0.49
3:2:2:ILE:HG12	3:2:42:GLU:CD	2.37	0.49
12:AB:2:GLN:HB2	12:AB:60:ASP:HB2	1.95	0.49
14:AE:425:ARG:NH1	14:AE:458:ASN:O	2.45	0.49
16:C:25:ASP:O	16:C:29:LEU:HD13	2.11	0.49
17:D:109:A:H2'	17:D:326:G:N2	2.27	0.49
17:D:373:A:C2	17:D:374:A:C8	3.01	0.49
19:F:6:VAL:HG12	30:Q:108:THR:O	2.11	0.49
20:G:23:TRP:CZ3	20:G:25:PRO:HA	2.47	0.49
21:H:267:TRP:CE3	21:H:340:ARG:HG3	2.47	0.49
22:I:108:LYS:N	22:I:108:LYS:HD2	2.26	0.49
22:I:164:ARG:HD2	22:I:166:GLU:OE2	2.12	0.49
22:I:188:GLU:OE1	22:I:188:GLU:N	2.45	0.49
27:N:35:ALA:O	27:N:39:VAL:HG23	2.12	0.49
31:R:38:TYR:HE2	31:R:40:THR:CG2	2.25	0.49
37:X:65:VAL:HG23	37:X:66:GLU:OE1	2.12	0.49
40:a:1791:A:C2	40:a:1829:A:O4'	2.65	0.49
40:a:1843:C:C2	40:a:1844:C:C5	3.00	0.49
40:a:2082:A:H2'	40:a:2083:G:O4'	2.12	0.49
40:a:2740:A:H2'	40:a:2741:A:C8	2.48	0.49
42:c:71:LEU:HB3	42:c:76:GLU:CG	2.41	0.49
51:l:194:LYS:O	51:l:197:GLU:N	2.45	0.49
53:n:16:LEU:HD12	53:n:28:VAL:CG2	2.43	0.49
58:s:30:THR:HG23	58:s:31:GLU:N	2.26	0.49
61:v:70:ASP:C	61:v:92:TRP:CZ3	2.90	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:9:31:ARG:HH22	40:a:1106:G:N2	2.10	0.49
10:A:47:U:O2'	10:A:50:U:P	2.71	0.49
10:A:68:C:C3'	10:A:69:C:H5"	2.42	0.49
17:D:610:U:O2	17:D:610:U:H2'	2.12	0.49
17:D:626:G:O3'	34:U:51:ARG:NH1	2.45	0.49
17:D:1218:C:H2'	17:D:1219:A:C8	2.48	0.49
20:G:109:GLN:O	20:G:113:ARG:NE	2.45	0.49
23:J:170:TRP:CD2	23:J:186:PRO:HB3	2.47	0.49
25:L:35:LYS:HG3	25:L:36:ILE:N	2.27	0.49
27:N:106:THR:HB	27:N:121:LEU:CD1	2.41	0.49
33:T:33:THR:OG1	33:T:63:ARG:NH1	2.45	0.49
36:W:45:ILE:HA	36:W:62:VAL:HG11	1.93	0.49
36:W:49:ILE:HG23	36:W:49:ILE:O	2.11	0.49
40:a:3:U:C2	40:a:4:U:C5	3.00	0.49
40:a:44:A:H2'	40:a:45:G:O4'	2.12	0.49
40:a:125:A:C5	52:m:10:LEU:HD13	2.46	0.49
40:a:636:G:N2	60:u:76:GLU:OE2	2.45	0.49
47:h:52:ARG:HG3	47:h:53:HIS:ND1	2.27	0.49
51:l:141:MET:O	51:l:142:ALA:HB3	2.13	0.49
55:p:26:ILE:HG22	55:p:75:MET:HE2	1.93	0.49
63:x:90:VAL:HG22	63:x:115:LEU:HD11	1.94	0.49
4:3:6:ARG:HG2	4:3:7:ARG:H	1.77	0.49
10:A:32:C:H2'	10:A:33:U:H5'	1.94	0.49
11:AA:9:LYS:HG2	11:AA:1171:ARG:HH12	1.77	0.49
12:AB:126:PHE:HE1	14:AE:87:LYS:CG	2.24	0.49
17:D:35:G:H2'	17:D:36:C:C6	2.47	0.49
17:D:36:C:C4	17:D:37:U:C5	3.00	0.49
17:D:736:C:H2'	17:D:737:C:H6	1.77	0.49
17:D:958:A:O4'	36:W:55:ARG:NH1	2.45	0.49
17:D:1082:A:OP1	24:K:23:LYS:NZ	2.34	0.49
17:D:1215:G:C2	17:D:1216:A:C8	3.01	0.49
24:K:46:VAL:N	24:K:71:MET:HE2	2.27	0.49
29:P:5:ARG:HG3	29:P:7:ARG:HH12	1.78	0.49
30:Q:98:ARG:HG2	30:Q:98:ARG:HH11	1.78	0.49
33:T:35:GLN:HB3	33:T:59:MET:HE1	1.95	0.49
34:U:18:GLN:NE2	34:U:35:ARG:HE	2.10	0.49
35:V:42:THR:HG22	35:V:44:LEU:HD11	1.95	0.49
40:a:26:G:H2'	40:a:27:G:O4'	2.13	0.49
40:a:272:A:N3	40:a:273:G:C8	2.80	0.49
40:a:743:A:O2'	40:a:1659:G:OP1	2.25	0.49
40:a:840:C:C2	40:a:841:G:C8	3.01	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:2290:G:H2'	40:a:2291:U:C6	2.47	0.49
40:a:2809:A:H2'	40:a:2810:A:C8	2.48	0.49
40:a:2902:C:N4	40:a:2903:U:O4	2.45	0.49
42:c:6:GLN:CD	42:c:49:LEU:HD22	2.38	0.49
46:g:47:LYS:NZ	53:n:115:ARG:HA	2.27	0.49
53:n:94:GLU:HA	53:n:97:TRP:CE3	2.43	0.49
53:n:134:GLU:CG	53:n:137:ILE:HG23	2.40	0.49
56:q:2:LYS:CE	56:q:35:GLN:HE21	2.25	0.49
1:0:58:VAL:HG13	1:0:60:LYS:HZ3	1.77	0.49
5:4:2:PHE:HB2	5:4:61:LEU:HG	1.94	0.49
5:4:35:GLU:OE1	5:4:93:ARG:NH2	2.46	0.49
7:6:19:DC:H2'	7:6:20:DA:C8	2.48	0.49
9:9:67:THR:N	9:9:68:PRO:CD	2.75	0.49
11:AA:232:ILE:HG12	11:AA:237:LEU:HG	1.93	0.49
12:AB:32:MET:HE2	12:AB:32:MET:HA	1.95	0.49
14:AE:107:LEU:HD22	14:AE:299:LEU:HD21	1.94	0.49
16:C:60:LYS:NZ	17:D:735:C:C5'	2.75	0.49
17:D:429:U:N3	17:D:431:A:N6	2.61	0.49
20:G:112:LYS:HE2	20:G:112:LYS:HA	1.95	0.49
21:H:112:ILE:HA	21:H:121:THR:O	2.12	0.49
24:K:34:THR:HG22	24:K:52:LYS:HD3	1.95	0.49
26:M:109:ARG:O	26:M:119:ARG:NH2	2.46	0.49
31:R:7:LEU:HD23	35:V:34:TYR:OH	2.12	0.49
40:a:1830:C:N3	40:a:1831:G:N7	2.61	0.49
40:a:2259:U:C6	40:a:2427:C:C4	2.99	0.49
40:a:2392:A:C8	40:a:2429:G:C2	3.00	0.49
40:a:2682:A:C5'	49:j:11:MET:HE1	2.42	0.49
46:g:63:ARG:HG3	46:g:64:PHE:CD1	2.48	0.49
47:h:160:THR:O	47:h:195:VAL:HG12	2.13	0.49
47:h:261:LYS:HA	47:h:264:ASP:OD2	2.12	0.49
53:n:8:TYR:HA	53:n:12:VAL:HB	1.95	0.49
55:p:94:TYR:CE1	55:p:152:ARG:HD2	2.48	0.49
59:t:88:ASN:OD1	59:t:89:ASN:N	2.46	0.49
60:u:55:MET:HE1	60:u:60:ARG:HA	1.94	0.49
62:w:114:GLU:N	62:w:114:GLU:OE1	2.46	0.49
64:y:7:GLN:NE2	64:y:10:GLN:HE21	2.11	0.49
2:1:1:MET:CG	2:1:62:ASP:OD2	2.61	0.49
2:1:20:VAL:O	2:1:23:LEU:HB3	2.13	0.49
3:2:11:LEU:HD11	3:2:46:ALA:HB3	1.95	0.49
11:AA:529:ARG:HH11	11:AA:572:ILE:HG22	1.77	0.49
12:AB:78:PHE:CG	12:AB:85:PRO:HB3	2.46	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:AD:15:ASP:OD1	13:AD:27:THR:OG1	2.30	0.49
14:AE:814:CYS:SG	14:AE:815:GLY:N	2.85	0.49
16:C:60:LYS:HE3	17:D:735:C:C4'	2.42	0.49
17:D:1071:C:H2'	17:D:1072:G:C8	2.47	0.49
22:I:119:SER:O	22:I:123:GLN:HG2	2.13	0.49
35:V:17:MET:HG3	35:V:20:SER:HB2	1.95	0.49
38:Y:126:ARG:NH1	40:a:1082:U:O5'	2.46	0.49
40:a:111:A:O2'	44:e:58:ASN:ND2	2.46	0.49
40:a:576:U:H2'	40:a:577:G:C8	2.48	0.49
40:a:658:U:O2'	51:l:97:ASN:OD1	2.28	0.49
40:a:1199:U:H2'	40:a:1200:C:C6	2.47	0.49
40:a:1921:G:C2'	40:a:1922:G:H5'	2.43	0.49
40:a:2349:G:O6	40:a:2369:A:N6	2.46	0.49
44:e:14:LEU:HD13	44:e:57:LEU:HD22	1.95	0.49
45:f:41:THR:CA	45:f:45:ARG:HH22	2.26	0.49
55:p:162:VAL:O	55:p:162:VAL:HG12	2.11	0.49
62:w:73:ASN:HD22	62:w:73:ASN:C	2.17	0.49
62:w:103:ARG:HA	62:w:110:MET:HE2	1.93	0.49
2:1:95:ARG:NH1	2:1:97:LEU:HG	2.28	0.49
9:9:78:GLY:H	9:9:79:PRO:HD2	1.75	0.49
12:AB:6:LEU:CD1	14:AE:291:ILE:CD1	2.84	0.49
12:AB:117:ILE:HG23	12:AB:160:ARG:O	2.13	0.49
14:AE:520:ALA:HB3	14:AE:546:ALA:HB2	1.95	0.49
16:C:51:TYR:O	16:C:54:GLN:HG3	2.11	0.49
16:C:60:LYS:NZ	17:D:734:G:C3'	2.76	0.49
17:D:126:G:OP1	17:D:605:U:O2'	2.19	0.49
17:D:1314:C:H2'	17:D:1315:U:C6	2.48	0.49
19:F:25:LYS:NZ	21:H:336:ASP:CG	2.68	0.49
22:I:156:ARG:HG2	22:I:193:TYR:HB2	1.95	0.49
23:J:76:TYR:HE2	23:J:204:TYR:CB	2.25	0.49
24:K:13:GLU:C	24:K:14:LYS:HD2	2.37	0.49
24:K:88:VAL:HG12	24:K:93:ARG:HA	1.94	0.49
28:O:12:ARG:HD3	28:O:13:LYS:H	1.78	0.49
35:V:50:ASN:HB2	35:V:52:GLU:OE2	2.13	0.49
40:a:208:C:H2'	40:a:209:C:H6	1.78	0.49
40:a:1142:A:C4	40:a:1144:A:N7	2.80	0.49
40:a:1790:C:H2'	40:a:1791:A:C8	2.48	0.49
48:i:40:ARG:NH1	48:i:41:HIS:CG	2.81	0.49
55:p:69:ARG:NH1	55:p:73:ASN:HD21	2.11	0.49
56:q:10:LEU:HD23	56:q:33:HIS:CD2	2.47	0.49
59:t:34:GLY:N	59:t:37:ASP:OD2	2.40	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:v:42:THR:HA	61:v:93:VAL:HG12	1.94	0.49
4:3:6:ARG:NH1	40:a:84:A:H2'	2.27	0.49
5:4:51:GLN:OE1	5:4:57:TYR:OH	2.27	0.49
12:AB:9:CYS:N	12:AB:53:ASN:HB3	2.24	0.49
12:AB:50:LEU:HD21	14:AE:285:LEU:HB3	1.93	0.49
12:AB:130:PHE:HA	12:AB:152:HIS:HE2	1.77	0.49
12:AB:146:ILE:HD12	12:AB:146:ILE:N	2.07	0.49
13:AD:100:LEU:HB2	13:AD:144:ILE:HG23	1.95	0.49
14:AE:429:LEU:HB3	14:AE:925:GLU:HG2	1.95	0.49
10:B:21:A:H4'	10:B:21:A:OP1	2.13	0.49
17:D:908:A:H2'	17:D:909:A:C8	2.48	0.49
17:D:1227:A:H5'	37:X:110:LYS:NZ	2.28	0.49
17:D:1324:A:H2'	17:D:1325:C:H6	1.78	0.49
20:G:110:SER:CA	20:G:113:ARG:HE	2.25	0.49
30:Q:31:ILE:HD12	30:Q:46:THR:HG22	1.94	0.49
37:X:81:MET:HG2	40:a:888:C:C4	2.47	0.49
38:Y:57:VAL:HG23	38:Y:71:LYS:HD3	1.94	0.49
40:a:132:G:H2'	40:a:133:U:C6	2.47	0.49
40:a:920:A:C5	40:a:921:C:C5	3.01	0.49
40:a:1932:A:H2'	40:a:1933:G:O4'	2.13	0.49
40:a:2547:A:H2'	40:a:2548:U:H6	1.77	0.49
55:p:127:THR:HG22	55:p:128:GLN:N	2.26	0.49
57:r:71:LYS:HZ2	57:r:72:ILE:HA	1.78	0.49
58:s:73:VAL:CG1	58:s:74:TYR:N	2.75	0.49
62:w:82:GLU:O	62:w:86:ARG:HG2	2.13	0.49
65:z:74:ILE:HG13	65:z:78:LYS:HE3	1.95	0.49
11:AA:146:VAL:HG21	11:AA:513:GLN:HE21	1.77	0.49
11:AA:732:ILE:HD11	11:AA:769:PRO:HB3	1.94	0.49
10:B:72:A:H2'	10:B:73:A:H5"	1.95	0.49
17:D:160:A:H2'	17:D:161:A:O4'	2.12	0.49
17:D:739:C:O2	33:T:42:HIS:HE1	1.95	0.49
17:D:877:G:H5"	27:N:80:ARG:HD2	1.94	0.49
17:D:1151:A:O2'	17:D:1152:A:O5'	2.13	0.49
17:D:1439:G:OP1	18:E:33:LYS:CE	2.61	0.49
19:F:4:ILE:CD1	19:F:19:PHE:HA	2.43	0.49
20:G:111:ILE:HD13	20:G:148:LEU:HD13	1.95	0.49
22:I:142:MET:HG3	22:I:170:GLU:OE1	2.13	0.49
25:L:9:MET:O	25:L:84:VAL:HA	2.12	0.49
26:M:16:PRO:CB	28:O:46:MET:HG3	2.42	0.49
27:N:96:MET:HG2	27:N:96:MET:O	2.12	0.49
28:O:86:ALA:HA	28:O:89:GLU:HG2	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:Y:74:PRO:O	38:Y:78:LEU:HG	2.13	0.49
40:a:57:C:H2'	40:a:58:G:O4'	2.13	0.49
40:a:1199:U:H2'	40:a:1200:C:H6	1.77	0.49
40:a:2014:A:H2'	40:a:2015:A:C8	2.47	0.49
40:a:2065:C:H2'	40:a:2066:C:H6	1.77	0.49
40:a:2259:U:C2	40:a:2260:C:C5	3.01	0.49
40:a:2489:U:H2'	40:a:2490:G:O4'	2.12	0.49
40:a:2684:U:C4	40:a:2685:G:N7	2.81	0.49
46:g:47:LYS:HE2	53:n:115:ARG:CZ	2.43	0.49
51:l:6:LYS:HZ1	51:l:119:ILE:C	2.19	0.49
51:l:40:ARG:HD2	51:l:92:HIS:CE1	2.48	0.49
51:l:149:ILE:CG2	51:l:175:ILE:HD11	2.43	0.49
56:q:1:MET:HE1	56:q:35:GLN:HA	1.95	0.49
56:q:1:MET:CA	56:q:1:MET:HE3	2.43	0.49
58:s:72:LYS:HD3	58:s:74:TYR:HH	1.74	0.49
65:z:72:ASN:ND2	65:z:106:PHE:CE2	2.81	0.49
9:9:95:LEU:HD12	9:9:99:PHE:CZ	2.48	0.48
10:A:72:A:H2'	10:A:73:A:H5"	1.95	0.48
12:AB:147:ASN:OD1	29:P:101:SER:HA	2.13	0.48
14:AE:678:ARG:NH1	14:AE:756:GLU:OE1	2.46	0.48
10:B:15:G:H2'	10:B:15:G:N3	2.27	0.48
17:D:376:G:OP2	34:U:70:ARG:HD3	2.13	0.48
17:D:406:G:C5	17:D:495:A:C5	3.01	0.48
20:G:126:PHE:C	20:G:127:ASP:O	2.55	0.48
22:I:77:ILE:HA	22:I:84:VAL:HG13	1.94	0.48
23:J:124:MET:HE2	23:J:128:ARG:CA	2.43	0.48
25:L:62:MET:HE3	25:L:62:MET:CA	2.43	0.48
38:Y:99:LYS:CD	38:Y:138:VAL:O	2.61	0.48
50:k:21:TYR:CE2	50:k:38:LYS:CG	2.96	0.48
51:l:195:GLN:HA	51:l:198:GLU:OE1	2.13	0.48
57:r:6:LEU:CD1	57:r:37:VAL:HG23	2.39	0.48
65:z:51:ARG:N	65:z:51:ARG:HD2	2.28	0.48
4:3:94:ARG:CB	4:3:103:ILE:HD12	2.43	0.48
10:A:21:A:H4'	10:A:21:A:OP1	2.13	0.48
10:A:70:G:C3'	10:A:71:C:H5"	2.44	0.48
14:AE:74:LYS:HD2	29:P:89:ARG:CA	2.43	0.48
10:B:32:C:H2'	10:B:33:U:H5'	1.94	0.48
16:C:13:PHE:CB	16:C:51:TYR:CD1	2.95	0.48
17:D:43:C:P	34:U:12:LYS:NZ	2.86	0.48
17:D:563:A:N1	17:D:884:U:O4	2.46	0.48
23:J:170:TRP:CZ3	23:J:190:ASP:HB3	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:N:83:LEU:HD11	31:R:4:VAL:HB	1.94	0.48
33:T:71:LYS:HE2	33:T:78:TYR:CE2	2.48	0.48
33:T:77:ARG:HH21	33:T:80:GLN:NE2	2.11	0.48
35:V:42:THR:HG22	35:V:44:LEU:HD12	1.95	0.48
40:a:145:C:H2'	40:a:146:A:H8	1.78	0.48
40:a:2159:G:H2'	40:a:2160:C:C6	2.47	0.48
40:a:2189:U:O2'	40:a:2190:G:O5'	2.31	0.48
40:a:2351:G:O6	54:o:39:LYS:HE3	2.13	0.48
40:a:2754:U:O3'	56:q:19:ARG:NH2	2.46	0.48
46:g:36:VAL:HG21	46:g:41:HIS:ND1	2.27	0.48
59:t:1:MET:HE3	59:t:32:TYR:HB3	1.95	0.48
9:9:52:MET:CE	9:9:85:SER:HB2	2.42	0.48
9:9:108:VAL:O	9:9:109:LYS:HB3	2.12	0.48
11:AA:554:HIS:HD2	11:AA:558:VAL:HB	1.77	0.48
11:AA:836:LEU:HD13	11:AA:1054:LEU:HD13	1.95	0.48
12:AB:112:PRO:HA	12:AB:133:PRO:HG2	1.96	0.48
10:B:12:G:C2'	10:B:13:C:OP1	2.61	0.48
10:B:23:C:H2'	10:B:24:U:H6	1.77	0.48
16:C:38:LYS:HE2	16:C:38:LYS:CA	2.37	0.48
17:D:71:A:N1	17:D:100:G:C8	2.81	0.48
17:D:718:A:C8	30:Q:118:HIS:HB3	2.48	0.48
17:D:1152:A:OP1	29:P:72:ARG:NH1	2.43	0.48
17:D:1319:A:C8	17:D:1323:G:C6	3.01	0.48
24:K:112:ARG:C	24:K:116:GLU:OE1	2.57	0.48
24:K:157:ARG:NH2	27:N:43:GLU:OE2	2.46	0.48
31:R:74:LEU:HD11	31:R:80:ILE:CD1	2.43	0.48
40:a:871:U:H2'	40:a:872:U:H6	1.78	0.48
50:k:9:ILE:CG2	50:k:27:LYS:HZ1	2.26	0.48
53:n:70:ALA:O	53:n:81:GLN:OE1	2.31	0.48
56:q:14:CYS:SG	56:q:33:HIS:HB3	2.53	0.48
58:s:13:ARG:NH2	58:s:50:THR:HA	2.27	0.48
58:s:15:TRP:HD1	58:s:53:TYR:HB2	1.78	0.48
61:v:41:LEU:HD22	61:v:45:GLN:HE22	1.78	0.48
61:v:114:ARG:C	61:v:118:LYS:HZ3	2.22	0.48
1:0:6:GLN:OE1	1:0:11:GLN:HG2	2.14	0.48
1:0:68:ARG:NH2	1:0:90:ARG:HD3	2.29	0.48
2:1:23:LEU:HD21	2:1:35:ILE:HG22	1.95	0.48
2:1:71:VAL:O	2:1:71:VAL:HG23	2.13	0.48
5:4:77:VAL:HG13	5:4:77:VAL:O	2.14	0.48
9:9:24:SER:O	9:9:116:GLU:HB2	2.14	0.48
11:AA:18:ARG:HE	11:AA:620:ASN:HA	1.77	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:56:U:H2'	17:D:57:G:C8	2.48	0.48
17:D:110:C:H2'	17:D:111:G:O4'	2.14	0.48
17:D:744:C:H2'	17:D:745:G:H8	1.78	0.48
17:D:829:G:O3'	20:G:23:TRP:HZ2	1.95	0.48
22:I:134:MET:HE1	22:I:167:TRP:CA	2.43	0.48
33:T:5:THR:O	33:T:8:THR:OG1	2.27	0.48
36:W:33:THR:HG21	36:W:49:ILE:HD11	1.94	0.48
36:W:44:MET:SD	36:W:62:VAL:CG1	2.99	0.48
40:a:879:G:H2'	40:a:880:G:O4'	2.14	0.48
40:a:1664:A:C2'	40:a:1665:A:H5'	2.43	0.48
40:a:2313:C:H5"	53:n:88:LYS:HD2	1.95	0.48
40:a:2314:A:C1'	53:n:155:THR:HG21	2.42	0.48
42:c:67:VAL:HA	42:c:70:GLU:OE1	2.14	0.48
51:l:147:LEU:HD11	51:l:170:ARG:CD	2.44	0.48
53:n:22:TYR:HE2	53:n:29:PRO:HD3	1.79	0.48
58:s:123:LYS:HD2	58:s:132:HIS:HD2	1.78	0.48
60:u:77:ILE:HD11	60:u:108:ALA:HB1	1.95	0.48
64:y:9:GLU:HG3	64:y:55:LEU:HB2	1.95	0.48
1:0:61:ALA:HB1	1:0:96:VAL:CG2	2.43	0.48
2:1:17:VAL:HG12	2:1:76:VAL:HG21	1.94	0.48
9:9:99:PHE:O	9:9:103:ASN:OD1	2.32	0.48
11:AA:380:ALA:HA	12:AB:65:HIS:ND1	2.28	0.48
11:AA:565:GLU:HA	11:AA:569:ILE:HG12	1.95	0.48
12:AB:6:LEU:O	12:AB:7:LEU:HD23	2.13	0.48
12:AB:124:GLU:O	14:AE:87:LYS:CD	2.62	0.48
14:AE:291:ILE:O	14:AE:293:ARG:N	2.46	0.48
10:B:22:G:O2'	10:B:23:C:O5'	2.32	0.48
17:D:718:A:C5	30:Q:118:HIS:ND1	2.81	0.48
18:E:22:ALA:HA	18:E:25:ARG:HE	1.79	0.48
24:K:16:ILE:H	24:K:16:ILE:HD12	1.79	0.48
28:O:52:LEU:O	28:O:55:VAL:O	2.31	0.48
33:T:64:ARG:CZ	33:T:64:ARG:CB	2.91	0.48
40:a:208:C:C2	40:a:209:C:C5	3.01	0.48
40:a:413:C:H2'	40:a:414:C:C6	2.46	0.48
40:a:583:G:OP1	65:z:11:ARG:NH2	2.46	0.48
40:a:1792:G:H5"	47:h:204:VAL:HG23	1.95	0.48
40:a:2012:G:H8	40:a:2012:G:O5'	1.96	0.48
44:e:10:SER:OG	44:e:13:GLU:HG2	2.13	0.48
45:f:41:THR:N	45:f:45:ARG:NH2	2.61	0.48
52:m:25:LYS:HE2	52:m:28:ARG:HH21	1.78	0.48
57:r:137:GLU:CG	57:r:138:VAL:HG23	2.39	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:s:125:TYR:HE2	58:s:130:HIS:HB2	1.78	0.48
61:v:41:LEU:HG	61:v:96:ILE:HG13	1.95	0.48
63:x:115:LEU:HD23	63:x:117:PHE:HE1	1.79	0.48
2:1:25:ARG:HH12	40:a:520:G:P	2.37	0.48
12:AB:129:ILE:O	12:AB:142:LEU:HB3	2.12	0.48
14:AE:75:TYR:HB2	14:AE:92:VAL:CG2	2.43	0.48
10:B:70:G:C3'	10:B:71:C:H5"	2.44	0.48
16:C:21:ILE:HG13	16:C:54:GLN:NE2	2.28	0.48
17:D:72:A:C5	17:D:73:C:C5	3.02	0.48
17:D:123:U:C2	17:D:124:C:C5	3.01	0.48
17:D:123:U:H5"	17:D:311:C:O2'	2.13	0.48
23:J:61:VAL:HA	23:J:64:ILE:HD12	1.96	0.48
24:K:157:ARG:CZ	27:N:43:GLU:HG3	2.43	0.48
24:K:157:ARG:NH1	27:N:43:GLU:HA	2.29	0.48
26:M:132:GLY:O	26:M:136:LYS:NZ	2.45	0.48
40:a:6:A:O3'	58:s:132:HIS:CE1	2.67	0.48
40:a:581:C:C2	40:a:582:A:C8	3.02	0.48
40:a:1385:A:O2'	40:a:1396:U:O2	2.31	0.48
40:a:2677:G:C6	40:a:2731:G:C6	3.01	0.48
48:i:28:LEU:O	48:i:37:LYS:NZ	2.46	0.48
49:j:101:PHE:CZ	49:j:203:VAL:HG12	2.48	0.48
49:j:124:ARG:HA	49:j:165:MET:CE	2.44	0.48
53:n:67:ILE:HD13	53:n:87:CYS:HB3	1.95	0.48
54:o:62:LEU:HG	54:o:65:ALA:HA	1.96	0.48
58:s:98:GLU:OE1	58:s:124:VAL:HG13	2.13	0.48
61:v:95:LEU:HD23	61:v:95:LEU:H	1.78	0.48
63:x:115:LEU:HD23	63:x:117:PHE:CE1	2.48	0.48
1:0:73:LYS:HE2	1:0:73:LYS:HA	1.95	0.48
4:3:28:VAL:HG23	4:3:34:VAL:HG12	1.95	0.48
6:5:10:DT:O3'	12:AB:68:THR:HA	2.03	0.48
10:A:12:G:C2'	10:A:13:C:OP1	2.61	0.48
11:AA:363:LEU:HB3	11:AA:381:ALA:HB1	1.96	0.48
12:AB:50:LEU:HD21	14:AE:285:LEU:CB	2.44	0.48
16:C:45:THR:HA	21:H:340:ARG:HH21	1.77	0.48
16:C:60:LYS:CD	17:D:734:G:O2'	2.62	0.48
17:D:864:A:H5'	24:K:90:THR:O	2.14	0.48
17:D:893:C:C2	17:D:894:G:C8	3.01	0.48
17:D:1127:G:C2	17:D:1128:C:C6	3.01	0.48
17:D:1397:C:OP1	17:D:1397:C:H2'	2.13	0.48
17:D:1428:A:H2'	17:D:1429:A:O4'	2.13	0.48
21:H:37:LEU:HD11	21:H:47:ALA:HA	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:H:70:VAL:HA	21:H:85:SER:HA	1.95	0.48
23:J:195:ILE:HG13	23:J:195:ILE:O	2.14	0.48
28:O:21:ILE:HD12	28:O:86:ALA:HB1	1.96	0.48
29:P:63:ASP:OD1	29:P:65:TYR:CZ	2.66	0.48
34:U:26:ASN:ND2	34:U:31:ARG:HE	2.11	0.48
37:X:86:TYR:HE2	37:X:90:ARG:NH2	2.11	0.48
38:Y:52:LEU:O	38:Y:54:ILE:HG12	2.14	0.48
40:a:265:A:N1	40:a:427:U:O2'	2.40	0.48
40:a:962:G:C5	40:a:963:U:C5	3.01	0.48
40:a:1321:A:C5	40:a:1322:A:C8	3.02	0.48
40:a:1808:A:O2'	42:c:3:ARG:NH1	2.46	0.48
40:a:1858:A:N6	40:a:1884:G:H1'	2.29	0.48
40:a:2093:G:O2'	40:a:2198:A:N1	2.41	0.48
40:a:2591:C:H2'	40:a:2592:G:H8	1.78	0.48
40:a:2771:C:C2	40:a:2772:C:C5	3.01	0.48
45:f:3:LYS:HE2	45:f:3:LYS:HA	1.95	0.48
47:h:138:GLY:H	47:h:164:ILE:HG23	1.79	0.48
50:k:7:GLU:HG2	50:k:27:LYS:NZ	2.29	0.48
64:y:40:LEU:HD12	64:y:40:LEU:N	2.28	0.48
4:3:40:ASN:OD1	4:3:65:ILE:HB	2.14	0.48
14:AE:218:THR:HA	14:AE:221:ILE:HG22	1.96	0.48
14:AE:516:ASP:OD1	14:AE:516:ASP:N	2.47	0.48
17:D:375:U:H1'	34:U:28:ARG:HH22	1.79	0.48
17:D:808:C:OP1	33:T:48:LYS:HE3	2.14	0.48
17:D:1225:A:H2'	17:D:1226:C:C5	2.49	0.48
18:E:9:LYS:O	18:E:12:ILE:HG12	2.14	0.48
31:R:99:ARG:NE	31:R:104:CYS:SG	2.87	0.48
38:Y:20:SER:CB	38:Y:21:PRO:HD3	2.43	0.48
40:a:880:G:C2	40:a:881:G:C8	3.02	0.48
40:a:1790:C:H2'	40:a:1791:A:N7	2.29	0.48
40:a:1791:A:C2	40:a:1829:A:H4'	2.49	0.48
40:a:1825:U:P	47:h:52:ARG:NH1	2.86	0.48
40:a:2327:A:H2'	40:a:2328:A:C8	2.49	0.48
40:a:2373:G:H2'	40:a:2374:C:C6	2.49	0.48
43:d:42:C:C5	53:n:66:LEU:HD12	2.49	0.48
47:h:130:LEU:HG	47:h:135:ILE:HG13	1.96	0.48
51:l:5:LEU:HD23	51:l:122:GLU:HG3	1.95	0.48
61:v:57:VAL:HG22	61:v:60:GLN:O	2.13	0.48
61:v:58:LYS:O	61:v:59:ARG:HG3	2.13	0.48
65:z:79:PHE:CE1	65:z:110:VAL:HG22	2.48	0.48
2:1:95:ARG:NH1	2:1:97:LEU:CD2	2.77	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:4:89:ILE:CG2	5:4:91:PHE:CE1	2.95	0.48
9:9:25:ALA:CB	9:9:99:PHE:HD2	2.26	0.48
9:9:51:TYR:CD2	9:9:88:HIS:HB2	2.49	0.48
9:9:52:MET:HE2	9:9:85:SER:HB2	1.95	0.48
10:A:19:G:C6	40:a:2112:G:O5'	2.67	0.48
11:AA:400:VAL:HG22	11:AA:584:TYR:HB3	1.96	0.48
14:AE:437:PHE:HZ	14:AE:453:VAL:HG11	1.79	0.48
14:AE:749:LYS:HD3	14:AE:753:SER:HB2	1.94	0.48
17:D:61:G:O6	18:E:10:ARG:NH2	2.47	0.48
17:D:106:C:N4	18:E:10:ARG:HH22	2.12	0.48
17:D:109:A:C6	17:D:326:G:C6	3.02	0.48
17:D:436:C:C2	17:D:437:U:C5	3.02	0.48
19:F:62:ARG:HD2	19:F:63:GLU:N	2.29	0.48
22:I:134:MET:HE2	22:I:168:TYR:CG	2.49	0.48
28:O:49:ARG:O	28:O:53:GLU:OE1	2.32	0.48
29:P:64:GLN:OE1	29:P:65:TYR:O	2.31	0.48
33:T:15:PHE:CD2	33:T:30:ALA:HB2	2.49	0.48
38:Y:126:ARG:HH12	40:a:1082:U:C3'	2.26	0.48
40:a:1009:A:OP2	58:s:39:LYS:NZ	2.37	0.48
40:a:1442:U:H2'	40:a:1443:U:H6	1.79	0.48
40:a:2061:G:C2	40:a:2063:C:C5	3.01	0.48
40:a:2193:G:HO2'	40:a:2194:U:P	2.37	0.48
43:d:117:G:OP1	63:x:56:LYS:HD3	2.14	0.48
47:h:141:VAL:HG23	47:h:162:VAL:HG12	1.94	0.48
58:s:88:THR:O	58:s:92:MET:HE2	2.13	0.48
59:t:20:MET:HB3	59:t:44:LYS:HE2	1.95	0.48
62:w:38:LEU:N	62:w:39:PRO:CD	2.76	0.48
65:z:78:LYS:CD	65:z:117:LEU:HD21	2.43	0.48
4:3:84:GLY:HA3	4:3:95:PHE:CZ	2.48	0.48
5:4:21:ARG:HA	5:4:25:LYS:O	2.14	0.48
6:5:10:DT:C4'	11:AA:62:TYR:OH	2.61	0.48
10:A:26:G:H1	10:A:44:A:N6	2.12	0.48
12:AB:92:VAL:HG13	12:AB:96:LEU:O	2.13	0.48
14:AE:70:CYS:C	14:AE:72:CYS:H	2.22	0.48
10:B:35:A:H2'	10:B:36:U:C6	2.49	0.48
10:B:65:C:C2'	10:B:66:C:H5'	2.44	0.48
17:D:330:C:O2	17:D:330:C:H2'	2.14	0.48
17:D:1149:C:H2'	17:D:1150:A:H8	1.79	0.48
18:E:19:LYS:CG	18:E:20:HIS:N	2.76	0.48
20:G:131:LYS:HE3	20:G:132:LYS:NZ	2.29	0.48
23:J:62:ARG:NE	23:J:72:PHE:CE2	2.81	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:M:138:ARG:HG2	26:M:142:HIS:CE1	2.48	0.48
35:V:62:ARG:C	35:V:73:TRP:CE3	2.92	0.48
37:X:16:VAL:HG23	37:X:17:ILE:N	2.29	0.48
37:X:94:GLY:C	37:X:95:LEU:HD22	2.38	0.48
38:Y:126:ARG:NH1	40:a:1083:U:OP2	2.47	0.48
40:a:532:A:N7	40:a:2021:C:O2'	2.44	0.48
40:a:984:A:N3	40:a:984:A:H2'	2.29	0.48
40:a:1042:G:C4	40:a:1043:C:C6	3.02	0.48
40:a:1666:G:H1'	59:t:3:GLN:NE2	2.29	0.48
40:a:2683:C:OP1	64:y:51:ARG:NH2	2.46	0.48
41:b:45:PHE:HD2	41:b:80:ILE:HD11	1.77	0.48
46:g:16:CYS:CB	46:g:37:CYS:CB	2.90	0.48
49:j:91:THR:HB	49:j:94:GLN:CG	2.44	0.48
50:k:7:GLU:HG3	50:k:27:LYS:HZ3	1.78	0.48
51:l:148:ILE:CD1	51:l:187:VAL:HB	2.44	0.48
58:s:1:MET:HE2	65:z:97:ASP:OD2	2.13	0.48
63:x:41:ALA:HB2	63:x:48:LEU:HD11	1.95	0.48
64:y:13:MET:HG3	64:y:77:HIS:CE1	2.49	0.48
8:7:21:U:H5'	22:I:80:LYS:CG	2.43	0.47
9:9:24:SER:HB3	9:9:116:GLU:HG3	1.94	0.47
10:A:75:C:O2'	10:A:76:A:N7	2.48	0.47
11:AA:560:PRO:O	14:AE:780:ARG:NH2	2.47	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
11:AA:1340:GLU:HB2	14:AE:19:ALA:HB3	1.94	0.47
13:AD:182:ARG:O	13:AD:205:MET:HA	2.14	0.47
14:AE:74:LYS:HE2	14:AE:75:TYR:CE1	2.49	0.47
14:AE:977:SER:OG	14:AE:980:THR:OG1	2.31	0.47
17:D:520:A:O3'	31:R:70:GLU:OE2	2.32	0.47
17:D:1308:U:H3'	37:X:98:ARG:NH2	2.29	0.47
20:G:110:SER:HA	20:G:113:ARG:HH21	1.79	0.47
24:K:57:PRO:HA	24:K:60:ILE:HG12	1.96	0.47
24:K:156:LYS:HE3	27:N:71:VAL:CG1	2.41	0.47
25:L:38:ARG:HD2	25:L:40:GLU:OE2	2.13	0.47
32:S:57:PRO:HA	32:S:60:GLN:OE1	2.13	0.47
33:T:77:ARG:NH2	33:T:80:GLN:NE2	2.62	0.47
39:Z:29:LYS:HG3	39:Z:30:PHE:CE2	2.49	0.47
40:a:67:U:N3	40:a:74:A:N6	2.62	0.47
40:a:379:G:N1	40:a:396:G:C6	2.82	0.47
40:a:689:A:H2'	40:a:690:G:C8	2.49	0.47
40:a:1197:G:C4	40:a:1198:U:C5	3.02	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:2043:C:C2	40:a:2044:C:C5	3.02	0.47
40:a:2070:A:H2'	40:a:2071:A:O4'	2.14	0.47
40:a:2193:G:O2'	40:a:2194:U:OP1	2.28	0.47
40:a:2298:A:C4	40:a:2321:U:H5	2.31	0.47
40:a:2455:G:H2'	40:a:2456:C:C6	2.48	0.47
40:a:2537:U:H2'	40:a:2538:C:H6	1.79	0.47
50:k:19:HIS:CD2	50:k:20:PHE:N	2.82	0.47
50:k:25:LYS:HD3	50:k:51:GLU:OE2	2.14	0.47
55:p:94:TYR:C	55:p:95:ARG:HD2	2.38	0.47
61:v:111:GLU:O	61:v:112:LEU:C	2.57	0.47
2:1:105:VAL:HG13	2:1:105:VAL:O	2.14	0.47
7:6:10:DG:OP1	14:AE:311:ARG:NH2	2.47	0.47
9:9:31:ARG:NE	9:9:31:ARG:HA	2.29	0.47
9:9:38:MET:SD	38:Y:117:THR:CG2	3.02	0.47
10:A:35:A:H2'	10:A:36:U:C6	2.49	0.47
11:AA:618:GLN:HG3	14:AE:770:LEU:HD13	1.95	0.47
14:AE:53:ARG:HA	14:AE:54:ASP:HA	1.59	0.47
17:D:35:G:N3	31:R:115:SER:OG	2.47	0.47
17:D:306:A:C5	17:D:307:C:C5	3.02	0.47
17:D:429:U:O2	17:D:430:A:C8	2.66	0.47
17:D:562:U:O3'	31:R:14:ARG:NH1	2.46	0.47
17:D:687:A:C2	17:D:704:A:C4	3.02	0.47
17:D:983:A:H5'	17:D:984:C:OP2	2.15	0.47
20:G:26:LYS:O	20:G:26:LYS:HD3	2.14	0.47
21:H:5:PHE:CE1	21:H:9:PHE:HE1	2.32	0.47
22:I:132:ARG:CA	22:I:135:LYS:HE3	2.44	0.47
25:L:9:MET:HE2	25:L:51:ILE:CD1	2.44	0.47
28:O:89:GLU:O	28:O:92:GLU:OE1	2.32	0.47
40:a:600:G:H2'	40:a:601:C:C6	2.50	0.47
40:a:760:G:H2'	40:a:761:A:O4'	2.14	0.47
40:a:963:U:H2'	40:a:964:C:H6	1.79	0.47
40:a:1141:U:H4'	40:a:1142:A:O5'	2.13	0.47
40:a:1656:C:P	49:j:141:ARG:HD2	2.55	0.47
40:a:1818:U:H6	47:h:156:ARG:NH2	2.13	0.47
40:a:2296:U:H4'	40:a:2297:A:OP1	2.14	0.47
40:a:2685:G:OP1	59:t:78:ARG:NH2	2.47	0.47
40:a:2748:A:C2	40:a:2757:A:C5	3.03	0.47
46:g:47:LYS:HE2	53:n:115:ARG:HA	1.95	0.47
55:p:8:PRO:C	55:p:69:ARG:HH21	2.23	0.47
62:w:33:ILE:HD11	62:w:112:TYR:CE1	2.48	0.47
65:z:53:ARG:HG2	65:z:57:PHE:CE2	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:5:17:DC:C5	11:AA:542:ARG:HD3	2.49	0.47
11:AA:848:GLU:HG2	11:AA:888:THR:HG22	1.96	0.47
10:B:30:G:O2'	10:B:31:G:H5'	2.15	0.47
17:D:821:G:H2'	17:D:822:U:H6	1.80	0.47
17:D:1227:A:C2	17:D:1228:C:C6	3.02	0.47
17:D:1314:C:H2'	17:D:1315:U:H6	1.78	0.47
22:I:183:ASP:HB3	22:I:204:LYS:HZ2	1.80	0.47
23:J:62:ARG:CZ	23:J:69:GLU:HG2	2.44	0.47
23:J:113:GLU:O	23:J:117:LEU:HG	2.13	0.47
26:M:142:HIS:O	26:M:146:GLU:HG2	2.13	0.47
31:R:74:LEU:HD11	31:R:80:ILE:HG13	1.96	0.47
36:W:9:PRO:HD3	46:g:64:PHE:CD2	2.49	0.47
40:a:104:A:C5	40:a:105:C:C5	3.02	0.47
40:a:1333:G:C2	40:a:1334:G:C8	3.03	0.47
40:a:1405:U:H2'	40:a:1406:U:C5	2.49	0.47
40:a:2299:U:P	53:n:72:LYS:HE2	2.54	0.47
40:a:2515:C:H2'	40:a:2516:A:H8	1.78	0.47
40:a:2814:A:C4	40:a:2815:C:C5	3.03	0.47
49:j:55:LYS:HZ2	49:j:60:VAL:HB	1.78	0.47
53:n:38:MET:HE3	53:n:57:LEU:HG	1.96	0.47
60:u:117:THR:HG23	60:u:118:THR:N	2.28	0.47
10:A:22:G:O2'	10:A:23:C:O5'	2.31	0.47
16:C:65:LEU:HD23	16:C:67:LEU:HD11	1.96	0.47
17:D:611:C:C2	17:D:612:C:C5	3.02	0.47
17:D:1172:C:H2'	17:D:1173:U:C6	2.49	0.47
17:D:1308:U:P	37:X:98:ARG:CG	3.03	0.47
19:F:12:PHE:CE1	30:Q:107:ILE:CG2	2.98	0.47
21:H:302:GLY:HA3	21:H:344:LEU:HD13	1.96	0.47
22:I:134:MET:HG3	22:I:151:VAL:CG2	2.44	0.47
24:K:96:MET:HG2	24:K:125:ALA:HB2	1.97	0.47
24:K:148:ASN:ND2	24:K:153:VAL:CG1	2.77	0.47
26:M:109:ARG:C	26:M:119:ARG:HH21	2.23	0.47
29:P:15:HIS:O	29:P:18:ILE:HG22	2.14	0.47
35:V:30:LYS:HD3	35:V:35:GLY:HA2	1.97	0.47
39:Z:26:MET:O	39:Z:30:PHE:HB2	2.14	0.47
40:a:1048:A:C4	40:a:1049:C:C5	3.02	0.47
40:a:1141:U:H5	58:s:68:LYS:HZ1	1.61	0.47
40:a:1841:U:C2	40:a:1842:G:C8	3.02	0.47
40:a:1936:A:N7	40:a:1945:G:C8	2.83	0.47
40:a:2093:G:N7	40:a:2225:A:H2'	2.28	0.47
47:h:108:LYS:HZ3	47:h:194:GLU:N	2.12	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:h:205:LEU:HD12	47:h:210:ALA:CB	2.44	0.47
61:v:29:GLY:H	61:v:104:GLU:HG2	1.79	0.47
65:z:108:ALA:O	65:z:112:LYS:HG2	2.14	0.47
9:9:103:ASN:HA	9:9:107:GLU:HG3	1.96	0.47
17:D:1307:U:H2'	17:D:1308:U:C6	2.49	0.47
19:F:19:PHE:HE2	30:Q:110:ILE:C	2.23	0.47
20:G:117:LEU:HD21	20:G:141:LEU:HB2	1.96	0.47
21:H:303:LEU:C	21:H:305:HIS:N	2.73	0.47
23:J:41:HIS:ND1	23:J:44:ARG:NH1	2.63	0.47
24:K:157:ARG:NH1	27:N:43:GLU:CD	2.72	0.47
30:Q:94:GLU:O	30:Q:97:ILE:HG22	2.13	0.47
38:Y:102:ARG:NE	38:Y:139:VAL:CG2	2.78	0.47
40:a:257:C:O2	60:u:104:GLN:NE2	2.48	0.47
40:a:272:A:C2	40:a:273:G:C5	3.02	0.47
40:a:372:G:O4'	42:c:61:LYS:NZ	2.44	0.47
40:a:783:A:N3	40:a:783:A:H2'	2.29	0.47
40:a:1349:C:N3	40:a:1350:C:C5	2.83	0.47
40:a:1589:U:O2'	40:a:1590:A:O5'	2.29	0.47
40:a:2193:G:O2'	40:a:2194:U:P	2.72	0.47
40:a:2246:G:H2'	40:a:2247:A:C8	2.49	0.47
40:a:2298:A:H5"	53:n:72:LYS:CE	2.44	0.47
40:a:2884:U:N3	48:i:40:ARG:NH1	2.62	0.47
46:g:5:ILE:CD1	53:n:64:LYS:CE	2.92	0.47
51:l:112:LEU:CD1	51:l:117:ARG:HB2	2.39	0.47
53:n:12:VAL:O	53:n:16:LEU:HG	2.14	0.47
65:z:69:ALA:HA	65:z:106:PHE:HZ	1.80	0.47
5:4:1:MET:O	5:4:1:MET:HE3	2.13	0.47
5:4:55:GLU:OE1	5:4:55:GLU:N	2.42	0.47
10:A:70:G:C2'	10:A:71:C:H5"	2.45	0.47
14:AE:797:THR:HG22	14:AE:924:GLY:HA3	1.97	0.47
16:C:12:ARG:CZ	16:C:13:PHE:CE1	2.97	0.47
17:D:216:U:H2'	17:D:217:C:C6	2.50	0.47
17:D:1412:C:H2'	17:D:1413:A:C8	2.49	0.47
26:M:69:VAL:HA	26:M:138:ARG:HD3	1.97	0.47
26:M:129:GLU:O	26:M:130:ASN:HB2	2.13	0.47
27:N:40:LEU:O	27:N:44:GLY:N	2.47	0.47
29:P:10:LEU:C	29:P:11:LYS:HD3	2.40	0.47
30:Q:85:MET:HB3	30:Q:113:VAL:HG11	1.95	0.47
35:V:11:ARG:HD2	35:V:56:GLY:C	2.39	0.47
35:V:31:HIS:HD2	35:V:34:TYR:H	1.62	0.47
38:Y:106:GLN:OE1	38:Y:125:THR:HG21	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:592:A:C2	54:o:4:ILE:HD11	2.49	0.47
40:a:1432:G:H2'	40:a:1433:A:H8	1.79	0.47
40:a:1585:C:H2'	40:a:1586:A:O4'	2.15	0.47
40:a:2091:C:O2	42:c:34:HIS:CE1	2.67	0.47
40:a:2345:G:C5	40:a:2347:C:C5	3.03	0.47
40:a:2351:G:O6	54:o:39:LYS:NZ	2.48	0.47
41:b:26:PHE:H	41:b:29:GLU:HG3	1.79	0.47
49:j:9:VAL:O	49:j:197:THR:HG23	2.15	0.47
51:l:59:PRO:HB2	51:l:60:TRP:CE3	2.50	0.47
54:o:25:LYS:HB3	60:u:62:PRO:CG	2.40	0.47
55:p:9:VAL:HG23	55:p:69:ARG:HD2	1.95	0.47
57:r:18:GLN:HE22	57:r:39:ALA:HB2	1.78	0.47
61:v:41:LEU:HG	61:v:96:ILE:CG1	2.45	0.47
61:v:59:ARG:CZ	61:v:59:ARG:O	2.63	0.47
63:x:90:VAL:HG13	63:x:115:LEU:HD11	1.96	0.47
3:2:1:MET:HE1	40:a:139:U:C4	2.50	0.47
5:4:1:MET:SD	5:4:3:THR:OG1	2.71	0.47
5:4:69:GLU:H	5:4:69:GLU:CD	2.22	0.47
8:7:7:U:C6	8:7:7:U:C3'	2.97	0.47
8:7:8:U:OP2	17:D:1397:C:O2	2.33	0.47
9:9:40:GLU:CD	9:9:54:VAL:HG11	2.39	0.47
9:9:59:LEU:HB2	9:9:62:ARG:CG	2.45	0.47
9:9:69:PHE:C	9:9:72:LEU:HD11	2.40	0.47
10:A:52:G:C6	10:A:63:G:O6	2.68	0.47
12:AB:7:LEU:HD22	12:AB:78:PHE:HA	1.96	0.47
12:AB:111:TYR:HB3	12:AB:112:PRO:HD2	1.96	0.47
13:AC:64:VAL:HG11	13:AC:78:ILE:HG21	1.97	0.47
13:AD:35:PHE:HA	13:AD:38:THR:HG22	1.97	0.47
14:AE:67:ASP:C	14:AE:69:GLU:N	2.71	0.47
14:AE:86:GLU:N	14:AE:86:GLU:CD	2.73	0.47
14:AE:290:ILE:O	14:AE:290:ILE:HG12	2.14	0.47
14:AE:640:GLY:N	14:AE:643:ASP:OD2	2.42	0.47
14:AE:1289:ASN:ND2	14:AE:1300:ALA:O	2.46	0.47
10:B:70:G:C2'	10:B:71:C:H5"	2.45	0.47
10:B:75:C:O2'	10:B:76:A:N7	2.48	0.47
16:C:16:GLU:OE1	16:C:18:VAL:HB	2.14	0.47
17:D:331:G:H2'	18:E:4:ILE:HD11	1.95	0.47
17:D:378:G:H2'	17:D:379:C:C6	2.49	0.47
17:D:977:A:H1'	17:D:982:U:O4	2.15	0.47
17:D:1325:C:C2	17:D:1326:U:C5	3.02	0.47
20:G:110:SER:CA	20:G:113:ARG:HH21	2.27	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:G:207:ILE:HG23	20:G:208:ARG:N	2.30	0.47
23:J:62:ARG:HA	23:J:72:PHE:CZ	2.50	0.47
26:M:71:PRO:O	26:M:96:ARG:NH1	2.47	0.47
26:M:111:ARG:O	26:M:119:ARG:CZ	2.63	0.47
28:O:32:GLN:HG3	28:O:32:GLN:O	2.13	0.47
28:O:127:PHE:CD1	28:O:128:SER:N	2.83	0.47
31:R:2:ALA:N	31:R:7:LEU:HD11	2.30	0.47
31:R:18:LYS:NZ	31:R:19:SER:O	2.47	0.47
32:S:12:LYS:HD2	32:S:16:LEU:CD2	2.44	0.47
32:S:63:ARG:NH2	32:S:70:PRO:HD3	2.30	0.47
32:S:63:ARG:HD3	32:S:68:GLY:O	2.15	0.47
36:W:62:VAL:HG13	36:W:66:MET:CE	2.44	0.47
37:X:5:ALA:HB3	37:X:66:GLU:OE2	2.14	0.47
37:X:13:LYS:HZ2	37:X:17:ILE:HG21	1.80	0.47
37:X:86:TYR:CE2	37:X:90:ARG:NE	2.82	0.47
38:Y:60:VAL:CG2	38:Y:66:PHE:HB3	2.28	0.47
40:a:39:G:H1'	51:l:43:THR:HG21	1.95	0.47
40:a:921:C:C2	40:a:922:C:C5	3.03	0.47
40:a:1429:G:H2'	40:a:1430:G:H8	1.79	0.47
40:a:1441:G:H2'	40:a:1442:U:C6	2.50	0.47
40:a:1790:C:O3'	40:a:1791:A:C8	2.68	0.47
40:a:1844:C:C2	40:a:1845:G:C8	3.02	0.47
40:a:2297:A:N1	40:a:2321:U:O4	2.47	0.47
40:a:2314:A:P	53:n:88:LYS:NZ	2.87	0.47
40:a:2700:A:H2'	40:a:2701:U:C6	2.50	0.47
44:e:24:GLU:O	44:e:25:GLN:C	2.57	0.47
49:j:55:LYS:HZ2	49:j:60:VAL:N	2.12	0.47
49:j:146:ILE:HA	49:j:159:LYS:HZ1	1.79	0.47
51:l:42:GLY:HA3	51:l:92:HIS:HE1	1.80	0.47
55:p:52:PHE:CZ	55:p:72:LEU:HD22	2.50	0.47
57:r:58:LEU:O	57:r:61:VAL:HG22	2.14	0.47
60:u:19:LEU:CD2	60:u:27:LEU:HD12	2.45	0.47
61:v:97:GLN:H	61:v:100:LYS:NZ	2.13	0.47
62:w:44:LEU:C	62:w:44:LEU:HD23	2.39	0.47
65:z:113:ALA:O	65:z:117:LEU:HD13	2.15	0.47
2:1:28:LYS:HB2	2:1:31:GLN:OE1	2.14	0.47
4:3:96:PHE:CE1	4:3:103:ILE:HG12	2.50	0.47
5:4:2:PHE:CE1	5:4:56:PHE:CZ	3.03	0.47
5:4:48:MET:HE3	5:4:85:LYS:HA	1.97	0.47
5:4:59:GLU:OE1	5:4:59:GLU:N	2.47	0.47
10:A:30:G:O2'	10:A:31:G:H5'	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:A:48:C:C2'	10:A:49:G:OP2	2.62	0.47
10:A:68:C:H3'	10:A:69:C:H5"	1.97	0.47
14:AE:1037:PHE:HB3	14:AE:1040:MET:HB2	1.97	0.47
10:B:6:G:O2'	10:B:7:G:H8	1.98	0.47
10:B:26:G:H1	10:B:44:A:N6	2.12	0.47
16:C:60:LYS:NZ	17:D:735:C:C4'	2.74	0.47
17:D:745:G:H2'	17:D:746:A:C8	2.50	0.47
17:D:1238:A:H2	17:D:1241:G:N3	2.13	0.47
17:D:1368:A:OP1	28:O:113:ARG:NH2	2.48	0.47
19:F:33:ARG:O	19:F:36:GLU:HG2	2.15	0.47
21:H:115:LYS:HA	21:H:119:GLY:C	2.40	0.47
22:I:181:ASP:HB2	22:I:207:ILE:HD11	1.97	0.47
27:N:3:MET:O	27:N:3:MET:HE3	2.14	0.47
28:O:7:TYR:O	28:O:89:GLU:CD	2.58	0.47
40:a:590:A:H2'	40:a:591:U:H6	1.80	0.47
40:a:1385:A:C4	40:a:1386:C:C5	3.02	0.47
40:a:2200:C:OP2	42:c:37:ARG:NH2	2.48	0.47
40:a:2725:A:C4	40:a:2727:A:N7	2.83	0.47
40:a:2803:G:H2'	40:a:2804:U:C5	2.50	0.47
45:f:12:SER:C	45:f:54:MET:HE1	2.40	0.47
45:f:41:THR:O	45:f:42:PRO:C	2.58	0.47
46:g:58:ASP:CG	46:g:62:LYS:NZ	2.67	0.47
48:i:4:GLN:OE1	48:i:8:PRO:CD	2.63	0.47
51:l:23:PHE:CE2	51:l:25:GLU:HA	2.50	0.47
51:l:42:GLY:HA3	51:l:92:HIS:CE1	2.49	0.47
51:l:130:LYS:HB2	51:l:133:LEU:HD12	1.97	0.47
58:s:56:VAL:O	58:s:124:VAL:HA	2.14	0.47
61:v:53:MET:HB2	61:v:116:ALA:HB1	1.96	0.47
62:w:60:VAL:HG22	62:w:63:ARG:HH12	1.78	0.47
1:0:4:VAL:CG2	1:0:40:MET:HB3	2.45	0.47
1:0:71:LYS:HE2	1:0:90:ARG:HD2	1.97	0.47
9:9:16:SER:HB2	9:9:20:LYS:NZ	2.29	0.47
11:AA:103:VAL:HG12	11:AA:117:ILE:HG22	1.97	0.47
11:AA:1286:THR:O	11:AA:1290:MET:HB2	2.14	0.47
12:AB:116:VAL:HG23	12:AB:130:PHE:CZ	2.50	0.47
12:AB:155:LYS:CG	12:AB:156:ASN:H	2.26	0.47
14:AE:804:ALA:O	14:AE:806:ASP:N	2.47	0.47
10:B:52:G:C6	10:B:63:G:O6	2.68	0.47
16:C:60:LYS:HE3	17:D:735:C:H4'	1.97	0.47
17:D:1530:G:H2'	17:D:1531:A:C8	2.49	0.47
20:G:19:GLN:NE2	21:H:75:VAL:HG13	2.30	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:J:74:ASN:CA	23:J:77:LYS:HZ3	2.27	0.47
25:L:29:ILE:HG21	25:L:64:VAL:HG13	1.97	0.47
38:Y:19:PRO:HG2	38:Y:24:GLY:H	1.79	0.47
40:a:247:G:H4'	40:a:386:G:C5	2.49	0.47
40:a:1770:G:C6	40:a:1983:G:C5	3.03	0.47
40:a:2190:G:H2'	40:a:2191:A:C8	2.50	0.47
40:a:2294:G:OP1	63:x:98:GLN:OE1	2.33	0.47
40:a:2702:G:C5	40:a:2703:C:C5	3.03	0.47
41:b:51:VAL:HG12	41:b:59:LEU:HD12	1.96	0.47
51:l:168:ASP:HB3	51:l:183:PHE:CE2	2.49	0.47
57:r:135:HIS:CE1	57:r:137:GLU:OE1	2.62	0.47
58:s:136:GLN:N	58:s:137:PRO:CD	2.78	0.47
59:t:42:THR:C	59:t:44:LYS:HZ2	2.17	0.47
60:u:110:VAL:HG23	60:u:125:LEU:HD12	1.97	0.47
61:v:30:SER:N	61:v:104:GLU:OE2	2.48	0.47
1:0:4:VAL:HG23	1:0:39:LEU:HB2	1.97	0.47
5:4:53:LYS:HD2	5:4:56:PHE:HE2	1.77	0.47
9:9:3:LEU:O	9:9:4:ASN:OD1	2.33	0.47
9:9:18:VAL:CG1	9:9:71:CYS:HB2	2.45	0.47
11:AA:1280:ALA:HB1	14:AE:918:ILE:HG22	1.96	0.47
12:AB:131:THR:HG23	12:AB:142:LEU:HD22	1.97	0.47
16:C:31:ASN:OD1	21:H:268:VAL:HG12	2.15	0.47
17:D:311:C:P	34:U:31:ARG:NH2	2.85	0.47
17:D:636:U:H5'	35:V:6:ARG:NE	2.29	0.47
26:M:66:LEU:CD1	26:M:101:MET:CE	2.84	0.47
28:O:49:ARG:C	28:O:53:GLU:OE1	2.57	0.47
28:O:118:LEU:HD22	28:O:123:ARG:C	2.39	0.47
30:Q:20:VAL:HB	30:Q:35:THR:CG2	2.45	0.47
36:W:63:THR:HG22	36:W:64:ASP:N	2.30	0.47
40:a:626:A:C2	60:u:78:ARG:CZ	2.98	0.47
40:a:909:A:H2'	40:a:912:C:H5	1.80	0.47
40:a:2064:C:H2'	40:a:2065:C:H6	1.79	0.47
40:a:2364:C:H2'	40:a:2365:G:O4'	2.15	0.47
40:a:2840:C:C2	40:a:2841:C:C5	3.03	0.47
41:b:26:PHE:O	41:b:29:GLU:HG2	2.15	0.47
44:e:20:ASN:HA	44:e:23:ARG:NE	2.30	0.47
46:g:56:ARG:HH21	46:g:59:ARG:HH21	1.62	0.47
47:h:2:ALA:N	47:h:20:VAL:O	2.48	0.47
47:h:181:MET:HE2	47:h:181:MET:CA	2.45	0.47
56:q:1:MET:HE3	56:q:1:MET:HA	1.97	0.47
59:t:76:VAL:HG12	64:y:73:VAL:HB	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:11:ARG:CZ	2:1:11:ARG:HB3	2.45	0.46
4:3:46:GLN:NE2	4:3:54:GLN:HG2	2.31	0.46
5:4:11:GLU:OE2	5:4:19:ARG:NH2	2.48	0.46
9:9:118:ILE:HB	9:9:119:PRO:CD	2.42	0.46
14:AE:210:SER:O	14:AE:214:ARG:N	2.43	0.46
10:B:75:C:P	40:a:2602:A:H2'	2.55	0.46
17:D:22:G:C5	17:D:23:C:C5	3.03	0.46
17:D:371:A:H2'	17:D:372:C:O4'	2.15	0.46
17:D:520:A:O2'	31:R:70:GLU:CD	2.58	0.46
17:D:737:C:C2	17:D:738:C:C5	3.03	0.46
17:D:771:G:C6	17:D:809:G:C6	3.03	0.46
22:I:134:MET:HE2	22:I:168:TYR:CB	2.45	0.46
25:L:36:ILE:HD12	25:L:63:ASN:O	2.14	0.46
33:T:29:VAL:HG22	33:T:66:LEU:HD23	1.96	0.46
36:W:9:PRO:HB3	46:g:64:PHE:CZ	2.51	0.46
37:X:9:ILE:HG13	37:X:10:PRO:HD2	1.95	0.46
38:Y:96:LYS:HD2	38:Y:136:GLY:O	2.15	0.46
40:a:57:C:C2	40:a:58:G:C8	3.04	0.46
40:a:1209:U:O2'	40:a:1237:A:N1	2.46	0.46
40:a:2419:U:O2'	40:a:2420:C:H5'	2.14	0.46
44:e:12:GLU:CG	44:e:13:GLU:N	2.78	0.46
46:g:45:THR:O	46:g:49:ARG:CZ	2.62	0.46
48:i:55:ILE:HD13	62:w:112:TYR:CE1	2.50	0.46
49:j:5:VAL:HG22	49:j:202:ILE:CD1	2.45	0.46
54:o:55:LEU:CD2	54:o:59:ILE:HD11	2.45	0.46
55:p:155:GLU:O	55:p:159:GLY:HA2	2.14	0.46
58:s:39:LYS:HA	58:s:44:TYR:HD1	1.78	0.46
59:t:24:VAL:HG23	59:t:33:ALA:HB2	1.97	0.46
59:t:59:LYS:HZ3	59:t:92:GLU:HG2	1.80	0.46
65:z:69:ALA:O	65:z:74:ILE:HG22	2.15	0.46
3:2:18:GLU:O	3:2:22:THR:HG23	2.15	0.46
5:4:53:LYS:O	5:4:56:PHE:HD2	1.97	0.46
14:AE:287:ALA:CB	14:AE:292:VAL:CG2	2.93	0.46
10:B:48:C:C2'	10:B:49:G:OP2	2.62	0.46
10:B:68:C:H3'	10:B:69:C:H5"	1.97	0.46
17:D:339:C:H2'	17:D:340:U:C6	2.50	0.46
17:D:675:A:C1'	30:Q:118:HIS:CD2	2.99	0.46
17:D:1359:C:OP2	32:S:75:ARG:NE	2.42	0.46
17:D:1363:A:C5	17:D:1365:G:C6	3.03	0.46
18:E:82:GLN:HA	18:E:85:LYS:NZ	2.31	0.46
26:M:135:VAL:HG23	26:M:136:LYS:HD2	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:S:79:LEU:HB2	32:S:84:VAL:CG2	2.45	0.46
33:T:3:LEU:HD23	33:T:4:SER:O	2.15	0.46
36:W:32:ARG:NH2	36:W:34:TRP:CZ3	2.84	0.46
36:W:77:THR:OG1	36:W:78:ARG:HD2	2.15	0.46
40:a:644:A:H2'	40:a:645:C:O4'	2.15	0.46
40:a:1068:G:O6	40:a:1069:A:N6	2.48	0.46
40:a:1370:C:H2'	40:a:1371:G:O4'	2.15	0.46
40:a:2262:U:OP1	40:a:2387:U:O2'	2.33	0.46
40:a:2300:C:H2'	40:a:2301:C:H6	1.79	0.46
40:a:2373:G:H2'	40:a:2374:C:H6	1.81	0.46
40:a:2454:G:C6	40:a:2499:C:N4	2.83	0.46
40:a:2646:C:OP2	40:a:2732:G:O2'	2.25	0.46
42:c:71:LEU:O	42:c:76:GLU:HG3	2.16	0.46
44:e:2:LYS:HZ1	44:e:49:ASP:C	2.22	0.46
44:e:12:GLU:HG2	44:e:13:GLU:H	1.80	0.46
54:o:31:HIS:O	54:o:32:ILE:O	2.33	0.46
63:x:83:LEU:HD23	63:x:88:LYS:HE3	1.97	0.46
2:1:23:LEU:HD21	2:1:35:ILE:CG2	2.44	0.46
9:9:38:MET:HA	9:9:41:LEU:HD12	1.96	0.46
11:AA:207:THR:OG1	11:AA:354:ASP:OD2	2.32	0.46
11:AA:318:SER:OG	11:AA:320:ASP:OD1	2.31	0.46
12:AB:124:GLU:O	14:AE:87:LYS:HD3	2.15	0.46
14:AE:616:PRO:HA	14:AE:619:ILE:HG22	1.96	0.46
16:C:12:ARG:NH1	16:C:13:PHE:CE1	2.84	0.46
17:D:610:U:N3	17:D:611:C:C5	2.83	0.46
17:D:816:A:OP1	17:D:1526:G:O2'	2.27	0.46
17:D:915:A:C5	17:D:916:U:C6	3.04	0.46
17:D:1149:C:C2	17:D:1150:A:C8	3.03	0.46
17:D:1176:A:H2'	17:D:1177:G:O4'	2.14	0.46
17:D:1189:U:OP1	32:S:98:LYS:NZ	2.48	0.46
27:N:112:THR:HG23	27:N:115:ALA:H	1.80	0.46
30:Q:116:ILE:HG13	30:Q:116:ILE:O	2.15	0.46
31:R:2:ALA:CA	31:R:7:LEU:HD11	2.45	0.46
32:S:6:MET:HE3	32:S:63:ARG:NH1	2.31	0.46
40:a:400:G:OP2	42:c:57:ARG:NH1	2.46	0.46
40:a:1064:C:O2'	40:a:1065:U:C6	2.63	0.46
40:a:1794:A:H2'	40:a:1795:C:H6	1.80	0.46
40:a:2513:A:H2'	40:a:2514:U:C6	2.50	0.46
40:a:2520:C:C6	40:a:2567:G:H1'	2.50	0.46
40:a:2683:C:H4'	49:j:13:ARG:NH1	2.31	0.46
40:a:2788:C:H2'	40:a:2789:C:C6	2.49	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:g:16:CYS:SG	46:g:37:CYS:N	2.89	0.46
58:s:123:LYS:HD2	58:s:132:HIS:CD2	2.50	0.46
62:w:24:MET:HG3	62:w:44:LEU:HD12	1.97	0.46
63:x:15:ARG:C	63:x:19:GLN:HE22	2.24	0.46
3:2:3:ARG:CZ	3:2:5:GLU:OE1	2.64	0.46
3:2:69:ARG:HG3	3:2:74:ILE:HD13	1.96	0.46
4:3:47:LYS:NZ	40:a:482:A:O5'	2.48	0.46
12:AB:102:LYS:NZ	14:AE:285:LEU:HG	2.27	0.46
12:AB:144:ASN:CA	12:AB:149:GLU:OE2	2.59	0.46
10:B:46:G:H1'	10:B:47:U:C5	2.51	0.46
17:D:280:C:O2	35:V:40:ARG:NE	2.48	0.46
22:I:22:TRP:CZ2	22:I:32:ASN:HB2	2.50	0.46
22:I:25:ASN:O	22:I:27:LYS:N	2.47	0.46
23:J:139:PRO:N	23:J:182:PHE:HE2	2.12	0.46
24:K:86:LYS:HE3	24:K:95:PHE:CD1	2.51	0.46
27:N:34:VAL:HG22	27:N:59:LEU:HD21	1.96	0.46
29:P:13:PHE:CE1	29:P:67:ILE:HD11	2.50	0.46
37:X:3:ARG:HB3	46:g:35:ASP:OD2	2.15	0.46
37:X:56:LEU:HA	37:X:59:GLU:OE1	2.16	0.46
38:Y:79:LEU:O	38:Y:83:ALA:HB3	2.16	0.46
40:a:306:U:H2'	40:a:307:G:O4'	2.16	0.46
40:a:581:C:H2'	40:a:582:A:C8	2.50	0.46
40:a:591:U:C2	40:a:592:A:C8	3.03	0.46
40:a:2236:U:H2'	40:a:2237:G:O4'	2.15	0.46
40:a:2784:U:H2'	40:a:2785:C:H6	1.80	0.46
48:i:52:ARG:HA	48:i:52:ARG:NE	2.30	0.46
51:l:147:LEU:HB2	51:l:183:PHE:CD2	2.48	0.46
57:r:18:GLN:OE1	57:r:39:ALA:HB1	2.15	0.46
1:0:82:HIS:CD2	60:u:23:ILE:HG12	2.50	0.46
3:2:57:VAL:HG12	3:2:86:THR:OG1	2.15	0.46
5:4:50:MET:CB	5:4:56:PHE:CE1	2.98	0.46
5:4:50:MET:C	5:4:56:PHE:CZ	2.94	0.46
9:9:60:LEU:O	9:9:64:VAL:HB	2.15	0.46
10:A:46:G:H1'	10:A:47:U:C5	2.51	0.46
10:A:50:U:H2'	10:A:51:C:C6	2.51	0.46
14:AE:66:LYS:HB2	14:AE:69:GLU:HB3	1.96	0.46
10:B:24:U:H2'	10:B:25:C:C6	2.51	0.46
16:C:65:LEU:HG	16:C:65:LEU:O	2.16	0.46
17:D:653:U:N1	27:N:56:LYS:HE3	2.30	0.46
19:F:16:LEU:HD12	30:Q:98:ARG:HH21	1.81	0.46
19:F:37:PHE:HA	30:Q:123:PRO:HB2	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:I:85:GLU:O	22:I:89:LYS:CE	2.64	0.46
25:L:47:LEU:HD13	25:L:51:ILE:HG12	1.98	0.46
26:M:69:VAL:HG23	26:M:100:ALA:HB1	1.97	0.46
32:S:20:TYR:CD2	32:S:55:SER:OG	2.67	0.46
33:T:48:LYS:O	33:T:50:HIS:N	2.48	0.46
40:a:404:A:H4'	40:a:405:U:O5'	2.15	0.46
40:a:753:A:C6	40:a:754:U:C5	3.04	0.46
40:a:872:U:H2'	40:a:873:C:C6	2.50	0.46
40:a:1421:G:C2	40:a:1422:G:C8	3.03	0.46
40:a:1467:U:C4	40:a:1546:G:C2	3.03	0.46
40:a:2197:U:C5	40:a:2224:G:C6	3.03	0.46
40:a:2517:C:O2	40:a:2542:A:N6	2.48	0.46
40:a:2646:C:O5'	40:a:2646:C:H6	1.98	0.46
40:a:2743:U:O2'	55:p:153:ARG:NH1	2.48	0.46
46:g:8:LYS:NZ	46:g:10:GLU:HB2	2.31	0.46
47:h:52:ARG:NE	47:h:53:HIS:CE1	2.83	0.46
48:i:4:GLN:OE1	48:i:7:LYS:HA	2.16	0.46
49:j:1:MET:O	49:j:204:LYS:HD2	2.15	0.46
49:j:11:MET:HE3	49:j:11:MET:HB3	1.63	0.46
49:j:74:GLU:HG2	49:j:75:ALA:N	2.31	0.46
55:p:94:TYR:HD1	55:p:107:LEU:HD23	1.79	0.46
61:v:57:VAL:HG22	61:v:57:VAL:O	2.14	0.46
3:2:5:GLU:HA	44:e:22:LEU:CD2	2.45	0.46
9:9:11:ILE:HG12	9:9:65:GLU:HG2	1.98	0.46
11:AA:176:ILE:HD11	11:AA:428:VAL:HG21	1.98	0.46
11:AA:230:PHE:HB2	11:AA:333:ILE:HB	1.98	0.46
11:AA:1002:LEU:HD21	11:AA:1007:LYS:HB2	1.98	0.46
13:AD:59:VAL:HG22	13:AD:144:ILE:HA	1.97	0.46
14:AE:287:ALA:HB3	14:AE:292:VAL:CG2	2.46	0.46
14:AE:319:SER:HA	14:AE:320:ASN:HA	1.73	0.46
10:B:47:U:H2'	10:B:48:C:H4'	1.97	0.46
17:D:35:G:H2'	17:D:36:C:H6	1.79	0.46
17:D:110:C:O4'	34:U:25:ARG:NH2	2.49	0.46
17:D:440:C:C2	17:D:441:A:C8	3.04	0.46
17:D:826:C:O2	27:N:16:ASN:ND2	2.49	0.46
17:D:829:G:H4'	20:G:23:TRP:CH2	2.51	0.46
17:D:1435:G:H2'	17:D:1436:U:C6	2.51	0.46
19:F:64:ASN:HA	19:F:67:ARG:HD3	1.97	0.46
21:H:270:ILE:HG23	21:H:270:ILE:O	2.15	0.46
21:H:287:LEU:HG	21:H:292:CYS:HA	1.97	0.46
22:I:24:ALA:HB3	22:I:29:PHE:CD2	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:L:17:GLN:C	25:L:21:MET:HE1	2.40	0.46
26:M:95:ARG:CZ	26:M:99:LEU:HD21	2.45	0.46
27:N:114:ARG:HD2	27:N:114:ARG:C	2.41	0.46
29:P:13:PHE:CZ	29:P:67:ILE:HD11	2.50	0.46
32:S:74:LEU:HD23	32:S:77:PHE:CD2	2.49	0.46
38:Y:102:ARG:HH11	38:Y:141:ASP:CG	2.23	0.46
40:a:6:A:H5'	58:s:131:ASN:OD1	2.15	0.46
40:a:1006:C:C2	40:a:1138:G:N2	2.83	0.46
40:a:1019:U:O4	40:a:1142:A:C2	2.69	0.46
40:a:1598:A:C4	40:a:1599:U:C6	3.03	0.46
40:a:2294:G:OP1	63:x:10:ARG:HD3	2.15	0.46
40:a:2299:U:H2'	40:a:2300:C:C6	2.49	0.46
40:a:2313:C:O3'	53:n:88:LYS:NZ	2.48	0.46
40:a:2357:G:P	41:b:20:ARG:CZ	3.04	0.46
40:a:2700:A:H2'	40:a:2701:U:H6	1.80	0.46
43:d:83:G:H1'	45:f:53:PHE:CE1	2.51	0.46
49:j:71:ALA:HB3	49:j:73:VAL:HG22	1.98	0.46
51:l:1:MET:CE	51:l:20:GLY:N	2.79	0.46
58:s:25:LEU:HD11	58:s:101:ILE:HD13	1.97	0.46
59:t:8:LEU:N	59:t:8:LEU:HD12	2.31	0.46
63:x:35:ILE:HD11	63:x:102:ARG:HH21	1.81	0.46
6:5:10:DT:OP1	11:AA:476:LYS:HD2	2.16	0.46
9:9:43:LYS:HE3	9:9:102:ALA:HB2	1.97	0.46
10:A:24:U:H2'	10:A:25:C:C6	2.51	0.46
14:AE:1108:GLN:HE21	14:AE:1123:ARG:HH12	1.62	0.46
16:C:21:ILE:CD1	16:C:54:GLN:NE2	2.79	0.46
16:C:63:ARG:HB3	16:C:70:TYR:CE1	2.51	0.46
17:D:110:C:H1'	34:U:25:ARG:NH1	2.31	0.46
17:D:696:A:H2'	17:D:697:U:H6	1.81	0.46
17:D:878:A:P	27:N:80:ARG:HH11	2.39	0.46
17:D:1109:C:C2	17:D:1110:A:C8	3.04	0.46
17:D:1324:A:H2'	17:D:1325:C:C6	2.51	0.46
17:D:1458:G:H5"	18:E:26:SER:OG	2.14	0.46
20:G:18:HIS:CE1	20:G:205:ASP:OD1	2.68	0.46
20:G:19:GLN:OE1	20:G:21:ARG:CG	2.63	0.46
23:J:138:SER:O	23:J:139:PRO:C	2.57	0.46
24:K:165:LEU:HD12	27:N:114:ARG:NH1	2.30	0.46
25:L:98:GLU:HA	25:L:98:GLU:OE1	2.16	0.46
26:M:18:PHE:CD2	26:M:59:LEU:HD21	2.47	0.46
26:M:74:GLU:CG	26:M:91:VAL:CG1	2.94	0.46
26:M:87:VAL:HG12	26:M:151:PHE:HD2	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:M:134:ALA:HA	26:M:137:LYS:CD	2.46	0.46
29:P:63:ASP:OD2	29:P:63:ASP:C	2.59	0.46
33:T:11:ILE:HG21	33:T:31:LEU:CD1	2.45	0.46
35:V:7:THR:CG2	35:V:60:GLU:OE2	2.63	0.46
36:W:44:MET:HE1	36:W:62:VAL:CG2	2.46	0.46
38:Y:102:ARG:HE	38:Y:139:VAL:HG21	1.79	0.46
40:a:13:A:O2'	40:a:15:G:N7	2.45	0.46
40:a:78:U:OP1	44:e:4:LYS:CE	2.63	0.46
40:a:182:A:H2'	40:a:183:C:H6	1.81	0.46
40:a:396:G:C6	40:a:397:U:C4	3.04	0.46
40:a:1342:A:O2'	40:a:1344:U:OP2	2.31	0.46
40:a:1406:U:O2'	40:a:1407:G:P	2.74	0.46
40:a:1613:G:O2'	52:m:3:ARG:CZ	2.64	0.46
40:a:2362:C:OP2	54:o:40:ARG:CZ	2.63	0.46
40:a:2514:U:H2'	40:a:2515:C:H6	1.81	0.46
40:a:2649:C:H2'	40:a:2650:U:C6	2.51	0.46
40:a:2766:A:C5	40:a:2767:C:C5	3.03	0.46
44:e:10:SER:OG	44:e:12:GLU:HG2	2.15	0.46
51:l:112:LEU:HD21	51:l:186:VAL:HB	1.97	0.46
53:n:93:GLY:C	53:n:97:TRP:CZ3	2.92	0.46
53:n:171:ALA:O	53:n:174:ASP:N	2.47	0.46
55:p:18:LYS:HE2	55:p:18:LYS:HA	1.97	0.46
64:y:103:ARG:HD3	64:y:107:ALA:C	2.41	0.46
64:y:106:LYS:CD	64:y:109:ARG:NH2	2.79	0.46
9:9:122:GLN:OE1	9:9:122:GLN:N	2.49	0.46
10:A:47:U:H2'	10:A:48:C:H4'	1.97	0.46
11:AA:28:LEU:HD21	11:AA:524:ILE:HG13	1.97	0.46
12:AB:119:THR:HB	12:AB:125:GLY:HA2	1.97	0.46
13:AD:185:TYR:HA	13:AD:202:VAL:O	2.16	0.46
14:AE:1350:ASN:HA	14:AE:1353:VAL:HG12	1.97	0.46
17:D:307:C:O2	17:D:307:C:H2'	2.15	0.46
17:D:377:G:OP1	34:U:5:ARG:CZ	2.60	0.46
17:D:611:C:C2	17:D:612:C:C6	3.04	0.46
17:D:827:U:O4	17:D:872:A:C2	2.69	0.46
17:D:1086:U:O2	17:D:1086:U:H2'	2.16	0.46
18:E:54:MET:O	18:E:58:VAL:HG23	2.16	0.46
22:I:58:GLU:OE2	29:P:94:ALA:HB1	2.16	0.46
27:N:6:PRO:O	27:N:33:LYS:NZ	2.48	0.46
31:R:5:ASN:HB3	31:R:9:ARG:HH22	1.79	0.46
32:S:77:PHE:CE1	32:S:93:ILE:HD13	2.51	0.46
33:T:47:LYS:HD3	33:T:47:LYS:N	2.30	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:Y:102:ARG:HD3	38:Y:141:ASP:OD1	2.16	0.46
38:Y:126:ARG:HH12	40:a:1082:U:C5'	2.29	0.46
40:a:391:A:C5	40:a:392:U:C5	3.04	0.46
40:a:392:U:C2	40:a:393:C:C5	3.04	0.46
40:a:654:A:N6	54:o:19:LYS:HD2	2.29	0.46
40:a:1007:C:H5"	58:s:37:ARG:NE	2.31	0.46
40:a:1408:G:N3	40:a:1408:G:H2'	2.31	0.46
40:a:1477:A:N6	40:a:1514:G:O2'	2.45	0.46
40:a:1794:A:H2'	40:a:1795:C:C6	2.50	0.46
40:a:2309:A:H2'	40:a:2310:C:O4'	2.16	0.46
41:b:53:CYS:SG	41:b:57:HIS:HA	2.55	0.46
61:v:41:LEU:HD22	61:v:124:LEU:HD22	1.97	0.46
2:1:20:VAL:CG1	2:1:47:VAL:HG11	2.46	0.46
2:1:50:VAL:HG12	2:1:105:VAL:CG1	2.45	0.46
5:4:53:LYS:HB3	5:4:55:GLU:OE1	2.16	0.46
8:7:22:U:H5"	22:I:80:LYS:HB2	1.95	0.46
9:9:61:ARG:CD	40:a:1046:A:O5'	2.64	0.46
11:AA:689:ALA:HB2	11:AA:1233:LEU:HD23	1.97	0.46
12:AB:6:LEU:N	12:AB:88:VAL:HG21	2.31	0.46
12:AB:31:PRO:C	12:AB:50:LEU:H	2.22	0.46
16:C:33:ILE:O	21:H:338:GLU:CG	2.64	0.46
17:D:277:C:OP1	35:V:43:LYS:HD2	2.15	0.46
17:D:915:A:C5	17:D:916:U:C5	3.04	0.46
17:D:1055:A:H1'	22:I:156:ARG:NH2	2.31	0.46
17:D:1108:G:C5	17:D:1109:C:C5	3.04	0.46
17:D:1513:A:H2'	17:D:1514:G:C8	2.51	0.46
19:F:63:GLU:HG2	19:F:67:ARG:CZ	2.46	0.46
20:G:19:GLN:HE21	21:H:75:VAL:C	2.24	0.46
20:G:197:ASP:OD2	20:G:198:PHE:CE2	2.68	0.46
26:M:108:ALA:O	26:M:119:ARG:NH2	2.45	0.46
28:O:5:GLN:HE21	28:O:20:PHE:HB3	1.81	0.46
29:P:10:LEU:HD22	29:P:22:THR:HG22	1.98	0.46
29:P:90:LEU:HD12	29:P:90:LEU:N	2.31	0.46
32:S:82:ILE:HG23	32:S:83:LYS:N	2.31	0.46
32:S:86:GLU:OE2	32:S:90:ARG:HD3	2.16	0.46
38:Y:45:THR:HG22	38:Y:45:THR:O	2.16	0.46
38:Y:91:LYS:HZ3	38:Y:97:VAL:HG21	1.81	0.46
40:a:67:U:N3	40:a:68:G:C5	2.84	0.46
40:a:78:U:P	44:e:4:LYS:NZ	2.89	0.46
40:a:374:A:C2	40:a:375:G:H1'	2.51	0.46
40:a:1588:G:C6	40:a:1589:U:O4	2.69	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:1786:A:H1'	40:a:1938:A:N6	2.31	0.46
40:a:1796:U:H2'	40:a:1797:G:C8	2.50	0.46
40:a:2289:G:C2	40:a:2290:G:C8	3.04	0.46
40:a:2314:A:P	53:n:88:LYS:HZ2	2.39	0.46
43:d:82:U:O2'	45:f:53:PHE:HE2	1.98	0.46
48:i:28:LEU:HB2	48:i:37:LYS:HE3	1.97	0.46
50:k:7:GLU:OE2	50:k:27:LYS:HG3	2.16	0.46
51:l:175:ILE:HG21	51:l:180:LEU:HD11	1.97	0.46
55:p:69:ARG:NH1	55:p:73:ASN:CG	2.74	0.46
59:t:1:MET:CE	59:t:32:TYR:CG	2.99	0.46
62:w:115:LEU:HD23	62:w:117:ASP:N	2.30	0.46
1:0:1:MET:O	1:0:15:SER:OG	2.19	0.46
2:1:86:MET:SD	2:1:88:ARG:HD2	2.56	0.46
5:4:80:HIS:CD2	5:4:83:LYS:HZ3	2.31	0.46
7:6:25:DT:OP1	11:AA:496:LYS:O	2.34	0.46
8:7:38:U:H3'	8:7:38:U:H6	1.80	0.46
9:9:87:GLU:OE2	9:9:95:LEU:CG	2.64	0.46
10:A:6:G:O2'	10:A:7:G:H8	1.98	0.46
12:AB:6:LEU:HD13	14:AE:291:ILE:CG1	2.46	0.46
12:AB:126:PHE:HZ	29:P:85:ASP:OD2	1.98	0.46
12:AB:140:MET:O	12:AB:151:LYS:O	2.34	0.46
16:C:12:ARG:HB2	21:H:264:GLU:CB	2.46	0.46
17:D:765:G:C6	17:D:812:G:C4	3.04	0.46
17:D:1382:C:N3	17:D:1383:C:C5	2.83	0.46
17:D:1512:U:H2'	17:D:1513:A:C8	2.51	0.46
25:L:38:ARG:NE	25:L:97:THR:O	2.49	0.46
26:M:31:MET:HE1	26:M:36:LYS:CD	2.46	0.46
26:M:44:TYR:C	26:M:44:TYR:CD2	2.94	0.46
28:O:63:LEU:HD13	28:O:65:ILE:HD11	1.97	0.46
31:R:30:LYS:O	31:R:81:LEU:HD12	2.16	0.46
31:R:68:GLY:O	31:R:99:ARG:NH1	2.49	0.46
33:T:15:PHE:CE2	33:T:30:ALA:HB1	2.51	0.46
40:a:644:A:C2	40:a:2369:A:H1'	2.51	0.46
40:a:1223:G:N2	40:a:1226:A:OP2	2.43	0.46
40:a:2013:A:C2	40:a:2613:U:O4	2.68	0.46
40:a:2065:C:C2	40:a:2066:C:C5	3.04	0.46
40:a:2420:C:C5'	50:k:8:LYS:NZ	2.76	0.46
40:a:2756:U:N3	40:a:2758:A:N6	2.64	0.46
42:c:41:GLU:O	42:c:44:LYS:HD2	2.16	0.46
53:n:127:ASN:OD1	53:n:157:THR:HA	2.16	0.46
59:t:108:ARG:CG	59:t:116:ILE:HD13	2.46	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:11:ARG:NH1	2:1:11:ARG:HB3	2.30	0.45
8:7:41:U:H4'	14:AE:322:ARG:CZ	2.46	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
12:AB:76:SER:O	12:AB:77:HIS:HB3	2.16	0.45
12:AB:140:MET:HB3	12:AB:150:ILE:HD12	1.98	0.45
12:AB:147:ASN:HB3	12:AB:148:LYS:H	1.52	0.45
14:AE:230:SER:OG	14:AE:231:GLY:N	2.49	0.45
16:C:14:THR:HG21	16:C:48:ARG:CD	2.46	0.45
17:D:197:A:C6	17:D:221:C:H4'	2.50	0.45
17:D:377:G:H2'	17:D:378:G:H8	1.81	0.45
17:D:980:C:C5	17:D:981:U:C2	3.04	0.45
17:D:984:C:C2	17:D:985:C:C5	3.05	0.45
19:F:37:PHE:C	30:Q:126:LYS:HZ1	2.24	0.45
26:M:116:MET:HA	26:M:119:ARG:HD3	1.97	0.45
27:N:89:LYS:HG3	27:N:90:ASP:N	2.31	0.45
28:O:88:MET:CE	28:O:95:ARG:HG3	2.46	0.45
29:P:5:ARG:HE	29:P:7:ARG:CZ	2.29	0.45
40:a:235:U:N3	40:a:236:C:C5	2.84	0.45
40:a:582:A:H5"	65:z:11:ARG:HH12	1.81	0.45
40:a:666:A:H4'	60:u:48:ARG:HD2	1.97	0.45
40:a:818:G:N1	40:a:1188:U:OP2	2.35	0.45
40:a:952:G:C6	40:a:966:G:C6	3.04	0.45
40:a:985:C:N3	40:a:986:C:C5	2.84	0.45
40:a:1013:C:C2	40:a:1014:A:C8	3.04	0.45
40:a:1200:C:C2	40:a:1201:U:C5	3.03	0.45
40:a:1708:C:H2'	40:a:1709:U:H6	1.79	0.45
40:a:2297:A:C6	40:a:2321:U:O4	2.68	0.45
40:a:2616:C:N3	40:a:2617:U:C5	2.83	0.45
42:c:76:GLU:OE1	42:c:77:LYS:O	2.34	0.45
48:i:40:ARG:HH12	48:i:41:HIS:CD2	2.34	0.45
56:q:2:LYS:HE2	56:q:35:GLN:HG3	1.97	0.45
58:s:55:ILE:HG13	58:s:123:LYS:CE	2.46	0.45
58:s:73:VAL:CG1	58:s:86:GLN:HG2	2.46	0.45
61:v:31:PHE:O	61:v:104:GLU:OE1	2.33	0.45
64:y:14:LYS:NZ	64:y:76:THR:O	2.49	0.45
5:4:23:ALA:O	5:4:24:ASN:OD1	2.33	0.45
10:A:19:G:O6	40:a:2112:G:O5'	2.34	0.45
10:A:65:C:C2'	10:A:66:C:H5'	2.44	0.45
11:AA:557:ARG:NH2	11:AA:607:SER:O	2.50	0.45
12:AB:146:ILE:HG12	29:P:100:ILE:HG22	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:AC:102:LEU:HD12	13:AC:115:ILE:HG12	1.96	0.45
10:B:50:U:H2'	10:B:51:C:C6	2.51	0.45
17:D:1328:C:O3'	37:X:28:THR:HB	2.16	0.45
19:F:38:TYR:O	30:Q:126:LYS:HE3	2.17	0.45
22:I:72:ARG:NE	22:I:75:ILE:HB	2.32	0.45
22:I:114:LYS:HB2	22:I:185:ASN:ND2	2.32	0.45
25:L:43:GLY:HA2	25:L:58:HIS:CE1	2.51	0.45
25:L:94:HIS:CG	25:L:95:ALA:H	2.34	0.45
25:L:96:VAL:O	25:L:96:VAL:HG23	2.16	0.45
26:M:78:ARG:CG	26:M:80:VAL:HG13	2.46	0.45
28:O:58:VAL:HG23	28:O:59:GLU:N	2.31	0.45
31:R:18:LYS:HD3	31:R:19:SER:O	2.16	0.45
34:U:8:ARG:H	34:U:28:ARG:HD3	1.81	0.45
38:Y:15:GLY:CA	38:Y:50:LYS:HG3	2.40	0.45
38:Y:59:THR:C	38:Y:66:PHE:HB2	2.41	0.45
40:a:15:G:O2'	48:i:15:MET:HE1	2.16	0.45
40:a:15:G:O2'	48:i:15:MET:HE2	2.15	0.45
40:a:132:G:H2'	40:a:133:U:H6	1.80	0.45
40:a:396:G:C5	40:a:397:U:C5	3.03	0.45
40:a:1278:C:H2'	40:a:1279:G:H8	1.80	0.45
40:a:1398:C:C2	40:a:1399:C:C5	3.04	0.45
40:a:1406:U:O2	40:a:1407:G:C8	2.69	0.45
40:a:1433:A:H2'	40:a:1434:A:C1'	2.46	0.45
40:a:1444:G:C4	40:a:1445:G:C8	3.04	0.45
40:a:1499:C:C2	40:a:1500:G:C8	3.03	0.45
40:a:1665:A:C5'	59:t:66:LYS:NZ	2.79	0.45
40:a:2061:G:N2	40:a:2063:C:C6	2.84	0.45
51:l:35:TYR:CD2	51:l:178:VAL:HG11	2.51	0.45
51:l:60:TRP:CD1	51:l:69:ARG:HH12	2.33	0.45
51:l:108:ILE:HD11	51:l:180:LEU:HD13	1.98	0.45
53:n:15:LYS:O	53:n:19:GLU:OE1	2.35	0.45
54:o:49:MET:H	54:o:49:MET:HE2	1.81	0.45
59:t:48:PRO:HB2	59:t:49:ARG:HE	1.81	0.45
63:x:90:VAL:CG2	63:x:115:LEU:HD21	2.46	0.45
3:2:3:ARG:HH22	3:2:4:GLU:HB2	1.81	0.45
4:3:49:VAL:HG23	4:3:51:ALA:O	2.17	0.45
8:7:22:U:C4'	22:I:80:LYS:CG	2.75	0.45
9:9:4:ASN:HB3	9:9:8:LYS:HZ2	1.80	0.45
10:A:71:C:C3'	10:A:72:A:C8	2.99	0.45
14:AE:70:CYS:C	14:AE:72:CYS:N	2.73	0.45
16:C:12:ARG:NH2	16:C:28:THR:CG2	2.79	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:413:G:N2	17:D:428:G:H1'	2.31	0.45
17:D:915:A:C6	17:D:916:U:C5	3.04	0.45
17:D:918:A:H2'	17:D:919:A:C8	2.52	0.45
17:D:928:G:H2'	17:D:929:G:H8	1.81	0.45
19:F:12:PHE:CD1	30:Q:101:ASN:ND2	2.84	0.45
20:G:27:MET:HG3	20:G:27:MET:O	2.16	0.45
21:H:24:VAL:HG23	21:H:24:VAL:O	2.16	0.45
21:H:54:LYS:HD3	21:H:58:GLY:C	2.42	0.45
21:H:297:GLU:OE1	21:H:297:GLU:N	2.49	0.45
22:I:107:ARG:HB3	22:I:108:LYS:HD2	1.97	0.45
24:K:143:GLY:O	24:K:146:ASN:OD1	2.34	0.45
25:L:17:GLN:CB	25:L:21:MET:HE1	2.47	0.45
38:Y:5:GLN:NE2	38:Y:60:VAL:C	2.74	0.45
40:a:372:G:O2'	42:c:54:LYS:CE	2.64	0.45
40:a:493:G:H2'	40:a:494:G:O4'	2.16	0.45
40:a:584:C:N4	40:a:585:G:C6	2.83	0.45
40:a:1083:U:O2'	40:a:1085:A:OP2	2.32	0.45
40:a:1796:U:H2'	40:a:1797:G:H8	1.81	0.45
47:h:33:LEU:O	47:h:64:ILE:HG12	2.16	0.45
49:j:5:VAL:HB	49:j:32:ASN:ND2	2.31	0.45
51:l:21:ARG:HA	51:l:21:ARG:NE	2.31	0.45
51:l:149:ILE:CD1	51:l:188:MET:HG2	2.46	0.45
51:l:195:GLN:CA	51:l:198:GLU:OE1	2.64	0.45
56:q:1:MET:HE3	56:q:2:LYS:N	2.31	0.45
57:r:31:VAL:HB	57:r:32:PRO:HD3	1.97	0.45
57:r:72:ILE:HG22	57:r:72:ILE:O	2.16	0.45
63:x:88:LYS:O	63:x:115:LEU:HD12	2.16	0.45
3:2:64:LYS:HD2	40:a:1312:U:C4	2.51	0.45
9:9:4:ASN:OD1	40:a:1046:A:N7	2.50	0.45
11:AA:812:PHE:HZ	14:AE:503:SER:HB2	1.80	0.45
14:AE:388:ARG:NH2	14:AE:414:GLU:OE1	2.49	0.45
14:AE:420:PRO:HA	14:AE:437:PHE:O	2.16	0.45
15:AF:25:ARG:NH1	15:AF:61:ASN:OD1	2.49	0.45
17:D:642:A:H2'	17:D:643:C:H6	1.80	0.45
17:D:723:U:O2	19:F:49:LYS:HE3	2.16	0.45
17:D:982:U:P	32:S:6:MET:HE2	2.56	0.45
17:D:1315:U:O2	17:D:1360:A:H2	2.00	0.45
21:H:288:THR:O	21:H:288:THR:HG22	2.16	0.45
24:K:13:GLU:O	24:K:13:GLU:HG2	2.16	0.45
24:K:145:GLU:CD	24:K:146:ASN:N	2.75	0.45
25:L:9:MET:C	25:L:9:MET:SD	3.00	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:L:100:SER:HB2	25:L:101:PRO:HD2	1.98	0.45
27:N:25:VAL:HG23	27:N:63:LEU:CD1	2.46	0.45
33:T:8:THR:O	33:T:11:ILE:HG22	2.16	0.45
33:T:76:ALA:C	33:T:80:GLN:NE2	2.68	0.45
34:U:6:LEU:HD23	34:U:17:TYR:CB	2.47	0.45
36:W:44:MET:HE1	36:W:66:MET:HE1	1.98	0.45
37:X:14:HIS:HB2	37:X:17:ILE:HD13	1.99	0.45
40:a:30:G:H2'	40:a:31:C:H6	1.81	0.45
40:a:219:A:H2'	40:a:220:G:C8	2.52	0.45
40:a:783:A:O2'	40:a:785:G:OP1	2.35	0.45
40:a:1107:G:C5	40:a:1108:U:C5	3.04	0.45
40:a:1664:A:N3	59:t:67:LYS:NZ	2.58	0.45
40:a:1797:G:O2'	47:h:257:THR:HG22	2.16	0.45
40:a:2314:A:O2'	53:n:155:THR:HG21	2.15	0.45
40:a:2848:G:C2	40:a:2867:G:C4	3.05	0.45
40:a:2850:A:N7	40:a:2868:A:O2'	2.41	0.45
43:d:57:A:C5	53:n:26:MET:CE	2.99	0.45
46:g:47:LYS:CD	53:n:178:ARG:HH22	2.29	0.45
49:j:3:GLY:O	49:j:82:PHE:CE2	2.69	0.45
52:m:12:ARG:CG	52:m:44:VAL:HG21	2.47	0.45
64:y:106:LYS:CD	64:y:109:ARG:HH22	2.29	0.45
2:1:31:GLN:H	2:1:31:GLN:CD	2.22	0.45
9:9:61:ARG:HE	40:a:1046:A:P	2.39	0.45
11:AA:694:ARG:HH22	13:AC:80:GLU:HG3	1.82	0.45
12:AB:141:LEU:HB2	12:AB:153:SER:OG	2.16	0.45
13:AD:83:LEU:HD11	14:AE:526:VAL:HB	1.99	0.45
14:AE:283:LEU:HD23	14:AE:292:VAL:HG11	1.99	0.45
17:D:13:U:O4	17:D:20:U:O4	2.34	0.45
17:D:198:G:OP2	17:D:198:G:C8	2.70	0.45
17:D:511:C:C2	17:D:512:U:C5	3.05	0.45
17:D:1132:C:O2	17:D:1132:C:H2'	2.16	0.45
17:D:1287:A:H2'	17:D:1288:A:C8	2.51	0.45
20:G:128:LYS:C	20:G:129:LEU:HD12	2.42	0.45
20:G:163:VAL:CG1	20:G:185:ALA:HA	2.47	0.45
22:I:142:MET:HE3	22:I:170:GLU:HB3	1.98	0.45
26:M:17:LYS:HZ2	26:M:18:PHE:HE1	1.53	0.45
28:O:46:MET:HB3	28:O:50:GLN:NE2	2.31	0.45
28:O:113:ARG:HD2	32:S:101:TRP:CD1	2.52	0.45
29:P:27:GLU:HA	29:P:30:LYS:HZ3	1.81	0.45
30:Q:88:GLY:H	30:Q:114:THR:HG22	1.81	0.45
32:S:12:LYS:NZ	32:S:16:LEU:HD21	2.31	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:V:30:LYS:HB2	35:V:37:PHE:CE1	2.52	0.45
35:V:61:ILE:C	35:V:73:TRP:HZ3	2.23	0.45
37:X:104:THR:O	37:X:104:THR:HG22	2.16	0.45
38:Y:126:ARG:NH2	40:a:1082:U:O3'	2.47	0.45
40:a:136:G:C6	40:a:144:A:C6	3.04	0.45
40:a:247:G:O6	54:o:12:LYS:NZ	2.39	0.45
40:a:580:U:O3'	65:z:31:VAL:HG13	2.17	0.45
40:a:607:U:C6	40:a:620:G:N7	2.85	0.45
40:a:669:G:H2'	40:a:670:A:N7	2.31	0.45
40:a:1803:A:O2'	47:h:257:THR:HG21	2.16	0.45
40:a:2262:U:N3	40:a:2263:C:C5	2.85	0.45
45:f:41:THR:C	45:f:45:ARG:NH2	2.75	0.45
46:g:1:MET:SD	46:g:3:LYS:HE2	2.56	0.45
49:j:48:ILE:CD1	49:j:84:LEU:HD11	2.46	0.45
51:l:23:PHE:CD1	51:l:111:GLU:CD	2.95	0.45
51:l:117:ARG:NH1	60:u:1:MET:HE2	2.32	0.45
53:n:4:LEU:HD21	53:n:101:GLU:HG3	1.97	0.45
54:o:26:HIS:CE1	54:o:48:ALA:HB2	2.51	0.45
55:p:18:LYS:HG3	55:p:27:LYS:NZ	2.32	0.45
55:p:149:ARG:CZ	55:p:162:VAL:C	2.89	0.45
56:q:30:GLU:HB3	56:q:33:HIS:ND1	2.32	0.45
58:s:31:GLU:HG2	58:s:142:ILE:HG23	1.98	0.45
1:0:73:LYS:HD3	1:0:86:GLN:HE21	1.82	0.45
5:4:31:TYR:O	5:4:92:VAL:HA	2.17	0.45
8:7:1:A:H2'	8:7:2:U:C6	2.50	0.45
9:9:14:GLU:OE1	9:9:63:ALA:HA	2.17	0.45
9:9:97:LYS:HZ1	9:9:130:PRO:HA	1.80	0.45
10:A:32:C:C2'	10:A:33:U:H5'	2.46	0.45
11:AA:1314:GLN:HA	15:AF:28:ARG:HH22	1.80	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
16:C:60:LYS:CE	17:D:735:C:O4'	2.64	0.45
16:C:70:TYR:C	16:C:71:THR:HG23	2.42	0.45
16:C:73:ARG:NH1	30:Q:113:VAL:CG1	2.76	0.45
17:D:323:U:H4'	18:E:17:ALA:HB3	1.99	0.45
17:D:715:A:H2'	17:D:716:A:C8	2.52	0.45
17:D:1202:U:C5	17:D:1203:C:C5	3.04	0.45
20:G:64:LYS:HE2	20:G:64:LYS:HA	1.99	0.45
20:G:117:LEU:HD23	20:G:141:LEU:HA	1.98	0.45
21:H:74:ALA:HB3	21:H:83:LEU:HD23	1.99	0.45
21:H:303:LEU:O	21:H:304:VAL:C	2.59	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:N:8:ALA:N	27:N:77:ARG:HH11	2.14	0.45
28:O:94:LEU:O	28:O:97:GLU:CD	2.60	0.45
29:P:28:THR:HG22	29:P:90:LEU:HD23	1.98	0.45
29:P:59:LYS:HE2	29:P:62:ARG:NH2	2.31	0.45
31:R:122:PRO:C	31:R:123:LYS:HE2	2.42	0.45
33:T:75:VAL:HG13	33:T:76:ALA:N	2.31	0.45
37:X:90:ARG:HD3	37:X:96:PRO:O	2.17	0.45
40:a:6:A:O2'	58:s:132:HIS:ND1	2.50	0.45
40:a:575:A:C2	40:a:576:U:C6	3.05	0.45
40:a:607:U:C6	40:a:620:G:C5	3.05	0.45
40:a:1665:A:O3'	59:t:66:LYS:NZ	2.44	0.45
40:a:2814:A:C5	40:a:2815:C:C5	3.05	0.45
47:h:52:ARG:CD	47:h:53:HIS:CE1	3.00	0.45
49:j:152:PRO:CG	49:j:156:PHE:CZ	2.91	0.45
53:n:92:ARG:CZ	53:n:92:ARG:HB3	2.47	0.45
64:y:31:TRP:CZ3	64:y:40:LEU:CD1	3.00	0.45
1:0:71:LYS:CG	1:0:73:LYS:HE3	2.47	0.45
4:3:5:ILE:HG13	4:3:72:ILE:HD11	1.99	0.45
9:9:1:MET:CE	9:9:7:ASP:HB3	2.41	0.45
9:9:6:GLN:CA	9:9:9:GLN:NE2	2.78	0.45
9:9:23:LEU:O	9:9:87:GLU:CD	2.60	0.45
11:AA:735:LYS:HA	11:AA:748:ILE:HG22	1.98	0.45
12:AB:147:ASN:OD1	29:P:102:LEU:N	2.50	0.45
13:AD:68:TYR:HE1	13:AD:79:LEU:HD13	1.82	0.45
10:B:18:G:N2	10:B:58:A:N7	2.65	0.45
16:C:51:TYR:HD1	16:C:54:GLN:HE22	1.58	0.45
17:D:13:U:C4	17:D:21:G:C2	3.03	0.45
17:D:636:U:H2'	17:D:637:C:C6	2.52	0.45
17:D:736:C:H5'	25:L:90:MET:HE2	1.97	0.45
17:D:824:G:C6	17:D:877:G:C6	3.05	0.45
17:D:878:A:P	27:N:80:ARG:NH1	2.89	0.45
17:D:1209:C:C2	17:D:1210:C:C5	3.04	0.45
17:D:1436:U:H2'	17:D:1437:A:C8	2.52	0.45
18:E:49:LYS:O	18:E:53:GLU:HG2	2.16	0.45
21:H:53:PHE:HE1	21:H:68:VAL:HG21	1.82	0.45
33:T:11:ILE:HD13	33:T:31:LEU:HA	1.99	0.45
36:W:5:LEU:HD12	36:W:6:LYS:N	2.32	0.45
37:X:11:ASP:HA	37:X:45:ILE:HB	1.99	0.45
39:Z:14:MET:CG	39:Z:15:SER:H	2.25	0.45
40:a:609:A:H3'	40:a:610:C:H6	1.80	0.45
40:a:1310:G:N2	40:a:1313:U:C4	2.85	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:1707:G:C4	40:a:1708:C:C5	3.04	0.45
40:a:2650:U:H2'	40:a:2651:C:H6	1.81	0.45
40:a:2755:C:H3'	56:q:19:ARG:NH2	2.31	0.45
49:j:172:VAL:HG11	49:j:175:LEU:HD11	1.99	0.45
51:l:6:LYS:CE	51:l:119:ILE:CG2	2.94	0.45
51:l:6:LYS:HZ1	51:l:119:ILE:HG22	1.81	0.45
51:l:90:GLN:OE1	51:l:92:HIS:CD2	2.70	0.45
51:l:95:LYS:HE2	51:l:97:ASN:OD1	2.17	0.45
51:l:194:LYS:HG3	51:l:198:GLU:OE2	2.16	0.45
53:n:10:ASP:OD1	53:n:11:GLU:HG3	2.17	0.45
53:n:63:GLN:HG3	53:n:95:ARG:HD3	1.99	0.45
55:p:137:ASP:OD2	55:p:140:VAL:N	2.45	0.45
62:w:48:VAL:CG1	62:w:49:GLU:OE1	2.64	0.45
62:w:79:LEU:HD23	62:w:83:LEU:HD12	1.99	0.45
65:z:66:ASN:CG	65:z:76:TYR:HB2	2.42	0.45
3:2:64:LYS:CE	40:a:1312:U:O4	2.64	0.45
5:4:16:ALA:O	5:4:20:LEU:HG	2.17	0.45
5:4:57:TYR:HD2	61:v:136:MET:HE2	1.82	0.45
9:9:3:LEU:HD12	9:9:5:LEU:H	1.82	0.45
9:9:23:LEU:HA	9:9:118:ILE:HD11	1.98	0.45
10:A:18:G:N7	10:A:57:A:N6	2.65	0.45
10:A:33:U:H4'	26:M:84:THR:HB	1.97	0.45
11:AA:712:SER:OG	11:AA:713:GLY:N	2.49	0.45
12:AB:160:ARG:HG3	12:AB:161:LYS:N	2.32	0.45
13:AC:218:ARG:NH1	13:AD:231:PHE:O	2.50	0.45
13:AD:182:ARG:HD2	14:AE:581:MET:HE1	1.98	0.45
10:B:53:G:N3	10:B:54:U:C5	2.85	0.45
16:C:34:THR:HB	16:C:38:LYS:H	1.81	0.45
17:D:13:U:O2	17:D:915:A:N7	2.49	0.45
17:D:309:A:O2'	17:D:607:A:N1	2.45	0.45
17:D:653:U:O4'	27:N:56:LYS:HE3	2.16	0.45
17:D:739:C:O2'	33:T:42:HIS:CE1	2.68	0.45
20:G:109:GLN:C	20:G:113:ARG:NE	2.75	0.45
21:H:32:ASP:OD1	21:H:35:VAL:HG22	2.17	0.45
21:H:53:PHE:CE1	21:H:68:VAL:HG21	2.52	0.45
21:H:277:GLY:HA2	21:H:331:MET:HE3	1.97	0.45
22:I:84:VAL:HG23	22:I:85:GLU:N	2.31	0.45
24:K:76:LEU:HD12	24:K:76:LEU:O	2.17	0.45
25:L:35:LYS:HD2	25:L:36:ILE:H	1.82	0.45
26:M:4:ARG:HG2	26:M:5:ARG:NH2	2.32	0.45
27:N:26:THR:OG1	27:N:58:GLU:CG	2.65	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:Q:51:GLY:O	30:Q:56:ARG:NH1	2.50	0.45
31:R:56:ARG:HG2	31:R:62:GLU:CD	2.41	0.45
33:T:3:LEU:CD2	33:T:8:THR:HG23	2.47	0.45
33:T:15:PHE:HE2	33:T:30:ALA:HB1	1.82	0.45
37:X:55:THR:HG22	37:X:59:GLU:OE2	2.17	0.45
40:a:535:G:H2'	40:a:536:G:O4'	2.17	0.45
40:a:1182:G:H2'	40:a:1183:U:O4'	2.17	0.45
40:a:1753:G:N2	40:a:1755:A:H3'	2.32	0.45
40:a:2783:U:H2'	40:a:2784:U:C6	2.52	0.45
43:d:45:A:C5'	53:n:92:ARG:NH1	2.79	0.45
45:f:51:VAL:O	45:f:55:VAL:HG12	2.17	0.45
46:g:18:CYS:HB2	46:g:40:CYS:HB3	1.96	0.45
50:k:34:LEU:HB2	50:k:51:GLU:OE2	2.16	0.45
53:n:16:LEU:HD11	53:n:169:LEU:HD13	1.98	0.45
55:p:115:HIS:HD1	55:p:151:TYR:HE2	1.65	0.45
60:u:101:ILE:C	60:u:105:ILE:HD12	2.42	0.45
65:z:76:TYR:O	65:z:80:ILE:HG12	2.16	0.45
3:2:56:GLU:OE2	3:2:88:LYS:CA	2.61	0.45
11:AA:24:VAL:HG11	11:AA:704:MET:HE1	1.98	0.45
14:AE:774:ILE:HA	14:AE:777:HIS:HD2	1.82	0.45
14:AE:802:ASP:OD1	14:AE:1348:LYS:NZ	2.42	0.45
14:AE:1321:SER:OG	14:AE:1349:GLU:OE2	2.32	0.45
10:B:3:C:H2'	10:B:4:G:H8	1.82	0.45
10:B:32:C:C2'	10:B:33:U:H5'	2.46	0.45
17:D:983:A:H2	17:D:984:C:C6	2.34	0.45
17:D:1125:U:O2'	17:D:1126:U:O5'	2.32	0.45
24:K:13:GLU:OE1	24:K:13:GLU:N	2.50	0.45
24:K:50:TYR:O	24:K:66:LYS:HE3	2.17	0.45
25:L:85:ILE:HG22	25:L:86:ARG:HG2	1.99	0.45
28:O:80:ARG:NH2	28:O:103:PHE:CE1	2.85	0.45
31:R:31:ARG:O	31:R:57:LEU:HD12	2.17	0.45
35:V:31:HIS:NE2	35:V:34:TYR:HD2	2.15	0.45
37:X:55:THR:C	37:X:59:GLU:OE1	2.60	0.45
40:a:923:G:H4'	41:b:29:GLU:OE1	2.16	0.45
44:e:24:GLU:O	44:e:28:LEU:HD13	2.17	0.45
47:h:146:MET:HE2	47:h:153:GLN:OE1	2.17	0.45
47:h:265:LYS:HG3	47:h:266:PHE:CD2	2.52	0.45
51:l:6:LYS:HZ1	51:l:120:VAL:N	2.13	0.45
53:n:175:PHE:CG	53:n:176:PRO:HD2	2.52	0.45
55:p:121:ILE:HD12	55:p:141:ILE:CG2	2.39	0.45
59:t:17:ARG:NH2	59:t:47:ILE:CG2	2.80	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:u:91:ASP:HB2	60:u:93:ASN:OD1	2.17	0.45
64:y:15:GLN:NE2	64:y:16:ASP:CG	2.75	0.45
8:7:2:U:OP2	17:D:926:G:N2	2.50	0.45
9:9:68:PRO:O	9:9:72:LEU:HD21	2.16	0.45
10:A:34:C:P	26:M:84:THR:HG1	2.38	0.45
11:AA:560:PRO:HB2	14:AE:776:THR:HG21	1.99	0.45
11:AA:1246:ARG:HH11	11:AA:1266:GLY:HA2	1.82	0.45
17:D:414:A:C4	17:D:415:A:C8	3.05	0.45
17:D:657:U:C1’	33:T:28:GLN:HE22	2.24	0.45
17:D:676:A:H2’	17:D:677:U:H6	1.82	0.45
17:D:753:A:OP1	33:T:73:LYS:NZ	2.50	0.45
17:D:1172:C:H2’	17:D:1173:U:H6	1.83	0.45
18:E:54:MET:C	18:E:54:MET:SD	3.00	0.45
20:G:52:GLU:C	20:G:56:GLU:OE1	2.60	0.45
20:G:77:SER:O	20:G:80:VAL:HG12	2.17	0.45
23:J:95:GLU:HG3	23:J:186:PRO:HG3	1.98	0.45
25:L:5:GLU:CD	25:L:61:LEU:HD11	2.42	0.45
25:L:18:VAL:N	25:L:19:PRO:CD	2.80	0.45
26:M:132:GLY:O	26:M:136:LYS:HD3	2.17	0.45
26:M:134:ALA:O	26:M:137:LYS:CG	2.65	0.45
28:O:51:PRO:CA	28:O:103:PHE:HE2	2.30	0.45
29:P:64:GLN:HG2	32:S:101:TRP:CH2	2.52	0.45
29:P:73:LEU:C	29:P:73:LEU:HD23	2.42	0.45
37:X:2:ALA:HB1	37:X:9:ILE:CG2	2.47	0.45
40:a:685:A:C8	40:a:773:U:C4	3.04	0.45
40:a:1414:C:H2’	40:a:1415:U:C6	2.52	0.45
40:a:2049:G:N2	49:j:161:MET:CE	2.80	0.45
40:a:2098:U:H2’	40:a:2099:U:O4’	2.17	0.45
40:a:2478:A:C8	40:a:2529:G:C5	3.04	0.45
40:a:2529:G:N7	56:q:32:LYS:NZ	2.63	0.45
40:a:2572:A:OP2	49:j:149:ASN:O	2.35	0.45
40:a:2743:U:H2’	40:a:2744:G:O4’	2.17	0.45
40:a:2747:G:C2	40:a:2756:U:C5	3.05	0.45
40:a:2766:A:C6	40:a:2767:C:C5	3.05	0.45
50:k:19:HIS:CE1	50:k:41:PRO:CD	2.99	0.45
51:l:1:MET:HE3	51:l:19:PHE:C	2.42	0.45
55:p:8:PRO:C	55:p:69:ARG:NH2	2.75	0.45
55:p:11:VAL:HG12	55:p:48:ASN:O	2.17	0.45
60:u:95:LEU:HD12	60:u:100:ILE:HG21	1.99	0.45
60:u:101:ILE:HG13	60:u:102:GLY:H	1.82	0.45
61:v:39:GLY:O	61:v:96:ILE:N	2.33	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:3:66:GLN:OE1	40:a:329:G:OP2	2.34	0.44
8:7:9:U:OP2	8:7:9:U:C6	2.70	0.44
8:7:12:U:C3'	8:7:12:U:C6	3.00	0.44
9:9:3:LEU:CD1	9:9:4:ASN:N	2.63	0.44
10:A:18:G:C5	10:A:57:A:N6	2.85	0.44
10:A:71:C:H2'	10:A:72:A:C1'	2.47	0.44
11:AA:674:ASP:OD2	11:AA:1070:HIS:ND1	2.50	0.44
11:AA:813:GLU:HB2	14:AE:461:PHE:HD2	1.82	0.44
12:AB:122:ALA:O	29:P:81:GLU:CD	2.60	0.44
13:AD:29:GLU:HB3	13:AD:200:LYS:HG3	1.99	0.44
14:AE:907:HIS:ND1	14:AE:908:ILE:O	2.48	0.44
10:B:72:A:C3'	10:B:73:A:H5"	2.47	0.44
10:B:75:C:P	40:a:2602:A:C2'	3.06	0.44
17:D:219:U:C2	17:D:220:G:C8	3.05	0.44
17:D:429:U:O2	17:D:430:A:N7	2.50	0.44
17:D:735:C:C2	17:D:736:C:C5	3.05	0.44
17:D:1226:C:H4'	17:D:1227:A:OP1	2.16	0.44
17:D:1437:A:C2	17:D:1438:G:C8	3.05	0.44
18:E:16:LYS:HG3	18:E:19:LYS:HE3	1.98	0.44
20:G:100:MET:SD	20:G:101:LEU:HD23	2.57	0.44
21:H:32:ASP:OD1	21:H:35:VAL:HG23	2.16	0.44
22:I:14:ILE:HG13	22:I:178:LEU:HD21	1.99	0.44
22:I:147:LYS:HE2	22:I:204:LYS:C	2.43	0.44
26:M:138:ARG:HG2	26:M:142:HIS:HE1	1.81	0.44
30:Q:84:VAL:HG21	30:Q:97:ILE:HD11	1.99	0.44
31:R:30:LYS:C	31:R:81:LEU:HD12	2.42	0.44
33:T:15:PHE:CE2	33:T:30:ALA:CB	2.99	0.44
38:Y:81:LYS:N	38:Y:81:LYS:CD	2.79	0.44
38:Y:93:ASN:O	38:Y:94:LYS:HD2	2.16	0.44
40:a:594:U:C2	40:a:595:C:C5	3.05	0.44
40:a:730:A:C2	40:a:731:C:C5	3.05	0.44
40:a:730:A:C2	40:a:731:C:C6	3.05	0.44
40:a:861:A:H2'	40:a:862:G:O4'	2.17	0.44
40:a:1131:G:OP1	58:s:81:ILE:O	2.34	0.44
40:a:1144:A:C4	40:a:1145:C:C5	3.05	0.44
40:a:1441:G:H2'	40:a:1442:U:H6	1.82	0.44
40:a:2297:A:C2	40:a:2320:U:C1'	3.00	0.44
40:a:2636:C:O2'	49:j:45:TYR:OH	1.99	0.44
51:l:6:LYS:HZ2	51:l:119:ILE:HA	1.83	0.44
51:l:23:PHE:CE2	51:l:25:GLU:HB2	2.52	0.44
51:l:23:PHE:CD1	51:l:111:GLU:CG	3.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:o:39:LYS:HG2	54:o:42:ARG:HH12	1.82	0.44
55:p:91:GLY:HA3	55:p:94:TYR:CD2	2.52	0.44
55:p:141:ILE:HG13	55:p:142:GLY:N	2.32	0.44
60:u:55:MET:SD	60:u:60:ARG:N	2.90	0.44
61:v:104:GLU:OE1	61:v:104:GLU:HA	2.17	0.44
1:0:74:ILE:HD12	1:0:74:ILE:N	2.32	0.44
5:4:53:LYS:HD2	5:4:56:PHE:CZ	2.50	0.44
12:AB:6:LEU:HD22	14:AE:291:ILE:HD11	1.99	0.44
12:AB:17:ALA:O	12:AB:20:HIS:HB2	2.17	0.44
12:AB:52:PRO:O	12:AB:54:TYR:N	2.50	0.44
13:AD:212:ASP:OD1	13:AD:212:ASP:N	2.48	0.44
14:AE:781:LYS:HD2	14:AE:933:ARG:HH12	1.81	0.44
10:B:3:C:H2'	10:B:4:G:C8	2.52	0.44
16:C:65:LEU:HD23	16:C:67:LEU:CD1	2.47	0.44
16:C:70:TYR:CE2	25:L:49:TYR:CE1	3.05	0.44
17:D:958:A:C4	36:W:55:ARG:HD3	2.52	0.44
17:D:1323:G:H2'	17:D:1324:A:H8	1.78	0.44
17:D:1389:C:H2'	17:D:1390:U:O4'	2.17	0.44
21:H:12:SER:O	21:H:16:ILE:HG13	2.17	0.44
21:H:37:LEU:HG	21:H:46:SER:O	2.16	0.44
21:H:49:PRO:CD	21:H:84:LEU:HD21	2.48	0.44
22:I:39:VAL:HG23	22:I:40:ARG:N	2.32	0.44
25:L:78:PHE:HD1	25:L:87:SER:HB3	1.83	0.44
28:O:86:ALA:C	28:O:89:GLU:HG2	2.42	0.44
33:T:71:LYS:HE2	33:T:78:TYR:CD2	2.52	0.44
36:W:68:GLY:HA3	46:g:59:ARG:HH22	1.82	0.44
38:Y:19:PRO:CG	38:Y:23:VAL:CG2	2.95	0.44
38:Y:24:GLY:HA3	38:Y:25:PRO:HD3	1.86	0.44
40:a:893:C:H2'	40:a:894:U:C5	2.51	0.44
40:a:1021:A:C2	40:a:1141:U:O4	2.71	0.44
40:a:1792:G:C5'	47:h:204:VAL:HG23	2.47	0.44
40:a:1800:C:HO2'	40:a:1818:U:H3	1.65	0.44
40:a:1856:U:H2'	40:a:1857:G:O4'	2.17	0.44
40:a:2016:U:H2'	40:a:2017:U:C6	2.52	0.44
40:a:2095:A:O5'	57:r:11:ASN:OD1	2.35	0.44
43:d:44:G:H3'	53:n:92:ARG:HH22	1.81	0.44
43:d:45:A:C4	43:d:46:A:C8	3.05	0.44
46:g:30:HIS:CG	46:g:31:ASP:N	2.85	0.44
51:l:73:ILE:HG13	51:l:73:ILE:O	2.17	0.44
57:r:127:GLU:OE2	57:r:143:ILE:HB	2.17	0.44
10:A:3:C:H2'	10:A:4:G:C8	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:829:THR:HG23	11:AA:1059:ARG:HG2	1.99	0.44
14:AE:482:ALA:HA	15:AF:6:VAL:HG21	1.98	0.44
14:AE:848:VAL:HB	14:AE:858:VAL:HG22	1.98	0.44
10:B:18:G:C5	10:B:57:A:N6	2.85	0.44
17:D:269:C:H2'	17:D:270:A:C8	2.51	0.44
17:D:682:G:C2	17:D:683:G:C8	3.06	0.44
17:D:1146:A:C5	17:D:1147:C:C5	3.06	0.44
18:E:25:ARG:O	18:E:28:MET:HB2	2.18	0.44
21:H:277:GLY:CA	21:H:331:MET:CE	2.93	0.44
22:I:55:ILE:HD12	22:I:68:ILE:HG12	1.99	0.44
25:L:72:ASP:O	25:L:76:THR:HG23	2.17	0.44
29:P:47:GLU:HB2	29:P:67:ILE:HG22	1.98	0.44
30:Q:21:ALA:HB3	30:Q:84:VAL:HG22	1.99	0.44
30:Q:52:PHE:CE1	30:Q:65:VAL:HG21	2.52	0.44
31:R:23:ALA:O	31:R:25:GLU:OE1	2.36	0.44
32:S:13:ARG:HB3	32:S:60:GLN:HE21	1.81	0.44
33:T:32:LEU:HD12	33:T:63:ARG:HA	1.98	0.44
38:Y:59:THR:O	38:Y:66:PHE:HB2	2.16	0.44
40:a:152:A:H2'	40:a:153:U:C6	2.51	0.44
40:a:239:C:O2'	40:a:622:G:O2'	2.32	0.44
40:a:654:A:H61	54:o:19:LYS:CD	2.31	0.44
40:a:957:C:H5'	61:v:75:GLU:OE1	2.17	0.44
40:a:980:A:N7	40:a:1136:G:H5'	2.32	0.44
40:a:1042:G:C5	40:a:1043:C:C5	3.05	0.44
40:a:1790:C:C2'	40:a:1791:A:C8	3.00	0.44
40:a:1889:A:H2'	40:a:1890:A:C8	2.51	0.44
47:h:251:GLN:OE1	47:h:255:LYS:CB	2.65	0.44
54:o:45:ARG:HB3	54:o:46:PRO:CD	2.47	0.44
54:o:55:LEU:C	54:o:55:LEU:HD23	2.42	0.44
58:s:17:VAL:HG23	58:s:137:PRO:HB2	1.98	0.44
65:z:82:GLY:CA	65:z:117:LEU:HD11	2.48	0.44
65:z:89:GLU:N	65:z:89:GLU:OE1	2.50	0.44
9:9:19:ALA:CB	9:9:69:PHE:HE2	2.31	0.44
9:9:129:LEU:CD1	9:9:130:PRO:HD3	2.45	0.44
10:A:18:G:N2	10:A:58:A:N7	2.65	0.44
10:B:71:C:H2'	10:B:72:A:N9	2.32	0.44
16:C:41:PRO:HD2	21:H:339:ARG:CZ	2.47	0.44
17:D:262:A:H2'	17:D:263:A:C8	2.53	0.44
17:D:360:G:H2'	17:D:361:G:C8	2.53	0.44
17:D:524:G:H2'	17:D:525:C:C6	2.52	0.44
17:D:736:C:H4'	25:L:88:MET:HE2	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:986:U:H2'	17:D:987:G:C8	2.53	0.44
17:D:1308:U:H3'	37:X:98:ARG:NE	2.32	0.44
17:D:1333:A:H2'	17:D:1334:G:O4'	2.17	0.44
21:H:163:ARG:N	21:H:298:GLU:CG	2.81	0.44
21:H:304:VAL:O	21:H:304:VAL:CG1	2.63	0.44
22:I:72:ARG:HD3	22:I:75:ILE:HG22	1.99	0.44
23:J:172:GLU:CD	23:J:183:LYS:HD2	2.42	0.44
24:K:16:ILE:HD11	24:K:38:VAL:CG1	2.46	0.44
25:L:9:MET:HE3	25:L:9:MET:HB3	1.85	0.44
26:M:31:MET:HE3	26:M:31:MET:HB2	1.76	0.44
27:N:84:ARG:HD2	27:N:124:GLU:OE1	2.17	0.44
29:P:66:GLU:HG3	32:S:99:ALA:HB2	2.00	0.44
33:T:11:ILE:HD11	33:T:30:ALA:HB1	1.98	0.44
33:T:26:GLU:HG3	33:T:27:VAL:N	2.33	0.44
36:W:79:THR:HG23	36:W:79:THR:O	2.18	0.44
37:X:3:ARG:NH2	53:n:110:ARG:HD2	2.33	0.44
37:X:79:ARG:NH1	46:g:56:ARG:NH1	2.66	0.44
38:Y:102:ARG:HH21	38:Y:105:LEU:HD12	1.81	0.44
38:Y:126:ARG:HH12	40:a:1083:U:P	2.40	0.44
40:a:221:A:C4	40:a:266:G:N7	2.85	0.44
40:a:685:A:N1	40:a:787:C:H1'	2.33	0.44
40:a:832:U:H2'	40:a:833:A:C8	2.50	0.44
45:f:12:SER:CA	45:f:32:ILE:HD11	2.46	0.44
54:o:30:ARG:HH12	60:u:62:PRO:N	2.15	0.44
57:r:6:LEU:C	57:r:15:LEU:HD13	2.42	0.44
58:s:35:ARG:HA	58:s:40:HIS:ND1	2.32	0.44
59:t:38:ILE:CD1	59:t:112:PHE:HZ	2.30	0.44
62:w:56:LYS:NZ	62:w:90:ARG:O	2.47	0.44
64:y:7:GLN:HE21	64:y:10:GLN:HE21	1.65	0.44
1:0:77:PHE:CD2	65:z:40:ILE:HG21	2.53	0.44
3:2:65:GLY:H	3:2:76:ARG:HH12	1.64	0.44
9:9:6:GLN:CA	9:9:9:GLN:HE22	2.30	0.44
9:9:59:LEU:HD22	9:9:62:ARG:HE	1.81	0.44
17:D:151:A:C5	17:D:152:A:C8	3.04	0.44
17:D:153:C:C2	17:D:154:U:C5	3.06	0.44
17:D:633:G:H2'	17:D:634:C:H6	1.82	0.44
17:D:1173:U:H2'	17:D:1174:G:O4'	2.17	0.44
19:F:12:PHE:CD1	30:Q:101:ASN:CG	2.95	0.44
20:G:48:PRO:O	20:G:52:GLU:HG2	2.18	0.44
20:G:66:LYS:HB3	20:G:154:MET:HE3	1.99	0.44
21:H:76:GLU:OE1	21:H:79:PHE:HA	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:H:303:LEU:CD2	21:H:305:HIS:HB3	2.48	0.44
22:I:152:GLU:OE2	22:I:165:THR:HG23	2.18	0.44
27:N:35:ALA:HB1	27:N:110:VAL:HG11	1.99	0.44
28:O:63:LEU:CD1	28:O:65:ILE:HD11	2.48	0.44
29:P:40:ILE:HD12	29:P:73:LEU:CD2	2.48	0.44
31:R:110:ARG:N	31:R:111:LYS:HZ3	2.16	0.44
32:S:6:MET:HE3	32:S:63:ARG:HH11	1.82	0.44
34:U:73:ALA:HA	34:U:76:LYS:HE3	1.98	0.44
36:W:32:ARG:NH2	36:W:34:TRP:HZ3	2.14	0.44
37:X:71:ARG:NH1	37:X:72:GLU:HG3	2.33	0.44
38:Y:99:LYS:NZ	38:Y:138:VAL:O	2.44	0.44
40:a:27:G:C4	40:a:512:G:N2	2.86	0.44
40:a:598:U:H2'	40:a:599:A:C8	2.52	0.44
40:a:841:G:H2'	40:a:842:U:C6	2.52	0.44
40:a:1146:C:C2	40:a:1147:A:C8	3.05	0.44
40:a:1656:C:H2'	40:a:1657:U:H6	1.81	0.44
40:a:1863:G:H2'	40:a:1864:U:H6	1.83	0.44
40:a:1997:C:OP1	49:j:128:ARG:NH1	2.50	0.44
40:a:2243:U:H2'	40:a:2244:U:H6	1.80	0.44
40:a:2723:C:H2'	40:a:2724:U:O4'	2.16	0.44
51:l:112:LEU:HD23	51:l:118:LEU:HD13	1.99	0.44
52:m:41:ARG:NE	52:m:41:ARG:HA	2.32	0.44
53:n:6:ASP:O	53:n:10:ASP:OD2	2.36	0.44
53:n:22:TYR:CE2	53:n:28:VAL:HA	2.52	0.44
55:p:11:VAL:HG13	55:p:11:VAL:O	2.17	0.44
59:t:18:ARG:NE	59:t:18:ARG:HA	2.33	0.44
59:t:42:THR:CG2	59:t:44:LYS:NZ	2.78	0.44
59:t:50:GLY:O	59:t:53:LYS:NZ	2.47	0.44
1:0:93:PHE:CD1	1:0:93:PHE:C	2.96	0.44
3:2:56:GLU:CD	3:2:88:LYS:N	2.76	0.44
6:5:10:DT:C4	11:AA:62:TYR:HE2	2.27	0.44
10:A:49:G:H8	10:A:49:G:O5'	2.01	0.44
12:AB:38:ILE:HA	12:AB:42:LYS:O	2.18	0.44
12:AB:124:GLU:O	14:AE:87:LYS:HE2	2.16	0.44
14:AE:1341:ARG:NH1	14:AE:1343:GLU:OE2	2.49	0.44
16:C:60:LYS:NZ	17:D:734:G:H2'	2.25	0.44
17:D:746:A:H2'	17:D:747:A:C8	2.53	0.44
19:F:32:VAL:HG11	30:Q:89:PRO:HG3	1.99	0.44
21:H:8:LEU:HD12	21:H:11:GLU:OE2	2.18	0.44
22:I:112:ASP:O	22:I:116:VAL:HG23	2.18	0.44
22:I:135:LYS:O	22:I:138:VAL:HG12	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:I:165:THR:C	22:I:166:GLU:OE1	2.60	0.44
27:N:35:ALA:HB1	27:N:110:VAL:CG1	2.48	0.44
31:R:18:LYS:HD3	31:R:19:SER:N	2.33	0.44
33:T:10:LYS:CD	33:T:14:GLU:OE2	2.65	0.44
38:Y:14:ALA:O	38:Y:15:GLY:C	2.61	0.44
38:Y:33:ASN:OD1	38:Y:35:MET:HE2	2.18	0.44
38:Y:139:VAL:HG22	38:Y:140:GLU:H	1.82	0.44
40:a:65:U:N3	40:a:66:C:C5	2.86	0.44
40:a:234:U:C4	40:a:235:U:C5	3.06	0.44
40:a:1020:A:C2	40:a:1141:U:C2	3.06	0.44
40:a:1434:A:H2'	40:a:1435:G:C8	2.53	0.44
40:a:1443:U:H2'	40:a:1444:G:H8	1.83	0.44
40:a:1709:U:H2'	40:a:1710:G:H8	1.82	0.44
40:a:1754:A:N1	40:a:2716:C:O2'	2.34	0.44
40:a:1820:U:C2	47:h:201:MET:HE2	2.53	0.44
40:a:2747:G:N2	40:a:2756:U:C6	2.85	0.44
42:c:4:VAL:HG22	42:c:11:ARG:HG2	2.00	0.44
42:c:33:LEU:O	42:c:34:HIS:CG	2.70	0.44
49:j:61:THR:OG1	49:j:63:PRO:HD2	2.18	0.44
53:n:40:VAL:HG13	53:n:42:GLU:CD	2.43	0.44
61:v:96:ILE:HA	61:v:100:LYS:HE3	2.00	0.44
61:v:111:GLU:HG2	61:v:112:LEU:N	2.33	0.44
62:w:12:ARG:NH1	62:w:20:MET:HE1	2.33	0.44
64:y:106:LYS:CA	64:y:109:ARG:NH2	2.81	0.44
2:1:36:LEU:N	2:1:36:LEU:HD12	2.33	0.44
4:3:4:LYS:O	4:3:94:ARG:NH2	2.40	0.44
9:9:25:ALA:HB2	9:9:96:PHE:HE1	1.81	0.44
10:A:11:A:H2'	10:A:12:G:O4'	2.17	0.44
10:A:35:A:H2'	10:A:36:U:O4'	2.18	0.44
11:AA:811:ASN:ND2	11:AA:1098:LEU:O	2.51	0.44
16:C:40:VAL:HG22	21:H:339:ARG:HE	1.83	0.44
17:D:33:A:H2'	17:D:34:C:C6	2.53	0.44
17:D:511:C:C2	17:D:512:U:C6	3.06	0.44
17:D:1240:U:OP1	26:M:116:MET:HB2	2.17	0.44
17:D:1436:U:H2'	17:D:1437:A:H8	1.82	0.44
18:E:16:LYS:HA	18:E:19:LYS:HE3	2.00	0.44
20:G:117:LEU:HD21	20:G:141:LEU:CA	2.48	0.44
24:K:150:PRO:O	24:K:153:VAL:HG22	2.16	0.44
25:L:53:LYS:HD2	25:L:53:LYS:O	2.18	0.44
33:T:3:LEU:HD23	33:T:4:SER:N	2.33	0.44
34:U:12:LYS:HD2	34:U:13:LYS:HG2	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:V:15:ASP:OD1	35:V:15:ASP:N	2.49	0.44
36:W:12:ASP:OD2	36:W:35:SER:CB	2.66	0.44
37:X:101:ARG:C	37:X:103:LYS:H	2.26	0.44
38:Y:14:ALA:O	38:Y:16:MET:N	2.51	0.44
38:Y:60:VAL:HG22	38:Y:66:PHE:CD1	2.52	0.44
40:a:782:A:N1	47:h:225:MET:HE2	2.32	0.44
40:a:1282:U:H2'	40:a:1283:G:O4'	2.18	0.44
40:a:1656:C:C2	40:a:1657:U:C5	3.05	0.44
40:a:2025:C:H2'	40:a:2026:U:C6	2.53	0.44
40:a:2063:C:N3	40:a:2064:C:C5	2.86	0.44
40:a:2093:G:P	57:r:22:LYS:HG2	2.58	0.44
40:a:2450:A:C2	40:a:2451:A:C4	3.06	0.44
40:a:2727:A:O3'	59:t:70:ARG:NH2	2.50	0.44
44:e:59:GLU:CD	44:e:60:LYS:N	2.76	0.44
47:h:108:LYS:HZ3	47:h:194:GLU:H	1.64	0.44
49:j:131:ASP:OD1	49:j:133:THR:O	2.36	0.44
54:o:45:ARG:HD2	54:o:45:ARG:C	2.43	0.44
57:r:90:LEU:HD21	57:r:94:ILE:HD11	2.00	0.44
58:s:98:GLU:O	58:s:100:VAL:N	2.51	0.44
10:A:3:C:H2'	10:A:4:G:H8	1.82	0.44
11:AA:444:ASP:OD1	11:AA:444:ASP:N	2.51	0.44
11:AA:800:MET:HE3	11:AA:800:MET:HB2	1.69	0.44
11:AA:998:LEU:HG	11:AA:1011:LEU:HB3	1.99	0.44
14:AE:87:LYS:HE2	29:P:85:ASP:OD2	2.18	0.44
15:AF:58:LEU:HD12	15:AF:59:ILE:HG12	2.00	0.44
10:B:71:C:H2'	10:B:72:A:C1'	2.47	0.44
16:C:34:THR:HG22	16:C:35:GLU:N	2.33	0.44
17:D:278:G:OP2	35:V:43:LYS:NZ	2.49	0.44
17:D:376:G:C2	17:D:389:A:C2	3.06	0.44
17:D:415:A:C6	17:D:416:G:C5	3.06	0.44
17:D:754:C:O5'	33:T:72:ARG:NH1	2.51	0.44
17:D:892:A:H2'	17:D:893:C:H6	1.83	0.44
17:D:1055:A:O2'	22:I:156:ARG:NH2	2.47	0.44
17:D:1120:C:C2	17:D:1121:U:C5	3.06	0.44
18:E:78:ASN:O	18:E:82:GLN:CD	2.61	0.44
19:F:58:LYS:HD2	19:F:58:LYS:C	2.42	0.44
20:G:134:ALA:HA	20:G:137:ARG:HE	1.83	0.44
21:H:76:GLU:OE2	21:H:78:GLY:C	2.61	0.44
22:I:34:ASP:HB2	32:S:65:ARG:CZ	2.48	0.44
23:J:35:GLU:HG2	23:J:36:GLN:N	2.32	0.44
23:J:49:SER:O	23:J:53:VAL:HG13	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:M:106:GLU:O	26:M:110:LYS:HG2	2.18	0.44
27:N:110:VAL:O	27:N:111:MET:SD	2.75	0.44
29:P:26:VAL:C	29:P:30:LYS:HZ3	2.26	0.44
31:R:24:LEU:HD23	31:R:95:TYR:HE1	1.83	0.44
40:a:152:A:H2'	40:a:153:U:H6	1.82	0.44
40:a:833:A:OP2	60:u:39:LYS:NZ	2.49	0.44
40:a:858:G:OP1	41:b:78:LYS:HE3	2.18	0.44
40:a:963:U:H2'	40:a:964:C:C6	2.53	0.44
40:a:1360:G:C8	40:a:1361:G:C8	3.06	0.44
40:a:2021:C:OP1	48:i:9:THR:HG21	2.18	0.44
40:a:2149:U:H2'	40:a:2150:C:C6	2.52	0.44
40:a:2347:C:C2	40:a:2348:U:C5	3.05	0.44
40:a:2466:C:C2	40:a:2467:C:C5	3.06	0.44
40:a:2615:U:H2'	40:a:2616:C:H6	1.83	0.44
40:a:2616:C:C2	40:a:2617:U:C6	3.06	0.44
40:a:2617:U:C2	40:a:2618:G:C8	3.06	0.44
40:a:2718:G:O2'	40:a:2847:U:H5"	2.18	0.44
42:c:43:GLU:OE1	42:c:45:ARG:CB	2.65	0.44
45:f:6:LYS:HD3	45:f:6:LYS:N	2.33	0.44
47:h:130:LEU:CD2	47:h:192:LEU:HD21	2.48	0.44
47:h:164:ILE:O	47:h:164:ILE:CG2	2.65	0.44
55:p:85:LYS:HD2	55:p:85:LYS:HA	1.77	0.44
62:w:13:ASN:O	62:w:17:ARG:HG3	2.17	0.44
62:w:20:MET:HE3	62:w:20:MET:HB2	1.83	0.44
64:y:31:TRP:CH2	64:y:40:LEU:HD11	2.52	0.44
65:z:79:PHE:CE1	65:z:110:VAL:HA	2.46	0.44
2:1:1:MET:SD	2:1:62:ASP:OD2	2.76	0.44
2:1:24:ILE:HG21	2:1:36:LEU:CD1	2.42	0.44
5:4:29:ILE:HD13	43:d:74:U:O2	2.17	0.44
6:5:11:DA:C5'	12:AB:67:THR:O	2.66	0.44
9:9:25:ALA:HB3	9:9:99:PHE:CE2	2.51	0.44
14:AE:658:GLU:HA	14:AE:661:VAL:HG22	2.00	0.44
14:AE:975:ILE:HG22	14:AE:977:SER:H	1.83	0.44
17:D:564:C:OP1	31:R:12:ARG:CZ	2.66	0.44
17:D:598:U:C2	17:D:599:C:C5	3.06	0.44
17:D:622:A:C8	17:D:623:C:C6	3.06	0.44
17:D:1104:G:H4'	20:G:113:ARG:HH22	1.83	0.44
17:D:1244:G:C6	17:D:1294:G:C6	3.06	0.44
17:D:1250:A:H2'	17:D:1251:A:C8	2.52	0.44
19:F:26:ALA:CB	19:F:28:VAL:HG23	2.47	0.44
19:F:39:GLU:OE2	19:F:44:GLU:HA	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:H:19:ARG:O	21:H:72:LEU:HD13	2.18	0.44
21:H:49:PRO:HD3	21:H:84:LEU:HD21	1.99	0.44
21:H:52:GLN:OE1	21:H:52:GLN:HA	2.18	0.44
28:O:39:PHE:CD1	28:O:44:ALA:HB1	2.53	0.44
28:O:91:ASP:HB3	28:O:94:LEU:HG	1.99	0.44
29:P:24:GLU:OE2	29:P:92:LEU:CD2	2.66	0.44
31:R:57:LEU:HD23	31:R:59:ASN:CG	2.43	0.44
37:X:16:VAL:HG23	37:X:17:ILE:CD1	2.47	0.44
38:Y:37:PHE:HZ	38:Y:56:VAL:HG11	1.79	0.44
38:Y:42:ASN:OD1	38:Y:50:LYS:NZ	2.46	0.44
38:Y:44:LYS:HG2	38:Y:68:PHE:HE2	1.83	0.44
40:a:145:C:H2'	40:a:146:A:C8	2.53	0.44
40:a:536:G:H4'	65:z:57:PHE:HZ	1.82	0.44
40:a:597:G:H2'	40:a:598:U:C6	2.52	0.44
40:a:2387:U:C4'	41:b:41:ARG:NH1	2.81	0.44
40:a:2516:A:O2'	40:a:2517:C:H5'	2.18	0.44
40:a:2702:G:C4	40:a:2703:C:C5	3.06	0.44
40:a:2884:U:O2	48:i:40:ARG:NH2	2.51	0.44
44:e:13:GLU:C	44:e:17:GLU:OE1	2.60	0.44
49:j:104:VAL:HG12	49:j:105:LYS:N	2.33	0.44
58:s:132:HIS:HA	58:s:135:GLN:OE1	2.17	0.44
1:0:60:LYS:N	1:0:60:LYS:HD3	2.33	0.43
2:1:20:VAL:HG11	2:1:47:VAL:HG11	1.99	0.43
2:1:78:GLU:OE2	40:a:1262:A:OP1	2.35	0.43
8:7:1:A:C6	10:B:37:A:N1	2.86	0.43
9:9:138:ARG:NH1	39:Z:10:ALA:O	2.51	0.43
10:A:53:G:N3	10:A:54:U:C5	2.85	0.43
12:AB:33:ILE:HD11	12:AB:104:ILE:HA	2.00	0.43
12:AB:37:LYS:HE3	12:AB:109:THR:HG21	2.00	0.43
12:AB:141:LEU:HD23	12:AB:143:LEU:HG	1.98	0.43
10:B:11:A:H2'	10:B:12:G:O4'	2.17	0.43
17:D:284:C:C2	17:D:285:C:C5	3.06	0.43
17:D:356:A:N3	17:D:368:U:O2'	2.37	0.43
17:D:604:G:H2'	17:D:605:U:O4'	2.17	0.43
17:D:1060:U:H5"	29:P:53:ILE:HD12	1.99	0.43
17:D:1317:C:OP2	32:S:28:LYS:CE	2.66	0.43
22:I:149:ILE:HG13	22:I:201:TRP:O	2.18	0.43
25:L:2:ARG:HB2	25:L:4:TYR:CE1	2.53	0.43
25:L:29:ILE:HD12	25:L:29:ILE:H	1.83	0.43
26:M:23:LEU:H	26:M:23:LEU:CD1	2.30	0.43
26:M:78:ARG:HG3	26:M:80:VAL:HG13	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:O:113:ARG:HG3	28:O:115:LYS:HZ2	1.83	0.43
30:Q:83:GLU:OE1	30:Q:83:GLU:N	2.51	0.43
31:R:38:TYR:CE2	31:R:40:THR:CG2	3.01	0.43
32:S:47:LYS:O	32:S:50:THR:OG1	2.25	0.43
36:W:13:LEU:O	36:W:17:LYS:HG2	2.17	0.43
38:Y:12:VAL:HG22	38:Y:54:ILE:O	2.17	0.43
40:a:61:C:C2	40:a:94:A:C2	3.06	0.43
40:a:150:U:C2	40:a:151:C:C5	3.06	0.43
40:a:532:A:OP1	65:z:45:TYR:OH	2.32	0.43
40:a:564:C:H1'	65:z:37:GLN:NE2	2.32	0.43
40:a:870:U:N3	40:a:871:U:C5	2.86	0.43
40:a:910:A:H8	61:v:12:MET:CE	2.31	0.43
40:a:1839:G:C4	40:a:1840:G:C8	3.06	0.43
40:a:1996:C:OP1	59:t:31:ARG:NH2	2.51	0.43
40:a:2245:U:O2'	40:a:2436:G:OP2	2.27	0.43
40:a:2839:G:C5	40:a:2840:C:C5	3.05	0.43
45:f:31:ARG:HG2	45:f:34:HIS:HB2	2.00	0.43
47:h:45:ASN:OD1	47:h:46:ASN:N	2.51	0.43
47:h:200:HIS:O	47:h:203:ARG:HG2	2.17	0.43
48:i:30:VAL:HG22	48:i:37:LYS:HD2	1.98	0.43
49:j:81:GLU:O	49:j:82:PHE:HD1	2.01	0.43
49:j:204:LYS:HD3	49:j:205:PRO:HD2	2.00	0.43
54:o:31:HIS:C	54:o:33:LEU:HG	2.42	0.43
55:p:149:ARG:HD2	55:p:162:VAL:O	2.18	0.43
58:s:28:LEU:HD12	58:s:142:ILE:CG2	2.47	0.43
58:s:124:VAL:O	58:s:125:TYR:HD1	2.01	0.43
61:v:72:PRO:C	61:v:73:ILE:HD12	2.43	0.43
1:0:1:MET:HE3	1:0:43:ASN:OD1	2.18	0.43
2:1:98:LYS:HZ2	40:a:2012:G:P	2.41	0.43
7:6:25:DT:H2'	11:AA:496:LYS:CG	2.44	0.43
9:9:58:THR:HG23	40:a:1108:U:OP1	2.17	0.43
10:A:72:A:C3'	10:A:73:A:H5"	2.47	0.43
10:B:75:C:OP1	40:a:2602:A:C8	2.72	0.43
16:C:18:VAL:HG13	16:C:51:TYR:HE1	1.83	0.43
17:D:337:G:H2'	17:D:338:A:H8	1.80	0.43
17:D:642:A:C5	17:D:643:C:C5	3.06	0.43
17:D:723:U:C2	19:F:49:LYS:HE3	2.54	0.43
17:D:953:G:O6	37:X:103:LYS:HE3	2.18	0.43
17:D:1125:U:N3	17:D:1127:G:C8	2.86	0.43
17:D:1160:G:C6	17:D:1161:C:C5	3.06	0.43
19:F:66:ARG:NH2	19:F:67:ARG:NH2	2.66	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:G:9:MET:HE1	20:G:47:VAL:HG22	1.99	0.43
20:G:110:SER:HA	20:G:113:ARG:NE	2.29	0.43
21:H:305:HIS:CG	21:H:306:VAL:H	2.36	0.43
21:H:308:GLU:C	21:H:310:ASP:H	2.25	0.43
21:H:332:VAL:O	21:H:344:LEU:HA	2.17	0.43
22:I:156:ARG:CG	22:I:193:TYR:HB2	2.47	0.43
26:M:23:LEU:N	26:M:23:LEU:CD1	2.81	0.43
28:O:21:ILE:CD1	28:O:86:ALA:CB	2.97	0.43
28:O:86:ALA:O	28:O:89:GLU:CG	2.64	0.43
30:Q:85:MET:HG3	30:Q:111:THR:HB	2.00	0.43
31:R:74:LEU:HD11	31:R:80:ILE:CG1	2.48	0.43
32:S:86:GLU:O	32:S:90:ARG:HG2	2.18	0.43
33:T:63:ARG:HD2	33:T:67:LEU:HD21	2.00	0.43
38:Y:99:LYS:CE	38:Y:140:GLU:OE2	2.67	0.43
40:a:153:U:H2'	40:a:154:U:C6	2.53	0.43
40:a:782:A:C6	47:h:225:MET:HE2	2.53	0.43
40:a:1223:G:N1	40:a:1226:A:OP2	2.49	0.43
40:a:1385:A:C4	40:a:1403:A:C2	3.07	0.43
40:a:2356:U:H4'	41:b:20:ARG:HD2	1.99	0.43
40:a:2484:G:OP1	61:v:44:ARG:HD2	2.18	0.43
40:a:2590:A:H2'	40:a:2591:C:H6	1.83	0.43
40:a:2806:C:H2'	40:a:2807:U:O4'	2.18	0.43
43:d:39:A:C2	43:d:44:G:C2	3.07	0.43
43:d:69:G:C5	43:d:70:C:C6	3.06	0.43
45:f:4:THR:CG2	45:f:37:GLU:OE2	2.66	0.43
45:f:41:THR:O	45:f:43:ALA:N	2.51	0.43
47:h:74:ILE:HB	47:h:96:TYR:CD1	2.53	0.43
48:i:23:THR:O	48:i:23:THR:HG23	2.17	0.43
51:l:131:THR:HG22	51:l:160:ALA:O	2.18	0.43
53:n:15:LYS:C	53:n:19:GLU:OE1	2.61	0.43
53:n:117:LEU:N	53:n:177:PHE:O	2.51	0.43
54:o:8:ARG:HA	54:o:8:ARG:HE	1.82	0.43
62:w:60:VAL:HA	62:w:63:ARG:CZ	2.48	0.43
1:0:46:GLU:HG2	1:0:48:LYS:NZ	2.32	0.43
7:6:23:DC:H5'	14:AE:259:ARG:NH1	2.11	0.43
11:AA:300:ASP:OD1	11:AA:313:ALA:N	2.51	0.43
11:AA:1157:GLN:HG3	11:AA:1159:VAL:HG13	2.00	0.43
12:AB:31:PRO:HG2	12:AB:51:PHE:CE2	2.53	0.43
14:AE:117:LEU:HG	14:AE:118:LYS:HG3	2.00	0.43
16:C:54:GLN:HA	16:C:57:ARG:NH1	2.33	0.43
17:D:108:G:H5"	17:D:108:G:N3	2.33	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:246:A:C2	17:D:282:A:C4	3.06	0.43
17:D:562:U:C3'	31:R:14:ARG:NH1	2.81	0.43
17:D:662:U:P	25:L:93:LYS:HZ1	2.40	0.43
17:D:678:U:H2'	17:D:679:C:C6	2.53	0.43
17:D:704:A:C4	17:D:705:G:C8	3.05	0.43
17:D:1060:U:OP1	32:S:85:ARG:NH1	2.48	0.43
17:D:1062:U:H2'	17:D:1063:C:C6	2.53	0.43
17:D:1410:A:H2'	17:D:1411:C:C6	2.54	0.43
20:G:9:MET:HE2	20:G:43:LEU:HD22	2.00	0.43
25:L:18:VAL:HA	25:L:21:MET:CE	2.47	0.43
29:P:45:ARG:HD3	29:P:47:GLU:OE2	2.19	0.43
37:X:81:MET:HE1	37:X:92:ARG:CD	2.48	0.43
37:X:106:ALA:HB3	37:X:110:LYS:CD	2.48	0.43
38:Y:82:ALA:HB3	38:Y:108:ILE:CD1	2.48	0.43
40:a:39:G:H2'	40:a:40:U:H6	1.83	0.43
40:a:997:G:H5"	65:z:92:ARG:NH1	2.34	0.43
40:a:1141:U:O2	40:a:1142:A:N6	2.52	0.43
40:a:2092:U:C2	40:a:2225:A:O2'	2.71	0.43
40:a:2345:G:N3	40:a:2381:A:H2'	2.33	0.43
40:a:2636:C:O2'	49:j:45:TYR:CZ	2.70	0.43
40:a:2845:U:H5"	64:y:52:ASN:O	2.19	0.43
46:g:59:ARG:HH11	46:g:63:ARG:CD	2.31	0.43
47:h:91:ILE:HG22	47:h:92:ALA:N	2.33	0.43
52:m:26:ASN:HA	52:m:29:GLN:HE21	1.83	0.43
53:n:132:VAL:CG2	53:n:152:LEU:CD2	2.97	0.43
55:p:69:ARG:NH1	55:p:73:ASN:ND2	2.66	0.43
59:t:59:LYS:NZ	59:t:92:GLU:CG	2.81	0.43
61:v:3:GLN:OE1	61:v:4:PRO:O	2.35	0.43
2:1:36:LEU:CD2	2:1:48:LYS:HA	2.48	0.43
3:2:56:GLU:OE1	3:2:86:THR:C	2.61	0.43
4:3:7:ARG:O	4:3:25:VAL:O	2.36	0.43
4:3:7:ARG:NH2	40:a:84:A:O2'	2.51	0.43
6:5:18:DG:C4	6:5:19:DC:C5	3.06	0.43
9:9:77:VAL:CG1	9:9:82:ILE:HG21	2.41	0.43
9:9:92:ALA:HB3	9:9:129:LEU:HB2	1.99	0.43
10:A:19:G:O6	40:a:2111:U:H3'	2.18	0.43
12:AB:126:PHE:CE1	14:AE:87:LYS:HD3	2.51	0.43
10:B:18:G:N7	10:B:57:A:N6	2.65	0.43
10:B:35:A:H2'	10:B:36:U:O4'	2.18	0.43
16:C:27:ALA:CA	16:C:30:LYS:HE3	2.49	0.43
16:C:34:THR:OG1	16:C:38:LYS:HB2	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:283:U:C2	17:D:284:C:C6	3.06	0.43
17:D:316:C:C2	17:D:317:U:C5	3.06	0.43
17:D:384:G:H2'	17:D:385:C:C6	2.54	0.43
17:D:414:A:C2	17:D:415:A:H1'	2.54	0.43
17:D:877:G:H5"	27:N:80:ARG:CD	2.49	0.43
17:D:1103:C:O2	20:G:106:THR:HG21	2.18	0.43
18:E:22:ALA:CA	18:E:25:ARG:HE	2.31	0.43
19:F:51:SER:OG	19:F:55:ARG:NH2	2.52	0.43
20:G:96:TRP:CZ2	20:G:100:MET:HE3	2.52	0.43
21:H:19:ARG:HD3	21:H:19:ARG:N	2.33	0.43
21:H:332:VAL:O	21:H:333:LEU:HB2	2.18	0.43
24:K:157:ARG:HG2	24:K:159:LYS:HD3	2.01	0.43
25:L:16:GLU:H	25:L:16:GLU:CD	2.26	0.43
25:L:25:TYR:O	25:L:26:THR:C	2.61	0.43
29:P:52:LEU:HB2	32:S:81:ARG:NH1	2.33	0.43
34:U:5:ARG:HA	34:U:71:VAL:HG21	2.01	0.43
35:V:27:ARG:HH12	35:V:42:THR:CB	2.26	0.43
40:a:479:A:H4'	40:a:480:A:OP1	2.18	0.43
40:a:607:U:N3	40:a:608:A:N7	2.66	0.43
40:a:841:G:C6	40:a:938:G:C6	3.06	0.43
40:a:900:A:C5	40:a:901:C:C5	3.06	0.43
40:a:966:G:O4'	40:a:2267:A:N6	2.51	0.43
40:a:1141:U:H4'	40:a:1142:A:O4'	2.18	0.43
40:a:1269:A:H2'	40:a:1270:C:C6	2.54	0.43
40:a:1511:G:H2'	40:a:1512:C:H6	1.83	0.43
40:a:1665:A:O3'	59:t:66:LYS:CD	2.67	0.43
40:a:1900:A:N1	40:a:1970:A:C6	2.87	0.43
40:a:1936:A:C8	40:a:1945:G:N7	2.86	0.43
40:a:1946:U:H2'	40:a:1947:C:H6	1.84	0.43
40:a:2391:G:P	54:o:32:ILE:CD1	3.06	0.43
40:a:2492:U:C2'	40:a:2493:U:H5'	2.47	0.43
40:a:2548:U:C2	40:a:2549:G:C8	3.06	0.43
40:a:2646:C:H2'	40:a:2647:U:O4'	2.17	0.43
40:a:2846:G:H2'	40:a:2847:U:O4'	2.19	0.43
40:a:2859:G:H2'	40:a:2860:A:C8	2.54	0.43
47:h:240:PHE:CD2	47:h:240:PHE:O	2.71	0.43
48:i:17:ARG:CA	48:i:20:ASP:OD1	2.66	0.43
53:n:66:LEU:HD23	53:n:67:ILE:N	2.34	0.43
53:n:126:GLY:HA2	53:n:163:ASP:HA	2.00	0.43
54:o:33:LEU:O	54:o:41:LYS:NZ	2.45	0.43
57:r:93:SER:OG	57:r:121:VAL:HG13	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:13:ARG:CZ	65:z:97:ASP:CG	2.91	0.43
6:5:20:DC:H1'	6:5:21:DA:H5'	2.00	0.43
10:A:19:G:N3	10:A:57:A:C4	2.87	0.43
10:A:32:C:O3'	26:M:86:GLN:NE2	2.51	0.43
10:A:71:C:H2'	10:A:72:A:N9	2.32	0.43
12:AB:4:TRP:CE2	12:AB:27:ASN:ND2	2.87	0.43
10:B:22:G:C8	10:B:22:G:OP2	2.72	0.43
10:B:31:G:H5'	17:D:1339:A:C2	2.53	0.43
17:D:76:G:C5	17:D:77:A:C8	3.06	0.43
17:D:1120:C:H2'	17:D:1121:U:H6	1.83	0.43
17:D:1329:A:OP1	37:X:28:THR:CB	2.66	0.43
17:D:1486:G:H2'	17:D:1487:G:O4'	2.18	0.43
20:G:23:TRP:CZ3	20:G:25:PRO:CA	3.01	0.43
20:G:171:ILE:H	20:G:171:ILE:HD12	1.82	0.43
20:G:206:ALA:O	20:G:210:VAL:HG23	2.18	0.43
21:H:31:ILE:O	21:H:31:ILE:HG13	2.18	0.43
21:H:310:ASP:HB2	21:H:316:ILE:HD11	2.00	0.43
21:H:332:VAL:CG1	21:H:335:ILE:HG13	2.47	0.43
25:L:9:MET:HE3	25:L:86:ARG:N	2.33	0.43
25:L:99:ALA:HB3	25:L:104:LYS:HZ3	1.83	0.43
26:M:17:LYS:NZ	26:M:18:PHE:CE1	2.78	0.43
30:Q:63:ALA:CB	30:Q:92:GLY:HA3	2.48	0.43
30:Q:85:MET:HB3	30:Q:113:VAL:HG21	2.00	0.43
31:R:80:ILE:CG2	31:R:81:LEU:N	2.82	0.43
34:U:4:ILE:N	34:U:4:ILE:HD12	2.34	0.43
38:Y:32:VAL:HG13	38:Y:58:ILE:HG21	2.00	0.43
40:a:66:C:N4	40:a:74:A:N6	2.66	0.43
40:a:68:G:N2	40:a:74:A:OP2	2.51	0.43
40:a:208:C:H2'	40:a:209:C:C6	2.53	0.43
40:a:536:G:H4'	65:z:57:PHE:CZ	2.53	0.43
40:a:677:A:O2'	40:a:2071:A:H5'	2.18	0.43
40:a:1084:A:N6	40:a:1085:A:N1	2.66	0.43
40:a:1657:U:H2'	40:a:1658:C:H6	1.83	0.43
40:a:2175:C:H2'	40:a:2176:A:N7	2.33	0.43
40:a:2665:A:C2	40:a:2666:C:C6	3.07	0.43
43:d:8:C:O3'	63:x:25:ARG:NH1	2.48	0.43
54:o:13:ARG:HG2	60:u:62:PRO:O	2.18	0.43
58:s:88:THR:OG1	58:s:91:GLU:HG3	2.18	0.43
62:w:37:THR:HG21	62:w:40:LYS:HZ2	1.83	0.43
4:3:6:ARG:CG	4:3:7:ARG:H	2.31	0.43
11:AA:646:SER:OG	11:AA:647:ARG:N	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:1275:VAL:HG13	11:AA:1287:LEU:HD11	2.01	0.43
11:AA:1313:HIS:CD2	15:AF:31:GLN:HE22	2.37	0.43
12:AB:126:PHE:CD1	14:AE:87:LYS:HD3	2.54	0.43
13:AD:192:VAL:HG12	13:AD:193:GLU:H	1.83	0.43
14:AE:41:PRO:HB2	14:AE:270:ARG:HG3	1.99	0.43
10:B:22:G:HO2'	10:B:23:C:P	2.42	0.43
10:B:49:G:O5'	10:B:49:G:H8	2.01	0.43
17:D:610:U:C2	17:D:611:C:C6	3.06	0.43
17:D:1184:G:C2	17:D:1185:G:C8	3.07	0.43
17:D:1408:A:H2'	17:D:1409:C:C6	2.52	0.43
19:F:31:GLU:CD	19:F:34:ARG:NH2	2.77	0.43
21:H:71:ALA:HB3	21:H:83:LEU:O	2.18	0.43
24:K:50:TYR:C	24:K:66:LYS:HE3	2.43	0.43
24:K:132:ASN:OD1	24:K:134:ILE:HG22	2.18	0.43
24:K:134:ILE:CG2	24:K:135:ASN:N	2.81	0.43
27:N:31:LYS:N	27:N:31:LYS:HD2	2.34	0.43
27:N:66:PHE:C	27:N:67:GLN:OE1	2.62	0.43
33:T:10:LYS:HE2	33:T:10:LYS:HA	2.01	0.43
35:V:63:GLU:HB2	35:V:73:TRP:CZ2	2.54	0.43
38:Y:102:ARG:NH1	38:Y:139:VAL:HG11	2.33	0.43
40:a:125:A:C6	52:m:10:LEU:HD13	2.54	0.43
40:a:128:C:C2	40:a:129:C:C5	3.06	0.43
40:a:197:A:N6	40:a:2430:A:H2'	2.34	0.43
40:a:451:U:C5'	51:l:47:LYS:HZ3	2.32	0.43
40:a:538:A:H2'	40:a:539:G:O4'	2.18	0.43
40:a:579:G:H2'	40:a:580:U:C6	2.53	0.43
40:a:838:C:C2	40:a:839:U:C6	3.07	0.43
40:a:1386:C:H2'	40:a:1387:A:H8	1.81	0.43
40:a:1657:U:C2	40:a:1658:C:C5	3.06	0.43
40:a:1695:G:N7	47:h:14:ARG:NH2	2.66	0.43
40:a:2297:A:C2	40:a:2321:U:C5	3.07	0.43
40:a:2477:U:O2	56:q:4:ARG:NH2	2.51	0.43
40:a:2547:A:H5'	59:t:29:HIS:NE2	2.34	0.43
40:a:2768:U:OP1	58:s:85:LYS:HE3	2.19	0.43
43:d:31:C:C2	43:d:32:U:C5	3.06	0.43
49:j:181:ASP:HB3	49:j:186:LEU:HB2	1.99	0.43
55:p:27:LYS:HG2	55:p:32:GLU:HG3	2.00	0.43
62:w:73:ASN:C	62:w:73:ASN:ND2	2.76	0.43
65:z:14:HIS:O	65:z:18:LEU:HD23	2.18	0.43
3:2:6:ARG:NE	3:2:42:GLU:CD	2.76	0.43
5:4:80:HIS:HE1	5:4:82:TYR:CG	2.37	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AB:2:GLN:HA	12:AB:59:PHE:C	2.43	0.43
14:AE:708:ASN:HA	14:AE:713:GLU:HA	2.00	0.43
17:D:13:U:N3	17:D:915:A:C6	2.86	0.43
17:D:416:G:C4	17:D:417:G:C8	3.07	0.43
17:D:505:G:C2	17:D:506:G:C5	3.07	0.43
17:D:621:A:H2'	17:D:622:A:C8	2.53	0.43
18:E:58:VAL:HG12	18:E:72:ALA:HB1	1.99	0.43
19:F:14:VAL:O	19:F:18:ARG:HG3	2.19	0.43
24:K:93:ARG:NH2	24:K:93:ARG:CB	2.80	0.43
35:V:27:ARG:HH22	35:V:42:THR:N	2.16	0.43
38:Y:82:ALA:HB3	38:Y:108:ILE:HD12	2.01	0.43
40:a:39:G:H2'	40:a:40:U:C6	2.53	0.43
40:a:58:G:O2'	40:a:73:A:N1	2.50	0.43
40:a:598:U:H2'	40:a:599:A:H8	1.82	0.43
40:a:1169:A:N3	40:a:1169:A:O4'	2.51	0.43
40:a:1349:C:O2	40:a:1349:C:H2'	2.17	0.43
40:a:1824:G:P	47:h:52:ARG:CZ	3.06	0.43
40:a:1956:U:C2	40:a:1957:C:C6	3.06	0.43
40:a:2179:C:H2'	40:a:2180:U:H6	1.83	0.43
40:a:2228:G:H2'	40:a:2229:U:C6	2.54	0.43
47:h:123:ALA:HB1	47:h:125:LYS:CE	2.47	0.43
47:h:130:LEU:CA	47:h:189:ARG:HH11	2.24	0.43
49:j:16:THR:HG23	49:j:20:VAL:O	2.19	0.43
53:n:38:MET:HE3	53:n:57:LEU:CG	2.49	0.43
55:p:70:ALA:HA	55:p:73:ASN:HD22	1.84	0.43
55:p:94:TYR:CE1	55:p:152:ARG:CD	3.01	0.43
58:s:1:MET:SD	58:s:2:LYS:C	3.02	0.43
2:1:19:LEU:HD23	2:1:19:LEU:C	2.43	0.43
3:2:37:ASP:OD2	3:2:37:ASP:C	2.62	0.43
5:4:79:ARG:HA	5:4:79:ARG:HD3	1.82	0.43
8:7:4:U:C5	17:D:1403:C:H1'	2.53	0.43
9:9:3:LEU:CD1	9:9:5:LEU:H	2.32	0.43
9:9:31:ARG:NH1	40:a:1054:A:C1'	2.80	0.43
9:9:118:ILE:CB	9:9:119:PRO:HD3	2.44	0.43
14:AE:412:LEU:HA	14:AE:415:VAL:HG22	2.01	0.43
14:AE:1036:ARG:HE	14:AE:1081:VAL:HG21	1.83	0.43
10:B:19:G:N3	10:B:57:A:C4	2.87	0.43
17:D:320:A:H2'	17:D:321:A:O4'	2.19	0.43
17:D:622:A:C8	17:D:623:C:C5	3.06	0.43
17:D:679:C:N3	17:D:680:C:C5	2.87	0.43
17:D:689:C:H2'	17:D:690:G:O4'	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:1526:G:P	19:F:42:THR:HG23	2.59	0.43
18:E:9:LYS:CG	18:E:13:GLN:NE2	2.82	0.43
20:G:55:ALA:O	20:G:59:LYS:HG2	2.19	0.43
21:H:336:ASP:HB2	21:H:341:ARG:H	1.84	0.43
22:I:22:TRP:CZ2	22:I:32:ASN:CB	3.01	0.43
22:I:54:ARG:NH1	22:I:69:HIS:NE2	2.66	0.43
26:M:18:PHE:HD2	26:M:59:LEU:CD2	2.31	0.43
28:O:80:ARG:O	28:O:84:THR:HG23	2.18	0.43
30:Q:14:LYS:HD3	30:Q:15:GLN:N	2.32	0.43
30:Q:64:GLN:HB2	30:Q:99:ALA:HB2	2.01	0.43
30:Q:91:PRO:HD2	30:Q:92:GLY:H	1.83	0.43
36:W:39:THR:HG22	36:W:40:ILE:N	2.33	0.43
37:X:22:ILE:HG23	37:X:66:GLU:CD	2.43	0.43
40:a:580:U:C2	40:a:581:C:C5	3.07	0.43
40:a:587:C:O2	60:u:33:ARG:NH2	2.52	0.43
40:a:729:G:C8	47:h:207:LYS:HD2	2.54	0.43
40:a:1114:C:H2'	40:a:1115:G:C8	2.54	0.43
40:a:1509:A:N3	40:a:1510:G:C8	2.87	0.43
40:a:1565:C:OP1	47:h:18:LYS:HD2	2.19	0.43
40:a:2216:G:H2'	40:a:2217:G:H8	1.82	0.43
40:a:2462:C:C2	40:a:2463:C:C5	3.07	0.43
40:a:2557:G:H2'	40:a:2558:C:H6	1.84	0.43
43:d:48:U:P	63:x:30:ARG:HH22	2.41	0.43
46:g:37:CYS:N	46:g:40:CYS:SG	2.71	0.43
53:n:20:PHE:HB3	53:n:22:TYR:CE1	2.54	0.43
60:u:95:LEU:HD13	60:u:100:ILE:HD12	2.00	0.43
61:v:38:ARG:HB2	61:v:98:PRO:HD3	2.00	0.43
62:w:58:ASP:HB2	62:w:80:PHE:CE1	2.54	0.43
63:x:50:ALA:O	63:x:81:ARG:NH2	2.51	0.43
64:y:55:LEU:HA	64:y:77:HIS:CD2	2.54	0.43
65:z:78:LYS:HG2	65:z:117:LEU:HD21	2.00	0.43
8:7:45:A:O3'	11:AA:688:GLN:NE2	2.51	0.43
9:9:80:THR:O	40:a:1108:U:OP1	2.37	0.43
9:9:94:ARG:N	9:9:94:ARG:HD3	2.34	0.43
9:9:129:LEU:HD12	9:9:130:PRO:CD	2.43	0.43
10:A:11:A:H2'	10:A:12:G:C8	2.54	0.43
10:A:57:A:O5'	10:A:58:A:P	2.77	0.43
11:AA:11:ILE:HG22	11:AA:1172:LEU:HD11	1.99	0.43
12:AB:140:MET:C	12:AB:152:HIS:C	2.85	0.43
13:AD:78:ILE:HA	13:AD:81:ILE:HG22	2.00	0.43
14:AE:964:LYS:O	14:AE:976:THR:OG1	2.35	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:B:57:A:O5'	10:B:58:A:P	2.77	0.43
16:C:20:GLU:OE1	16:C:21:ILE:O	2.36	0.43
17:D:21:G:H2'	17:D:22:G:C8	2.54	0.43
17:D:68:G:H3'	17:D:69:G:H5"	2.01	0.43
17:D:250:A:O4'	17:D:252:U:C6	2.72	0.43
17:D:611:C:H2'	17:D:611:C:O2	2.18	0.43
17:D:690:G:H2'	17:D:691:G:C8	2.54	0.43
17:D:1437:A:N3	17:D:1438:G:C8	2.86	0.43
18:E:60:ARG:O	18:E:64:LYS:HD3	2.19	0.43
20:G:30:PHE:CG	20:G:45:LYS:NZ	2.87	0.43
22:I:69:HIS:CD2	22:I:104:ALA:HB3	2.54	0.43
22:I:132:ARG:CB	22:I:135:LYS:HE3	2.49	0.43
24:K:68:ARG:O	24:K:69:ARG:NH1	2.52	0.43
25:L:2:ARG:C	25:L:65:GLU:OE1	2.62	0.43
25:L:73:GLU:O	25:L:76:THR:OG1	2.33	0.43
28:O:51:PRO:HB3	28:O:103:PHE:HD2	1.83	0.43
28:O:123:ARG:O	28:O:123:ARG:CG	2.57	0.43
30:Q:47:ALA:O	30:Q:52:PHE:HB2	2.19	0.43
35:V:48:ASP:HB3	35:V:75:LEU:CD2	2.49	0.43
38:Y:99:LYS:HD2	38:Y:140:GLU:OE2	2.19	0.43
40:a:196:A:C5	40:a:805:G:C6	3.07	0.43
40:a:271:G:C2	40:a:272:A:C5	3.07	0.43
40:a:353:C:C2	40:a:354:A:C8	3.07	0.43
40:a:553:G:C5	40:a:554:U:C5	3.07	0.43
40:a:837:C:N3	40:a:941:A:N6	2.65	0.43
40:a:969:G:H2'	40:a:970:U:C6	2.54	0.43
40:a:1212:G:O2'	40:a:1236:G:N2	2.47	0.43
40:a:1319:C:O2'	40:a:1320:C:H5'	2.18	0.43
40:a:1789:A:OP2	47:h:221:ARG:NH1	2.52	0.43
40:a:1996:C:OP1	59:t:31:ARG:NE	2.52	0.43
40:a:2332:C:OP1	41:b:77:ARG:NH2	2.52	0.43
40:a:2332:C:P	41:b:77:ARG:HH21	2.42	0.43
46:g:47:LYS:CE	53:n:115:ARG:HA	2.49	0.43
51:l:23:PHE:CE2	51:l:25:GLU:CB	3.01	0.43
51:l:47:LYS:HA	51:l:51:GLU:CD	2.44	0.43
51:l:170:ARG:NH1	51:l:175:ILE:HA	2.34	0.43
53:n:12:VAL:HG13	53:n:172:ALA:CB	2.49	0.43
53:n:93:GLY:O	53:n:94:GLU:C	2.61	0.43
58:s:125:TYR:CD2	58:s:130:HIS:HB3	2.54	0.43
61:v:53:MET:SD	61:v:53:MET:N	2.86	0.43
3:2:6:ARG:HE	3:2:42:GLU:CD	2.27	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:2:76:ARG:CZ	3:2:77:ARG:O	2.67	0.43
4:3:7:ARG:HG3	4:3:8:ASP:N	2.33	0.43
9:9:70:GLU:HG3	9:9:71:CYS:N	2.34	0.43
10:A:47:U:O2'	10:A:50:U:OP1	2.37	0.43
11:AA:861:ALA:HB1	11:AA:882:ILE:HD13	2.01	0.43
13:AD:76:GLU:HB3	13:AD:80:GLU:HB3	2.01	0.43
14:AE:859:PRO:HD2	14:AE:862:THR:HG21	2.01	0.43
16:C:60:LYS:NZ	17:D:735:C:O5'	2.52	0.43
17:D:119:A:C2	17:D:240:G:C8	3.07	0.43
17:D:235:C:H2'	17:D:236:A:H8	1.83	0.43
17:D:404:G:N7	23:J:2:ALA:HB3	2.33	0.43
17:D:882:C:O2'	17:D:883:C:H5'	2.19	0.43
17:D:1127:G:C6	17:D:1128:C:C5	3.07	0.43
17:D:1149:C:N3	17:D:1150:A:N7	2.67	0.43
17:D:1315:U:H2'	17:D:1316:G:O4'	2.19	0.43
17:D:1325:C:N3	17:D:1326:U:C5	2.86	0.43
21:H:33:LYS:HA	21:H:34:ASP:HA	1.80	0.43
22:I:22:TRP:CH2	22:I:32:ASN:HB2	2.53	0.43
23:J:69:GLU:HA	23:J:72:PHE:HD2	1.83	0.43
24:K:97:GLN:NE2	24:K:98:PRO:O	2.52	0.43
29:P:56:HIS:C	29:P:57:VAL:HG23	2.44	0.43
31:R:21:VAL:HG23	31:R:21:VAL:O	2.19	0.43
31:R:25:GLU:OE2	31:R:30:LYS:HE3	2.18	0.43
35:V:28:PHE:CZ	35:V:37:PHE:HB3	2.53	0.43
36:W:40:ILE:HG22	36:W:67:VAL:HA	2.01	0.43
37:X:64:VAL:O	37:X:64:VAL:HG13	2.19	0.43
37:X:90:ARG:NH1	37:X:96:PRO:O	2.51	0.43
40:a:78:U:C5'	44:e:4:LYS:NZ	2.81	0.43
40:a:133:U:H2'	40:a:134:G:C8	2.54	0.43
40:a:666:A:H1'	54:o:4:ILE:CD1	2.47	0.43
40:a:814:C:C2	40:a:815:C:C5	3.07	0.43
40:a:1008:A:OP2	58:s:37:ARG:NH1	2.52	0.43
40:a:1289:C:H2'	40:a:1290:C:H6	1.84	0.43
40:a:1406:U:O2'	40:a:1407:G:C5'	2.66	0.43
40:a:1506:U:H2'	40:a:1507:C:C6	2.54	0.43
40:a:2392:A:N3	60:u:55:MET:HE2	2.34	0.43
40:a:2884:U:C2	48:i:40:ARG:CZ	3.02	0.43
42:c:76:GLU:CD	42:c:76:GLU:C	2.87	0.43
43:d:55:U:O2'	53:n:26:MET:CE	2.67	0.43
51:l:77:ILE:O	51:l:77:ILE:HG22	2.19	0.43
53:n:79:ILE:O	53:n:79:ILE:HG13	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:p:83:PHE:HB2	55:p:141:ILE:HD13	2.00	0.43
59:t:110:GLU:OE1	59:t:110:GLU:HA	2.19	0.43
61:v:112:LEU:HD12	61:v:112:LEU:N	2.34	0.43
62:w:12:ARG:HE	62:w:20:MET:HE1	1.82	0.43
65:z:74:ILE:CD1	65:z:79:PHE:HA	2.40	0.43
1:0:52:PRO:HB3	65:z:89:GLU:CD	2.44	0.42
2:1:99:ARG:CZ	2:1:99:ARG:HB2	2.49	0.42
9:9:18:VAL:HG13	9:9:71:CYS:HB2	2.00	0.42
9:9:35:VAL:HG22	9:9:35:VAL:O	2.19	0.42
10:A:22:G:OP2	10:A:22:G:C8	2.72	0.42
11:AA:125:GLY:H	11:AA:495:ALA:HB1	1.84	0.42
14:AE:694:SER:OG	14:AE:738:ARG:NE	2.52	0.42
17:D:5:U:O2	17:D:5:U:O4'	2.37	0.42
17:D:57:G:H2'	17:D:58:C:C6	2.54	0.42
17:D:393:A:C2	17:D:394:G:C8	3.07	0.42
17:D:1107:C:OP1	22:I:172:ARG:HG3	2.19	0.42
17:D:1194:U:H2'	17:D:1195:C:C6	2.54	0.42
17:D:1436:U:C2	17:D:1437:A:C8	3.07	0.42
18:E:21:ASN:HB3	18:E:25:ARG:CZ	2.48	0.42
18:E:60:ARG:HG3	18:E:64:LYS:NZ	2.34	0.42
21:H:135:LEU:CB	21:H:157:ILE:CB	2.97	0.42
22:I:134:MET:HG3	22:I:151:VAL:HG21	2.00	0.42
22:I:157:LEU:CD1	22:I:166:GLU:OE1	2.66	0.42
23:J:41:HIS:ND1	23:J:44:ARG:CZ	2.82	0.42
24:K:77:ASN:O	24:K:80:THR:O	2.37	0.42
27:N:10:MET:HB2	27:N:33:LYS:HZ2	1.83	0.42
27:N:47:GLU:OE1	27:N:63:LEU:C	2.62	0.42
34:U:9:HIS:O	34:U:16:PHE:HB3	2.18	0.42
36:W:45:ILE:HA	36:W:62:VAL:HG12	2.01	0.42
37:X:3:ARG:CZ	53:n:110:ARG:HD2	2.49	0.42
40:a:74:A:N7	40:a:88:G:C5	2.87	0.42
40:a:310:A:C2	40:a:330:A:C4	3.07	0.42
40:a:320:A:N3	51:l:163:ASN:ND2	2.67	0.42
40:a:573:U:O2'	40:a:574:A:H3'	2.19	0.42
40:a:973:A:O4'	40:a:1188:U:C6	2.72	0.42
40:a:1074:G:C6	40:a:1075:C:N4	2.87	0.42
40:a:1141:U:C5	58:s:68:LYS:NZ	2.87	0.42
40:a:1144:A:C5	40:a:1145:C:C5	3.07	0.42
40:a:1409:U:C2	40:a:1410:G:C8	3.07	0.42
40:a:1964:G:H4'	40:a:1965:C:OP2	2.19	0.42
40:a:2093:G:P	57:r:22:LYS:CG	3.07	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:2287:A:N7	40:a:2289:G:C8	2.87	0.42
40:a:2547:A:H4'	59:t:29:HIS:NE2	2.34	0.42
40:a:2615:U:C2	48:i:4:GLN:HA	2.53	0.42
40:a:2708:G:O4'	62:w:71:ARG:NH1	2.52	0.42
40:a:2821:A:C2	40:a:2822:G:C4	3.07	0.42
43:d:82:U:O2	45:f:53:PHE:HZ	2.02	0.42
47:h:220:VAL:HG23	47:h:225:MET:HE3	2.00	0.42
49:j:156:PHE:CE2	58:s:81:ILE:HD13	2.54	0.42
53:n:94:GLU:CA	53:n:97:TRP:HE3	2.31	0.42
53:n:104:ILE:HD11	53:n:174:ASP:O	2.19	0.42
55:p:94:TYR:HE1	55:p:152:ARG:HD2	1.83	0.42
60:u:103:ILE:HG23	60:u:104:GLN:HG2	1.99	0.42
65:z:12:ALA:O	65:z:16:LYS:HG2	2.19	0.42
3:2:3:ARG:HG3	3:2:5:GLU:OE1	2.19	0.42
4:3:47:LYS:HZ3	40:a:482:A:P	2.42	0.42
8:7:13:U:H3	23:J:47:ARG:NH1	2.10	0.42
9:9:23:LEU:HA	9:9:118:ILE:HG13	2.01	0.42
11:AA:22:LEU:HB3	11:AA:655:VAL:HG11	2.01	0.42
11:AA:678:ARG:HD3	11:AA:678:ARG:HA	1.84	0.42
11:AA:746:ALA:O	11:AA:974:ARG:NH2	2.45	0.42
14:AE:66:LYS:HB2	14:AE:69:GLU:HB2	2.01	0.42
10:B:18:G:H2'	10:B:57:A:C2	2.55	0.42
10:B:71:C:C3'	10:B:72:A:C8	2.99	0.42
16:C:27:ALA:HB1	16:C:30:LYS:HE3	2.00	0.42
17:D:323:U:H2'	17:D:324:G:O4'	2.19	0.42
17:D:520:A:C2'	31:R:70:GLU:OE1	2.67	0.42
17:D:986:U:H2'	17:D:987:G:O4'	2.20	0.42
17:D:1157:A:C2	17:D:1181:G:C5	3.06	0.42
17:D:1208:C:C2	17:D:1209:C:C6	3.07	0.42
17:D:1434:A:H2'	17:D:1435:G:O4'	2.18	0.42
17:D:1477:U:H2'	17:D:1478:U:C6	2.53	0.42
17:D:1499:A:H2'	17:D:1500:A:H8	1.84	0.42
21:H:123:GLU:HA	21:H:128:ARG:HA	2.00	0.42
21:H:294:VAL:HG11	21:H:330:VAL:HG21	2.00	0.42
21:H:330:VAL:HB	21:H:344:LEU:HD23	2.01	0.42
22:I:72:ARG:O	22:I:75:ILE:HG22	2.19	0.42
30:Q:20:VAL:CG1	30:Q:21:ALA:N	2.82	0.42
30:Q:84:VAL:HG11	30:Q:97:ILE:HD13	2.00	0.42
33:T:10:LYS:HA	33:T:10:LYS:CE	2.49	0.42
33:T:63:ARG:HD2	33:T:67:LEU:HD23	2.01	0.42
38:Y:126:ARG:NH1	40:a:1082:U:O3'	2.51	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:136:G:H2'	40:a:137:U:C6	2.54	0.42
40:a:192:C:C5	40:a:193:U:C6	3.07	0.42
40:a:250:G:H2'	40:a:251:A:C8	2.54	0.42
40:a:533:G:H2'	40:a:534:U:C6	2.54	0.42
40:a:577:G:OP1	40:a:2502:G:O2'	2.36	0.42
40:a:1028:A:N6	40:a:1125:G:H2'	2.34	0.42
40:a:1065:U:HO2'	40:a:1066:U:C5'	2.28	0.42
40:a:1080:A:C6	40:a:1081:U:C4	3.08	0.42
40:a:1145:C:H2'	40:a:1146:C:H6	1.84	0.42
40:a:1792:G:H5'	47:h:204:VAL:CG2	2.49	0.42
43:d:46:A:C5	43:d:47:C:C5	3.06	0.42
45:f:10:THR:CB	45:f:56:LYS:NZ	2.81	0.42
49:j:68:PHE:CE1	49:j:79:LEU:HD21	2.54	0.42
49:j:100:LEU:O	49:j:100:LEU:HD12	2.20	0.42
51:l:105:LEU:O	51:l:109:LEU:HG	2.18	0.42
61:v:1:MET:SD	61:v:44:ARG:HA	2.59	0.42
61:v:74:THR:HA	61:v:88:ASN:O	2.19	0.42
64:y:106:LYS:CB	64:y:109:ARG:HH22	2.32	0.42
2:1:98:LYS:CD	40:a:2012:G:OP1	2.63	0.42
5:4:31:TYR:HE2	43:d:104:A:O4'	2.01	0.42
8:7:7:U:H6	8:7:7:U:H3'	1.84	0.42
11:AA:557:ARG:HB3	11:AA:587:LEU:HD13	2.00	0.42
12:AB:29:LEU:H	12:AB:56:PHE:HB2	1.84	0.42
12:AB:51:PHE:CZ	14:AE:288:PRO:CG	2.89	0.42
13:AD:31:LEU:HD21	13:AD:39:LEU:HD12	2.00	0.42
10:B:11:A:H2'	10:B:12:G:C8	2.54	0.42
16:C:44:ILE:HG22	21:H:340:ARG:HB2	2.02	0.42
17:D:562:U:C2'	31:R:14:ARG:NH1	2.78	0.42
17:D:687:A:C2	17:D:704:A:C6	3.07	0.42
17:D:745:G:H2'	17:D:746:A:H8	1.84	0.42
17:D:789:U:O2'	17:D:791:G:N7	2.45	0.42
17:D:792:A:H1'	17:D:794:A:N7	2.34	0.42
21:H:5:PHE:CZ	21:H:9:PHE:CE1	3.06	0.42
22:I:54:ARG:NH2	22:I:56:VAL:CG2	2.82	0.42
22:I:156:ARG:O	22:I:156:ARG:HG3	2.20	0.42
23:J:117:LEU:HD23	23:J:154:ARG:HH21	1.84	0.42
27:N:27:MET:CA	27:N:58:GLU:OE2	2.67	0.42
30:Q:21:ALA:HA	30:Q:34:ILE:HD13	2.01	0.42
31:R:3:THR:O	31:R:4:VAL:C	2.62	0.42
33:T:70:LEU:HG	33:T:78:TYR:HB2	2.02	0.42
37:X:92:ARG:NH1	40:a:888:C:OP1	2.38	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:1139:G:O3'	58:s:26:GLY:HA3	2.19	0.42
40:a:1443:U:H2'	40:a:1444:G:C8	2.54	0.42
40:a:1879:C:H2'	40:a:1880:U:O4'	2.18	0.42
40:a:2037:A:H2'	40:a:2038:G:C8	2.54	0.42
40:a:2040:G:OP1	58:s:106:LYS:NZ	2.38	0.42
40:a:2049:G:H21	49:j:161:MET:HE2	1.84	0.42
40:a:2571:U:O2'	49:j:151:THR:HG23	2.20	0.42
50:k:21:TYR:CE2	50:k:38:LYS:HB3	2.54	0.42
53:n:122:PHE:HZ	53:n:170:LEU:HD12	1.81	0.42
53:n:132:VAL:HG11	53:n:137:ILE:HD11	2.01	0.42
53:n:136:ILE:HA	53:n:141:ILE:HG21	2.01	0.42
54:o:29:LEU:O	54:o:29:LEU:HG	2.19	0.42
59:t:7:MET:SD	59:t:18:ARG:HG3	2.59	0.42
59:t:7:MET:C	59:t:18:ARG:NH1	2.77	0.42
59:t:43:ILE:HD12	59:t:56:ASP:HB2	2.02	0.42
59:t:44:LYS:N	59:t:44:LYS:HD2	2.33	0.42
61:v:71:LYS:C	61:v:92:TRP:CE3	2.97	0.42
61:v:105:MET:HG2	61:v:117:PHE:CZ	2.54	0.42
61:v:115:GLU:O	61:v:116:ALA:C	2.61	0.42
62:w:38:LEU:HA	62:w:38:LEU:HD12	1.72	0.42
65:z:76:TYR:CZ	65:z:80:ILE:HD11	2.53	0.42
6:5:16:DG:N2	11:AA:445:ILE:HG21	2.34	0.42
9:9:24:SER:HG	9:9:85:SER:C	2.27	0.42
9:9:87:GLU:OE1	9:9:91:ALA:O	2.37	0.42
12:AB:81:PHE:CD1	14:AE:141:PHE:O	2.72	0.42
12:AB:146:ILE:HG12	29:P:100:ILE:CG2	2.50	0.42
14:AE:211:GLU:HA	14:AE:214:ARG:HD2	2.01	0.42
16:C:40:VAL:HG13	21:H:339:ARG:CD	2.49	0.42
17:D:36:C:N4	17:D:37:U:C4	2.88	0.42
17:D:119:A:C4	17:D:240:G:N7	2.88	0.42
17:D:197:A:N6	17:D:221:C:H4'	2.35	0.42
17:D:374:A:C6	17:D:375:U:C4	3.08	0.42
17:D:671:G:H4'	25:L:79:ARG:HH12	1.84	0.42
17:D:678:U:C2	17:D:679:C:C5	3.08	0.42
17:D:771:G:H2'	17:D:772:U:C6	2.54	0.42
17:D:946:A:C2	17:D:947:G:C5	3.08	0.42
17:D:964:A:C2	17:D:969:A:N3	2.87	0.42
17:D:980:C:H2'	17:D:981:U:H5'	2.01	0.42
17:D:1073:U:O2	20:G:103:ASN:ND2	2.52	0.42
17:D:1202:U:N3	32:S:82:ILE:HD13	2.35	0.42
17:D:1437:A:C4	17:D:1438:G:C8	3.08	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:1439:G:H2'	17:D:1440:U:O4'	2.20	0.42
17:D:1493:A:O2'	17:D:1494:G:P	2.78	0.42
18:E:48:GLN:CD	18:E:49:LYS:N	2.78	0.42
20:G:208:ARG:NH1	20:G:211:THR:CG2	2.82	0.42
23:J:62:ARG:CG	23:J:72:PHE:CZ	3.02	0.42
23:J:139:PRO:N	23:J:182:PHE:CE2	2.88	0.42
23:J:170:TRP:CD1	23:J:171:LEU:HG	2.54	0.42
25:L:14:GLN:NE2	25:L:83:ALA:HB2	2.35	0.42
29:P:59:LYS:HE2	29:P:62:ARG:CZ	2.50	0.42
32:S:13:ARG:HB3	32:S:60:GLN:CG	2.46	0.42
34:U:8:ARG:HD3	34:U:17:TYR:CE1	2.54	0.42
34:U:14:ARG:CD	34:U:42:ILE:HG21	2.47	0.42
34:U:26:ASN:ND2	34:U:31:ARG:CD	2.83	0.42
38:Y:45:THR:HG21	38:Y:50:LYS:NZ	2.33	0.42
40:a:340:A:H2'	40:a:341:C:O4'	2.19	0.42
40:a:751:A:C6	40:a:789:A:C5	3.08	0.42
40:a:1170:C:O2	40:a:1170:C:H2'	2.18	0.42
40:a:1587:G:H2'	40:a:1588:G:C8	2.54	0.42
40:a:2756:U:N3	40:a:2758:A:C6	2.87	0.42
40:a:2856:A:C6	40:a:2862:G:C6	3.07	0.42
41:b:21:LEU:HD23	41:b:40:GLN:HA	2.00	0.42
44:e:25:GLN:OE1	44:e:50:VAL:HG21	2.19	0.42
44:e:37:LEU:HD21	44:e:43:LEU:CD2	2.49	0.42
48:i:55:ILE:HD13	62:w:112:TYR:CE2	2.54	0.42
49:j:170:VAL:HG13	49:j:194:PRO:CG	2.50	0.42
51:l:6:LYS:HB2	51:l:6:LYS:HE2	1.75	0.42
55:p:45:HIS:HA	55:p:50:LEU:HD13	2.02	0.42
59:t:1:MET:HE1	59:t:32:TYR:CB	2.49	0.42
61:v:31:PHE:C	61:v:104:GLU:OE1	2.62	0.42
61:v:53:MET:O	61:v:57:VAL:HG12	2.19	0.42
62:w:87:PHE:HE2	62:w:115:LEU:HD11	1.83	0.42
64:y:106:LYS:HB3	64:y:109:ARG:HH22	1.85	0.42
64:y:110:ILE:HG13	64:y:110:ILE:O	2.19	0.42
2:1:74:ILE:HD12	2:1:74:ILE:N	2.34	0.42
3:2:9:LYS:C	3:2:12:ARG:HH22	2.28	0.42
8:7:40:G:C2'	8:7:41:U:H5'	2.49	0.42
9:9:98:GLU:CB	9:9:101:LYS:HZ1	2.33	0.42
12:AB:90:SER:HB2	12:AB:94:HIS:CE1	2.54	0.42
12:AB:126:PHE:HE1	14:AE:87:LYS:CE	2.30	0.42
10:B:31:G:H2'	10:B:32:C:C6	2.55	0.42
17:D:124:C:H2'	17:D:125:U:H6	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:256:U:H2'	17:D:257:G:C8	2.55	0.42
17:D:299:G:H2'	17:D:300:A:C8	2.55	0.42
17:D:375:U:OP2	34:U:70:ARG:NE	2.51	0.42
17:D:553:A:H2'	17:D:554:A:H8	1.84	0.42
17:D:619:U:H1'	23:J:128:ARG:NH1	2.34	0.42
17:D:674:G:H2'	17:D:675:A:H8	1.84	0.42
17:D:921:U:H4'	24:K:23:LYS:HZ3	1.81	0.42
17:D:1073:U:C2	17:D:1074:G:C8	3.07	0.42
17:D:1174:G:H2'	17:D:1175:G:H5'	2.01	0.42
17:D:1318:A:OP1	36:W:7:LYS:NZ	2.52	0.42
17:D:1381:U:C4	17:D:1382:C:C5	3.07	0.42
21:H:308:GLU:OE1	21:H:308:GLU:N	2.53	0.42
22:I:184:TYR:O	22:I:185:ASN:CG	2.63	0.42
23:J:76:TYR:HE1	23:J:86:THR:HG21	1.84	0.42
25:L:24:ARG:O	25:L:25:TYR:C	2.62	0.42
29:P:7:ARG:HA	29:P:75:ASP:OD1	2.20	0.42
31:R:57:LEU:HG	31:R:58:THR:N	2.35	0.42
38:Y:14:ALA:C	38:Y:50:LYS:HD2	2.44	0.42
39:Z:29:LYS:O	39:Z:30:PHE:HD2	2.02	0.42
40:a:635:C:OP1	60:u:126:ARG:CZ	2.67	0.42
40:a:996:A:N6	40:a:1160:G:C6	2.87	0.42
40:a:1065:U:O2'	40:a:1066:U:P	2.77	0.42
40:a:1076:C:H2'	40:a:1077:A:C8	2.54	0.42
40:a:1095:A:O2'	40:a:1096:A:O4'	2.36	0.42
40:a:1580:A:C8	40:a:1581:G:C8	3.08	0.42
40:a:1597:A:H5"	40:a:1598:A:H5'	2.02	0.42
40:a:1778:U:C4	40:a:1784:A:C4	3.07	0.42
40:a:1839:G:O4'	40:a:1927:A:O4'	2.37	0.42
40:a:1913:A:OP2	40:a:1913:A:H3'	2.18	0.42
40:a:2175:C:C2'	40:a:2176:A:C8	3.00	0.42
40:a:2273:A:H2'	40:a:2274:A:C8	2.54	0.42
41:b:51:VAL:N	41:b:62:LYS:HZ3	2.17	0.42
46:g:57:VAL:O	46:g:58:ASP:C	2.62	0.42
47:h:94:VAL:HG12	47:h:95:LEU:N	2.34	0.42
47:h:183:LYS:CE	47:h:265:LYS:O	2.67	0.42
48:i:55:ILE:CD1	62:w:112:TYR:CD2	3.02	0.42
50:k:7:GLU:HG2	50:k:27:LYS:HZ3	1.81	0.42
53:n:38:MET:HE3	53:n:57:LEU:HD23	2.01	0.42
53:n:66:LEU:HD23	53:n:67:ILE:C	2.45	0.42
63:x:14:ALA:O	63:x:15:ARG:C	2.61	0.42
65:z:111:GLU:OE2	65:z:112:LYS:HD2	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:18:GLN:N	1:0:18:GLN:CD	2.76	0.42
2:1:36:LEU:HD23	2:1:48:LYS:CA	2.48	0.42
2:1:75:PHE:HE2	2:1:77:ASP:OD2	2.02	0.42
9:9:105:LYS:O	9:9:106:PHE:HB3	2.18	0.42
10:A:19:G:N2	40:a:2112:G:C1'	2.82	0.42
12:AB:6:LEU:HB2	12:AB:56:PHE:CE1	2.55	0.42
12:AB:35:LEU:HA	12:AB:106:ASP:OD1	2.19	0.42
12:AB:130:PHE:HB3	12:AB:133:PRO:HD3	2.00	0.42
14:AE:97:VAL:HG12	14:AE:101:ARG:HG3	2.02	0.42
14:AE:134:ASP:HB3	14:AE:159:ILE:HG21	2.02	0.42
14:AE:513:MET:HE1	14:AE:579:LEU:HD13	2.01	0.42
16:C:70:TYR:CD2	17:D:674:G:H4'	2.55	0.42
17:D:34:C:H2'	17:D:35:G:H8	1.83	0.42
17:D:43:C:P	34:U:12:LYS:HE3	2.59	0.42
17:D:195:A:H5"	18:E:64:LYS:HZ2	1.84	0.42
17:D:539:A:H2'	17:D:540:G:C8	2.54	0.42
17:D:563:A:C2	17:D:567:G:C6	3.07	0.42
17:D:611:C:N3	17:D:612:C:C5	2.87	0.42
17:D:662:U:H2'	17:D:663:A:C8	2.55	0.42
17:D:1035:A:C6	17:D:1036:A:N7	2.88	0.42
17:D:1328:C:H5"	37:X:28:THR:HG21	2.01	0.42
18:E:22:ALA:N	18:E:25:ARG:HE	2.17	0.42
19:F:39:GLU:OE1	19:F:44:GLU:OE1	2.38	0.42
20:G:26:LYS:CE	20:G:193:PRO:HG2	2.49	0.42
20:G:134:ALA:HA	20:G:137:ARG:NE	2.35	0.42
21:H:86:ARG:O	21:H:89:ALA:HB3	2.20	0.42
21:H:322:VAL:HG12	21:H:323:ASN:HB2	2.02	0.42
26:M:74:GLU:HG3	26:M:91:VAL:CG1	2.50	0.42
28:O:35:LEU:CD2	28:O:45:ARG:HG2	2.49	0.42
28:O:56:ASP:OD1	28:O:56:ASP:N	2.51	0.42
31:R:25:GLU:O	31:R:25:GLU:HG2	2.20	0.42
40:a:299:A:N1	40:a:322:A:O2'	2.42	0.42
40:a:299:A:C5	40:a:322:A:C2	3.07	0.42
40:a:874:G:C6	40:a:904:G:C6	3.08	0.42
40:a:1683:U:H2'	40:a:1684:G:H8	1.83	0.42
40:a:1773:A:C8	40:a:1829:A:C8	3.08	0.42
40:a:1829:A:C8	40:a:1830:C:C5	3.08	0.42
40:a:1906:G:C8	40:a:1929:G:C5	3.07	0.42
40:a:2040:G:H2'	40:a:2041:U:O4'	2.20	0.42
40:a:2226:C:H2'	40:a:2227:A:O4'	2.20	0.42
40:a:2305:U:H5"	53:n:131:GLY:HA3	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:e:20:ASN:O	44:e:24:GLU:HG2	2.20	0.42
47:h:18:LYS:HE3	47:h:20:VAL:HG21	2.02	0.42
47:h:71:LYS:HB2	47:h:96:TYR:CZ	2.54	0.42
47:h:144:VAL:HG21	47:h:162:VAL:HG11	2.01	0.42
49:j:61:THR:HG23	49:j:63:PRO:HD2	2.00	0.42
50:k:34:LEU:HB3	50:k:51:GLU:OE2	2.19	0.42
52:m:4:THR:HG23	52:m:5:PHE:N	2.34	0.42
53:n:101:GLU:O	53:n:105:THR:OG1	2.23	0.42
54:o:45:ARG:HB3	54:o:46:PRO:HD3	2.02	0.42
58:s:92:MET:HB2	58:s:92:MET:HE3	1.13	0.42
60:u:122:VAL:CG1	60:u:125:LEU:CD2	2.90	0.42
3:2:26:LYS:CE	3:2:26:LYS:HA	2.50	0.42
3:2:42:GLU:OE1	3:2:42:GLU:HA	2.19	0.42
6:5:10:DT:H2"	12:AB:71:ALA:H	1.79	0.42
12:AB:133:PRO:HA	12:AB:159:PHE:HE2	1.84	0.42
16:C:13:PHE:CG	16:C:51:TYR:CD1	3.08	0.42
16:C:29:LEU:CD2	16:C:59:ILE:HD13	2.48	0.42
17:D:76:G:C5	17:D:77:A:N7	2.88	0.42
17:D:122:G:C4	17:D:123:U:C6	3.08	0.42
17:D:1152:A:P	29:P:72:ARG:HH22	2.43	0.42
17:D:1524:C:H2'	17:D:1525:G:C8	2.55	0.42
19:F:5:LYS:CD	30:Q:109:ASN:OD1	2.68	0.42
20:G:131:LYS:O	20:G:135:LEU:HD13	2.19	0.42
21:H:34:ASP:OD1	21:H:50:ALA:HB3	2.20	0.42
22:I:66:VAL:HB	22:I:101:ILE:CD1	2.50	0.42
22:I:72:ARG:HD3	22:I:75:ILE:H	1.84	0.42
23:J:67:VAL:C	23:J:72:PHE:CE2	2.98	0.42
24:K:133:PRO:HA	24:K:136:VAL:HG12	2.02	0.42
25:L:1:MET:HE2	25:L:67:PRO:N	2.34	0.42
28:O:89:GLU:HG3	28:O:90:TYR:N	2.33	0.42
29:P:64:GLN:HG2	32:S:101:TRP:HH2	1.84	0.42
31:R:7:LEU:HD21	31:R:12:ARG:HH21	1.82	0.42
33:T:26:GLU:CG	33:T:27:VAL:N	2.83	0.42
33:T:70:LEU:CD2	33:T:78:TYR:HA	2.49	0.42
34:U:67:ILE:HG13	34:U:67:ILE:O	2.20	0.42
36:W:69:HIS:ND1	36:W:74:PHE:HZ	2.17	0.42
37:X:71:ARG:NH1	46:g:51:VAL:O	2.52	0.42
38:Y:64:ARG:O	38:Y:64:ARG:HG3	2.17	0.42
40:a:151:C:H2'	40:a:152:A:C8	2.53	0.42
40:a:471:A:H2'	40:a:472:A:O4'	2.19	0.42
40:a:592:A:N3	54:o:4:ILE:HD11	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:1709:U:H2'	40:a:1710:G:C8	2.55	0.42
40:a:1770:G:C5	40:a:1983:G:C6	3.07	0.42
40:a:1827:U:H2'	40:a:1828:G:O4'	2.20	0.42
40:a:1843:C:H2'	40:a:1844:C:H6	1.85	0.42
40:a:2061:G:N3	40:a:2063:C:C5	2.87	0.42
40:a:2072:C:C2	40:a:2073:C:C5	3.08	0.42
40:a:2507:C:C2	40:a:2583:G:C2	3.07	0.42
40:a:2586:U:H2'	40:a:2587:A:O4'	2.20	0.42
40:a:2813:A:H2'	40:a:2814:A:H8	1.84	0.42
40:a:2838:G:C6	40:a:2839:G:C5	3.08	0.42
42:c:3:ARG:CD	42:c:30:LEU:HD11	2.50	0.42
43:d:89:U:O2'	43:d:90:C:P	2.77	0.42
44:e:10:SER:HG	44:e:12:GLU:HG2	1.84	0.42
51:l:23:PHE:CD1	51:l:111:GLU:HG3	2.55	0.42
52:m:25:LYS:O	52:m:28:ARG:N	2.52	0.42
55:p:109:PHE:CD1	55:p:152:ARG:NH1	2.88	0.42
61:v:105:MET:HE1	61:v:113:ALA:HA	2.01	0.42
61:v:112:LEU:CA	61:v:115:GLU:OE1	2.68	0.42
62:w:96:ARG:O	62:w:113:ILE:HA	2.19	0.42
65:z:47:TYR:CZ	65:z:51:ARG:NH2	2.87	0.42
1:0:40:MET:HE1	65:z:105:ALA:HB1	2.01	0.42
2:1:85:ILE:O	2:1:85:ILE:HG13	2.19	0.42
6:5:25:DA:N3	7:6:5:DG:N2	2.68	0.42
8:7:13:U:C6	8:7:13:U:C3'	3.03	0.42
9:9:24:SER:O	9:9:96:PHE:CE1	2.72	0.42
9:9:77:VAL:O	9:9:77:VAL:CG1	2.66	0.42
10:A:18:G:H2'	10:A:57:A:C2	2.55	0.42
12:AB:90:SER:HB2	12:AB:94:HIS:NE2	2.34	0.42
12:AB:126:PHE:HE1	14:AE:87:LYS:CD	2.31	0.42
12:AB:132:GLU:HB3	12:AB:151:LYS:HE3	2.02	0.42
14:AE:71:LEU:HD12	14:AE:71:LEU:HA	1.82	0.42
16:C:30:LYS:HA	16:C:33:ILE:HG12	2.01	0.42
16:C:44:ILE:CG2	21:H:340:ARG:HB2	2.49	0.42
17:D:306:A:C4	17:D:307:C:C6	3.08	0.42
17:D:1071:C:C5'	24:K:54:ARG:HH21	2.33	0.42
17:D:1276:G:O5'	17:D:1276:G:H8	2.02	0.42
21:H:124:LEU:O	21:H:127:ILE:O	2.36	0.42
22:I:6:HIS:CD2	32:S:89:MET:HB3	2.55	0.42
24:K:123:VAL:O	24:K:124:LEU:HD23	2.20	0.42
29:P:85:ASP:OD1	29:P:88:MET:CE	2.68	0.42
40:a:62:U:O2	40:a:62:U:H2'	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:1250:G:OP2	60:u:21:ARG:NE	2.47	0.42
40:a:1588:G:N1	40:a:1589:U:O4	2.53	0.42
40:a:2002:G:OP1	62:w:13:ASN:HA	2.20	0.42
40:a:2465:C:O2	40:a:2465:C:H2'	2.18	0.42
40:a:2469:A:C6	40:a:2482:A:C8	3.07	0.42
42:c:66:THR:O	42:c:69:ALA:N	2.52	0.42
48:i:17:ARG:CB	48:i:20:ASP:OD1	2.67	0.42
49:j:37:VAL:HG13	49:j:48:ILE:CD1	2.49	0.42
53:n:38:MET:HE3	53:n:57:LEU:CD2	2.50	0.42
61:v:115:GLU:HA	61:v:118:LYS:HE2	2.02	0.42
62:w:18:GLN:HE22	62:w:22:ARG:NE	2.18	0.42
63:x:36:TYR:CD2	63:x:37:ALA:N	2.88	0.42
65:z:111:GLU:OE2	65:z:112:LYS:HG2	2.19	0.42
4:3:35:ILE:HD11	4:3:62:GLU:C	2.44	0.42
6:5:10:DT:C2	11:AA:62:TYR:HE2	2.37	0.42
9:9:47:GLU:C	9:9:49:GLY:H	2.28	0.42
10:A:12:G:H2'	10:A:13:C:OP1	2.20	0.42
11:AA:148:GLN:NE2	11:AA:535:PRO:O	2.40	0.42
12:AB:5:TYR:HA	12:AB:88:VAL:CG2	2.49	0.42
12:AB:26:VAL:HG13	12:AB:58:GLU:H	1.84	0.42
12:AB:123:PHE:CE2	29:P:81:GLU:CB	3.03	0.42
14:AE:59:ALA:HB3	14:AE:71:LEU:CD2	2.48	0.42
14:AE:1155:ILE:HG13	14:AE:1210:ILE:HB	2.02	0.42
10:B:59:A:C5	10:B:60:U:C5	3.08	0.42
16:C:44:ILE:HG21	21:H:339:ARG:C	2.45	0.42
17:D:105:G:C5	17:D:106:C:C4	3.08	0.42
17:D:407:U:C2	17:D:408:A:C8	3.08	0.42
17:D:588:G:C4'	27:N:3:MET:HE1	2.48	0.42
17:D:1189:U:H4'	22:I:10:ILE:CD1	2.50	0.42
17:D:1309:G:C8	37:X:98:ARG:NH2	2.88	0.42
20:G:101:LEU:HD22	20:G:157:LEU:HD11	1.99	0.42
20:G:115:LYS:HD3	20:G:115:LYS:C	2.45	0.42
22:I:105:GLU:CD	22:I:107:ARG:HH21	2.28	0.42
22:I:113:ALA:HB1	22:I:200:VAL:HG13	2.02	0.42
23:J:67:VAL:CG1	23:J:71:GLN:HB3	2.50	0.42
24:K:123:VAL:C	24:K:124:LEU:HD23	2.45	0.42
25:L:42:TRP:HB2	25:L:59:TYR:O	2.20	0.42
26:M:108:ALA:O	26:M:119:ARG:NE	2.51	0.42
31:R:116:LYS:O	31:R:117:TYR:HD1	2.02	0.42
32:S:86:GLU:CD	32:S:90:ARG:HD3	2.45	0.42
33:T:77:ARG:HA	33:T:77:ARG:NE	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:W:17:LYS:O	36:W:21:LYS:HD3	2.19	0.42
37:X:71:ARG:CZ	46:g:50:ASP:O	2.67	0.42
38:Y:82:ALA:CB	38:Y:108:ILE:HD12	2.50	0.42
40:a:235:U:C2	40:a:236:C:C6	3.08	0.42
40:a:367:G:C4	40:a:368:A:C8	3.07	0.42
40:a:407:G:C2	40:a:408:G:C8	3.07	0.42
40:a:531:C:C5	40:a:2035:G:C2	3.07	0.42
40:a:690:G:H2'	40:a:691:C:H6	1.85	0.42
40:a:749:A:H2'	40:a:749:A:N3	2.35	0.42
40:a:1281:G:H2'	40:a:1282:U:C6	2.55	0.42
40:a:1361:G:H2'	40:a:1362:C:C6	2.54	0.42
40:a:2554:U:H2'	40:a:2555:U:C6	2.55	0.42
40:a:2783:U:H2'	40:a:2784:U:H6	1.85	0.42
41:b:40:GLN:NE2	41:b:59:LEU:HD23	2.35	0.42
44:e:56:LEU:C	44:e:59:GLU:HG3	2.44	0.42
47:h:108:LYS:CG	47:h:109:GLY:N	2.83	0.42
49:j:37:VAL:HG22	49:j:48:ILE:HD12	2.02	0.42
49:j:107:VAL:HG13	49:j:177:VAL:HG11	2.01	0.42
49:j:175:LEU:HB3	49:j:189:VAL:HG12	2.02	0.42
51:l:171:ASP:OD1	51:l:172:ALA:N	2.53	0.42
53:n:73:SER:OG	53:n:80:ARG:HA	2.19	0.42
54:o:30:ARG:CZ	60:u:62:PRO:HB3	2.50	0.42
56:q:3:VAL:HG12	56:q:36:ARG:HB3	2.00	0.42
58:s:133:ALA:O	58:s:134:ALA:C	2.62	0.42
59:t:1:MET:HE3	59:t:32:TYR:CB	2.50	0.42
59:t:116:ILE:HG13	59:t:117:SER:N	2.34	0.42
61:v:49:ALA:O	61:v:50:ARG:C	2.62	0.42
62:w:38:LEU:HB3	62:w:39:PRO:HD3	2.02	0.42
63:x:79:ALA:CB	63:x:113:ALA:HB3	2.49	0.42
63:x:88:LYS:O	63:x:116:GLN:OE1	2.38	0.42
1:0:77:PHE:CD1	1:0:77:PHE:C	2.97	0.42
2:1:23:LEU:CD2	2:1:39:THR:HG21	2.50	0.42
2:1:95:ARG:C	2:1:95:ARG:HD2	2.44	0.42
3:2:57:VAL:HG22	3:2:58:VAL:N	2.35	0.42
5:4:2:PHE:CD1	5:4:56:PHE:CE1	3.08	0.42
8:7:11:U:C4'	24:K:20:ARG:HH21	2.16	0.42
10:A:68:C:C4	10:A:69:C:C5	3.08	0.42
11:AA:616:ILE:HG13	11:AA:652:TYR:HB2	2.02	0.42
11:AA:741:MET:HE3	11:AA:974:ARG:HH12	1.85	0.42
12:AB:109:THR:HA	12:AB:110:PRO:HD3	1.82	0.42
14:AE:362:ARG:H	14:AE:365:GLN:HE21	1.66	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:AE:1272:SER:HB2	14:AE:1292:LEU:HD11	2.02	0.42
17:D:13:U:C2	17:D:914:A:C8	3.08	0.42
17:D:21:G:N2	17:D:22:G:C6	2.88	0.42
17:D:356:A:C5	17:D:357:G:C8	3.08	0.42
17:D:501:C:H1'	17:D:549:C:H1'	2.01	0.42
17:D:796:C:N3	17:D:797:C:C5	2.87	0.42
17:D:1064:G:O2'	17:D:1190:G:N2	2.53	0.42
19:F:5:LYS:HD3	30:Q:109:ASN:OD1	2.20	0.42
20:G:30:PHE:CE1	20:G:201:PRO:HG3	2.53	0.42
20:G:101:LEU:HD22	20:G:157:LEU:HD12	1.99	0.42
20:G:187:VAL:HG11	20:G:193:PRO:HB3	2.02	0.42
22:I:172:ARG:NH1	22:I:174:PRO:HG3	2.35	0.42
23:J:65:TYR:CE1	23:J:100:ASN:CG	2.98	0.42
24:K:12:GLN:HB3	24:K:14:LYS:HZ2	1.85	0.42
24:K:15:LEU:HD23	24:K:15:LEU:H	1.84	0.42
24:K:82:GLN:OE1	24:K:147:MET:SD	2.78	0.42
25:L:1:MET:CE	25:L:67:PRO:HD3	2.50	0.42
26:M:138:ARG:O	26:M:142:HIS:ND1	2.46	0.42
29:P:45:ARG:CD	29:P:47:GLU:OE2	2.67	0.42
33:T:64:ARG:CZ	33:T:89:ARG:HH12	2.33	0.42
35:V:61:ILE:HA	35:V:75:LEU:HA	2.02	0.42
38:Y:79:LEU:HD11	38:Y:132:ALA:HA	2.02	0.42
40:a:826:U:O2'	60:u:53:GLY:HA3	2.20	0.42
40:a:1069:A:C2	40:a:1073:A:C8	3.08	0.42
40:a:1707:G:C5	40:a:1708:C:C5	3.07	0.42
40:a:1824:G:O5'	47:h:52:ARG:NH1	2.53	0.42
40:a:2244:U:O2'	40:a:2245:U:H5'	2.20	0.42
40:a:2884:U:P	48:i:40:ARG:NH2	2.93	0.42
43:d:39:A:C2	43:d:44:G:C4	3.07	0.42
44:e:8:GLU:O	44:e:9:LYS:HD3	2.19	0.42
49:j:57:ALA:O	49:j:60:VAL:HG12	2.19	0.42
51:l:6:LYS:NZ	51:l:119:ILE:CG2	2.83	0.42
51:l:46:GLN:O	51:l:88:ARG:NH2	2.53	0.42
51:l:170:ARG:CZ	51:l:174:GLY:O	2.66	0.42
52:m:44:VAL:O	52:m:45:SER:C	2.63	0.42
54:o:22:PHE:CE1	54:o:62:LEU:HD23	2.55	0.42
58:s:125:TYR:HE2	58:s:130:HIS:CB	2.32	0.42
62:w:33:ILE:HG13	62:w:112:TYR:HD1	1.83	0.42
63:x:48:LEU:CD2	63:x:87:ILE:CD1	2.98	0.42
63:x:88:LYS:HB3	63:x:116:GLN:OE1	2.20	0.42
1:0:74:ILE:HD13	1:0:87:GLN:OE1	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:2:22:THR:O	3:2:25:GLU:HG2	2.20	0.41
9:9:15:VAL:HG22	9:9:66:GLY:HA3	2.00	0.41
9:9:23:LEU:CA	9:9:118:ILE:HD11	2.50	0.41
9:9:27:VAL:HG12	9:9:83:ALA:HB3	2.01	0.41
9:9:123:ILE:O	9:9:123:ILE:CG2	2.68	0.41
11:AA:699:LEU:HG	11:AA:799:ASN:HD22	1.85	0.41
12:AB:51:PHE:CZ	14:AE:288:PRO:HG3	2.47	0.41
14:AE:1022:PRO:O	14:AE:1126:GLN:NE2	2.45	0.41
10:B:12:G:H2'	10:B:13:C:OP1	2.20	0.41
10:B:38:A:H4'	17:D:790:A:C1'	2.49	0.41
17:D:381:C:H2'	17:D:382:A:O4'	2.19	0.41
17:D:1006:G:H2'	17:D:1007:U:H6	1.81	0.41
17:D:1227:A:OP2	37:X:110:LYS:HE3	2.20	0.41
17:D:1261:A:C5	17:D:1262:C:C6	3.07	0.41
17:D:1368:A:OP1	28:O:116:VAL:HG23	2.20	0.41
17:D:1381:U:N3	17:D:1382:C:C5	2.88	0.41
17:D:1499:A:O2'	17:D:1500:A:H5'	2.20	0.41
21:H:74:ALA:HB3	21:H:83:LEU:CD2	2.49	0.41
21:H:293:PHE:HA	21:H:302:GLY:O	2.20	0.41
23:J:76:TYR:O	23:J:76:TYR:CD1	2.73	0.41
25:L:88:MET:SD	25:L:90:MET:HE3	2.60	0.41
28:O:116:VAL:HG11	29:P:62:ARG:HD3	2.02	0.41
29:P:40:ILE:HD12	29:P:73:LEU:HD22	2.02	0.41
30:Q:35:THR:HA	30:Q:42:LEU:HG	2.01	0.41
30:Q:75:LYS:HG3	30:Q:76:GLU:N	2.35	0.41
32:S:10:GLU:CD	32:S:63:ARG:HD2	2.45	0.41
32:S:63:ARG:HH22	32:S:70:PRO:HD3	1.85	0.41
34:U:19:VAL:HG11	34:U:52:LEU:CD2	2.50	0.41
34:U:73:ALA:HA	34:U:76:LYS:HE2	2.02	0.41
38:Y:99:LYS:CE	38:Y:138:VAL:O	2.67	0.41
40:a:104:A:C4	40:a:105:C:C6	3.08	0.41
40:a:523:C:O2	40:a:554:U:O2'	2.37	0.41
40:a:631:A:N3	40:a:2415:G:O2'	2.50	0.41
40:a:958:U:C4	61:v:40:ARG:NH1	2.88	0.41
40:a:1026:G:C8	40:a:1134:A:C4	3.08	0.41
40:a:1139:G:O2'	40:a:1143:A:N1	2.49	0.41
40:a:1252:G:H1	65:z:37:GLN:HE21	1.68	0.41
40:a:1827:U:O2'	40:a:1828:G:H5'	2.19	0.41
40:a:1906:G:C8	40:a:1929:G:C4	3.08	0.41
40:a:1953:A:H2	40:a:2549:G:N3	2.18	0.41
40:a:2218:G:C5'	42:c:45:ARG:HH12	2.33	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:2249:U:H3'	40:a:2250:G:C5'	2.49	0.41
40:a:2357:G:OP1	41:b:20:ARG:CZ	2.68	0.41
40:a:2673:G:C2	40:a:2674:G:C8	3.08	0.41
44:e:13:GLU:O	44:e:14:LEU:C	2.63	0.41
47:h:196:GLY:O	47:h:198:ALA:N	2.53	0.41
49:j:151:THR:HG23	49:j:151:THR:O	2.19	0.41
51:l:170:ARG:HH22	51:l:176:ASP:H	1.68	0.41
52:m:25:LYS:HG3	52:m:29:GLN:NE2	2.34	0.41
58:s:28:LEU:HD12	58:s:142:ILE:HG21	2.01	0.41
59:t:118:LEU:O	59:t:119:ALA:C	2.62	0.41
62:w:60:VAL:HG22	62:w:63:ARG:HH11	1.80	0.41
63:x:83:LEU:HD23	63:x:88:LYS:HD3	2.02	0.41
2:1:25:ARG:NH2	40:a:520:G:P	2.87	0.41
3:2:9:LYS:O	3:2:12:ARG:NH2	2.52	0.41
5:4:18:ARG:NH1	43:d:93:C:OP2	2.53	0.41
8:7:41:U:H4'	14:AE:322:ARG:NH1	2.35	0.41
9:9:2:ALA:HB3	9:9:6:GLN:HB2	2.02	0.41
9:9:17:GLU:OE2	9:9:53:ARG:NH2	2.53	0.41
9:9:95:LEU:O	9:9:98:GLU:HG2	2.20	0.41
9:9:129:LEU:N	9:9:130:PRO:CD	2.81	0.41
10:A:31:G:H2'	10:A:32:C:C6	2.55	0.41
10:A:33:U:H5"	26:M:84:THR:CG2	2.50	0.41
11:AA:478:ARG:HD2	11:AA:492:MET:HA	2.02	0.41
11:AA:741:MET:SD	11:AA:974:ARG:NH2	2.93	0.41
14:AE:609:TYR:HD2	14:AE:610:ARG:HD2	1.85	0.41
16:C:54:GLN:HG3	16:C:55:LEU:H	1.85	0.41
17:D:415:A:C4	17:D:416:G:C8	3.07	0.41
17:D:768:A:C5	17:D:769:G:C8	3.08	0.41
17:D:951:G:C6	17:D:1231:G:C6	3.08	0.41
17:D:1408:A:H2'	17:D:1409:C:H6	1.84	0.41
21:H:70:VAL:O	21:H:71:ALA:HB2	2.20	0.41
21:H:267:TRP:CD2	21:H:340:ARG:HG3	2.56	0.41
23:J:76:TYR:HE1	23:J:86:THR:CG2	2.33	0.41
24:K:88:VAL:HG12	24:K:93:ARG:HG2	2.02	0.41
30:Q:36:ASP:OD1	30:Q:40:ASN:N	2.53	0.41
31:R:66:TYR:CE2	31:R:68:GLY:HA2	2.55	0.41
31:R:79:VAL:O	31:R:103:ASP:HB2	2.20	0.41
34:U:69:ASP:C	34:U:69:ASP:OD1	2.63	0.41
36:W:44:MET:HE1	36:W:62:VAL:HG22	2.01	0.41
38:Y:57:VAL:CG2	38:Y:71:LYS:HD3	2.50	0.41
39:Z:17:MET:HE3	39:Z:17:MET:HB2	1.90	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:30:G:H2'	40:a:31:C:C6	2.55	0.41
40:a:66:C:H42	40:a:74:A:H62	1.67	0.41
40:a:209:C:N3	40:a:210:C:C5	2.87	0.41
40:a:1365:A:H4'	42:c:11:ARG:HH12	1.85	0.41
40:a:1399:C:C2	40:a:1400:U:C5	3.08	0.41
40:a:1965:C:OP1	40:a:1966:A:O2'	2.35	0.41
40:a:2072:C:C2	40:a:2073:C:C6	3.08	0.41
40:a:2097:A:H2'	40:a:2098:U:C6	2.55	0.41
40:a:2210:U:H4'	40:a:2211:A:OP1	2.20	0.41
40:a:2215:C:H2'	40:a:2216:G:C8	2.54	0.41
40:a:2461:A:H2'	40:a:2462:C:C6	2.56	0.41
40:a:2585:U:O2	40:a:2585:U:O4'	2.37	0.41
40:a:2759:G:O2'	55:p:35:ARG:NH1	2.52	0.41
43:d:57:A:C4	43:d:58:A:C8	3.07	0.41
43:d:83:G:O4'	45:f:53:PHE:CE2	2.72	0.41
47:h:71:LYS:CB	47:h:96:TYR:CZ	3.03	0.41
47:h:163:GLN:HB3	47:h:175:ARG:HB3	2.02	0.41
47:h:245:VAL:HA	47:h:250:VAL:O	2.20	0.41
58:s:15:TRP:CE3	58:s:135:GLN:HB3	2.55	0.41
65:z:91:ASP:O	65:z:95:LEU:HG	2.20	0.41
5:4:48:MET:CE	5:4:85:LYS:HA	2.50	0.41
9:9:41:LEU:CD1	38:Y:117:THR:HG22	2.50	0.41
9:9:117:LEU:O	9:9:117:LEU:CD2	2.67	0.41
11:AA:590:PRO:HB2	11:AA:655:VAL:HG21	2.01	0.41
12:AB:31:PRO:HG2	12:AB:51:PHE:CD2	2.55	0.41
14:AE:708:ASN:OD1	14:AE:708:ASN:N	2.50	0.41
14:AE:836:ARG:HG3	14:AE:869:CYS:HB3	2.02	0.41
14:AE:1216:ALA:HA	14:AE:1217:PRO:HD3	1.93	0.41
17:D:218:U:H2'	17:D:219:U:O4'	2.20	0.41
17:D:407:U:O4'	23:J:116:GLN:OE1	2.39	0.41
17:D:603:U:C2	17:D:604:G:C8	3.08	0.41
17:D:643:C:C2	17:D:644:U:C5	3.08	0.41
17:D:684:U:H2'	17:D:685:G:O4'	2.20	0.41
17:D:985:C:C2	17:D:986:U:C5	3.08	0.41
17:D:1382:C:O2	17:D:1382:C:H2'	2.19	0.41
17:D:1464:U:C2	17:D:1465:A:C8	3.07	0.41
19:F:3:VAL:HG22	30:Q:111:THR:HG23	2.01	0.41
21:H:308:GLU:HB2	21:H:347:LYS:HB3	2.02	0.41
22:I:149:ILE:HG13	22:I:202:ILE:HG12	2.01	0.41
24:K:80:THR:OG1	24:K:81:LEU:N	2.53	0.41
26:M:18:PHE:CD2	26:M:59:LEU:HG	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:M:99:LEU:O	26:M:103:TRP:CG	2.73	0.41
28:O:50:GLN:OE1	28:O:50:GLN:HA	2.20	0.41
28:O:50:GLN:HA	28:O:53:GLU:OE1	2.20	0.41
33:T:15:PHE:HD2	33:T:30:ALA:CB	2.31	0.41
33:T:71:LYS:HZ3	33:T:78:TYR:HD2	1.62	0.41
37:X:25:VAL:HG13	37:X:25:VAL:O	2.19	0.41
40:a:134:G:H2'	40:a:135:U:H6	1.85	0.41
40:a:301:G:C4	40:a:302:C:C5	3.07	0.41
40:a:319:G:H2'	40:a:320:A:O4'	2.20	0.41
40:a:443:A:N1	51:l:40:ARG:NH2	2.69	0.41
40:a:789:A:N1	52:m:3:ARG:NH2	2.68	0.41
40:a:1542:U:H2'	40:a:1543:G:O4'	2.20	0.41
40:a:2454:G:C5	40:a:2455:G:C8	3.09	0.41
47:h:35:GLU:CD	47:h:64:ILE:HD11	2.46	0.41
47:h:53:HIS:NE2	47:h:219:THR:HG23	2.36	0.41
47:h:75:PRO:O	47:h:97:LYS:HD3	2.21	0.41
48:i:4:GLN:OE1	48:i:8:PRO:HD3	2.20	0.41
51:l:108:ILE:HD11	51:l:180:LEU:CD1	2.50	0.41
53:n:138:PHE:O	53:n:141:ILE:HG22	2.20	0.41
55:p:52:PHE:CE1	55:p:69:ARG:HD3	2.55	0.41
61:v:45:GLN:HE22	61:v:125:PRO:HD2	1.84	0.41
61:v:95:LEU:C	61:v:96:ILE:HD13	2.45	0.41
61:v:105:MET:HG2	61:v:117:PHE:HZ	1.86	0.41
62:w:18:GLN:CD	62:w:18:GLN:C	2.88	0.41
62:w:70:THR:O	62:w:71:ARG:HB2	2.20	0.41
64:y:37:LYS:CA	64:y:37:LYS:HE3	2.49	0.41
65:z:76:TYR:OH	65:z:92:ARG:HG2	2.19	0.41
1:0:47:VAL:C	1:0:48:LYS:HD3	2.45	0.41
1:0:73:LYS:HZ1	1:0:88:GLY:HA3	1.85	0.41
5:4:77:VAL:CG2	5:4:79:ARG:NE	2.78	0.41
5:4:78:GLN:OE1	5:4:88:HIS:HB3	2.21	0.41
8:7:12:U:H3'	8:7:12:U:C6	2.53	0.41
9:9:11:ILE:O	9:9:15:VAL:HG23	2.20	0.41
9:9:33:VAL:H	9:9:36:ASP:CG	2.28	0.41
9:9:69:PHE:O	9:9:72:LEU:HD11	2.19	0.41
9:9:88:HIS:CB	9:9:89:PRO:CD	2.81	0.41
11:AA:135:THR:HG22	11:AA:144:VAL:HG22	2.02	0.41
11:AA:484:LEU:HA	11:AA:485:ASP:HA	1.85	0.41
11:AA:562:GLU:OE1	11:AA:662:SER:OG	2.28	0.41
12:AB:6:LEU:HB2	12:AB:56:PHE:HE1	1.86	0.41
14:AE:536:LEU:HD23	14:AE:536:LEU:HA	1.92	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:AE:975:ILE:HD11	14:AE:1003:LEU:HG	2.02	0.41
14:AE:1003:LEU:HD23	14:AE:1018:ALA:HB2	2.02	0.41
10:B:30:G:O2'	17:D:1339:A:H2	1.80	0.41
10:B:68:C:C4	10:B:69:C:C5	3.08	0.41
17:D:112:G:N1	17:D:330:C:C5	2.88	0.41
17:D:124:C:C2	17:D:125:U:C5	3.08	0.41
17:D:429:U:H3	17:D:431:A:N6	2.18	0.41
17:D:562:U:O3'	31:R:12:ARG:HD2	2.20	0.41
17:D:1172:C:C2	17:D:1173:U:C5	3.08	0.41
17:D:1411:C:H2'	17:D:1412:C:H6	1.85	0.41
20:G:131:LYS:HE3	20:G:132:LYS:HZ3	1.84	0.41
25:L:94:HIS:CG	25:L:95:ALA:N	2.88	0.41
29:P:6:ILE:CG2	29:P:100:ILE:HG13	2.51	0.41
30:Q:20:VAL:HG12	30:Q:21:ALA:N	2.35	0.41
34:U:25:ARG:HA	34:U:25:ARG:HD2	1.95	0.41
35:V:31:HIS:HD2	35:V:34:TYR:HB2	1.85	0.41
40:a:16:C:O4'	48:i:15:MET:HE1	2.20	0.41
40:a:126:A:OP1	52:m:45:SER:OG	2.37	0.41
40:a:136:G:H2'	40:a:137:U:H6	1.85	0.41
40:a:152:A:C6	40:a:153:U:C4	3.09	0.41
40:a:370:G:C6	40:a:424:G:N7	2.89	0.41
40:a:667:U:H2'	40:a:668:A:O4'	2.20	0.41
40:a:700:G:H2'	40:a:701:G:O4'	2.20	0.41
40:a:873:C:C2	40:a:874:G:C8	3.09	0.41
40:a:995:C:O2	58:s:3:THR:OG1	2.17	0.41
40:a:1064:C:H2'	40:a:1065:U:C6	2.55	0.41
40:a:1560:G:C5	40:a:1561:C:C5	3.08	0.41
40:a:1676:A:H2'	40:a:1677:A:C8	2.56	0.41
40:a:1874:C:H2'	40:a:1875:G:O4'	2.20	0.41
40:a:2649:C:C2	40:a:2650:U:C6	3.09	0.41
44:e:14:LEU:HA	44:e:17:GLU:OE1	2.20	0.41
45:f:4:THR:O	45:f:5:ILE:HD13	2.20	0.41
47:h:220:VAL:CG2	47:h:225:MET:HE3	2.51	0.41
48:i:14:GLY:HA2	48:i:17:ARG:HG2	2.02	0.41
51:l:194:LYS:C	51:l:198:GLU:OE1	2.63	0.41
55:p:149:ARG:HH12	55:p:154:PRO:HB3	1.85	0.41
57:r:5:LEU:CD1	57:r:17:ASP:HB3	2.50	0.41
57:r:66:ASN:CG	57:r:135:HIS:HB2	2.45	0.41
59:t:59:LYS:HZ3	59:t:92:GLU:CG	2.33	0.41
5:4:2:PHE:CZ	5:4:56:PHE:CZ	3.09	0.41
6:5:23:DA:H2"	6:5:24:DC:C6	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:9:122:GLN:CG	9:9:123:ILE:N	2.81	0.41
11:AA:524:ILE:HD12	11:AA:712:SER:HB2	2.02	0.41
12:AB:3:SER:HB3	12:AB:5:TYR:CE2	2.55	0.41
12:AB:112:PRO:HA	12:AB:133:PRO:CG	2.49	0.41
14:AE:438:GLU:OE2	14:AE:481:ARG:NH1	2.44	0.41
17:D:18:C:C2	17:D:19:A:C8	3.09	0.41
17:D:255:G:H2'	17:D:256:U:C6	2.55	0.41
17:D:511:C:O3'	23:J:44:ARG:NH1	2.53	0.41
17:D:687:A:C8	17:D:701:U:C4	3.08	0.41
17:D:1119:C:C2	17:D:1120:C:C5	3.09	0.41
17:D:1202:U:C2	32:S:82:ILE:HD13	2.55	0.41
18:E:54:MET:HE2	18:E:54:MET:HB2	1.86	0.41
20:G:100:MET:CE	20:G:101:LEU:HD21	2.49	0.41
22:I:6:HIS:CD2	22:I:9:GLY:H	2.39	0.41
22:I:36:ASP:OD1	22:I:57:ILE:HG21	2.19	0.41
25:L:9:MET:SD	25:L:57:ALA:HB1	2.60	0.41
31:R:4:VAL:CG1	31:R:5:ASN:N	2.83	0.41
31:R:24:LEU:CD2	31:R:95:TYR:CE1	3.04	0.41
33:T:70:LEU:HD23	33:T:78:TYR:HD1	1.85	0.41
35:V:43:LYS:C	35:V:44:LEU:HD12	2.45	0.41
38:Y:100:ILE:HG13	38:Y:139:VAL:CB	2.51	0.41
39:Z:29:LYS:C	39:Z:30:PHE:HD2	2.29	0.41
40:a:485:C:N3	40:a:486:C:C5	2.89	0.41
40:a:780:G:O2'	40:a:783:A:N6	2.53	0.41
40:a:826:U:OP1	40:a:2428:G:H3'	2.20	0.41
40:a:1398:C:H2'	40:a:1399:C:H6	1.86	0.41
40:a:1651:G:P	62:w:40:LYS:NZ	2.94	0.41
40:a:1792:G:C5'	47:h:204:VAL:CG2	2.99	0.41
40:a:1996:C:H4'	49:j:128:ARG:NH1	2.35	0.41
40:a:2310:C:O2'	53:n:74:VAL:HG12	2.20	0.41
40:a:2722:G:C2'	40:a:2723:C:H5'	2.50	0.41
49:j:91:THR:HG22	49:j:92:VAL:N	2.35	0.41
50:k:7:GLU:OE2	50:k:27:LYS:N	2.50	0.41
50:k:9:ILE:HD12	50:k:51:GLU:HG2	2.01	0.41
50:k:9:ILE:HG22	50:k:27:LYS:HZ1	1.86	0.41
50:k:26:ASN:OD1	50:k:28:ARG:CZ	2.69	0.41
52:m:26:ASN:HA	52:m:29:GLN:NE2	2.36	0.41
53:n:67:ILE:CD1	53:n:87:CYS:HB3	2.50	0.41
55:p:89:LEU:HD22	55:p:162:VAL:HA	2.02	0.41
59:t:108:ARG:HG2	59:t:116:ILE:HD13	2.01	0.41
61:v:31:PHE:CZ	61:v:110:GLU:HG3	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
64:y:30:VAL:HG12	64:y:81:VAL:HG12	2.03	0.41
4:3:6:ARG:HG2	4:3:7:ARG:N	2.34	0.41
6:5:10:DT:C2'	12:AB:69:ILE:C	2.88	0.41
6:5:16:DG:N1	11:AA:451:ARG:NH2	2.66	0.41
9:9:43:LYS:HA	9:9:46:ARG:NH2	2.35	0.41
9:9:94:ARG:O	9:9:98:GLU:HG2	2.21	0.41
10:A:1:C:C5	10:A:2:G:N7	2.89	0.41
10:A:5:G:C2'	10:A:6:G:C5'	2.98	0.41
10:A:5:G:C2'	10:A:6:G:H5'	2.50	0.41
10:A:19:G:O6	40:a:2112:G:P	2.79	0.41
10:A:59:A:C5	10:A:60:U:C5	3.08	0.41
11:AA:979:LEU:HD11	11:AA:1011:LEU:HD11	2.03	0.41
12:AB:138:ARG:HD2	12:AB:154:VAL:C	2.44	0.41
14:AE:438:GLU:HG3	14:AE:485:MET:HE1	2.03	0.41
10:B:47:U:O2'	10:B:50:U:OP1	2.37	0.41
17:D:104:G:C2	17:D:105:G:C5	3.09	0.41
17:D:519:C:H2'	17:D:520:A:O4'	2.20	0.41
17:D:671:G:O2'	25:L:79:ARG:NH1	2.54	0.41
17:D:718:A:C2	30:Q:118:HIS:CE1	3.09	0.41
17:D:997:U:O2'	17:D:998:C:H5'	2.20	0.41
17:D:1319:A:C8	17:D:1323:G:C5	3.08	0.41
19:F:66:ARG:NH2	19:F:67:ARG:HH22	2.19	0.41
20:G:85:LEU:HD23	20:G:85:LEU:C	2.46	0.41
20:G:105:LYS:C	20:G:109:GLN:HE22	2.24	0.41
21:H:54:LYS:HD3	21:H:58:GLY:HA2	2.02	0.41
21:H:331:MET:SD	21:H:348:GLN:HG2	2.60	0.41
22:I:14:ILE:HB	22:I:178:LEU:HD21	2.01	0.41
22:I:147:LYS:CE	22:I:204:LYS:O	2.68	0.41
26:M:66:LEU:HA	26:M:66:LEU:HD12	1.84	0.41
26:M:93:PRO:O	26:M:96:ARG:HG2	2.21	0.41
27:N:83:LEU:HD11	31:R:4:VAL:CB	2.51	0.41
34:U:3:THR:HG22	34:U:22:ALA:O	2.21	0.41
38:Y:63:ASP:C	38:Y:65:SER:H	2.28	0.41
40:a:6:A:O3'	58:s:132:HIS:HE1	2.03	0.41
40:a:888:C:C4	40:a:889:C:N4	2.89	0.41
40:a:985:C:O2	40:a:986:C:C6	2.73	0.41
40:a:1820:U:C2	47:h:201:MET:CE	3.04	0.41
40:a:1945:G:H2'	40:a:1946:U:C6	2.56	0.41
40:a:1958:C:O2'	40:a:1959:G:H5'	2.20	0.41
40:a:2259:U:C5	40:a:2427:C:N4	2.88	0.41
40:a:2483:C:H1'	61:v:51:ARG:CZ	2.51	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:2531:A:C4	40:a:2532:G:C8	3.09	0.41
40:a:2756:U:C4	40:a:2759:G:O6	2.73	0.41
43:d:8:C:O2'	63:x:40:ILE:HD13	2.21	0.41
43:d:47:C:C4	43:d:48:U:C5	3.09	0.41
43:d:55:U:H2'	43:d:56:G:C8	2.56	0.41
43:d:57:A:N7	53:n:26:MET:CE	2.82	0.41
47:h:180:GLU:O	47:h:181:MET:HE2	2.21	0.41
49:j:68:PHE:CZ	49:j:79:LEU:HD21	2.56	0.41
49:j:184:ARG:NH2	64:y:7:GLN:CD	2.72	0.41
55:p:149:ARG:CZ	55:p:154:PRO:CD	2.99	0.41
58:s:123:LYS:CD	58:s:132:HIS:HD2	2.33	0.41
59:t:20:MET:CB	59:t:44:LYS:HE2	2.51	0.41
59:t:80:ASP:OD1	64:y:68:GLU:OE2	2.39	0.41
59:t:113:MET:SD	59:t:113:MET:C	3.03	0.41
61:v:112:LEU:HD12	61:v:112:LEU:H	1.86	0.41
63:x:51:ALA:HB3	63:x:78:VAL:HB	2.03	0.41
1:0:77:PHE:HE1	1:0:79:ARG:HA	1.85	0.41
8:7:1:A:H61	10:B:37:A:N6	2.18	0.41
10:A:9:G:O2'	10:A:45:G:H2'	2.20	0.41
11:AA:22:LEU:HD22	11:AA:603:ILE:HG21	2.02	0.41
11:AA:849:GLU:HB2	11:AA:887:VAL:HG23	2.02	0.41
12:AB:28:CYS:CA	12:AB:56:PHE:O	2.44	0.41
12:AB:160:ARG:HG3	12:AB:161:LYS:H	1.85	0.41
16:C:33:ILE:O	21:H:338:GLU:HB3	2.19	0.41
17:D:860:A:H2'	17:D:861:G:O4'	2.20	0.41
17:D:1186:G:O2'	28:O:112:GLU:OE2	2.33	0.41
17:D:1288:A:H2'	17:D:1289:A:O4'	2.21	0.41
17:D:1319:A:O2'	17:D:1323:G:N7	2.51	0.41
17:D:1326:U:H2'	17:D:1327:C:C6	2.56	0.41
18:E:43:ASP:CG	18:E:46:ALA:HB3	2.46	0.41
20:G:6:MET:HA	20:G:9:MET:SD	2.61	0.41
20:G:137:ARG:HG3	20:G:138:THR:N	2.36	0.41
21:H:277:GLY:C	21:H:331:MET:HE3	2.45	0.41
22:I:155:GLY:HA2	22:I:163:ALA:HB1	2.02	0.41
24:K:159:LYS:HZ1	27:N:44:GLY:CA	2.32	0.41
27:N:83:LEU:HD21	31:R:4:VAL:HG21	2.02	0.41
30:Q:94:GLU:O	30:Q:94:GLU:OE2	2.39	0.41
31:R:57:LEU:HD23	31:R:59:ASN:OD1	2.20	0.41
35:V:31:HIS:CD2	35:V:34:TYR:N	2.87	0.41
36:W:34:TRP:O	36:W:36:ARG:N	2.54	0.41
38:Y:23:VAL:HG23	38:Y:27:LEU:HD23	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:271:G:C2	40:a:272:A:C4	3.08	0.41
40:a:704:G:O2'	40:a:726:G:N2	2.45	0.41
40:a:1343:G:C8	40:a:1597:A:C6	3.08	0.41
40:a:1567:G:OP2	47:h:83:TYR:OH	2.18	0.41
40:a:1589:U:O2'	40:a:1590:A:P	2.79	0.41
41:b:30:SER:HA	41:b:66:LYS:HD2	2.03	0.41
42:c:67:VAL:CA	42:c:70:GLU:OE1	2.69	0.41
50:k:21:TYR:CZ	50:k:38:LYS:CG	3.04	0.41
51:l:6:LYS:NZ	51:l:119:ILE:C	2.77	0.41
51:l:31:VAL:HG21	51:l:104:ALA:CB	2.50	0.41
52:m:25:LYS:O	52:m:26:ASN:C	2.64	0.41
55:p:94:TYR:HE1	55:p:152:ARG:CD	2.34	0.41
57:r:8:LYS:NZ	57:r:9:VAL:O	2.52	0.41
57:r:110:VAL:HG21	57:r:114:GLU:OE1	2.21	0.41
59:t:42:THR:HG22	59:t:44:LYS:HZ1	1.84	0.41
61:v:57:VAL:CG2	61:v:60:GLN:O	2.68	0.41
61:v:135:VAL:HG12	61:v:136:MET:CE	2.50	0.41
62:w:78:LYS:HA	62:w:82:GLU:OE1	2.21	0.41
64:y:27:GLU:CB	64:y:87:LYS:HZ3	2.33	0.41
3:2:11:LEU:HD11	3:2:46:ALA:CB	2.50	0.41
3:2:50:LEU:HD23	44:e:26:PHE:CE1	2.56	0.41
9:9:31:ARG:HH11	40:a:1054:A:C4'	2.31	0.41
11:AA:1105:SER:HB2	14:AE:731:ARG:HB3	2.03	0.41
12:AB:123:PHE:CD2	29:P:81:GLU:CB	3.04	0.41
14:AE:247:PRO:HA	14:AE:250:ARG:HE	1.86	0.41
14:AE:800:LEU:HB3	14:AE:920:ALA:HB1	2.02	0.41
10:B:1:C:C5	10:B:2:G:N7	2.89	0.41
10:B:5:G:C2'	10:B:6:G:C5'	2.98	0.41
10:B:9:G:O2'	10:B:45:G:H2'	2.20	0.41
17:D:9:G:OP2	24:K:126:LYS:HD2	2.21	0.41
17:D:619:U:O4'	23:J:128:ARG:CZ	2.67	0.41
17:D:920:U:H2'	17:D:921:U:C6	2.56	0.41
17:D:1241:G:H2'	17:D:1242:G:H8	1.85	0.41
17:D:1302:C:OP1	37:X:13:LYS:NZ	2.30	0.41
18:E:50:ALA:O	18:E:54:MET:HG3	2.20	0.41
20:G:47:VAL:N	20:G:48:PRO:HD2	2.35	0.41
20:G:56:GLU:HG2	20:G:198:PHE:CZ	2.56	0.41
20:G:58:ASN:HB2	20:G:220:THR:OG1	2.21	0.41
20:G:110:SER:OG	20:G:113:ARG:NH2	2.47	0.41
20:G:161:LEU:HD13	20:G:176:ALA:HB2	2.03	0.41
21:H:309:MET:HE1	21:H:318:PRO:HG3	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:I:135:LYS:HG3	22:I:136:ARG:N	2.35	0.41
24:K:100:SER:O	24:K:103:THR:HG22	2.20	0.41
24:K:111:MET:O	24:K:112:ARG:C	2.63	0.41
24:K:147:MET:HE3	24:K:147:MET:O	2.21	0.41
28:O:97:GLU:HG2	28:O:98:LEU:N	2.35	0.41
30:Q:49:GLY:C	30:Q:51:GLY:H	2.29	0.41
33:T:18:ASP:O	33:T:19:ALA:HB3	2.20	0.41
36:W:66:MET:SD	36:W:66:MET:C	3.03	0.41
37:X:90:ARG:HD3	37:X:97:VAL:HA	2.01	0.41
38:Y:34:ILE:O	38:Y:34:ILE:HG22	2.20	0.41
38:Y:60:VAL:CG2	38:Y:66:PHE:CD1	3.03	0.41
38:Y:102:ARG:CZ	38:Y:139:VAL:HG21	2.50	0.41
40:a:67:U:C4	40:a:74:A:N6	2.89	0.41
40:a:209:C:C2	40:a:210:C:C6	3.09	0.41
40:a:241:A:N1	40:a:255:A:H5"	2.36	0.41
40:a:938:G:C2	40:a:939:G:C8	3.08	0.41
40:a:1057:A:C2	40:a:1082:U:N3	2.89	0.41
40:a:1322:A:C4	40:a:1323:C:C6	3.08	0.41
40:a:1351:C:H2'	40:a:1352:U:O4'	2.21	0.41
40:a:1582:C:C2'	40:a:1583:A:H5"	2.51	0.41
40:a:1746:A:H2'	40:a:1747:U:C6	2.56	0.41
40:a:2728:U:H5'	59:t:70:ARG:HH22	1.85	0.41
40:a:2784:U:H2'	40:a:2785:C:C6	2.55	0.41
47:h:84:ASP:OD2	47:h:91:ILE:HD11	2.21	0.41
47:h:165:VAL:HG12	47:h:175:ARG:NH2	2.35	0.41
51:l:194:LYS:O	51:l:195:GLN:C	2.64	0.41
53:n:4:LEU:HD11	53:n:101:GLU:CB	2.50	0.41
53:n:33:LYS:CA	53:n:96:MET:SD	3.07	0.41
55:p:91:GLY:HA2	55:p:160:LYS:CD	2.50	0.41
57:r:54:LEU:HD12	57:r:57:LYS:HE2	2.03	0.41
57:r:114:GLU:OE2	57:r:133:GLN:N	2.53	0.41
3:2:30:ILE:HG22	3:2:32:LEU:HD22	2.03	0.41
5:4:80:HIS:CE1	5:4:83:LYS:HZ3	2.34	0.41
7:6:14:DC:H2'	7:6:15:DC:H6	1.85	0.41
8:7:12:U:H4'	24:K:56:VAL:HG11	2.02	0.41
8:7:38:U:C3'	8:7:38:U:C6	3.04	0.41
10:A:16:C:O2	10:A:16:C:H2'	2.21	0.41
10:A:22:G:HO2'	10:A:23:C:P	2.44	0.41
10:A:41:C:H4'	26:M:143:ARG:CZ	2.51	0.41
12:AB:147:ASN:OD1	29:P:101:SER:CA	2.68	0.41
12:AB:155:LYS:HB3	12:AB:158:GLU:CD	2.45	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:AD:46:ILE:HD11	13:AD:224:LEU:HD13	2.02	0.41
16:C:12:ARG:CB	21:H:264:GLU:CB	2.98	0.41
16:C:38:LYS:NZ	17:D:718:A:C6	2.79	0.41
17:D:105:G:H2'	17:D:106:C:C6	2.56	0.41
17:D:124:C:H2'	17:D:125:U:C6	2.56	0.41
17:D:294:U:OP1	17:D:610:U:O2'	2.29	0.41
17:D:338:A:C5	17:D:339:C:C5	3.09	0.41
17:D:338:A:H2'	17:D:339:C:H6	1.86	0.41
17:D:567:G:H2'	17:D:568:G:O4'	2.21	0.41
17:D:673:A:H2'	17:D:674:G:H8	1.79	0.41
17:D:680:C:H2'	17:D:681:A:H8	1.85	0.41
17:D:695:A:O5'	30:Q:53:ARG:CZ	2.69	0.41
17:D:1061:G:H5'	29:P:61:ALA:HB2	2.02	0.41
17:D:1113:C:C2	17:D:1114:C:C5	3.08	0.41
17:D:1141:C:O2'	17:D:1142:G:P	2.79	0.41
17:D:1227:A:C8	37:X:116:ILE:HD11	2.56	0.41
17:D:1228:C:OP1	37:X:107:ARG:CZ	2.69	0.41
17:D:1251:A:H2'	17:D:1252:A:O4'	2.20	0.41
17:D:1513:A:H2'	17:D:1514:G:H8	1.84	0.41
18:E:9:LYS:HG2	18:E:13:GLN:NE2	2.36	0.41
19:F:58:LYS:O	19:F:62:ARG:NE	2.45	0.41
20:G:20:THR:O	20:G:23:TRP:CD1	2.74	0.41
20:G:94:HIS:O	20:G:95:ARG:C	2.64	0.41
20:G:142:GLU:OE2	20:G:142:GLU:HA	2.21	0.41
21:H:116:VAL:O	21:H:279:LYS:HG2	2.21	0.41
21:H:297:GLU:HG2	21:H:300:VAL:CG2	2.51	0.41
21:H:303:LEU:O	21:H:305:HIS:HA	2.21	0.41
22:I:35:SER:HA	22:I:38:LYS:CE	2.51	0.41
22:I:47:LEU:HD22	22:I:76:VAL:HG22	2.03	0.41
23:J:74:ASN:C	23:J:74:ASN:OD1	2.64	0.41
23:J:153:SER:OG	23:J:156:LYS:NZ	2.53	0.41
23:J:188:ARG:NH2	23:J:195:ILE:HG13	2.36	0.41
24:K:115:LEU:O	24:K:120:VAL:HG12	2.20	0.41
26:M:37:SER:HA	28:O:41:ARG:HH22	1.85	0.41
26:M:46:ALA:O	26:M:49:THR:OG1	2.25	0.41
27:N:10:MET:CG	27:N:27:MET:HE1	2.48	0.41
28:O:21:ILE:HD12	28:O:86:ALA:CB	2.50	0.41
31:R:3:THR:O	31:R:6:GLN:HB2	2.20	0.41
32:S:10:GLU:OE1	32:S:63:ARG:HG3	2.20	0.41
34:U:7:ALA:HA	34:U:28:ARG:HD3	2.01	0.41
35:V:7:THR:C	35:V:8:LEU:HD12	2.46	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:X:36:ALA:HB3	37:X:59:GLU:HG2	2.03	0.41
37:X:55:THR:CG2	37:X:59:GLU:OE2	2.69	0.41
38:Y:81:LYS:HD2	38:Y:81:LYS:H	1.83	0.41
40:a:18:U:H2'	40:a:19:A:H8	1.86	0.41
40:a:184:C:C2	40:a:213:A:N1	2.89	0.41
40:a:272:A:C2	40:a:273:G:C8	3.09	0.41
40:a:397:U:H2'	40:a:398:C:C6	2.56	0.41
40:a:540:C:C2	40:a:541:A:C8	3.09	0.41
40:a:638:G:H2'	40:a:639:U:C6	2.56	0.41
40:a:814:C:N3	40:a:815:C:C5	2.89	0.41
40:a:1009:A:N3	40:a:1153:C:O2'	2.48	0.41
40:a:1172:C:C2'	40:a:1173:U:O4'	2.68	0.41
40:a:1239:G:H2'	40:a:1240:U:O4'	2.21	0.41
40:a:1289:C:H2'	40:a:1290:C:C6	2.56	0.41
40:a:1406:U:C2	40:a:1407:G:N7	2.89	0.41
40:a:1548:A:H2'	40:a:1549:A:C8	2.56	0.41
40:a:1822:C:O2'	40:a:1823:G:H5'	2.21	0.41
40:a:1957:C:C2	40:a:1958:C:C5	3.09	0.41
40:a:2000:C:OP1	62:w:5:LYS:NZ	2.38	0.41
40:a:2066:C:O2'	40:a:2067:G:H5'	2.20	0.41
40:a:2298:A:N3	40:a:2321:U:C5	2.89	0.41
40:a:2393:U:H2'	40:a:2394:C:C6	2.56	0.41
40:a:2467:C:OP1	56:q:8:LYS:NZ	2.45	0.41
40:a:2590:A:C2	40:a:2591:C:C5	3.08	0.41
40:a:2639:A:H2'	40:a:2640:G:O4'	2.21	0.41
40:a:2650:U:C2	40:a:2651:C:C5	3.08	0.41
40:a:2757:A:N1	55:p:67:THR:OG1	2.50	0.41
41:b:55:ARG:NE	41:b:55:ARG:CA	2.84	0.41
43:d:57:A:N7	53:n:26:MET:HE3	2.36	0.41
48:i:34:SER:OG	48:i:36:GLU:HG2	2.20	0.41
49:j:175:LEU:HB3	49:j:189:VAL:CG1	2.50	0.41
51:l:149:ILE:HG21	51:l:175:ILE:HD11	2.01	0.41
53:n:141:ILE:HD11	53:n:146:VAL:CG1	2.51	0.41
53:n:150:ARG:HG2	53:n:151:GLY:N	2.36	0.41
55:p:52:PHE:HZ	55:p:72:LEU:HD22	1.86	0.41
55:p:69:ARG:HH12	55:p:73:ASN:CG	2.25	0.41
58:s:1:MET:SD	58:s:2:LYS:O	2.79	0.41
58:s:53:TYR:HD1	58:s:121:LYS:HB3	1.86	0.41
59:t:24:VAL:O	59:t:24:VAL:HG13	2.20	0.41
60:u:123:ARG:C	60:u:125:LEU:HD22	2.45	0.41
61:v:104:GLU:CD	61:v:105:MET:H	2.28	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:w:17:ARG:O	62:w:21:PHE:HD2	2.04	0.41
62:w:49:GLU:OE2	62:w:95:THR:CG2	2.69	0.41
62:w:60:VAL:CA	62:w:63:ARG:NH1	2.84	0.41
62:w:98:LEU:CD1	62:w:114:GLU:OE2	2.68	0.41
63:x:15:ARG:C	63:x:19:GLN:NE2	2.78	0.41
65:z:86:ALA:C	65:z:87:SER:HG	2.27	0.41
3:2:6:ARG:NH2	3:2:10:VAL:CG2	2.84	0.41
9:9:96:PHE:O	9:9:125:ARG:NH1	2.54	0.41
10:A:25:C:C4	10:A:26:G:C8	3.09	0.41
11:AA:657:THR:HG21	11:AA:1188:ASP:HB2	2.03	0.41
12:AB:29:LEU:HA	12:AB:29:LEU:HD12	1.76	0.41
12:AB:36:GLU:O	12:AB:37:LYS:HD2	2.21	0.41
12:AB:126:PHE:CZ	29:P:85:ASP:OD2	2.74	0.41
12:AB:154:VAL:CG2	12:AB:158:GLU:HB2	2.51	0.41
16:C:34:THR:HB	16:C:38:LYS:N	2.35	0.41
17:D:107:G:C6	17:D:108:G:C4	3.09	0.41
17:D:276:G:H5”	35:V:17:MET:HE3	2.03	0.41
17:D:414:A:C2	17:D:415:A:N9	2.89	0.41
17:D:958:A:H5’	36:W:55:ARG:HH12	1.86	0.41
18:E:59:ASP:OD1	18:E:76:LYS:HE2	2.21	0.41
20:G:36:ASN:ND2	21:H:19:ARG:HD2	2.36	0.41
20:G:106:THR:HA	20:G:109:GLN:HE21	1.85	0.41
20:G:185:ALA:O	20:G:200:ILE:N	2.54	0.41
21:H:309:MET:HE1	21:H:318:PRO:CA	2.51	0.41
22:I:23:PHE:CD2	29:P:97:ASP:HB2	2.53	0.41
25:L:51:ILE:CG2	25:L:86:ARG:HH21	2.34	0.41
28:O:5:GLN:NE2	28:O:22:LYS:HZ2	2.18	0.41
28:O:35:LEU:HD21	28:O:45:ARG:HG2	2.02	0.41
28:O:44:ALA:HA	28:O:47:VAL:HG22	2.03	0.41
39:Z:6:GLN:O	39:Z:6:GLN:HG3	2.21	0.41
39:Z:6:GLN:CD	39:Z:10:ALA:HB2	2.45	0.41
39:Z:20:VAL:O	39:Z:20:VAL:CG1	2.65	0.41
40:a:409:G:H2’	40:a:410:G:C8	2.55	0.41
40:a:1128:G:C6	40:a:2518:A:C6	3.08	0.41
40:a:1142:A:N3	40:a:1142:A:H2’	2.36	0.41
40:a:1246:A:H2’	40:a:1247:A:O4’	2.20	0.41
40:a:1248:G:O2’	65:z:3:ARG:HA	2.21	0.41
40:a:1427:A:H4’	40:a:1428:C:O4’	2.21	0.41
40:a:2364:C:O2’	41:b:58:THR:HG21	2.21	0.41
40:a:2589:A:H2’	40:a:2590:A:H8	1.86	0.41
40:a:2686:G:H2’	40:a:2687:U:C6	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:e:44:LYS:HZ3	44:e:48:ARG:HE	1.69	0.41
45:f:5:ILE:HG22	45:f:6:LYS:N	2.36	0.41
49:j:34:VAL:HG13	49:j:48:ILE:CG2	2.50	0.41
50:k:19:HIS:CD2	50:k:20:PHE:H	2.39	0.41
51:l:193:VAL:O	51:l:194:LYS:C	2.62	0.41
53:n:8:TYR:O	53:n:13:VAL:HG23	2.21	0.41
60:u:101:ILE:HG13	60:u:102:GLY:N	2.36	0.41
62:w:60:VAL:CG2	62:w:63:ARG:NH1	2.78	0.41
62:w:98:LEU:N	62:w:112:TYR:O	2.51	0.41
1:0:4:VAL:HG23	1:0:4:VAL:O	2.20	0.40
2:1:10:ALA:CB	2:1:103:ILE:CD1	2.99	0.40
2:1:93:ALA:HB2	40:a:1614:A:C2	2.57	0.40
4:3:6:ARG:N	4:3:9:ASP:OD2	2.49	0.40
4:3:86:ARG:NH2	4:3:95:PHE:CB	2.84	0.40
10:A:9:G:H5"	10:A:11:A:OP2	2.21	0.40
11:AA:213:LEU:HD13	11:AA:422:LYS:HG2	2.03	0.40
11:AA:836:LEU:HD21	11:AA:921:PRO:HD3	2.02	0.40
11:AA:874:GLY:HA2	13:AC:66:HIS:HB3	2.03	0.40
13:AC:57:THR:HG23	13:AC:158:ARG:HH21	1.86	0.40
16:C:60:LYS:NZ	17:D:735:C:P	2.92	0.40
17:D:375:U:H1'	34:U:28:ARG:NH2	2.36	0.40
17:D:820:U:H4'	17:D:821:G:OP2	2.20	0.40
17:D:960:U:O2'	17:D:1223:C:H4'	2.20	0.40
17:D:1061:G:C6	17:D:1197:A:C6	3.09	0.40
18:E:9:LYS:CG	18:E:13:GLN:HE22	2.34	0.40
19:F:12:PHE:O	19:F:16:LEU:HG	2.21	0.40
20:G:138:THR:O	20:G:142:GLU:HG2	2.22	0.40
21:H:170:ARG:O	21:H:171:ARG:CB	2.69	0.40
21:H:287:LEU:HD23	21:H:318:PRO:HB2	2.02	0.40
22:I:34:ASP:O	22:I:38:LYS:HG3	2.22	0.40
22:I:58:GLU:OE1	22:I:65:ARG:CZ	2.65	0.40
22:I:72:ARG:CD	22:I:75:ILE:HB	2.51	0.40
22:I:123:GLN:HB3	22:I:128:VAL:HG21	2.02	0.40
24:K:46:VAL:C	24:K:71:MET:HG3	2.47	0.40
27:N:96:MET:HE2	27:N:99:LEU:HD12	2.03	0.40
29:P:73:LEU:HD23	29:P:73:LEU:O	2.21	0.40
31:R:59:ASN:OD1	31:R:59:ASN:C	2.62	0.40
40:a:138:U:C5	40:a:142:A:C6	3.08	0.40
40:a:244:A:H2'	40:a:245:G:O4'	2.21	0.40
40:a:706:A:C2	40:a:707:G:H1'	2.57	0.40
40:a:966:G:C1'	40:a:2267:A:H62	2.34	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:967:U:H2'	40:a:968:C:C6	2.56	0.40
40:a:975:A:H1'	40:a:990:A:C2	2.56	0.40
40:a:1048:A:C5	40:a:1049:C:C5	3.09	0.40
40:a:1430:G:H2'	40:a:1431:A:C8	2.56	0.40
40:a:1709:U:C2	40:a:1710:G:C8	3.10	0.40
40:a:2511:U:C5'	49:j:130:GLN:OE1	2.69	0.40
40:a:2569:G:C2	40:a:2570:G:C8	3.09	0.40
41:b:70:GLU:HG3	41:b:72:LYS:HG2	2.03	0.40
42:c:3:ARG:HD2	42:c:30:LEU:CD1	2.51	0.40
43:d:113:C:O2'	63:x:46:GLU:CD	2.64	0.40
46:g:7:PRO:CG	53:n:62:GLY:O	2.69	0.40
47:h:53:HIS:CD2	47:h:218:PRO:O	2.74	0.40
49:j:47:ALA:O	49:j:48:ILE:HD13	2.20	0.40
51:l:148:ILE:O	51:l:169:VAL:HA	2.21	0.40
53:n:61:SER:O	53:n:63:GLN:N	2.54	0.40
55:p:149:ARG:NH1	55:p:154:PRO:CG	2.84	0.40
58:s:49:ASP:OD1	58:s:121:LYS:NZ	2.54	0.40
59:t:7:MET:CE	59:t:20:MET:HB2	2.51	0.40
1:0:13:ARG:NH2	65:z:97:ASP:CG	2.80	0.40
1:0:40:MET:C	1:0:41:ILE:HD12	2.47	0.40
5:4:77:VAL:HG21	5:4:79:ARG:HH21	1.86	0.40
8:7:10:U:O2	8:7:10:U:C3'	2.69	0.40
9:9:38:MET:SD	9:9:41:LEU:HD12	2.61	0.40
9:9:44:ALA:CA	9:9:47:GLU:OE1	2.68	0.40
12:AB:72:THR:HG22	12:AB:73:ARG:H	1.86	0.40
12:AB:95:GLN:C	12:AB:96:LEU:HD12	2.46	0.40
13:AC:104:LYS:HG2	13:AC:110:VAL:HG22	2.03	0.40
14:AE:367:GLY:HA3	14:AE:448:GLN:HB2	2.03	0.40
10:B:9:G:H5"	10:B:11:A:OP2	2.21	0.40
10:B:16:C:O2	10:B:16:C:H2'	2.21	0.40
16:C:12:ARG:NH1	16:C:13:PHE:CD1	2.89	0.40
16:C:70:TYR:HE2	25:L:49:TYR:CZ	2.39	0.40
17:D:19:A:C6	17:D:20:U:C4	3.09	0.40
17:D:114:U:H2'	17:D:115:G:C8	2.56	0.40
17:D:437:U:H5"	23:J:152:GLN:CD	2.46	0.40
17:D:502:A:H2'	17:D:503:C:H6	1.87	0.40
17:D:515:G:N1	17:D:537:G:C6	2.90	0.40
17:D:915:A:H8	17:D:915:A:O5'	2.04	0.40
17:D:1186:G:H4'	28:O:112:GLU:OE2	2.21	0.40
17:D:1290:G:C4'	26:M:35:LYS:NZ	2.83	0.40
17:D:1458:G:OP1	18:E:30:THR:OG1	2.30	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:G:16:PHE:CB	21:H:43:LYS:HA	2.52	0.40
20:G:100:MET:HE1	20:G:101:LEU:CD2	2.49	0.40
22:I:156:ARG:HD3	22:I:160:ALA:O	2.21	0.40
23:J:122:ALA:HB1	23:J:145:ILE:HD11	2.03	0.40
25:L:36:ILE:HD11	25:L:62:MET:HE2	2.03	0.40
28:O:56:ASP:O	28:O:60:LYS:CE	2.69	0.40
28:O:91:ASP:C	28:O:92:GLU:OE2	2.64	0.40
28:O:118:LEU:HB3	28:O:120:LYS:O	2.21	0.40
29:P:22:THR:HG21	29:P:72:ARG:HG3	2.03	0.40
34:U:45:GLU:HG3	34:U:46:LYS:CD	2.45	0.40
38:Y:9:LYS:O	38:Y:10:LEU:HG	2.21	0.40
40:a:16:C:C4’	48:i:15:MET:CE	2.99	0.40
40:a:66:C:H42	40:a:74:A:N6	2.19	0.40
40:a:205:G:O2’	40:a:206:U:OP2	2.39	0.40
40:a:579:G:H2’	40:a:580:U:H6	1.85	0.40
40:a:945:A:C4	40:a:2448:A:C2	3.09	0.40
40:a:1196:C:H2’	40:a:1197:G:O4’	2.22	0.40
40:a:1858:A:C2	40:a:1885:A:C1’	3.05	0.40
40:a:1944:U:C5	40:a:1955:U:C2	3.09	0.40
40:a:2048:G:C6	40:a:2049:G:C5	3.10	0.40
40:a:2052:A:O2’	49:j:148:GLN:O	2.37	0.40
40:a:2422:C:C4	40:a:2424:C:C4	3.09	0.40
40:a:2520:C:O2’	40:a:2521:C:H5’	2.20	0.40
40:a:2619:C:O2’	40:a:2620:C:H5’	2.21	0.40
40:a:2627:G:H2’	40:a:2628:C:C6	2.56	0.40
40:a:2708:G:C2	40:a:2709:G:C8	3.08	0.40
40:a:2851:A:H2’	40:a:2852:G:C8	2.57	0.40
41:b:17:GLU:OE1	41:b:19:LYS:HD3	2.21	0.40
42:c:66:THR:O	42:c:67:VAL:C	2.64	0.40
47:h:91:ILE:HG21	47:h:103:TYR:HB3	2.03	0.40
49:j:11:MET:SD	49:j:12:THR:N	2.94	0.40
50:k:8:LYS:HA	50:k:24:THR:HA	2.02	0.40
51:l:97:ASN:CG	51:l:100:MET:HE2	2.46	0.40
53:n:30:ARG:C	53:n:158:THR:HG1	2.28	0.40
57:r:76:GLU:OE2	57:r:142:VAL:HA	2.21	0.40
59:t:58:LEU:HD23	59:t:58:LEU:N	2.36	0.40
60:u:98:ALA:O	60:u:100:ILE:HG13	2.20	0.40
62:w:45:ARG:O	62:w:49:GLU:CD	2.62	0.40
62:w:48:VAL:HG13	62:w:49:GLU:OE1	2.22	0.40
62:w:73:ASN:ND2	62:w:73:ASN:O	2.50	0.40
62:w:84:GLY:N	62:w:85:PRO:HD2	2.36	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
63:x:21:LEU:C	63:x:21:LEU:HD23	2.46	0.40
2:1:32:ALA:O	2:1:36:LEU:CD1	2.70	0.40
2:1:88:ARG:NH2	2:1:94:ASP:OD2	2.47	0.40
3:2:19:LYS:HE2	3:2:84:TYR:OH	2.21	0.40
4:3:6:ARG:NH1	40:a:84:A:C2'	2.84	0.40
4:3:47:LYS:NZ	40:a:482:A:H5"	2.37	0.40
6:5:27:DG:N2	7:6:3:DC:O2	2.53	0.40
8:7:10:U:O2	8:7:10:U:H3'	2.21	0.40
11:AA:805:MET:HE3	11:AA:805:MET:HB2	1.86	0.40
11:AA:808:ASN:H	14:AE:633:ALA:HB2	1.87	0.40
11:AA:936:ARG:HB2	11:AA:1042:LEU:HD12	2.03	0.40
11:AA:998:LEU:HD21	11:AA:1015:ALA:HB2	2.02	0.40
12:AB:4:TRP:CZ3	12:AB:93:ILE:HG13	2.56	0.40
12:AB:32:MET:O	12:AB:50:LEU:HD12	2.21	0.40
12:AB:36:GLU:HA	12:AB:44:THR:O	2.22	0.40
13:AC:205:MET:HE2	13:AC:205:MET:HB3	2.00	0.40
14:AE:513:MET:HE2	14:AE:513:MET:HB3	1.79	0.40
14:AE:847:ASP:OD1	14:AE:847:ASP:N	2.54	0.40
10:B:25:C:C4	10:B:26:G:C8	3.09	0.40
17:D:174:A:C5	17:D:175:C:C5	3.10	0.40
17:D:1411:C:H2'	17:D:1412:C:C6	2.56	0.40
20:G:30:PHE:HA	20:G:45:LYS:NZ	2.35	0.40
21:H:308:GLU:HG3	21:H:346:LEU:H	1.86	0.40
21:H:309:MET:HE1	21:H:318:PRO:HA	2.04	0.40
22:I:8:ASN:O	22:I:12:LEU:HD23	2.21	0.40
23:J:105:MET:HE3	23:J:171:LEU:HD13	1.97	0.40
23:J:172:GLU:HG3	23:J:183:LYS:HD2	2.04	0.40
25:L:38:ARG:CZ	25:L:99:ALA:HB2	2.52	0.40
25:L:39:LEU:O	25:L:40:GLU:OE2	2.40	0.40
26:M:35:LYS:CE	26:M:38:THR:OG1	2.69	0.40
28:O:7:TYR:CG	28:O:8:GLY:N	2.90	0.40
28:O:50:GLN:CA	28:O:53:GLU:OE1	2.69	0.40
29:P:56:HIS:ND1	29:P:57:VAL:HG23	2.36	0.40
30:Q:14:LYS:HE2	30:Q:14:LYS:HA	2.04	0.40
34:U:4:ILE:HG22	34:U:71:VAL:HG11	2.02	0.40
35:V:26:GLU:OE2	35:V:39:LYS:C	2.65	0.40
36:W:17:LYS:HB3	36:W:21:LYS:NZ	2.36	0.40
37:X:65:VAL:CG2	37:X:66:GLU:OE1	2.69	0.40
38:Y:96:LYS:CD	38:Y:136:GLY:HA3	2.50	0.40
39:Z:2:ILE:HG22	39:Z:4:LYS:N	2.28	0.40
40:a:529:A:C4	40:a:2023:C:C5	3.09	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:841:G:H2'	40:a:842:U:H6	1.86	0.40
40:a:851:C:O4'	45:f:47:MET:HG2	2.21	0.40
40:a:1365:A:O5'	42:c:28:ARG:NH2	2.51	0.40
40:a:1607:C:H4'	40:a:1608:A:O5'	2.21	0.40
40:a:1923:U:H2'	40:a:1923:U:OP2	2.21	0.40
40:a:2049:G:H21	49:j:161:MET:CE	2.33	0.40
40:a:2313:C:O2'	53:n:35:THR:HG21	2.21	0.40
40:a:2656:U:O2	40:a:2656:U:H2'	2.21	0.40
40:a:2680:U:H1'	49:j:192:ALA:CB	2.52	0.40
43:d:45:A:OP1	53:n:92:ARG:NH1	2.51	0.40
45:f:27:LEU:O	45:f:38:ARG:NE	2.44	0.40
47:h:130:LEU:HD21	47:h:135:ILE:HG12	2.04	0.40
47:h:137:VAL:HA	47:h:164:ILE:HG23	2.03	0.40
47:h:183:LYS:NZ	47:h:266:PHE:O	2.52	0.40
47:h:210:ALA:HA	47:h:213:TRP:CE3	2.56	0.40
49:j:55:LYS:HD3	49:j:55:LYS:C	2.45	0.40
50:k:12:VAL:HG12	50:k:50:LYS:O	2.22	0.40
52:m:12:ARG:HG3	52:m:44:VAL:HG21	2.03	0.40
57:r:8:LYS:HD2	57:r:13:GLY:O	2.20	0.40
59:t:59:LYS:NZ	59:t:92:GLU:HG2	2.37	0.40
59:t:61:VAL:HG11	59:t:112:PHE:CE2	2.56	0.40
60:u:95:LEU:HD13	60:u:100:ILE:CD1	2.51	0.40
60:u:96:LYS:HG2	60:u:102:GLY:O	2.20	0.40
62:w:12:ARG:CZ	62:w:20:MET:HE1	2.51	0.40
64:y:114:LEU:HG	64:y:115:ASN:N	2.36	0.40
4:3:47:LYS:NZ	40:a:482:A:C5'	2.85	0.40
8:7:21:U:C3'	8:7:21:U:C6	3.04	0.40
9:9:33:VAL:O	9:9:36:ASP:OD1	2.39	0.40
11:AA:803:ALA:HB2	11:AA:1094:VAL:HG21	2.03	0.40
12:AB:90:SER:O	12:AB:93:ILE:N	2.55	0.40
12:AB:112:PRO:HA	12:AB:133:PRO:HD2	2.03	0.40
12:AB:141:LEU:CA	12:AB:153:SER:N	2.75	0.40
17:D:184:G:C2	17:D:185:U:C5	3.10	0.40
17:D:264:C:H2'	17:D:265:G:O4'	2.21	0.40
17:D:334:C:N3	17:D:335:C:C5	2.90	0.40
17:D:376:G:O3'	34:U:5:ARG:NE	2.54	0.40
17:D:552:U:H2'	17:D:553:A:H8	1.85	0.40
17:D:570:G:H1'	17:D:820:U:C4	2.56	0.40
17:D:597:G:N7	17:D:598:U:C5	2.89	0.40
17:D:916:U:C2	17:D:917:G:C8	3.10	0.40
17:D:1000:A:N1	17:D:1041:G:C6	2.89	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:D:1175:G:HO2'	17:D:1176:A:P	2.44	0.40
17:D:1217:C:OP1	32:S:9:ARG:NE	2.41	0.40
18:E:53:GLU:O	18:E:57:ILE:CD1	2.69	0.40
19:F:16:LEU:O	19:F:20:LYS:HG3	2.22	0.40
19:F:58:LYS:O	19:F:58:LYS:HD2	2.22	0.40
20:G:117:LEU:CD2	20:G:141:LEU:HA	2.51	0.40
22:I:8:ASN:O	22:I:12:LEU:CD2	2.69	0.40
22:I:135:LYS:HA	22:I:138:VAL:HG12	2.04	0.40
24:K:58:ALA:O	24:K:62:LYS:HG2	2.21	0.40
25:L:42:TRP:HB3	25:L:59:TYR:HB2	2.03	0.40
27:N:8:ALA:N	27:N:77:ARG:NH1	2.69	0.40
27:N:28:PRO:HD3	27:N:58:GLU:OE1	2.21	0.40
28:O:25:ASN:HB2	28:O:27:LYS:HZ2	1.86	0.40
29:P:47:GLU:N	29:P:47:GLU:CD	2.79	0.40
30:Q:82:LEU:CD1	30:Q:105:PHE:CG	3.05	0.40
31:R:30:LYS:CB	31:R:57:LEU:HD11	2.47	0.40
34:U:6:LEU:HD12	34:U:6:LEU:N	2.36	0.40
35:V:11:ARG:HD3	35:V:57:ASP:C	2.46	0.40
38:Y:100:ILE:HG13	38:Y:139:VAL:HB	2.02	0.40
40:a:1:G:H2'	40:a:2:G:C8	2.57	0.40
40:a:126:A:O5'	52:m:19:ARG:HG3	2.21	0.40
40:a:320:A:H2'	51:l:131:THR:HG21	2.03	0.40
40:a:672:C:O2'	40:a:673:C:H5'	2.22	0.40
40:a:909:A:C4	40:a:912:C:C5	3.09	0.40
40:a:920:A:H2'	40:a:921:C:H6	1.85	0.40
40:a:1144:A:C6	40:a:1145:C:C4	3.09	0.40
40:a:1804:C:N4	40:a:1814:G:N2	2.70	0.40
40:a:2024:G:C5	40:a:2040:G:C2	3.09	0.40
40:a:2065:C:N3	40:a:2066:C:C5	2.89	0.40
40:a:2454:G:C5	40:a:2455:G:N7	2.90	0.40
40:a:2808:G:N1	40:a:2891:U:C5	2.89	0.40
40:a:2848:G:N2	40:a:2867:G:C4	2.89	0.40
45:f:17:LEU:O	45:f:21:LYS:HG2	2.22	0.40
47:h:246:THR:HB	47:h:247:PRO:HD2	2.04	0.40
48:i:28:LEU:CB	48:i:37:LYS:HE3	2.51	0.40
59:t:102:PRO:HD3	64:y:66:ASN:HB2	2.02	0.40
61:v:50:ARG:O	61:v:53:MET:SD	2.80	0.40
62:w:98:LEU:HD12	62:w:114:GLU:OE2	2.21	0.40
4:3:86:ARG:CZ	4:3:95:PHE:CD2	3.04	0.40
8:7:12:U:H6	8:7:12:U:C3'	2.35	0.40
9:9:6:GLN:OE1	9:9:6:GLN:N	2.55	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:144:VAL:HG23	11:AA:515:MET:HB2	2.02	0.40
11:AA:469:VAL:HA	11:AA:472:GLU:HG2	2.02	0.40
12:AB:147:ASN:CG	29:P:102:LEU:H	2.30	0.40
13:AC:42:ALA:HB1	13:AC:224:LEU:HD11	2.03	0.40
14:AE:138:VAL:HG21	14:AE:145:VAL:HB	2.03	0.40
14:AE:915:ILE:HA	14:AE:918:ILE:HG12	2.04	0.40
16:C:38:LYS:CA	16:C:38:LYS:CE	2.99	0.40
16:C:71:THR:H	16:C:74:HIS:CE1	2.38	0.40
17:D:43:C:P	34:U:12:LYS:HZ2	2.37	0.40
17:D:58:C:O2	17:D:58:C:C2'	2.70	0.40
17:D:262:A:C4	17:D:263:A:C8	3.10	0.40
17:D:389:A:H2'	17:D:390:U:H5'	2.04	0.40
17:D:953:G:O6	37:X:103:LYS:HE2	2.22	0.40
17:D:977:A:N6	17:D:1224:U:O5'	2.55	0.40
17:D:1175:G:O2'	17:D:1176:A:P	2.80	0.40
17:D:1367:C:O3'	28:O:116:VAL:HG22	2.22	0.40
17:D:1372:U:H2'	17:D:1373:G:O4'	2.22	0.40
17:D:1515:G:H2'	17:D:1516:G:C8	2.54	0.40
18:E:9:LYS:HG3	18:E:13:GLN:HE22	1.87	0.40
20:G:14:VAL:HG13	20:G:213:TYR:OH	2.22	0.40
20:G:176:ALA:O	20:G:180:GLY:N	2.52	0.40
22:I:30:ALA:O	32:S:65:ARG:NH2	2.54	0.40
25:L:1:MET:HE2	25:L:66:ALA:C	2.47	0.40
25:L:11:HIS:HE1	25:L:13:ASP:OD2	2.05	0.40
25:L:24:ARG:NE	25:L:24:ARG:HA	2.36	0.40
27:N:43:GLU:OE2	27:N:101:ILE:HG21	2.22	0.40
31:R:7:LEU:HD23	35:V:34:TYR:CZ	2.57	0.40
31:R:25:GLU:CD	31:R:30:LYS:HE3	2.46	0.40
32:S:91:GLY:C	32:S:92:GLU:OE1	2.62	0.40
34:U:18:GLN:OE1	34:U:35:ARG:NE	2.54	0.40
35:V:77:ARG:HH21	35:V:78:VAL:H	1.69	0.40
40:a:36:G:N3	40:a:450:G:O2'	2.55	0.40
40:a:151:C:C2	40:a:152:A:N7	2.89	0.40
40:a:458:G:N2	40:a:469:G:H2'	2.36	0.40
40:a:465:G:H2'	40:a:466:A:C8	2.56	0.40
40:a:518:G:H2'	40:a:519:U:C6	2.57	0.40
40:a:689:A:H2'	40:a:690:G:H8	1.86	0.40
40:a:1355:G:C2	40:a:1356:G:C8	3.09	0.40
40:a:1671:U:O2'	40:a:1673:G:N7	2.49	0.40
40:a:2065:C:C2	40:a:2066:C:C6	3.09	0.40
40:a:2205:A:H2'	40:a:2206:C:C6	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:a:2526:G:O2'	56:q:1:MET:HG2	2.21	0.40
40:a:2531:A:C6	40:a:2532:G:C5	3.10	0.40
40:a:2839:G:C4	40:a:2840:C:C6	3.09	0.40
44:e:14:LEU:CA	44:e:17:GLU:OE1	2.70	0.40
45:f:34:HIS:CD2	45:f:36:VAL:CG2	3.05	0.40
49:j:3:GLY:C	49:j:4:LEU:HD12	2.47	0.40
49:j:146:ILE:HA	49:j:159:LYS:NZ	2.36	0.40
52:m:22:MET:SD	52:m:28:ARG:HD3	2.62	0.40
52:m:42:LEU:N	52:m:42:LEU:HD12	2.36	0.40
53:n:136:ILE:HA	53:n:141:ILE:CG2	2.51	0.40
56:q:4:ARG:O	56:q:37:GLN:HA	2.22	0.40
57:r:137:GLU:OE1	57:r:137:GLU:N	2.42	0.40
58:s:56:VAL:O	58:s:125:TYR:N	2.50	0.40
58:s:99:ARG:O	58:s:100:VAL:C	2.63	0.40
62:w:24:MET:CG	62:w:44:LEU:HD12	2.51	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
1	0	101/103 (98%)	97 (96%)	4 (4%)	0	100 100
2	1	108/110 (98%)	107 (99%)	1 (1%)	0	100 100
3	2	92/100 (92%)	87 (95%)	5 (5%)	0	100 100
4	3	101/104 (97%)	98 (97%)	3 (3%)	0	100 100
5	4	92/94 (98%)	89 (97%)	3 (3%)	0	100 100
9	9	146/165 (88%)	101 (69%)	42 (29%)	3 (2%)	5 30
11	AA	1312/1342 (98%)	1197 (91%)	114 (9%)	1 (0%)	48 83
12	AB	159/162 (98%)	108 (68%)	43 (27%)	8 (5%)	1 16

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
13	AC	217/329 (66%)	203 (94%)	12 (6%)	2 (1%)	14 51
13	AD	214/329 (65%)	198 (92%)	16 (8%)	0	100 100
14	AE	1331/1407 (95%)	1208 (91%)	117 (9%)	6 (0%)	24 63
15	AF	80/91 (88%)	77 (96%)	3 (4%)	0	100 100
16	C	64/75 (85%)	63 (98%)	1 (2%)	0	100 100
18	E	84/87 (97%)	83 (99%)	1 (1%)	0	100 100
19	F	68/71 (96%)	68 (100%)	0	0	100 100
20	G	223/241 (92%)	212 (95%)	10 (4%)	1 (0%)	30 67
21	H	255/557 (46%)	182 (71%)	66 (26%)	7 (3%)	4 25
22	I	206/233 (88%)	193 (94%)	13 (6%)	0	100 100
23	J	203/206 (98%)	201 (99%)	2 (1%)	0	100 100
24	K	154/167 (92%)	145 (94%)	8 (5%)	1 (1%)	21 59
25	L	102/135 (76%)	97 (95%)	4 (4%)	1 (1%)	12 48
26	M	149/179 (83%)	140 (94%)	8 (5%)	1 (1%)	18 56
27	N	127/130 (98%)	123 (97%)	4 (3%)	0	100 100
28	O	125/130 (96%)	116 (93%)	8 (6%)	1 (1%)	16 54
29	P	97/103 (94%)	89 (92%)	8 (8%)	0	100 100
30	Q	115/129 (89%)	107 (93%)	8 (7%)	0	100 100
31	R	117/124 (94%)	112 (96%)	5 (4%)	0	100 100
32	S	98/101 (97%)	97 (99%)	1 (1%)	0	100 100
33	T	86/89 (97%)	83 (96%)	3 (4%)	0	100 100
34	U	80/82 (98%)	76 (95%)	4 (5%)	0	100 100
35	V	78/84 (93%)	74 (95%)	4 (5%)	0	100 100
36	W	81/92 (88%)	80 (99%)	1 (1%)	0	100 100
37	X	114/118 (97%)	103 (90%)	9 (8%)	2 (2%)	6 34
38	Y	139/142 (98%)	101 (73%)	38 (27%)	0	100 100
39	Z	28/121 (23%)	22 (79%)	6 (21%)	0	100 100
41	b	74/85 (87%)	73 (99%)	1 (1%)	0	100 100
42	c	75/78 (96%)	72 (96%)	3 (4%)	0	100 100
44	e	60/63 (95%)	57 (95%)	3 (5%)	0	100 100
45	f	56/59 (95%)	52 (93%)	4 (7%)	0	100 100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
46	g	64/70 (91%)	62 (97%)	2 (3%)	0	100	100
47	h	269/273 (98%)	255 (95%)	14 (5%)	0	100	100
48	i	54/57 (95%)	49 (91%)	5 (9%)	0	100	100
49	j	207/209 (99%)	198 (96%)	9 (4%)	0	100	100
50	k	50/55 (91%)	50 (100%)	0	0	100	100
51	l	199/201 (99%)	188 (94%)	11 (6%)	0	100	100
52	m	44/46 (96%)	43 (98%)	1 (2%)	0	100	100
53	n	175/179 (98%)	161 (92%)	13 (7%)	1 (1%)	21	59
54	o	62/65 (95%)	57 (92%)	4 (6%)	1 (2%)	7	38
55	p	173/177 (98%)	162 (94%)	11 (6%)	0	100	100
56	q	36/38 (95%)	35 (97%)	1 (3%)	0	100	100
57	r	147/149 (99%)	139 (95%)	8 (5%)	0	100	100
58	s	140/142 (99%)	133 (95%)	7 (5%)	0	100	100
59	t	121/123 (98%)	114 (94%)	7 (6%)	0	100	100
60	u	142/144 (99%)	134 (94%)	8 (6%)	0	100	100
61	v	134/136 (98%)	129 (96%)	5 (4%)	0	100	100
62	w	117/127 (92%)	112 (96%)	5 (4%)	0	100	100
63	x	114/117 (97%)	107 (94%)	7 (6%)	0	100	100
64	y	112/115 (97%)	105 (94%)	7 (6%)	0	100	100
65	z	115/118 (98%)	111 (96%)	4 (4%)	0	100	100
All	All	9486/10558 (90%)	8735 (92%)	715 (8%)	36 (0%)	31	67

All (36) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
12	AB	141	LEU
12	AB	152	HIS
20	G	127	ASP
21	H	304	VAL
26	M	56	LYS
54	o	32	ILE
12	AB	149	GLU
14	AE	175	GLU
21	H	171	ARG
21	H	305	HIS

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Mol	Chain	Res	Type
21	H	309	MET
12	AB	147	ASN
24	K	78	ASN
25	L	96	VAL
28	O	13	LYS
53	n	177	PHE
12	AB	160	ARG
13	AC	193	GLU
21	H	82	THR
14	AE	79	LYS
14	AE	93	THR
14	AE	286	ALA
21	H	143	ASP
37	X	6	GLY
37	X	66	GLU
9	9	79	PRO
9	9	88	HIS
12	AB	53	ASN
12	AB	137	ALA
13	AC	192	VAL
14	AE	290	ILE
21	H	71	ALA
12	AB	146	ILE
14	AE	292	VAL
9	9	129	LEU
11	AA	1317	PRO

5.3.2 Protein sidechains (i)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	0	84/84 (100%)	84 (100%)	0	100	100
2	1	93/93 (100%)	93 (100%)	0	100	100
3	2	81/84 (96%)	81 (100%)	0	100	100
4	3	84/85 (99%)	84 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
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	84
12	AB	141/142 (99%)	138 (98%)	3 (2%)	47	65
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%)	1103 (98%)	19 (2%)	53	69
15	AF	70/75 (93%)	69 (99%)	1 (1%)	59	72
16	C	57/65 (88%)	57 (100%)	0	100	100
18	E	65/66 (98%)	65 (100%)	0	100	100
19	F	60/61 (98%)	60 (100%)	0	100	100
20	G	187/199 (94%)	187 (100%)	0	100	100
21	H	137/461 (30%)	137 (100%)	0	100	100
22	I	171/190 (90%)	171 (100%)	0	100	100
23	J	172/173 (99%)	171 (99%)	1 (1%)	78	83
24	K	119/126 (94%)	119 (100%)	0	100	100
25	L	91/116 (78%)	91 (100%)	0	100	100
26	M	124/147 (84%)	124 (100%)	0	100	100
27	N	104/105 (99%)	104 (100%)	0	100	100
28	O	105/107 (98%)	105 (100%)	0	100	100
29	P	86/90 (96%)	85 (99%)	1 (1%)	63	75
30	Q	90/99 (91%)	90 (100%)	0	100	100
31	R	101/104 (97%)	101 (100%)	0	100	100
32	S	83/84 (99%)	83 (100%)	0	100	100
33	T	76/77 (99%)	76 (100%)	0	100	100
34	U	65/65 (100%)	65 (100%)	0	100	100
35	V	74/78 (95%)	74 (100%)	0	100	100
36	W	72/79 (91%)	72 (100%)	0	100	100
37	X	94/96 (98%)	94 (100%)	0	100	100
38	Y	109/110 (99%)	109 (100%)	0	100	100
39	Z	26/85 (31%)	26 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
41	b	58/63 (92%)	58 (100%)	0	100	100
42	c	67/68 (98%)	67 (100%)	0	100	100
44	e	54/55 (98%)	54 (100%)	0	100	100
45	f	48/49 (98%)	48 (100%)	0	100	100
46	g	59/62 (95%)	59 (100%)	0	100	100
47	h	216/218 (99%)	216 (100%)	0	100	100
48	i	47/48 (98%)	47 (100%)	0	100	100
49	j	164/164 (100%)	164 (100%)	0	100	100
50	k	47/49 (96%)	47 (100%)	0	100	100
51	l	165/165 (100%)	165 (100%)	0	100	100
52	m	38/38 (100%)	38 (100%)	0	100	100
53	n	148/150 (99%)	148 (100%)	0	100	100
54	o	51/52 (98%)	51 (100%)	0	100	100
55	p	136/138 (99%)	136 (100%)	0	100	100
56	q	34/34 (100%)	34 (100%)	0	100	100
57	r	114/114 (100%)	114 (100%)	0	100	100
58	s	116/116 (100%)	116 (100%)	0	100	100
59	t	104/104 (100%)	104 (100%)	0	100	100
60	u	103/103 (100%)	103 (100%)	0	100	100
61	v	109/109 (100%)	109 (100%)	0	100	100
62	w	99/103 (96%)	99 (100%)	0	100	100
63	x	86/87 (99%)	86 (100%)	0	100	100
64	y	99/100 (99%)	99 (100%)	0	100	100
65	z	89/90 (99%)	89 (100%)	0	100	100
All	All	7890/8723 (90%)	7860 (100%)	30 (0%)	81	84

All (30) 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

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Mol	Chain	Res	Type
12	AB	145	LEU
12	AB	146	ILE
12	AB	148	LYS
14	AE	69	GLU
14	AE	70	CYS
14	AE	71	LEU
14	AE	72	CYS
14	AE	76	LYS
14	AE	77	ARG
14	AE	78	LEU
14	AE	79	LYS
14	AE	83	VAL
14	AE	84	ILE
14	AE	85	CYS
14	AE	87	LYS
14	AE	91	GLU
14	AE	92	VAL
14	AE	290	ILE
14	AE	291	ILE
14	AE	292	VAL
14	AE	514	THR
14	AE	1261	LEU
15	AF	63	ILE
23	J	47	ARG
29	P	81	GLU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (107) such sidechains are listed below:

Mol	Chain	Res	Type
1	0	6	GLN
1	0	82	HIS
2	1	7	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	688	GLN

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Mol	Chain	Res	Type
11	AA	762	ASN
11	AA	808	ASN
11	AA	1237	HIS
11	AA	1288	GLN
11	AA	1313	HIS
12	AB	27	ASN
12	AB	65	HIS
13	AC	23	HIS
13	AD	66	HIS
13	AD	84	ASN
13	AD	117	HIS
13	AD	128	HIS
13	AD	227	GLN
14	AE	157	GLN
14	AE	164	GLN
14	AE	232	ASN
14	AE	365	GLN
14	AE	424	ASN
14	AE	450	HIS
14	AE	469	HIS
14	AE	777	HIS
14	AE	910	ASN
14	AE	1108	GLN
14	AE	1197	ASN
14	AE	1235	ASN
14	AE	1238	GLN
14	AE	1326	GLN
15	AF	62	GLN
16	C	54	GLN
18	E	13	GLN
18	E	61	GLN
19	F	9	ASN
20	G	18	HIS
20	G	39	HIS
20	G	94	HIS
22	I	3	GLN
22	I	6	HIS
22	I	8	ASN
22	I	190	HIS
23	J	36	GLN
23	J	131	ASN
23	J	198	HIS

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Mol	Chain	Res	Type
24	K	89	HIS
25	L	3	HIS
25	L	68	GLN
26	M	68	ASN
26	M	86	GLN
28	O	5	GLN
28	O	81	HIS
28	O	126	GLN
29	P	58	ASN
31	R	77	HIS
32	S	4	GLN
33	T	80	GLN
34	U	26	ASN
34	U	59	HIS
36	W	83	HIS
38	Y	5	GLN
44	e	25	GLN
44	e	31	GLN
45	f	20	HIS
45	f	49	ASN
46	g	33	ASN
47	h	53	HIS
47	h	90	ASN
48	i	6	ASN
49	j	173	GLN
50	k	19	HIS
51	l	92	HIS
51	l	156	ASN
51	l	163	ASN
52	m	29	GLN
53	n	5	HIS
53	n	81	GLN
54	o	24	HIS
54	o	28	ASN
55	p	88	GLN
56	q	13	ASN
57	r	133	GLN
58	s	86	GLN
58	s	132	HIS
61	v	13	HIS
61	v	45	GLN
61	v	97	GLN

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Mol	Chain	Res	Type
62	w	18	GLN
63	x	19	GLN
63	x	29	HIS
63	x	38	GLN
64	y	10	GLN
64	y	77	HIS
65	z	37	GLN
65	z	56	GLN
65	z	72	ASN
65	z	81	ASN

5.3.3 RNA (i)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
10	A	75/76 (98%)	29 (38%)	8 (10%)
10	B	75/76 (98%)	29 (38%)	8 (10%)
17	D	1515/1542 (98%)	290 (19%)	22 (1%)
40	a	2859/2904 (98%)	511 (17%)	0
43	d	119/120 (99%)	15 (12%)	0
8	7	31/47 (65%)	22 (70%)	4 (12%)
All	All	4674/4765 (98%)	896 (19%)	42 (0%)

All (896) 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

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Mol	Chain	Res	Type
8	7	20	U
8	7	21	U
8	7	22	U
8	7	23	U
8	7	41	U
8	7	43	A
10	A	2	G
10	A	6	G
10	A	7	G
10	A	8	U
10	A	10	G
10	A	13	C
10	A	14	A
10	A	16	C
10	A	17	C
10	A	18	G
10	A	19	G
10	A	20	U
10	A	21	A
10	A	22	G
10	A	23	C
10	A	30	G
10	A	46	G
10	A	47	U
10	A	48	C
10	A	49	G
10	A	52	G
10	A	57	A
10	A	58	A
10	A	59	A
10	A	61	C
10	A	66	C
10	A	69	C
10	A	71	C
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

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Mol	Chain	Res	Type
10	B	16	C
10	B	17	C
10	B	18	G
10	B	19	G
10	B	20	U
10	B	21	A
10	B	22	G
10	B	23	C
10	B	30	G
10	B	46	G
10	B	47	U
10	B	48	C
10	B	49	G
10	B	52	G
10	B	57	A
10	B	58	A
10	B	59	A
10	B	61	C
10	B	66	C
10	B	69	C
10	B	71	C
10	B	73	A
17	D	4	U
17	D	5	U
17	D	9	G
17	D	22	G
17	D	29	U
17	D	32	A
17	D	39	G
17	D	47	C
17	D	48	C
17	D	50	A
17	D	51	A
17	D	52	C
17	D	54	C
17	D	68	G
17	D	69	G
17	D	71	A
17	D	72	A
17	D	74	A
17	D	76	G
17	D	82	G

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Mol	Chain	Res	Type
17	D	83	C
17	D	84	U
17	D	87	C
17	D	90	C
17	D	94	G
17	D	95	C
17	D	96	U
17	D	108	G
17	D	120	A
17	D	121	U
17	D	122	G
17	D	131	A
17	D	141	G
17	D	144	G
17	D	148	G
17	D	149	A
17	D	160	A
17	D	164	G
17	D	173	U
17	D	181	A
17	D	182	A
17	D	183	C
17	D	184	G
17	D	197	A
17	D	198	G
17	D	204	G
17	D	208	U
17	D	209	U
17	D	210	C
17	D	211	G
17	D	212	G
17	D	216	U
17	D	226	G
17	D	245	U
17	D	247	G
17	D	251	G
17	D	253	A
17	D	258	G
17	D	262	A
17	D	266	G
17	D	267	C
17	D	271	C

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Mol	Chain	Res	Type
17	D	279	A
17	D	289	G
17	D	299	G
17	D	306	A
17	D	321	A
17	D	328	C
17	D	329	A
17	D	332	G
17	D	347	G
17	D	352	C
17	D	353	A
17	D	354	G
17	D	355	C
17	D	367	U
17	D	372	C
17	D	373	A
17	D	376	G
17	D	382	A
17	D	384	G
17	D	392	C
17	D	397	A
17	D	398	U
17	D	406	G
17	D	411	A
17	D	412	A
17	D	413	G
17	D	414	A
17	D	421	U
17	D	422	C
17	D	424	G
17	D	429	U
17	D	446	G
17	D	451	A
17	D	457	G
17	D	458	U
17	D	463	U
17	D	464	U
17	D	467	U
17	D	468	A
17	D	469	C
17	D	478	A
17	D	479	U

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Mol	Chain	Res	Type
17	D	481	G
17	D	484	G
17	D	485	U
17	D	486	U
17	D	496	A
17	D	497	G
17	D	505	G
17	D	511	C
17	D	518	C
17	D	519	C
17	D	526	C
17	D	531	U
17	D	532	A
17	D	533	A
17	D	542	G
17	D	547	A
17	D	559	A
17	D	564	C
17	D	568	G
17	D	572	A
17	D	573	A
17	D	576	C
17	D	577	G
17	D	579	A
17	D	596	A
17	D	628	G
17	D	633	G
17	D	649	A
17	D	650	G
17	D	653	U
17	D	665	A
17	D	695	A
17	D	700	G
17	D	723	U
17	D	724	G
17	D	731	G
17	D	734	G
17	D	735	C
17	D	747	A
17	D	748	G
17	D	755	G
17	D	760	G

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Mol	Chain	Res	Type
17	D	777	A
17	D	793	U
17	D	794	A
17	D	815	A
17	D	817	C
17	D	828	U
17	D	829	G
17	D	832	G
17	D	841	C
17	D	843	U
17	D	844	G
17	D	845	A
17	D	846	G
17	D	849	G
17	D	874	G
17	D	887	G
17	D	902	G
17	D	914	A
17	D	916	U
17	D	926	G
17	D	934	C
17	D	935	A
17	D	960	U
17	D	963	G
17	D	965	U
17	D	969	A
17	D	972	C
17	D	975	A
17	D	976	G
17	D	987	G
17	D	991	U
17	D	992	U
17	D	993	G
17	D	996	A
17	D	1004	A
17	D	1008	U
17	D	1009	U
17	D	1017	U
17	D	1018	G
17	D	1021	A
17	D	1024	G
17	D	1026	G

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Mol	Chain	Res	Type
17	D	1028	C
17	D	1030	U
17	D	1031	C
17	D	1037	C
17	D	1043	G
17	D	1044	A
17	D	1046	A
17	D	1065	U
17	D	1085	U
17	D	1094	G
17	D	1095	U
17	D	1099	G
17	D	1101	A
17	D	1108	G
17	D	1124	G
17	D	1133	G
17	D	1135	U
17	D	1136	C
17	D	1137	C
17	D	1139	G
17	D	1140	C
17	D	1141	C
17	D	1142	G
17	D	1143	G
17	D	1145	A
17	D	1146	A
17	D	1151	A
17	D	1152	A
17	D	1159	U
17	D	1167	A
17	D	1171	A
17	D	1174	G
17	D	1175	G
17	D	1176	A
17	D	1184	G
17	D	1193	G
17	D	1196	A
17	D	1197	A
17	D	1206	G
17	D	1211	U
17	D	1212	U
17	D	1213	A

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Mol	Chain	Res	Type
17	D	1214	C
17	D	1215	G
17	D	1226	C
17	D	1227	A
17	D	1228	C
17	D	1238	A
17	D	1257	A
17	D	1260	G
17	D	1275	A
17	D	1276	G
17	D	1278	G
17	D	1279	G
17	D	1280	A
17	D	1285	A
17	D	1286	U
17	D	1287	A
17	D	1299	A
17	D	1300	G
17	D	1302	C
17	D	1305	G
17	D	1312	G
17	D	1317	C
17	D	1320	C
17	D	1323	G
17	D	1338	G
17	D	1340	A
17	D	1346	A
17	D	1347	G
17	D	1353	G
17	D	1363	A
17	D	1370	G
17	D	1378	C
17	D	1379	G
17	D	1381	U
17	D	1391	U
17	D	1396	A
17	D	1397	C
17	D	1398	A
17	D	1404	C
17	D	1419	G
17	D	1429	A
17	D	1441	A

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Mol	Chain	Res	Type
17	D	1446	A
17	D	1447	A
17	D	1448	C
17	D	1452	C
17	D	1453	G
17	D	1475	G
17	D	1487	G
17	D	1491	G
17	D	1492	A
17	D	1493	A
17	D	1494	G
17	D	1497	G
17	D	1503	A
17	D	1506	U
17	D	1517	G
17	D	1529	G
17	D	1530	G
17	D	1534	A
40	a	4	U
40	a	10	A
40	a	15	G
40	a	23	G
40	a	34	U
40	a	35	G
40	a	46	G
40	a	58	G
40	a	60	G
40	a	62	U
40	a	63	A
40	a	71	A
40	a	74	A
40	a	75	G
40	a	83	A
40	a	84	A
40	a	85	G
40	a	96	C
40	a	101	A
40	a	102	U
40	a	103	A
40	a	110	G
40	a	118	A
40	a	119	A

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Mol	Chain	Res	Type
40	a	120	U
40	a	131	A
40	a	136	G
40	a	139	U
40	a	140	C
40	a	141	G
40	a	163	C
40	a	165	A
40	a	181	A
40	a	196	A
40	a	215	G
40	a	216	A
40	a	222	A
40	a	225	C
40	a	248	G
40	a	249	C
40	a	261	G
40	a	264	C
40	a	265	A
40	a	266	G
40	a	267	C
40	a	271	G
40	a	272	A
40	a	275	C
40	a	276	U
40	a	278	A
40	a	285	G
40	a	291	G
40	a	311	A
40	a	329	G
40	a	330	A
40	a	353	C
40	a	361	G
40	a	362	A
40	a	371	A
40	a	372	G
40	a	373	U
40	a	375	G
40	a	383	C
40	a	386	G
40	a	396	G
40	a	405	U

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Mol	Chain	Res	Type
40	a	411	G
40	a	412	A
40	a	420	C
40	a	424	G
40	a	451	U
40	a	457	A
40	a	477	A
40	a	481	G
40	a	491	G
40	a	501	A
40	a	503	A
40	a	504	A
40	a	505	A
40	a	509	C
40	a	522	A
40	a	529	A
40	a	531	C
40	a	532	A
40	a	537	G
40	a	543	G
40	a	545	U
40	a	546	U
40	a	547	A
40	a	549	G
40	a	551	G
40	a	563	A
40	a	569	U
40	a	573	U
40	a	575	A
40	a	588	U
40	a	603	A
40	a	609	A
40	a	613	A
40	a	614	A
40	a	615	U
40	a	616	A
40	a	627	A
40	a	637	A
40	a	645	C
40	a	647	G
40	a	654	A
40	a	668	A

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Mol	Chain	Res	Type
40	a	686	U
40	a	710	U
40	a	717	C
40	a	730	A
40	a	738	G
40	a	757	G
40	a	764	A
40	a	765	C
40	a	775	G
40	a	776	G
40	a	782	A
40	a	784	G
40	a	785	G
40	a	800	A
40	a	805	G
40	a	812	C
40	a	819	A
40	a	827	U
40	a	828	U
40	a	845	A
40	a	846	U
40	a	858	G
40	a	859	G
40	a	869	G
40	a	878	A
40	a	881	G
40	a	884	U
40	a	885	C
40	a	888	C
40	a	891	G
40	a	895	U
40	a	896	A
40	a	897	C
40	a	899	A
40	a	907	G
40	a	910	A
40	a	914	G
40	a	915	C
40	a	931	U
40	a	941	A
40	a	945	A
40	a	946	C

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Mol	Chain	Res	Type
40	a	953	G
40	a	961	C
40	a	974	G
40	a	983	A
40	a	995	C
40	a	996	A
40	a	999	U
40	a	1005	C
40	a	1012	U
40	a	1013	C
40	a	1022	G
40	a	1023	U
40	a	1026	G
40	a	1033	U
40	a	1041	G
40	a	1045	C
40	a	1046	A
40	a	1047	G
40	a	1060	U
40	a	1061	U
40	a	1064	C
40	a	1065	U
40	a	1066	U
40	a	1067	A
40	a	1068	G
40	a	1070	A
40	a	1071	G
40	a	1073	A
40	a	1074	G
40	a	1079	C
40	a	1080	A
40	a	1081	U
40	a	1082	U
40	a	1083	U
40	a	1084	A
40	a	1087	G
40	a	1088	A
40	a	1090	A
40	a	1095	A
40	a	1101	U
40	a	1107	G
40	a	1110	G

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Mol	Chain	Res	Type
40	a	1111	A
40	a	1112	G
40	a	1119	U
40	a	1122	G
40	a	1128	G
40	a	1132	U
40	a	1134	A
40	a	1135	C
40	a	1142	A
40	a	1169	A
40	a	1170	C
40	a	1173	U
40	a	1174	U
40	a	1175	A
40	a	1176	U
40	a	1177	G
40	a	1178	C
40	a	1179	G
40	a	1180	U
40	a	1186	G
40	a	1238	G
40	a	1248	G
40	a	1253	A
40	a	1256	G
40	a	1266	G
40	a	1271	G
40	a	1272	A
40	a	1273	U
40	a	1300	G
40	a	1301	A
40	a	1321	A
40	a	1345	C
40	a	1352	U
40	a	1365	A
40	a	1368	G
40	a	1378	A
40	a	1379	U
40	a	1380	G
40	a	1383	A
40	a	1392	A
40	a	1395	A
40	a	1406	U

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Mol	Chain	Res	Type
40	a	1408	G
40	a	1409	U
40	a	1414	C
40	a	1416	G
40	a	1417	C
40	a	1419	A
40	a	1420	A
40	a	1428	C
40	a	1452	G
40	a	1453	A
40	a	1460	U
40	a	1482	G
40	a	1490	A
40	a	1497	U
40	a	1503	A
40	a	1508	A
40	a	1509	A
40	a	1510	G
40	a	1515	A
40	a	1529	G
40	a	1534	U
40	a	1535	A
40	a	1536	C
40	a	1537	G
40	a	1554	U
40	a	1559	U
40	a	1566	A
40	a	1569	A
40	a	1578	U
40	a	1580	A
40	a	1581	G
40	a	1582	C
40	a	1583	A
40	a	1584	U
40	a	1585	C
40	a	1589	U
40	a	1590	A
40	a	1608	A
40	a	1610	A
40	a	1613	G
40	a	1647	U
40	a	1648	U

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Mol	Chain	Res	Type
40	a	1649	G
40	a	1651	G
40	a	1665	A
40	a	1674	G
40	a	1677	A
40	a	1703	G
40	a	1714	U
40	a	1715	G
40	a	1729	U
40	a	1730	C
40	a	1732	C
40	a	1738	G
40	a	1750	G
40	a	1758	U
40	a	1764	C
40	a	1773	A
40	a	1791	A
40	a	1800	C
40	a	1808	A
40	a	1811	G
40	a	1816	C
40	a	1829	A
40	a	1833	C
40	a	1847	A
40	a	1848	A
40	a	1858	A
40	a	1859	U
40	a	1862	G
40	a	1864	U
40	a	1869	G
40	a	1870	C
40	a	1872	A
40	a	1873	G
40	a	1906	G
40	a	1907	G
40	a	1913	A
40	a	1914	C
40	a	1919	A
40	a	1920	C
40	a	1922	G
40	a	1923	U
40	a	1924	C

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Mol	Chain	Res	Type
40	a	1925	C
40	a	1926	U
40	a	1929	G
40	a	1930	G
40	a	1936	A
40	a	1938	A
40	a	1955	U
40	a	1965	C
40	a	1967	C
40	a	1970	A
40	a	1971	U
40	a	1972	G
40	a	1987	A
40	a	1991	U
40	a	1992	G
40	a	1993	U
40	a	1997	C
40	a	2002	G
40	a	2020	A
40	a	2022	U
40	a	2023	C
40	a	2027	G
40	a	2033	A
40	a	2043	C
40	a	2051	A
40	a	2052	A
40	a	2055	C
40	a	2056	G
40	a	2060	A
40	a	2061	G
40	a	2062	A
40	a	2063	C
40	a	2097	A
40	a	2099	U
40	a	2100	G
40	a	2108	A
40	a	2110	G
40	a	2111	U
40	a	2113	U
40	a	2115	G
40	a	2116	G
40	a	2117	A

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Mol	Chain	Res	Type
40	a	2118	U
40	a	2121	G
40	a	2122	U
40	a	2124	G
40	a	2125	G
40	a	2126	A
40	a	2127	G
40	a	2128	G
40	a	2131	U
40	a	2132	U
40	a	2133	G
40	a	2134	A
40	a	2139	U
40	a	2141	G
40	a	2146	C
40	a	2147	A
40	a	2154	A
40	a	2157	G
40	a	2158	A
40	a	2159	G
40	a	2162	G
40	a	2163	A
40	a	2164	C
40	a	2165	C
40	a	2169	A
40	a	2171	A
40	a	2172	U
40	a	2178	C
40	a	2182	U
40	a	2183	A
40	a	2185	U
40	a	2189	U
40	a	2190	G
40	a	2193	G
40	a	2194	U
40	a	2198	A
40	a	2204	G
40	a	2211	A
40	a	2212	A
40	a	2225	A
40	a	2226	C
40	a	2229	U

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Mol	Chain	Res	Type
40	a	2238	G
40	a	2239	G
40	a	2250	G
40	a	2268	A
40	a	2278	A
40	a	2283	C
40	a	2287	A
40	a	2288	A
40	a	2297	A
40	a	2305	U
40	a	2308	G
40	a	2309	A
40	a	2322	A
40	a	2325	G
40	a	2327	A
40	a	2333	A
40	a	2335	A
40	a	2339	C
40	a	2345	G
40	a	2347	C
40	a	2350	C
40	a	2361	G
40	a	2372	U
40	a	2376	A
40	a	2383	G
40	a	2385	C
40	a	2402	U
40	a	2403	C
40	a	2406	A
40	a	2423	U
40	a	2424	C
40	a	2425	A
40	a	2426	A
40	a	2429	G
40	a	2430	A
40	a	2431	U
40	a	2434	A
40	a	2435	A
40	a	2441	U
40	a	2447	G
40	a	2448	A
40	a	2470	G

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Mol	Chain	Res	Type
40	a	2474	U
40	a	2476	A
40	a	2478	A
40	a	2484	G
40	a	2491	U
40	a	2502	G
40	a	2506	U
40	a	2512	C
40	a	2513	A
40	a	2518	A
40	a	2520	C
40	a	2525	G
40	a	2529	G
40	a	2535	G
40	a	2554	U
40	a	2566	A
40	a	2567	G
40	a	2573	C
40	a	2574	G
40	a	2585	U
40	a	2586	U
40	a	2602	A
40	a	2603	G
40	a	2609	U
40	a	2610	C
40	a	2611	C
40	a	2613	U
40	a	2629	U
40	a	2630	G
40	a	2663	G
40	a	2669	G
40	a	2671	G
40	a	2689	U
40	a	2690	U
40	a	2714	G
40	a	2716	C
40	a	2726	A
40	a	2744	G
40	a	2748	A
40	a	2758	A
40	a	2765	A
40	a	2777	G

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
40	a	2778	A
40	a	2791	G
40	a	2793	C
40	a	2796	U
40	a	2797	U
40	a	2798	U
40	a	2799	A
40	a	2801	G
40	a	2818	U
40	a	2820	A
40	a	2823	A
40	a	2825	G
40	a	2835	A
40	a	2849	U
40	a	2859	G
40	a	2861	U
40	a	2867	G
40	a	2873	A
40	a	2874	C
40	a	2880	C
40	a	2883	A
40	a	2884	U
40	a	2885	G
40	a	2891	U
40	a	2902	C
43	d	2	G
43	d	13	G
43	d	16	G
43	d	17	C
43	d	35	C
43	d	45	A
43	d	51	G
43	d	56	G
43	d	57	A
43	d	66	A
43	d	88	C
43	d	89	U
43	d	90	C
43	d	99	A
43	d	109	A

All (42) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
8	7	4	U
8	7	7	U
8	7	10	U
8	7	18	U
10	A	6	G
10	A	7	G
10	A	9	G
10	A	12	G
10	A	21	A
10	A	22	G
10	A	57	A
10	A	60	U
10	B	6	G
10	B	7	G
10	B	9	G
10	B	12	G
10	B	21	A
10	B	22	G
10	B	57	A
10	B	60	U
17	D	121	U
17	D	181	A
17	D	183	C
17	D	197	A
17	D	209	U
17	D	428	G
17	D	496	A
17	D	517	G
17	D	793	U
17	D	991	U
17	D	992	U
17	D	1109	C
17	D	1145	A
17	D	1196	A
17	D	1211	U
17	D	1212	U
17	D	1213	A
17	D	1214	C
17	D	1447	A
17	D	1491	G
17	D	1492	A
17	D	1493	A

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

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

5.5 Carbohydrates

There are no oligosaccharides in this entry.

5.6 Ligand geometry

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.

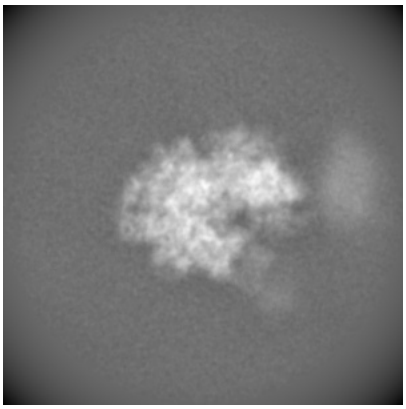
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-42503. These allow visual inspection of the internal detail of the map and identification of artifacts.

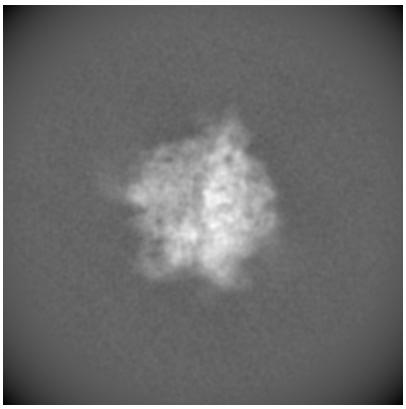
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

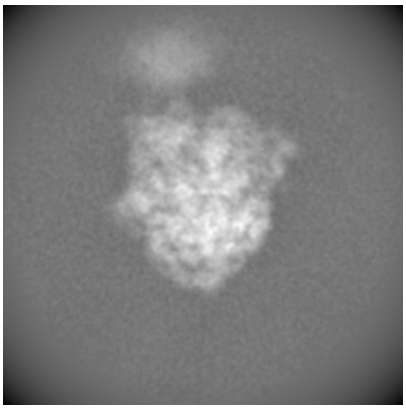
6.1.1 Primary map



X

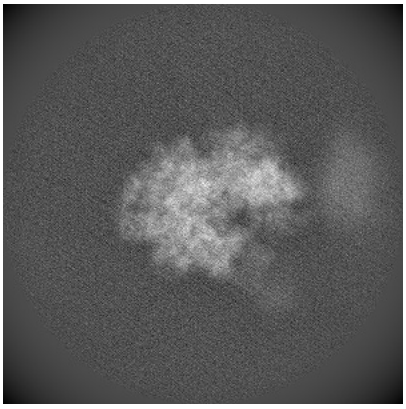


Y

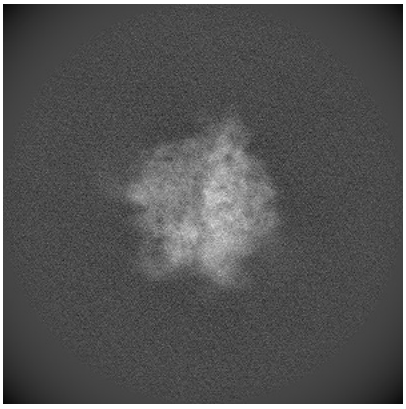


Z

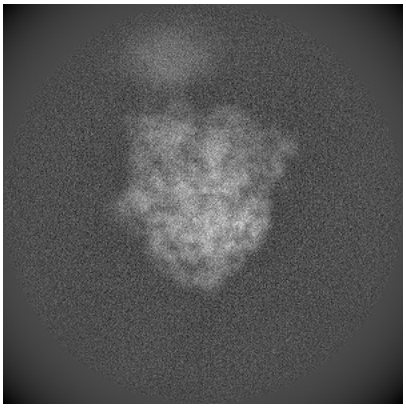
6.1.2 Raw map



X



Y

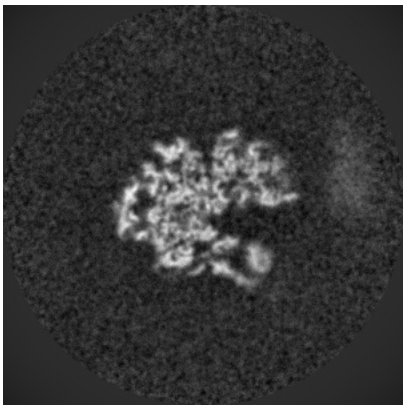


Z

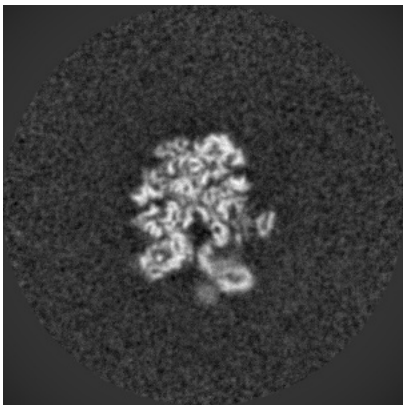
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

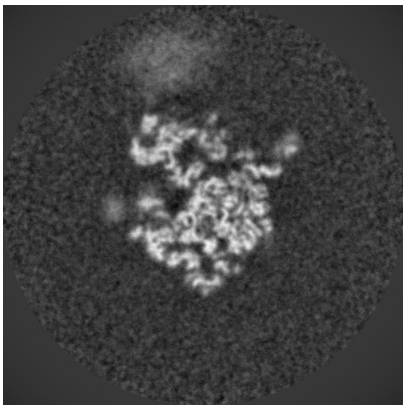
6.2.1 Primary map



X Index: 256

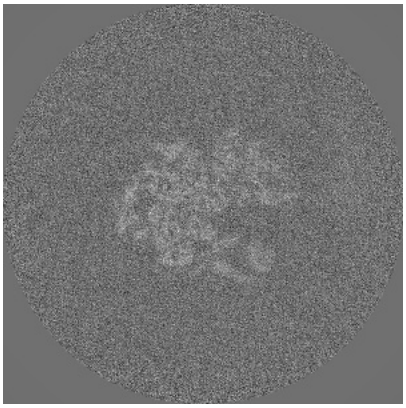


Y Index: 256

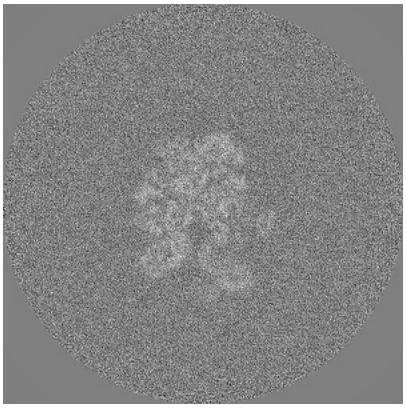


Z Index: 256

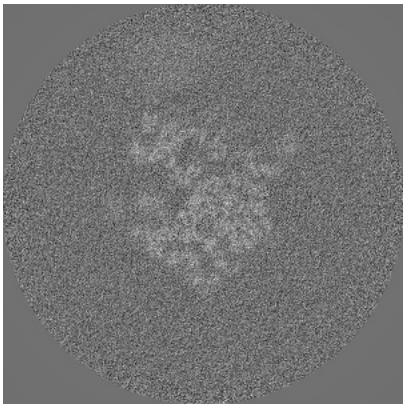
6.2.2 Raw map



X Index: 256



Y Index: 256

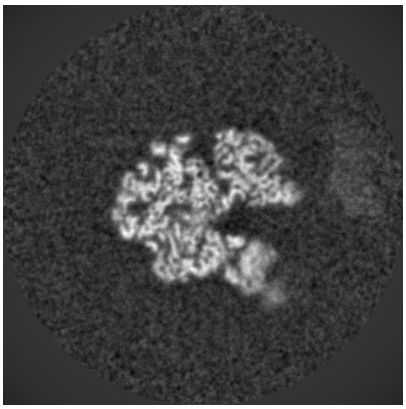


Z Index: 256

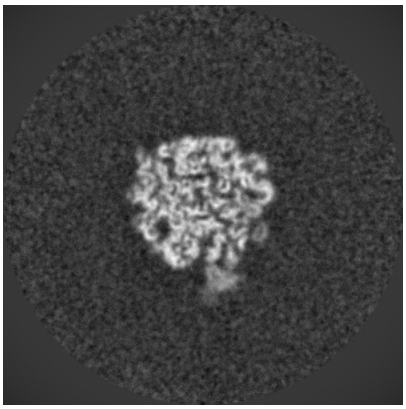
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

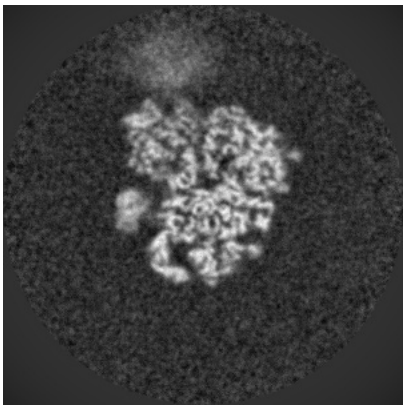
6.3.1 Primary map



X Index: 266

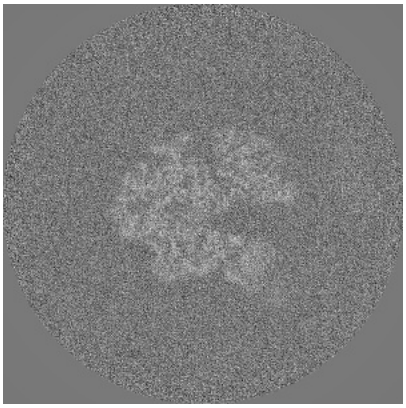


Y Index: 235

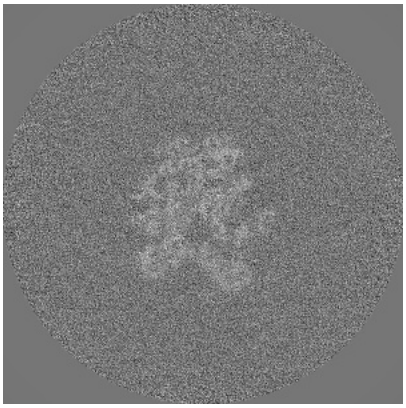


Z Index: 281

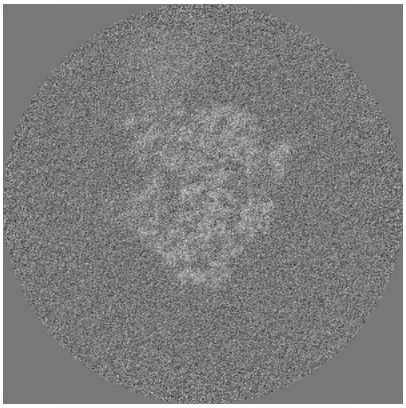
6.3.2 Raw map



X Index: 265



Y Index: 260

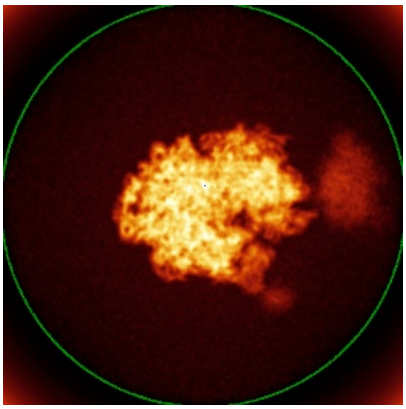


Z Index: 267

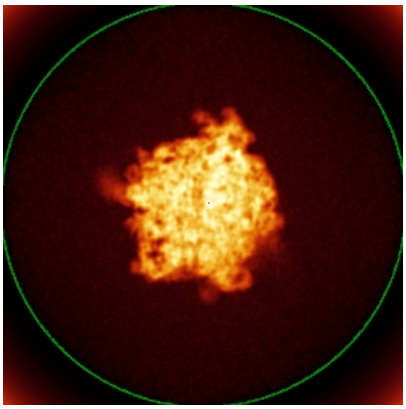
The images above show the largest variance slices of the map in three orthogonal directions.

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

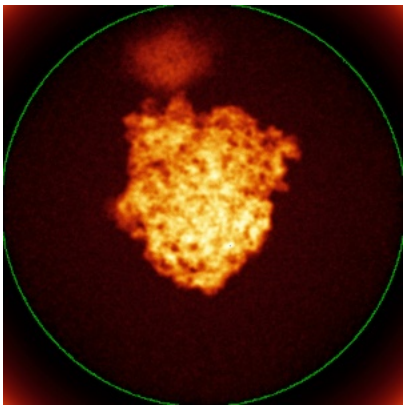
6.4.1 Primary map



X

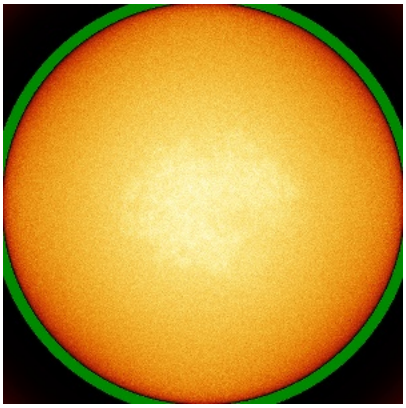


Y

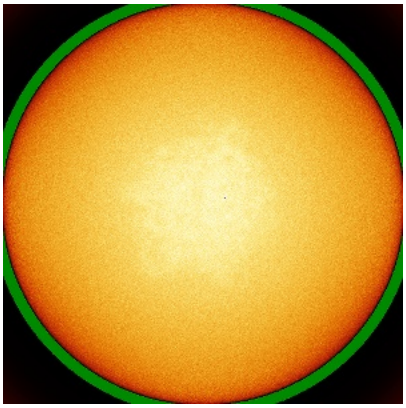


Z

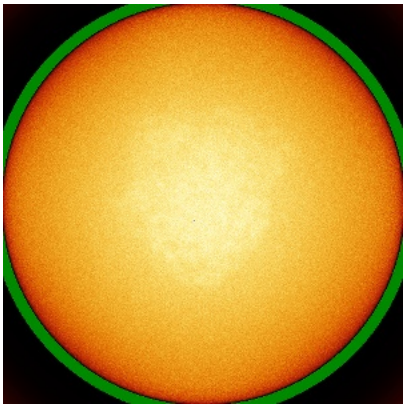
6.4.2 Raw map



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

X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.0039. 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

X Y Z

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.

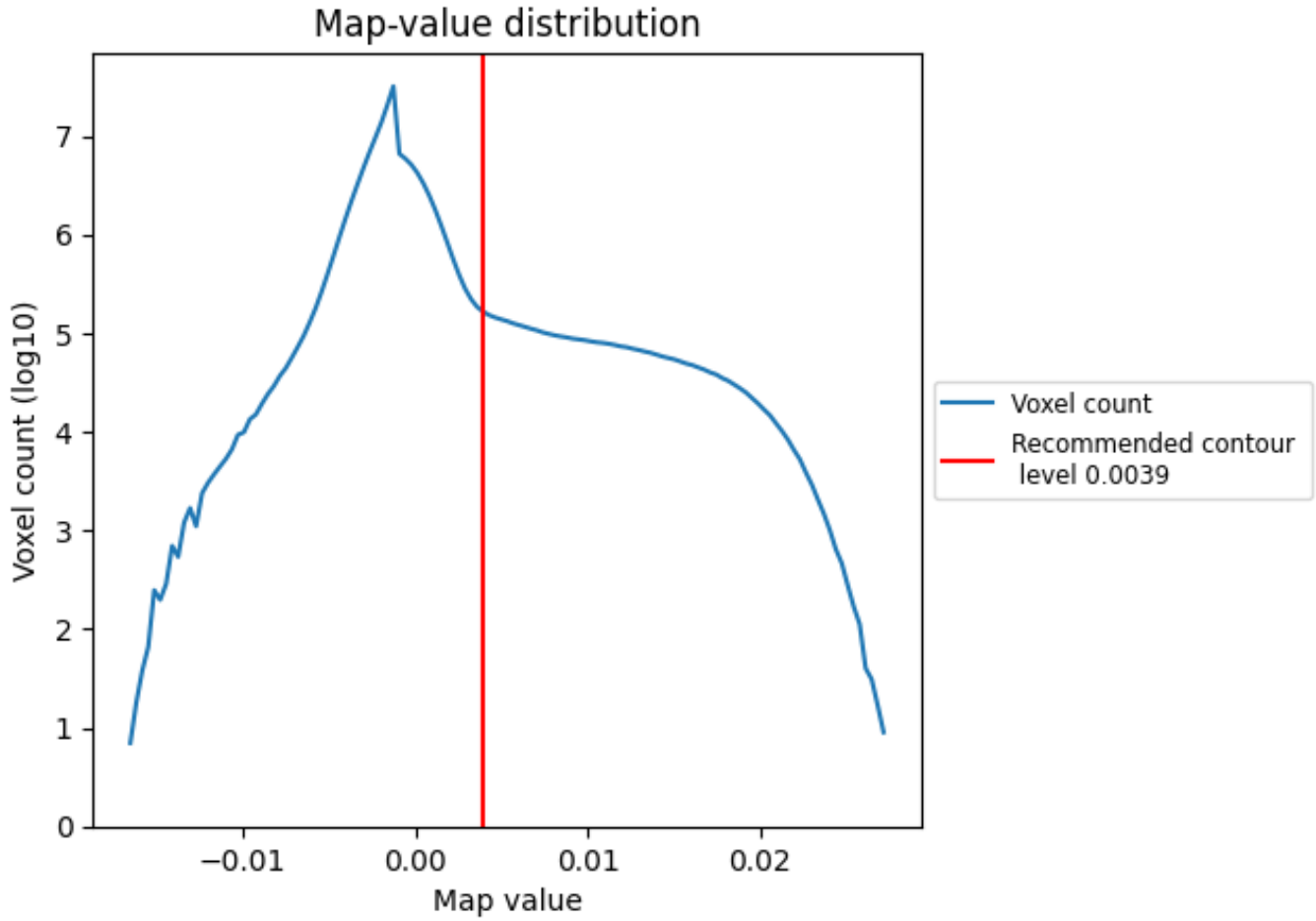
6.6 Mask visualisation (i)

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

7 Map analysis

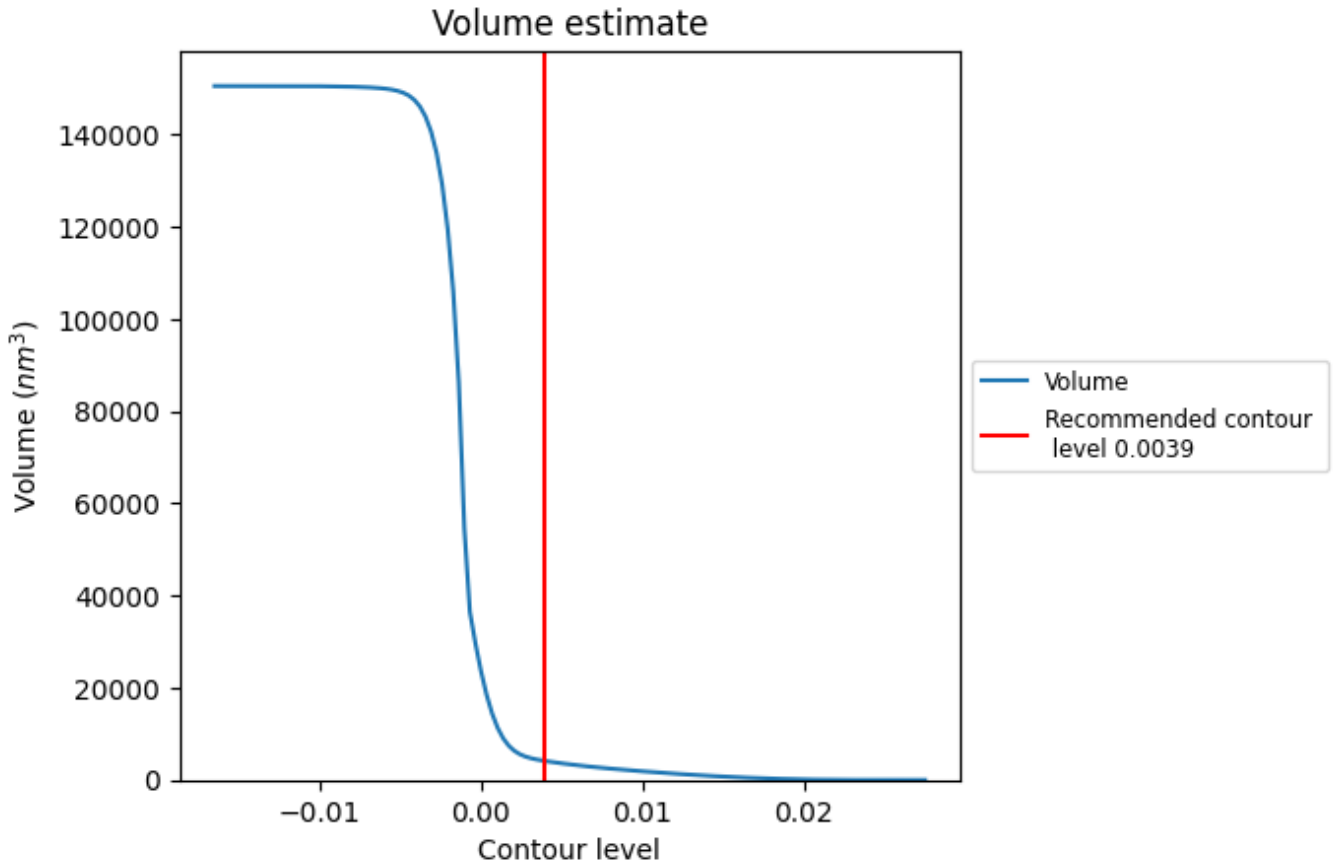
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



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.

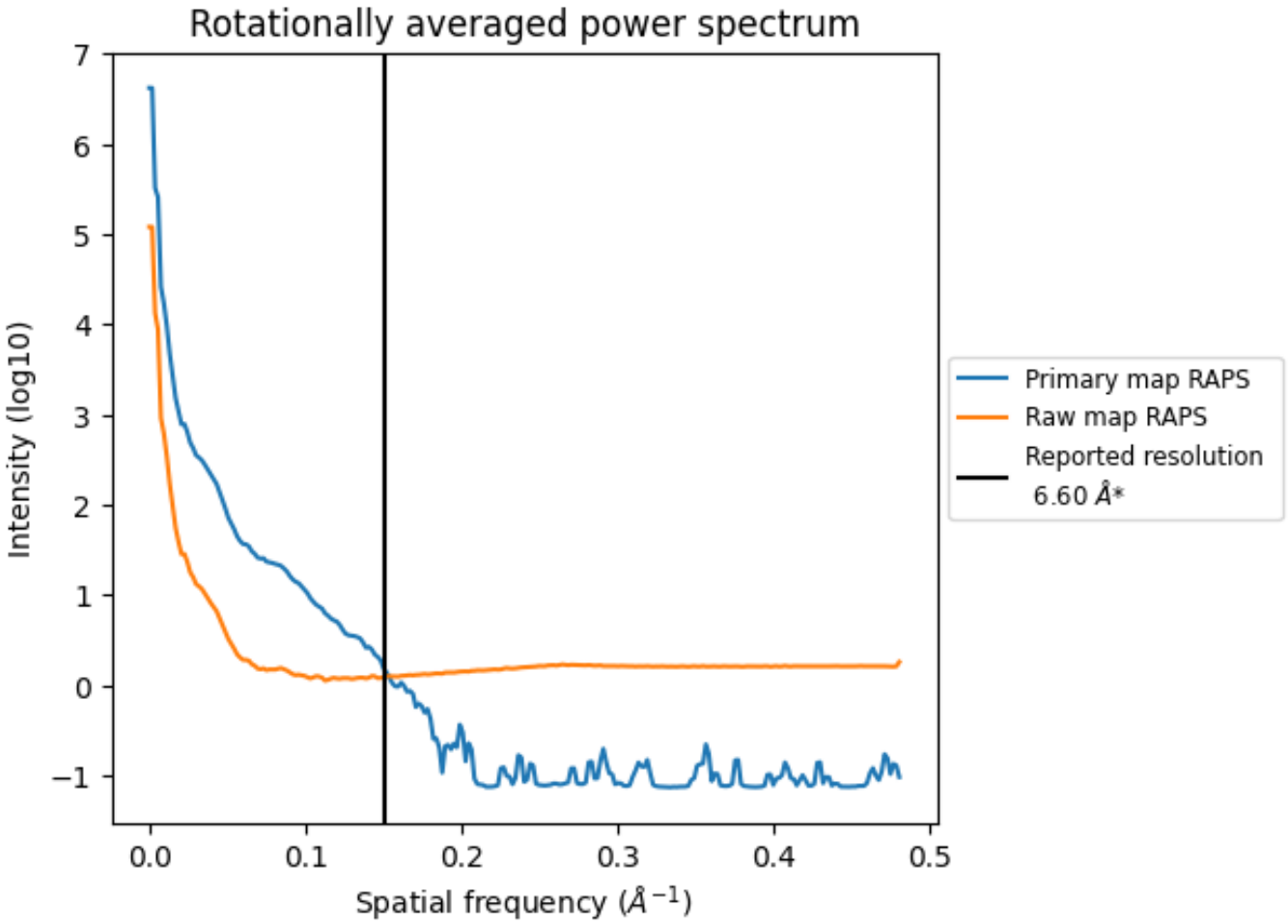
7.2 Volume estimate



The volume at the recommended contour level is 4154 nm^3; this corresponds to an approximate mass of 3752 kDa.

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

7.3 Rotationally averaged power spectrum (i)

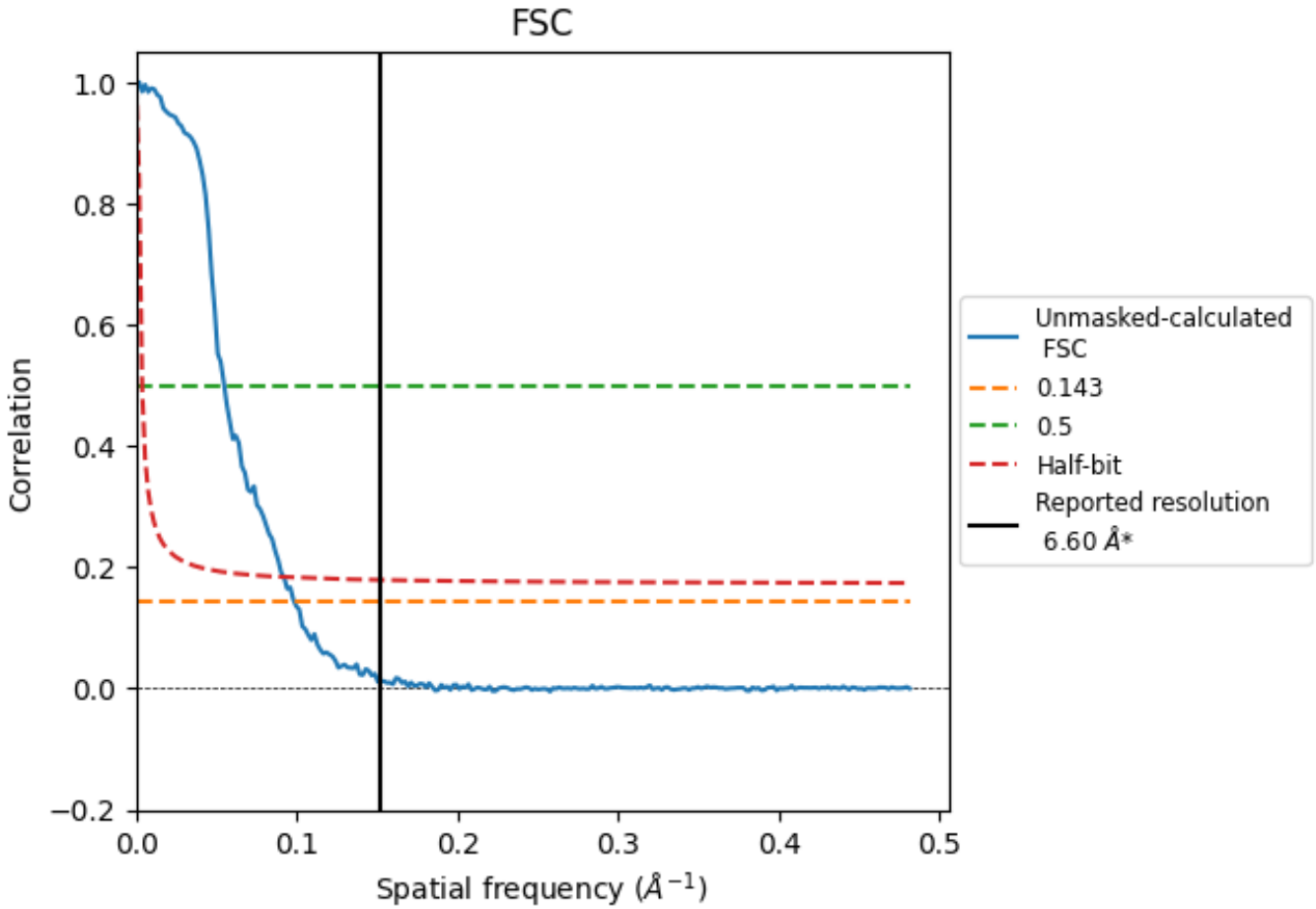


*Reported resolution corresponds to spatial frequency of 0.152 $Å^{-1}$

8 Fourier-Shell correlation

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



*Reported resolution corresponds to spatial frequency of 0.152 Å^{-1}

8.2 Resolution estimates (i)

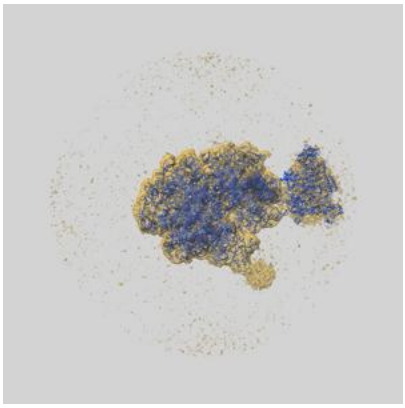
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	6.60	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	10.16	18.25	10.88

*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 10.16 differs from the reported value 6.6 by more than 10 %

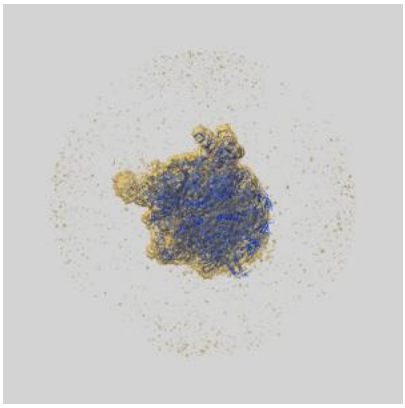
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-42503 and PDB model 8URX. Per-residue inclusion information can be found in section 3 on page 16.

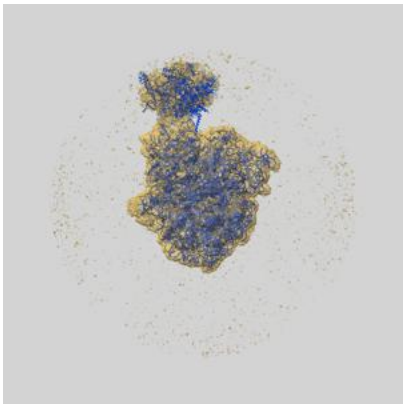
9.1 Map-model overlay



X



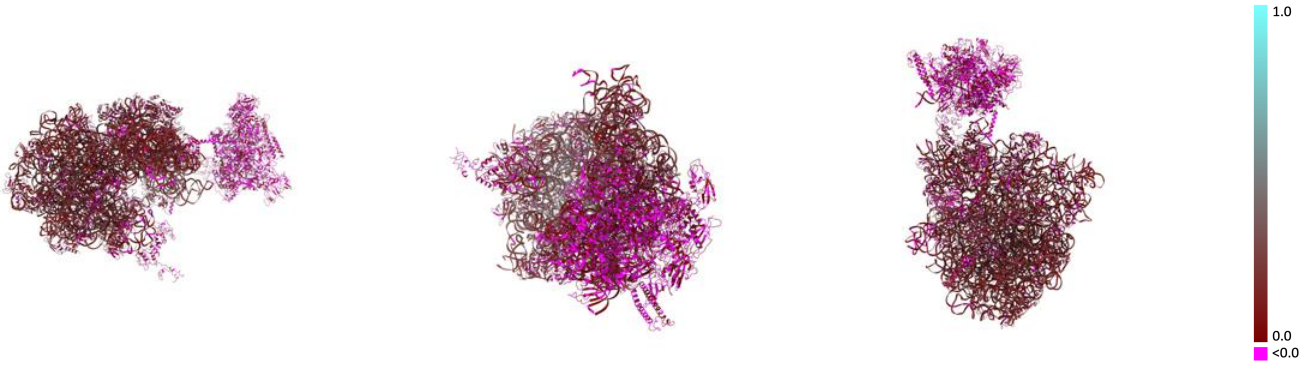
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.0039 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.

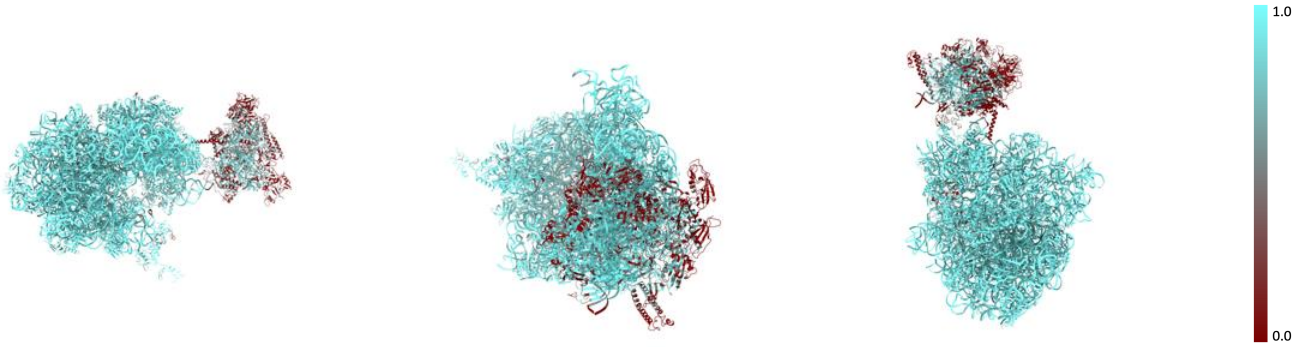
9.2 Q-score mapped to coordinate model (i)



X Y Z

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.

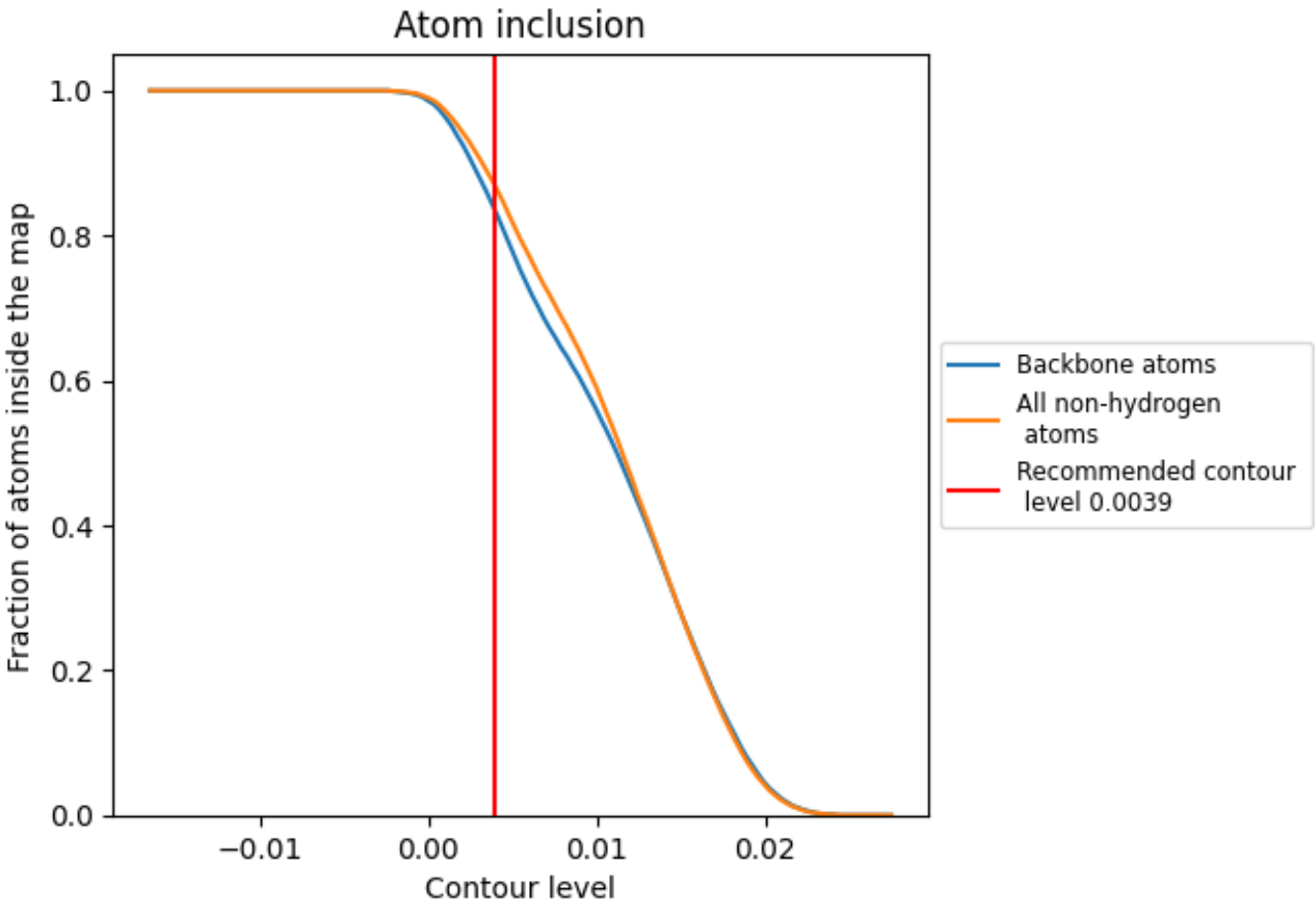
9.3 Atom inclusion mapped to coordinate model (i)



X Y Z

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 (0.0039).

9.4 Atom inclusion (i)



At the recommended contour level, 84% of all backbone atoms, 87% 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 (0.0039) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.8720	0.1330
0	0.9860	0.1440
1	0.9740	0.1480
2	0.9800	0.1350
3	0.9860	0.1210
4	0.9760	0.1330
5	0.8030	0.0160
6	0.7170	0.0410
7	0.9200	0.0370
9	0.9320	0.0410
A	0.9890	0.1430
AA	0.6090	0.0160
AB	0.4120	0.0120
AC	0.4420	0.0230
AD	0.1390	0.0110
AE	0.4470	0.0110
AF	0.0190	-0.0140
B	0.8830	0.0970
C	0.9960	0.1250
D	0.9930	0.1750
E	0.9740	0.1330
F	0.9410	0.1420
G	0.9570	0.1120
H	0.6390	0.0360
I	0.9770	0.1360
J	0.9840	0.1070
K	0.9900	0.1470
L	0.9900	0.1470
M	0.9810	0.1290
N	0.9750	0.1320
O	0.9870	0.1100
P	0.9750	0.1090
Q	0.9920	0.1340
R	0.9770	0.1490
S	0.9880	0.1340

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Chain	Atom inclusion	Q-score
T	0.9990	0.1430
U	0.9810	0.0920
V	0.9570	0.1270
W	0.9070	0.0790
X	0.9620	0.1250
Y	0.8400	0.0420
Z	0.8900	0.0320
a	0.9940	0.1770
b	0.9770	0.1050
c	0.9800	0.1360
d	0.9990	0.1690
e	0.9960	0.1530
f	0.9890	0.1580
g	0.9430	0.1100
h	0.9880	0.1100
i	0.9740	0.1380
j	0.9850	0.0990
k	0.9900	0.1230
l	0.9760	0.1360
m	0.9800	0.1390
n	0.9700	0.0870
o	0.9800	0.1350
p	0.9700	0.0980
q	0.9830	0.0930
r	0.8760	0.1020
s	0.9870	0.1350
t	0.9580	0.0950
u	0.9940	0.1220
v	0.9760	0.1290
w	0.9850	0.1310
x	0.9880	0.1020
y	0.9580	0.1080
z	0.9900	0.1270