Full wwPDB EM Validation Report ⓘ

Jul 15, 2025 – 03:22 PM EDT

PDB ID	:	8VOO / pdb_00008voo
EMDB ID	:	EMD-43387
Title	:	Escherichia coli transcription-translation loosely coupled complex (TTC-LC) containing mRNA with a 39 nt long spacer, ops signal, RfaH, NusA, and fMet-tRNAs in E-site and P-site
Authors	:	Molodtsov, V.; Wang, C.; Ebright, R.H.
Deposited on	:	2024-01-15
Resolution	:	3.40 Å(reported)

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

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/EMValidationReportHelp
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

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

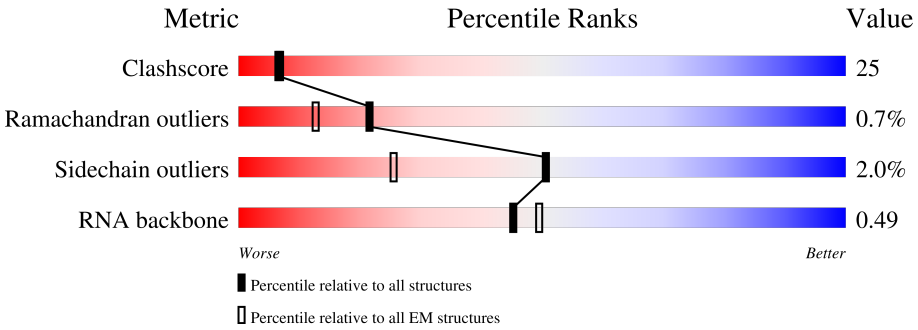
EMDB validation analysis	:	0.0.1.dev118
MolProbity	:	4-5-2 with Phenix2.0rc1
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.44

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 3.40 Å.

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



Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	210492	15764
Ramachandran outliers	207382	16835
Sidechain outliers	206894	16415
RNA backbone	6643	2191

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	9% 60% 40%
2	1	110	58% 42%
3	2	100	6% 51% 42% 6%
4	3	104	12% 66% 33%
5	4	94	10% 44% 56%
6	5	38	50% 55% 37% 8%
7	6	38	42% 63% 29% 8%

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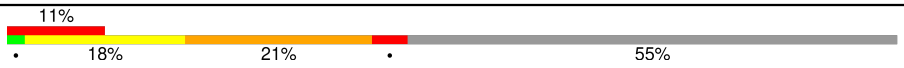
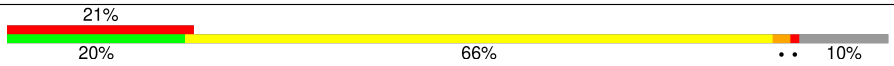
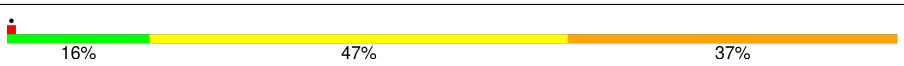
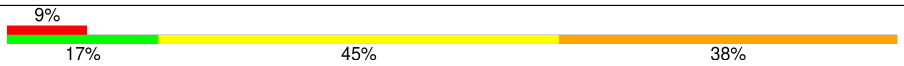
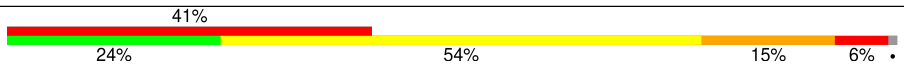
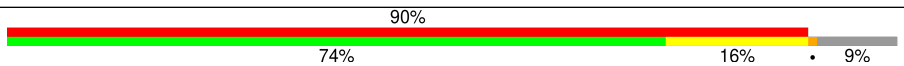
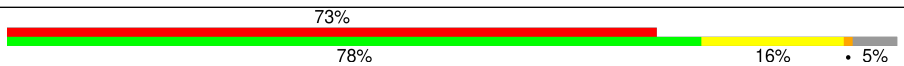
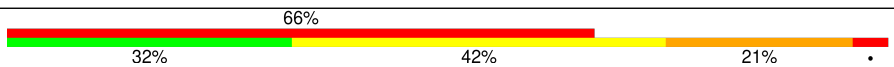
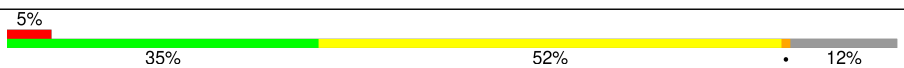
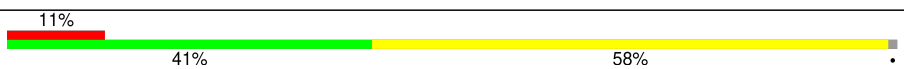
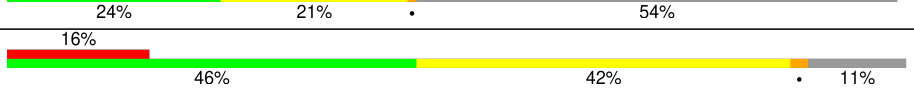
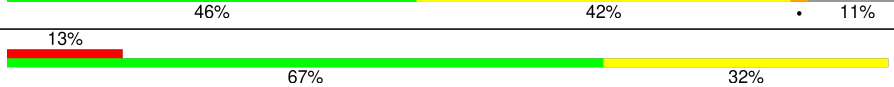
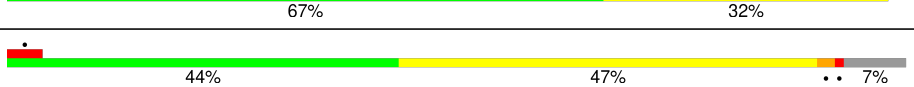
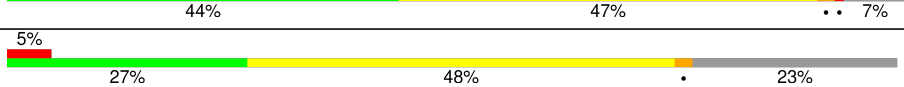
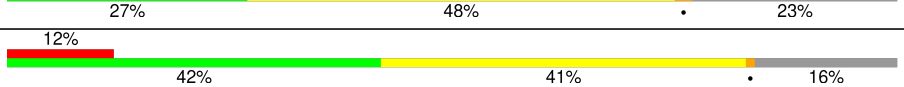
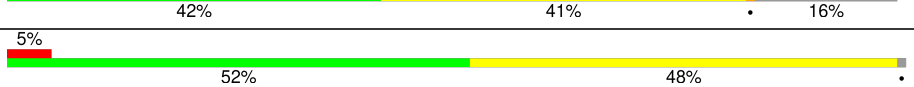
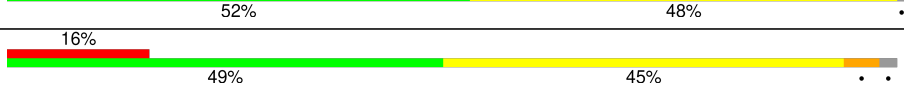
Mol	Chain	Length	Quality of chain
8	7	56	
9	9	165	
10	A	76	
10	B	76	
11	AA	1342	
12	AB	162	
13	AC	329	
13	AD	329	
14	AE	1407	
15	AF	91	
16	AG	495	
17	C	75	
18	D	1542	
19	E	87	
20	F	71	
21	G	241	
22	H	557	
23	I	233	
24	J	206	
25	K	167	
26	L	135	
27	M	179	
28	N	130	
29	O	130	
30	P	103	

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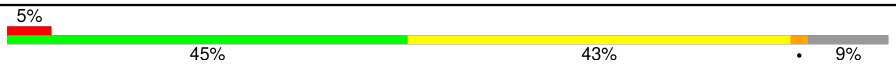
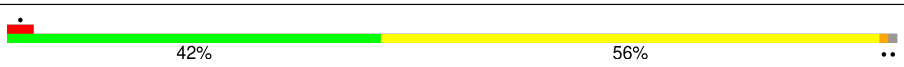
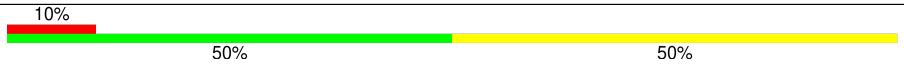
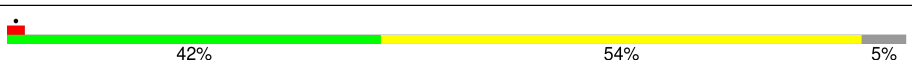
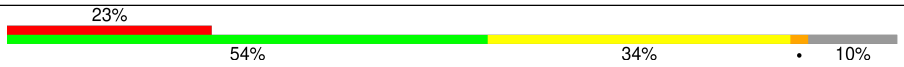
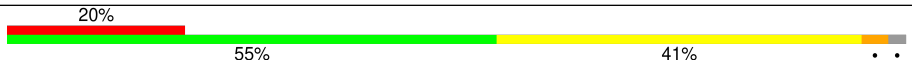
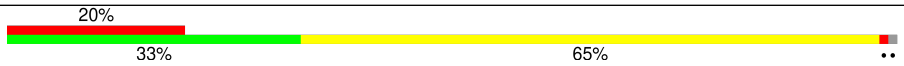
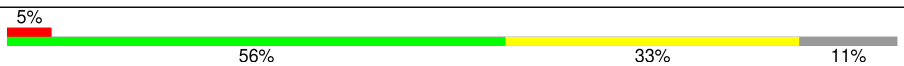
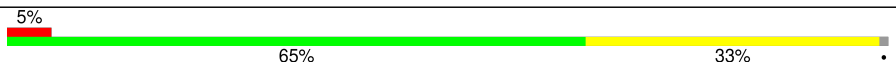
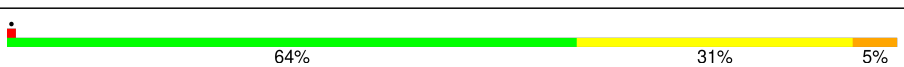
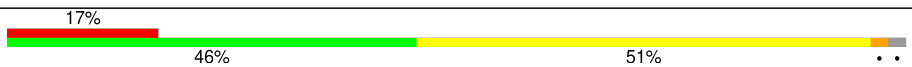
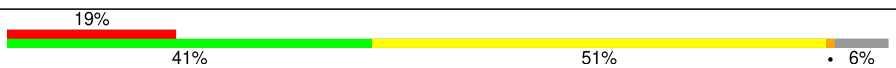
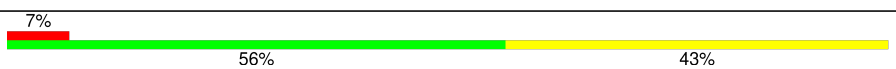
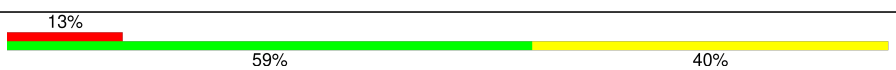
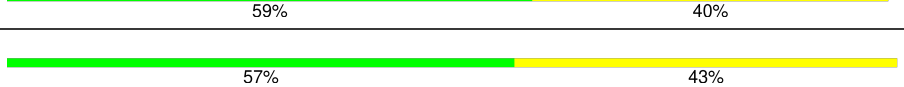
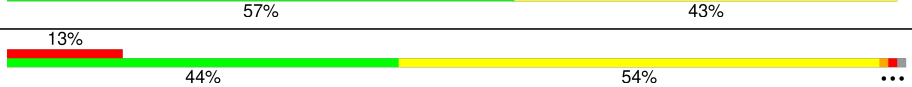
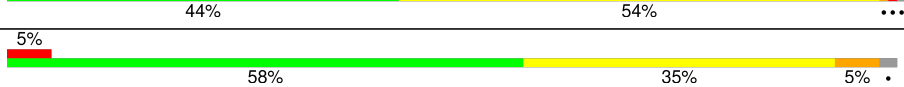
Mol	Chain	Length	Quality of chain
31	Q	129	
32	R	124	
33	S	101	
34	T	89	
35	U	82	
36	V	84	
37	W	92	
38	X	118	
39	Y	142	
40	Z	121	
41	a	2904	
42	b	85	
43	c	78	
44	d	120	
45	e	63	
46	f	59	
47	g	70	
48	h	273	
49	i	57	
50	j	209	
51	k	55	
52	l	201	
53	m	46	
54	n	179	
55	o	65	

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Mol	Chain	Length	Quality of chain
56	p	177	14% 69% 29%
57	q	38	13% 58% 42%
58	r	149	38% 70% 30%
59	s	142	13% 55% 44%
60	t	123	7% 42% 57%
61	u	144	9% 62% 37%
62	v	136	6% 48% 50%
63	w	127	46% 45% 6%
64	x	117	17% 62% 37%
65	y	115	14% 62% 37%
66	z	118	7% 56% 42%

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

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

2 Entry composition

There are 68 unique types of molecules in this entry. The entry contains 280046 atoms, of which 98638 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called Ribosomal protein L21.

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

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

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

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

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

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

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

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

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

- Molecule 6 is a DNA chain called NT DNA ops.

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

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

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

- Molecule 8 is a RNA chain called mRNA with 39 nt long spacer.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	7	25	Total	C	N	O	P	0	0
			527	235	80	187	25		

- 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 tRNA (fMet).

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
			2433	723	813	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	299	Total	C	N	O	S	0	0
			2078	1287	378	407	6		

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

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

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

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

- Molecule 16 is a protein called Transcription termination/antitermination protein NusA.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

- Molecule 34 is a protein called Small ribosomal subunit protein uS15.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

There is a discrepancy between the modelled and reference sequences:

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

- Molecule 42 is a protein called 50S ribosomal protein L27.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

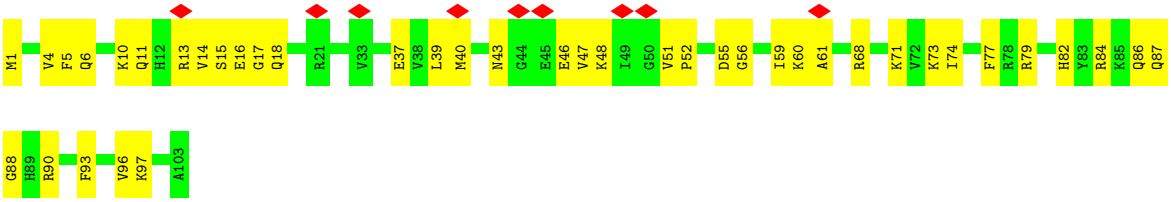
Mol	Chain	Residues	Atoms		AltConf
68	AE	2	Total	Zn	0
			2	2	

3 Residue-property plots (i)

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

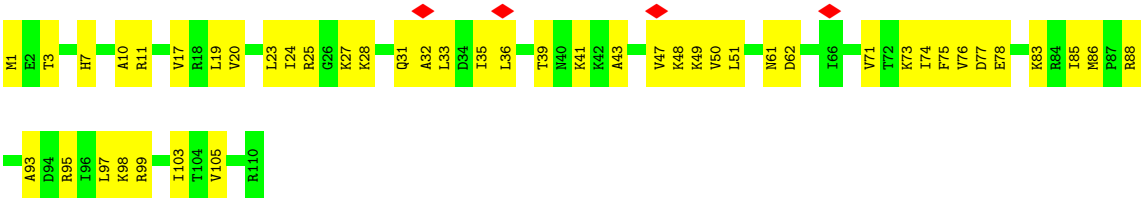
• Molecule 1: Ribosomal protein L21

Chain 0:



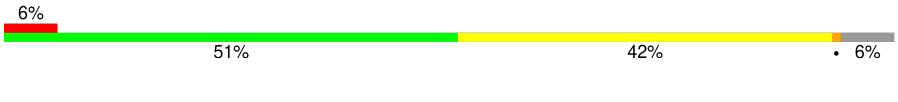
• Molecule 2: 50S ribosomal protein L22

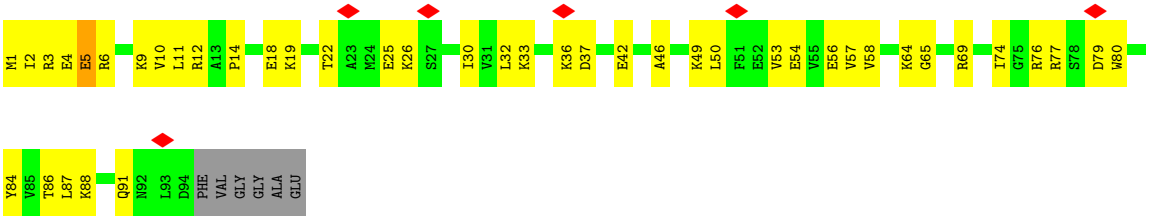
Chain 1:



• Molecule 3: 50S ribosomal protein L23

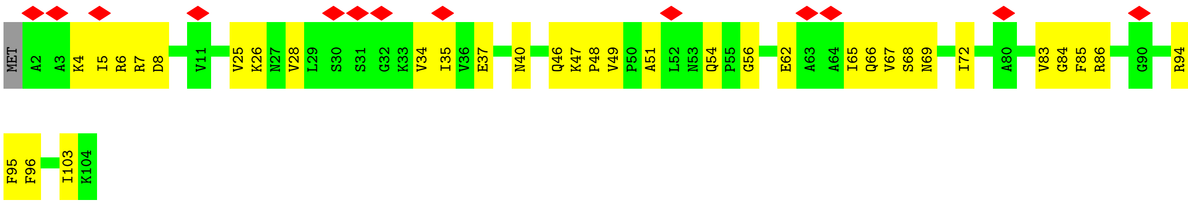
Chain 2:





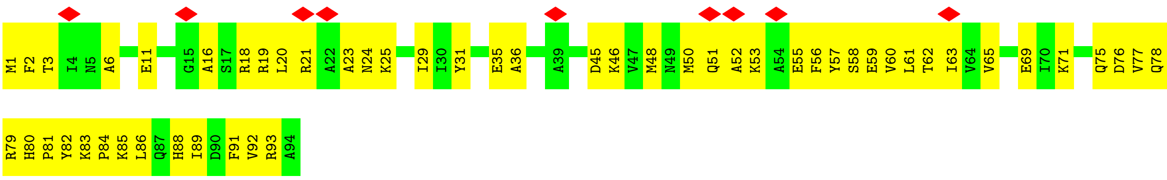
• Molecule 4: 50S ribosomal protein L24

Chain 3:

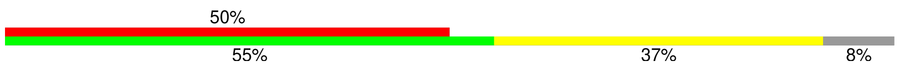


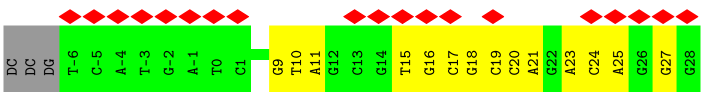
• Molecule 5: 50S ribosomal protein L25

Chain 4:

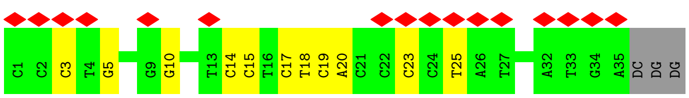
• Molecule 6: NT DNA ops

Chain 5:




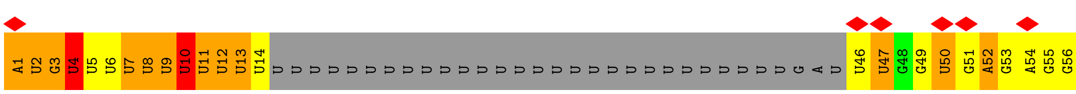
• Molecule 7: T DNA ops

Chain 6:

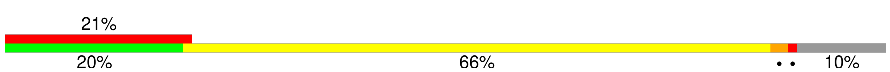



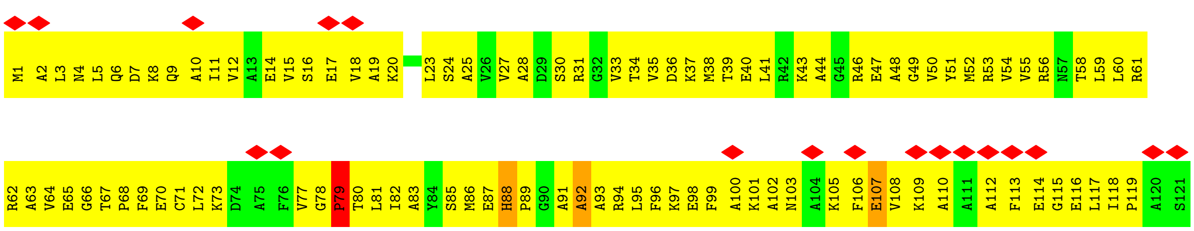
• Molecule 8: mRNA with 39 nt long spacer

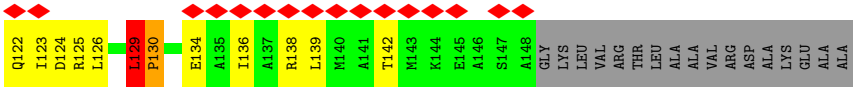
Chain 7:

• Molecule 9: 50S ribosomal protein L10

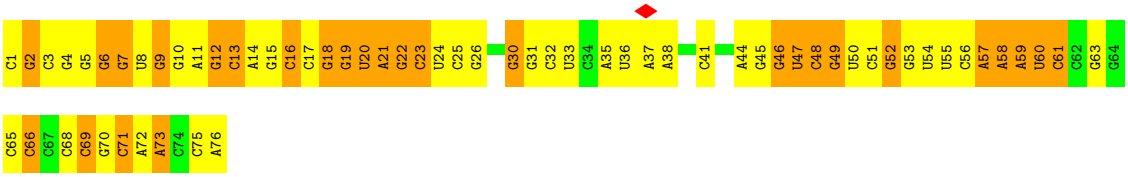
Chain 9:






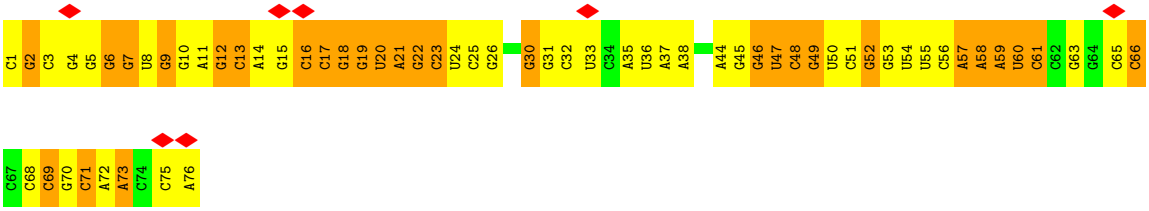
• Molecule 10: E-site and P-site tRNA (fMet)

Chain A:



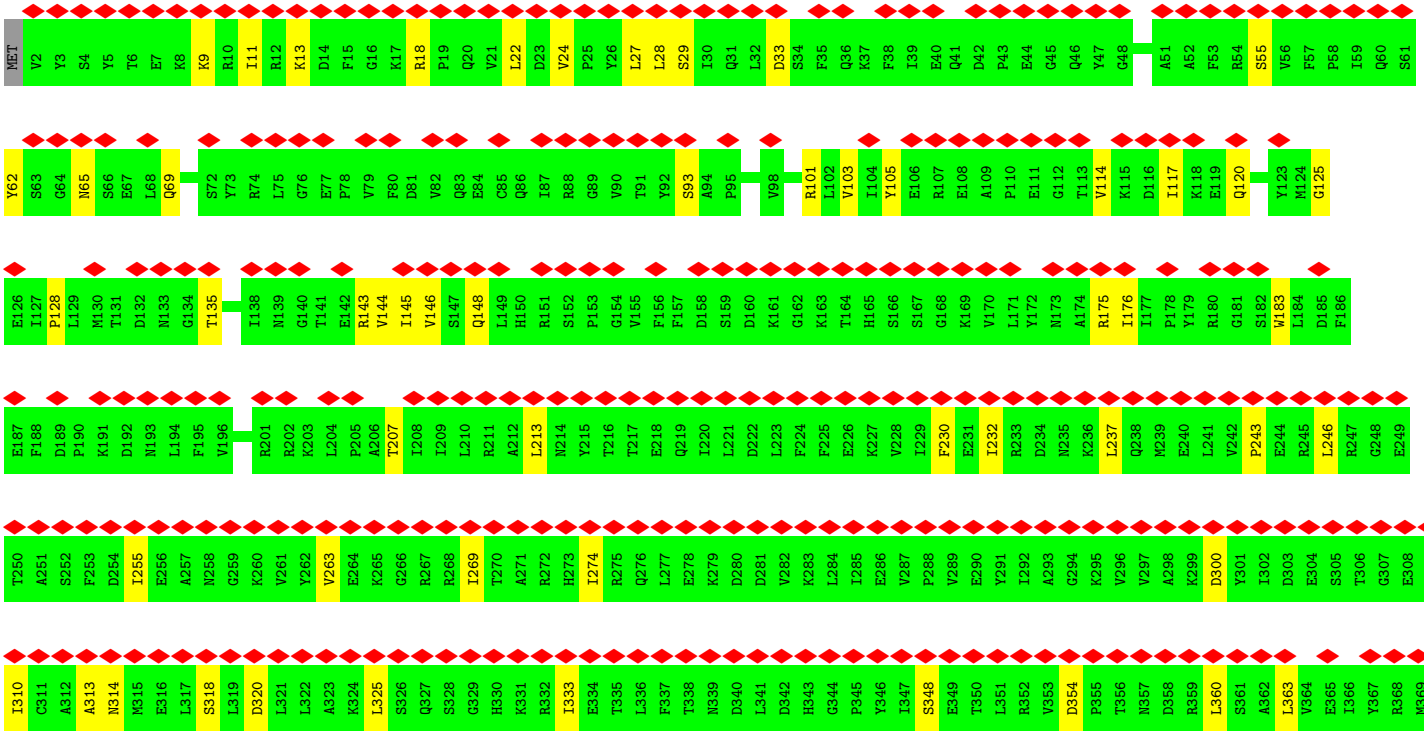
• Molecule 10: E-site and P-site tRNA (fMet)

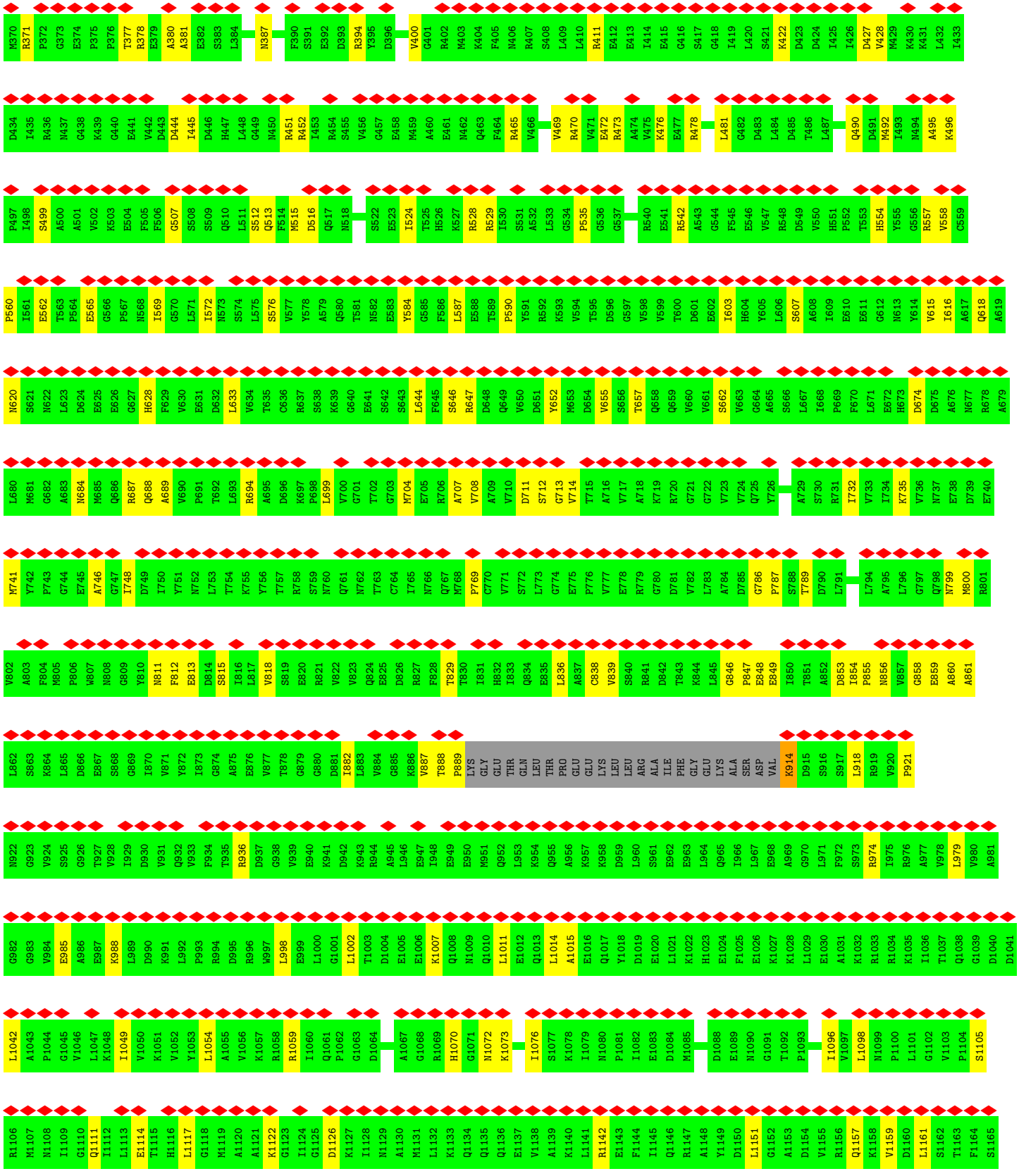
Chain B:



• Molecule 11: DNA-directed RNA polymerase subunit beta

Chain AA:

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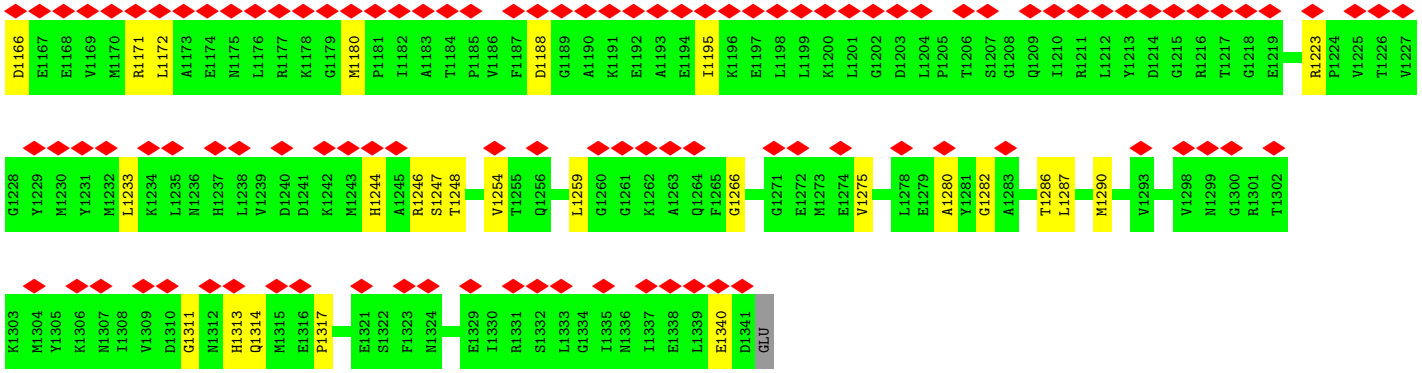
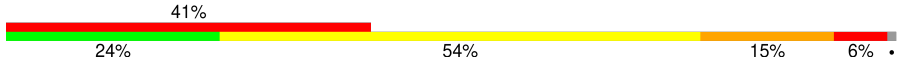
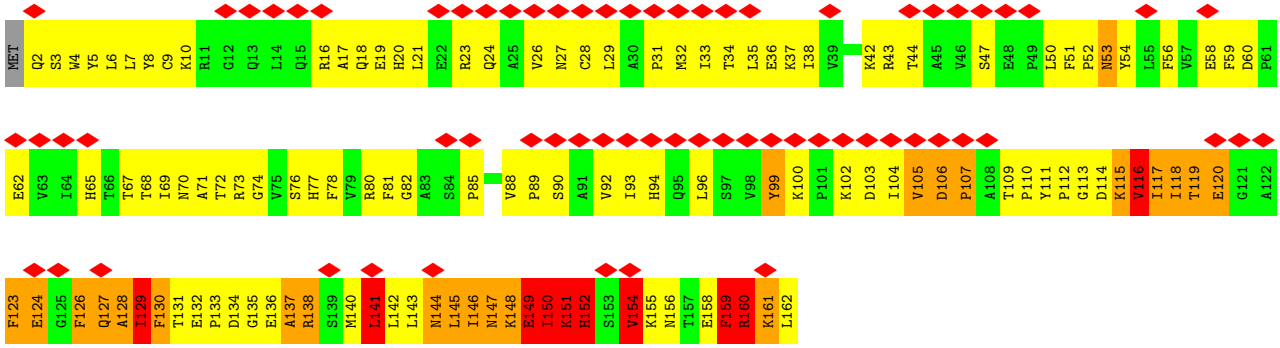
D434 I435 R436 N437 G438 K439 G440 E441 V442 D443 D444 I445 D446 H447 L448 G449 N450 R451 R452 I453 R454 S455 V456 G457 E458 M459 A460 E461 N462 Q463 F464 R465 V466 V469 R470 V471 E472 R473 A474 V475 K476 E477 R478 L481 G482 D483 L484 D485 T486 L487 Q490 D491 M492 I493 N494 A495 K496
P497 I498 S499 A500 A501 V502 K503 E504 F505 F506 G507 S508 S509 Q510 L511 S512 Q513 F514 M515 D516 Q517 N518 S522 E523 I524 T525 H526 K527 R528 R529 I530 S531 A532 L533 G534 P535 G536 G537 R540 E541 R542 A543 G544 F545 E546 V547 R548 D549 V550 H551 P552 T553 H554 Y555 G556 R557 V558 C559
P560 I561 E562 T563 P564 E565 G566 P567 N568 I569 G570 L571 I572 N573 S574 L575 S576 V577 Y578 A579 Q580 T581 N582 E583 Y584 G585 F586 L587 E588 T589 P590 Y591 R592 K593 V594 T595 D596 G597 V598 V599 T600 D601 E602 I603 H604 Y605 L606 S607 A608 I609 E610 E611 G612 N613 Y614 V615 I616 A617 Q618 A619
N620 S621 N622 L623 D624 E625 E626 G627 H628 F629 V630 E631 D632 L633 V634 T635 C636 R637 S638 K639 G640 E641 S642 S643 L644 F645 S646 R647 D648 Q649 V650 D651 Y652 M653 D654 V655 S656 T657 Q658 Q659 V660 V661 S662 V663 G664 A665 S666 L667 I668 P669 F670 L671 E672 H673 D674 D675 A676 N677 R678 A679
L680 M681 G682 A683 N684 M685 Q686 R687 Q688 A689 V690 P691 T692 L693 R694 A695 D696 K697 P698 L699 V700 G701 T702 G703 M704 E705 R706 A707 V708 A709 V710 D711 S712 G713 V714 T715 A716 V717 A718 K719 R720 G721 G722 V723 V724 Q725 Y726 A729 S730 R731 I732 V733 I734 K735 V736 N737 E738 D739 E740
M741 Y742 P743 G744 E745 A746 G747 I748 D749 I750 Y751 N752 L753 T754 K755 Y756 T757 R758 S759 N760 Q761 N762 T763 C764 I765 N766 Q767 M768 P769 C770 V771 S772 L773 G774 E775 P776 V777 E778 R779 G780 D781 V782 L783 A784 D785 G786 P787 S788 T789 D790 L791 L794 A795 L796 G797 Q798 N799 M800 R801
V802 A803 F804 M805 P806 W807 N808 G809 Y810 N811 F812 E813 D814 S815 I816 L817 V818 S819 E820 R821 V822 V823 Q824 E825 D826 R827 F828 T829 T830 I831 H832 I833 Q834 E835 L836 A837 C838 V839 S840 R841 D842 T843 K844 L845 G846 P847 E848 E849 I850 T851 A852 D853 I854 P855 N856 V857 G858 E859 A860 A861
L862 S863 K864 L865 D866 E867 S868 G869 I870 V871 Y872 I873 G874 A875 E876 V877 T878 G879 G880 D881 I882 L883 V884 G885 K886 V887 T888 P889 LYS GLY GLU THR GLN LEU THR PRO GLU GLU LYS LEU LEU ARG ALA ILE PHE GLY GLU LYS ALA SER ASP VAL K914 D915 S916 S917 L918 R919 V920 P921
N922 G923 V924 S925 G926 T927 V928 I929 D930 V931 Q932 V933 F934 T935 R936 D937 G938 V939 E940 K941 D942 K943 R944 A945 L946 E947 I948 E949 E950 M951 Q952 L953 K954 Q955 A956 K957 K958 D959 L960 S961 E962 E963 L964 Q965 I966 L967 E968 A969 G970 L971 F972 S973 R974 I975 R976 A977 V978 L979 V980 A981
G982 G983 V984 E985 A986 E987 K988 L989 D990 K991 L992 P993 R994 D995 R996 W997 L998 E999 L1000 G1001 L1002 T1003 D1004 E1005 E1006 K1007 Q1008 N1009 Q1010 L1011 E1012 Q1013 L1014 A1015 E1016 Q1017 Y1018 D1019 E1020 L1021 K1022 H1023 E1024 F1025 E1026 K1027 K1028 L1029 E1030 A1031 K1032 R1033 R1034 K1035 I1036 T1037 Q1038 G1039 D1040 D1041
L1042 A1043 P1044 G1045 V1046 L1047 K1048 I1049 V1050 K1051 V1052 Y1053 L1054 A1055 V1056 K1057 R1058 R1059 I1060 Q1061 P1062 G1063 D1064 A1067 G1068 R1069 H1070 G1071 N1072 K1073 I1076 S1077 K1078 I1079 N1080 P1081 I1082 E1083 D1084 M1085 D1088 E1089 N1090 G1091 T1092 P1093 I1096 V1097 L1098 N1099 P1100 L1101 G1102 V1103 P1104 S1105
R1106 M1107 N1108 I1109 G1110 Q1111 I1112 L1113 E1114 T1115 H1116 L1117 G1118 M1119 A1120 A1121 K1122 G1123 I1124 G1125 D1126 K1127 I1128 N1129 A1130 M1131 L1132 K1133 Q1134 Q1135 Q1136 E1137 V1138 A1139 K1140 L1141 R1142 E1143 F1144 I1145 Q1146 R1147 A1148 Y1149 D1150 L1151 G1152 A1153 D1154 V1155 R1156 Q1157 K1158 V1159 D1160 L1161 S1162 T1163 F1164 S1165



• Molecule 12: Transcription antitermination protein RfaH

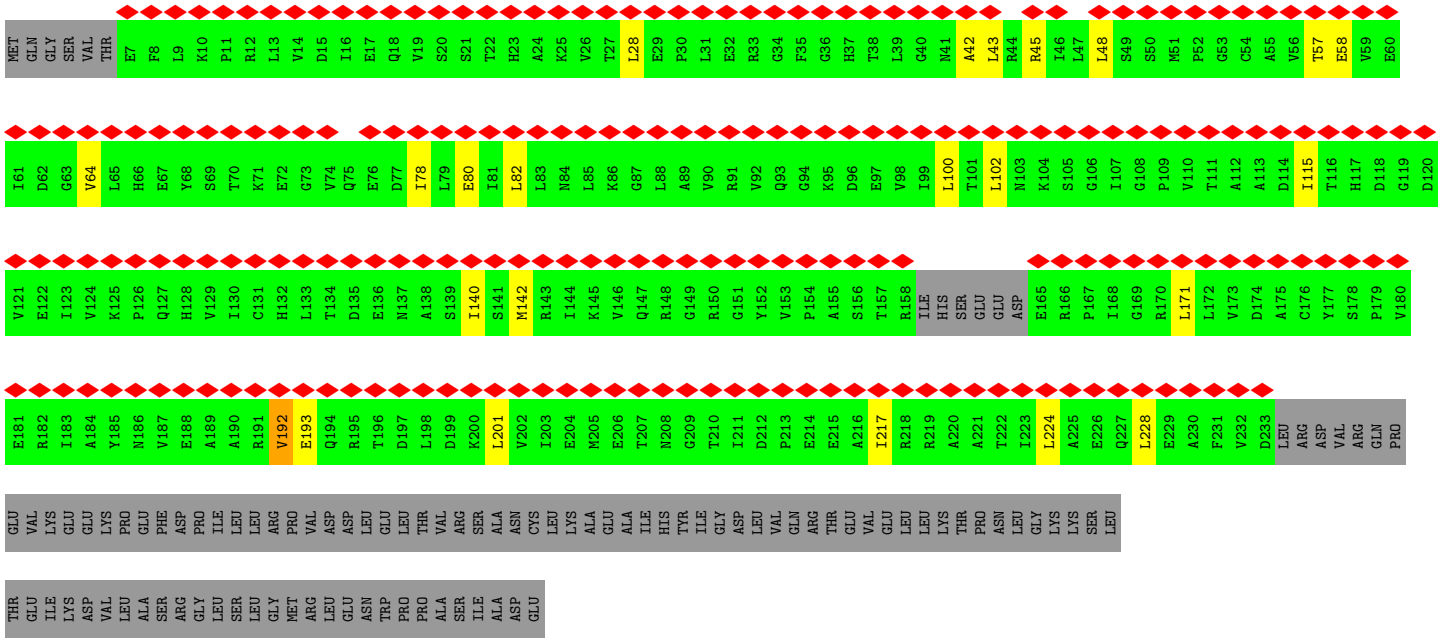
Chain AB:





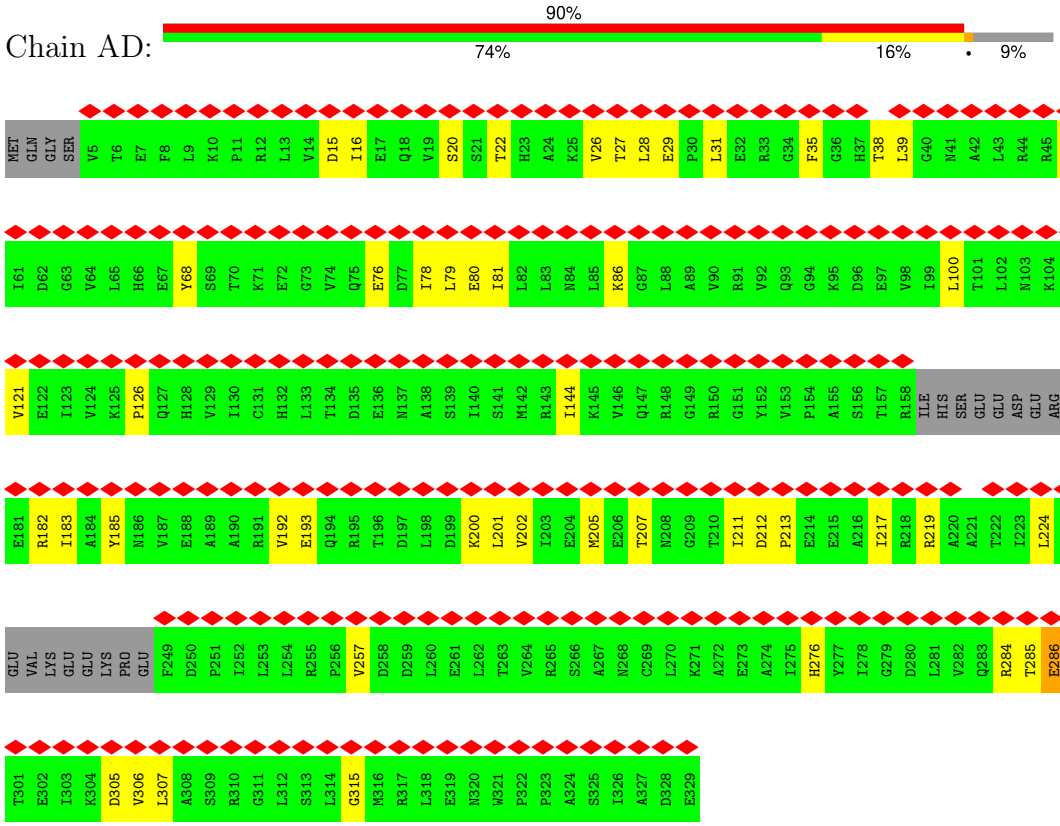
• Molecule 13: DNA-directed RNA polymerase subunit alpha

Chain AC:



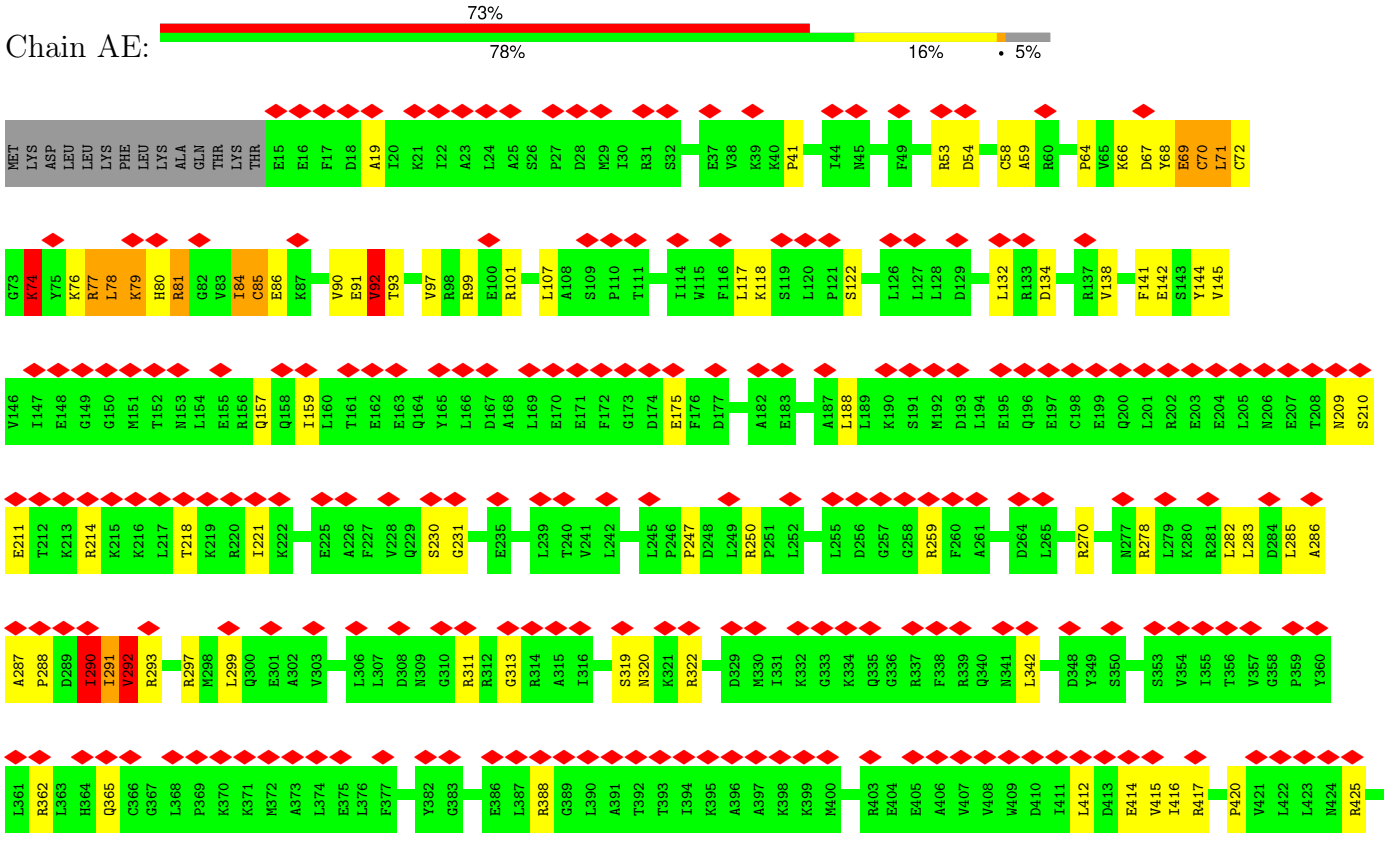
• Molecule 13: DNA-directed RNA polymerase subunit alpha

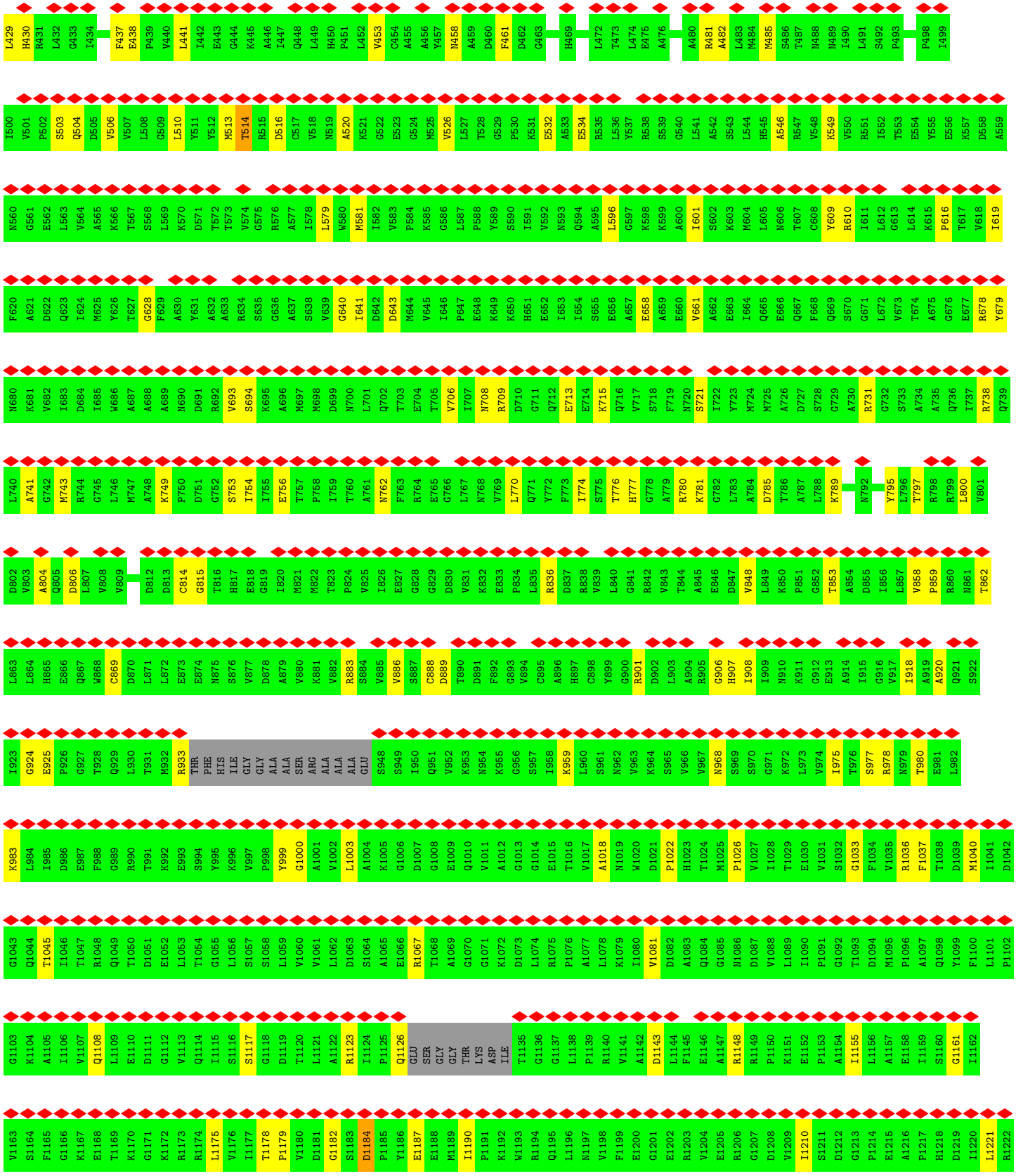
Chain AD:



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

Chain AE:

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I500 V501 P502 S503 Q504 D505 V506 V507 L508 G509 L510 Y511 Y512 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 L544 H545 A546 R547 Y548 K549 V550 R551 I552 T553 E554 Y555 E556 K557 D558 A559
N560 G561 E562 L563 V564 A565 K566 T567 S568 L569 K570 D571 T572 T573 V574 G575 R576 A577 I578 L579 W580 M581 I582 V583 P584 K585 G586 L587 P588 Y589 S590 I591 V592 N593 Q594 A595 L596 G597 K598 K599 A600 I601 S602 K603 M604 L605 N606 T607 C608 Y609 R610 I611 L612 G613 L614 K615 P616 T617 V618 I619
F620 A621 D622 Q623 I624 M625 Y626 T627 G628 F629 A630 Y631 A632 A633 R634 S635 G636 A637 S638 V639 G640 I641 D642 D643 M644 V645 I646 P647 E648 K649 K650 H651 E652 I653 I654 S655 E656 A657 E658 A659 E660 V661 A662 E663 I664 Q665 E666 Q667 F668 Q669 S670 G671 L672 V673 T674 A675 G676 E677 R678 Y679
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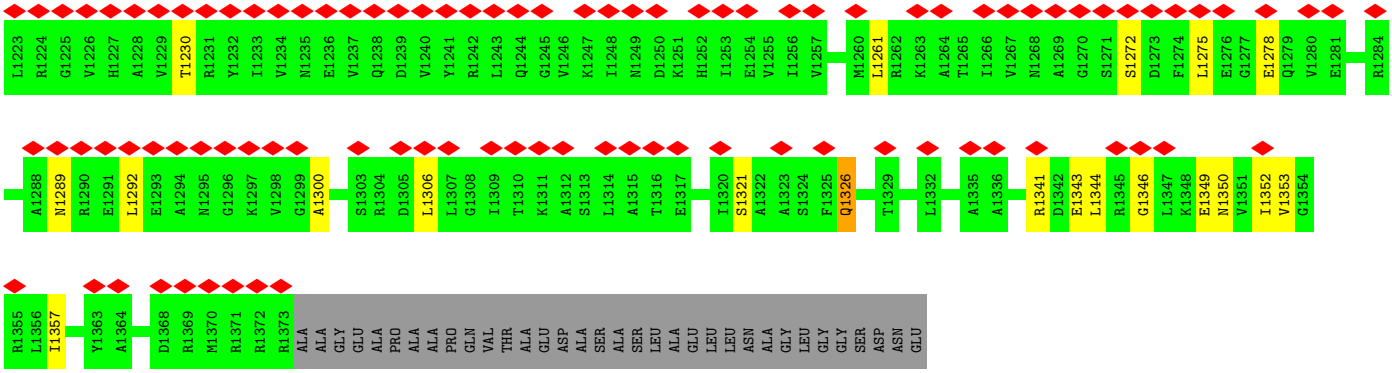
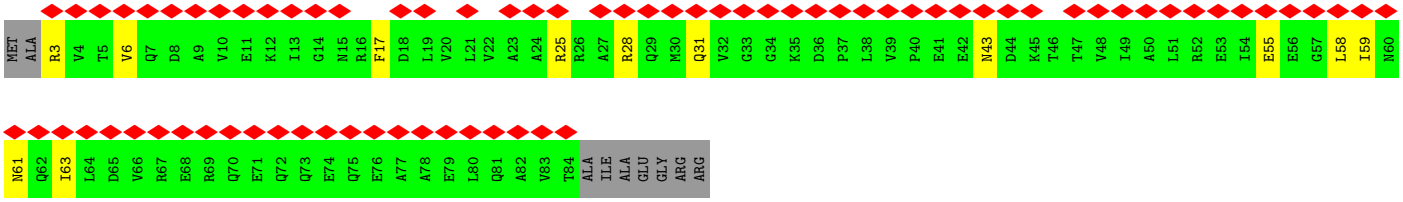
L740 A741 G742 M743 R744 G745 L746 M747 A748 K749 P750 D751 G752 S753 I754 I755 E756 T757 P758 I759 T760 A761 N762 F763 R764 E765 G766 L767 N768 V769 L770 Q771 Y772 F773 I774 S775 T776 H777 G778 A779 R780 K781 G782 L783 A784 D785 T786 A787 L788 K789 N792 Y795 L796 T797 R798 R799 L800 V801
D802 V803 A804 Q805 D806 L807 V808 V809 D812 D813 C814 G815 T816 H817 E818 G819 I820 M821 M822 T823 P824 V825 I826 E827 G828 G829 D830 V831 K832 E833 P834 L835 R836 D837 R838 V839 L840 G841 R842 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 Y899 G900 R901 D902 L903 A904 R905 G906 H907 I908 I909 N910 K911 G912 E913 A914 I915 G916 V917 I918 A919 A920 Q921 S922
I923 G924 E925 P926 G927 T928 Q929 L930 T931 M932 R933 THR PHE HIS ILE GLY GLY ALA 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 I1107 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 L1138 P1139 R1140 V1141 A1142 D1143 L1144 F1145 E1146 A1147 R1148 R1149 P1150 K1151 E1152 P1153 A1154 I1155 L1156 A1157 E1158 I1159 S1160 G1161 I1162
V1163 S1164 F1165 G1166 K1167 E1168 T1169 K1170 G1171 K1172 R1173 R1174 L1175 V1176 I1177 T1178 P1179 V1180 D1181 G1182 S1183 D1184 P1185 Y1186 E1187 E1188 M1189 I1190 P1191 K1192 W1193 R1194 Q1195 L1196 N1197 V1198 F1199 E1200 G1201 E1202 R1203 V1204 E1205 R1206 G1207 D1208 V1209 I1210 S1211 D1212 G1213 P1214 E1215 A1216 P1217 H1218 D1219 I1220 L1221 R1222



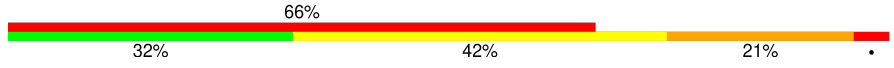
• Molecule 15: DNA-directed RNA polymerase subunit omega

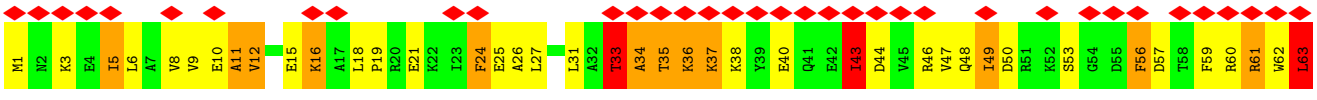
Chain AF:

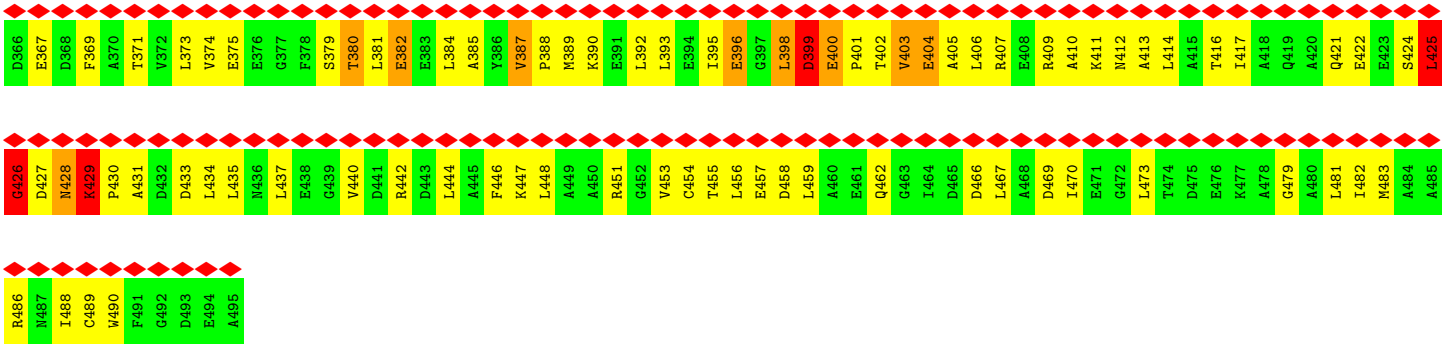


• Molecule 16: Transcription termination/antitermination protein NusA

Chain AG:

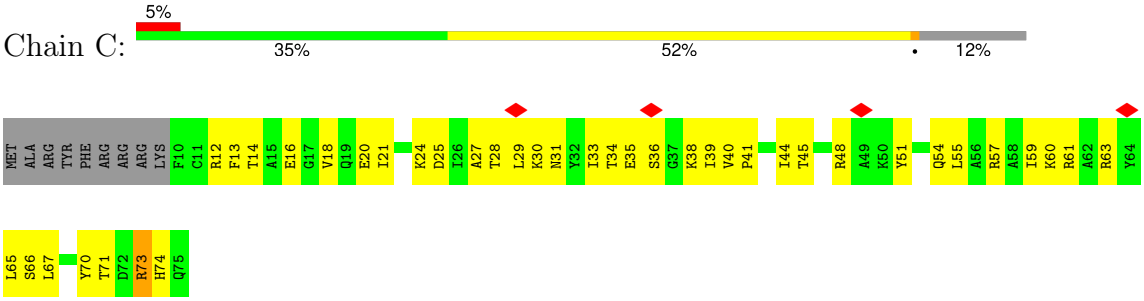






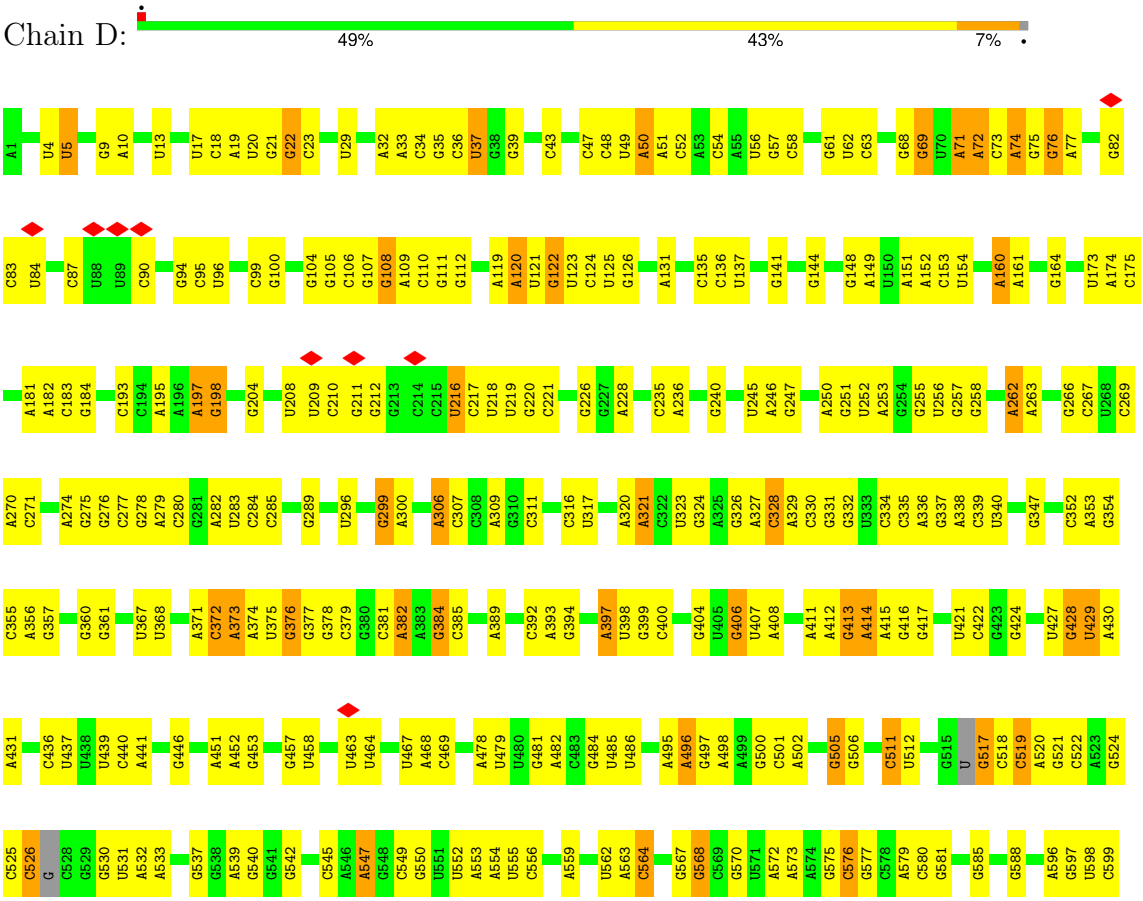
• Molecule 17: 30S ribosomal protein S18

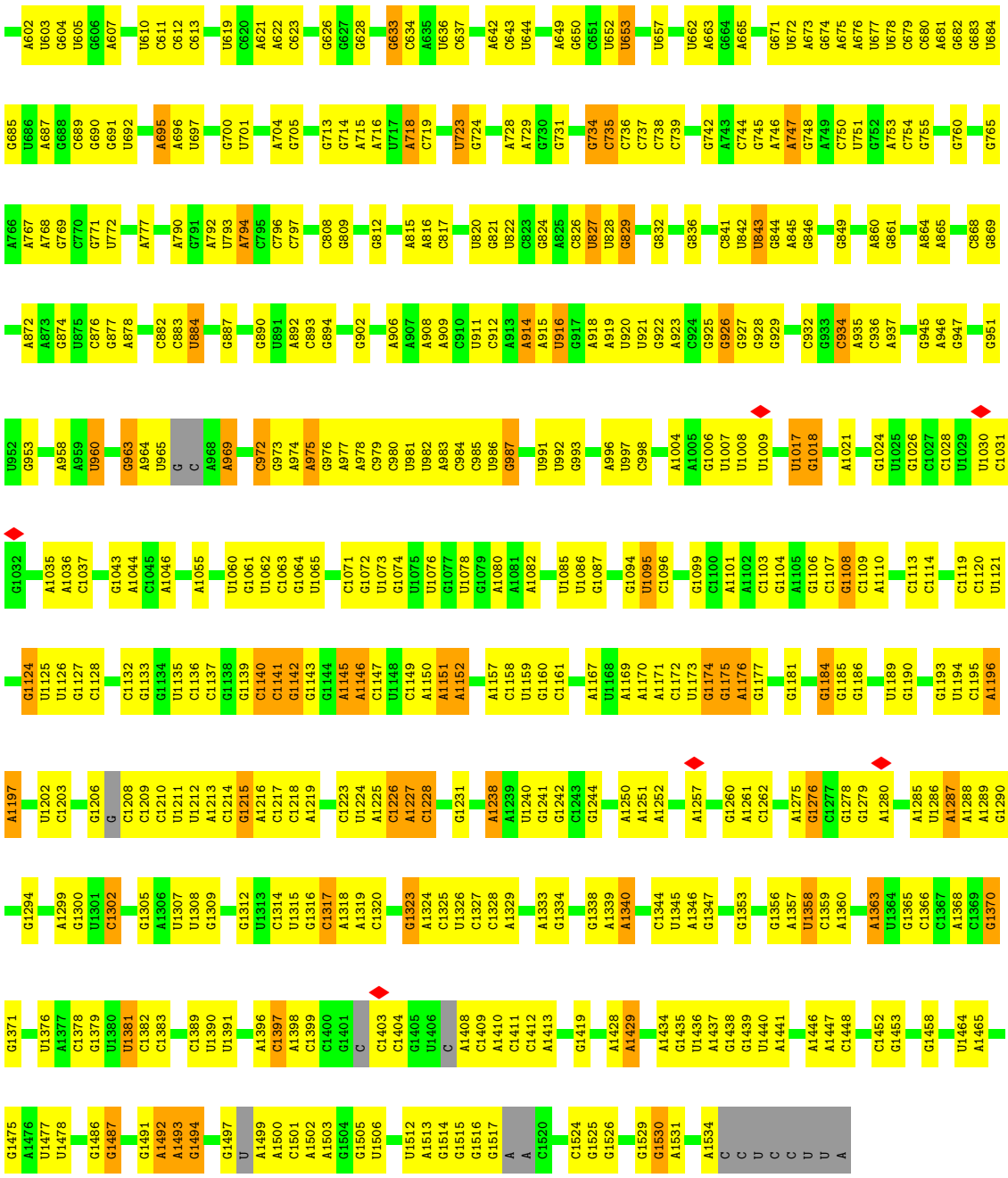
Chain C:



• Molecule 18: 16S rRNA

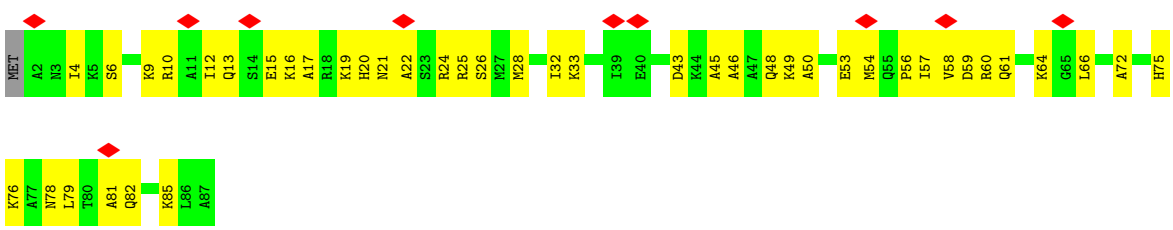
Chain D:





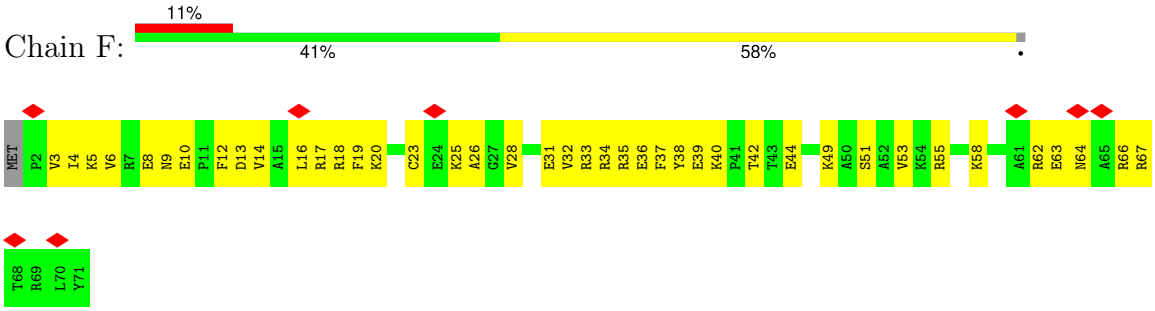
• Molecule 19: 30S ribosomal protein S20

Chain E:



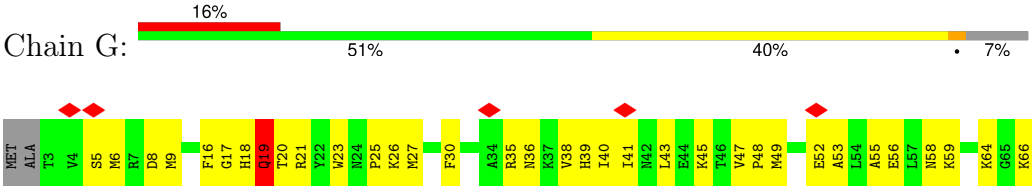
• Molecule 20: 30S ribosomal protein S21

Chain F:



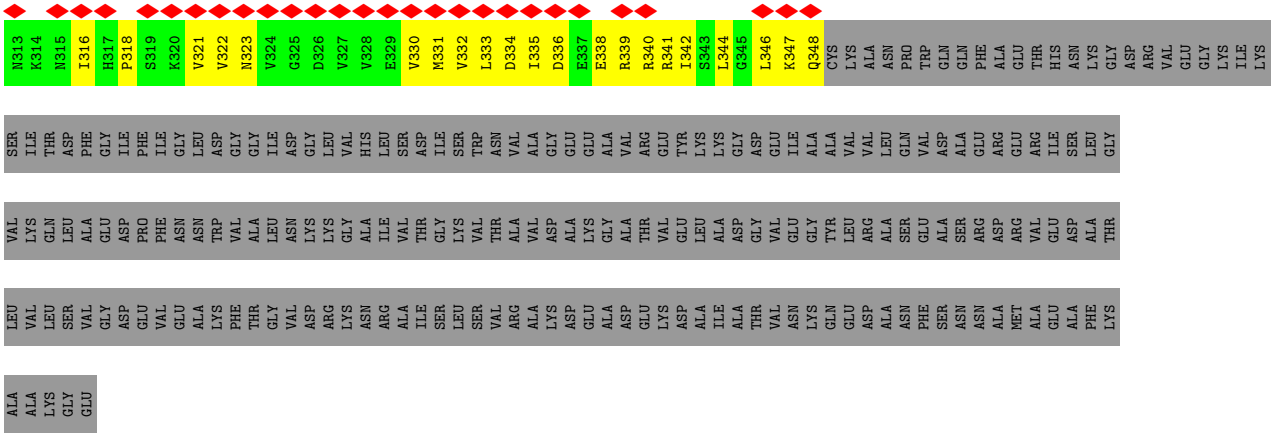
• Molecule 21: 30S ribosomal protein S2

Chain G:



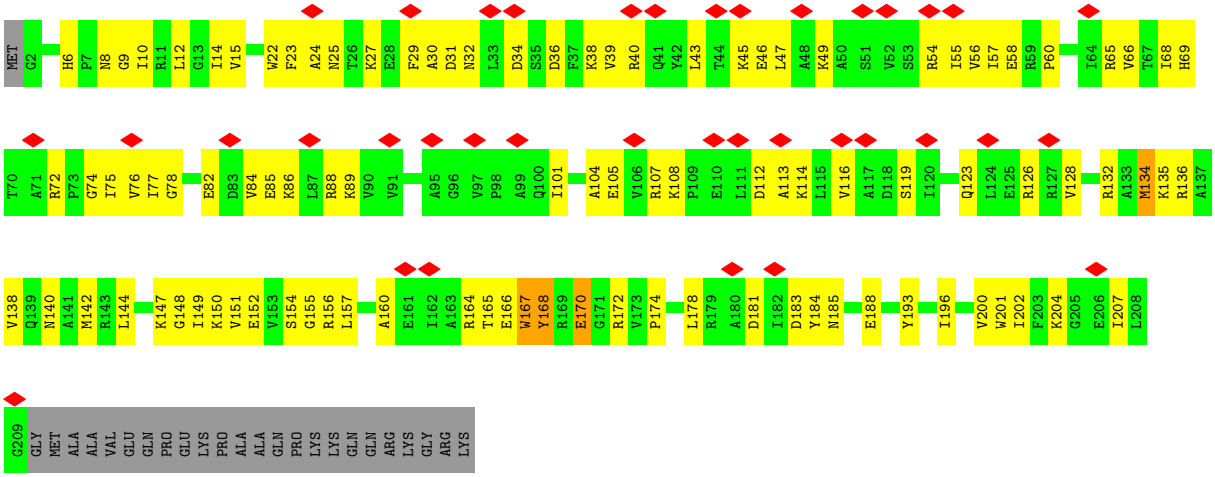
• Molecule 22: 30S ribosomal protein S1

Chain H:



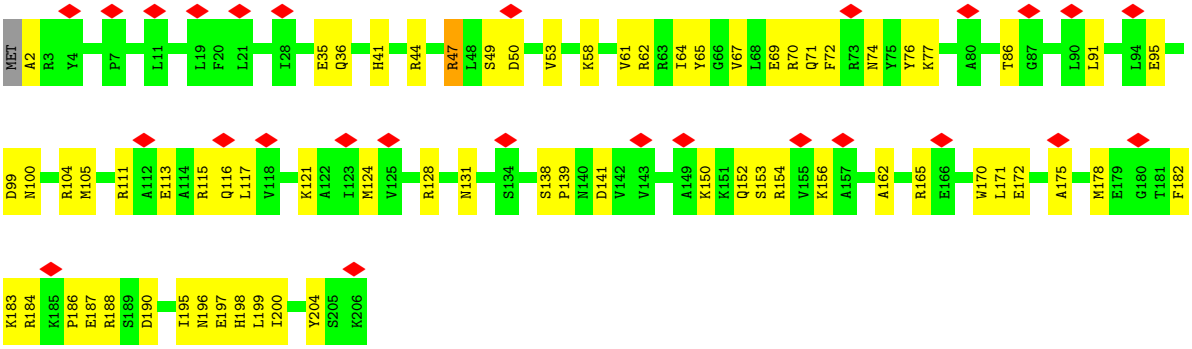
• Molecule 23: 30S ribosomal protein S3

Chain I:



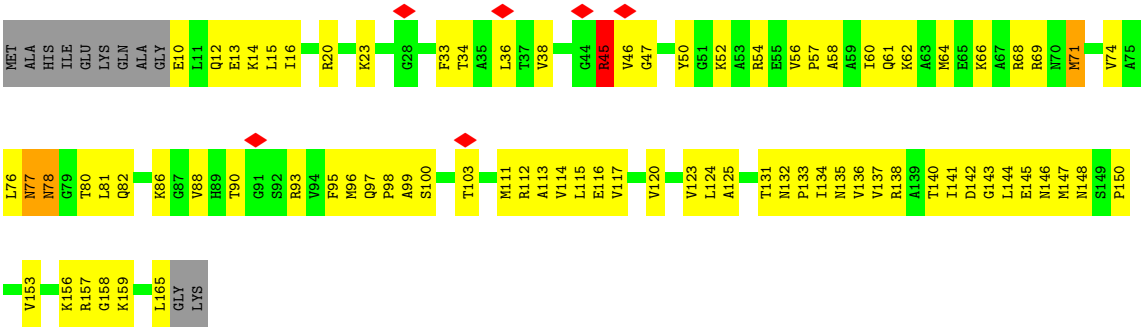
• Molecule 24: 30S ribosomal protein S4

Chain J:



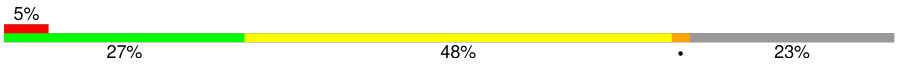
• Molecule 25: 30S ribosomal protein S5

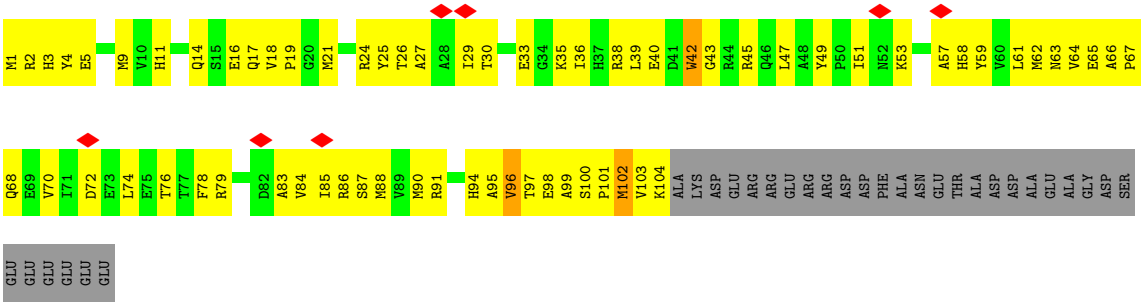
Chain K:



• Molecule 26: 30S ribosomal protein S6

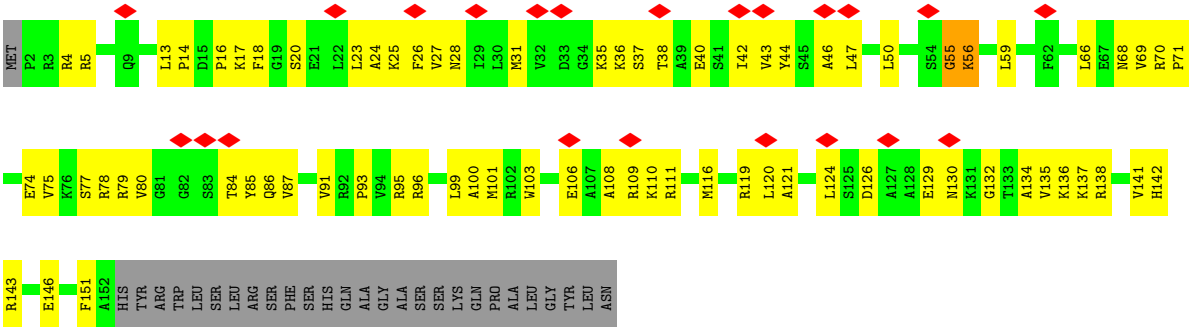
Chain L:





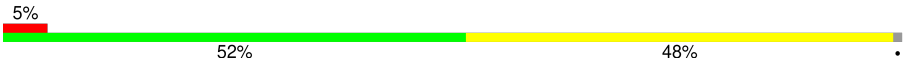
• Molecule 27: 30S ribosomal protein S7

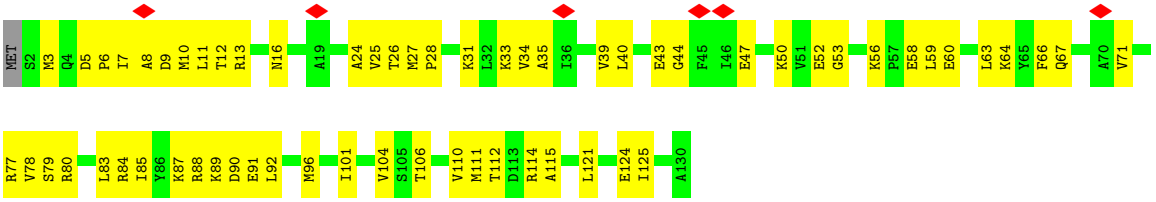
Chain M:



• Molecule 28: 30S ribosomal protein S8

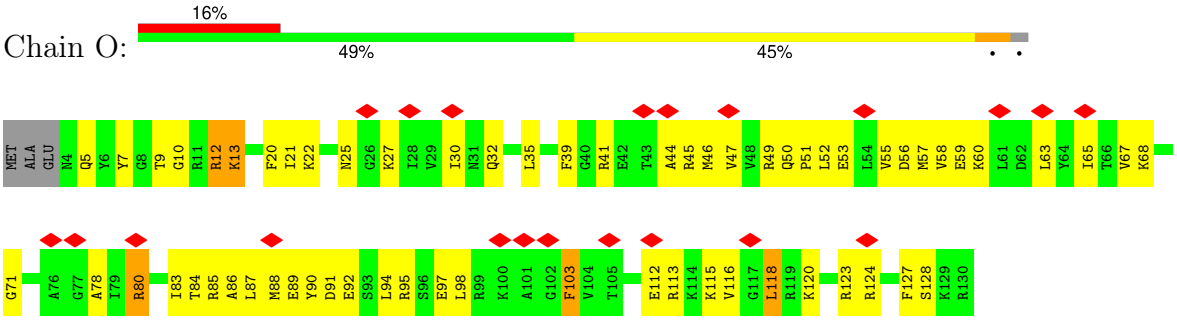
Chain N:





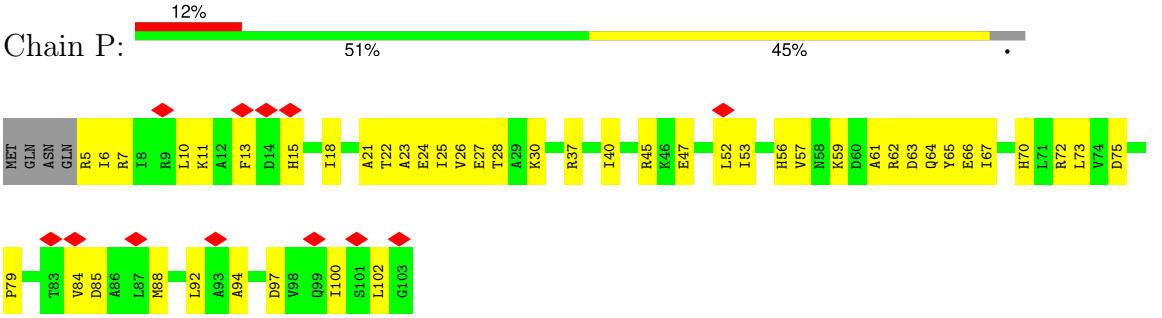
• Molecule 29: 30S ribosomal protein S9

Chain O:



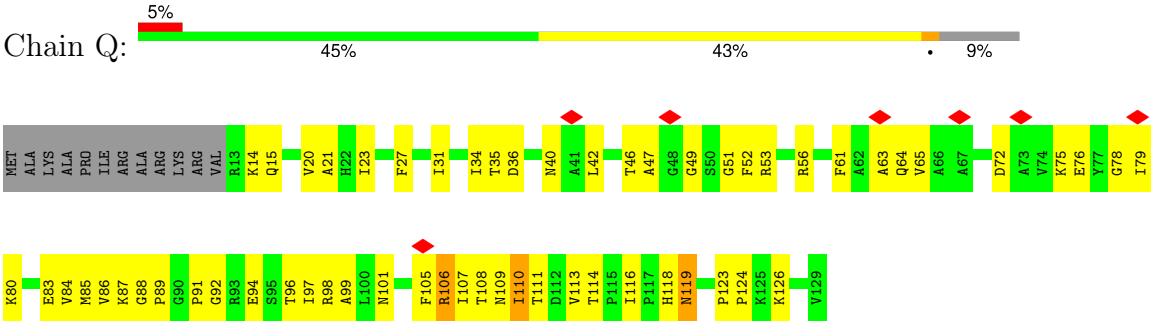
• Molecule 30: 30S ribosomal protein S10

Chain P:



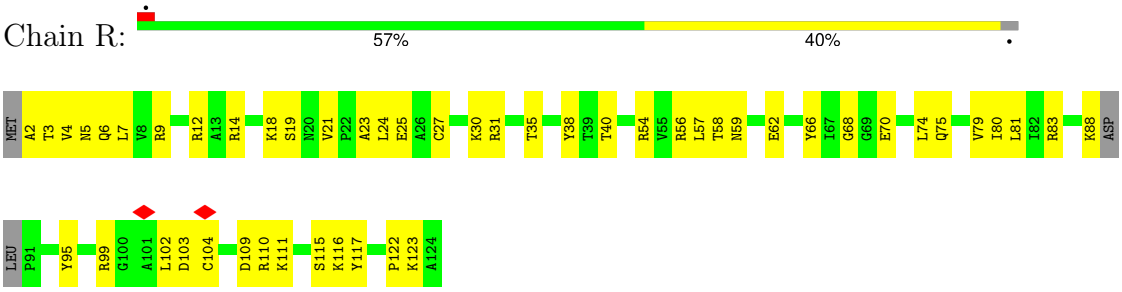
• Molecule 31: 30S ribosomal protein S11

Chain Q:



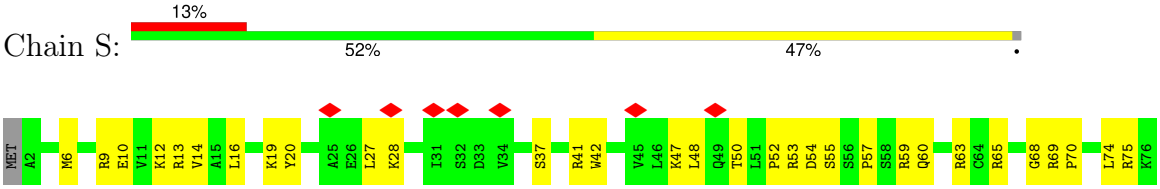
• Molecule 32: 30S ribosomal protein S12

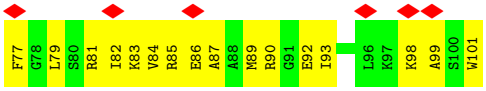
Chain R:



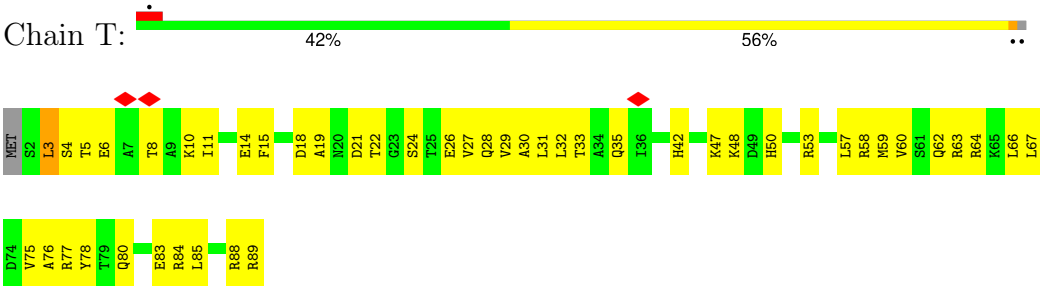
• Molecule 33: 30S ribosomal protein S14

Chain S:

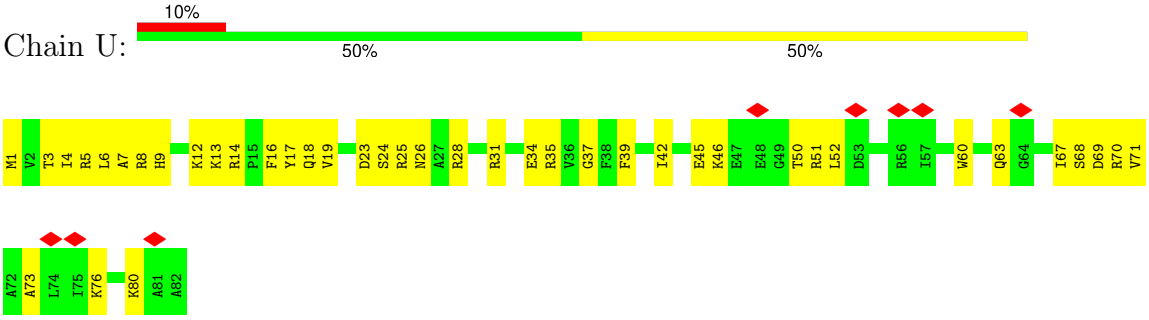




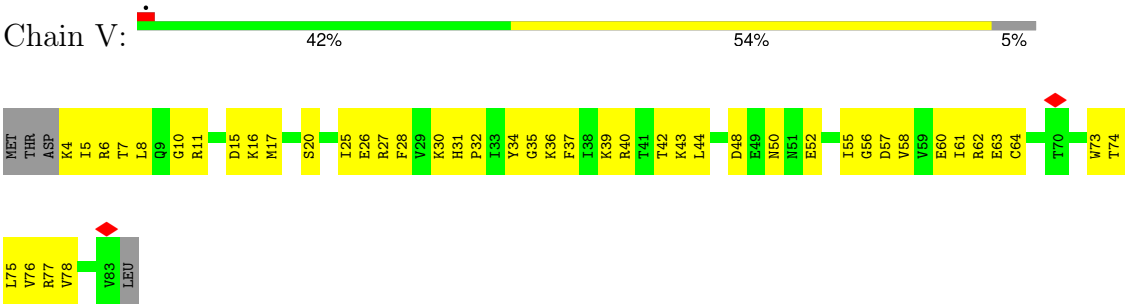
• Molecule 34: Small ribosomal subunit protein uS15



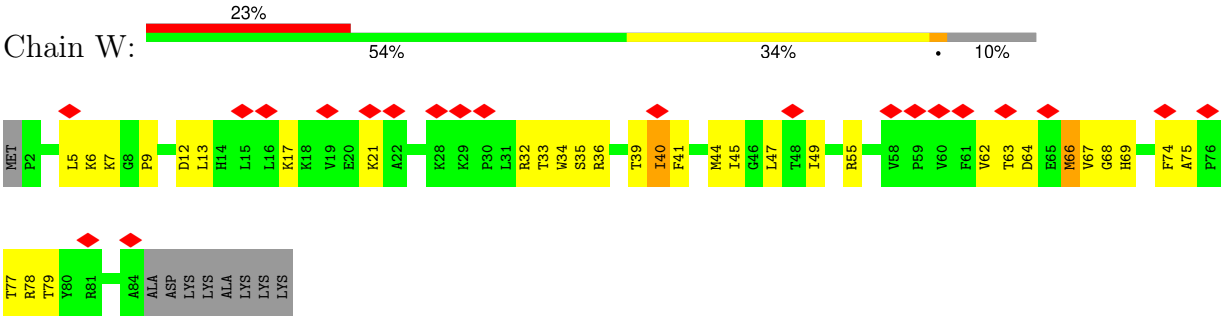
• Molecule 35: 30S ribosomal protein S16



• Molecule 36: 30S ribosomal protein S17

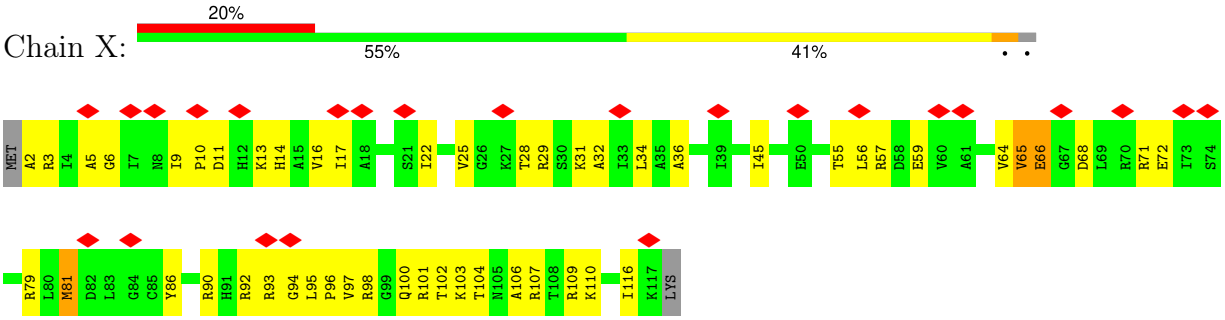


• Molecule 37: 30S ribosomal protein S19



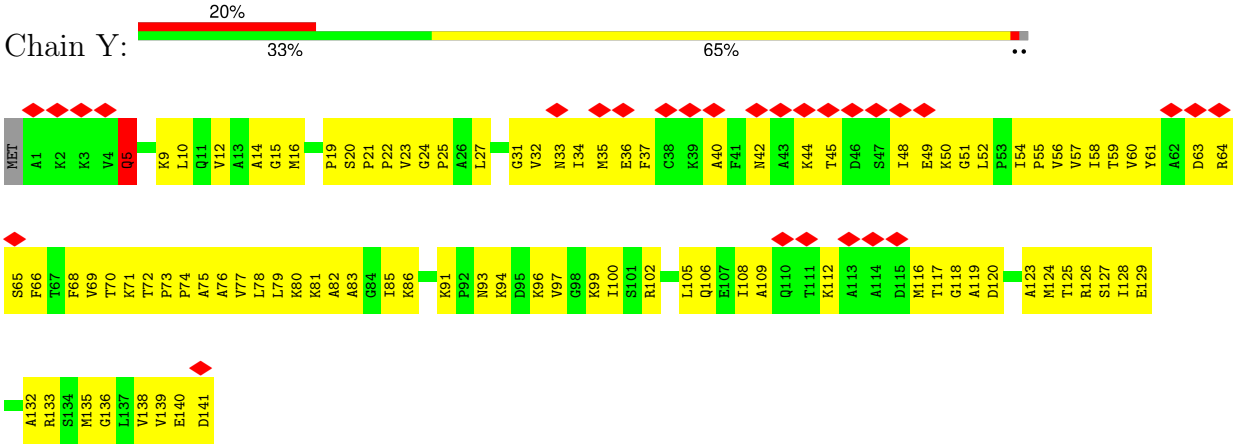
• Molecule 38: 30S ribosomal protein S13

Chain X:



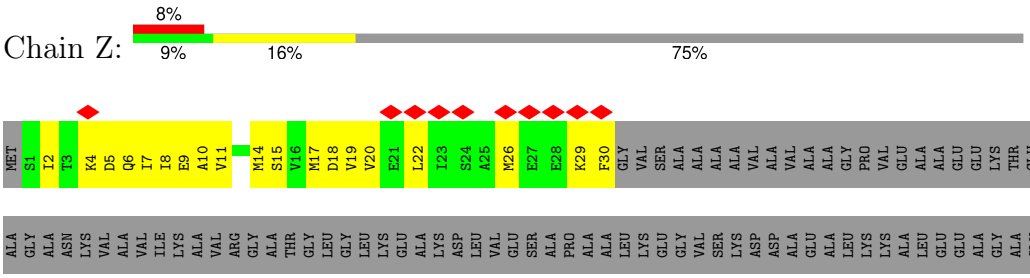
• Molecule 39: 50S ribosomal protein L11

Chain Y:



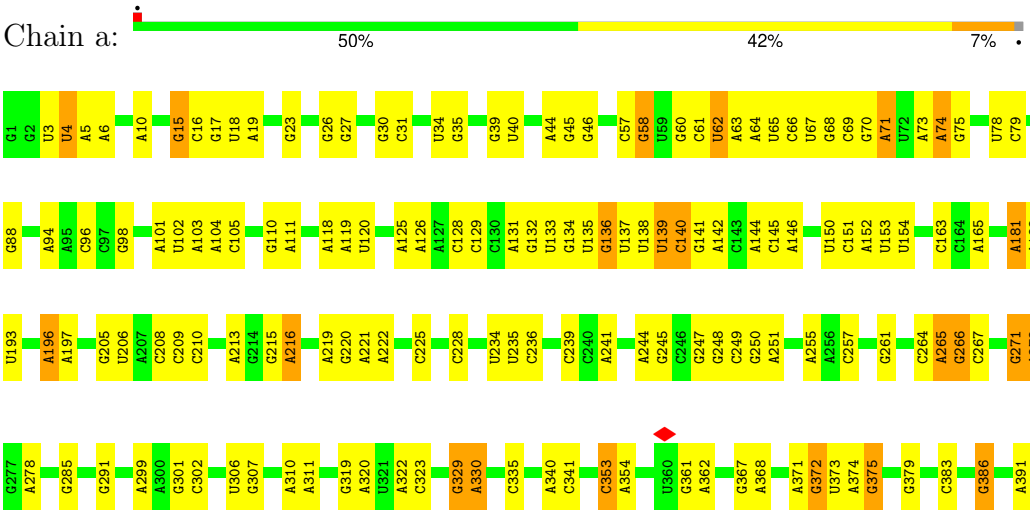
• Molecule 40: 50S ribosomal protein L7/L12

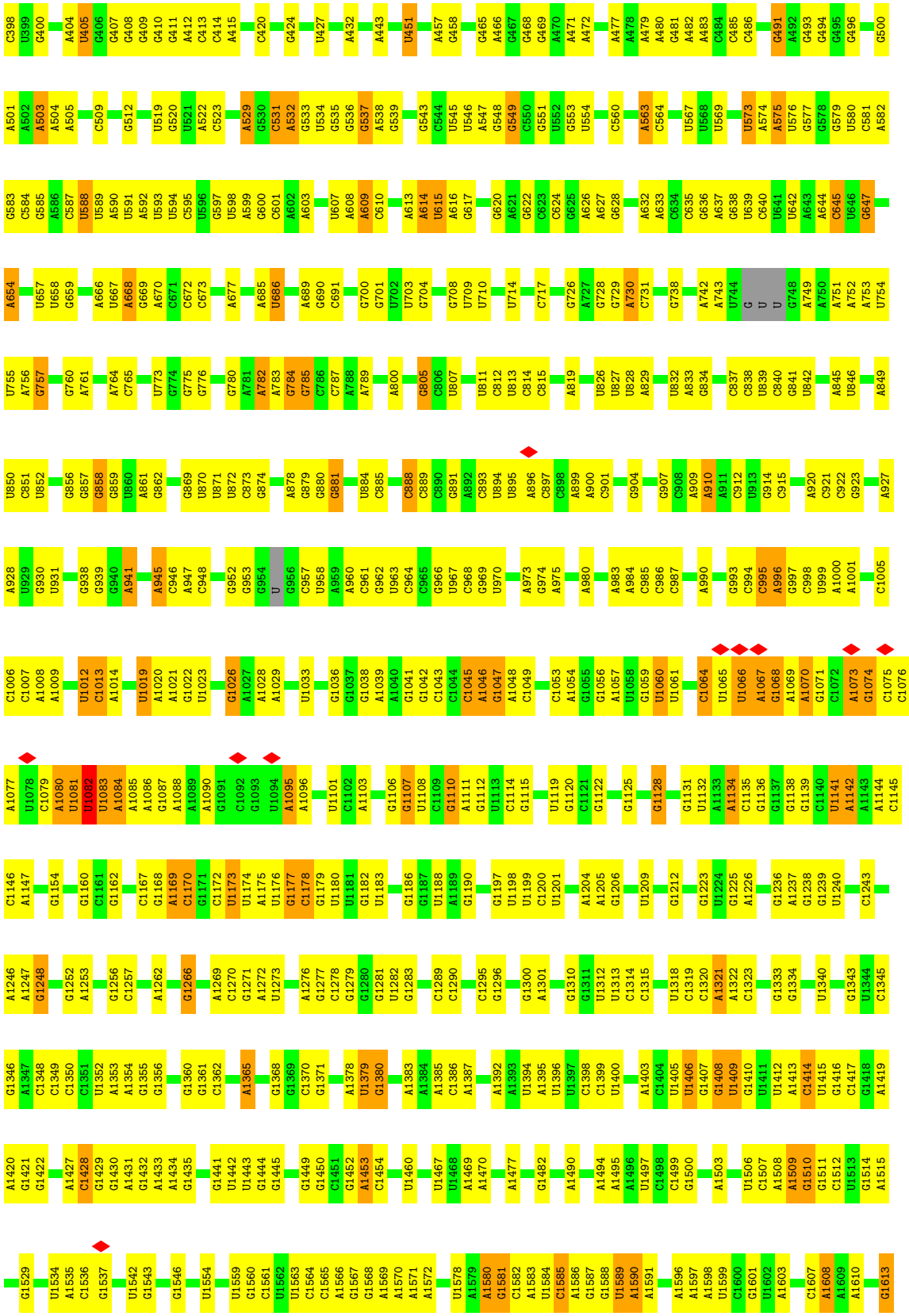
Chain Z:

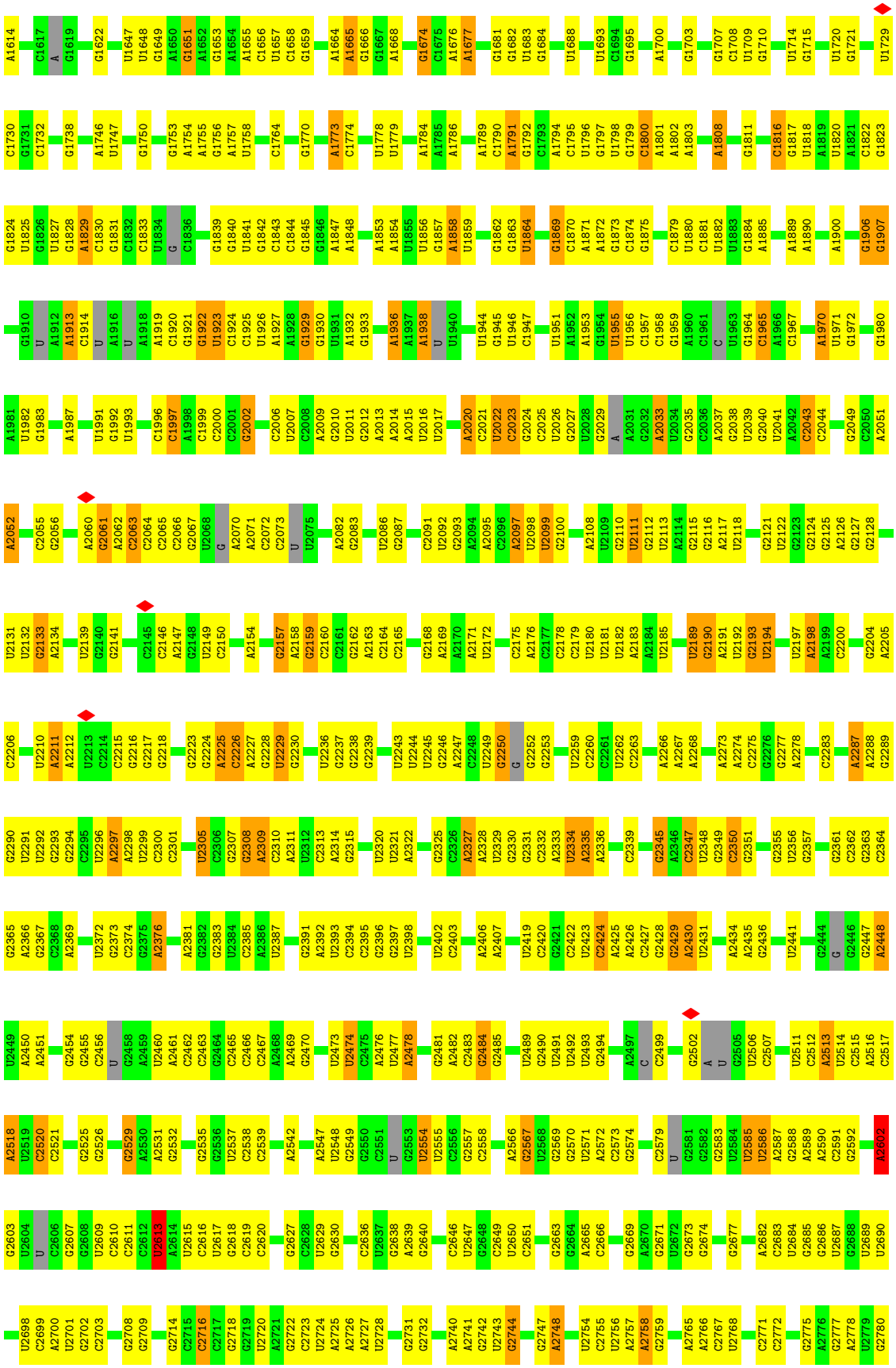


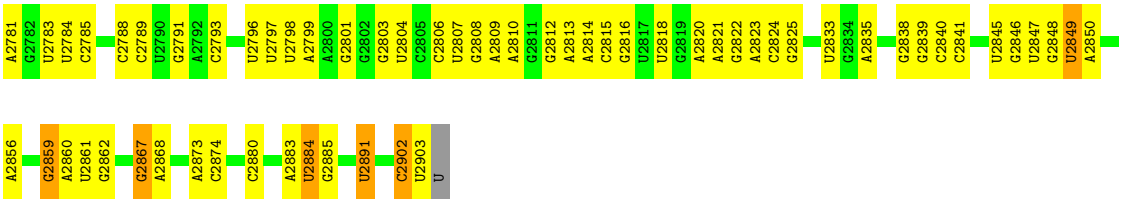
• Molecule 41: 23S rRNA

Chain a:







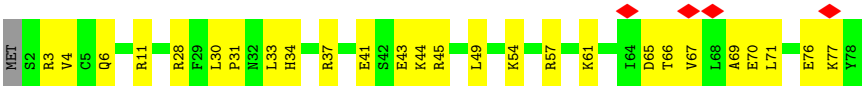


• Molecule 42: 50S ribosomal protein L27

Chain b:

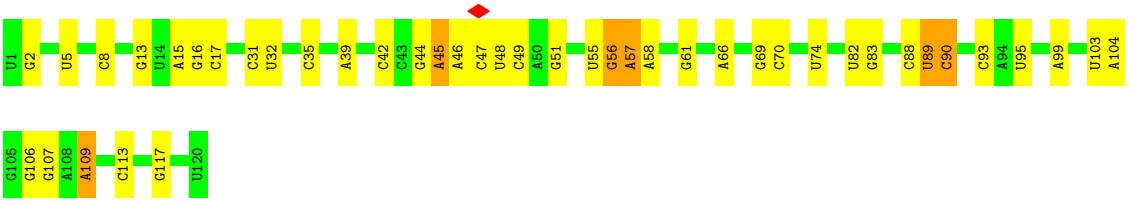
• Molecule 43: 50S ribosomal protein L28

Chain c:



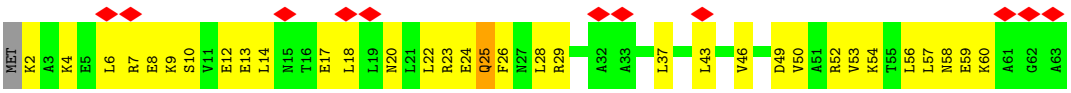
• Molecule 44: 5S rRNA

Chain d:



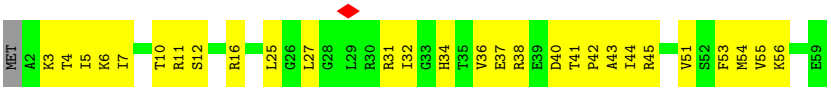
• Molecule 45: 50S ribosomal protein L29

Chain e:



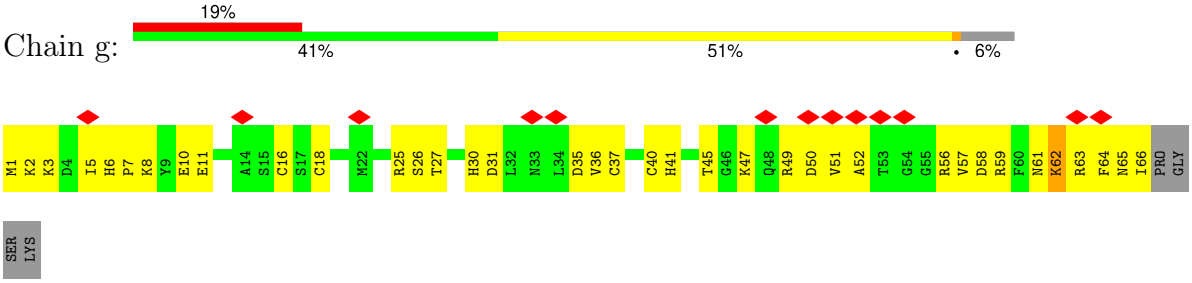
• Molecule 46: 50S ribosomal protein L30

Chain f:



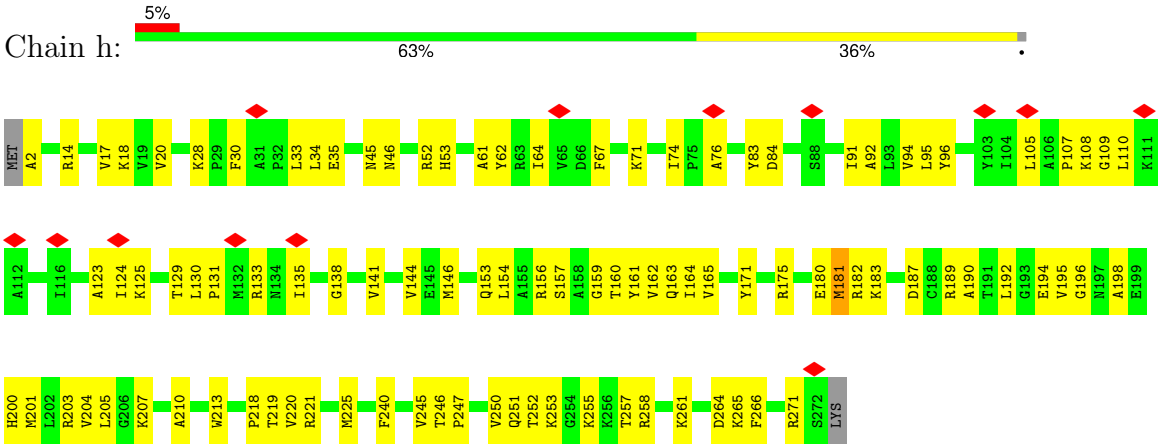
• Molecule 47: 50S ribosomal protein L31

Chain g:



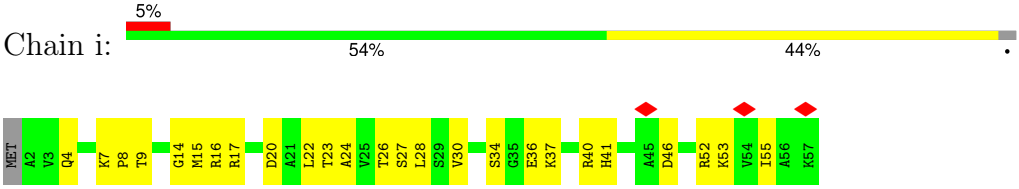
• Molecule 48: 50S ribosomal protein L2

Chain h:



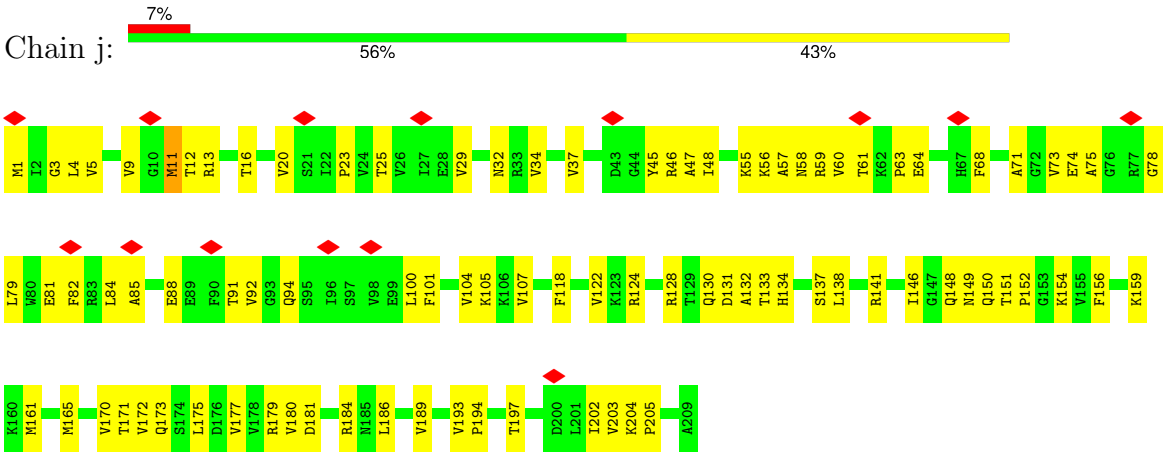
• Molecule 49: 50S ribosomal protein L32

Chain i:



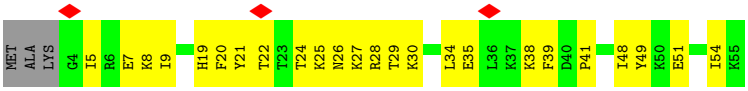
• Molecule 50: 50S ribosomal protein L3

Chain j:



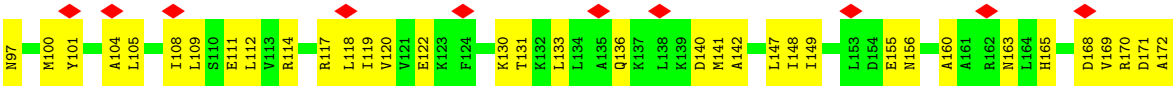
• Molecule 51: 50S ribosomal protein L33

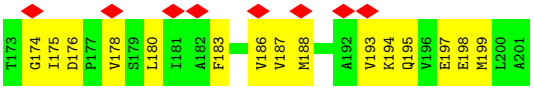
Chain k:



• Molecule 52: 50S ribosomal protein L4

Chain l:



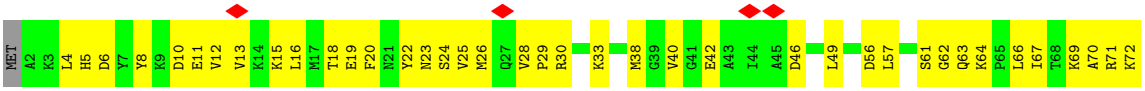


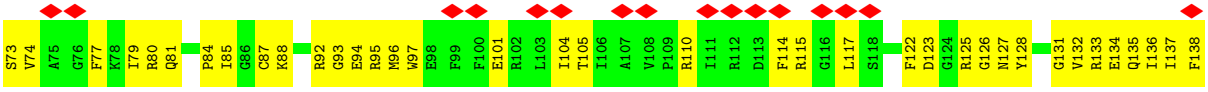
• Molecule 53: 50S ribosomal protein L34

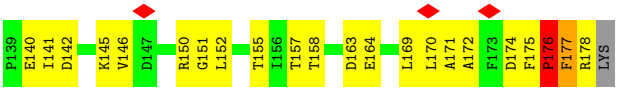
Chain m:

• Molecule 54: 50S ribosomal protein L5

Chain n:

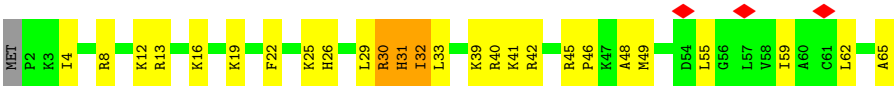






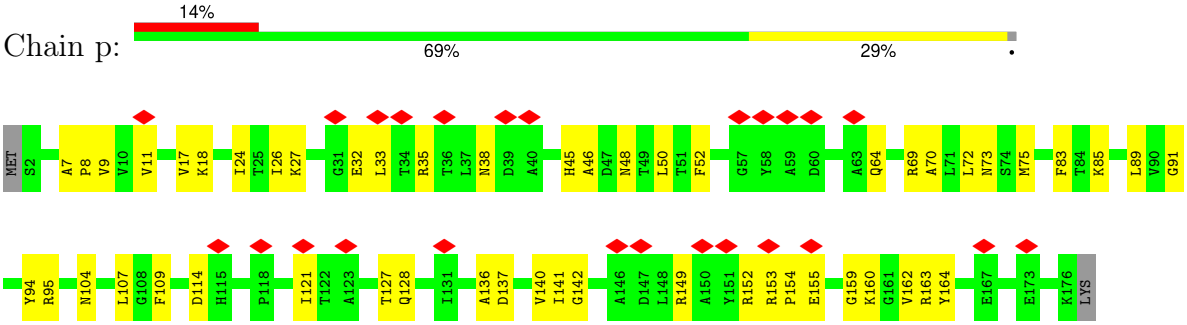
• Molecule 55: 50S ribosomal protein L35

Chain o:



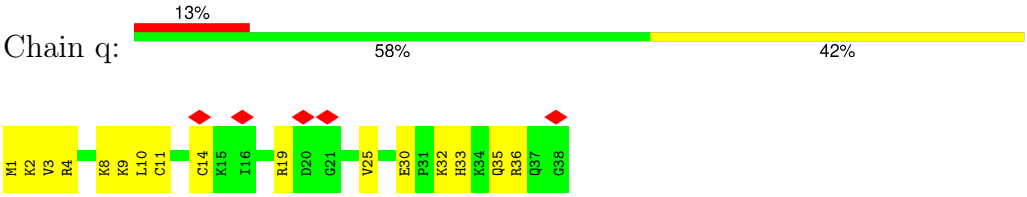
• Molecule 56: 50S ribosomal protein L6

Chain p:



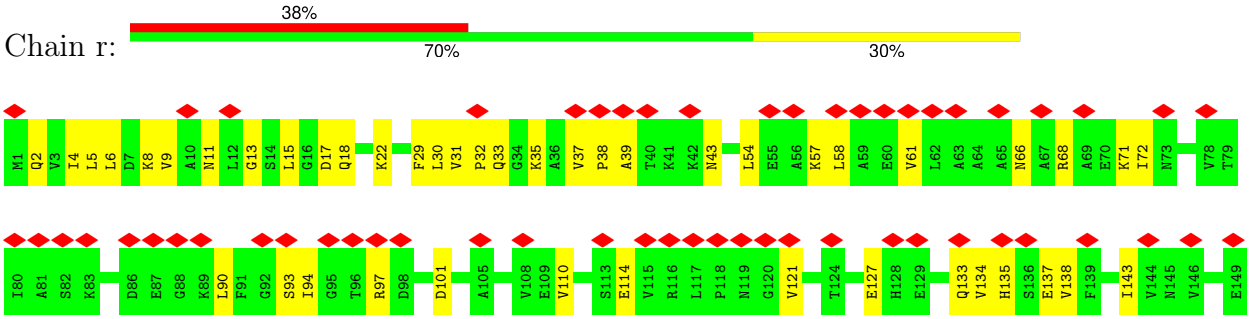
• Molecule 57: 50S ribosomal protein L36

Chain q:



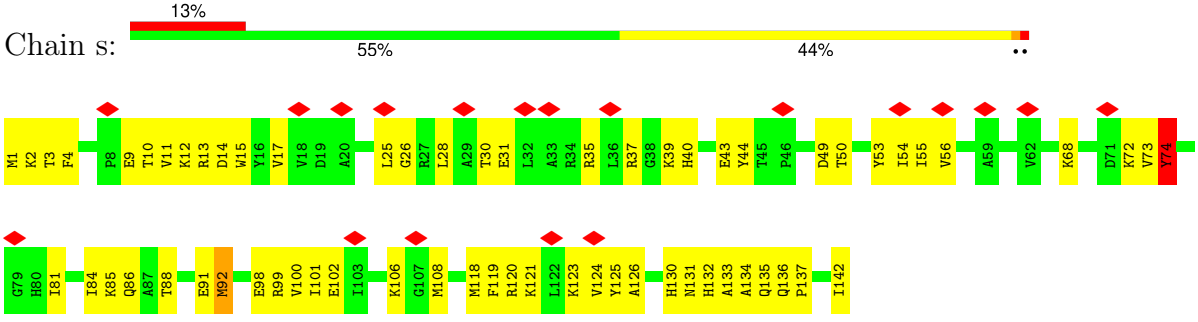
• Molecule 58: 50S ribosomal protein L9

Chain r:



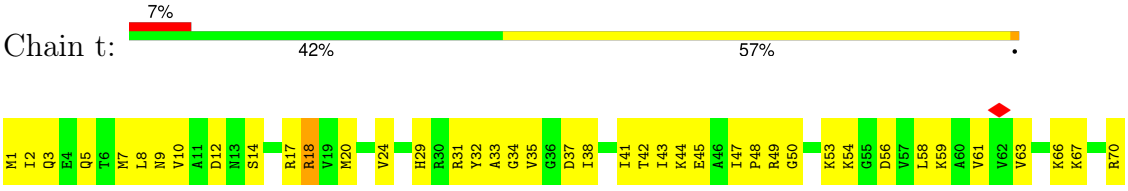
• Molecule 59: 50S ribosomal protein L13

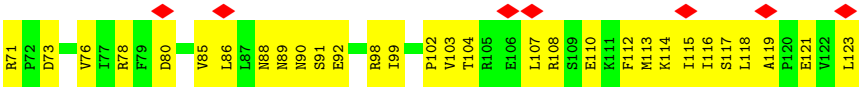
Chain s:



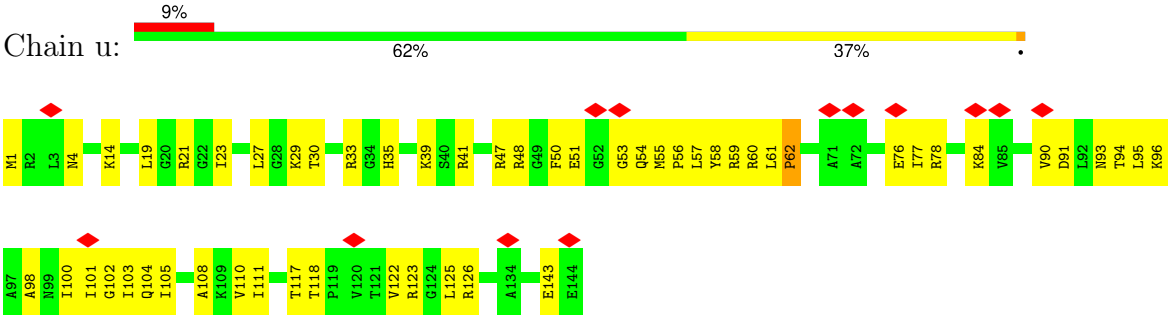
• Molecule 60: 50S ribosomal protein L14

Chain t:

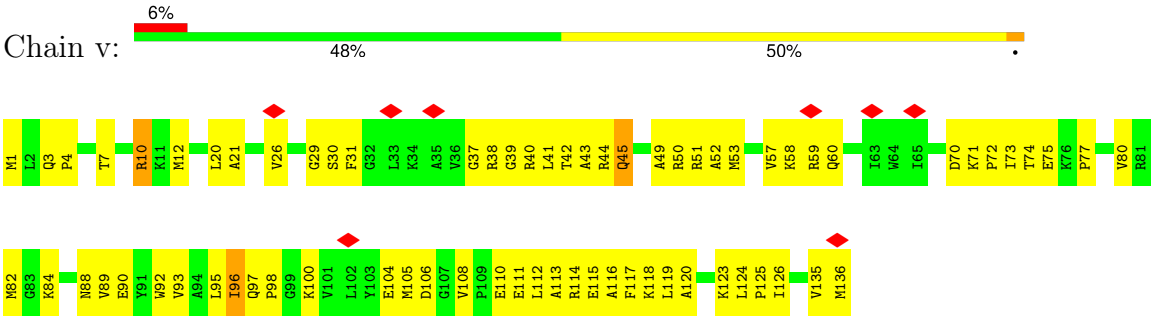




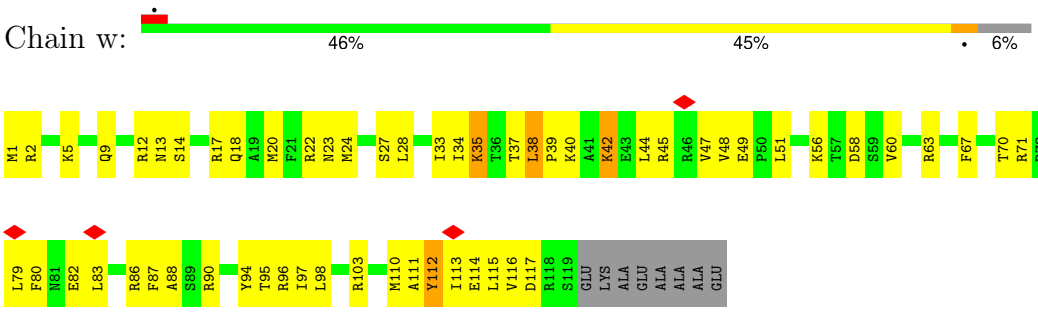
• Molecule 61: 50S ribosomal protein L15



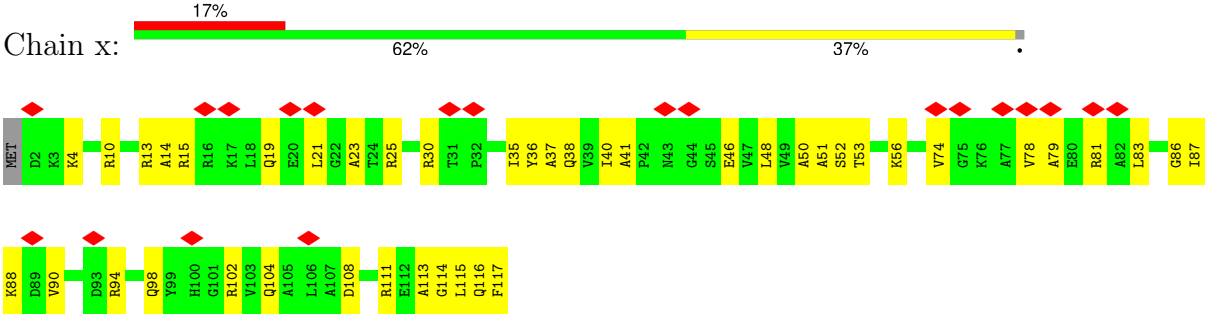
• Molecule 62: 50S ribosomal protein L16



• Molecule 63: 50S ribosomal protein L17

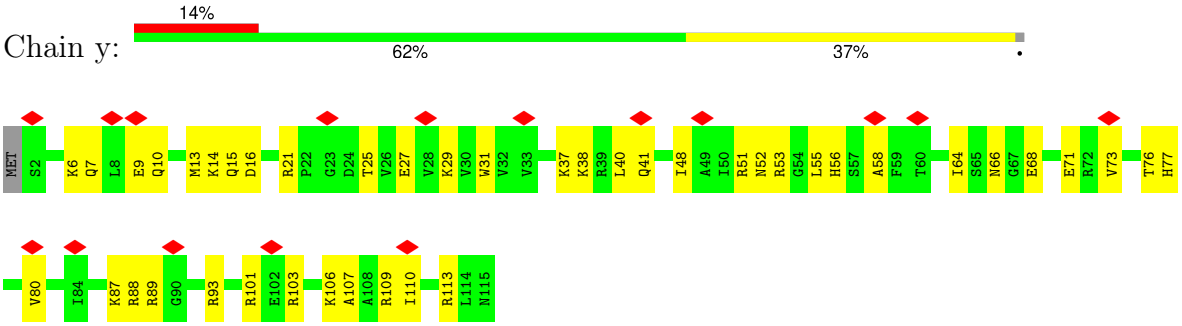


• Molecule 64: 50S ribosomal protein L18



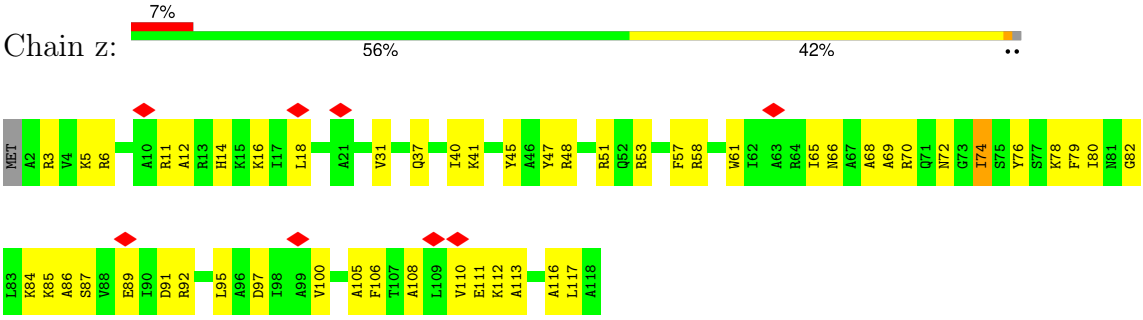
• Molecule 65: 50S ribosomal protein L19

Chain y:



• Molecule 66: 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	15810	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	50	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	0.019	Depositor
Minimum map value	-0.087	Depositor
Average map value	-0.006	Depositor
Map value standard deviation	0.004	Depositor
Recommended contour level	0.000001	Depositor
Map size (Å)	533.2, 533.2, 533.2	wwPDB
Map dimensions	620, 620, 620	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.86, 0.86, 0.86	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	0.36	0/796	0.49	0/1062
5	4	0.57	0/766	0.63	0/1025
6	5	0.57	0/816	0.78	0/1259
7	6	0.57	0/783	0.78	0/1203
8	7	0.61	2/585 (0.3%)	0.91	3/906 (0.3%)
9	9	0.37	0/1131	0.73	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	0.53	0/1317	1.20	17/1786 (1.0%)
13	AC	0.38	0/1718	0.62	0/2328
13	AD	0.37	0/2096	0.69	3/2854 (0.1%)
14	AE	0.39	0/10561	0.64	5/14258 (0.0%)
15	AF	0.30	0/652	0.61	0/879
16	AG	0.97	6/3897 (0.2%)	1.40	49/5273 (0.9%)
17	C	0.67	0/553	0.81	1/743 (0.1%)
18	D	0.29	0/36610	0.41	9/57091 (0.0%)
19	E	0.61	0/675	0.72	0/895
20	F	0.53	0/597	0.61	0/792
21	G	0.68	5/1791 (0.3%)	0.79	8/2413 (0.3%)
22	H	0.38	0/1746	0.81	0/2382
23	I	0.57	1/1663 (0.1%)	0.68	4/2241 (0.2%)
24	J	0.46	0/1665	0.58	0/2227
25	K	0.72	2/1165 (0.2%)	0.86	6/1568 (0.4%)
26	L	0.68	1/867 (0.1%)	0.79	1/1171 (0.1%)
27	M	0.56	0/1195	0.69	2/1602 (0.1%)
28	N	0.50	0/989	0.58	0/1326
29	O	0.66	3/1034 (0.3%)	0.79	3/1375 (0.2%)
30	P	0.51	0/800	0.73	0/1082

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
31	Q	0.72	2/893 (0.2%)	0.76	2/1205 (0.2%)
32	R	0.49	0/952	0.59	0/1274
33	S	0.53	0/817	0.61	0/1088
34	T	0.57	1/722 (0.1%)	0.68	0/964
35	U	0.42	0/659	0.53	0/884
36	V	0.49	0/657	0.62	0/881
37	W	0.56	1/680 (0.1%)	0.62	1/915 (0.1%)
38	X	0.45	0/909	0.72	1/1215 (0.1%)
39	Y	0.38	2/1046 (0.2%)	0.66	2/1410 (0.1%)
40	Z	0.13	0/227	0.41	0/304
41	a	0.30	0/69247	0.43	10/107985 (0.0%)
42	b	0.42	0/589	0.55	0/779
43	c	0.51	0/635	0.61	0/848
44	d	0.25	0/2872	0.37	0/4478
45	e	0.69	2/502 (0.4%)	0.65	1/667 (0.1%)
46	f	0.52	0/452	0.57	0/605
47	g	0.45	1/531 (0.2%)	0.64	0/709
48	h	0.50	1/2121 (0.0%)	0.59	1/2852 (0.0%)
49	i	0.41	0/450	0.55	0/599
50	j	0.51	0/1586	0.57	1/2134 (0.0%)
51	k	0.46	0/433	0.63	0/576
52	l	0.51	1/1571 (0.1%)	0.62	0/2113
53	m	0.45	0/380	0.56	0/498
54	n	0.46	0/1434	0.66	1/1926 (0.1%)
55	o	0.51	0/513	0.71	1/676 (0.1%)
56	p	0.42	0/1333	0.62	2/1805 (0.1%)
57	q	0.45	0/303	0.64	0/397
58	r	0.28	0/1122	0.48	0/1515
59	s	0.70	2/1152 (0.2%)	0.74	2/1551 (0.1%)
60	t	0.53	0/955	0.75	3/1279 (0.2%)
61	u	0.43	0/1062	0.59	0/1413
62	v	0.60	1/1093 (0.1%)	0.77	3/1460 (0.2%)
63	w	0.83	2/964 (0.2%)	0.80	3/1289 (0.2%)
64	x	0.34	0/902	0.50	0/1209
65	y	0.41	0/929	0.54	0/1242
66	z	0.62	2/960 (0.2%)	0.62	0/1278
All	All	0.41	39/194733 (0.0%)	0.56	147/286430 (0.1%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
9	9	0	3
12	AB	0	1
13	AC	0	1
13	AD	0	2
14	AE	0	4
16	AG	0	6
21	G	0	1
22	H	0	5
23	I	0	1
25	K	0	2
29	O	0	1
38	X	0	1
39	Y	0	1
54	n	0	1
55	o	0	1
59	s	0	1
61	u	0	2
All	All	0	34

All (39) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
16	AG	429	LYS	C-N	13.93	1.51	1.33
63	w	35	LYS	CE-NZ	-12.76	1.11	1.49
29	O	80	ARG	CD-NE	-10.52	1.31	1.46
63	w	42	LYS	CD-CE	-9.42	1.24	1.52
25	K	45	ARG	CG-CD	7.72	1.75	1.52
66	z	74	ILE	CG1-CD1	7.61	1.81	1.51
8	7	55	G	C1'-N9	-7.52	1.36	1.48
21	G	19	GLN	CB-CG	-7.52	1.29	1.52
29	O	118	LEU	CG-CD2	-7.32	1.28	1.52
37	W	66	MET	CG-SD	-7.21	1.62	1.80
26	L	42	TRP	CB-CG	-7.15	1.28	1.50
59	s	74	TYR	CZ-OH	-7.15	1.23	1.38
45	e	46	VAL	CB-CG1	-7.11	1.29	1.52
8	7	2	U	C1'-N1	7.02	1.58	1.48
3	2	5	GLU	CG-CD	-7.00	1.34	1.52
16	AG	246	ASP	C-N	6.98	1.50	1.33
31	Q	106	ARG	CD-NE	-6.41	1.37	1.46
29	O	80	ARG	CZ-NH2	6.30	1.41	1.33
21	G	158	PRO	CA-C	-6.25	1.44	1.52
16	AG	355	ALA	N-CA	6.24	1.54	1.46
48	h	181	MET	CG-SD	-6.05	1.65	1.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
66	z	74	ILE	CB-CG2	-6.04	1.32	1.52
21	G	158	PRO	CG-CD	6.01	1.71	1.50
39	Y	5	GLN	CB-CG	-6.01	1.34	1.52
59	s	92	MET	CG-SD	-5.93	1.66	1.80
16	AG	355	ALA	CA-C	5.87	1.60	1.52
25	K	45	ARG	CD-NE	5.84	1.54	1.46
52	l	6	LYS	CE-NZ	-5.81	1.31	1.49
21	G	157	LEU	C-O	-5.71	1.15	1.24
34	T	3	LEU	CG-CD2	-5.62	1.33	1.52
39	Y	5	GLN	CA-C	-5.59	1.45	1.52
47	g	62	LYS	CE-NZ	-5.53	1.32	1.49
45	e	25	GLN	CB-CG	-5.38	1.36	1.52
23	I	134	MET	CB-CG	-5.30	1.36	1.52
16	AG	99	SER	N-CA	5.21	1.49	1.46
31	Q	119	ASN	CG-ND2	5.14	1.44	1.33
21	G	19	GLN	CD-NE2	-5.13	1.22	1.33
62	v	45	GLN	CB-CG	-5.11	1.37	1.52
16	AG	293	VAL	N-CA	5.07	1.52	1.46

All (147) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
16	AG	104	ARG	CA-C-N	17.97	154.32	121.97
16	AG	104	ARG	C-N-CA	17.97	154.32	121.97
16	AG	246	ASP	CA-C-N	14.49	137.95	119.84
16	AG	246	ASP	C-N-CA	14.49	137.95	119.84
16	AG	354	ALA	O-C-N	-13.69	107.30	122.09
16	AG	429	LYS	CA-C-N	11.45	132.17	119.92
16	AG	429	LYS	C-N-CA	11.45	132.17	119.92
25	K	71	MET	CG-SD-CE	-11.35	75.92	100.90
21	G	158	PRO	N-CD-CG	-10.95	86.78	103.20
12	AB	154	VAL	CA-C-N	10.81	140.09	121.29
12	AB	154	VAL	C-N-CA	10.81	140.09	121.29
16	AG	24	PHE	CA-CB-CG	-10.58	103.22	113.80
16	AG	105	ILE	CA-C-N	10.15	136.84	120.60
16	AG	105	ILE	C-N-CA	10.15	136.84	120.60
26	L	102	MET	CA-CB-CG	-9.62	94.86	114.10
59	s	92	MET	CG-SD-CE	-9.37	80.29	100.90
21	G	113	ARG	NE-CZ-NH2	9.26	127.53	119.20
16	AG	103	ASP	CA-CB-CG	9.02	121.62	112.60
8	7	1	A	O3'-P-O5'	-8.64	91.05	104.00
25	K	78	ASN	N-CA-CB	-8.51	96.12	110.49

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
12	AB	129	ILE	N-CA-C	8.43	120.24	107.77
16	AG	35	THR	CA-CB-OG1	-8.27	97.19	109.60
8	7	4	U	C2'-C3'-O3'	8.27	121.90	109.50
16	AG	292	ASP	O-C-N	-8.20	107.51	122.44
16	AG	109	THR	CB-CA-C	8.16	124.73	110.85
16	AG	108	GLN	N-CA-CB	8.07	123.55	110.40
60	t	18	ARG	NE-CZ-NH2	8.02	126.42	119.20
12	AB	128	ALA	CA-C-N	-7.83	111.86	122.98
12	AB	128	ALA	C-N-CA	-7.83	111.86	122.98
55	o	30	ARG	NE-CZ-NH1	-7.64	113.86	121.50
17	C	73	ARG	NE-CZ-NH2	7.54	125.99	119.20
16	AG	33	THR	CA-C-N	7.49	135.84	121.54
16	AG	33	THR	C-N-CA	7.49	135.84	121.54
16	AG	102	PHE	CA-C-N	7.47	135.82	121.54
16	AG	102	PHE	C-N-CA	7.47	135.82	121.54
12	AB	159	PHE	CA-C-N	7.45	135.76	121.54
12	AB	159	PHE	C-N-CA	7.45	135.76	121.54
63	w	112	TYR	CZ-CE2-CD2	-7.38	106.32	119.60
16	AG	108	GLN	N-CA-C	-7.36	103.77	112.89
29	O	80	ARG	CG-CD-NE	7.35	128.18	112.00
23	I	134	MET	CB-CG-SD	-7.21	91.08	112.70
16	AG	426	GLY	O-C-N	-7.16	113.40	122.70
21	G	158	PRO	CA-N-CD	-7.11	102.05	112.00
62	v	96	ILE	CA-C-N	7.05	132.32	121.03
62	v	96	ILE	C-N-CA	7.05	132.32	121.03
21	G	19	GLN	CA-CB-CG	6.99	128.07	114.10
60	t	18	ARG	NE-CZ-NH1	-6.96	114.55	121.50
41	a	2334	U	OP2-P-O3'	-6.95	87.16	108.00
29	O	80	ARG	CB-CG-CD	-6.94	95.33	111.30
12	AB	159	PHE	CB-CA-C	6.86	124.07	110.42
16	AG	102	PHE	N-CA-C	6.77	125.21	110.80
18	D	37	U	N3-C4-O4	-6.63	99.50	119.40
16	AG	104	ARG	O-C-N	6.62	131.40	122.59
63	w	112	TYR	OH-CZ-CE2	-6.57	100.20	119.90
18	D	718	A	P-O5'-C5'	-6.55	111.07	120.90
31	Q	110	ILE	N-CA-C	-6.51	98.99	108.11
16	AG	106	THR	OG1-CB-CG2	-6.49	96.31	109.30
12	AB	150	ILE	N-CA-C	6.47	122.79	109.34
13	AD	289	LEU	CA-C-N	-6.45	109.01	121.58
13	AD	289	LEU	C-N-CA	-6.45	109.01	121.58
16	AG	355	ALA	CB-CA-C	6.41	123.19	110.42
18	D	827	U	N3-C4-O4	-6.41	100.16	119.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
41	a	1019	U	N3-C4-O4	-6.38	100.25	119.40
18	D	1358	U	N3-C4-O4	-6.36	100.33	119.40
16	AG	103	ASP	CA-C-N	6.34	133.66	121.54
16	AG	103	ASP	C-N-CA	6.34	133.66	121.54
37	W	40	ILE	CA-CB-CG1	-6.31	99.67	110.40
59	s	92	MET	CB-CG-SD	-6.31	93.78	112.70
12	AB	99	TYR	CA-C-N	6.29	137.15	121.80
12	AB	99	TYR	C-N-CA	6.29	137.15	121.80
16	AG	109	THR	N-CA-C	-6.28	104.52	111.36
16	AG	403	VAL	N-CA-C	-6.22	104.22	111.00
41	a	1019	U	C5-C4-O4	6.16	144.38	125.90
16	AG	108	GLN	CB-CA-C	-6.08	97.28	109.99
16	AG	404	GLU	N-CA-C	-6.08	104.96	112.38
16	AG	71	PRO	N-CA-C	6.07	122.62	113.81
12	AB	106	ASP	CA-C-N	6.07	127.43	119.84
12	AB	106	ASP	C-N-CA	6.07	127.43	119.84
12	AB	141	LEU	N-CA-C	6.05	123.69	110.80
16	AG	33	THR	CA-CB-CG2	6.01	120.72	110.50
29	O	103	PHE	CD1-CE1-CZ	-6.01	109.18	120.00
41	a	1082	U	N3-C4-O4	-5.96	101.53	119.40
41	a	2613	U	N3-C4-O4	-5.91	101.67	119.40
18	D	37	U	C5-C4-O4	5.89	143.57	125.90
41	a	1141	U	C5-C4-O4	5.89	143.56	125.90
54	n	176	PRO	N-CA-C	5.87	121.24	114.20
21	G	157	LEU	C-N-CD	-5.87	100.94	125.00
18	D	1358	U	C5-C4-O4	5.87	143.50	125.90
23	I	168	TYR	N-CA-CB	5.82	120.20	110.59
38	X	81	MET	CG-SD-CE	-5.82	88.10	100.90
16	AG	66	ASP	N-CA-C	-5.80	103.93	111.71
27	M	55	GLY	CA-C-N	5.79	132.60	121.54
27	M	55	GLY	C-N-CA	5.79	132.60	121.54
18	D	884	U	N3-C4-O4	-5.77	102.08	119.40
12	AB	152	HIS	N-CA-C	5.76	123.08	110.80
14	AE	853	THR	CA-C-N	5.75	131.02	122.74
14	AE	853	THR	C-N-CA	5.75	131.02	122.74
18	D	827	U	C5-C4-O4	5.72	143.07	125.90
21	G	154	MET	CA-CB-CG	-5.72	102.66	114.10
16	AG	220	VAL	N-CA-C	-5.71	108.28	113.71
23	I	134	MET	CG-SD-CE	-5.67	88.44	100.90
25	K	45	ARG	CA-C-N	5.64	130.36	122.23
25	K	45	ARG	C-N-CA	5.64	130.36	122.23
21	G	154	MET	CG-SD-CE	-5.64	88.49	100.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
25	K	45	ARG	CB-CG-CD	-5.64	98.34	111.30
9	9	130	PRO	CA-N-CD	-5.63	104.11	112.00
12	AB	107	PRO	O-C-N	5.62	130.22	122.64
16	AG	101	THR	CA-CB-OG1	5.57	117.96	109.60
60	t	18	ARG	CG-CD-NE	-5.56	99.77	112.00
41	a	1141	U	N3-C4-O4	-5.51	102.86	119.40
12	AB	151	LYS	N-CA-C	5.50	116.55	107.20
50	j	11	MET	CB-CG-SD	-5.49	96.22	112.70
14	AE	1184	ASP	N-CA-C	5.47	121.91	109.81
62	v	10	ARG	NE-CZ-NH1	-5.46	116.04	121.50
16	AG	355	ALA	N-CA-CB	5.44	119.69	110.49
16	AG	74	GLU	CB-CA-C	-5.43	101.78	110.14
9	9	129	LEU	C-N-CD	-5.42	102.77	125.00
16	AG	354	ALA	CA-C-N	-5.42	111.19	121.54
16	AG	354	ALA	C-N-CA	-5.42	111.19	121.54
63	w	38	LEU	N-CA-C	-5.37	105.16	112.35
31	Q	106	ARG	NE-CZ-NH1	-5.30	116.20	121.50
25	K	45	ARG	O-C-N	-5.28	116.78	123.01
8	7	10	U	C2'-C3'-O3'	5.26	117.40	109.50
39	Y	5	GLN	CB-CA-C	-5.25	99.97	110.42
16	AG	105	ILE	N-CA-CB	-5.24	102.58	111.23
16	AG	114	ILE	N-CA-C	-5.22	105.41	110.42
56	p	46	ALA	CA-C-N	5.21	131.50	121.54
56	p	46	ALA	C-N-CA	5.21	131.50	121.54
41	a	2613	U	C5-C4-O4	5.20	141.49	125.90
16	AG	107	THR	CA-C-N	-5.17	112.09	121.14
16	AG	107	THR	C-N-CA	-5.17	112.09	121.14
45	e	25	GLN	CG-CD-NE2	-5.16	108.66	116.40
39	Y	5	GLN	CA-CB-CG	5.16	124.42	114.10
16	AG	105	ILE	O-C-N	5.13	128.98	122.57
23	I	170	GLU	CB-CG-CD	5.13	121.31	112.60
16	AG	356	ILE	N-CA-C	-5.10	107.77	111.90
18	D	884	U	C5-C4-O4	5.10	141.20	125.90
21	G	158	PRO	N-CA-CB	-5.09	98.03	103.38
41	a	2334	U	C2'-C3'-O3'	-5.09	101.86	109.50
41	a	2602	A	C4'-C3'-O3'	5.09	117.04	109.40
14	AE	709	ARG	CA-C-N	5.08	135.45	126.45
14	AE	709	ARG	C-N-CA	5.08	135.45	126.45
13	AD	289	LEU	CA-C-O	-5.07	113.26	120.51
16	AG	107	THR	CA-C-O	-5.06	113.16	119.18
16	AG	65	VAL	CA-C-N	5.05	131.61	121.81
16	AG	65	VAL	C-N-CA	5.05	131.61	121.81

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	h	181	MET	CG-SD-CE	-5.02	89.86	100.90

There are no chirality outliers.

All (34) 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	149	GLU	Mainchain
13	AC	192	VAL	Peptide
13	AD	20	SER	Peptide
13	AD	284	ARG	Mainchain
14	AE	1326	GLN	Peptide
14	AE	1344	LEU	Peptide
14	AE	313	GLY	Peptide
14	AE	416	ILE	Peptide
16	AG	102	PHE	Peptide
16	AG	104	ARG	Peptide,Mainchain
16	AG	11	ALA	Peptide
16	AG	292	ASP	Mainchain
16	AG	426	GLY	Mainchain
21	G	19	GLN	Sidechain
22	H	124	LEU	Peptide
22	H	171	ARG	Peptide
22	H	274	TYR	Peptide
22	H	81	GLU	Peptide
22	H	82	THR	Peptide
23	I	167	TRP	Mainchain
25	K	45	ARG	Mainchain
25	K	77	ASN	Peptide
29	O	12	ARG	Peptide
38	X	65	VAL	Peptide
39	Y	5	GLN	Peptide
54	n	176	PRO	Peptide
55	o	31	HIS	Peptide
59	s	74	TYR	Sidechain
61	u	35	HIS	Peptide
61	u	62	PRO	Peptide

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	0	816	839	839	53	0
2	1	857	922	922	73	0
3	2	746	811	811	60	0
4	3	788	844	844	44	0
5	4	753	780	780	87	0
6	5	726	0	392	112	0
7	6	703	0	396	35	0
8	7	527	0	262	82	0
9	9	1117	0	1155	254	0
10	A	1620	826	827	109	0
10	B	1620	813	827	111	0
11	AA	10381	0	10388	382	0
12	AB	1286	0	1302	375	0
13	AC	1698	0	1718	13	0
13	AD	2078	0	1891	37	0
14	AE	10404	0	10625	273	0
15	AF	650	0	658	10	0
16	AG	3852	0	3828	899	0
17	C	544	559	560	110	0
18	D	32703	16423	16451	744	0
19	E	669	719	719	79	0
20	F	589	629	629	60	0
21	G	1760	1785	1787	152	0
22	H	1730	1454	1455	164	0
23	I	1636	1710	1710	129	0
24	J	1643	1707	1707	88	0
25	K	1152	1196	1196	119	0
26	L	848	846	846	105	0
27	M	1181	1235	1238	123	0
28	N	979	1031	1031	91	0
29	O	1022	1070	1070	92	0
30	P	790	831	831	94	0
31	Q	877	887	887	96	0
32	R	939	1001	1001	94	0
33	S	805	844	844	74	0
34	T	714	734	734	93	0
35	U	649	666	666	62	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
36	V	648	691	691	71	0
37	W	663	688	688	46	0
38	X	900	964	965	111	0
39	Y	1032	0	1088	211	0
40	Z	227	0	237	30	0
41	a	61841	31077	31120	1314	0
42	b	582	599	599	48	0
43	c	625	652	652	32	0
44	d	2569	1301	1301	43	0
45	e	501	531	531	43	0
46	f	448	488	488	37	0
47	g	522	520	520	65	0
48	h	2082	2154	2154	136	0
49	i	444	459	458	47	0
50	j	1565	1617	1616	121	0
51	k	426	464	464	42	0
52	l	1552	1619	1619	126	0
53	m	377	418	418	29	0
54	n	1410	1443	1444	152	0
55	o	504	572	572	53	0
56	p	1313	1358	1358	74	0
57	q	302	343	343	27	0
58	r	1111	1148	1148	51	0
59	s	1129	1162	1162	123	0
60	t	946	1023	1023	107	0
61	u	1053	1129	1129	78	0
62	v	1074	1157	1157	124	0
63	w	951	994	994	98	0
64	x	892	923	923	48	0
65	y	917	962	962	54	0
66	z	947	1020	1019	82	0
67	AE	1	0	0	0	0
68	AE	2	0	0	3	0
All	All	181408	98638	132670	7674	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 25.

All (7674) 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	1.62
25:K:45:ARG:CD	25:K:45:ARG:CG	1.75	1.58
66:z:74:ILE:CG1	66:z:74:ILE:CD1	1.81	1.58
16:AG:425:LEU:CD2	16:AG:429:LYS:HE2	1.21	1.57
6:5:10:DT:C7	11:AA:62:TYR:CD2	1.84	1.57
16:AG:287:ALA:CA	16:AG:331:LEU:HD12	1.18	1.56
6:5:9:DG:H5"	11:AA:473:ARG:CB	1.29	1.55
6:5:9:DG:C5'	11:AA:473:ARG:HB3	1.34	1.55
11:AA:846:GLY:C	16:AG:104:ARG:HH12	1.02	1.54
16:AG:287:ALA:HA	16:AG:331:LEU:CD1	1.38	1.53
7:6:23:DC:C5'	14:AE:259:ARG:HH12	1.21	1.53
11:AA:855:PRO:HB2	16:AG:35:THR:CB	1.38	1.53
16:AG:393:LEU:CB	16:AG:398:LEU:CD2	1.83	1.53
16:AG:168:LEU:CD2	16:AG:231:GLY:HA3	1.34	1.52
12:AB:81:PHE:CD2	14:AE:293:ARG:NH1	1.77	1.51
11:AA:855:PRO:HB2	16:AG:35:THR:CG2	1.37	1.50
6:5:10:DT:C6	11:AA:62:TYR:CE2	2.00	1.50
6:5:10:DT:C5	11:AA:62:TYR:CD2	1.95	1.50
16:AG:287:ALA:CB	16:AG:331:LEU:HD12	1.41	1.50
11:AA:887:VAL:CB	16:AG:105:ILE:HD12	1.42	1.50
16:AG:363:LEU:CD2	16:AG:410:ALA:H	1.24	1.49
11:AA:861:ALA:H	16:AG:38:LYS:NZ	1.00	1.49
14:AE:79:LYS:CA	16:AG:144:LYS:HZ2	1.28	1.47
16:AG:425:LEU:CA	16:AG:429:LYS:HE3	1.40	1.47
14:AE:79:LYS:HA	16:AG:144:LYS:CE	1.42	1.47
14:AE:72:CYS:SG	68:AE:1502:ZN:ZN	1.03	1.46
16:AG:187:ARG:HB3	16:AG:188:PRO:CD	1.45	1.46
16:AG:425:LEU:HD23	16:AG:429:LYS:CE	1.45	1.45
6:5:10:DT:C5	11:AA:62:TYR:CE2	2.04	1.44
16:AG:168:LEU:HD22	16:AG:231:GLY:CA	1.49	1.43
12:AB:115:LYS:NZ	12:AB:129:ILE:CG2	1.82	1.42
16:AG:363:LEU:CD2	16:AG:410:ALA:N	1.82	1.42
12:AB:81:PHE:CE1	14:AE:293:ARG:CB	1.92	1.42
6:5:11:DA:P	12:AB:68:THR:HA	1.58	1.42
16:AG:168:LEU:CD2	16:AG:231:GLY:CA	1.98	1.41
11:AA:380:ALA:N	12:AB:65:HIS:CE1	1.84	1.40
14:AE:79:LYS:CA	16:AG:144:LYS:NZ	1.81	1.39
11:AA:887:VAL:HB	16:AG:105:ILE:CD1	1.52	1.39
16:AG:393:LEU:CD2	16:AG:398:LEU:CD2	1.99	1.38
12:AB:115:LYS:NZ	12:AB:129:ILE:HG21	1.05	1.37
11:AA:846:GLY:C	16:AG:104:ARG:NH1	1.82	1.37
6:5:9:DG:OP2	11:AA:473:ARG:CB	1.73	1.36

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AG:437:LEU:HD21	16:AG:456:LEU:CD1	1.54	1.35
11:AA:858:GLY:HA3	16:AG:38:LYS:CB	1.40	1.34
16:AG:393:LEU:CA	16:AG:398:LEU:CD2	2.05	1.34
16:AG:434:LEU:HD22	16:AG:459:LEU:CD1	1.58	1.33
16:AG:385:ALA:CB	16:AG:411:LYS:HE3	1.56	1.33
16:AG:387:VAL:HG12	16:AG:388:PRO:CD	1.57	1.32
16:AG:363:LEU:HD23	16:AG:410:ALA:N	1.38	1.31
11:AA:856:ASN:N	16:AG:35:THR:HB	1.42	1.31
16:AG:393:LEU:CA	16:AG:398:LEU:HD22	1.59	1.31
12:AB:115:LYS:CE	12:AB:129:ILE:HG21	1.61	1.31
16:AG:434:LEU:CD2	16:AG:456:LEU:HA	1.58	1.31
12:AB:51:PHE:HE2	14:AE:288:PRO:CG	1.43	1.30
14:AE:79:LYS:HA	16:AG:144:LYS:NZ	1.03	1.30
12:AB:82:GLY:CA	14:AE:142:GLU:HB2	1.62	1.30
16:AG:448:LEU:HD21	16:AG:473:LEU:CD1	1.61	1.30
14:AE:79:LYS:CB	16:AG:144:LYS:HZ2	1.44	1.30
16:AG:393:LEU:CD2	16:AG:398:LEU:HD21	1.57	1.30
14:AE:287:ALA:CB	14:AE:292:VAL:HG13	1.61	1.30
11:AA:377:THR:OG1	12:AB:62:GLU:CB	1.80	1.29
6:5:11:DA:OP2	12:AB:68:THR:CA	1.81	1.29
11:AA:858:GLY:CA	16:AG:38:LYS:HB2	1.62	1.28
16:AG:434:LEU:HA	16:AG:456:LEU:CD2	1.64	1.27
11:AA:387:ASN:CG	11:AA:394:ARG:NH1	1.92	1.27
11:AA:377:THR:OG1	12:AB:62:GLU:HB3	1.20	1.27
11:AA:861:ALA:N	16:AG:38:LYS:HZ1	1.31	1.27
16:AG:362:TYR:O	16:AG:413:ALA:HB2	1.35	1.27
6:5:11:DA:C3'	12:AB:67:THR:HG21	1.63	1.26
16:AG:353:HIS:O	16:AG:356:ILE:HG23	1.13	1.26
6:5:11:DA:C5'	12:AB:67:THR:CG2	2.12	1.26
11:AA:846:GLY:HA3	16:AG:104:ARG:NH2	1.48	1.26
12:AB:81:PHE:HA	14:AE:141:PHE:O	1.27	1.26
11:AA:856:ASN:ND2	16:AG:35:THR:HG22	1.47	1.25
11:AA:887:VAL:CB	16:AG:105:ILE:CD1	2.11	1.25
16:AG:393:LEU:CG	16:AG:398:LEU:HD21	1.63	1.25
12:AB:115:LYS:CD	12:AB:129:ILE:HG13	1.67	1.25
6:5:10:DT:C1'	12:AB:71:ALA:H	1.46	1.25
16:AG:425:LEU:HA	16:AG:429:LYS:CE	1.64	1.25
8:7:11:U:H4'	25:K:20:ARG:NH2	1.51	1.25
14:AE:288:PRO:HD2	14:AE:291:ILE:CG2	1.66	1.25
11:AA:481:LEU:CD2	12:AB:16:ARG:CD	2.01	1.25
11:AA:856:ASN:OD1	16:AG:35:THR:HA	1.08	1.25

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AG:123:ARG:HH12	16:AG:191:ARG:CA	1.36	1.24
16:AG:387:VAL:CG1	16:AG:388:PRO:HD2	1.67	1.24
16:AG:433:ASP:O	16:AG:456:LEU:HD11	1.35	1.23
12:AB:51:PHE:CE2	14:AE:288:PRO:CG	2.22	1.23
12:AB:81:PHE:CE1	14:AE:293:ARG:HB3	1.32	1.23
11:AA:855:PRO:CB	16:AG:35:THR:CB	2.16	1.23
16:AG:363:LEU:HD23	16:AG:409:ARG:C	1.63	1.23
16:AG:287:ALA:CB	16:AG:331:LEU:CD1	2.16	1.23
11:AA:861:ALA:N	16:AG:38:LYS:NZ	1.84	1.23
16:AG:355:ALA:CB	16:AG:382:GLU:CD	2.10	1.23
16:AG:425:LEU:CG	16:AG:429:LYS:HE2	1.69	1.22
6:5:10:DT:H71	11:AA:62:TYR:CG	1.75	1.22
16:AG:353:HIS:C	16:AG:356:ILE:HG23	1.62	1.22
16:AG:393:LEU:HB3	16:AG:398:LEU:CD2	1.51	1.21
12:AB:119:THR:OG1	12:AB:126:PHE:HE2	1.23	1.20
16:AG:123:ARG:NH1	16:AG:191:ARG:C	1.98	1.20
6:5:11:DA:OP2	12:AB:68:THR:N	1.73	1.20
7:6:25:DT:OP1	11:AA:496:LYS:CA	1.80	1.19
16:AG:442:ARG:O	16:AG:446:PHE:CD2	1.95	1.19
12:AB:115:LYS:HD3	12:AB:129:ILE:CD1	1.73	1.19
11:AA:853:ASP:O	16:AG:103:ASP:OD1	1.58	1.19
16:AG:381:LEU:HA	16:AG:384:LEU:HD12	1.21	1.19
16:AG:355:ALA:HA	16:AG:382:GLU:OE2	1.37	1.18
11:AA:887:VAL:CA	16:AG:105:ILE:HD12	1.73	1.18
16:AG:393:LEU:HD22	16:AG:398:LEU:CD1	1.73	1.18
16:AG:437:LEU:CD2	16:AG:456:LEU:HD13	1.74	1.18
11:AA:855:PRO:CB	16:AG:35:THR:OG1	1.90	1.18
11:AA:856:ASN:N	16:AG:35:THR:CB	2.02	1.18
16:AG:353:HIS:O	16:AG:357:ASP:N	1.77	1.18
6:5:9:DG:C5'	11:AA:473:ARG:CG	2.21	1.17
11:AA:887:VAL:C	16:AG:105:ILE:CD1	2.16	1.17
58:r:135:HIS:ND1	58:r:137:GLU:OE1	1.77	1.17
7:6:23:DC:C5'	14:AE:259:ARG:NH1	2.05	1.17
11:AA:855:PRO:C	16:AG:35:THR:HB	1.68	1.17
16:AG:355:ALA:HB2	16:AG:382:GLU:OE1	1.40	1.17
16:AG:355:ALA:HA	16:AG:382:GLU:CD	1.71	1.16
56:p:159:GLY:O	56:p:163:ARG:NH1	1.77	1.16
38:X:81:MET:HE1	38:X:92:ARG:HB3	1.20	1.16
6:5:10:DT:H73	11:AA:62:TYR:CD2	1.77	1.15
6:5:9:DG:OP2	11:AA:473:ARG:HB2	0.97	1.15
6:5:10:DT:H1'	12:AB:71:ALA:N	1.21	1.15

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AG:285:ILE:HG23	16:AG:293:VAL:HG12	1.25	1.15
11:AA:887:VAL:C	16:AG:105:ILE:HD12	1.72	1.14
16:AG:393:LEU:CB	16:AG:398:LEU:HD21	1.58	1.14
12:AB:35:LEU:HA	12:AB:106:ASP:OD1	1.47	1.14
12:AB:140:MET:HE2	30:P:102:LEU:HG	1.18	1.14
16:AG:393:LEU:HD22	16:AG:398:LEU:CD2	1.71	1.14
12:AB:115:LYS:HD2	12:AB:129:ILE:HG13	1.13	1.13
14:AE:287:ALA:HB2	14:AE:292:VAL:CG1	1.78	1.13
6:5:9:DG:C5'	11:AA:473:ARG:CB	2.02	1.13
6:5:9:DG:H5'	11:AA:473:ARG:CG	1.76	1.12
6:5:11:DA:OP2	12:AB:68:THR:HA	1.36	1.12
16:AG:123:ARG:NH1	16:AG:191:ARG:O	1.80	1.13
16:AG:393:LEU:HD22	16:AG:398:LEU:HD11	1.28	1.13
16:AG:430:PRO:HG2	16:AG:435:LEU:HD21	1.29	1.13
36:V:7:THR:OG1	36:V:60:GLU:OE2	1.66	1.12
12:AB:115:LYS:HA	12:AB:129:ILE:HD12	1.28	1.12
10:B:75:C:OP2	41:a:2602:A:O2'	1.67	1.12
12:AB:115:LYS:CE	12:AB:129:ILE:CG2	2.25	1.12
16:AG:393:LEU:CD2	16:AG:398:LEU:CD1	2.27	1.12
6:5:10:DT:C7	11:AA:62:TYR:CG	2.31	1.12
10:A:76:A:O2'	41:a:2394:C:N3	1.81	1.12
16:AG:279:ASN:OD1	16:AG:280:PRO:HD3	1.50	1.12
6:5:10:DT:O3'	12:AB:67:THR:O	1.67	1.12
12:AB:102:LYS:CE	14:AE:285:LEU:HG	1.78	1.12
41:a:2335:A:OP2	64:x:13:ARG:NE	1.81	1.12
16:AG:355:ALA:HB1	16:AG:382:GLU:CG	1.77	1.11
11:AA:846:GLY:CA	16:AG:104:ARG:HH22	1.63	1.11
37:W:40:ILE:HD13	37:W:66:MET:SD	1.89	1.11
58:r:135:HIS:HD1	58:r:137:GLU:CD	1.59	1.11
11:AA:380:ALA:N	12:AB:65:HIS:HE1	1.28	1.11
12:AB:54:TYR:CE2	14:AE:291:ILE:HG23	1.84	1.11
16:AG:187:ARG:HB3	16:AG:188:PRO:HD2	1.22	1.11
16:AG:353:HIS:O	16:AG:356:ILE:CG2	1.98	1.11
16:AG:422:GLU:HA	16:AG:426:GLY:CA	1.79	1.11
16:AG:425:LEU:CD2	16:AG:429:LYS:CE	2.13	1.11
9:9:50:VAL:HG22	39:Y:119:ALA:HB3	1.32	1.10
16:AG:424:SER:O	16:AG:429:LYS:HG2	1.47	1.10
16:AG:434:LEU:CD2	16:AG:459:LEU:HD12	1.81	1.10
12:AB:28:CYS:HA	12:AB:56:PHE:O	1.52	1.10
16:AG:393:LEU:HB3	16:AG:398:LEU:HD23	1.26	1.10
11:AA:887:VAL:HB	16:AG:105:ILE:CG1	1.81	1.10

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AG:285:ILE:CG1	16:AG:293:VAL:HG11	1.79	1.10
46:f:4:THR:OG1	46:f:37:GLU:OE2	1.68	1.10
16:AG:393:LEU:HA	16:AG:398:LEU:CD2	1.69	1.09
7:6:25:DT:C3'	11:AA:496:LYS:HG3	1.74	1.09
12:AB:82:GLY:HA2	14:AE:142:GLU:HB2	1.13	1.09
12:AB:115:LYS:HD3	12:AB:129:ILE:HD12	1.31	1.09
16:AG:425:LEU:HA	16:AG:429:LYS:CG	1.80	1.09
39:Y:5:GLN:HG2	39:Y:61:TYR:CE1	1.87	1.09
16:AG:181:GLY:HA2	16:AG:204:MET:SD	1.92	1.09
16:AG:287:ALA:CA	16:AG:331:LEU:CD1	2.02	1.09
16:AG:363:LEU:HD21	16:AG:410:ALA:H	0.94	1.09
16:AG:434:LEU:HD21	16:AG:456:LEU:HA	1.26	1.09
11:AA:855:PRO:CB	16:AG:35:THR:CG2	2.30	1.09
11:AA:855:PRO:CB	16:AG:35:THR:HG21	1.82	1.09
14:AE:288:PRO:HD2	14:AE:291:ILE:HG21	1.10	1.08
16:AG:123:ARG:HH12	16:AG:191:ARG:C	1.57	1.08
11:AA:469:VAL:O	11:AA:473:ARG:HG2	1.53	1.08
11:AA:887:VAL:CG2	16:AG:105:ILE:HG13	1.84	1.08
12:AB:51:PHE:CZ	14:AE:288:PRO:HD3	1.88	1.08
16:AG:168:LEU:HD21	16:AG:231:GLY:CA	1.82	1.08
6:5:9:DG:C5'	11:AA:473:ARG:HG3	1.82	1.08
8:7:11:U:C4'	25:K:20:ARG:NH2	2.16	1.07
11:AA:914:LYS:N	16:AG:105:ILE:HA	1.68	1.07
12:AB:81:PHE:CE2	14:AE:293:ARG:NH1	1.88	1.07
16:AG:425:LEU:HA	16:AG:429:LYS:HG3	1.33	1.07
16:AG:451:ARG:HH12	16:AG:467:LEU:C	1.62	1.07
16:AG:302:LYS:H	16:AG:302:LYS:HE3	1.16	1.07
16:AG:451:ARG:NH1	16:AG:467:LEU:HA	1.68	1.07
12:AB:115:LYS:CD	12:AB:129:ILE:CG1	2.33	1.07
16:AG:434:LEU:CD2	16:AG:456:LEU:CA	2.33	1.07
7:6:23:DC:H5"	14:AE:259:ARG:HH12	1.14	1.07
20:F:37:PHE:HB2	31:Q:126:LYS:HE2	1.35	1.07
26:L:9:MET:HE1	26:L:85:ILE:HB	1.17	1.07
39:Y:14:ALA:HB1	39:Y:50:LYS:HD2	1.37	1.07
6:5:11:DA:H5'	12:AB:67:THR:HG22	1.13	1.07
11:AA:855:PRO:HB2	16:AG:35:THR:HG21	1.15	1.07
9:9:46:ARG:HG3	9:9:94:ARG:HH21	1.12	1.06
11:AA:856:ASN:CG	16:AG:35:THR:HA	1.80	1.06
27:M:4:ARG:HG3	27:M:5:ARG:HG3	1.33	1.06
11:AA:387:ASN:CG	11:AA:394:ARG:HH11	1.55	1.06
16:AG:393:LEU:CB	16:AG:398:LEU:HD23	1.80	1.06

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:Y:96:LYS:HE3	39:Y:136:GLY:HA3	1.29	1.06
6:5:9:DG:H5'	11:AA:473:ARG:HG3	1.08	1.06
12:AB:82:GLY:HA2	14:AE:142:GLU:CB	1.85	1.06
53:m:22:MET:O	53:m:28:ARG:NH1	1.87	1.06
61:u:122:VAL:HG12	61:u:125:LEU:HD21	1.35	1.06
7:6:23:DC:O5'	14:AE:259:ARG:NH1	1.88	1.06
12:AB:102:LYS:HE2	14:AE:285:LEU:HG	1.07	1.06
16:AG:434:LEU:HA	16:AG:456:LEU:HD21	1.25	1.06
16:AG:425:LEU:CG	16:AG:429:LYS:CE	2.34	1.06
9:9:136:ILE:HD12	9:9:139:LEU:HD12	1.38	1.05
11:AA:847:PRO:HD2	16:AG:104:ARG:NH2	1.69	1.05
16:AG:365:ILE:HD13	16:AG:406:LEU:CD2	1.85	1.05
6:5:10:DT:H71	11:AA:62:TYR:CD2	1.77	1.05
16:AG:385:ALA:CB	16:AG:411:LYS:CE	2.33	1.05
12:AB:115:LYS:HD3	12:AB:129:ILE:CG1	1.87	1.05
16:AG:187:ARG:HB3	16:AG:188:PRO:HD3	1.32	1.05
16:AG:285:ILE:HG23	16:AG:293:VAL:CG1	1.87	1.05
18:D:1309:G:OP2	38:X:98:ARG:NE	1.88	1.05
9:9:103:ASN:ND2	9:9:107:GLU:OE2	1.90	1.04
11:AA:887:VAL:HG21	16:AG:105:ILE:HG13	1.39	1.04
16:AG:285:ILE:HG13	16:AG:293:VAL:CG1	1.86	1.04
6:5:11:DA:H3'	12:AB:67:THR:HG21	1.05	1.04
11:AA:856:ASN:OD1	16:AG:35:THR:CA	2.04	1.04
50:j:184:ARG:NH2	65:y:7:GLN:OE1	1.90	1.04
11:AA:481:LEU:HD23	12:AB:16:ARG:CD	1.87	1.04
16:AG:434:LEU:HD23	16:AG:456:LEU:HD23	1.10	1.04
16:AG:434:LEU:HD23	16:AG:456:LEU:HA	1.34	1.04
16:AG:448:LEU:CD2	16:AG:473:LEU:CD1	2.36	1.04
18:D:564:C:OP2	32:R:12:ARG:NH2	1.91	1.04
16:AG:365:ILE:HD13	16:AG:406:LEU:HD22	1.37	1.03
16:AG:385:ALA:HB1	16:AG:411:LYS:HE3	1.35	1.03
20:F:25:LYS:NZ	22:H:336:ASP:OD1	1.90	1.03
26:L:9:MET:HE1	26:L:85:ILE:CB	1.86	1.03
52:l:1:MET:HE2	52:l:16:GLU:HA	1.40	1.03
9:9:31:ARG:NH1	41:a:1054:A:O4'	1.91	1.03
12:AB:51:PHE:HE2	14:AE:288:PRO:HG2	1.20	1.03
16:AG:363:LEU:HG	16:AG:410:ALA:HB2	1.37	1.03
16:AG:434:LEU:HD21	16:AG:456:LEU:CA	1.89	1.03
9:9:48:ALA:HB3	9:9:51:TYR:HE1	1.20	1.03
47:g:58:ASP:OD1	47:g:62:LYS:NZ	1.90	1.03
56:p:149:ARG:NH2	56:p:152:ARG:O	1.91	1.03

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AG:387:VAL:HG12	16:AG:388:PRO:HD2	1.06	1.03
8:7:4:U:O2'	18:D:1403:C:O2	1.75	1.02
12:AB:81:PHE:CA	14:AE:141:PHE:O	2.06	1.02
23:I:152:GLU:OE2	23:I:154:SER:OG	1.77	1.02
6:5:11:DA:P	12:AB:68:THR:CA	2.44	1.02
7:6:18:DT:H3	8:7:52:A:N6	1.55	1.02
16:AG:393:LEU:HD22	16:AG:398:LEU:HD21	1.25	1.02
16:AG:422:GLU:HA	16:AG:426:GLY:N	1.74	1.02
16:AG:422:GLU:HA	16:AG:426:GLY:HA3	1.33	1.02
16:AG:425:LEU:C	16:AG:429:LYS:HE3	1.84	1.02
26:L:42:TRP:CH2	26:L:102:MET:HG3	1.94	1.02
50:j:179:ARG:NH1	50:j:180:VAL:O	1.92	1.02
12:AB:102:LYS:HE2	14:AE:285:LEU:CG	1.90	1.02
23:I:123:GLN:OE1	23:I:126:ARG:NH2	1.91	1.02
7:6:25:DT:H3'	11:AA:496:LYS:HG3	1.41	1.02
65:y:51:ARG:NH1	65:y:56:HIS:O	1.91	1.02
14:AE:287:ALA:HB2	14:AE:292:VAL:HG13	1.08	1.02
16:AG:287:ALA:HA	16:AG:331:LEU:HD11	1.41	1.02
16:AG:365:ILE:CG2	16:AG:409:ARG:NH1	2.23	1.02
39:Y:93:ASN:HA	39:Y:135:MET:CE	1.89	1.02
8:7:3:G:H5"	18:D:1500:A:N6	1.75	1.01
12:AB:82:GLY:CA	14:AE:142:GLU:CB	2.38	1.01
16:AG:355:ALA:HB1	16:AG:382:GLU:HG3	1.41	1.01
16:AG:361:LYS:CE	16:AG:417:ILE:HG12	1.90	1.01
21:G:49:MET:HE1	21:G:201:PRO:HD3	1.42	1.01
8:7:11:U:O2'	25:K:33:PHE:CE1	2.10	1.01
11:AA:889:PRO:HG3	16:AG:104:ARG:HD3	1.39	1.01
39:Y:56:VAL:HA	39:Y:71:LYS:HZ1	1.22	1.01
59:s:72:LYS:HD3	59:s:74:TYR:OH	1.59	1.01
9:9:3:LEU:HD12	9:9:4:ASN:H	1.25	1.01
9:9:43:LYS:HG3	9:9:46:ARG:HH12	1.21	1.01
18:D:377:G:OP1	35:U:5:ARG:NH1	1.94	1.01
16:AG:361:LYS:HE2	16:AG:417:ILE:HG12	1.39	1.01
16:AG:363:LEU:HD23	16:AG:409:ARG:CA	1.89	1.01
16:AG:393:LEU:CD2	16:AG:398:LEU:HD11	1.90	1.01
12:AB:148:LYS:HZ2	12:AB:150:ILE:CD1	1.73	1.00
16:AG:363:LEU:CD2	16:AG:409:ARG:HB2	1.91	1.00
16:AG:393:LEU:HD23	16:AG:398:LEU:HD22	1.43	1.00
16:AG:425:LEU:CA	16:AG:429:LYS:CE	2.30	1.00
52:l:1:MET:HE1	52:l:20:GLY:HA3	1.43	1.00
9:9:30:SER:O	9:9:31:ARG:NE	1.94	1.00

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AG:187:ARG:CB	16:AG:188:PRO:CD	2.37	1.00
9:9:88:HIS:HB3	9:9:89:PRO:HD3	1.44	1.00
16:AG:393:LEU:CG	16:AG:398:LEU:CD2	2.29	1.00
6:5:11:DA:H3'	12:AB:67:THR:CG2	1.91	0.99
11:AA:887:VAL:HG11	16:AG:105:ILE:HG21	1.41	0.99
14:AE:70:CYS:SG	14:AE:85:CYS:SG	2.60	0.99
16:AG:434:LEU:HD23	16:AG:456:LEU:CD2	1.91	0.99
16:AG:442:ARG:O	16:AG:446:PHE:HD2	1.34	0.99
26:L:42:TRP:HH2	26:L:102:MET:HG3	1.25	0.99
6:5:10:DT:C1'	12:AB:71:ALA:N	2.10	0.99
16:AG:362:TYR:O	16:AG:413:ALA:CB	2.10	0.99
14:AE:70:CYS:SG	14:AE:72:CYS:SG	2.61	0.99
16:AG:131:ARG:O	16:AG:134:GLU:HG3	1.61	0.99
16:AG:168:LEU:HD21	16:AG:231:GLY:N	1.76	0.99
16:AG:393:LEU:HD22	16:AG:398:LEU:CG	1.93	0.99
16:AG:434:LEU:CD2	16:AG:456:LEU:HD23	1.92	0.99
39:Y:60:VAL:HG22	39:Y:66:PHE:HB3	1.43	0.99
16:AG:168:LEU:HD22	16:AG:231:GLY:HA2	1.40	0.99
16:AG:336:LEU:HD12	16:AG:336:LEU:H	1.26	0.99
16:AG:437:LEU:CD2	16:AG:456:LEU:CD1	2.34	0.99
6:5:11:DA:H5'	12:AB:67:THR:CG2	1.81	0.98
11:AA:481:LEU:HD21	12:AB:16:ARG:CD	1.60	0.98
14:AE:288:PRO:CD	14:AE:291:ILE:HG21	1.92	0.98
14:AE:79:LYS:HA	16:AG:144:LYS:HE3	1.40	0.98
58:r:38:PRO:O	58:r:43:ASN:ND2	1.96	0.98
6:5:10:DT:O5'	11:AA:62:TYR:OH	1.80	0.98
14:AE:79:LYS:HE2	16:AG:153:ASP:OD1	1.63	0.98
21:G:154:MET:HE2	21:G:158:PRO:HD3	1.44	0.98
6:5:11:DA:H5"	12:AB:67:THR:CG2	1.86	0.98
11:AA:387:ASN:ND2	11:AA:394:ARG:HH12	1.61	0.98
14:AE:287:ALA:CB	14:AE:292:VAL:CG1	2.38	0.98
7:6:25:DT:OP1	11:AA:496:LYS:HA	1.12	0.98
16:AG:228:ARG:HA	16:AG:327:LEU:HD11	1.46	0.97
16:AG:355:ALA:HB2	16:AG:382:GLU:CD	1.83	0.97
12:AB:119:THR:OG1	12:AB:126:PHE:CE2	2.13	0.97
33:S:86:GLU:OE1	33:S:90:ARG:NH1	1.96	0.97
39:Y:93:ASN:HA	39:Y:135:MET:HE1	1.00	0.97
14:AE:79:LYS:CA	16:AG:144:LYS:CE	2.32	0.97
16:AG:279:ASN:CG	16:AG:280:PRO:CD	2.38	0.97
6:5:10:DT:C7	11:AA:62:TYR:HD2	1.69	0.97
18:D:1344:C:OP1	29:O:124:ARG:NH1	1.98	0.97

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:S:92:GLU:OE1	33:S:92:GLU:N	1.98	0.97
39:Y:93:ASN:CA	39:Y:135:MET:HE1	1.94	0.97
59:s:12:LYS:NZ	59:s:14:ASP:OD1	1.97	0.97
16:AG:214:PRO:O	16:AG:218:GLU:OE2	1.83	0.97
16:AG:380:THR:O	16:AG:384:LEU:CD1	2.13	0.97
16:AG:424:SER:O	16:AG:429:LYS:CG	2.13	0.97
40:Z:14:MET:HB3	40:Z:17:MET:HG2	1.46	0.97
16:AG:168:LEU:HD21	16:AG:230:PRO:C	1.89	0.96
41:a:2093:G:OP1	58:r:22:LYS:NZ	1.98	0.96
6:5:11:DA:H5"	12:AB:67:THR:HG22	0.97	0.96
12:AB:51:PHE:CE2	14:AE:288:PRO:CD	2.48	0.96
16:AG:287:ALA:HB2	16:AG:331:LEU:CD1	1.92	0.96
6:5:11:DA:C3'	12:AB:67:THR:CG2	2.42	0.96
11:AA:846:GLY:CA	16:AG:104:ARG:NH2	2.25	0.96
18:D:562:U:O2'	32:R:14:ARG:NH1	1.99	0.96
9:9:95:LEU:HD13	9:9:98:GLU:OE2	1.65	0.96
16:AG:393:LEU:CA	16:AG:398:LEU:HD23	1.88	0.96
23:I:164:ARG:NH2	23:I:166:GLU:OE2	1.99	0.96
11:AA:846:GLY:CA	16:AG:104:ARG:HH12	1.78	0.96
16:AG:433:ASP:O	16:AG:456:LEU:CD1	2.12	0.95
39:Y:5:GLN:HG2	39:Y:61:TYR:HE1	1.31	0.95
12:AB:115:LYS:HZ2	12:AB:129:ILE:CG2	1.58	0.95
39:Y:75:ALA:HB2	39:Y:112:LYS:HE3	1.48	0.95
64:x:111:ARG:NH2	64:x:117:PHE:OXT	1.99	0.95
14:AE:85:CYS:HG	68:AE:1502:ZN:ZN	0.75	0.95
16:AG:365:ILE:CD1	16:AG:406:LEU:HD22	1.97	0.95
8:7:2:U:P	18:D:1505:G:H8	1.88	0.95
12:AB:6:LEU:HD13	14:AE:291:ILE:HD11	1.46	0.95
16:AG:448:LEU:HD21	16:AG:473:LEU:HD13	1.48	0.95
12:AB:51:PHE:CE2	14:AE:288:PRO:HG3	1.98	0.95
12:AB:140:MET:O	12:AB:150:ILE:HB	1.67	0.95
36:V:7:THR:OG1	36:V:61:ILE:O	1.85	0.95
9:9:31:ARG:HD2	41:a:1053:C:O2'	1.66	0.95
11:AA:861:ALA:H	16:AG:38:LYS:HZ3	1.14	0.94
16:AG:440:VAL:CG2	16:AG:481:LEU:HD22	1.97	0.94
12:AB:103:ASP:HB3	12:AB:105:VAL:HG23	1.47	0.94
12:AB:145:LEU:HD11	30:P:84:VAL:HG12	1.47	0.94
14:AE:79:LYS:HA	16:AG:144:LYS:HZ1	1.31	0.94
9:9:88:HIS:HB3	9:9:89:PRO:CD	1.97	0.94
11:AA:887:VAL:HB	16:AG:105:ILE:HD12	0.97	0.94
9:9:23:LEU:HD13	9:9:92:ALA:HB1	1.49	0.94

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:846:GLY:HA3	16:AG:104:ARG:HH22	1.12	0.94
16:AG:393:LEU:HA	16:AG:398:LEU:HD22	0.96	0.94
41:a:30:G:OP2	66:z:5:LYS:NZ	2.00	0.94
16:AG:258:ARG:HH11	16:AG:258:ARG:HG2	1.31	0.94
1:0:18:GLN:N	1:0:18:GLN:OE1	2.01	0.94
9:9:61:ARG:NH1	41:a:1047:G:N7	2.15	0.94
11:AA:481:LEU:HD21	12:AB:16:ARG:HD3	1.47	0.94
11:AA:846:GLY:HA3	16:AG:104:ARG:CZ	1.97	0.94
11:AA:887:VAL:CG2	16:AG:105:ILE:CD1	2.45	0.94
12:AB:82:GLY:N	14:AE:142:GLU:CB	2.30	0.94
16:AG:393:LEU:HD23	16:AG:398:LEU:CD2	1.93	0.94
26:L:9:MET:CE	26:L:85:ILE:HB	1.97	0.94
56:p:38:ASN:ND2	56:p:64:GLN:OE1	2.01	0.94
11:AA:858:GLY:HA3	16:AG:38:LYS:HB2	0.94	0.94
39:Y:33:ASN:HB3	39:Y:36:GLU:HG2	1.48	0.94
9:9:58:THR:HG21	9:9:81:LEU:HD23	1.48	0.94
16:AG:451:ARG:NH1	16:AG:467:LEU:CA	2.30	0.94
9:9:50:VAL:HG22	39:Y:119:ALA:CB	1.98	0.93
14:AE:79:LYS:CG	16:AG:144:LYS:HZ2	1.81	0.93
9:9:3:LEU:HD12	9:9:4:ASN:N	1.82	0.93
16:AG:393:LEU:CD2	16:AG:398:LEU:HD22	1.89	0.93
6:5:11:DA:OP2	12:AB:67:THR:C	2.11	0.93
16:AG:171:GLU:OE2	16:AG:267:GLY:HA3	1.68	0.93
16:AG:279:ASN:CG	16:AG:280:PRO:HD3	1.93	0.93
6:5:9:DG:OP2	11:AA:473:ARG:CG	2.16	0.93
6:5:10:DT:C6	11:AA:62:TYR:HE2	1.85	0.93
11:AA:858:GLY:CA	16:AG:38:LYS:CB	2.27	0.93
16:AG:387:VAL:HG12	16:AG:388:PRO:HD3	1.47	0.93
41:a:1042:G:HO2'	41:a:1043:C:H6	1.09	0.93
12:AB:110:PRO:HA	12:AB:114:ASP:OD2	1.69	0.93
18:D:526:C:OP2	32:R:88:LYS:NZ	2.01	0.93
7:6:18:DT:H3	8:7:52:A:H61	1.05	0.93
7:6:25:DT:H2'	11:AA:496:LYS:HE3	1.51	0.93
11:AA:387:ASN:ND2	11:AA:394:ARG:NH1	2.15	0.93
16:AG:448:LEU:HD21	16:AG:473:LEU:HD11	1.48	0.93
60:t:90:ASN:OD1	60:t:91:SER:N	2.02	0.93
9:9:23:LEU:HD13	9:9:92:ALA:CB	1.98	0.92
14:AE:59:ALA:CB	14:AE:71:LEU:HD21	1.99	0.92
39:Y:14:ALA:O	39:Y:50:LYS:HE3	1.68	0.92
60:t:20:MET:HB3	60:t:44:LYS:HZ3	1.32	0.92
16:AG:363:LEU:HG	16:AG:410:ALA:CB	1.97	0.92

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:B:30:G:HO2'	18:D:1339:A:H2	1.01	0.92
16:AG:123:ARG:HH12	16:AG:191:ARG:HA	1.32	0.92
16:AG:434:LEU:HD22	16:AG:459:LEU:HD12	0.93	0.92
16:AG:168:LEU:HD22	16:AG:231:GLY:HA3	1.00	0.92
10:B:76:A:N3	41:a:2493:U:H4'	1.84	0.92
14:AE:79:LYS:CA	16:AG:144:LYS:HE3	1.99	0.92
16:AG:363:LEU:CG	16:AG:410:ALA:HB2	1.99	0.92
31:Q:51:GLY:O	31:Q:56:ARG:NH2	2.03	0.92
6:5:9:DG:P	11:AA:473:ARG:HB2	2.10	0.92
16:AG:123:ARG:CZ	16:AG:191:ARG:O	2.17	0.92
16:AG:174:ARG:HB3	16:AG:175:PRO:HD2	1.51	0.92
27:M:50:LEU:HD21	27:M:121:ALA:HA	1.52	0.92
16:AG:422:GLU:HA	16:AG:426:GLY:H	1.33	0.92
12:AB:115:LYS:HZ3	12:AB:129:ILE:CG2	1.68	0.91
16:AG:434:LEU:HD21	16:AG:455:THR:O	1.69	0.91
41:a:2293:G:OP1	64:x:94:ARG:NH1	2.04	0.91
47:g:27:THR:OG1	54:n:140:GLU:OE1	1.88	0.91
11:AA:481:LEU:CD2	12:AB:16:ARG:HD3	1.98	0.91
16:AG:363:LEU:HD22	16:AG:409:ARG:HB2	1.53	0.91
12:AB:148:LYS:NZ	12:AB:150:ILE:CD1	2.32	0.91
16:AG:183:LEU:HG	16:AG:197:VAL:HG13	1.51	0.91
16:AG:425:LEU:HA	16:AG:429:LYS:CD	2.00	0.91
41:a:1818:U:OP2	48:h:156:ARG:NH1	2.03	0.91
25:K:45:ARG:CD	25:K:45:ARG:CB	2.49	0.91
9:9:92:ALA:O	9:9:129:LEU:HD13	1.71	0.91
16:AG:200:SER:O	16:AG:230:PRO:HG2	1.71	0.91
41:a:2682:A:O4'	50:j:11:MET:SD	2.29	0.91
8:7:11:U:H4'	25:K:20:ARG:HH22	1.18	0.91
8:7:47:U:H5'	11:AA:1259:LEU:HD21	1.52	0.91
12:AB:115:LYS:HA	12:AB:129:ILE:CD1	1.99	0.91
10:B:38:A:H4'	18:D:790:A:O4'	1.71	0.91
16:AG:123:ARG:NH1	16:AG:191:ARG:CA	2.10	0.91
16:AG:451:ARG:NH1	16:AG:466:ASP:O	2.02	0.91
16:AG:240:THR:OG1	16:AG:247:PRO:HG3	1.68	0.90
18:D:1526:G:N7	20:F:40:LYS:NZ	2.18	0.90
16:AG:453:VAL:HG13	16:AG:458:ASP:CB	2.00	0.90
16:AG:453:VAL:HG23	16:AG:462:GLN:NE2	1.87	0.90
6:5:10:DT:C5	11:AA:62:TYR:HD2	1.81	0.90
17:C:38:LYS:NZ	18:D:718:A:N1	2.19	0.90
27:M:66:LEU:HD13	27:M:101:MET:CE	2.02	0.90
12:AB:82:GLY:N	14:AE:142:GLU:HB3	1.86	0.90

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AG:240:THR:OG1	16:AG:247:PRO:CG	2.20	0.90
8:7:2:U:P	18:D:1505:G:C8	2.64	0.90
11:AA:889:PRO:HG3	16:AG:104:ARG:HH11	1.36	0.90
12:AB:115:LYS:CD	12:AB:129:ILE:HG21	2.01	0.90
36:V:27:ARG:NH1	36:V:42:THR:OG1	2.03	0.90
16:AG:363:LEU:HD23	16:AG:409:ARG:CB	2.00	0.90
65:y:89:ARG:NE	65:y:113:ARG:O	2.05	0.90
16:AG:434:LEU:HA	16:AG:456:LEU:HD23	1.53	0.90
61:u:93:ASN:OD1	61:u:94:THR:N	2.05	0.90
6:5:10:DT:H2"	12:AB:70:ASN:N	1.87	0.90
16:AG:425:LEU:CA	16:AG:429:LYS:HG3	2.02	0.90
39:Y:129:GLU:HB3	39:Y:133:ARG:NH1	1.87	0.90
52:l:170:ARG:NH1	52:l:174:GLY:O	2.05	0.90
27:M:13:LEU:HD12	27:M:14:PRO:HD2	1.54	0.90
64:x:36:TYR:OH	64:x:38:GLN:NE2	2.05	0.90
16:AG:385:ALA:HB3	16:AG:411:LYS:CE	2.00	0.89
39:Y:45:THR:CG2	39:Y:50:LYS:HD3	2.02	0.89
39:Y:79:LEU:HD21	39:Y:105:LEU:HD21	1.52	0.89
6:5:11:DA:P	12:AB:67:THR:O	2.30	0.89
12:AB:3:SER:O	12:AB:58:GLU:HA	1.71	0.89
12:AB:81:PHE:HD2	14:AE:293:ARG:NH1	1.35	0.89
41:a:404:A:O2'	41:a:405:U:OP2	1.90	0.89
11:AA:380:ALA:H	12:AB:65:HIS:CE1	1.61	0.89
11:AA:855:PRO:CG	16:AG:105:ILE:HG22	2.02	0.89
16:AG:285:ILE:HG13	16:AG:293:VAL:HG11	1.45	0.89
20:F:31:GLU:OE2	20:F:35:ARG:NE	2.06	0.89
45:e:23:ARG:NH1	45:e:24:GLU:OE2	2.06	0.89
14:AE:59:ALA:CB	14:AE:71:LEU:CD2	2.51	0.89
18:D:545:C:H5'	24:J:69:GLU:HG3	1.55	0.89
33:S:90:ARG:HG3	33:S:92:GLU:OE1	1.73	0.89
13:AD:286:GLU:H	13:AD:315:GLY:HA2	1.36	0.89
16:AG:355:ALA:HB1	16:AG:382:GLU:CD	1.94	0.89
10:A:76:A:N6	41:a:2422:C:O4'	2.06	0.88
11:AA:846:GLY:CA	16:AG:104:ARG:NH1	2.36	0.88
16:AG:302:LYS:HE3	16:AG:302:LYS:N	1.87	0.88
41:a:2756:U:OP2	57:q:19:ARG:NE	2.06	0.88
17:C:27:ALA:O	17:C:30:LYS:HG2	1.74	0.88
27:M:4:ARG:HG2	27:M:5:ARG:CZ	2.03	0.88
12:AB:81:PHE:CE1	14:AE:293:ARG:HB2	1.91	0.88
16:AG:187:ARG:CB	16:AG:188:PRO:HD2	2.03	0.88
16:AG:365:ILE:HG21	16:AG:409:ARG:NH1	1.87	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AG:422:GLU:CA	16:AG:426:GLY:HA3	2.03	0.88
17:C:60:LYS:NZ	18:D:735:C:O4'	2.06	0.88
39:Y:100:ILE:HD12	39:Y:105:LEU:HD11	1.54	0.88
3:2:54:GLU:OE1	3:2:91:GLN:NE2	2.06	0.88
41:a:2780:G:OP2	59:s:120:ARG:NH1	2.07	0.88
41:a:585:G:N7	66:z:6:ARG:NH1	2.21	0.88
59:s:98:GLU:OE2	59:s:126:ALA:N	2.07	0.88
16:AG:434:LEU:HD23	16:AG:456:LEU:CA	2.00	0.88
38:X:81:MET:HE2	41:a:888:C:C5	2.09	0.88
31:Q:15:GLN:NE2	31:Q:76:GLU:O	2.06	0.88
41:a:2393:U:OP1	55:o:30:ARG:NE	2.05	0.88
62:v:111:GLU:O	62:v:114:ARG:HG2	1.71	0.88
9:9:48:ALA:HB3	9:9:51:TYR:CE1	2.09	0.88
11:AA:887:VAL:CG2	16:AG:105:ILE:CG1	2.51	0.88
12:AB:129:ILE:C	12:AB:142:LEU:HD21	1.98	0.88
12:AB:148:LYS:HZ2	12:AB:150:ILE:HD11	1.34	0.88
16:AG:363:LEU:HG	16:AG:410:ALA:CA	2.04	0.88
41:a:78:U:OP1	45:e:4:LYS:NZ	2.06	0.88
18:D:1439:G:OP1	19:E:33:LYS:NZ	2.05	0.88
39:Y:129:GLU:HB3	39:Y:133:ARG:HH12	1.38	0.88
12:AB:117:ILE:HG23	12:AB:160:ARG:O	1.73	0.87
18:D:280:C:O2	36:V:40:ARG:CZ	2.21	0.87
47:g:16:CYS:HB2	47:g:37:CYS:HB3	1.54	0.87
9:9:8:LYS:O	9:9:12:VAL:HG23	1.73	0.87
12:AB:140:MET:HG3	30:P:102:LEU:HD23	1.56	0.87
16:AG:453:VAL:HG13	16:AG:458:ASP:HB2	1.55	0.87
24:J:67:VAL:HB	24:J:72:PHE:CZ	2.09	0.87
59:s:37:ARG:HA	59:s:118:MET:HE3	1.54	0.87
61:u:90:VAL:HG13	61:u:95:LEU:HD21	1.56	0.87
16:AG:434:LEU:HD21	16:AG:455:THR:C	1.97	0.87
16:AG:486:ARG:O	16:AG:490:TRP:HD1	1.57	0.87
52:l:170:ARG:NH1	52:l:176:ASP:OD1	2.08	0.87
12:AB:51:PHE:HE2	14:AE:288:PRO:CD	1.85	0.87
16:AG:248:VAL:HG13	16:AG:273:ILE:HB	1.56	0.87
16:AG:254:MET:HA	16:AG:254:MET:HE3	1.55	0.87
11:AA:847:PRO:O	16:AG:104:ARG:NH1	2.07	0.87
11:AA:887:VAL:CG1	16:AG:105:ILE:CG2	2.53	0.87
39:Y:99:LYS:HD2	39:Y:140:GLU:OE1	1.75	0.87
59:s:13:ARG:NH1	59:s:49:ASP:O	2.07	0.87
16:AG:362:TYR:C	16:AG:413:ALA:CB	2.48	0.87
16:AG:362:TYR:C	16:AG:413:ALA:HB2	1.99	0.87

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:v:95:LEU:O	62:v:100:LYS:NZ	2.08	0.87
63:w:24:MET:HA	63:w:24:MET:HE3	1.54	0.87
12:AB:143:LEU:HD22	30:P:88:MET:HE1	1.54	0.86
16:AG:171:GLU:CD	16:AG:267:GLY:HA3	1.99	0.86
12:AB:115:LYS:HD2	12:AB:129:ILE:CG1	1.97	0.86
7:6:25:DT:C2'	11:AA:496:LYS:HG3	2.05	0.86
11:AA:856:ASN:HD21	16:AG:35:THR:HG22	1.37	0.86
16:AG:285:ILE:CG2	16:AG:293:VAL:HG12	2.06	0.86
39:Y:100:ILE:HD12	39:Y:105:LEU:CD1	2.05	0.86
16:AG:61:ARG:HD3	16:AG:63:LEU:HD21	1.57	0.86
16:AG:302:LYS:O	16:AG:302:LYS:NZ	2.08	0.86
39:Y:15:GLY:HA2	39:Y:50:LYS:HG3	1.57	0.86
28:N:5:ASP:OD2	28:N:77:ARG:NH1	2.07	0.86
16:AG:434:LEU:HD12	16:AG:454:CYS:O	1.75	0.86
23:I:58:GLU:OE1	23:I:65:ARG:NH1	2.08	0.86
36:V:77:ARG:NH2	36:V:78:VAL:O	2.08	0.86
1:0:87:GLN:NE2	1:0:88:GLY:O	2.09	0.85
6:5:10:DT:O4'	11:AA:62:TYR:OH	1.94	0.85
16:AG:430:PRO:HG2	16:AG:435:LEU:CD2	2.05	0.85
12:AB:6:LEU:CD1	14:AE:291:ILE:HD11	2.05	0.85
14:AE:79:LYS:CE	16:AG:153:ASP:OD1	2.23	0.85
29:O:84:THR:HG21	29:O:103:PHE:HB3	1.58	0.85
16:AG:355:ALA:CA	16:AG:382:GLU:CD	2.49	0.85
16:AG:451:ARG:HH11	16:AG:467:LEU:HA	1.42	0.85
6:5:9:DG:H5"	11:AA:473:ARG:CG	1.95	0.85
9:9:58:THR:CG2	9:9:81:LEU:HD23	2.06	0.85
11:AA:853:ASP:O	16:AG:103:ASP:CG	2.19	0.85
16:AG:168:LEU:HD23	16:AG:231:GLY:HA3	1.56	0.85
36:V:25:ILE:O	36:V:27:ARG:NH2	2.10	0.85
47:g:26:SER:OG	54:n:140:GLU:OE2	1.94	0.85
1:0:68:ARG:NH1	41:a:1223:G:OP1	2.10	0.85
10:A:33:U:OP1	27:M:77:SER:OG	1.95	0.85
54:n:23:ASN:OD1	54:n:24:SER:N	2.09	0.85
12:AB:140:MET:CE	30:P:102:LEU:HG	2.02	0.85
12:AB:148:LYS:NZ	12:AB:150:ILE:HD11	1.90	0.85
42:b:36:ILE:HG21	42:b:39:ARG:HD3	1.59	0.85
62:v:77:PRO:HG2	62:v:80:VAL:HG21	1.57	0.85
11:AA:855:PRO:CA	16:AG:35:THR:OG1	2.25	0.85
12:AB:81:PHE:HE1	14:AE:293:ARG:CB	1.55	0.85
11:AA:887:VAL:HG23	16:AG:105:ILE:HD11	1.56	0.84
12:AB:145:LEU:HD11	30:P:84:VAL:CG1	2.06	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AG:213:VAL:HG11	16:AG:251:CYS:HA	1.59	0.84
19:E:9:LYS:O	19:E:13:GLN:NE2	2.10	0.84
11:AA:854:ILE:O	16:AG:102:PHE:CE2	2.30	0.84
16:AG:141:VAL:HG22	16:AG:178:ARG:HG2	1.57	0.84
16:AG:385:ALA:HB3	16:AG:411:LYS:HE3	1.57	0.84
6:5:10:DT:C6	11:AA:62:TYR:CZ	2.65	0.84
12:AB:51:PHE:CE2	14:AE:288:PRO:HD3	2.08	0.84
16:AG:448:LEU:CD2	16:AG:473:LEU:HD11	2.05	0.84
44:d:55:U:H1'	54:n:26:MET:HE2	1.57	0.84
61:u:122:VAL:CG1	61:u:125:LEU:HD21	2.07	0.84
62:v:7:THR:OG1	62:v:10:ARG:NH1	2.11	0.84
5:4:58:SER:OG	5:4:59:GLU:OE1	1.95	0.84
8:7:2:U:OP2	18:D:1505:G:C8	2.30	0.84
16:AG:243:LYS:HB3	16:AG:245:ILE:HD11	1.59	0.84
6:5:9:DG:P	11:AA:473:ARG:CB	2.66	0.84
12:AB:110:PRO:CA	12:AB:114:ASP:OD2	2.25	0.84
6:5:10:DT:C2	12:AB:72:THR:OG1	2.30	0.84
16:AG:387:VAL:CB	16:AG:388:PRO:HD2	2.06	0.84
12:AB:51:PHE:HZ	14:AE:288:PRO:HD3	1.39	0.84
59:s:102:GLU:OE1	59:s:102:GLU:N	2.10	0.84
39:Y:96:LYS:CE	39:Y:136:GLY:HA3	2.08	0.84
11:AA:860:ALA:H	16:AG:38:LYS:CE	1.90	0.83
16:AG:210:ARG:HG3	16:AG:216:ILE:HB	1.59	0.83
16:AG:287:ALA:HA	16:AG:331:LEU:HD12	0.87	0.83
16:AG:287:ALA:HB2	16:AG:331:LEU:HD13	1.58	0.83
10:A:6:G:O2'	10:A:7:G:O5'	1.96	0.83
11:AA:377:THR:CB	12:AB:62:GLU:HB3	2.07	0.83
18:D:742:G:OP1	34:T:58:ARG:NH2	2.11	0.83
39:Y:48:ILE:HG13	39:Y:49:GLU:H	1.41	0.83
63:w:38:LEU:HD13	63:w:111:ALA:HB2	1.59	0.83
16:AG:354:ALA:HA	16:AG:357:ASP:HB3	1.60	0.83
38:X:81:MET:HE1	38:X:92:ARG:CB	2.08	0.83
41:a:1257:C:H4'	52:l:78:TRP:CE2	2.14	0.83
41:a:2393:U:H5"	55:o:30:ARG:CZ	2.09	0.83
48:h:175:ARG:HG3	48:h:181:MET:HE1	1.58	0.83
9:9:43:LYS:O	9:9:46:ARG:HG2	1.78	0.83
66:z:78:LYS:HD3	66:z:117:LEU:CD2	2.09	0.83
16:AG:203:GLU:HA	16:AG:206:ILE:HG12	1.60	0.83
16:AG:433:ASP:C	16:AG:456:LEU:HG	2.03	0.83
39:Y:116:MET:HG2	39:Y:124:MET:HG2	1.59	0.83
11:AA:887:VAL:CB	16:AG:105:ILE:CG1	2.49	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
66:z:74:ILE:HD11	66:z:79:PHE:HA	1.60	0.83
12:AB:54:TYR:HE2	14:AE:291:ILE:HG23	1.44	0.83
58:r:137:GLU:HG2	58:r:138:VAL:HG23	1.61	0.83
21:G:105:LYS:O	21:G:109:GLN:NE2	2.12	0.83
26:L:102:MET:N	26:L:102:MET:SD	2.46	0.83
6:5:11:DA:C2'	12:AB:67:THR:HG21	2.08	0.82
12:AB:38:ILE:HG12	12:AB:43:ARG:HG2	1.61	0.82
14:AE:79:LYS:HG3	16:AG:144:LYS:NZ	1.94	0.82
39:Y:75:ALA:CB	39:Y:112:LYS:HE3	2.07	0.82
11:AA:387:ASN:CB	11:AA:394:ARG:HH11	1.93	0.82
11:AA:481:LEU:HD23	12:AB:16:ARG:HD2	1.60	0.82
16:AG:279:ASN:CG	16:AG:280:PRO:HD2	2.04	0.82
16:AG:285:ILE:CG2	16:AG:293:VAL:CG1	2.57	0.82
16:AG:365:ILE:HG21	16:AG:409:ARG:HH12	1.42	0.82
56:p:7:ALA:O	56:p:69:ARG:NE	2.13	0.82
10:B:6:G:O2'	10:B:7:G:O5'	1.96	0.82
23:I:22:TRP:CZ3	23:I:24:ALA:HB2	2.14	0.82
12:AB:119:THR:HG1	12:AB:126:PHE:HE2	0.83	0.82
16:AG:12:VAL:HB	16:AG:16:LYS:HG3	1.61	0.82
16:AG:127:VAL:CG2	16:AG:192:GLY:HA2	2.09	0.82
16:AG:353:HIS:CA	16:AG:356:ILE:HG23	2.10	0.82
16:AG:362:TYR:HA	16:AG:413:ALA:CB	2.09	0.82
16:AG:425:LEU:HG	16:AG:429:LYS:CE	2.07	0.82
9:9:46:ARG:HG3	9:9:94:ARG:NH2	1.94	0.82
9:9:43:LYS:HG3	9:9:46:ARG:NH1	1.94	0.82
11:AA:856:ASN:ND2	16:AG:35:THR:CG2	2.38	0.82
12:AB:138:ARG:HD2	12:AB:155:LYS:N	1.93	0.82
14:AE:287:ALA:HB1	14:AE:292:VAL:HG13	1.60	0.82
11:AA:855:PRO:HG3	16:AG:105:ILE:HG22	1.62	0.82
16:AG:133:HIS:ND1	16:AG:136:GLU:OE1	2.13	0.82
16:AG:226:ALA:HA	16:AG:236:ILE:HG13	1.61	0.82
16:AG:285:ILE:CB	16:AG:293:VAL:HG11	2.09	0.82
11:AA:847:PRO:CD	16:AG:104:ARG:NH2	2.42	0.82
39:Y:14:ALA:HB3	39:Y:51:GLY:H	1.45	0.82
54:n:73:SER:OG	54:n:79:ILE:O	1.96	0.82
60:t:12:ASP:OD2	60:t:85:VAL:HG13	1.80	0.82
9:9:1:MET:HE1	9:9:7:ASP:HB3	1.61	0.82
38:X:81:MET:CE	38:X:92:ARG:HB3	2.06	0.82
50:j:152:PRO:HG3	50:j:156:PHE:CZ	2.14	0.82
9:9:129:LEU:H	9:9:130:PRO:HD2	1.45	0.82
12:AB:115:LYS:CD	12:AB:129:ILE:CG2	2.55	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AG:393:LEU:HB3	16:AG:398:LEU:HD21	1.25	0.81
41:a:2298:A:OP1	54:n:72:LYS:NZ	2.11	0.81
41:a:2682:A:O2'	50:j:13:ARG:NE	2.12	0.81
48:h:130:LEU:HA	48:h:189:ARG:HH11	1.45	0.81
16:AG:361:LYS:CD	16:AG:417:ILE:HG12	2.10	0.81
48:h:53:HIS:HE2	48:h:219:THR:HA	1.45	0.81
8:7:3:G:C5'	18:D:1500:A:H62	1.92	0.81
9:9:52:MET:HG2	9:9:95:LEU:HD11	1.62	0.81
11:AA:889:PRO:CG	16:AG:104:ARG:HH11	1.92	0.81
14:AE:79:LYS:C	16:AG:144:LYS:HE3	2.04	0.81
16:AG:362:TYR:HA	16:AG:413:ALA:HB1	1.62	0.81
26:L:70:VAL:O	26:L:74:LEU:HD23	1.81	0.81
39:Y:74:PRO:HG2	39:Y:77:VAL:HB	1.60	0.81
41:a:1613:G:O2'	53:m:3:ARG:NH2	2.12	0.81
41:a:2356:U:H5"	42:b:20:ARG:HD2	1.61	0.81
12:AB:120:GLU:HB2	12:AB:162:LEU:HG	1.63	0.81
16:AG:434:LEU:CG	16:AG:455:THR:C	2.54	0.81
6:5:10:DT:C4	11:AA:62:TYR:CD2	2.68	0.81
18:D:107:G:O6	19:E:10:ARG:NE	2.13	0.81
20:F:37:PHE:HB2	31:Q:126:LYS:CE	2.10	0.81
39:Y:45:THR:HG22	39:Y:50:LYS:HD3	1.59	0.81
41:a:2356:U:O3'	42:b:20:ARG:NH1	2.14	0.81
52:l:112:LEU:HD12	52:l:117:ARG:HB2	1.62	0.81
56:p:104:ASN:ND2	56:p:114:ASP:OD1	2.12	0.81
8:7:2:U:OP1	18:D:1505:G:C8	2.33	0.81
11:AA:387:ASN:CG	11:AA:394:ARG:HH12	1.81	0.81
61:u:122:VAL:HG13	61:u:125:LEU:HD11	1.61	0.81
11:AA:855:PRO:C	16:AG:35:THR:CB	2.47	0.81
16:AG:451:ARG:NE	16:AG:470:ILE:HG13	1.95	0.81
56:p:121:ILE:HD12	56:p:141:ILE:HG22	1.60	0.81
60:t:7:MET:HG3	60:t:18:ARG:CZ	2.10	0.81
14:AE:81:ARG:HH21	14:AE:81:ARG:HG3	1.44	0.81
11:AA:887:VAL:HG23	16:AG:105:ILE:CD1	2.08	0.81
39:Y:9:LYS:HE2	39:Y:55:PRO:HB3	1.63	0.81
43:c:30:LEU:HD12	43:c:31:PRO:HD2	1.63	0.81
52:l:1:MET:HE1	52:l:20:GLY:CA	2.11	0.81
14:AE:79:LYS:CG	16:AG:144:LYS:NZ	2.44	0.80
9:9:77:VAL:HG13	9:9:114:GLU:OE1	1.81	0.80
11:AA:887:VAL:CG1	16:AG:105:ILE:HG21	2.11	0.80
16:AG:381:LEU:HA	16:AG:384:LEU:CD1	2.09	0.80
7:6:23:DC:H5'	14:AE:259:ARG:HH12	1.43	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AG:440:VAL:CG2	16:AG:481:LEU:CD2	2.60	0.80
18:D:652:U:O3'	28:N:56:LYS:NZ	2.13	0.80
41:a:2682:A:C8	50:j:11:MET:CE	2.65	0.80
16:AG:252:VAL:HA	16:AG:259:VAL:HG23	1.61	0.80
16:AG:287:ALA:HB1	16:AG:331:LEU:HD12	1.62	0.80
16:AG:425:LEU:HG	16:AG:429:LYS:CD	2.10	0.80
39:Y:58:ILE:HG22	39:Y:60:VAL:HG23	1.63	0.80
9:9:118:ILE:HB	9:9:119:PRO:HD3	1.64	0.80
12:AB:117:ILE:HD13	12:AB:161:LYS:HZ1	1.47	0.80
42:b:28:GLY:O	42:b:66:LYS:NZ	2.13	0.80
9:9:25:ALA:HB3	9:9:99:PHE:CD2	2.16	0.80
18:D:311:C:OP1	35:U:31:ARG:NH2	2.13	0.80
28:N:9:ASP:OD2	28:N:13:ARG:NH1	2.15	0.80
9:9:3:LEU:HD11	9:9:5:LEU:HD23	1.61	0.80
11:AA:860:ALA:N	16:AG:38:LYS:CE	2.45	0.80
16:AG:425:LEU:CA	16:AG:429:LYS:CG	2.60	0.80
39:Y:81:LYS:HZ2	39:Y:86:LYS:HE2	1.47	0.80
41:a:1655:A:H1'	50:j:118:PHE:HE2	1.46	0.80
6:5:10:DT:C2	12:AB:71:ALA:HB3	1.84	0.80
16:AG:133:HIS:HD1	16:AG:136:GLU:CD	1.90	0.80
4:3:46:GLN:OE1	4:3:56:GLY:HA2	1.82	0.80
9:9:81:LEU:HD21	41:a:1107:G:H4'	1.64	0.80
11:AA:855:PRO:HB2	16:AG:35:THR:HB	1.61	0.80
16:AG:380:THR:O	16:AG:384:LEU:HD11	1.80	0.80
16:AG:381:LEU:CA	16:AG:384:LEU:HD12	2.08	0.80
16:AG:451:ARG:NH2	16:AG:470:ILE:HG13	1.97	0.80
41:a:1818:U:O5'	48:h:156:ARG:NH2	2.14	0.80
9:9:5:LEU:O	9:9:9:GLN:NE2	2.15	0.80
11:AA:887:VAL:HG11	16:AG:105:ILE:CG2	2.12	0.80
12:AB:54:TYR:CE2	14:AE:291:ILE:CG2	2.65	0.80
1:0:86:GLN:OE1	41:a:1225:G:H4'	1.81	0.79
11:AA:855:PRO:CG	16:AG:35:THR:HG21	2.12	0.79
39:Y:40:ALA:HB1	39:Y:68:PHE:CE1	2.16	0.79
60:t:98:ARG:NH2	60:t:118:LEU:O	2.15	0.79
6:5:11:DA:C4'	12:AB:67:THR:HG22	2.11	0.79
16:AG:379:SER:OG	16:AG:384:LEU:HD21	1.81	0.79
66:z:74:ILE:HD13	66:z:79:PHE:HD1	1.46	0.79
41:a:2636:C:H4'	50:j:81:GLU:OE1	1.82	0.79
66:z:69:ALA:HB1	66:z:74:ILE:HG23	1.63	0.79
16:AG:451:ARG:NH1	16:AG:467:LEU:C	2.40	0.79
49:i:46:ASP:OD2	49:i:53:LYS:NZ	2.15	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:t:20:MET:HB3	60:t:44:LYS:NZ	1.98	0.79
6:5:10:DT:H73	11:AA:62:TYR:HD2	1.28	0.79
12:AB:51:PHE:CE2	14:AE:288:PRO:HG2	2.06	0.79
11:AA:855:PRO:CA	16:AG:35:THR:CB	2.61	0.79
52:l:111:GLU:OE2	52:l:114:ARG:NH1	2.14	0.79
16:AG:353:HIS:C	16:AG:356:ILE:CG2	2.50	0.79
16:AG:430:PRO:CG	16:AG:435:LEU:HD21	2.11	0.79
22:H:306:VAL:HA	22:H:309:MET:SD	2.23	0.79
41:a:1276:A:O2'	63:w:20:MET:CE	2.30	0.79
41:a:2393:U:P	55:o:30:ARG:HE	2.04	0.79
6:5:10:DT:C2'	12:AB:71:ALA:H	1.95	0.79
12:AB:110:PRO:HB3	12:AB:114:ASP:OD2	1.83	0.79
16:AG:447:LYS:O	16:AG:470:ILE:CD1	2.31	0.79
17:C:38:LYS:HE2	17:C:38:LYS:HA	1.64	0.79
24:J:62:ARG:NH1	24:J:69:GLU:OE2	2.16	0.79
41:a:1453:A:N1	63:w:74:GLU:OE1	2.16	0.79
8:7:2:U:OP1	18:D:1505:G:H8	1.65	0.79
16:AG:363:LEU:CG	16:AG:410:ALA:N	2.45	0.79
16:AG:425:LEU:HD23	16:AG:429:LYS:HE2	0.81	0.79
54:n:117:LEU:HD13	54:n:176:PRO:HG2	1.64	0.79
9:9:3:LEU:CD1	9:9:4:ASN:H	1.96	0.78
16:AG:437:LEU:HD21	16:AG:456:LEU:HD13	0.81	0.78
39:Y:102:ARG:HD2	39:Y:141:ASP:CA	2.13	0.78
48:h:258:ARG:NH1	48:h:264:ASP:OD1	2.14	0.78
9:9:112:ALA:O	9:9:123:ILE:HD11	1.83	0.78
11:AA:377:THR:OG1	12:AB:62:GLU:CA	2.30	0.78
14:AE:79:LYS:HB3	16:AG:159:GLU:OE2	1.82	0.78
16:AG:235:LYS:HD3	16:AG:327:LEU:HG	1.65	0.78
16:AG:365:ILE:CG2	16:AG:409:ARG:HH12	1.91	0.78
16:AG:434:LEU:CD2	16:AG:456:LEU:N	2.46	0.78
33:S:12:LYS:O	33:S:16:LEU:HD23	1.83	0.78
12:AB:51:PHE:CZ	14:AE:288:PRO:CD	2.66	0.78
12:AB:136:GLU:CD	12:AB:160:ARG:NH1	2.42	0.78
35:U:3:THR:HG21	35:U:5:ARG:CZ	2.13	0.78
37:W:40:ILE:HG23	37:W:44:MET:SD	2.24	0.78
41:a:2393:U:H5"	55:o:30:ARG:NH1	1.97	0.78
47:g:18:CYS:HB3	47:g:40:CYS:CB	2.13	0.78
11:AA:856:ASN:CG	16:AG:35:THR:CA	2.54	0.78
16:AG:363:LEU:HD23	16:AG:409:ARG:HB2	1.62	0.78
16:AG:387:VAL:CG1	16:AG:388:PRO:CD	2.41	0.78
27:M:20:SER:HB3	27:M:23:LEU:HD13	1.63	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:98:LYS:HD2	41:a:2012:G:OP1	1.83	0.78
59:s:37:ARG:HA	59:s:118:MET:CE	2.14	0.78
10:A:18:G:N2	10:A:55:U:O2	2.17	0.78
11:AA:847:PRO:HD2	16:AG:104:ARG:HH22	1.43	0.78
12:AB:120:GLU:HB2	12:AB:162:LEU:CG	2.14	0.78
12:AB:129:ILE:O	12:AB:142:LEU:HD21	1.84	0.78
56:p:107:LEU:HB3	56:p:152:ARG:HE	1.47	0.78
7:6:25:DT:H3'	11:AA:496:LYS:CG	2.13	0.78
9:9:34:THR:O	9:9:38:MET:HG2	1.83	0.78
41:a:1406:U:O2'	41:a:1407:G:O5'	2.02	0.78
60:t:8:LEU:C	60:t:18:ARG:HH12	1.92	0.78
9:9:19:ALA:HA	9:9:70:GLU:HG2	1.66	0.78
16:AG:393:LEU:CD2	16:AG:398:LEU:CG	2.58	0.78
18:D:673:A:H2'	18:D:674:G:C8	2.18	0.78
54:n:142:ASP:HB3	54:n:145:LYS:HE2	1.65	0.78
12:AB:9:CYS:H	12:AB:53:ASN:HB3	1.48	0.78
16:AG:451:ARG:HH12	16:AG:467:LEU:CA	1.92	0.78
18:D:275:G:H4'	36:V:16:LYS:HD2	1.65	0.78
28:N:27:MET:N	28:N:58:GLU:OE2	2.16	0.78
16:AG:189:GLU:HB3	16:AG:194:GLN:HG3	1.64	0.78
27:M:40:GLU:OE2	29:O:41:ARG:NH2	2.17	0.78
6:5:10:DT:C2	12:AB:71:ALA:CB	2.61	0.77
9:9:27:VAL:HG13	9:9:83:ALA:HB3	1.66	0.77
11:AA:846:GLY:C	16:AG:104:ARG:CZ	2.58	0.77
11:AA:887:VAL:CG1	16:AG:105:ILE:HG23	2.13	0.77
9:9:134:GLU:OE2	9:9:136:ILE:HG22	1.84	0.77
16:AG:425:LEU:HD23	16:AG:429:LYS:NZ	1.99	0.77
19:E:28:MET:HE1	19:E:58:VAL:HA	1.63	0.77
40:Z:14:MET:HG3	40:Z:15:SER:H	1.48	0.77
59:s:15:TRP:HZ3	59:s:135:GLN:HA	1.50	0.77
11:AA:887:VAL:C	16:AG:105:ILE:HD11	2.08	0.77
16:AG:354:ALA:HA	16:AG:357:ASP:CB	2.14	0.77
16:AG:402:THR:O	16:AG:405:ALA:HB3	1.84	0.77
26:L:42:TRP:HZ3	26:L:45:ARG:HH22	1.32	0.77
39:Y:9:LYS:HE2	39:Y:55:PRO:CG	2.14	0.77
9:9:60:LEU:HD23	9:9:64:VAL:HG21	1.65	0.77
12:AB:115:LYS:CE	12:AB:129:ILE:HG23	2.14	0.77
16:AG:365:ILE:CD1	16:AG:406:LEU:CD2	2.57	0.77
18:D:375:U:OP2	35:U:70:ARG:NH2	2.17	0.77
18:D:375:U:P	35:U:70:ARG:HE	2.07	0.77
57:q:2:LYS:NZ	57:q:32:LYS:O	2.17	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:9:94:ARG:HB2	9:9:97:LYS:HE2	1.67	0.77
16:AG:233:ARG:HB2	16:AG:327:LEU:HD23	1.66	0.77
16:AG:434:LEU:HD11	16:AG:455:THR:O	1.85	0.77
18:D:1227:A:OP1	38:X:93:ARG:NH2	2.18	0.77
16:AG:284:VAL:HG12	16:AG:296:ILE:HD13	1.66	0.77
11:AA:855:PRO:HB3	16:AG:35:THR:OG1	1.81	0.77
16:AG:412:ASN:O	16:AG:416:THR:HG23	1.83	0.77
64:x:104:GLN:NE2	64:x:108:ASP:OD2	2.16	0.77
16:AG:258:ARG:HG2	16:AG:258:ARG:NH1	1.99	0.77
11:AA:887:VAL:HB	16:AG:105:ILE:CG2	2.14	0.77
10:B:18:G:N2	10:B:55:U:O2	2.17	0.76
17:C:38:LYS:HD3	18:D:719:C:H1'	1.67	0.76
18:D:739:C:O2'	34:T:42:HIS:ND1	2.18	0.76
31:Q:84:VAL:HG23	31:Q:107:ILE:HD11	1.67	0.76
31:Q:87:LYS:CG	31:Q:113:VAL:HG23	2.15	0.76
35:U:3:THR:HG21	35:U:5:ARG:NH1	1.99	0.76
22:H:52:GLN:OE1	22:H:86:ARG:CB	2.34	0.76
41:a:686:U:O4	53:m:12:ARG:HD3	1.86	0.76
41:a:2511:U:C4'	50:j:130:GLN:OE1	2.33	0.76
16:AG:228:ARG:HD2	16:AG:236:ILE:HB	1.67	0.76
16:AG:451:ARG:CZ	16:AG:470:ILE:HG13	2.16	0.76
40:Z:2:ILE:HG22	40:Z:4:LYS:H	1.50	0.76
41:a:196:A:OP2	61:u:47:ARG:NH1	2.18	0.76
41:a:1801:A:P	48:h:146:MET:HE1	2.25	0.76
41:a:2297:A:N1	41:a:2321:U:C4	2.53	0.76
2:1:11:ARG:CZ	2:1:98:LYS:HE3	2.15	0.76
14:AE:79:LYS:CB	16:AG:144:LYS:NZ	2.33	0.76
29:O:56:ASP:O	29:O:60:LYS:NZ	2.16	0.76
41:a:2335:A:OP2	64:x:13:ARG:CZ	2.34	0.76
42:b:21:LEU:HD21	42:b:41:ARG:HE	1.51	0.76
2:1:24:ILE:HG21	2:1:36:LEU:HD11	1.68	0.76
21:G:30:PHE:CD1	21:G:201:PRO:HG3	2.21	0.76
39:Y:14:ALA:CB	39:Y:50:LYS:HD2	2.16	0.76
65:y:71:GLU:OE1	65:y:101:ARG:NE	2.19	0.76
11:AA:856:ASN:CG	16:AG:35:THR:HG22	2.11	0.76
11:AA:855:PRO:HD2	16:AG:105:ILE:HG21	1.67	0.76
16:AG:283:PHE:CZ	16:AG:331:LEU:O	2.39	0.76
16:AG:354:ALA:O	16:AG:356:ILE:N	2.19	0.76
18:D:376:G:H5"	35:U:5:ARG:HD2	1.67	0.76
27:M:18:PHE:HE2	27:M:47:LEU:HD21	1.48	0.76
39:Y:93:ASN:C	39:Y:94:LYS:HD2	2.10	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:a:2314:A:OP1	54:n:88:LYS:NZ	2.18	0.76
16:AG:131:ARG:HA	16:AG:186:VAL:HG11	1.68	0.76
16:AG:385:ALA:HB1	16:AG:411:LYS:CE	2.04	0.76
37:W:44:MET:SD	37:W:62:VAL:HG11	2.25	0.76
41:a:1828:G:O6	48:h:221:ARG:NH1	2.19	0.76
5:4:50:MET:O	5:4:56:PHE:CE2	2.38	0.76
18:D:550:G:O2'	32:R:116:LYS:NZ	2.18	0.76
9:9:37:LYS:O	9:9:41:LEU:HG	1.86	0.75
25:K:142:ASP:O	25:K:145:GLU:HG3	1.86	0.75
6:5:10:DT:C4	11:AA:62:TYR:CE2	2.74	0.75
6:5:11:DA:C4'	12:AB:67:THR:CG2	2.64	0.75
9:9:77:VAL:HG12	9:9:82:ILE:HG21	1.68	0.75
14:AE:59:ALA:HB1	14:AE:71:LEU:CD2	2.16	0.75
21:G:20:THR:HA	21:G:39:HIS:CE1	2.21	0.75
27:M:18:PHE:CE2	27:M:47:LEU:HD21	2.21	0.75
38:X:57:ARG:NH2	47:g:35:ASP:OD1	2.19	0.75
42:b:68:LYS:NZ	42:b:70:GLU:OE1	2.19	0.75
6:5:10:DT:H2"	12:AB:69:ILE:C	2.11	0.75
11:AA:887:VAL:HB	16:AG:105:ILE:HG23	1.69	0.75
16:AG:354:ALA:C	16:AG:356:ILE:H	1.93	0.75
18:D:404:G:OP1	24:J:115:ARG:NH1	2.19	0.75
38:X:28:THR:HG23	38:X:31:LYS:HE3	1.69	0.75
41:a:1405:U:H2'	41:a:1406:U:C6	2.20	0.75
8:7:11:U:HO2'	25:K:33:PHE:HE1	1.32	0.75
16:AG:62:TRP:HB3	16:AG:75:ILE:HD11	1.69	0.75
16:AG:201:LYS:HD2	16:AG:201:LYS:N	2.01	0.75
16:AG:240:THR:CG2	16:AG:247:PRO:HG3	2.16	0.75
41:a:1276:A:O2'	63:w:20:MET:HE2	1.87	0.75
16:AG:307:ILE:HB	16:AG:338:VAL:HA	1.66	0.75
16:AG:425:LEU:CB	16:AG:429:LYS:HE3	2.16	0.75
39:Y:56:VAL:CA	39:Y:71:LYS:HZ1	1.99	0.75
8:7:3:G:H5"	18:D:1500:A:H62	1.49	0.75
9:9:36:ASP:O	9:9:39:THR:HG22	1.87	0.75
11:AA:847:PRO:N	16:AG:104:ARG:NH1	2.33	0.75
12:AB:89:PRO:HD2	14:AE:290:ILE:HG21	1.68	0.75
16:AG:434:LEU:CD2	16:AG:455:THR:C	2.59	0.75
21:G:49:MET:CE	21:G:201:PRO:HD3	2.15	0.75
62:v:1:MET:HA	62:v:1:MET:HE3	1.67	0.75
59:s:15:TRP:CZ3	59:s:135:GLN:HA	2.21	0.75
12:AB:18:GLN:HG3	12:AB:21:LEU:HD12	1.69	0.75
16:AG:248:VAL:HG22	16:AG:273:ILE:HG22	1.68	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:C:73:ARG:NH1	31:Q:113:VAL:HG12	2.02	0.75
22:H:36:VAL:O	22:H:37:LEU:HD12	1.87	0.75
24:J:58:LYS:NZ	24:J:69:GLU:OE2	2.15	0.74
39:Y:126:ARG:NH2	41:a:1083:U:OP1	2.19	0.74
16:AG:198:THR:HB	16:AG:201:LYS:HD3	1.70	0.74
16:AG:365:ILE:HG23	16:AG:409:ARG:HH11	1.52	0.74
16:AG:385:ALA:HB3	16:AG:411:LYS:HE2	1.68	0.74
18:D:1217:C:OP2	33:S:9:ARG:NH2	2.19	0.74
31:Q:87:LYS:HG2	31:Q:113:VAL:HG23	1.67	0.74
41:a:537:G:OP2	59:s:2:LYS:NZ	2.20	0.74
41:a:742:A:H2'	41:a:743:A:C8	2.21	0.74
54:n:4:LEU:HD11	54:n:101:GLU:CA	2.16	0.74
63:w:12:ARG:O	63:w:17:ARG:NH2	2.19	0.74
5:4:57:TYR:HB3	62:v:136:MET:CE	2.16	0.74
8:7:3:G:C5'	18:D:1500:A:N6	2.46	0.74
9:9:59:LEU:HD22	9:9:62:ARG:NE	2.02	0.74
16:AG:354:ALA:O	16:AG:355:ALA:C	2.26	0.74
16:AG:354:ALA:C	16:AG:356:ILE:N	2.43	0.74
50:j:46:ARG:NH2	50:j:88:GLU:O	2.19	0.74
11:AA:860:ALA:H	16:AG:38:LYS:CD	1.98	0.74
12:AB:137:ALA:O	12:AB:155:LYS:C	2.30	0.74
16:AG:371:THR:O	16:AG:375:GLU:HG3	1.86	0.74
41:a:1278:C:H4'	63:w:24:MET:HE1	1.69	0.74
16:AG:451:ARG:HE	16:AG:470:ILE:HG13	1.51	0.74
39:Y:9:LYS:HE2	39:Y:55:PRO:CB	2.17	0.74
11:AA:387:ASN:OD1	11:AA:394:ARG:NH1	2.21	0.74
22:H:303:LEU:O	22:H:305:HIS:N	2.20	0.74
54:n:56:ASP:OD2	54:n:150:ARG:NH1	2.20	0.74
9:9:5:LEU:C	9:9:9:GLN:HE22	1.94	0.74
12:AB:133:PRO:HA	12:AB:159:PHE:HZ	1.50	0.74
16:AG:279:ASN:CB	16:AG:280:PRO:CD	2.66	0.74
16:AG:313:ASN:N	16:AG:313:ASN:OD1	2.19	0.74
17:C:18:VAL:O	17:C:51:TYR:OH	2.06	0.74
2:1:86:MET:HE1	2:1:88:ARG:HD3	1.70	0.74
16:AG:365:ILE:HG23	16:AG:409:ARG:NH1	2.02	0.74
34:T:64:ARG:CZ	34:T:89:ARG:HH22	2.00	0.74
39:Y:100:ILE:HG13	39:Y:139:VAL:CG2	2.18	0.74
39:Y:102:ARG:CD	39:Y:141:ASP:HA	2.18	0.74
52:l:90:GLN:NE2	52:l:91:ASP:O	2.20	0.74
5:4:45:ASP:OD1	5:4:46:LYS:N	2.21	0.74
9:9:23:LEU:HD11	9:9:96:PHE:CD2	2.23	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:g:18:CYS:CB	47:g:40:CYS:HB3	2.17	0.74
60:t:17:ARG:HB2	60:t:45:GLU:OE1	1.88	0.74
16:AG:363:LEU:CD1	16:AG:410:ALA:HB2	2.17	0.73
48:h:130:LEU:HA	48:h:189:ARG:NH1	2.03	0.73
58:r:6:LEU:HD11	58:r:37:VAL:HG23	1.69	0.73
6:5:10:DT:C5	11:AA:62:TYR:HE2	1.97	0.73
16:AG:442:ARG:HB3	16:AG:446:PHE:HE2	1.53	0.73
18:D:375:U:OP1	35:U:70:ARG:HG2	1.88	0.73
20:F:63:GLU:OE1	20:F:67:ARG:NH1	2.20	0.73
49:i:55:ILE:HD13	63:w:112:TYR:CZ	2.23	0.73
56:p:69:ARG:NH1	56:p:73:ASN:OD1	2.21	0.73
2:1:25:ARG:HH22	41:a:520:G:P	2.10	0.73
9:9:59:LEU:HD13	9:9:62:ARG:HD2	1.70	0.73
9:9:129:LEU:HD12	9:9:130:PRO:HD3	1.70	0.73
16:AG:297:VAL:HG23	16:AG:306:ASP:HB2	1.70	0.73
16:AG:425:LEU:O	16:AG:429:LYS:HE3	1.87	0.73
21:G:154:MET:CE	21:G:158:PRO:HD3	2.16	0.73
34:T:76:ALA:O	34:T:80:GLN:NE2	2.22	0.73
9:9:43:LYS:NZ	9:9:98:GLU:HB2	2.04	0.73
16:AG:365:ILE:CG2	16:AG:409:ARG:HH11	2.01	0.73
16:AG:486:ARG:O	16:AG:490:TRP:CD1	2.41	0.73
10:B:76:A:C2	41:a:2493:U:H4’	2.24	0.73
24:J:100:ASN:OD1	24:J:111:ARG:NH1	2.21	0.73
39:Y:100:ILE:HD11	39:Y:139:VAL:HB	1.69	0.73
16:AG:393:LEU:C	16:AG:398:LEU:HD23	2.13	0.73
18:D:636:U:H4’	36:V:6:ARG:CZ	2.19	0.73
24:J:105:MET:CE	24:J:171:LEU:HD13	2.18	0.73
6:5:10:DT:N3	12:AB:72:THR:OG1	2.20	0.73
16:AG:429:LYS:H	16:AG:429:LYS:HD2	1.53	0.73
16:AG:219:GLU:HA	16:AG:219:GLU:OE2	1.87	0.73
27:M:55:GLY:O	27:M:56:LYS:O	2.07	0.73
5:4:75:GLN:HG3	5:4:92:VAL:HG23	1.70	0.73
10:A:53:G:C2	10:A:54:U:C5	2.77	0.73
18:D:1158:C:O2’	21:G:132:LYS:NZ	2.21	0.73
62:v:97:GLN:N	62:v:100:LYS:HE3	2.03	0.73
63:w:33:ILE:HD11	63:w:112:TYR:CD1	2.23	0.73
12:AB:89:PRO:CD	14:AE:290:ILE:HG21	2.18	0.73
12:AB:148:LYS:NZ	12:AB:150:ILE:HD13	2.03	0.73
16:AG:365:ILE:HD13	16:AG:406:LEU:HD21	1.70	0.73
16:AG:413:ALA:O	16:AG:416:THR:OG1	2.05	0.73
38:X:81:MET:HE2	41:a:888:C:C6	2.24	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:Z:6:GLN:OE1	40:Z:10:ALA:HB2	1.88	0.73
2:1:25:ARG:NH2	41:a:520:G:H5'	2.03	0.73
12:AB:36:GLU:H	12:AB:106:ASP:CG	1.96	0.73
47:g:18:CYS:CB	47:g:40:CYS:CB	2.67	0.73
55:o:25:LYS:HB3	61:u:62:PRO:HG2	1.71	0.73
62:v:73:ILE:HD11	62:v:93:VAL:HG22	1.70	0.73
10:B:53:G:C2	10:B:54:U:C5	2.77	0.72
24:J:184:ARG:NH1	24:J:187:GLU:OE1	2.22	0.72
41:a:465:G:OP1	53:m:12:ARG:NH2	2.22	0.72
62:v:50:ARG:HA	62:v:53:MET:SD	2.29	0.72
63:w:60:VAL:HG22	63:w:63:ARG:NH1	2.03	0.72
11:AA:847:PRO:CD	16:AG:104:ARG:HH22	2.00	0.72
17:C:57:ARG:HE	17:C:61:ARG:HH12	1.37	0.72
12:AB:24:GLN:HB2	12:AB:26:VAL:HG23	1.71	0.72
16:AG:223:ILE:O	16:AG:223:ILE:HD13	1.89	0.72
16:AG:434:LEU:CD2	16:AG:459:LEU:CD1	2.54	0.72
18:D:13:U:C4	18:D:915:A:N6	2.57	0.72
18:D:653:U:C6	28:N:56:LYS:HE3	2.25	0.72
9:9:78:GLY:N	9:9:79:PRO:HD2	2.04	0.72
11:AA:377:THR:CG2	12:AB:62:GLU:HB3	2.18	0.72
11:AA:380:ALA:H	12:AB:65:HIS:HE1	1.00	0.72
16:AG:262:VAL:HA	16:AG:265:GLU:HB2	1.72	0.72
17:C:60:LYS:HZ1	18:D:735:C:C4'	2.02	0.72
8:7:13:U:H3	24:J:47:ARG:HH11	1.37	0.72
12:AB:21:LEU:HB3	12:AB:26:VAL:HG11	1.70	0.72
16:AG:393:LEU:CD2	16:AG:398:LEU:HD13	2.19	0.72
16:AG:434:LEU:HG	16:AG:455:THR:C	2.14	0.72
26:L:36:ILE:CD1	26:L:64:VAL:HG22	2.19	0.72
39:Y:102:ARG:CZ	39:Y:139:VAL:HG11	2.19	0.72
11:AA:861:ALA:N	16:AG:38:LYS:HZ3	1.72	0.72
12:AB:149:GLU:HA	12:AB:149:GLU:OE2	1.87	0.72
23:I:142:MET:HE3	23:I:170:GLU:OE1	1.89	0.72
44:d:42:C:O5'	54:n:64:LYS:NZ	2.20	0.72
48:h:123:ALA:HB1	48:h:125:LYS:NZ	2.04	0.72
14:AE:68:TYR:HA	14:AE:92:VAL:HG23	1.72	0.72
23:I:22:TRP:HZ3	23:I:24:ALA:HB2	1.54	0.72
23:I:39:VAL:O	23:I:43:LEU:HD23	1.90	0.72
30:P:18:ILE:O	30:P:22:THR:HG23	1.90	0.72
32:R:56:ARG:HG2	32:R:62:GLU:OE2	1.89	0.72
20:F:32:VAL:HG12	20:F:36:GLU:OE1	1.90	0.72
41:a:1825:U:OP2	48:h:52:ARG:NH1	2.23	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:a:2328:A:H2'	41:a:2329:U:C6	2.25	0.72
56:p:17:VAL:O	56:p:18:LYS:HE2	1.89	0.72
9:9:27:VAL:CG1	9:9:83:ALA:HB3	2.20	0.72
9:9:47:GLU:HB3	9:9:51:TYR:CZ	2.24	0.72
11:AA:889:PRO:HG3	16:AG:104:ARG:NH1	2.04	0.72
16:AG:434:LEU:HD21	16:AG:456:LEU:N	2.03	0.72
16:AG:434:LEU:CA	16:AG:456:LEU:HD21	2.12	0.72
2:1:83:LYS:HB2	2:1:95:ARG:HD3	1.72	0.72
9:9:56:ARG:O	9:9:56:ARG:HG2	1.88	0.72
12:AB:140:MET:HE2	30:P:102:LEU:CG	2.10	0.72
14:AE:64:PRO:HG3	14:AE:90:VAL:CG1	2.19	0.72
16:AG:220:VAL:O	16:AG:240:THR:HG22	1.90	0.72
16:AG:254:MET:HA	16:AG:254:MET:CE	2.17	0.72
24:J:76:TYR:CE2	24:J:204:TYR:HB2	2.24	0.72
43:c:71:LEU:HB3	43:c:76:GLU:OE2	1.88	0.72
60:t:8:LEU:C	60:t:18:ARG:NH1	2.48	0.72
14:AE:85:CYS:SG	68:AE:1502:ZN:ZN	1.79	0.71
16:AG:352:ALA:O	16:AG:356:ILE:HG22	1.90	0.71
47:g:5:ILE:HD12	54:n:64:LYS:HE3	1.72	0.71
1:0:10:LYS:HE2	41:a:994:C:O2'	1.90	0.71
2:1:23:LEU:HD11	49:i:24:ALA:HB2	1.70	0.71
12:AB:38:ILE:CD1	12:AB:160:ARG:NH1	2.54	0.71
16:AG:355:ALA:CB	16:AG:382:GLU:OE1	2.18	0.71
19:E:21:ASN:C	19:E:25:ARG:HE	1.97	0.71
21:G:19:GLN:NE2	22:H:75:VAL:O	2.23	0.71
25:K:69:ARG:CZ	25:K:69:ARG:HA	2.20	0.71
29:O:47:VAL:HA	29:O:50:GLN:HG2	1.70	0.71
41:a:2884:U:OP2	49:i:40:ARG:NH2	2.22	0.71
16:AG:403:VAL:HG22	16:AG:406:LEU:HD12	1.71	0.71
18:D:1208:C:H2'	18:D:1209:C:H6	1.56	0.71
56:p:85:LYS:HE3	56:p:164:TYR:CD1	2.24	0.71
3:2:56:GLU:OE2	3:2:88:LYS:HA	1.91	0.71
12:AB:137:ALA:O	12:AB:155:LYS:HA	1.90	0.71
16:AG:167:MET:HE1	16:AG:199:ARG:HG3	1.72	0.71
66:z:92:ARG:HG3	66:z:95:LEU:HD12	1.71	0.71
9:9:142:THR:OG1	40:Z:7:ILE:HG21	1.90	0.71
16:AG:127:VAL:HG22	16:AG:192:GLY:C	2.15	0.71
18:D:736:C:C5'	26:L:90:MET:HE2	2.21	0.71
20:F:13:ASP:OD1	20:F:14:VAL:N	2.22	0.71
25:K:111:MET:O	25:K:115:LEU:HD23	1.91	0.71
40:Z:14:MET:HB3	40:Z:17:MET:CG	2.21	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:v:39:GLY:N	62:v:96:ILE:O	2.22	0.71
14:AE:77:ARG:NE	14:AE:77:ARG:HA	2.03	0.71
18:D:973:G:O4'	30:P:57:VAL:HG22	1.90	0.71
19:E:75:HIS:CE1	19:E:79:LEU:HD11	2.25	0.71
32:R:5:ASN:OD1	36:V:36:LYS:NZ	2.24	0.71
34:T:63:ARG:O	34:T:67:LEU:HD23	1.90	0.71
41:a:2780:G:P	59:s:120:ARG:HH11	2.13	0.71
11:AA:887:VAL:O	16:AG:105:ILE:HD11	1.90	0.71
14:AE:59:ALA:HB1	14:AE:71:LEU:HD22	1.71	0.71
16:AG:362:TYR:CA	16:AG:413:ALA:CB	2.69	0.71
41:a:2356:U:H5"	42:b:20:ARG:CD	2.21	0.71
41:a:2469:A:N6	41:a:2481:G:O2'	2.23	0.71
52:l:6:LYS:NZ	52:l:120:VAL:O	2.24	0.71
11:AA:854:ILE:C	16:AG:102:PHE:CD2	2.69	0.71
12:AB:110:PRO:CB	12:AB:114:ASP:OD2	2.38	0.71
16:AG:393:LEU:HD23	16:AG:398:LEU:CD1	2.20	0.71
16:AG:433:ASP:C	16:AG:456:LEU:CG	2.64	0.71
18:D:13:U:O4	18:D:21:G:C2	2.43	0.71
23:I:74:GLY:O	23:I:78:GLY:N	2.24	0.71
23:I:166:GLU:OE1	23:I:166:GLU:N	2.23	0.71
33:S:90:ARG:HG3	33:S:92:GLU:CD	2.15	0.71
41:a:1824:G:OP1	48:h:52:ARG:NH2	2.23	0.71
54:n:134:GLU:HG2	54:n:137:ILE:HG23	1.72	0.71
27:M:16:PRO:HB3	29:O:46:MET:HG3	1.73	0.71
39:Y:57:VAL:O	39:Y:69:VAL:HG22	1.91	0.71
10:B:13:C:OP2	41:a:1907:G:N2	2.23	0.71
18:D:1328:C:O2'	38:X:29:ARG:NH2	2.23	0.71
22:H:332:VAL:HG22	22:H:342:ILE:HD11	1.73	0.71
34:T:64:ARG:NH1	34:T:64:ARG:HA	2.05	0.71
59:s:15:TRP:CZ3	59:s:135:GLN:HG3	2.25	0.71
2:1:25:ARG:HH22	41:a:520:G:C5'	2.04	0.70
9:9:56:ARG:NH2	41:a:1084:A:O4'	2.23	0.70
9:9:94:ARG:HB3	9:9:97:LYS:HZ3	1.55	0.70
10:A:6:G:HO2'	10:A:7:G:C5'	2.03	0.70
11:AA:377:THR:OG1	12:AB:62:GLU:CG	2.38	0.70
16:AG:434:LEU:CA	16:AG:456:LEU:CD2	2.58	0.70
26:L:42:TRP:CH2	26:L:102:MET:CG	2.73	0.70
39:Y:81:LYS:HD2	39:Y:81:LYS:N	2.05	0.70
41:a:987:C:O3'	46:f:11:ARG:NH1	2.23	0.70
52:l:6:LYS:NZ	52:l:120:VAL:N	2.39	0.70
6:5:9:DG:OP2	11:AA:470:ARG:HA	1.90	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:9:122:GLN:HG2	9:9:123:ILE:N	2.06	0.70
12:AB:138:ARG:CD	12:AB:155:LYS:N	2.53	0.70
23:I:147:LYS:NZ	23:I:204:LYS:O	2.22	0.70
5:4:77:VAL:CG2	5:4:79:ARG:HE	2.03	0.70
11:AA:846:GLY:CA	16:AG:104:ARG:CZ	2.63	0.70
12:AB:138:ARG:HG3	12:AB:154:VAL:C	2.16	0.70
14:AE:79:LYS:CA	16:AG:144:LYS:HZ1	1.95	0.70
16:AG:389:MET:O	16:AG:404:GLU:OE2	2.09	0.70
16:AG:422:GLU:CB	16:AG:426:GLY:HA3	2.21	0.70
29:O:112:GLU:OE2	29:O:115:LYS:NZ	2.23	0.70
41:a:2682:A:C8	50:j:11:MET:HE2	2.25	0.70
4:3:46:GLN:NE2	4:3:47:LYS:O	2.24	0.70
9:9:6:GLN:HA	9:9:9:GLN:NE2	2.06	0.70
9:9:43:LYS:HZ2	9:9:101:LYS:HE2	1.55	0.70
11:AA:856:ASN:CG	16:AG:35:THR:CB	2.64	0.70
12:AB:6:LEU:HD13	14:AE:291:ILE:CD1	2.21	0.70
12:AB:18:GLN:HA	12:AB:21:LEU:HB2	1.74	0.70
16:AG:353:HIS:HA	16:AG:356:ILE:CG2	2.22	0.70
29:O:7:TYR:N	29:O:89:GLU:OE2	2.24	0.70
39:Y:100:ILE:HG13	39:Y:139:VAL:HG23	1.74	0.70
41:a:871:U:H2'	41:a:872:U:C6	2.26	0.70
11:AA:860:ALA:H	16:AG:38:LYS:HE2	1.56	0.70
16:AG:282:GLN:NE2	16:AG:282:GLN:HA	2.04	0.70
18:D:375:U:OP1	35:U:70:ARG:NE	2.24	0.70
38:X:71:ARG:CZ	38:X:72:GLU:HG3	2.22	0.70
41:a:1012:U:O4	59:s:30:THR:HG21	1.92	0.70
41:a:2350:C:OP1	55:o:45:ARG:NH2	2.25	0.70
54:n:56:ASP:HB3	54:n:150:ARG:NH2	2.07	0.70
58:r:33:GLN:OE1	58:r:35:LYS:NZ	2.24	0.70
11:AA:481:LEU:CD2	12:AB:16:ARG:HD2	2.12	0.70
18:D:274:A:H4'	36:V:16:LYS:CE	2.22	0.70
18:D:311:C:P	35:U:31:ARG:HH22	2.13	0.70
25:K:93:ARG:HB3	25:K:93:ARG:CZ	2.21	0.70
38:X:66:GLU:OE1	38:X:66:GLU:N	2.23	0.70
39:Y:116:MET:CG	39:Y:124:MET:HG2	2.21	0.70
56:p:107:LEU:O	56:p:152:ARG:NH1	2.25	0.70
62:v:105:MET:SD	62:v:117:PHE:CZ	2.85	0.70
2:1:7:HIS:CD2	2:1:10:ALA:HB2	2.27	0.70
12:AB:118:ILE:HG13	12:AB:142:LEU:CD2	2.22	0.70
12:AB:133:PRO:HA	12:AB:159:PHE:CZ	2.26	0.70
18:D:564:C:P	32:R:12:ARG:NH2	2.64	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:R:7:LEU:HD21	32:R:12:ARG:NH2	2.07	0.70
11:AA:860:ALA:N	16:AG:38:LYS:HZ3	1.89	0.70
17:C:60:LYS:NZ	18:D:734:G:O3'	2.20	0.70
17:C:60:LYS:HZ2	18:D:734:G:H2'	1.57	0.70
41:a:1653:G:H3'	63:w:2:ARG:HD2	1.74	0.70
41:a:1816:C:N4	48:h:35:GLU:OE2	2.20	0.70
51:k:21:TYR:OH	51:k:39:PHE:O	2.10	0.70
62:v:53:MET:HE3	62:v:120:ALA:HB2	1.74	0.70
59:s:15:TRP:NE1	59:s:53:TYR:HD2	1.90	0.70
59:s:73:VAL:C	59:s:74:TYR:CD2	2.70	0.70
39:Y:19:PRO:HG2	39:Y:23:VAL:HG23	1.73	0.69
41:a:2742:G:OP1	57:q:36:ARG:NH1	2.25	0.69
47:g:16:CYS:CB	47:g:37:CYS:HB3	2.21	0.69
9:9:44:ALA:HB1	9:9:52:MET:HB3	1.74	0.69
9:9:52:MET:HE1	9:9:85:SER:C	2.17	0.69
19:E:45:ALA:O	19:E:48:GLN:HG3	1.92	0.69
30:P:47:GLU:N	30:P:47:GLU:OE1	2.23	0.69
38:X:28:THR:HG23	38:X:31:LYS:CE	2.22	0.69
63:w:42:LYS:N	63:w:42:LYS:HD3	2.05	0.69
11:AA:855:PRO:CD	16:AG:105:ILE:HG21	2.22	0.69
14:AE:1033:GLY:HA3	14:AE:1081:VAL:O	1.93	0.69
27:M:66:LEU:HG	27:M:70:ARG:HE	1.58	0.69
54:n:69:LYS:HD3	54:n:84:PRO:HA	1.74	0.69
57:q:25:VAL:HB	57:q:35:GLN:OE1	1.92	0.69
7:6:25:DT:H2'	11:AA:496:LYS:HG3	1.73	0.69
12:AB:104:ILE:O	12:AB:111:TYR:OH	2.10	0.69
16:AG:235:LYS:HZ2	16:AG:331:LEU:HG	1.58	0.69
19:E:25:ARG:CD	19:E:66:LEU:HD11	2.22	0.69
23:I:24:ALA:HB3	23:I:29:PHE:CE2	2.27	0.69
23:I:142:MET:HE1	23:I:148:GLY:HA2	1.72	0.69
34:T:21:ASP:O	34:T:22:THR:OG1	2.07	0.69
39:Y:100:ILE:CG1	39:Y:139:VAL:HB	2.22	0.69
39:Y:102:ARG:HD2	39:Y:141:ASP:HA	1.75	0.69
16:AG:285:ILE:CD1	16:AG:293:VAL:HG11	2.22	0.69
16:AG:433:ASP:O	16:AG:437:LEU:HG	1.93	0.69
10:B:58:A:O2'	10:B:59:A:H3'	1.93	0.69
19:E:12:ILE:O	19:E:15:GLU:HG3	1.92	0.69
25:K:111:MET:CE	25:K:125:ALA:HB1	2.23	0.69
39:Y:91:LYS:NZ	39:Y:97:VAL:HG21	2.07	0.69
16:AG:60:ARG:HG3	16:AG:98:GLU:HG3	1.74	0.69
34:T:28:GLN:O	34:T:32:LEU:HG	1.93	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:g:5:ILE:HB	54:n:64:LYS:HD3	1.75	0.69
8:7:56:G:OP1	11:AA:1073:LYS:NZ	2.24	0.69
10:A:37:A:O2'	10:A:38:A:H5'	1.93	0.69
12:AB:102:LYS:HE2	14:AE:285:LEU:HA	1.74	0.69
16:AG:279:ASN:CB	16:AG:280:PRO:HD2	2.22	0.69
16:AG:321:ASN:OD1	16:AG:321:ASN:N	2.25	0.69
16:AG:453:VAL:CG2	16:AG:462:GLN:NE2	2.56	0.69
18:D:636:U:H4'	36:V:6:ARG:NH2	2.06	0.69
31:Q:52:PHE:HD2	31:Q:56:ARG:HG2	1.56	0.69
32:R:27:CYS:HB2	32:R:30:LYS:HE2	1.75	0.69
8:7:8:U:OP2	18:D:1397:C:N3	2.25	0.69
11:AA:854:ILE:O	16:AG:102:PHE:CD2	2.45	0.69
16:AG:266:LEU:H	16:AG:266:LEU:CD2	2.06	0.69
16:AG:462:GLN:OE1	16:AG:467:LEU:HD21	1.93	0.69
17:C:38:LYS:NZ	18:D:718:A:C2	2.57	0.69
19:E:9:LYS:C	19:E:13:GLN:HE22	2.00	0.69
21:G:27:MET:SD	21:G:30:PHE:HB2	2.33	0.69
21:G:100:MET:HE1	21:G:101:LEU:HD21	1.75	0.69
23:I:134:MET:HE3	23:I:151:VAL:HG23	1.75	0.69
33:S:20:TYR:HE2	33:S:52:PRO:HG2	1.58	0.69
40:Z:2:ILE:HG22	40:Z:5:ASP:H	1.58	0.69
41:a:2314:A:H1'	54:n:155:THR:HG21	1.74	0.69
41:a:2511:U:H4'	50:j:130:GLN:OE1	1.91	0.69
52:l:17:THR:HA	52:l:21:ARG:HH21	1.58	0.69
54:n:127:ASN:OD1	54:n:158:THR:N	2.18	0.69
63:w:45:ARG:O	63:w:49:GLU:OE1	2.11	0.69
5:4:53:LYS:HD2	5:4:56:PHE:CE2	2.28	0.69
9:9:92:ALA:HB1	9:9:129:LEU:HD22	1.74	0.69
16:AG:285:ILE:HG13	16:AG:293:VAL:HG13	1.71	0.69
16:AG:355:ALA:C	16:AG:380:THR:HG21	2.18	0.69
10:B:37:A:O2'	10:B:38:A:H5'	1.93	0.69
17:C:60:LYS:HZ1	18:D:735:C:C5'	2.05	0.69
18:D:1308:U:OP1	38:X:100:GLN:NE2	2.26	0.69
21:G:26:LYS:HD2	21:G:193:PRO:HG2	1.74	0.69
22:H:22:SER:N	22:H:69:ASP:OD2	2.26	0.69
52:l:101:TYR:CE2	52:l:105:LEU:HD11	2.28	0.69
62:v:1:MET:HE1	62:v:43:ALA:C	2.18	0.69
11:AA:65:ASN:HB3	11:AA:105:TYR:HB2	1.73	0.69
11:AA:887:VAL:CB	16:AG:105:ILE:CG2	2.71	0.69
18:D:1376:U:OP2	27:M:25:LYS:NZ	2.24	0.69
26:L:9:MET:HE1	26:L:85:ILE:CG2	2.22	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:860:ALA:H	16:AG:38:LYS:HD3	1.54	0.68
16:AG:107:THR:HA	16:AG:110:ALA:HB3	1.74	0.68
10:B:6:G:HO2'	10:B:7:G:C5'	2.06	0.68
21:G:126:PHE:O	21:G:127:ASP:O	2.10	0.68
26:L:35:LYS:NZ	26:L:36:ILE:O	2.26	0.68
36:V:16:LYS:HD3	36:V:16:LYS:C	2.17	0.68
39:Y:19:PRO:O	39:Y:24:GLY:HA2	1.92	0.68
41:a:1190:G:OP1	61:u:30:THR:OG1	2.10	0.68
48:h:133:ARG:NE	48:h:187:ASP:OD2	2.25	0.68
61:u:55:MET:HE1	61:u:60:ARG:HG2	1.75	0.68
16:AG:171:GLU:OE1	16:AG:267:GLY:HA3	1.92	0.68
16:AG:425:LEU:CB	16:AG:429:LYS:CE	2.71	0.68
22:H:308:GLU:O	22:H:310:ASP:N	2.26	0.68
39:Y:23:VAL:HG23	39:Y:24:GLY:H	1.58	0.68
61:u:123:ARG:NH2	61:u:143:GLU:OE2	2.25	0.68
10:A:58:A:O2'	10:A:59:A:H3'	1.93	0.68
12:AB:136:GLU:HA	12:AB:159:PHE:HE1	1.57	0.68
16:AG:102:PHE:HB2	16:AG:106:THR:HG21	1.75	0.68
20:F:8:GLU:OE2	20:F:9:ASN:ND2	2.26	0.68
27:M:4:ARG:HG2	27:M:5:ARG:NH1	2.08	0.68
27:M:109:ARG:HD2	27:M:116:MET:HE1	1.76	0.68
46:f:16:ARG:NE	46:f:54:MET:SD	2.66	0.68
62:v:1:MET:HE1	62:v:44:ARG:N	2.09	0.68
62:v:111:GLU:O	62:v:115:GLU:OE1	2.10	0.68
1:0:52:PRO:HB3	66:z:89:GLU:OE2	1.94	0.68
12:AB:140:MET:O	12:AB:150:ILE:CB	2.38	0.68
14:AE:59:ALA:HB2	14:AE:71:LEU:HD21	1.74	0.68
16:AG:434:LEU:HD11	16:AG:455:THR:C	2.17	0.68
48:h:180:GLU:C	48:h:181:MET:HE2	2.17	0.68
60:t:103:VAL:HG22	60:t:104:THR:H	1.58	0.68
63:w:38:LEU:HD13	63:w:111:ALA:CB	2.24	0.68
19:E:79:LEU:HA	19:E:82:GLN:OE1	1.94	0.68
20:F:12:PHE:CE1	31:Q:107:ILE:HG22	2.29	0.68
25:K:115:LEU:HD12	25:K:120:VAL:HG11	1.75	0.68
48:h:205:LEU:HD12	48:h:210:ALA:HB1	1.75	0.68
60:t:5:GLN:HA	60:t:20:MET:HE2	1.74	0.68
16:AG:171:GLU:OE2	16:AG:267:GLY:CA	2.41	0.68
16:AG:207:GLU:HA	16:AG:210:ARG:HB2	1.76	0.68
16:AG:298:VAL:HA	16:AG:303:HIS:HD1	1.58	0.68
16:AG:323:GLN:HA	16:AG:323:GLN:HE21	1.59	0.68
16:AG:440:VAL:HG23	16:AG:481:LEU:HD22	1.76	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:B:24:U:O2'	41:a:1922:G:O3'	2.12	0.68
10:B:38:A:O2'	18:D:790:A:OP1	2.09	0.68
22:H:304:VAL:O	22:H:304:VAL:HG12	1.94	0.68
33:S:19:LYS:HG3	33:S:20:TYR:CD1	2.29	0.68
19:E:78:ASN:O	19:E:82:GLN:OE1	2.10	0.68
34:T:76:ALA:C	34:T:80:GLN:HE22	2.00	0.68
38:X:90:ARG:CD	38:X:97:VAL:HA	2.23	0.68
2:1:19:LEU:HD21	49:i:22:LEU:HB2	1.75	0.68
5:4:63:ILE:HD11	5:4:91:PHE:CD2	2.28	0.68
5:4:89:ILE:HG21	5:4:91:PHE:CE1	2.29	0.68
26:L:42:TRP:HZ2	26:L:102:MET:SD	2.17	0.68
39:Y:116:MET:HG2	39:Y:124:MET:CG	2.24	0.68
41:a:1056:G:O2'	41:a:1103:A:N6	2.27	0.68
9:9:43:LYS:HZ3	9:9:98:GLU:HB2	1.58	0.68
12:AB:137:ALA:O	12:AB:155:LYS:CA	2.41	0.68
13:AD:48:LEU:HB2	13:AD:183:ILE:HD11	1.75	0.68
31:Q:80:LYS:HB3	31:Q:106:ARG:NH1	2.09	0.68
33:S:42:TRP:CZ3	47:g:66:ILE:HG23	2.29	0.68
34:T:27:VAL:O	34:T:31:LEU:HD23	1.93	0.68
58:r:37:VAL:HG12	58:r:43:ASN:ND2	2.09	0.68
62:v:1:MET:HE1	62:v:44:ARG:HA	1.76	0.68
12:AB:89:PRO:CG	14:AE:290:ILE:HG21	2.24	0.68
18:D:1308:U:P	38:X:100:GLN:HE22	2.16	0.68
28:N:87:LYS:HD2	28:N:91:GLU:HB3	1.74	0.68
37:W:36:ARG:NH2	37:W:75:ALA:O	2.26	0.68
39:Y:118:GLY:O	39:Y:124:MET:HE3	1.92	0.68
41:a:1655:A:H1'	50:j:118:PHE:CE2	2.29	0.68
5:4:50:MET:HA	5:4:56:PHE:CZ	2.29	0.67
12:AB:34:THR:HA	12:AB:47:SER:HA	1.76	0.67
10:B:75:C:P	41:a:2602:A:HO2'	2.12	0.67
19:E:25:ARG:HD2	19:E:66:LEU:HD11	1.75	0.67
24:J:76:TYR:HE2	24:J:204:TYR:HB2	1.57	0.67
27:M:20:SER:CB	27:M:23:LEU:HD13	2.24	0.67
63:w:24:MET:HE2	63:w:34:ILE:CD1	2.24	0.67
9:9:24:SER:CB	9:9:116:GLU:HG3	2.24	0.67
9:9:43:LYS:NZ	9:9:101:LYS:HE2	2.09	0.67
9:9:43:LYS:HA	9:9:46:ARG:CZ	2.24	0.67
9:9:44:ALA:HA	9:9:47:GLU:OE1	1.95	0.67
11:AA:887:VAL:CB	16:AG:105:ILE:HG23	2.23	0.67
26:L:38:ARG:NH1	26:L:99:ALA:HB2	2.09	0.67
27:M:23:LEU:HD21	27:M:59:LEU:HD21	1.76	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:Q:72:ASP:O	31:Q:75:LYS:NZ	2.21	0.67
41:a:752:A:OP1	53:m:1:MET:HE1	1.95	0.67
16:AG:239:LYS:HG3	16:AG:276:TRP:HB3	1.75	0.67
22:H:23:ILE:N	22:H:69:ASP:OD2	2.27	0.67
39:Y:37:PHE:CZ	39:Y:56:VAL:HG11	2.29	0.67
52:l:6:LYS:HE3	52:l:119:ILE:HG23	1.75	0.67
60:t:112:PHE:HD2	60:t:115:ILE:HD12	1.59	0.67
34:T:80:GLN:O	34:T:83:GLU:HG3	1.95	0.67
41:a:927:A:H2'	41:a:928:A:C8	2.30	0.67
41:a:2682:A:O4'	50:j:11:MET:HE1	1.95	0.67
66:z:68:ALA:HB1	66:z:106:PHE:CE2	2.29	0.67
17:C:13:PHE:HB3	17:C:51:TYR:CE1	2.30	0.67
27:M:46:ALA:CB	27:M:120:LEU:HD22	2.25	0.67
38:X:90:ARG:HD2	38:X:97:VAL:HA	1.77	0.67
56:p:85:LYS:CE	56:p:164:TYR:HD1	2.07	0.67
9:9:73:LYS:HG2	9:9:117:LEU:HD12	1.76	0.67
12:AB:27:ASN:CG	12:AB:58:GLU:HB2	2.20	0.67
12:AB:120:GLU:HB2	12:AB:162:LEU:HB2	1.77	0.67
16:AG:284:VAL:CG1	16:AG:296:ILE:HD13	2.25	0.67
16:AG:353:HIS:C	16:AG:357:ASP:H	2.01	0.67
18:D:274:A:H4'	36:V:16:LYS:HE3	1.76	0.67
26:L:18:VAL:HA	26:L:21:MET:HE2	1.75	0.67
27:M:111:ARG:O	27:M:119:ARG:NH2	2.27	0.67
39:Y:48:ILE:HG13	39:Y:49:GLU:N	2.10	0.67
46:f:40:ASP:C	46:f:45:ARG:HH22	2.03	0.67
46:f:41:THR:O	46:f:44:ILE:HG22	1.94	0.67
62:v:45:GLN:NE2	62:v:125:PRO:HD3	2.10	0.67
8:7:8:U:H5'	18:D:1397:C:N3	2.10	0.67
16:AG:453:VAL:HG13	16:AG:458:ASP:HB3	1.77	0.67
22:H:163:ARG:N	22:H:298:GLU:OE2	2.28	0.67
4:3:72:ILE:HD12	4:3:83:VAL:HG21	1.76	0.67
16:AG:228:ARG:HA	16:AG:327:LEU:CD1	2.22	0.67
23:I:134:MET:HE1	23:I:167:TRP:HA	1.76	0.67
57:q:1:MET:HE1	57:q:35:GLN:CA	2.25	0.67
16:AG:168:LEU:HB2	16:AG:171:GLU:HB2	1.76	0.67
16:AG:302:LYS:H	16:AG:302:LYS:CE	2.00	0.67
16:AG:363:LEU:CD2	16:AG:409:ARG:CB	2.62	0.67
16:AG:447:LYS:O	16:AG:470:ILE:HD13	1.95	0.67
10:B:75:C:OP2	41:a:2602:A:C2'	2.43	0.67
18:D:564:C:OP1	32:R:12:ARG:NH1	2.27	0.67
18:D:945:G:C2	18:D:946:A:C8	2.83	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:F:31:GLU:OE1	20:F:34:ARG:NH2	2.28	0.67
28:N:67:GLN:OE1	28:N:67:GLN:N	2.28	0.67
39:Y:85:ILE:H	39:Y:85:ILE:HD12	1.59	0.67
41:a:1802:A:H2'	41:a:1803:A:C8	2.30	0.67
41:a:2682:A:C8	50:j:11:MET:HE1	2.30	0.67
16:AG:380:THR:O	16:AG:384:LEU:HD12	1.95	0.67
18:D:1344:C:P	29:O:124:ARG:HH11	2.16	0.67
25:K:156:LYS:HE3	28:N:71:VAL:HG13	1.76	0.67
41:a:1665:A:O5'	60:t:66:LYS:NZ	2.28	0.67
52:l:118:LEU:HD11	52:l:188:MET:SD	2.35	0.67
5:4:84:PRO:O	5:4:85:LYS:HE2	1.96	0.66
10:A:71:C:H3'	10:A:72:A:C8	2.31	0.66
16:AG:235:LYS:NZ	16:AG:331:LEU:HG	2.11	0.66
16:AG:429:LYS:CD	16:AG:429:LYS:H	2.05	0.66
17:C:70:TYR:CE2	18:D:674:G:H4'	2.30	0.66
18:D:673:A:H5"	26:L:86:ARG:NH1	2.09	0.66
29:O:86:ALA:O	29:O:89:GLU:HG2	1.95	0.66
33:S:42:TRP:HH2	47:g:66:ILE:HA	1.60	0.66
35:U:45:GLU:HG3	35:U:46:LYS:HD3	1.76	0.66
39:Y:32:VAL:HG22	39:Y:60:VAL:HG21	1.77	0.66
41:a:2420:C:H5"	51:k:8:LYS:NZ	2.09	0.66
59:s:13:ARG:HH22	59:s:50:THR:HA	1.60	0.66
60:t:42:THR:CG2	60:t:44:LYS:HZ1	2.07	0.66
7:6:20:DA:N6	8:7:51:G:N1	2.42	0.66
10:A:32:C:H4'	27:M:86:GLN:NE2	2.10	0.66
10:B:71:C:H3'	10:B:72:A:C8	2.30	0.66
24:J:121:LYS:HG2	24:J:131:ASN:HD21	1.59	0.66
41:a:1454:C:O4'	63:w:63:ARG:NE	2.28	0.66
5:4:50:MET:HB3	5:4:56:PHE:CE1	2.31	0.66
9:9:47:GLU:HG3	9:9:94:ARG:CZ	2.24	0.66
19:E:54:MET:HE1	19:E:75:HIS:CE1	2.31	0.66
23:I:151:VAL:HG12	23:I:200:VAL:HG23	1.77	0.66
43:c:71:LEU:HB3	43:c:76:GLU:CD	2.20	0.66
48:h:53:HIS:NE2	48:h:219:THR:HA	2.11	0.66
50:j:3:GLY:O	50:j:4:LEU:HD12	1.95	0.66
59:s:15:TRP:NE1	59:s:53:TYR:CD2	2.63	0.66
5:4:75:GLN:HG3	5:4:92:VAL:CG2	2.25	0.66
9:9:23:LEU:HD13	9:9:92:ALA:HB2	1.77	0.66
12:AB:115:LYS:HE2	12:AB:129:ILE:HG23	1.76	0.66
39:Y:79:LEU:HD21	39:Y:105:LEU:CD2	2.24	0.66
48:h:76:ALA:HB1	48:h:94:VAL:HG12	1.76	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
66:z:79:PHE:HE1	66:z:110:VAL:HA	1.60	0.66
21:G:101:LEU:HD22	21:G:157:LEU:CD1	2.26	0.66
41:a:111:A:O3'	45:e:58:ASN:ND2	2.28	0.66
41:a:666:A:H1'	55:o:4:ILE:HD12	1.76	0.66
2:1:25:ARG:HH22	41:a:520:G:H5'	1.58	0.66
6:5:10:DT:H73	11:AA:62:TYR:CB	2.25	0.66
16:AG:227:ALA:HB3	16:AG:331:LEU:HA	1.78	0.66
16:AG:308:ALA:HB2	16:AG:344:LEU:HD11	1.78	0.66
18:D:43:C:OP1	35:U:12:LYS:NZ	2.29	0.66
21:G:49:MET:HE1	21:G:201:PRO:CD	2.23	0.66
21:G:90:PHE:CD2	21:G:154:MET:HE3	2.31	0.66
22:H:308:GLU:HG2	22:H:309:MET:H	1.61	0.66
38:X:81:MET:CE	41:a:888:C:C5	2.78	0.66
40:Z:20:VAL:O	40:Z:20:VAL:HG12	1.94	0.66
41:a:2420:C:H5"	51:k:8:LYS:CE	2.25	0.66
60:t:38:ILE:HD11	60:t:112:PHE:HZ	1.60	0.66
60:t:99:ILE:HD13	60:t:118:LEU:HB2	1.77	0.66
5:4:56:PHE:O	5:4:61:LEU:HD11	1.95	0.66
6:5:10:DT:C7	11:AA:62:TYR:CB	2.74	0.66
9:9:24:SER:OG	9:9:86:MET:HE2	1.96	0.66
9:9:139:LEU:HD21	40:Z:11:VAL:HG22	1.76	0.66
16:AG:213:VAL:HG22	16:AG:216:ILE:HG13	1.78	0.66
21:G:134:ALA:O	21:G:137:ARG:HG2	1.96	0.66
48:h:129:THR:HG22	48:h:189:ARG:HD2	1.77	0.66
59:s:43:GLU:OE1	59:s:43:GLU:N	2.29	0.66
12:AB:113:GLY:H	12:AB:133:PRO:HD2	1.58	0.66
16:AG:448:LEU:CD2	16:AG:473:LEU:HD12	2.24	0.66
19:E:21:ASN:C	19:E:25:ARG:NE	2.54	0.66
39:Y:24:GLY:O	39:Y:27:LEU:HG	1.96	0.66
39:Y:45:THR:HG21	39:Y:50:LYS:HD3	1.76	0.66
54:n:94:GLU:HA	54:n:97:TRP:HE3	1.58	0.66
60:t:1:MET:HE1	60:t:32:TYR:CD1	2.31	0.66
62:v:45:GLN:NE2	62:v:125:PRO:CD	2.59	0.66
9:9:28:ALA:H	9:9:110:ALA:HA	1.61	0.66
18:D:246:A:C2	18:D:282:A:C5	2.84	0.66
18:D:375:U:P	35:U:70:ARG:NE	2.69	0.66
18:D:1151:A:HO2'	18:D:1152:A:P	2.18	0.66
21:G:53:ALA:HA	21:G:56:GLU:OE1	1.96	0.66
41:a:2175:C:H2'	41:a:2176:A:C8	2.31	0.66
52:l:40:ARG:HD2	52:l:92:HIS:ND1	2.11	0.66
63:w:49:GLU:OE1	63:w:49:GLU:N	2.26	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:55:ASP:OD1	1:0:56:GLY:N	2.27	0.66
5:4:77:VAL:HG23	5:4:89:ILE:HG12	1.76	0.66
11:AA:847:PRO:O	16:AG:104:ARG:CZ	2.44	0.66
12:AB:146:ILE:HG21	30:P:88:MET:O	1.96	0.66
16:AG:232:SER:HB2	16:AG:323:GLN:OE1	1.96	0.66
23:I:45:LYS:NZ	23:I:46:GLU:OE1	2.29	0.66
29:O:5:GLN:NE2	29:O:20:PHE:HB3	2.10	0.66
41:a:2355:G:C2'	41:a:2356:U:H5'	2.26	0.66
9:9:43:LYS:HD3	9:9:98:GLU:HG3	1.78	0.65
16:AG:133:HIS:ND1	16:AG:136:GLU:CD	2.55	0.65
16:AG:355:ALA:CB	16:AG:382:GLU:CG	2.54	0.65
17:C:51:TYR:CD1	17:C:54:GLN:NE2	2.63	0.65
28:N:10:MET:HG3	28:N:27:MET:HE1	1.78	0.65
41:a:998:C:OP2	66:z:92:ARG:NH2	2.29	0.65
52:l:149:ILE:HD11	52:l:188:MET:HG2	1.78	0.65
10:A:76:A:N6	41:a:2422:C:O5'	2.29	0.65
14:AE:58:CYS:SG	14:AE:59:ALA:N	2.69	0.65
16:AG:123:ARG:HG2	16:AG:191:ARG:O	1.96	0.65
18:D:876:C:H1'	28:N:12:THR:HG21	1.76	0.65
21:G:23:TRP:CD1	21:G:39:HIS:HE1	2.14	0.65
21:G:90:PHE:CE2	21:G:154:MET:HE3	2.31	0.65
24:J:196:ASN:OD1	24:J:198:HIS:CE1	2.48	0.65
39:Y:20:SER:HB2	39:Y:21:PRO:HD3	1.79	0.65
6:5:9:DG:O5'	11:AA:473:ARG:HB3	1.95	0.65
9:9:139:LEU:CD2	40:Z:11:VAL:HG22	2.26	0.65
10:A:32:C:H4'	27:M:86:GLN:HE21	1.62	0.65
16:AG:393:LEU:O	16:AG:398:LEU:HD23	1.95	0.65
22:H:303:LEU:O	22:H:303:LEU:HG	1.96	0.65
26:L:25:TYR:O	26:L:29:ILE:HD12	1.97	0.65
33:S:53:ARG:HB3	33:S:59:ARG:NH1	2.11	0.65
33:S:87:ALA:CA	33:S:90:ARG:NH1	2.60	0.65
37:W:62:VAL:HG13	37:W:66:MET:HE3	1.77	0.65
66:z:85:LYS:HD2	66:z:116:ALA:HB1	1.79	0.65
9:9:14:GLU:O	9:9:18:VAL:HG23	1.96	0.65
12:AB:9:CYS:HB3	12:AB:74:GLY:HA2	1.79	0.65
12:AB:35:LEU:CA	12:AB:106:ASP:OD1	2.36	0.65
52:l:147:LEU:HB2	52:l:183:PHE:HD2	1.62	0.65
52:l:194:LYS:O	52:l:198:GLU:OE1	2.15	0.65
58:r:137:GLU:HG2	58:r:138:VAL:N	2.11	0.65
6:5:10:DT:H1'	12:AB:71:ALA:H	0.83	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)
9:9:46:ARG:CG	9:9:94:ARG:HH21	2.02	0.65
12:AB:115:LYS:HZ3	12:AB:129:ILE:HG22	1.56	0.65
12:AB:155:LYS:HG3	12:AB:156:ASN:H	1.62	0.65
18:D:1228:C:OP2	38:X:110:LYS:NZ	2.28	0.65
34:T:64:ARG:NH1	34:T:89:ARG:HH22	1.94	0.65
41:a:1824:G:OP1	48:h:52:ARG:CZ	2.44	0.65
41:a:2682:A:H2'	41:a:2683:C:O4'	1.96	0.65
47:g:58:ASP:C	47:g:62:LYS:NZ	2.55	0.65
60:t:42:THR:O	60:t:44:LYS:NZ	2.19	0.65
9:9:129:LEU:N	9:9:130:PRO:HD2	2.12	0.65
12:AB:118:ILE:CD1	12:AB:142:LEU:HD22	2.27	0.65
23:I:132:ARG:O	23:I:135:LYS:HG2	1.97	0.65
32:R:30:LYS:HB3	32:R:57:LEU:HD11	1.78	0.65
39:Y:14:ALA:C	39:Y:50:LYS:HE3	2.22	0.65
39:Y:81:LYS:NZ	39:Y:86:LYS:HE2	2.12	0.65
40:Z:22:LEU:O	40:Z:26:MET:HE1	1.97	0.65
41:a:617:G:H4'	52:l:199:MET:HE1	1.78	0.65
3:2:3:ARG:NH1	3:2:5:GLU:OE2	2.30	0.65
4:3:26:LYS:HB2	4:3:35:ILE:HG23	1.78	0.65
4:3:34:VAL:HG13	4:3:67:VAL:HG22	1.78	0.65
16:AG:174:ARG:HB3	16:AG:175:PRO:CD	2.25	0.65
17:C:73:ARG:HH12	31:Q:113:VAL:HA	1.62	0.65
18:D:588:G:H4'	28:N:3:MET:HE1	1.77	0.65
18:D:1290:G:H4'	27:M:35:LYS:HZ3	1.62	0.65
29:O:83:ILE:O	29:O:87:LEU:HD23	1.96	0.65
36:V:60:GLU:OE1	36:V:76:VAL:CG2	2.45	0.65
41:a:2308:G:C5	54:n:77:PHE:CZ	2.85	0.65
52:l:62:GLN:O	52:l:69:ARG:NE	2.30	0.65
60:t:42:THR:HG23	60:t:44:LYS:NZ	2.12	0.65
61:u:84:LYS:HZ2	61:u:98:ALA:C	2.02	0.65
16:AG:226:ALA:O	16:AG:228:ARG:HD3	1.97	0.65
27:M:103:TRP:CG	27:M:137:LYS:HZ1	2.14	0.65
38:X:28:THR:HA	38:X:31:LYS:HE3	1.78	0.65
41:a:1278:C:C4'	63:w:24:MET:HE1	2.27	0.65
41:a:1839:G:H1'	41:a:1927:A:C8	2.32	0.65
54:n:117:LEU:HD13	54:n:176:PRO:CG	2.26	0.65
62:v:31:PHE:N	62:v:104:GLU:OE2	2.30	0.65
9:9:25:ALA:HB3	9:9:99:PHE:HD2	1.61	0.65
10:A:19:G:C2	41:a:2112:G:O4'	2.50	0.65
16:AG:425:LEU:HG	16:AG:429:LYS:HE2	1.65	0.65
17:C:73:ARG:HH12	31:Q:113:VAL:CB	2.09	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:E:16:LYS:O	19:E:19:LYS:HG2	1.97	0.65
20:F:58:LYS:O	20:F:62:ARG:HG2	1.96	0.65
39:Y:5:GLN:HG2	39:Y:61:TYR:CD1	2.32	0.65
39:Y:102:ARG:HD2	39:Y:141:ASP:CB	2.27	0.65
62:v:111:GLU:HG2	62:v:112:LEU:HD12	1.78	0.65
34:T:53:ARG:O	34:T:57:LEU:HD23	1.97	0.65
8:7:11:U:H4'	25:K:20:ARG:HH21	1.53	0.64
9:9:47:GLU:HB3	9:9:51:TYR:OH	1.97	0.64
12:AB:136:GLU:OE1	12:AB:160:ARG:NH1	2.31	0.64
16:AG:64:VAL:HG22	16:AG:75:ILE:HD12	1.78	0.64
16:AG:393:LEU:HD23	16:AG:398:LEU:HD13	1.78	0.64
19:E:28:MET:SD	19:E:61:GLN:HG3	2.36	0.64
32:R:25:GLU:CD	32:R:59:ASN:HD22	2.05	0.64
33:S:10:GLU:O	33:S:14:VAL:HG23	1.97	0.64
39:Y:102:ARG:HG3	39:Y:140:GLU:O	1.96	0.64
54:n:93:GLY:O	54:n:96:MET:N	2.29	0.64
6:5:10:DT:H73	11:AA:62:TYR:CG	2.18	0.64
16:AG:425:LEU:O	16:AG:429:LYS:CE	2.45	0.64
18:D:280:C:H1'	36:V:40:ARG:NH2	2.11	0.64
18:D:675:A:H1'	31:Q:118:HIS:CD2	2.33	0.64
18:D:738:C:H5"	26:L:68:GLN:NE2	2.12	0.64
22:H:277:GLY:HA2	22:H:331:MET:CE	2.27	0.64
23:I:156:ARG:HH11	23:I:193:TYR:HB3	1.63	0.64
25:K:148:ASN:OD1	28:N:96:MET:CE	2.45	0.64
41:a:2419:U:H4'	51:k:22:THR:HG21	1.79	0.64
41:a:2572:A:N7	50:j:150:GLN:NE2	2.45	0.64
52:l:112:LEU:HG	52:l:118:LEU:HB2	1.79	0.64
56:p:149:ARG:CZ	56:p:162:VAL:O	2.45	0.64
60:t:1:MET:HE1	60:t:32:TYR:CG	2.31	0.64
8:7:11:U:C4'	25:K:20:ARG:HH22	1.93	0.64
16:AG:183:LEU:HA	16:AG:197:VAL:HA	1.78	0.64
16:AG:349:GLN:C	16:AG:351:GLU:H	2.06	0.64
22:H:119:GLY:HA2	22:H:133:GLY:HA2	1.80	0.64
41:a:2334:U:H4'	41:a:2335:A:OP2	1.95	0.64
55:o:30:ARG:HH12	61:u:62:PRO:CB	2.10	0.64
60:t:42:THR:HG23	60:t:44:LYS:HZ1	1.62	0.64
65:y:64:ILE:HG13	65:y:64:ILE:O	1.97	0.64
14:AE:79:LYS:NZ	16:AG:153:ASP:OD1	2.30	0.64
37:W:40:ILE:CD1	37:W:66:MET:SD	2.77	0.64
41:a:2723:C:H5"	63:w:1:MET:HE3	1.78	0.64
54:n:135:GLN:HG3	54:n:150:ARG:NH2	2.12	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:t:9:ASN:OD1	60:t:10:VAL:N	2.27	0.64
14:AE:84:ILE:HG22	14:AE:91:GLU:HG3	1.79	0.64
16:AG:353:HIS:CA	16:AG:356:ILE:CG2	2.76	0.64
16:AG:437:LEU:CD2	16:AG:456:LEU:HD11	2.27	0.64
17:C:60:LYS:HZ3	18:D:734:G:C3'	2.10	0.64
19:E:81:ALA:C	19:E:85:LYS:HZ3	2.04	0.64
20:F:10:GLU:OE2	20:F:18:ARG:NE	2.30	0.64
20:F:58:LYS:O	20:F:62:ARG:CG	2.45	0.64
24:J:99:ASP:OD1	24:J:100:ASN:N	2.31	0.64
27:M:26:PHE:HD1	27:M:101:MET:SD	2.19	0.64
33:S:87:ALA:HA	33:S:90:ARG:CZ	2.27	0.64
39:Y:126:ARG:NH2	41:a:1083:U:P	2.70	0.64
48:h:52:ARG:HE	48:h:53:HIS:HE1	1.44	0.64
56:p:52:PHE:CD1	56:p:69:ARG:HD3	2.32	0.64
8:7:47:U:C5'	11:AA:1259:LEU:HD21	2.27	0.64
9:9:73:LYS:NZ	9:9:115:GLY:O	2.31	0.64
12:AB:38:ILE:HD12	12:AB:160:ARG:HH11	1.63	0.64
12:AB:115:LYS:HZ2	12:AB:129:ILE:HG21	0.77	0.64
12:AB:138:ARG:HD3	12:AB:155:LYS:CA	2.27	0.64
16:AG:205:LEU:HA	16:AG:208:LEU:HB2	1.80	0.64
16:AG:361:LYS:CD	16:AG:417:ILE:CG1	2.75	0.64
16:AG:434:LEU:HD12	16:AG:454:CYS:C	2.22	0.64
18:D:1158:C:O2'	21:G:132:LYS:CE	2.45	0.64
36:V:31:HIS:CD2	36:V:34:TYR:H	2.15	0.64
39:Y:55:PRO:HB2	39:Y:71:LYS:HE2	1.80	0.64
39:Y:86:LYS:HD3	39:Y:86:LYS:C	2.23	0.64
52:l:45:ALA:HB1	52:l:88:ARG:NH2	2.12	0.64
61:u:122:VAL:CG1	61:u:125:LEU:HD11	2.27	0.64
62:v:105:MET:CE	62:v:108:VAL:HG21	2.28	0.64
2:1:25:ARG:NH2	41:a:520:G:C5'	2.60	0.64
10:A:22:G:H2'	10:A:23:C:C6	2.32	0.64
12:AB:38:ILE:HD13	12:AB:160:ARG:NH1	2.12	0.64
16:AG:354:ALA:CA	16:AG:357:ASP:H	2.10	0.64
16:AG:433:ASP:O	16:AG:456:LEU:CG	2.45	0.64
18:D:718:A:H5'	31:Q:119:ASN:ND2	2.13	0.64
24:J:138:SER:O	24:J:141:ASP:CG	2.40	0.64
25:K:61:GLN:HA	25:K:64:MET:CE	2.27	0.64
27:M:23:LEU:HD21	27:M:59:LEU:CD2	2.27	0.64
27:M:23:LEU:HD12	27:M:23:LEU:N	2.13	0.64
39:Y:99:LYS:NZ	39:Y:140:GLU:OE2	2.26	0.64
44:d:55:U:H1'	54:n:26:MET:CE	2.26	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:5:11:DA:P	12:AB:67:THR:C	2.79	0.64
16:AG:131:ARG:HG2	16:AG:186:VAL:HG12	1.79	0.64
18:D:1308:U:P	38:X:100:GLN:NE2	2.70	0.64
18:D:1323:G:H2'	18:D:1324:A:C8	2.33	0.64
21:G:27:MET:HG2	21:G:189:THR:HA	1.78	0.64
41:a:2356:U:O3'	42:b:20:ARG:CZ	2.45	0.64
52:l:6:LYS:HE3	52:l:119:ILE:CG2	2.28	0.64
52:l:69:ARG:NH1	52:l:69:ARG:HA	2.13	0.64
60:t:8:LEU:N	60:t:18:ARG:NH1	2.46	0.64
6:5:16:DG:H1	11:AA:451:ARG:NH2	1.94	0.64
8:7:9:U:N3	18:D:1196:A:C8	2.66	0.64
9:9:117:LEU:O	9:9:117:LEU:HD23	1.98	0.64
10:B:22:G:H2'	10:B:23:C:C6	2.32	0.64
26:L:2:ARG:CZ	26:L:68:GLN:NE2	2.60	0.64
27:M:4:ARG:CG	27:M:5:ARG:CZ	2.75	0.64
34:T:3:LEU:HD22	34:T:8:THR:CG2	2.28	0.64
39:Y:102:ARG:NE	39:Y:102:ARG:HA	2.11	0.64
8:7:9:U:N3	18:D:1196:A:N7	2.45	0.64
17:C:34:THR:N	17:C:38:LYS:O	2.30	0.64
21:G:19:GLN:HG3	22:H:76:GLU:HB3	1.79	0.64
24:J:150:LYS:HE2	24:J:178:MET:HE2	1.79	0.64
43:c:66:THR:HG22	43:c:70:GLU:OE2	1.97	0.64
59:s:53:TYR:CE1	59:s:121:LYS:HD2	2.32	0.64
66:z:41:LYS:HG3	66:z:45:TYR:CE2	2.32	0.64
9:9:47:GLU:HG2	9:9:95:LEU:HD21	1.78	0.63
21:G:26:LYS:NZ	21:G:193:PRO:HG2	2.12	0.63
22:H:19:ARG:O	22:H:72:LEU:HB2	1.98	0.63
41:a:1067:A:O2'	41:a:1068:G:O4'	2.16	0.63
41:a:1596:A:H2'	41:a:1597:A:C8	2.32	0.63
41:a:2013:A:N1	41:a:2613:U:O4	2.31	0.63
56:p:107:LEU:O	56:p:152:ARG:CZ	2.45	0.63
64:x:114:GLY:O	64:x:116:GLN:NE2	2.31	0.63
1:0:51:VAL:HG23	66:z:86:ALA:O	1.98	0.63
5:4:80:HIS:CE1	5:4:82:TYR:H	2.17	0.63
7:6:23:DC:H5"	14:AE:259:ARG:NH1	1.92	0.63
16:AG:63:LEU:HD22	16:AG:92:TYR:HD1	1.63	0.63
16:AG:385:ALA:HB2	16:AG:411:LYS:HE3	1.70	0.63
17:C:33:ILE:O	22:H:338:GLU:CD	2.42	0.63
18:D:406:G:H21	24:J:116:GLN:HE22	1.46	0.63
39:Y:102:ARG:NE	39:Y:139:VAL:HG21	2.13	0.63
41:a:2335:A:P	64:x:13:ARG:CZ	2.87	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:4:50:MET:O	5:4:52:ALA:N	2.31	0.63
9:9:24:SER:OG	9:9:116:GLU:HG3	1.97	0.63
9:9:50:VAL:HG23	39:Y:120:ASP:OD2	1.98	0.63
16:AG:363:LEU:CD2	16:AG:409:ARG:CA	2.71	0.63
18:D:714:G:H2'	18:D:715:A:C8	2.32	0.63
39:Y:99:LYS:NZ	39:Y:138:VAL:HG13	2.14	0.63
41:a:2393:U:P	55:o:30:ARG:NE	2.70	0.63
2:1:71:VAL:HB	2:1:74:ILE:HD11	1.79	0.63
4:3:68:SER:OG	41:a:335:C:O2	2.15	0.63
11:AA:120:GLN:NE2	11:AA:490:GLN:OE1	2.31	0.63
11:AA:314:ASN:HD21	11:AA:348:SER:HA	1.62	0.63
12:AB:115:LYS:HE2	12:AB:129:ILE:CG2	2.27	0.63
16:AG:424:SER:C	16:AG:429:LYS:CG	2.72	0.63
32:R:80:ILE:HD12	32:R:104:CYS:HB2	1.79	0.63
39:Y:5:GLN:HE22	39:Y:60:VAL:N	1.96	0.63
39:Y:60:VAL:HG22	39:Y:66:PHE:CB	2.23	0.63
41:a:196:A:C2	61:u:50:PHE:HZ	2.16	0.63
41:a:2682:A:O5'	50:j:11:MET:HE1	1.98	0.63
11:AA:855:PRO:CG	16:AG:105:ILE:CG2	2.76	0.63
10:B:31:G:O3'	18:D:1340:A:O2'	2.17	0.63
18:D:1226:C:H2'	38:X:102:THR:OG1	1.98	0.63
18:D:1228:C:OP1	38:X:107:ARG:NH1	2.32	0.63
41:a:1800:C:OP2	48:h:182:ARG:NH1	2.27	0.63
61:u:84:LYS:NZ	61:u:98:ALA:O	2.20	0.63
1:0:84:ARG:NH1	41:a:813:U:OP1	2.31	0.63
12:AB:31:PRO:HB2	12:AB:50:LEU:HB3	1.80	0.63
10:B:54:U:H3	10:B:58:A:N6	1.96	0.63
10:B:76:A:H1'	41:a:2494:G:OP1	1.98	0.63
22:H:70:VAL:HG12	22:H:83:LEU:O	1.98	0.63
24:J:62:ARG:HG2	24:J:72:PHE:CZ	2.33	0.63
25:K:111:MET:HE1	25:K:125:ALA:HB1	1.80	0.63
33:S:77:PHE:HE1	33:S:93:ILE:HG21	1.63	0.63
38:X:16:VAL:HG23	38:X:17:ILE:HD12	1.80	0.63
41:a:995:C:O2	59:s:3:THR:OG1	2.17	0.63
41:a:2682:A:O4'	50:j:11:MET:CE	2.47	0.63
41:a:2725:A:C4	41:a:2727:A:C8	2.87	0.63
52:l:23:PHE:HB2	52:l:111:GLU:OE2	1.99	0.63
16:AG:425:LEU:HG	16:AG:429:LYS:HD3	1.78	0.63
17:C:13:PHE:CE2	17:C:21:ILE:HD11	2.34	0.63
38:X:16:VAL:HG12	38:X:34:LEU:HD12	1.80	0.63
39:Y:31:GLY:C	39:Y:60:VAL:HG11	2.23	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:Y:99:LYS:HD2	39:Y:140:GLU:CD	2.22	0.63
50:j:55:LYS:HZ1	50:j:59:ARG:C	2.06	0.63
8:7:9:U:O4	18:D:1196:A:N9	2.32	0.63
9:9:56:ARG:H	9:9:56:ARG:HD3	1.63	0.63
9:9:100:ALA:HB2	9:9:125:ARG:NE	2.13	0.63
12:AB:136:GLU:O	12:AB:156:ASN:HA	1.97	0.63
16:AG:162:ILE:HD11	16:AG:199:ARG:HD2	1.79	0.63
16:AG:433:ASP:C	16:AG:456:LEU:CD1	2.72	0.63
22:H:61:GLU:HG2	22:H:62:ILE:HG23	1.81	0.63
25:K:61:GLN:HA	25:K:64:MET:HE3	1.81	0.63
26:L:102:MET:HG2	26:L:103:VAL:N	2.05	0.63
34:T:88:ARG:NH2	41:a:714:U:OP2	2.31	0.63
35:U:18:GLN:OE1	35:U:37:GLY:O	2.17	0.63
39:Y:14:ALA:HB3	39:Y:51:GLY:N	2.12	0.63
39:Y:37:PHE:CE1	39:Y:56:VAL:HG11	2.33	0.63
46:f:10:THR:HB	46:f:56:LYS:HZ2	1.61	0.63
63:w:33:ILE:CG1	63:w:112:TYR:HD1	2.11	0.63
7:6:18:DT:N3	8:7:52:A:N6	2.36	0.63
11:AA:1282:GLY:HA3	15:AF:17:PHE:HE1	1.63	0.63
16:AG:287:ALA:HB1	16:AG:331:LEU:HB3	1.81	0.63
16:AG:301:ASP:OD1	16:AG:301:ASP:N	2.32	0.63
16:AG:422:GLU:HG2	16:AG:426:GLY:HA3	1.80	0.63
21:G:49:MET:HE3	21:G:199:VAL:O	1.99	0.63
39:Y:79:LEU:CD1	39:Y:132:ALA:HA	2.29	0.63
39:Y:102:ARG:HG3	39:Y:141:ASP:HA	1.80	0.63
48:h:251:GLN:HE22	48:h:253:LYS:C	2.07	0.63
49:i:17:ARG:HA	49:i:20:ASP:OD1	1.99	0.63
64:x:90:VAL:HG21	64:x:115:LEU:HD21	1.81	0.63
6:5:10:DT:C4	11:AA:62:TYR:HD2	2.12	0.62
11:AA:888:THR:N	16:AG:105:ILE:CD1	2.62	0.62
16:AG:434:LEU:CD1	16:AG:454:CYS:C	2.72	0.62
25:K:137:VAL:O	25:K:140:THR:OG1	2.15	0.62
41:a:754:U:H2'	41:a:755:U:C6	2.34	0.62
65:y:31:TRP:CZ3	65:y:38:LYS:HD3	2.33	0.62
5:4:77:VAL:HG22	5:4:79:ARG:HE	1.64	0.62
6:5:11:DA:H5'	12:AB:67:THR:CB	2.27	0.62
9:9:77:VAL:HG12	9:9:77:VAL:O	1.99	0.62
12:AB:38:ILE:HD12	12:AB:160:ARG:NH1	2.13	0.62
12:AB:80:ARG:HB3	12:AB:82:GLY:O	1.99	0.62
16:AG:323:GLN:HE21	16:AG:323:GLN:CA	2.12	0.62
25:K:140:THR:O	25:K:144:LEU:HD23	1.99	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:P:24:GLU:HA	30:P:27:GLU:OE1	1.98	0.62
37:W:66:MET:SD	37:W:66:MET:O	2.57	0.62
39:Y:21:PRO:HB2	39:Y:22:PRO:HD3	1.80	0.62
39:Y:102:ARG:HA	39:Y:102:ARG:HE	1.64	0.62
41:a:537:G:OP1	59:s:2:LYS:HE2	1.98	0.62
45:e:13:GLU:O	45:e:17:GLU:OE1	2.16	0.62
54:n:38:MET:SD	54:n:150:ARG:HD2	2.39	0.62
3:2:36:LYS:HE3	3:2:79:ASP:OD2	1.98	0.62
6:5:10:DT:C5'	11:AA:62:TYR:OH	2.48	0.62
9:9:23:LEU:HD11	9:9:96:PHE:CE2	2.34	0.62
13:AD:211:ILE:HG12	13:AD:219:ARG:HH12	1.65	0.62
16:AG:266:LEU:H	16:AG:266:LEU:HD23	1.64	0.62
16:AG:389:MET:HE3	16:AG:407:ARG:HD2	1.81	0.62
18:D:337:G:H2'	18:D:338:A:C8	2.34	0.62
21:G:114:LEU:HD13	21:G:144:LEU:CB	2.28	0.62
39:Y:80:LYS:HG3	39:Y:86:LYS:O	2.00	0.62
16:AG:354:ALA:HA	16:AG:357:ASP:CA	2.28	0.62
18:D:1152:A:OP1	30:P:70:HIS:ND1	2.29	0.62
41:a:1138:G:N3	59:s:108:MET:HE2	2.14	0.62
5:4:77:VAL:HG11	5:4:79:ARG:HH21	1.64	0.62
16:AG:453:VAL:HG21	16:AG:462:GLN:CD	2.25	0.62
18:D:1145:A:O2'	18:D:1146:A:O5'	2.18	0.62
21:G:19:GLN:OE1	21:G:21:ARG:HG2	2.00	0.62
21:G:126:PHE:O	21:G:126:PHE:CD1	2.53	0.62
22:H:135:LEU:O	22:H:169:SER:HA	2.00	0.62
27:M:18:PHE:HD2	27:M:59:LEU:HD21	1.65	0.62
35:U:5:ARG:HG2	35:U:68:SER:HB2	1.79	0.62
51:k:21:TYR:CE2	51:k:38:LYS:HG2	2.34	0.62
62:v:88:ASN:OD1	62:v:89:VAL:N	2.32	0.62
1:0:82:HIS:CG	1:0:82:HIS:O	2.52	0.62
9:9:47:GLU:HA	9:9:94:ARG:HH22	1.65	0.62
12:AB:143:LEU:CD2	30:P:88:MET:HE1	2.27	0.62
16:AG:223:ILE:HA	16:AG:238:VAL:HG12	1.81	0.62
16:AG:288:MET:SD	16:AG:293:VAL:N	2.73	0.62
18:D:932:C:H5'	27:M:4:ARG:HH11	1.63	0.62
21:G:73:LYS:O	21:G:74:ARG:HG2	2.00	0.62
21:G:118:GLU:O	21:G:121:SER:OG	2.15	0.62
22:H:135:LEU:CB	22:H:167:VAL:CB	2.78	0.62
27:M:66:LEU:HD13	27:M:101:MET:HE1	1.81	0.62
32:R:75:GLN:OE1	32:R:75:GLN:N	2.32	0.62
41:a:2311:A:N3	54:n:85:ILE:HD11	2.13	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:s:37:ARG:NH2	59:s:44:TYR:OH	2.32	0.62
62:v:38:ARG:HA	62:v:96:ILE:O	2.00	0.62
6:5:9:DG:P	11:AA:473:ARG:CG	2.88	0.62
16:AG:428:ASN:O	16:AG:428:ASN:ND2	2.32	0.62
41:a:985:C:C2	41:a:986:C:C5	2.87	0.62
63:w:35:LYS:HZ2	63:w:112:TYR:HE2	1.47	0.62
63:w:37:THR:OG1	63:w:40:LYS:HD2	2.00	0.62
8:7:7:U:H6	8:7:7:U:H5"	1.65	0.62
9:9:7:ASP:O	9:9:11:ILE:HD12	1.98	0.62
11:AA:387:ASN:HB3	11:AA:394:ARG:HH11	1.63	0.62
11:AA:859:GLU:C	16:AG:38:LYS:HZ3	2.07	0.62
11:AA:860:ALA:N	16:AG:38:LYS:NZ	2.48	0.62
16:AG:27:LEU:HD22	16:AG:114:ILE:HG23	1.82	0.62
28:N:43:GLU:CD	28:N:101:ILE:HG21	2.25	0.62
41:a:1406:U:C2	41:a:1407:G:C8	2.88	0.62
41:a:1824:G:C3'	48:h:52:ARG:HH12	2.13	0.62
6:5:10:DT:N1	11:AA:62:TYR:CE2	2.65	0.62
9:9:113:PHE:O	9:9:123:ILE:HG13	1.99	0.62
12:AB:138:ARG:HD3	12:AB:155:LYS:HB2	1.81	0.62
16:AG:440:VAL:HG23	16:AG:481:LEU:CD2	2.29	0.62
21:G:110:SER:HA	21:G:113:ARG:HE	1.65	0.62
39:Y:9:LYS:HG2	39:Y:55:PRO:HB3	1.80	0.62
39:Y:100:ILE:CD1	39:Y:139:VAL:HB	2.29	0.62
41:a:614:A:O2'	41:a:615:U:OP2	2.12	0.62
62:v:1:MET:HE1	62:v:44:ARG:CA	2.30	0.62
8:7:11:U:O4'	25:K:20:ARG:NH2	2.32	0.62
11:AA:889:PRO:CG	16:AG:104:ARG:NH1	2.62	0.62
12:AB:102:LYS:HE2	14:AE:285:LEU:CB	2.29	0.62
14:AE:288:PRO:HD2	14:AE:291:ILE:HG22	1.74	0.62
16:AG:425:LEU:O	16:AG:429:LYS:NZ	2.33	0.62
18:D:1124:G:O2'	18:D:1145:A:N6	2.33	0.62
22:H:16:ILE:HG22	22:H:25:ARG:NH2	2.14	0.62
25:K:113:ALA:HA	25:K:116:GLU:OE1	2.00	0.62
41:a:2315:G:H4'	54:n:127:ASN:ND2	2.14	0.62
58:r:5:LEU:HD12	58:r:17:ASP:O	2.00	0.62
10:B:36:U:H2'	10:B:37:A:C8	2.35	0.61
18:D:1157:A:C2	18:D:1181:G:C4	2.88	0.61
33:S:19:LYS:HG3	33:S:20:TYR:CE1	2.35	0.61
47:g:1:MET:HE2	47:g:6:HIS:CD2	2.35	0.61
54:n:33:LYS:HA	54:n:96:MET:SD	2.39	0.61
59:s:11:VAL:HG11	59:s:13:ARG:NH1	2.15	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:2:9:LYS:O	3:2:12:ARG:NH1	2.30	0.61
3:2:56:GLU:OE1	3:2:56:GLU:N	2.33	0.61
12:AB:140:MET:O	12:AB:150:ILE:CG2	2.48	0.61
14:AE:741:ALA:O	14:AE:762:ASN:ND2	2.32	0.61
16:AG:285:ILE:HD13	16:AG:285:ILE:N	2.15	0.61
18:D:562:U:C2'	32:R:14:ARG:HH11	2.13	0.61
23:I:14:ILE:HG22	23:I:15:VAL:HG13	1.82	0.61
27:M:111:ARG:O	27:M:119:ARG:NH1	2.34	0.61
28:N:88:ARG:HB2	28:N:91:GLU:OE1	2.00	0.61
29:O:123:ARG:HG2	29:O:123:ARG:O	1.98	0.61
34:T:67:LEU:HD12	34:T:78:TYR:CE1	2.35	0.61
60:t:20:MET:CB	60:t:44:LYS:HZ3	2.09	0.61
63:w:47:VAL:O	63:w:51:LEU:HD23	2.00	0.61
3:2:56:GLU:OE2	3:2:87:LEU:C	2.42	0.61
10:A:54:U:H3	10:A:58:A:N6	1.96	0.61
18:D:13:U:O2	18:D:914:A:C8	2.52	0.61
25:K:81:LEU:HG	25:K:96:MET:HE1	1.82	0.61
27:M:17:LYS:HG3	27:M:18:PHE:CD1	2.35	0.61
38:X:28:THR:CG2	38:X:31:LYS:HE3	2.30	0.61
39:Y:5:GLN:CG	39:Y:61:TYR:CE1	2.76	0.61
41:a:2307:G:O4'	41:a:2308:G:C5	2.52	0.61
46:f:41:THR:O	46:f:44:ILE:N	2.30	0.61
38:X:22:ILE:HB	38:X:25:VAL:HG12	1.80	0.61
41:a:548:G:H3'	41:a:549:G:O4'	2.01	0.61
48:h:141:VAL:HG23	48:h:162:VAL:CG1	2.30	0.61
10:A:5:G:H2'	10:A:6:G:H5'	1.82	0.61
10:A:65:C:H2'	10:A:66:C:H5'	1.83	0.61
11:AA:472:GLU:HG3	11:AA:473:ARG:HD3	1.82	0.61
11:AA:887:VAL:CB	16:AG:105:ILE:HG13	2.21	0.61
16:AG:253:GLY:HA3	16:AG:258:ARG:HD2	1.82	0.61
16:AG:421:GLN:O	16:AG:425:LEU:N	2.34	0.61
10:B:5:G:H2'	10:B:6:G:H5'	1.82	0.61
17:C:45:THR:HA	22:H:340:ARG:NH2	2.15	0.61
25:K:45:ARG:HB3	25:K:71:MET:HE2	1.81	0.61
33:S:87:ALA:HA	33:S:90:ARG:NH1	2.15	0.61
41:a:2002:G:OP1	63:w:17:ARG:NH2	2.26	0.61
51:k:34:LEU:HB3	51:k:51:GLU:HG3	1.82	0.61
9:9:25:ALA:HB2	9:9:96:PHE:CD1	2.36	0.61
11:AA:855:PRO:CD	16:AG:105:ILE:CG2	2.79	0.61
11:AA:860:ALA:N	16:AG:38:LYS:HD3	2.02	0.61
12:AB:31:PRO:O	12:AB:50:LEU:N	2.31	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AB:120:GLU:HA	12:AB:124:GLU:HA	1.80	0.61
16:AG:127:VAL:CG2	16:AG:192:GLY:CA	2.78	0.61
16:AG:168:LEU:HD21	16:AG:230:PRO:O	2.00	0.61
16:AG:197:VAL:HG11	16:AG:199:ARG:HH21	1.66	0.61
16:AG:380:THR:C	16:AG:384:LEU:HD11	2.24	0.61
16:AG:451:ARG:CZ	16:AG:469:ASP:HB2	2.31	0.61
21:G:30:PHE:CD1	21:G:201:PRO:CG	2.83	0.61
23:I:58:GLU:OE2	30:P:94:ALA:CB	2.48	0.61
25:K:69:ARG:HA	25:K:69:ARG:NE	2.15	0.61
31:Q:84:VAL:HG23	31:Q:107:ILE:CD1	2.30	0.61
38:X:81:MET:HE1	38:X:92:ARG:HD3	1.83	0.61
39:Y:19:PRO:O	39:Y:24:GLY:CA	2.48	0.61
41:a:1839:G:C8	41:a:1927:A:H1'	2.35	0.61
41:a:2363:G:OP2	55:o:40:ARG:HD2	2.01	0.61
47:g:5:ILE:HD12	54:n:64:LYS:CE	2.31	0.61
8:7:11:U:O2'	25:K:33:PHE:HE1	1.71	0.61
9:9:47:GLU:HG3	9:9:94:ARG:NH1	2.16	0.61
9:9:52:MET:C	9:9:52:MET:HE3	2.25	0.61
12:AB:146:ILE:HG22	30:P:88:MET:HA	1.82	0.61
13:AD:112:ALA:HB3	13:AD:126:PRO:HA	1.83	0.61
16:AG:233:ARG:CB	16:AG:327:LEU:HD23	2.28	0.61
16:AG:285:ILE:CG2	16:AG:293:VAL:HG11	2.28	0.61
18:D:563:A:C2	18:D:567:G:C5	2.89	0.61
27:M:50:LEU:HD21	27:M:121:ALA:CA	2.28	0.61
27:M:103:TRP:O	27:M:106:GLU:HG3	2.01	0.61
28:N:106:THR:HB	28:N:121:LEU:HD13	1.82	0.61
29:O:94:LEU:HB3	29:O:97:GLU:OE2	2.01	0.61
48:h:164:ILE:HG23	48:h:164:ILE:O	2.01	0.61
16:AG:303:HIS:HB3	16:AG:334:TRP:HZ3	1.66	0.61
16:AG:320:ARG:CG	16:AG:320:ARG:HH11	2.14	0.61
10:B:30:G:O2'	18:D:1339:A:C2	2.52	0.61
18:D:1309:G:P	38:X:98:ARG:HE	2.20	0.61
36:V:60:GLU:OE1	36:V:76:VAL:HG23	2.01	0.61
36:V:61:ILE:HG13	36:V:73:TRP:CZ3	2.36	0.61
9:9:23:LEU:HD21	9:9:96:PHE:CG	2.36	0.61
25:K:112:ARG:O	25:K:116:GLU:OE1	2.19	0.61
28:N:24:ALA:HB1	28:N:60:GLU:OE2	2.00	0.61
37:W:67:VAL:HG21	47:g:57:VAL:HG22	1.82	0.61
41:a:413:C:H2'	41:a:414:C:H6	1.66	0.61
54:n:122:PHE:O	54:n:123:ASP:OD1	2.19	0.61
63:w:42:LYS:HE2	63:w:97:ILE:HG21	1.82	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AB:115:LYS:NZ	12:AB:129:ILE:HG22	2.04	0.61
16:AG:279:ASN:HB3	16:AG:280:PRO:HD2	1.83	0.61
18:D:1125:U:C2	18:D:1127:G:C8	2.89	0.61
33:S:13:ARG:HB3	33:S:60:GLN:HG3	1.81	0.61
39:Y:36:GLU:HG3	39:Y:66:PHE:CE1	2.36	0.61
39:Y:72:THR:OG1	39:Y:73:PRO:HD2	2.01	0.61
40:Z:8:ILE:HG13	40:Z:9:GLU:N	2.15	0.61
47:g:65:ASN:OD1	47:g:66:ILE:N	2.30	0.61
58:r:114:GLU:OE2	58:r:134:VAL:N	2.33	0.61
62:v:111:GLU:HA	62:v:114:ARG:HE	1.66	0.61
8:7:11:U:O2'	25:K:33:PHE:CZ	2.52	0.60
9:9:61:ARG:NE	41:a:1046:A:O5'	2.34	0.60
12:AB:82:GLY:HA2	14:AE:142:GLU:OE1	2.01	0.60
14:AE:506:VAL:HG23	14:AE:628:GLY:HA3	1.83	0.60
16:AG:433:ASP:HB3	16:AG:456:LEU:HD12	1.83	0.60
16:AG:434:LEU:HG	16:AG:456:LEU:N	2.16	0.60
10:B:65:C:H2'	10:B:66:C:H5'	1.83	0.60
24:J:74:ASN:HA	24:J:77:LYS:HZ3	1.66	0.60
26:L:9:MET:HE2	26:L:51:ILE:HD11	1.83	0.60
29:O:55:VAL:O	29:O:57:MET:N	2.34	0.60
30:P:26:VAL:HG12	30:P:30:LYS:NZ	2.16	0.60
39:Y:79:LEU:CD2	39:Y:105:LEU:HD21	2.27	0.60
41:a:753:A:C2	41:a:754:U:C6	2.89	0.60
3:2:1:MET:N	41:a:142:A:O2'	2.34	0.60
3:2:56:GLU:OE2	3:2:87:LEU:O	2.18	0.60
10:A:36:U:H2'	10:A:37:A:C8	2.36	0.60
14:AE:79:LYS:HG2	16:AG:144:LYS:HD2	1.84	0.60
16:AG:240:THR:OG1	16:AG:247:PRO:HG2	2.01	0.60
16:AG:402:THR:O	16:AG:406:LEU:N	2.33	0.60
17:C:29:LEU:HD23	17:C:59:ILE:HD13	1.83	0.60
22:H:155:LYS:O	22:H:169:SER:N	2.34	0.60
36:V:10:GLY:HA3	36:V:25:ILE:HD13	1.83	0.60
58:r:135:HIS:ND1	58:r:137:GLU:CD	2.44	0.60
1:0:73:LYS:NZ	41:a:1225:G:OP1	2.34	0.60
3:2:56:GLU:OE1	3:2:86:THR:O	2.19	0.60
11:AA:55:SER:OG	11:AA:465:ARG:NH1	2.33	0.60
11:AA:528:ARG:NH2	11:AA:576:SER:O	2.29	0.60
14:AE:785:ASP:O	14:AE:789:LYS:HB2	2.01	0.60
14:AE:814:CYS:SG	14:AE:883:ARG:NH2	2.74	0.60
16:AG:424:SER:C	16:AG:429:LYS:HG3	2.26	0.60
17:C:60:LYS:NZ	18:D:734:G:C2'	2.64	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:D:687:A:C2	18:D:704:A:C5	2.88	0.60
21:G:38:VAL:CG2	22:H:75:VAL:HG21	2.31	0.60
21:G:114:LEU:HD13	21:G:144:LEU:HB2	1.84	0.60
29:O:56:ASP:O	29:O:57:MET:HE2	2.02	0.60
30:P:23:ALA:O	30:P:27:GLU:OE1	2.18	0.60
41:a:1406:U:O2'	41:a:1407:G:O4'	2.19	0.60
55:o:13:ARG:HD3	61:u:58:TYR:O	2.00	0.60
55:o:32:ILE:HG13	55:o:32:ILE:O	2.00	0.60
59:s:98:GLU:O	59:s:102:GLU:OE1	2.18	0.60
2:1:98:LYS:NZ	41:a:2011:U:O3'	2.34	0.60
19:E:28:MET:SD	19:E:57:ILE:HG22	2.42	0.60
23:I:142:MET:HE2	23:I:149:ILE:HG22	1.83	0.60
39:Y:56:VAL:HA	39:Y:71:LYS:NZ	2.08	0.60
41:a:271:G:C4	41:a:272:A:C8	2.89	0.60
41:a:639:U:H2'	41:a:640:C:C6	2.36	0.60
54:n:122:PHE:CZ	54:n:170:LEU:HD12	2.36	0.60
62:v:75:GLU:HG3	62:v:90:GLU:OE1	2.01	0.60
12:AB:115:LYS:CA	12:AB:129:ILE:CD1	2.79	0.60
14:AE:1161:GLY:HA3	14:AE:1179:PRO:HA	1.83	0.60
16:AG:422:GLU:CA	16:AG:426:GLY:CA	2.65	0.60
16:AG:422:GLU:CA	16:AG:426:GLY:H	2.08	0.60
10:B:69:C:H2'	10:B:70:G:O4'	2.02	0.60
18:D:718:A:O2'	20:F:34:ARG:NH2	2.34	0.60
24:J:91:LEU:HD21	24:J:195:ILE:HD12	1.84	0.60
41:a:323:C:H2'	52:l:163:ASN:OD1	2.02	0.60
41:a:1070:A:N7	41:a:1096:A:O2'	2.35	0.60
41:a:2189:U:P	41:a:2189:U:O4'	2.60	0.60
41:a:2191:A:H2'	41:a:2192:U:C6	2.36	0.60
41:a:2780:G:P	59:s:120:ARG:NH1	2.74	0.60
48:h:67:PHE:CE1	48:h:156:ARG:HD2	2.37	0.60
54:n:38:MET:HG3	54:n:57:LEU:HD21	1.83	0.60
59:s:13:ARG:NH2	59:s:49:ASP:O	2.34	0.60
59:s:102:GLU:HB3	59:s:119:PHE:HZ	1.67	0.60
60:t:8:LEU:N	60:t:18:ARG:HH12	1.98	0.60
61:u:51:GLU:OE1	61:u:51:GLU:N	2.34	0.60
1:0:68:ARG:HH12	41:a:1223:G:P	2.25	0.60
12:AB:129:ILE:O	12:AB:131:THR:N	2.35	0.60
13:AD:286:GLU:H	13:AD:315:GLY:CA	2.11	0.60
14:AE:92:VAL:HG22	14:AE:92:VAL:O	2.01	0.60
41:a:856:G:H2'	41:a:857:G:C8	2.37	0.60
41:a:1277:G:N3	63:w:23:ASN:ND2	2.47	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:4:57:TYR:OH	5:4:79:ARG:NH2	2.24	0.60
11:AA:889:PRO:CG	16:AG:104:ARG:HD3	2.23	0.60
12:AB:92:VAL:HA	12:AB:96:LEU:HB2	1.83	0.60
14:AE:86:GLU:OE1	14:AE:86:GLU:N	2.34	0.60
17:C:73:ARG:CZ	31:Q:113:VAL:HG12	2.32	0.60
28:N:43:GLU:HG2	28:N:101:ILE:HD13	1.84	0.60
29:O:57:MET:HA	29:O:60:LYS:HE2	1.83	0.60
39:Y:126:ARG:HH22	41:a:1083:U:P	2.25	0.60
41:a:468:G:N7	53:m:39:ARG:NH2	2.42	0.60
41:a:1172:C:H2'	41:a:1173:U:O4'	2.02	0.60
41:a:2298:A:C4	41:a:2321:U:C5	2.90	0.60
47:g:58:ASP:C	47:g:62:LYS:HZ3	2.07	0.60
59:s:13:ARG:HH22	59:s:50:THR:CA	2.14	0.60
63:w:60:VAL:HA	63:w:63:ARG:NH1	2.17	0.60
7:6:25:DT:H2'	11:AA:496:LYS:CE	2.28	0.60
9:9:60:LEU:HA	9:9:64:VAL:HB	1.84	0.60
11:AA:914:LYS:N	16:AG:105:ILE:CA	2.58	0.60
14:AE:1275:LEU:HB3	14:AE:1278:GLU:HB2	1.83	0.60
16:AG:10:GLU:HA	16:AG:12:VAL:HG22	1.84	0.60
16:AG:233:ARG:HG2	16:AG:270:ARG:HB2	1.84	0.60
17:C:14:THR:HG21	17:C:48:ARG:NE	2.17	0.60
25:K:159:LYS:NZ	28:N:44:GLY:HA3	2.17	0.60
50:j:25:THR:HG21	50:j:193:VAL:HG22	1.84	0.60
51:k:34:LEU:HB3	51:k:51:GLU:CG	2.31	0.60
55:o:30:ARG:HH12	61:u:62:PRO:CA	2.14	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
9:9:94:ARG:CB	9:9:97:LYS:HE2	2.32	0.60
9:9:123:ILE:O	9:9:123:ILE:HG23	2.02	0.60
12:AB:81:PHE:HE1	14:AE:293:ARG:HB3	0.85	0.60
18:D:652:U:H4'	28:N:56:LYS:NZ	2.16	0.60
22:H:131:LEU:CB	22:H:167:VAL:HA	2.32	0.60
44:d:5:U:OP1	44:d:61:G:O2'	2.16	0.60
48:h:84:ASP:HB2	48:h:91:ILE:HD12	1.84	0.60
54:n:25:VAL:O	54:n:28:VAL:HG12	2.02	0.60
59:s:73:VAL:HG13	59:s:86:GLN:HG2	1.84	0.60
5:4:76:ASP:OD1	5:4:77:VAL:N	2.33	0.60
11:AA:856:ASN:CA	16:AG:35:THR:HB	2.31	0.60
12:AB:89:PRO:CG	14:AE:290:ILE:CG2	2.79	0.60
16:AG:139:THR:HG22	16:AG:180:ARG:HB3	1.83	0.60
18:D:1160:G:C2	18:D:1161:C:C6	2.89	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:a:1432:G:H2'	41:a:1433:A:C8	2.37	0.60
9:9:33:VAL:HG22	9:9:36:ASP:CG	2.27	0.59
12:AB:118:ILE:HG13	12:AB:142:LEU:HD23	1.84	0.59
18:D:692:U:N3	18:D:695:A:OP2	2.34	0.59
18:D:1006:G:H2'	18:D:1007:U:C6	2.36	0.59
21:G:35:ARG:HB3	22:H:14:LYS:HZ3	1.67	0.59
33:S:63:ARG:NH2	33:S:68:GLY:O	2.32	0.59
38:X:93:ARG:HG2	38:X:95:LEU:HD23	1.84	0.59
39:Y:5:GLN:HE22	39:Y:60:VAL:C	2.10	0.59
41:a:1028:A:H2'	41:a:1029:A:C8	2.37	0.59
41:a:1257:C:H4'	52:l:78:TRP:CD2	2.37	0.59
41:a:1817:G:H3'	48:h:156:ARG:HH22	1.67	0.59
50:j:1:MET:HE2	50:j:100:LEU:HD11	1.83	0.59
61:u:76:GLU:HG3	61:u:111:ILE:HD13	1.84	0.59
9:9:7:ASP:OD1	9:9:8:LYS:N	2.35	0.59
9:9:23:LEU:HA	9:9:118:ILE:CG1	2.31	0.59
9:9:51:TYR:HB2	9:9:88:HIS:CB	2.32	0.59
9:9:98:GLU:HA	9:9:101:LYS:HG2	1.83	0.59
11:AA:1072:ASN:ND2	11:AA:1111:GLN:OE1	2.34	0.59
16:AG:353:HIS:O	16:AG:356:ILE:C	2.43	0.59
16:AG:434:LEU:CD1	16:AG:455:THR:C	2.74	0.59
18:D:736:C:O2'	26:L:88:MET:HE1	2.02	0.59
18:D:978:A:C5	18:D:1319:A:C2	2.90	0.59
22:H:280:LEU:N	22:H:330:VAL:O	2.31	0.59
39:Y:99:LYS:HD3	39:Y:138:VAL:O	2.02	0.59
51:k:19:HIS:ND1	51:k:41:PRO:CD	2.65	0.59
4:3:7:ARG:HH22	41:a:98:G:N2	2.00	0.59
5:4:63:ILE:HD11	5:4:91:PHE:CE2	2.37	0.59
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
12:AB:102:LYS:CD	14:AE:285:LEU:HA	2.31	0.59
12:AB:154:VAL:CG1	12:AB:162:LEU:HD21	2.32	0.59
16:AG:127:VAL:HG21	16:AG:192:GLY:HA2	1.84	0.59
16:AG:354:ALA:HA	16:AG:357:ASP:N	2.18	0.59
16:AG:453:VAL:HG11	16:AG:459:LEU:HG	1.85	0.59
18:D:1290:G:H4'	27:M:35:LYS:NZ	2.17	0.59
24:J:62:ARG:HG2	24:J:72:PHE:CE1	2.38	0.59
27:M:50:LEU:HD11	27:M:124:LEU:HB2	1.84	0.59
35:U:5:ARG:HH22	35:U:24:SER:HA	1.66	0.59
41:a:993:G:OP2	66:z:51:ARG:NH2	2.36	0.59
41:a:1322:A:C5	41:a:1323:C:C5	2.90	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:h:30:PHE:O	48:h:34:LEU:HD23	2.02	0.59
12:AB:35:LEU:HB3	12:AB:37:LYS:HD3	1.82	0.59
12:AB:117:ILE:HD13	12:AB:161:LYS:NZ	2.17	0.59
12:AB:143:LEU:HD22	30:P:88:MET:CE	2.28	0.59
16:AG:187:ARG:CB	16:AG:188:PRO:HD3	2.20	0.59
18:D:1169:A:H2'	18:D:1170:A:C8	2.37	0.59
20:F:49:LYS:O	20:F:53:VAL:HG23	2.02	0.59
21:G:23:TRP:HZ3	21:G:25:PRO:HA	1.67	0.59
21:G:26:LYS:CD	21:G:193:PRO:HG2	2.32	0.59
23:I:54:ARG:NH2	23:I:56:VAL:HG21	2.18	0.59
30:P:25:ILE:O	30:P:28:THR:OG1	2.19	0.59
32:R:7:LEU:CD2	32:R:12:ARG:NH2	2.65	0.59
34:T:64:ARG:CZ	34:T:64:ARG:HB3	2.32	0.59
35:U:76:LYS:C	35:U:80:LYS:HZ3	2.10	0.59
40:Z:14:MET:HG3	40:Z:15:SER:N	2.17	0.59
41:a:947:A:H2'	41:a:948:C:C6	2.37	0.59
41:a:2460:U:C2	41:a:2461:A:C8	2.90	0.59
49:i:22:LEU:HG	49:i:23:THR:N	2.17	0.59
63:w:33:ILE:CG1	63:w:112:TYR:CD1	2.85	0.59
2:1:1:MET:SD	2:1:3:THR:OG1	2.59	0.59
8:7:10:U:H5"	8:7:10:U:O2	2.03	0.59
12:AB:154:VAL:CG1	12:AB:162:LEU:CD2	2.80	0.59
16:AG:240:THR:CB	16:AG:247:PRO:HG3	2.32	0.59
18:D:718:A:C4	31:Q:118:HIS:ND1	2.71	0.59
18:D:878:A:OP2	28:N:80:ARG:NH1	2.35	0.59
25:K:16:ILE:HD11	25:K:38:VAL:HG12	1.83	0.59
27:M:18:PHE:HB3	27:M:59:LEU:HD11	1.84	0.59
27:M:137:LYS:O	27:M:141:VAL:HG23	2.01	0.59
31:Q:46:THR:OG1	31:Q:49:GLY:N	2.34	0.59
33:S:42:TRP:CH2	47:g:66:ILE:HA	2.37	0.59
39:Y:9:LYS:HE2	39:Y:55:PRO:HG3	1.82	0.59
41:a:654:A:H61	55:o:19:LYS:HD2	1.68	0.59
48:h:62:TYR:CE2	48:h:64:ILE:HD13	2.38	0.59
59:s:55:ILE:HG13	59:s:123:LYS:NZ	2.17	0.59
10:A:33:U:O3'	27:M:84:THR:OG1	2.16	0.59
12:AB:142:LEU:HB2	12:AB:152:HIS:H	1.65	0.59
16:AG:31:LEU:HD23	16:AG:110:ALA:HB1	1.85	0.59
16:AG:63:LEU:HG	16:AG:73:LYS:HB3	1.83	0.59
16:AG:137:ILE:O	16:AG:137:ILE:HG22	2.03	0.59
18:D:61:G:N7	19:E:6:SER:OG	2.33	0.59
22:H:333:LEU:O	22:H:334:ASP:OD1	2.19	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:X:25:VAL:HG23	38:X:29:ARG:CB	2.32	0.59
38:X:55:THR:O	38:X:59:GLU:OE1	2.18	0.59
45:e:2:LYS:CE	45:e:52:ARG:HE	2.16	0.59
61:u:61:LEU:HB3	61:u:62:PRO:HD2	1.85	0.59
61:u:91:ASP:O	61:u:95:LEU:HD23	2.03	0.59
8:7:9:U:O4	18:D:1196:A:C8	2.55	0.59
9:9:17:GLU:HG2	9:9:88:HIS:NE2	2.18	0.59
10:A:69:C:H2'	10:A:70:G:O4'	2.02	0.59
12:AB:143:LEU:O	12:AB:145:LEU:N	2.36	0.59
16:AG:202:PRO:O	16:AG:205:LEU:HD12	2.02	0.59
18:D:13:U:N3	18:D:915:A:N6	2.51	0.59
18:D:921:U:H4'	25:K:23:LYS:NZ	2.18	0.59
21:G:35:ARG:HD2	22:H:14:LYS:HE3	1.84	0.59
21:G:128:LYS:HD2	21:G:128:LYS:O	2.03	0.59
25:K:10:GLU:OE1	25:K:10:GLU:N	2.35	0.59
28:N:8:ALA:O	28:N:12:THR:HG23	2.03	0.59
33:S:20:TYR:HD2	33:S:55:SER:OG	1.85	0.59
37:W:45:ILE:HA	37:W:62:VAL:CG1	2.31	0.59
41:a:2682:A:H8	50:j:11:MET:HE1	1.65	0.59
48:h:181:MET:HE2	48:h:181:MET:N	2.18	0.59
61:u:76:GLU:HG3	61:u:111:ILE:CD1	2.31	0.59
9:9:73:LYS:CG	9:9:117:LEU:HD12	2.32	0.59
9:9:97:LYS:NZ	9:9:130:PRO:HA	2.17	0.59
10:A:70:G:H2'	10:A:71:C:H5"	1.85	0.59
12:AB:89:PRO:HG2	14:AE:290:ILE:CG2	2.33	0.59
12:AB:115:LYS:HD2	12:AB:129:ILE:HG21	1.82	0.59
16:AG:318:ILE:HG12	16:AG:338:VAL:HG11	1.85	0.59
18:D:829:G:O3'	21:G:23:TRP:CZ2	2.56	0.59
18:D:1055:A:C2'	23:I:156:ARG:HH21	2.15	0.59
18:D:1107:C:P	23:I:172:ARG:HG3	2.43	0.59
41:a:15:G:O2'	49:i:15:MET:CE	2.51	0.59
46:f:40:ASP:C	46:f:45:ARG:NH2	2.60	0.59
66:z:74:ILE:HD11	66:z:79:PHE:CA	2.30	0.59
1:0:51:VAL:O	1:0:51:VAL:HG13	2.02	0.59
5:4:31:TYR:OH	44:d:103:U:O2'	2.20	0.59
6:5:11:DA:H2'	12:AB:67:THR:CG2	2.32	0.59
7:6:25:DT:OP1	11:AA:496:LYS:C	2.43	0.59
11:AA:861:ALA:CA	16:AG:38:LYS:HZ1	2.14	0.59
12:AB:77:HIS:NE2	14:AE:297:ARG:NH2	2.51	0.59
14:AE:81:ARG:HG3	14:AE:81:ARG:NH2	2.17	0.59
16:AG:434:LEU:N	16:AG:456:LEU:HG	2.17	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:C:12:ARG:CG	22:H:264:GLU:CB	2.81	0.59
18:D:972:C:O2'	30:P:57:VAL:HG13	2.03	0.59
39:Y:23:VAL:HG23	39:Y:24:GLY:N	2.17	0.59
41:a:1798:U:OP2	48:h:271:ARG:NH2	2.36	0.59
46:f:10:THR:HG22	46:f:54:MET:C	2.27	0.59
51:k:7:GLU:CD	51:k:7:GLU:H	2.11	0.59
9:9:31:ARG:CD	41:a:1053:C:O2'	2.47	0.59
9:9:78:GLY:N	9:9:79:PRO:CD	2.66	0.59
11:AA:856:ASN:CG	16:AG:35:THR:CG2	2.75	0.59
11:AA:889:PRO:HG3	16:AG:104:ARG:CD	2.23	0.59
14:AE:64:PRO:HG3	14:AE:90:VAL:HG12	1.83	0.59
16:AG:363:LEU:HD21	16:AG:410:ALA:N	1.79	0.59
17:C:51:TYR:HD1	17:C:54:GLN:NE2	2.00	0.59
18:D:496:A:N3	18:D:496:A:H2'	2.17	0.59
18:D:736:C:H5"	26:L:90:MET:HE2	1.85	0.59
18:D:890:G:O2'	18:D:906:A:N6	2.35	0.59
40:Z:8:ILE:HG13	40:Z:9:GLU:H	1.68	0.59
41:a:607:U:C5	41:a:620:G:C4	2.91	0.59
41:a:1277:G:H5'	63:w:20:MET:HE2	1.84	0.59
41:a:2225:A:H4'	41:a:2226:C:O5'	2.03	0.59
41:a:2259:U:N3	41:a:2260:C:C5	2.71	0.59
53:m:1:MET:HE3	53:m:3:ARG:HH11	1.67	0.59
60:t:88:ASN:ND2	60:t:90:ASN:OD1	2.36	0.59
66:z:74:ILE:CD1	66:z:74:ILE:CB	2.76	0.59
11:AA:707:ALA:O	11:AA:711:ASP:HB2	2.03	0.58
11:AA:1142:ARG:NH1	11:AA:1161:LEU:O	2.36	0.58
12:AB:90:SER:HB3	12:AB:93:ILE:HB	1.84	0.58
12:AB:145:LEU:HD22	12:AB:148:LYS:HD3	1.85	0.58
12:AB:148:LYS:HZ1	12:AB:150:ILE:HD13	1.67	0.58
16:AG:212:GLU:HB3	16:AG:258:ARG:HB3	1.84	0.58
26:L:42:TRP:CZ2	26:L:102:MET:HG3	2.36	0.58
28:N:104:VAL:HG23	28:N:125:ILE:HD13	1.83	0.58
52:l:170:ARG:CZ	52:l:175:ILE:HA	2.33	0.58
56:p:85:LYS:NZ	56:p:164:TYR:HD1	2.01	0.58
62:v:97:GLN:H	62:v:100:LYS:HZ1	1.51	0.58
11:AA:861:ALA:H	16:AG:38:LYS:HZ1	0.59	0.58
12:AB:120:GLU:HB2	12:AB:162:LEU:CB	2.32	0.58
16:AG:130:PHE:C	16:AG:186:VAL:HG11	2.28	0.58
17:C:73:ARG:NH1	31:Q:113:VAL:HA	2.18	0.58
18:D:695:A:H8	18:D:695:A:H5"	1.68	0.58
25:K:156:LYS:HA	28:N:66:PHE:CD2	2.39	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:N:7:ILE:HB	28:N:77:ARG:NH1	2.18	0.58
34:T:11:ILE:HG21	34:T:31:LEU:HD13	1.85	0.58
38:X:22:ILE:HG23	38:X:66:GLU:OE2	2.03	0.58
41:a:567:U:OP2	61:u:29:LYS:NZ	2.35	0.58
41:a:1668:A:O2'	41:a:1674:G:N7	2.32	0.58
44:d:42:C:C5'	54:n:64:LYS:HZ1	2.16	0.58
52:l:119:ILE:O	52:l:187:VAL:HA	2.03	0.58
53:m:24:THR:HG23	53:m:27:GLY:H	1.68	0.58
59:s:74:TYR:CD2	59:s:74:TYR:N	2.69	0.58
59:s:132:HIS:O	59:s:135:GLN:HB2	2.03	0.58
60:t:8:LEU:CA	60:t:18:ARG:HH12	2.15	0.58
3:2:56:GLU:OE1	3:2:87:LEU:C	2.46	0.58
12:AB:158:GLU:HB3	12:AB:162:LEU:HD22	1.85	0.58
18:D:522:C:OP2	32:R:66:TYR:OH	2.17	0.58
19:E:61:GLN:NE2	19:E:66:LEU:HD22	2.18	0.58
20:F:16:LEU:C	20:F:20:LYS:HZ3	2.10	0.58
21:G:66:LYS:HB3	21:G:154:MET:CE	2.34	0.58
21:G:106:THR:HA	21:G:109:GLN:NE2	2.18	0.58
22:H:81:GLU:O	22:H:82:THR:HG23	2.03	0.58
28:N:47:GLU:OE2	28:N:64:LYS:HA	2.02	0.58
41:a:70:G:H4'	41:a:71:A:OP1	2.02	0.58
58:r:6:LEU:HD11	58:r:37:VAL:CG2	2.33	0.58
58:r:30:LEU:HD23	58:r:35:LYS:HE2	1.85	0.58
1:0:15:SER:HB2	1:0:18:GLN:NE2	2.18	0.58
14:AE:1221:LEU:HD22	14:AE:1306:LEU:HB2	1.84	0.58
18:D:439:U:O2	18:D:440:C:C5	2.56	0.58
18:D:1151:A:O2'	18:D:1152:A:O5'	2.13	0.58
21:G:96:TRP:CH2	21:G:100:MET:HE3	2.38	0.58
24:J:74:ASN:HA	24:J:77:LYS:NZ	2.18	0.58
25:K:12:GLN:HB3	25:K:14:LYS:NZ	2.18	0.58
30:P:22:THR:O	30:P:26:VAL:HG23	2.03	0.58
41:a:575:A:C2	41:a:576:U:C5	2.90	0.58
41:a:685:A:O2'	41:a:773:U:O4	2.17	0.58
41:a:2189:U:O4'	41:a:2189:U:OP1	2.21	0.58
41:a:2815:C:C2	41:a:2816:G:C8	2.91	0.58
54:n:4:LEU:HD11	54:n:101:GLU:N	2.18	0.58
56:p:149:ARG:NH2	56:p:162:VAL:N	2.52	0.58
1:0:61:ALA:HB1	1:0:96:VAL:HG22	1.84	0.58
2:1:11:ARG:NH1	2:1:98:LYS:HE3	2.19	0.58
6:5:9:DG:O5'	11:AA:473:ARG:CB	2.49	0.58
12:AB:19:GLU:O	12:AB:23:ARG:HB2	2.03	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AG:437:LEU:HD22	16:AG:488:ILE:CD1	2.33	0.58
10:B:70:G:H2'	10:B:71:C:H5"	1.85	0.58
17:C:73:ARG:HH12	31:Q:113:VAL:CA	2.16	0.58
23:I:24:ALA:C	23:I:29:PHE:HE2	2.11	0.58
25:K:93:ARG:HB3	25:K:93:ARG:NH2	2.18	0.58
25:K:146:ASN:OD1	25:K:147:MET:N	2.37	0.58
27:M:4:ARG:HG3	27:M:5:ARG:CG	2.22	0.58
34:T:60:VAL:O	34:T:64:ARG:HG2	2.03	0.58
39:Y:109:ALA:HB2	39:Y:128:ILE:HG13	1.86	0.58
41:a:580:U:H2'	41:a:581:C:H6	1.69	0.58
41:a:832:U:H2'	41:a:833:A:H8	1.69	0.58
60:t:5:GLN:HA	60:t:20:MET:CE	2.32	0.58
62:v:1:MET:HE3	62:v:1:MET:CA	2.34	0.58
65:y:7:GLN:CD	65:y:7:GLN:C	2.71	0.58
5:4:60:VAL:HG12	5:4:71:LYS:HE2	1.86	0.58
6:5:10:DT:O3'	12:AB:68:THR:CA	2.51	0.58
6:5:11:DA:C2'	12:AB:67:THR:CG2	2.77	0.58
11:AA:838:CYS:HB2	11:AA:918:LEU:HD22	1.85	0.58
14:AE:1143:ASP:OD1	14:AE:1148:ARG:NH1	2.37	0.58
18:D:915:A:N6	18:D:916:U:C4	2.72	0.58
18:D:1308:U:P	38:X:98:ARG:HG3	2.43	0.58
19:E:32:ILE:HG12	19:E:75:HIS:CE1	2.37	0.58
22:H:291:GLY:HA2	22:H:305:HIS:HA	1.85	0.58
35:U:19:VAL:HG12	35:U:37:GLY:C	2.28	0.58
36:V:4:LYS:HD2	36:V:5:ILE:HG23	1.85	0.58
36:V:11:ARG:HE	36:V:58:VAL:CG2	2.16	0.58
58:r:37:VAL:HG12	58:r:43:ASN:HD21	1.68	0.58
59:s:102:GLU:CD	59:s:124:VAL:HG11	2.28	0.58
62:v:49:ALA:O	62:v:52:ALA:N	2.37	0.58
6:5:10:DT:O3'	12:AB:68:THR:HA	2.03	0.58
16:AG:453:VAL:CG2	16:AG:462:GLN:CD	2.76	0.58
10:B:15:G:N1	10:B:20:U:O2	2.37	0.58
18:D:974:A:OP1	33:S:69:ARG:NH1	2.37	0.58
31:Q:20:VAL:CG1	31:Q:85:MET:HE1	2.33	0.58
41:a:1021:A:N1	41:a:1141:U:O4	2.37	0.58
41:a:2349:G:C6	41:a:2369:A:C6	2.92	0.58
46:f:40:ASP:OD1	46:f:45:ARG:NH2	2.37	0.58
56:p:85:LYS:CE	56:p:164:TYR:CD1	2.86	0.58
58:r:68:ARG:O	58:r:72:ILE:HD12	2.03	0.58
59:s:31:GLU:OE2	59:s:35:ARG:NH1	2.37	0.58
9:9:24:SER:HB2	9:9:86:MET:HA	1.86	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:69:GLN:HE21	11:AA:101:ARG:HD2	1.67	0.58
12:AB:6:LEU:H	12:AB:88:VAL:HG21	1.69	0.58
13:AC:82:LEU:HD11	13:AC:171:LEU:HD23	1.86	0.58
16:AG:413:ALA:HA	16:AG:416:THR:OG1	2.03	0.58
10:B:60:U:H4'	10:B:61:C:OP2	2.04	0.58
27:M:26:PHE:CD1	27:M:101:MET:SD	2.97	0.58
28:N:52:GLU:OE1	28:N:53:GLY:N	2.37	0.58
39:Y:70:THR:O	39:Y:71:LYS:HG3	2.03	0.58
39:Y:102:ARG:CG	39:Y:141:ASP:HA	2.33	0.58
41:a:2395:C:H2'	41:a:2396:G:O4'	2.03	0.58
42:b:51:VAL:C	42:b:62:LYS:HZ3	2.11	0.58
44:d:106:G:H2'	44:d:107:G:O4'	2.04	0.58
51:k:35:GLU:OE2	51:k:48:ILE:HG23	2.03	0.58
52:l:62:GLN:O	52:l:69:ARG:HD3	2.03	0.58
7:6:20:DA:C6	8:7:51:G:C2	2.91	0.58
11:AA:13:LYS:HB2	11:AA:1180:MET:HE2	1.86	0.58
16:AG:25:GLU:HG3	16:AG:49:ILE:HD11	1.86	0.58
16:AG:61:ARG:HD2	16:AG:73:LYS:HD3	1.86	0.58
16:AG:354:ALA:CA	16:AG:357:ASP:HB3	2.32	0.58
16:AG:361:LYS:CE	16:AG:417:ILE:CG1	2.75	0.58
17:C:13:PHE:HB3	17:C:51:TYR:CD1	2.39	0.58
21:G:35:ARG:HD2	22:H:14:LYS:CE	2.34	0.58
22:H:273:ARG:CZ	22:H:297:GLU:HG3	2.33	0.58
25:K:148:ASN:OD1	28:N:96:MET:HE1	2.04	0.58
34:T:32:LEU:HD11	34:T:62:GLN:OE1	2.04	0.58
36:V:42:THR:HG22	36:V:44:LEU:CD1	2.34	0.58
41:a:563:A:OP1	66:z:41:LYS:NZ	2.35	0.58
41:a:1047:G:HO2'	41:a:1110:G:H1	1.52	0.58
41:a:2189:U:O2'	41:a:2190:G:O4'	2.22	0.58
51:k:34:LEU:H	51:k:51:GLU:CD	2.12	0.58
60:t:121:GLU:OE2	65:y:41:GLN:NE2	2.36	0.58
62:v:111:GLU:OE1	62:v:111:GLU:N	2.32	0.58
5:4:2:PHE:HE2	5:4:55:GLU:HG2	1.68	0.58
6:5:25:DA:C2	7:6:5:DG:C2	2.92	0.58
11:AA:855:PRO:CA	16:AG:35:THR:HB	2.28	0.58
14:AE:79:LYS:HG3	16:AG:144:LYS:HZ3	1.67	0.58
16:AG:63:LEU:HD23	16:AG:63:LEU:H	1.69	0.58
19:E:61:GLN:HE21	19:E:66:LEU:HD22	1.69	0.58
21:G:19:GLN:CG	22:H:76:GLU:HB3	2.34	0.58
28:N:66:PHE:CG	28:N:67:GLN:OE1	2.57	0.58
36:V:11:ARG:HE	36:V:58:VAL:HG22	1.69	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:X:25:VAL:HG23	38:X:29:ARG:HB2	1.85	0.58
39:Y:116:MET:HG2	39:Y:124:MET:CB	2.34	0.58
41:a:2243:U:H2'	41:a:2244:U:C6	2.38	0.58
45:e:2:LYS:HD2	45:e:6:LEU:HD11	1.85	0.58
52:l:136:GLN:NE2	52:l:140:ASP:OD2	2.37	0.58
54:n:46:ASP:OD1	54:n:49:LEU:HD13	2.03	0.58
61:u:55:MET:CE	61:u:60:ARG:HG2	2.33	0.58
66:z:82:GLY:CA	66:z:117:LEU:CD1	2.81	0.58
1:0:16:GLU:C	1:0:18:GLN:OE1	2.46	0.57
9:9:23:LEU:N	9:9:118:ILE:HD11	2.19	0.57
12:AB:99:TYR:O	12:AB:100:LYS:HG2	2.03	0.57
16:AG:434:LEU:HD11	16:AG:455:THR:N	2.19	0.57
29:O:49:ARG:HB3	29:O:53:GLU:OE2	2.02	0.57
29:O:94:LEU:O	29:O:98:LEU:HD13	2.04	0.57
34:T:28:GLN:HB2	34:T:66:LEU:HD21	1.86	0.57
41:a:811:U:H2'	61:u:21:ARG:HA	1.85	0.57
41:a:1141:U:H5	59:s:68:LYS:NZ	2.02	0.57
59:s:53:TYR:CD1	59:s:121:LYS:HD2	2.39	0.57
8:7:7:U:H5"	8:7:7:U:C6	2.39	0.57
11:AA:860:ALA:N	16:AG:38:LYS:CD	2.62	0.57
12:AB:102:LYS:CE	14:AE:285:LEU:HA	2.34	0.57
16:AG:233:ARG:HH12	16:AG:324:ASN:N	2.02	0.57
16:AG:392:LEU:CD2	16:AG:395:ILE:HD11	2.34	0.57
16:AG:433:ASP:C	16:AG:456:LEU:HD11	2.23	0.57
18:D:588:G:H4'	28:N:3:MET:CE	2.33	0.57
23:I:82:GLU:O	23:I:86:LYS:HD3	2.04	0.57
26:L:95:ALA:O	26:L:96:VAL:C	2.47	0.57
41:a:593:U:H2'	41:a:594:U:C6	2.39	0.57
2:1:73:LYS:C	2:1:74:ILE:HD12	2.29	0.57
9:9:50:VAL:CG2	39:Y:119:ALA:HB3	2.19	0.57
10:A:15:G:N1	10:A:20:U:O2	2.37	0.57
16:AG:387:VAL:HB	16:AG:388:PRO:HD2	1.85	0.57
18:D:911:U:H2'	18:D:912:C:C6	2.40	0.57
23:I:25:ASN:N	23:I:29:PHE:HE2	2.01	0.57
25:K:136:VAL:O	25:K:140:THR:HG23	2.04	0.57
27:M:66:LEU:HD11	27:M:100:ALA:HB3	1.85	0.57
27:M:68:ASN:ND2	27:M:130:ASN:OD1	2.38	0.57
41:a:839:U:C2	41:a:840:C:C5	2.93	0.57
41:a:1682:G:H2'	41:a:1683:U:C6	2.39	0.57
41:a:2682:A:H8	50:j:11:MET:CE	2.15	0.57
63:w:9:GLN:O	63:w:17:ARG:HD3	2.05	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
66:z:53:ARG:CG	66:z:57:PHE:HE2	2.18	0.57
4:3:6:ARG:NH1	41:a:84:A:O2'	2.36	0.57
11:AA:1254:VAL:O	14:AE:99:ARG:NH2	2.37	0.57
12:AB:147:ASN:C	12:AB:147:ASN:HD22	2.12	0.57
16:AG:233:ARG:O	16:AG:327:LEU:HD21	2.04	0.57
16:AG:379:SER:HG	16:AG:384:LEU:HD21	1.67	0.57
18:D:99:C:HO2'	18:D:100:G:H8	1.53	0.57
19:E:9:LYS:C	19:E:13:GLN:NE2	2.62	0.57
22:H:51:GLU:OE1	22:H:51:GLU:N	2.38	0.57
23:I:49:LYS:HZ3	23:I:75:ILE:HD11	1.69	0.57
27:M:24:ALA:O	27:M:27:VAL:HG22	2.04	0.57
27:M:28:ASN:HA	27:M:31:MET:HE3	1.85	0.57
30:P:21:ALA:O	30:P:24:GLU:HG3	2.04	0.57
30:P:63:ASP:OD2	30:P:64:GLN:N	2.38	0.57
31:Q:51:GLY:O	31:Q:56:ARG:CZ	2.51	0.57
34:T:32:LEU:CD1	34:T:62:GLN:OE1	2.53	0.57
39:Y:32:VAL:HG22	39:Y:60:VAL:CG2	2.34	0.57
39:Y:116:MET:HB3	39:Y:124:MET:HE2	1.86	0.57
41:a:1278:C:O2'	63:w:27:SER:OG	2.16	0.57
41:a:1869:G:N2	41:a:1871:A:O2'	2.37	0.57
41:a:2335:A:OP2	64:x:13:ARG:CD	2.51	0.57
41:a:2547:A:H2'	41:a:2548:U:C6	2.38	0.57
47:g:18:CYS:HB3	47:g:40:CYS:HB2	1.85	0.57
59:s:39:LYS:HA	59:s:44:TYR:CD1	2.39	0.57
6:5:9:DG:P	11:AA:470:ARG:HA	2.43	0.57
16:AG:210:ARG:HE	16:AG:216:ILE:HG22	1.69	0.57
16:AG:352:ALA:O	16:AG:356:ILE:CG2	2.51	0.57
17:C:55:LEU:O	17:C:59:ILE:HG12	2.04	0.57
21:G:107:VAL:O	21:G:111:ILE:HG12	2.04	0.57
34:T:10:LYS:O	34:T:14:GLU:OE1	2.23	0.57
41:a:5:A:H2'	41:a:6:A:H8	1.70	0.57
41:a:1824:G:H5"	48:h:52:ARG:HH22	1.69	0.57
41:a:2683:C:H4'	50:j:13:ARG:CZ	2.34	0.57
59:s:120:ARG:CZ	59:s:120:ARG:HB2	2.34	0.57
60:t:20:MET:HB3	60:t:44:LYS:CE	2.35	0.57
66:z:74:ILE:HD13	66:z:79:PHE:CD1	2.34	0.57
5:4:46:LYS:O	5:4:50:MET:HG2	2.04	0.57
8:7:9:U:O4	18:D:1196:A:O4'	2.21	0.57
9:9:94:ARG:CB	9:9:97:LYS:HZ3	2.17	0.57
12:AB:135:GLY:O	12:AB:137:ALA:N	2.37	0.57
16:AG:130:PHE:HB3	16:AG:186:VAL:HG22	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AG:287:ALA:CB	16:AG:331:LEU:HB3	2.33	0.57
16:AG:302:LYS:NZ	16:AG:302:LYS:HB2	2.20	0.57
17:C:16:GLU:OE1	17:C:18:VAL:N	2.36	0.57
41:a:5:A:H2'	41:a:6:A:C8	2.39	0.57
41:a:782:A:C2	48:h:225:MET:HE2	2.39	0.57
41:a:1065:U:O2'	41:a:1066:U:O5'	2.16	0.57
47:g:47:LYS:HG2	54:n:115:ARG:NH2	2.20	0.57
48:h:52:ARG:HE	48:h:53:HIS:CE1	2.23	0.57
64:x:21:LEU:HD22	64:x:23:ALA:HB2	1.87	0.57
65:y:51:ARG:HD3	65:y:58:ALA:HB3	1.86	0.57
9:9:38:MET:SD	39:Y:117:THR:HG22	2.45	0.57
12:AB:154:VAL:HG12	12:AB:158:GLU:HB3	1.86	0.57
18:D:562:U:C3'	32:R:14:ARG:HH11	2.17	0.57
18:D:662:U:O2'	18:D:836:G:OP1	2.21	0.57
22:H:116:VAL:CA	22:H:279:LYS:HD2	2.35	0.57
33:S:90:ARG:C	33:S:92:GLU:OE1	2.47	0.57
41:a:64:A:H2'	41:a:65:U:C6	2.40	0.57
42:b:55:ARG:NE	42:b:55:ARG:HA	2.20	0.57
43:c:66:THR:O	43:c:70:GLU:OE1	2.23	0.57
45:e:18:LEU:HD11	45:e:54:LYS:HE3	1.86	0.57
58:r:97:ARG:NH1	58:r:101:ASP:OD2	2.37	0.57
61:u:90:VAL:CG1	61:u:95:LEU:HD21	2.33	0.57
5:4:57:TYR:CD2	62:v:136:MET:HE2	2.40	0.57
11:AA:847:PRO:N	16:AG:104:ARG:CZ	2.67	0.57
11:AA:1122:LYS:NZ	11:AA:1126:ASP:OD1	2.38	0.57
16:AG:162:ILE:HD13	16:AG:167:MET:HE2	1.86	0.57
16:AG:285:ILE:CG1	16:AG:293:VAL:CG1	2.54	0.57
21:G:19:GLN:HG3	22:H:76:GLU:CB	2.35	0.57
22:H:273:ARG:HD3	22:H:280:LEU:HD11	1.85	0.57
23:I:6:HIS:HB3	33:S:89:MET:SD	2.45	0.57
31:Q:52:PHE:CD2	31:Q:56:ARG:HG2	2.39	0.57
32:R:110:ARG:NE	32:R:117:TYR:HD2	2.02	0.57
35:U:12:LYS:CD	35:U:13:LYS:HG2	2.33	0.57
37:W:40:ILE:HG21	37:W:66:MET:SD	2.45	0.57
38:X:93:ARG:CG	38:X:95:LEU:HD23	2.35	0.57
41:a:3:U:H2'	41:a:4:U:H6	1.69	0.57
41:a:2071:A:H2'	41:a:2072:C:C6	2.40	0.57
62:v:77:PRO:HG2	62:v:80:VAL:CG2	2.31	0.57
66:z:74:ILE:HG12	66:z:79:PHE:HB2	1.86	0.57
3:2:56:GLU:CD	3:2:87:LEU:C	2.73	0.57
11:AA:839:VAL:HG12	11:AA:1049:ILE:HG12	1.87	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:1223:ARG:NH2	14:AE:721:SER:OG	2.38	0.57
12:AB:119:THR:HB	12:AB:123:PHE:CD2	2.40	0.57
16:AG:362:TYR:CA	16:AG:413:ALA:HB1	2.30	0.57
16:AG:367:GLU:O	16:AG:371:THR:HG23	2.04	0.57
18:D:512:U:OP1	24:J:44:ARG:NH1	2.38	0.57
25:K:148:ASN:ND2	25:K:153:VAL:HG12	2.20	0.57
27:M:66:LEU:HD23	27:M:70:ARG:HH21	1.69	0.57
31:Q:87:LYS:HG3	31:Q:113:VAL:HG23	1.86	0.57
38:X:16:VAL:CG2	38:X:17:ILE:HD12	2.35	0.57
41:a:78:U:H5”	45:e:4:LYS:NZ	2.20	0.57
41:a:1197:G:H2’	41:a:1198:U:H6	1.68	0.57
41:a:1360:G:N7	41:a:1361:G:C8	2.73	0.57
41:a:1818:U:OP2	48:h:156:ARG:CZ	2.53	0.57
9:9:54:VAL:HG13	9:9:54:VAL:O	2.03	0.57
9:9:124:ASP:OD2	9:9:126:LEU:HD21	2.05	0.57
10:A:5:G:H2’	10:A:6:G:C5’	2.35	0.57
10:A:60:U:H4’	10:A:61:C:OP2	2.04	0.57
10:A:75:C:O2’	10:A:76:A:C8	2.58	0.57
11:AA:846:GLY:O	16:AG:104:ARG:NH1	2.13	0.57
16:AG:33:THR:HG23	16:AG:43:ILE:HD11	1.85	0.57
16:AG:440:VAL:HG22	16:AG:481:LEU:CD2	2.34	0.57
18:D:739:C:HO2’	34:T:42:HIS:CE1	2.19	0.57
18:D:1356:G:H2’	18:D:1357:A:C8	2.40	0.57
21:G:52:GLU:O	21:G:56:GLU:OE1	2.23	0.57
27:M:134:ALA:O	27:M:137:LYS:HG2	2.05	0.57
35:U:39:PHE:HD1	35:U:50:THR:HG22	1.70	0.57
41:a:16:C:C4’	49:i:15:MET:HE3	2.35	0.57
41:a:628:G:C6	41:a:636:G:C2	2.92	0.57
41:a:2816:G:O4’	49:i:41:HIS:CE1	2.57	0.57
5:4:48:MET:HE3	5:4:84:PRO:O	2.04	0.56
9:9:27:VAL:HG13	9:9:27:VAL:O	2.05	0.56
12:AB:26:VAL:HA	12:AB:58:GLU:OE1	2.05	0.56
12:AB:102:LYS:HE2	14:AE:285:LEU:CA	2.34	0.56
14:AE:144:TYR:OH	14:AE:293:ARG:NH2	2.37	0.56
16:AG:9:VAL:HA	16:AG:24:PHE:CZ	2.40	0.56
16:AG:266:LEU:HD23	16:AG:266:LEU:N	2.19	0.56
16:AG:285:ILE:HG23	16:AG:293:VAL:HG11	1.82	0.56
18:D:657:U:C4’	34:T:28:GLN:HE22	2.15	0.56
18:D:1515:G:H2’	18:D:1516:G:H8	1.70	0.56
19:E:61:GLN:HE21	19:E:66:LEU:CD2	2.18	0.56
22:H:297:GLU:HG2	22:H:300:VAL:HG21	1.86	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:M:95:ARG:O	27:M:99:LEU:HG	2.05	0.56
29:O:5:GLN:NE2	29:O:20:PHE:CB	2.67	0.56
31:Q:15:GLN:OE1	31:Q:78:GLY:HA3	2.05	0.56
39:Y:58:ILE:HG23	39:Y:66:PHE:CE2	2.40	0.56
41:a:1442:U:H2'	41:a:1443:U:C6	2.40	0.56
41:a:1693:U:O2'	48:h:14:ARG:NH2	2.38	0.56
41:a:2291:U:H2'	41:a:2292:U:C6	2.40	0.56
42:b:45:PHE:CD2	42:b:80:ILE:HD11	2.40	0.56
52:l:148:ILE:HD13	52:l:187:VAL:HB	1.85	0.56
53:m:12:ARG:NE	53:m:44:VAL:HG21	2.19	0.56
58:r:54:LEU:HA	58:r:57:LYS:NZ	2.20	0.56
62:v:37:GLY:C	62:v:126:ILE:HD11	2.30	0.56
4:3:6:ARG:CZ	41:a:84:A:H2'	2.35	0.56
9:9:4:ASN:HB3	9:9:8:LYS:NZ	2.19	0.56
11:AA:856:ASN:OD1	16:AG:34:ALA:O	2.23	0.56
16:AG:49:ILE:HG22	16:AG:49:ILE:O	2.04	0.56
16:AG:221:ILE:HD13	16:AG:247:PRO:HA	1.85	0.56
18:D:280:C:O2	36:V:40:ARG:NH2	2.37	0.56
18:D:439:U:O2	18:D:440:C:C6	2.58	0.56
18:D:440:C:C4	18:D:441:A:N7	2.73	0.56
22:H:75:VAL:HG23	22:H:81:GLU:OE2	2.04	0.56
29:O:118:LEU:CD2	29:O:124:ARG:HA	2.36	0.56
34:T:21:ASP:OD1	34:T:22:THR:N	2.34	0.56
41:a:930:G:H1'	46:f:25:LEU:HD21	1.87	0.56
41:a:1266:G:OP1	49:i:16:ARG:NE	2.35	0.56
41:a:1568:G:N7	48:h:28:LYS:NZ	2.52	0.56
41:a:2191:A:H2'	41:a:2192:U:H6	1.71	0.56
41:a:2192:U:H2'	41:a:2193:G:C8	2.40	0.56
42:b:51:VAL:C	42:b:62:LYS:NZ	2.63	0.56
44:d:48:U:H2'	44:d:49:C:C6	2.40	0.56
62:v:49:ALA:C	62:v:53:MET:HE1	2.30	0.56
5:4:80:HIS:CD2	5:4:81:PRO:HD2	2.41	0.56
8:7:1:A:H2'	8:7:2:U:H6	1.70	0.56
11:AA:888:THR:O	16:AG:105:ILE:HD13	2.05	0.56
12:AB:38:ILE:HD13	12:AB:160:ARG:HH12	1.70	0.56
16:AG:457:GLU:HG2	16:AG:489:CYS:SG	2.45	0.56
21:G:5:SER:OG	21:G:8:ASP:OD2	2.24	0.56
21:G:131:LYS:HG3	21:G:132:LYS:HD2	1.87	0.56
24:J:121:LYS:HG2	24:J:131:ASN:ND2	2.20	0.56
24:J:196:ASN:ND2	24:J:199:LEU:HG	2.20	0.56
27:M:23:LEU:HD12	27:M:23:LEU:H	1.70	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:a:64:A:H2'	41:a:65:U:H6	1.71	0.56
41:a:589:U:H2'	41:a:590:A:H8	1.71	0.56
41:a:1198:U:H2'	41:a:1199:U:C6	2.40	0.56
41:a:1266:G:O2'	41:a:2012:G:O6	2.22	0.56
41:a:1570:A:H2'	41:a:1571:A:C8	2.41	0.56
41:a:2514:U:H2'	41:a:2515:C:C6	2.40	0.56
44:d:45:A:H5'	54:n:92:ARG:NH1	2.20	0.56
52:l:1:MET:HE1	52:l:20:GLY:N	2.21	0.56
54:n:62:GLY:C	54:n:95:ARG:NH2	2.63	0.56
56:p:85:LYS:HE3	56:p:164:TYR:CE1	2.41	0.56
63:w:35:LYS:NZ	63:w:112:TYR:HE2	2.04	0.56
5:4:53:LYS:HB2	5:4:56:PHE:CE2	2.40	0.56
5:4:80:HIS:CE1	5:4:83:LYS:HG3	2.41	0.56
11:AA:371:ARG:NH1	12:AB:67:THR:OG1	2.34	0.56
13:AC:45:ARG:HD3	13:AD:38:THR:HB	1.87	0.56
16:AG:173:PHE:N	16:AG:173:PHE:CD2	2.73	0.56
16:AG:434:LEU:HD23	16:AG:456:LEU:CG	2.35	0.56
18:D:521:G:O5'	32:R:70:GLU:OE1	2.23	0.56
21:G:35:ARG:HG2	21:G:40:ILE:HG13	1.86	0.56
22:H:100:LYS:O	22:H:104:ASP:N	2.38	0.56
22:H:163:ARG:CB	22:H:298:GLU:HG3	2.35	0.56
32:R:4:VAL:HG13	32:R:5:ASN:N	2.20	0.56
41:a:2315:G:H4'	54:n:127:ASN:HD22	1.71	0.56
45:e:20:ASN:O	45:e:23:ARG:HG2	2.05	0.56
62:v:41:LEU:CD2	62:v:45:GLN:HE22	2.18	0.56
9:9:43:LYS:HD3	9:9:98:GLU:CG	2.36	0.56
12:AB:130:PHE:CZ	12:AB:160:ARG:HG3	2.41	0.56
14:AE:888:CYS:SG	14:AE:889:ASP:N	2.74	0.56
10:B:75:C:P	41:a:2602:A:O2'	2.61	0.56
23:I:140:ASN:O	23:I:144:LEU:HD23	2.06	0.56
31:Q:61:PHE:O	31:Q:64:GLN:HG2	2.06	0.56
45:e:4:LYS:HZ2	45:e:7:ARG:HH12	1.54	0.56
52:l:17:THR:HA	52:l:21:ARG:NH2	2.19	0.56
54:n:4:LEU:HD11	54:n:101:GLU:HA	1.84	0.56
54:n:163:ASP:OD1	54:n:164:GLU:N	2.39	0.56
59:s:133:ALA:C	59:s:135:GLN:N	2.60	0.56
62:v:26:VAL:HG13	62:v:104:GLU:CD	2.30	0.56
2:1:7:HIS:HD2	2:1:10:ALA:HB2	1.68	0.56
5:4:77:VAL:HG11	5:4:79:ARG:NH2	2.21	0.56
16:AG:283:PHE:CE2	16:AG:331:LEU:O	2.58	0.56
18:D:324:G:N1	18:D:327:A:OP2	2.39	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:I:151:VAL:HG12	23:I:200:VAL:CG2	2.35	0.56
27:M:103:TRP:CD1	27:M:137:LYS:HZ1	2.22	0.56
31:Q:87:LYS:HG3	31:Q:113:VAL:CG2	2.36	0.56
41:a:84:A:N1	41:a:98:G:O2'	2.37	0.56
41:a:500:G:N1	41:a:503:A:OP2	2.37	0.56
41:a:659:G:H1'	52:l:100:MET:HE1	1.87	0.56
41:a:1365:A:O2'	43:c:11:ARG:NH1	2.38	0.56
41:a:2189:U:O2'	41:a:2190:G:C5'	2.54	0.56
41:a:2517:C:C2	41:a:2542:A:N6	2.74	0.56
47:g:5:ILE:CD1	54:n:64:LYS:HE3	2.36	0.56
3:2:2:ILE:HG21	3:2:42:GLU:OE1	2.06	0.56
4:3:94:ARG:HB3	4:3:103:ILE:HD12	1.86	0.56
12:AB:34:THR:O	12:AB:106:ASP:OD1	2.24	0.56
16:AG:334:TRP:N	16:AG:334:TRP:CD1	2.73	0.56
16:AG:422:GLU:CG	16:AG:426:GLY:HA3	2.35	0.56
10:B:18:G:H1'	10:B:58:A:C2	2.41	0.56
10:B:75:C:O2'	10:B:76:A:C8	2.58	0.56
18:D:1381:U:C2	18:D:1382:C:C6	2.94	0.56
24:J:62:ARG:HA	24:J:72:PHE:CE1	2.41	0.56
28:N:7:ILE:O	28:N:10:MET:HB3	2.05	0.56
34:T:35:GLN:CB	34:T:59:MET:HE1	2.36	0.56
41:a:923:G:O4'	42:b:29:GLU:OE2	2.24	0.56
49:i:40:ARG:HG3	49:i:41:HIS:ND1	2.21	0.56
60:t:59:LYS:CD	60:t:89:ASN:HA	2.36	0.56
18:D:280:C:H1'	36:V:40:ARG:NH1	2.21	0.56
18:D:671:G:O3'	26:L:79:ARG:NH2	2.39	0.56
18:D:946:A:H2'	18:D:947:G:C8	2.41	0.56
38:X:28:THR:HG22	38:X:29:ARG:NH1	2.21	0.56
41:a:839:U:H2'	41:a:840:C:C6	2.40	0.56
41:a:1289:C:C2	41:a:1290:C:C5	2.94	0.56
41:a:1980:G:O2'	41:a:1982:U:OP2	2.22	0.56
41:a:2849:U:P	65:y:93:ARG:NH2	2.78	0.56
46:f:7:ILE:CG2	46:f:55:VAL:HG21	2.35	0.56
54:n:114:PHE:O	54:n:115:ARG:NE	2.34	0.56
58:r:4:ILE:HD12	58:r:17:ASP:O	2.05	0.56
9:9:47:GLU:O	9:9:51:TYR:CE1	2.59	0.56
11:AA:818:VAL:HG22	11:AA:1096:ILE:HG12	1.87	0.56
11:AA:887:VAL:HB	16:AG:105:ILE:CB	2.36	0.56
16:AG:162:ILE:HG22	16:AG:162:ILE:O	2.06	0.56
16:AG:437:LEU:HD22	16:AG:488:ILE:HD12	1.88	0.56
18:D:827:U:O4	18:D:872:A:N1	2.39	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:L:14:GLN:OE1	26:L:83:ALA:HA	2.05	0.56
30:P:15:HIS:HA	30:P:18:ILE:HG22	1.87	0.56
34:T:3:LEU:HB2	34:T:35:GLN:CD	2.31	0.56
41:a:17:G:H2'	41:a:18:U:C6	2.41	0.56
41:a:608:A:H2'	41:a:609:A:C8	2.41	0.56
41:a:2720:U:OP1	65:y:53:ARG:NH2	2.38	0.56
61:u:125:LEU:HD23	61:u:125:LEU:N	2.21	0.56
63:w:24:MET:HA	63:w:24:MET:CE	2.33	0.56
64:x:36:TYR:CD2	64:x:52:SER:HB2	2.41	0.56
5:4:57:TYR:HB3	62:v:136:MET:HE3	1.87	0.56
8:7:6:U:C2	18:D:1493:A:H2	2.24	0.56
9:9:56:ARG:NH2	41:a:1084:A:C1'	2.69	0.56
9:9:73:LYS:HD2	9:9:73:LYS:O	2.06	0.56
11:AA:1070:HIS:NE2	11:AA:1114:GLU:OE1	2.36	0.56
14:AE:78:LEU:C	16:AG:144:LYS:HZ1	2.14	0.56
16:AG:285:ILE:O	16:AG:288:MET:CE	2.54	0.56
16:AG:362:TYR:CZ	16:AG:382:GLU:HG2	2.40	0.56
16:AG:387:VAL:CB	16:AG:388:PRO:CD	2.76	0.56
18:D:73:C:O2	18:D:73:C:H2'	2.06	0.56
22:H:116:VAL:HA	22:H:279:LYS:HD2	1.88	0.56
22:H:117:LYS:CB	22:H:279:LYS:O	2.54	0.56
23:I:150:LYS:HE3	23:I:201:TRP:CZ3	2.41	0.56
23:I:156:ARG:NH1	23:I:193:TYR:O	2.39	0.56
24:J:162:ALA:HA	24:J:165:ARG:CZ	2.36	0.56
25:K:99:ALA:HB2	25:K:124:LEU:HG	1.88	0.56
33:S:87:ALA:HB1	33:S:93:ILE:HG13	1.87	0.56
37:W:64:ASP:OD2	47:g:57:VAL:HG23	2.06	0.56
38:X:71:ARG:NE	47:g:50:ASP:O	2.39	0.56
41:a:372:G:O2'	41:a:400:G:O6	2.16	0.56
41:a:1799:G:C2	48:h:154:LEU:HD23	2.41	0.56
41:a:2063:C:O2	41:a:2063:C:H2'	2.06	0.56
45:e:2:LYS:HE2	45:e:49:ASP:HA	1.88	0.56
47:g:37:CYS:N	47:g:40:CYS:SG	2.71	0.56
50:j:3:GLY:N	50:j:204:LYS:HE2	2.20	0.56
50:j:91:THR:HB	50:j:94:GLN:HG2	1.87	0.56
56:p:94:TYR:CE1	56:p:107:LEU:O	2.59	0.56
4:3:47:LYS:HE3	41:a:483:A:OP1	2.07	0.55
9:9:24:SER:CB	9:9:86:MET:HE2	2.36	0.55
9:9:98:GLU:HA	9:9:101:LYS:HZ3	1.71	0.55
16:AG:354:ALA:HA	16:AG:357:ASP:H	1.70	0.55
16:AG:425:LEU:N	16:AG:429:LYS:HG3	2.20	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:D:588:G:C5'	28:N:3:MET:HE1	2.36	0.55
18:D:652:U:C3'	28:N:56:LYS:HZ1	2.18	0.55
25:K:112:ARG:HG3	25:K:116:GLU:OE2	2.06	0.55
35:U:14:ARG:HD3	35:U:42:ILE:HG21	1.86	0.55
41:a:1082:U:O4	41:a:1086:A:N1	2.39	0.55
41:a:2376:A:N3	64:x:111:ARG:NH1	2.54	0.55
41:a:2803:G:H2'	41:a:2804:U:C6	2.41	0.55
48:h:62:TYR:CD2	48:h:64:ILE:HD13	2.41	0.55
51:k:5:ILE:HG23	51:k:28:ARG:NH1	2.21	0.55
52:l:62:GLN:HA	52:l:69:ARG:NH2	2.20	0.55
65:y:106:LYS:HA	65:y:109:ARG:NH2	2.20	0.55
2:1:31:GLN:OE1	2:1:31:GLN:N	2.29	0.55
5:4:57:TYR:CB	62:v:136:MET:CE	2.84	0.55
10:A:16:C:O2	41:a:2181:U:H5'	2.06	0.55
11:AA:516:ASP:OD1	11:AA:516:ASP:O	2.22	0.55
11:AA:887:VAL:HG12	16:AG:105:ILE:HG23	1.88	0.55
16:AG:287:ALA:HB1	16:AG:331:LEU:CB	2.36	0.55
16:AG:320:ARG:HB2	16:AG:323:GLN:HB2	1.88	0.55
10:B:32:C:H5'	18:D:1340:A:O3'	2.06	0.55
18:D:502:A:O3'	32:R:116:LYS:HE2	2.06	0.55
22:H:118:GLY:O	22:H:133:GLY:HA2	2.06	0.55
22:H:268:VAL:HG23	22:H:269:ALA:H	1.72	0.55
26:L:42:TRP:CZ2	26:L:102:MET:CG	2.88	0.55
34:T:3:LEU:HD22	34:T:8:THR:HG22	1.88	0.55
41:a:2328:A:H2'	41:a:2329:U:H6	1.68	0.55
51:k:19:HIS:ND1	51:k:41:PRO:HD2	2.21	0.55
60:t:59:LYS:HD2	60:t:89:ASN:HA	1.87	0.55
60:t:112:PHE:CD2	60:t:115:ILE:HD12	2.39	0.55
62:v:70:ASP:C	62:v:92:TRP:HZ3	2.13	0.55
66:z:78:LYS:CD	66:z:117:LEU:CD2	2.84	0.55
6:5:9:DG:OP2	11:AA:473:ARG:HG2	2.05	0.55
8:7:12:U:H3'	8:7:12:U:H6	1.70	0.55
10:A:18:G:H1'	10:A:58:A:C2	2.42	0.55
10:A:22:G:O2'	10:A:23:C:P	2.65	0.55
16:AG:288:MET:HE2	16:AG:293:VAL:HB	1.89	0.55
16:AG:380:THR:C	16:AG:384:LEU:CD1	2.79	0.55
19:E:19:LYS:HG3	19:E:20:HIS:N	2.22	0.55
19:E:32:ILE:HG23	19:E:75:HIS:NE2	2.21	0.55
25:K:45:ARG:C	25:K:71:MET:HE2	2.32	0.55
25:K:74:VAL:HG11	25:K:144:LEU:HD12	1.88	0.55
27:M:71:PRO:HG3	27:M:103:TRP:CH2	2.42	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:a:728:G:C4	41:a:730:A:C8	2.95	0.55
41:a:1038:G:H2'	41:a:1039:A:C8	2.42	0.55
41:a:1349:C:C2	41:a:1350:C:C5	2.95	0.55
47:g:61:ASN:OD1	47:g:65:ASN:ND2	2.40	0.55
52:l:42:GLY:CA	52:l:92:HIS:HE1	2.18	0.55
56:p:109:PHE:CE1	56:p:152:ARG:NH1	2.74	0.55
59:s:37:ARG:HD3	59:s:39:LYS:HD2	1.88	0.55
63:w:67:PHE:O	63:w:71:ARG:N	2.39	0.55
4:3:26:LYS:HE2	4:3:26:LYS:HA	1.89	0.55
9:9:58:THR:HG21	9:9:81:LEU:CD2	2.31	0.55
9:9:112:ALA:O	9:9:123:ILE:CD1	2.54	0.55
12:AB:4:TRP:CD2	12:AB:27:ASN:ND2	2.75	0.55
13:AC:28:LEU:HD22	13:AC:201:LEU:HD23	1.88	0.55
16:AG:307:ILE:HD11	16:AG:336:LEU:HB2	1.87	0.55
18:D:1227:A:H5'	38:X:110:LYS:HZ1	1.71	0.55
18:D:1366:C:O2'	30:P:62:ARG:NH2	2.37	0.55
18:D:1370:G:C2	18:D:1371:G:C8	2.95	0.55
30:P:47:GLU:OE1	30:P:67:ILE:O	2.24	0.55
38:X:95:LEU:O	38:X:109:ARG:NH2	2.39	0.55
41:a:1469:A:H2'	41:a:1470:A:C8	2.42	0.55
45:e:23:ARG:HG3	45:e:24:GLU:N	2.21	0.55
50:j:55:LYS:NZ	50:j:60:VAL:N	2.55	0.55
54:n:5:HIS:HD2	54:n:97:TRP:CE2	2.24	0.55
55:o:16:LYS:HD2	55:o:65:ALA:HB1	1.88	0.55
59:s:73:VAL:HG12	59:s:74:TYR:N	2.20	0.55
8:7:11:U:O2	8:7:11:U:H2'	2.06	0.55
9:9:98:GLU:HA	9:9:101:LYS:NZ	2.22	0.55
9:9:122:GLN:HG2	9:9:123:ILE:H	1.70	0.55
16:AG:168:LEU:CD2	16:AG:231:GLY:HA2	2.09	0.55
16:AG:223:ILE:HD13	16:AG:223:ILE:C	2.32	0.55
10:B:5:G:H2'	10:B:6:G:C5'	2.35	0.55
17:C:54:GLN:HG3	17:C:55:LEU:N	2.21	0.55
18:D:276:G:H5'	36:V:17:MET:CE	2.35	0.55
18:D:1329:A:OP1	38:X:28:THR:HB	2.06	0.55
21:G:187:VAL:HG21	21:G:199:VAL:HG23	1.89	0.55
26:L:39:LEU:O	26:L:39:LEU:HD12	2.07	0.55
28:N:7:ILE:O	28:N:11:LEU:HD13	2.06	0.55
38:X:28:THR:O	38:X:31:LYS:HG2	2.07	0.55
39:Y:91:LYS:HZ1	39:Y:97:VAL:HG21	1.71	0.55
41:a:16:C:O4'	49:i:15:MET:CE	2.55	0.55
41:a:857:G:H5"	42:b:78:LYS:HZ2	1.71	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:a:1818:U:O2'	48:h:153:GLN:O	2.23	0.55
50:j:156:PHE:CD2	59:s:81:ILE:HD13	2.42	0.55
50:j:180:VAL:O	50:j:180:VAL:HG13	2.05	0.55
55:o:30:ARG:NH1	61:u:62:PRO:HB3	2.21	0.55
55:o:55:LEU:HD21	55:o:59:ILE:HD11	1.87	0.55
59:s:13:ARG:CZ	59:s:49:ASP:O	2.54	0.55
5:4:55:GLU:O	5:4:59:GLU:OE1	2.24	0.55
16:AG:299:ASP:HB2	16:AG:303:HIS:HA	1.89	0.55
10:B:22:G:O2'	10:B:23:C:P	2.65	0.55
21:G:27:MET:CE	21:G:187:VAL:HG12	2.37	0.55
23:I:31:ASP:HA	33:S:65:ARG:HH22	1.72	0.55
24:J:138:SER:O	24:J:141:ASP:OD1	2.24	0.55
27:M:79:ARG:O	27:M:79:ARG:HD2	2.06	0.55
30:P:26:VAL:O	30:P:30:LYS:HG3	2.07	0.55
41:a:2314:A:P	54:n:88:LYS:HZ2	2.30	0.55
45:e:2:LYS:HE2	45:e:52:ARG:HE	1.71	0.55
45:e:28:LEU:HD23	45:e:43:LEU:HD22	1.89	0.55
45:e:53:VAL:O	45:e:57:LEU:HD23	2.06	0.55
55:o:30:ARG:HH12	61:u:62:PRO:HB3	1.70	0.55
56:p:149:ARG:NE	56:p:162:VAL:O	2.40	0.55
57:q:1:MET:HE1	57:q:35:GLN:C	2.32	0.55
66:z:92:ARG:HA	66:z:95:LEU:HD12	1.89	0.55
9:9:61:ARG:NH2	41:a:1045:C:O3'	2.40	0.55
16:AG:305:MET:HG3	16:AG:336:LEU:HB3	1.88	0.55
18:D:672:U:O2'	18:D:673:A:H5'	2.06	0.55
31:Q:84:VAL:CG2	31:Q:107:ILE:HD11	2.37	0.55
37:W:17:LYS:HB3	37:W:21:LYS:HZ3	1.71	0.55
39:Y:123:ALA:O	39:Y:126:ARG:HG3	2.07	0.55
40:Z:2:ILE:HB	40:Z:5:ASP:HB3	1.88	0.55
41:a:537:G:OP2	59:s:2:LYS:CE	2.55	0.55
41:a:888:C:N4	41:a:889:C:N4	2.55	0.55
41:a:1665:A:O3'	60:t:66:LYS:HD3	2.07	0.55
41:a:2557:G:H2'	41:a:2558:C:C6	2.42	0.55
41:a:2741:A:O3'	57:q:36:ARG:NH1	2.40	0.55
45:e:56:LEU:O	45:e:59:GLU:HG3	2.06	0.55
48:h:17:VAL:HB	48:h:204:VAL:HG12	1.89	0.55
48:h:67:PHE:CE1	48:h:105:LEU:HD11	2.42	0.55
48:h:107:PRO:HD2	48:h:110:LEU:HD22	1.89	0.55
54:n:134:GLU:N	54:n:134:GLU:OE1	2.40	0.55
65:y:27:GLU:HB3	65:y:87:LYS:NZ	2.22	0.55
2:1:43:ALA:O	2:1:47:VAL:HG12	2.07	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:7:1:A:C4	8:7:2:U:C5	2.95	0.55
8:7:8:U:H5'	18:D:1397:C:C2	2.41	0.55
10:A:22:G:H2'	10:A:23:C:H6	1.70	0.55
10:A:37:A:H2'	10:A:38:A:O4'	2.07	0.55
11:AA:633:LEU:HD13	11:AA:644:LEU:HD23	1.89	0.55
12:AB:138:ARG:CD	12:AB:155:LYS:CA	2.84	0.55
16:AG:130:PHE:O	16:AG:186:VAL:HG11	2.07	0.55
18:D:695:A:OP1	31:Q:53:ARG:HD3	2.07	0.55
22:H:9:PHE:O	22:H:13:LEU:HD23	2.06	0.55
23:I:164:ARG:CZ	23:I:166:GLU:OE2	2.54	0.55
24:J:175:ALA:O	24:J:178:MET:SD	2.65	0.55
25:K:77:ASN:HB2	25:K:82:GLN:HG3	1.89	0.55
27:M:23:LEU:O	27:M:27:VAL:HG13	2.07	0.55
38:X:96:PRO:HG3	38:X:102:THR:HG22	1.89	0.55
39:Y:44:LYS:O	39:Y:44:LYS:HD2	2.07	0.55
41:a:151:C:C2	41:a:152:A:C8	2.95	0.55
41:a:2335:A:OP2	64:x:13:ARG:HB3	2.06	0.55
41:a:2351:G:O6	55:o:39:LYS:CE	2.55	0.55
41:a:2483:C:O2	62:v:51:ARG:NH2	2.38	0.55
41:a:2838:G:C4	41:a:2839:G:C8	2.95	0.55
50:j:4:LEU:HD23	50:j:29:VAL:HG11	1.89	0.55
9:9:94:ARG:HB2	9:9:97:LYS:CE	2.36	0.55
11:AA:858:GLY:O	16:AG:38:LYS:NZ	2.39	0.55
12:AB:146:ILE:CG2	30:P:88:MET:O	2.55	0.55
16:AG:131:ARG:O	16:AG:134:GLU:CG	2.47	0.55
16:AG:131:ARG:CA	16:AG:186:VAL:HG11	2.35	0.55
16:AG:168:LEU:CD2	16:AG:230:PRO:O	2.55	0.55
16:AG:168:LEU:CD2	16:AG:230:PRO:C	2.74	0.55
16:AG:392:LEU:HD22	16:AG:395:ILE:HD11	1.87	0.55
10:B:22:G:H2'	10:B:23:C:H6	1.70	0.55
18:D:193:C:O2'	19:E:59:ASP:OD2	2.23	0.55
18:D:679:C:C2	18:D:680:C:C5	2.95	0.55
18:D:750:C:N3	18:D:751:U:C5	2.75	0.55
19:E:6:SER:O	19:E:10:ARG:HG2	2.07	0.55
28:N:7:ILE:O	28:N:11:LEU:CD1	2.55	0.55
28:N:78:VAL:HG12	28:N:85:ILE:HG21	1.89	0.55
33:S:27:LEU:HD21	33:S:48:LEU:N	2.21	0.55
39:Y:45:THR:HG21	39:Y:50:LYS:CD	2.36	0.55
41:a:784:G:H5'	41:a:785:G:OP1	2.06	0.55
41:a:851:C:H2'	41:a:852:U:H6	1.72	0.55
41:a:1386:C:H2'	41:a:1387:A:C8	2.42	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:a:2591:C:H2'	41:a:2592:G:C8	2.42	0.55
41:a:2636:C:O2'	50:j:45:TYR:OH	1.99	0.55
48:h:157:SER:O	48:h:195:VAL:HG11	2.07	0.55
50:j:78:GLY:C	50:j:79:LEU:HD22	2.32	0.55
62:v:96:ILE:HA	62:v:100:LYS:NZ	2.21	0.55
9:9:23:LEU:HD21	9:9:96:PHE:CD1	2.42	0.55
14:AE:886:VAL:HG11	14:AE:1230:THR:HG21	1.89	0.55
16:AG:46:ARG:HH11	16:AG:61:ARG:HB3	1.71	0.55
16:AG:133:HIS:CE1	16:AG:136:GLU:OE1	2.59	0.55
16:AG:320:ARG:NH1	16:AG:320:ARG:HG2	2.22	0.55
16:AG:355:ALA:HB1	16:AG:382:GLU:CB	2.37	0.55
16:AG:448:LEU:HD22	16:AG:467:LEU:HD22	1.89	0.55
17:C:40:VAL:HG13	22:H:339:ARG:HD3	1.89	0.55
18:D:37:U:O4	18:D:397:A:N1	2.40	0.55
18:D:1078:U:O3'	25:K:138:ARG:NH2	2.40	0.55
20:F:26:ALA:HB3	20:F:28:VAL:HG23	1.88	0.55
23:I:132:ARG:HA	23:I:135:LYS:HE3	1.89	0.55
35:U:23:ASP:HB3	35:U:26:ASN:OD1	2.07	0.55
38:X:28:THR:CA	38:X:31:LYS:HE3	2.37	0.55
41:a:1059:G:H2'	41:a:1060:U:C5	2.41	0.55
41:a:1720:U:H2'	41:a:1721:G:O4'	2.06	0.55
46:f:10:THR:HB	46:f:56:LYS:NZ	2.22	0.55
60:t:12:ASP:CG	60:t:85:VAL:HG13	2.31	0.55
62:v:105:MET:HE2	62:v:108:VAL:HG21	1.87	0.55
2:1:62:ASP:OD1	2:1:62:ASP:O	2.24	0.54
6:5:16:DG:OP1	11:AA:175:ARG:NH2	2.39	0.54
8:7:6:U:C2	18:D:1493:A:C2	2.95	0.54
10:A:56:C:H1'	41:a:2112:G:C6	2.41	0.54
12:AB:8:TYR:OH	14:AE:278:ARG:NH2	2.40	0.54
12:AB:120:GLU:CB	12:AB:162:LEU:HD12	2.37	0.54
14:AE:287:ALA:CB	14:AE:292:VAL:HG22	2.37	0.54
10:B:37:A:H2'	10:B:38:A:O4'	2.07	0.54
18:D:50:A:O2'	18:D:360:G:N2	2.40	0.54
18:D:321:A:N7	18:D:328:C:O2'	2.38	0.54
18:D:1439:G:P	19:E:33:LYS:HZ1	2.28	0.54
26:L:99:ALA:HB3	26:L:104:LYS:NZ	2.22	0.54
34:T:80:GLN:O	34:T:84:ARG:HG2	2.05	0.54
41:a:1000:A:H2'	41:a:1001:A:C8	2.43	0.54
41:a:1708:C:C2	41:a:1709:U:C5	2.95	0.54
50:j:11:MET:SD	50:j:11:MET:C	2.90	0.54
59:s:15:TRP:HE3	59:s:135:GLN:O	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:u:122:VAL:HG13	61:u:125:LEU:CD1	2.34	0.54
62:v:45:GLN:NE2	62:v:125:PRO:HD2	2.22	0.54
2:1:31:GLN:O	2:1:35:ILE:HG12	2.07	0.54
4:3:7:ARG:HB3	41:a:85:G:OP2	2.08	0.54
4:3:48:PRO:HG3	4:3:56:GLY:HA3	1.89	0.54
10:A:41:C:O4'	27:M:143:ARG:NH1	2.40	0.54
10:A:76:A:N1	41:a:2422:C:C6	2.75	0.54
11:AA:29:SER:O	11:AA:33:ASP:HB2	2.07	0.54
11:AA:360:LEU:HD13	11:AA:378:ARG:HH11	1.72	0.54
12:AB:148:LYS:HD2	30:P:100:ILE:HD13	1.89	0.54
18:D:17:U:H2'	18:D:18:C:C6	2.42	0.54
22:H:5:PHE:O	22:H:9:PHE:HD1	1.90	0.54
22:H:71:ALA:C	22:H:72:LEU:HD12	2.32	0.54
23:I:66:VAL:HB	23:I:101:ILE:HD12	1.88	0.54
27:M:31:MET:SD	27:M:36:LYS:HA	2.47	0.54
31:Q:20:VAL:HB	31:Q:35:THR:HG23	1.89	0.54
41:a:151:C:H2'	41:a:152:A:H8	1.72	0.54
41:a:1353:A:H2'	41:a:1354:A:C8	2.42	0.54
41:a:2683:C:H4'	50:j:13:ARG:NH2	2.22	0.54
48:h:183:LYS:HE2	48:h:266:PHE:HA	1.88	0.54
52:l:188:MET:HE2	52:l:193:VAL:HA	1.89	0.54
60:t:18:ARG:HB3	60:t:45:GLU:HB3	1.89	0.54
5:4:6:ALA:HB3	5:4:65:VAL:CG2	2.37	0.54
9:9:52:MET:HE1	9:9:85:SER:CA	2.38	0.54
9:9:136:ILE:CD1	9:9:139:LEU:HD12	2.25	0.54
11:AA:846:GLY:C	16:AG:104:ARG:NH2	2.65	0.54
16:AG:220:VAL:HG12	16:AG:245:ILE:HG21	1.88	0.54
31:Q:20:VAL:HG13	31:Q:85:MET:HE1	1.89	0.54
41:a:1433:A:H2'	41:a:1434:A:O4'	2.07	0.54
41:a:1779:U:H5	41:a:1784:A:N7	2.06	0.54
41:a:2299:U:H2'	41:a:2300:C:H6	1.71	0.54
41:a:2454:G:C4	41:a:2455:G:C8	2.96	0.54
47:g:2:LYS:HB2	47:g:5:ILE:HD11	1.88	0.54
52:l:60:TRP:CD1	52:l:65:THR:HG21	2.43	0.54
54:n:46:ASP:CG	54:n:49:LEU:HD13	2.33	0.54
59:s:73:VAL:C	59:s:74:TYR:HD2	2.14	0.54
59:s:74:TYR:CE2	59:s:92:MET:HE1	2.42	0.54
62:v:45:GLN:HE21	62:v:124:LEU:HD23	1.72	0.54
1:0:10:LYS:HE2	41:a:996:A:OP1	2.07	0.54
1:0:13:ARG:NH2	66:z:97:ASP:OD1	2.40	0.54
6:5:10:DT:C7	11:AA:62:TYR:HB3	2.37	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:7:3:G:C3'	18:D:1500:A:N6	2.71	0.54
9:9:129:LEU:HD12	9:9:129:LEU:C	2.32	0.54
11:AA:243:PRO:HB2	11:AA:274:ILE:HG23	1.90	0.54
11:AA:985:GLU:HB3	11:AA:988:LYS:HB2	1.88	0.54
11:AA:1142:ARG:NH2	11:AA:1166:ASP:OD1	2.38	0.54
12:AB:134:ASP:OD1	12:AB:135:GLY:N	2.37	0.54
16:AG:285:ILE:HD12	16:AG:293:VAL:HG11	1.88	0.54
17:C:34:THR:HG22	17:C:36:SER:H	1.72	0.54
18:D:106:C:N4	19:E:10:ARG:NH2	2.56	0.54
20:F:63:GLU:HG2	20:F:67:ARG:NH2	2.22	0.54
23:I:155:GLY:O	23:I:196:ILE:HG12	2.07	0.54
28:N:87:LYS:HD2	28:N:91:GLU:CB	2.37	0.54
36:V:31:HIS:ND1	36:V:32:PRO:HD2	2.23	0.54
38:X:81:MET:CE	38:X:92:ARG:HD3	2.38	0.54
38:X:95:LEU:HB3	38:X:96:PRO:CD	2.37	0.54
41:a:3:U:H2'	41:a:4:U:C6	2.42	0.54
41:a:960:A:H61	62:v:82:MET:HE1	1.72	0.54
41:a:2020:A:C2	41:a:2022:U:O4'	2.61	0.54
41:a:2308:G:C5	54:n:77:PHE:HZ	2.26	0.54
52:l:69:ARG:HA	52:l:69:ARG:CZ	2.37	0.54
61:u:76:GLU:CG	61:u:111:ILE:HD13	2.37	0.54
65:y:15:GLN:NE2	65:y:16:ASP:OD1	2.40	0.54
2:1:25:ARG:NH2	41:a:519:U:O3'	2.40	0.54
3:2:56:GLU:OE1	3:2:87:LEU:CA	2.56	0.54
5:4:80:HIS:ND1	5:4:83:LYS:N	2.55	0.54
11:AA:811:ASN:HA	11:AA:815:SER:HB2	1.90	0.54
14:AE:679:TYR:OH	14:AE:754:ILE:O	2.23	0.54
17:C:60:LYS:HD2	18:D:734:G:O2'	2.07	0.54
21:G:19:GLN:CD	22:H:76:GLU:HB3	2.33	0.54
24:J:105:MET:HE1	24:J:171:LEU:HB3	1.89	0.54
30:P:5:ARG:HG3	30:P:7:ARG:NH1	2.23	0.54
41:a:1019:U:O4	41:a:1142:A:N1	2.40	0.54
41:a:1565:C:OP1	48:h:18:LYS:NZ	2.26	0.54
41:a:1656:C:OP1	50:j:141:ARG:CD	2.55	0.54
41:a:1790:C:H2'	41:a:1791:A:C5	2.43	0.54
41:a:2064:C:H2'	41:a:2065:C:C6	2.42	0.54
11:AA:143:ARG:NH2	11:AA:512:SER:O	2.40	0.54
14:AE:901:ARG:HH21	14:AE:906:GLY:HA2	1.73	0.54
14:AE:968:ASN:HA	14:AE:1117:SER:HB2	1.90	0.54
16:AG:63:LEU:HD23	16:AG:63:LEU:N	2.21	0.54
16:AG:358:THR:O	16:AG:358:THR:OG1	2.24	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:D:1071:C:H2'	18:D:1072:G:H8	1.71	0.54
19:E:24:ARG:O	19:E:28:MET:HG2	2.08	0.54
22:H:279:LYS:HA	22:H:331:MET:HB3	1.89	0.54
24:J:67:VAL:HB	24:J:72:PHE:CE1	2.43	0.54
37:W:12:ASP:OD2	37:W:35:SER:OG	2.14	0.54
41:a:1348:C:C5	41:a:1349:C:C5	2.95	0.54
41:a:2356:U:H4'	42:b:20:ARG:HH11	1.73	0.54
41:a:2742:G:P	57:q:36:ARG:NH1	2.80	0.54
60:t:73:ASP:OD2	65:y:80:VAL:HG11	2.08	0.54
2:1:24:ILE:O	2:1:71:VAL:HG21	2.08	0.54
5:4:35:GLU:OE1	5:4:93:ARG:CZ	2.56	0.54
6:5:10:DT:O3'	12:AB:68:THR:C	2.47	0.54
12:AB:78:PHE:CD1	12:AB:85:PRO:HB3	2.42	0.54
16:AG:201:LYS:HB3	16:AG:201:LYS:HZ3	1.71	0.54
16:AG:327:LEU:HD12	16:AG:327:LEU:O	2.08	0.54
18:D:375:U:OP1	35:U:70:ARG:CG	2.54	0.54
18:D:399:G:H2'	18:D:400:C:C6	2.43	0.54
21:G:18:HIS:HA	22:H:43:LYS:HD2	1.90	0.54
30:P:6:ILE:HG21	30:P:100:ILE:HD11	1.89	0.54
39:Y:45:THR:HG21	39:Y:50:LYS:HZ2	1.72	0.54
41:a:1563:U:H2'	41:a:1564:C:C6	2.43	0.54
41:a:2766:A:C2	41:a:2767:C:C6	2.96	0.54
41:a:2822:G:O2'	41:a:2824:C:OP2	2.20	0.54
62:v:97:GLN:H	62:v:100:LYS:CE	2.21	0.54
1:0:10:LYS:CE	41:a:994:C:O2'	2.56	0.54
2:1:41:LYS:HZ2	41:a:2009:A:P	2.30	0.54
7:6:20:DA:C6	8:7:51:G:N2	2.76	0.54
10:A:60:U:P	10:A:61:C:H41	2.30	0.54
14:AE:1346:GLY:O	14:AE:1350:ASN:ND2	2.41	0.54
16:AG:448:LEU:HD11	16:AG:481:LEU:HD13	1.89	0.54
17:C:13:PHE:CZ	17:C:21:ILE:HG12	2.42	0.54
18:D:547:A:OP1	24:J:70:ARG:NH2	2.41	0.54
18:D:713:G:H2'	18:D:714:G:C8	2.42	0.54
18:D:1399:C:O2	18:D:1502:A:N6	2.40	0.54
19:E:25:ARG:HD3	19:E:66:LEU:HD21	1.90	0.54
20:F:19:PHE:CE2	31:Q:110:ILE:HG22	2.42	0.54
26:L:3:HIS:CG	26:L:65:GLU:OE1	2.61	0.54
27:M:79:ARG:HB2	27:M:84:THR:HG23	1.90	0.54
41:a:1084:A:N7	41:a:1085:A:C6	2.76	0.54
41:a:1321:A:C4	41:a:1322:A:C8	2.95	0.54
41:a:2259:U:C2	41:a:2260:C:C6	2.96	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:f:10:THR:HG23	46:f:11:ARG:HG2	1.90	0.54
50:j:124:ARG:NH1	50:j:161:MET:O	2.41	0.54
54:n:16:LEU:HD11	54:n:169:LEU:CD1	2.38	0.54
54:n:71:ARG:O	54:n:81:GLN:NE2	2.41	0.54
61:u:57:LEU:HA	61:u:60:ARG:HD2	1.89	0.54
63:w:24:MET:HE2	63:w:34:ILE:HD13	1.87	0.54
63:w:44:LEU:HD22	63:w:113:ILE:HD13	1.90	0.54
1:0:10:LYS:CE	41:a:996:A:OP1	2.56	0.54
3:2:19:LYS:NZ	41:a:1340:U:OP1	2.34	0.54
5:4:19:ARG:NH1	44:d:95:U:OP2	2.41	0.54
11:AA:377:THR:HB	12:AB:65:HIS:NE2	2.23	0.54
13:AC:100:LEU:HD23	13:AC:115:ILE:HG21	1.90	0.54
14:AE:1045:THR:O	14:AE:1067:ARG:NH2	2.41	0.54
16:AG:336:LEU:HD12	16:AG:336:LEU:N	2.01	0.54
18:D:110:C:O2'	35:U:25:ARG:O	2.21	0.54
18:D:339:C:H2'	18:D:340:U:H6	1.73	0.54
21:G:30:PHE:CD1	21:G:45:LYS:NZ	2.74	0.54
22:H:268:VAL:HG23	22:H:269:ALA:N	2.22	0.54
25:K:131:THR:O	25:K:131:THR:HG22	2.08	0.54
26:L:62:MET:HA	26:L:62:MET:HE3	1.90	0.54
27:M:38:THR:O	27:M:42:ILE:HG12	2.08	0.54
28:N:83:LEU:HD21	32:R:4:VAL:HG11	1.89	0.54
32:R:102:LEU:O	32:R:103:ASP:OD1	2.26	0.54
39:Y:77:VAL:HG13	39:Y:81:LYS:HZ3	1.73	0.54
41:a:150:U:H2'	41:a:151:C:H6	1.72	0.54
41:a:2038:G:H2'	41:a:2039:U:O4'	2.08	0.54
41:a:2537:U:H2'	41:a:2538:C:C6	2.43	0.54
52:l:147:LEU:HD11	52:l:170:ARG:HD2	1.89	0.54
56:p:33:LEU:HD11	56:p:136:ALA:HB1	1.89	0.54
62:v:20:LEU:H	62:v:20:LEU:HD23	1.73	0.54
3:2:56:GLU:CD	3:2:88:LYS:HA	2.32	0.54
6:5:9:DG:H2'	12:AB:71:ALA:HA	1.90	0.54
12:AB:112:PRO:HB3	12:AB:132:GLU:OE1	2.07	0.54
14:AE:1175:LEU:O	14:AE:1187:GLU:HA	2.08	0.54
10:B:60:U:P	10:B:61:C:H41	2.30	0.54
19:E:78:ASN:C	19:E:82:GLN:OE1	2.50	0.54
20:F:19:PHE:CE1	20:F:23:CYS:SG	3.00	0.54
28:N:50:LYS:HE2	28:N:50:LYS:HA	1.89	0.54
37:W:47:LEU:O	37:W:62:VAL:HG23	2.08	0.54
41:a:2747:G:O6	41:a:2755:C:H5"	2.08	0.54
62:v:1:MET:HA	62:v:1:MET:CE	2.38	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:7:13:U:H6	8:7:13:U:H5"	1.73	0.53
9:9:97:LYS:HD3	9:9:130:PRO:HG3	1.89	0.53
11:AA:684:ASN:OD1	11:AA:687:ARG:NH2	2.41	0.53
11:AA:860:ALA:HB3	16:AG:38:LYS:HE2	1.89	0.53
18:D:280:C:H1'	36:V:40:ARG:CZ	2.37	0.53
18:D:736:C:H2'	18:D:737:C:C6	2.42	0.53
18:D:1076:U:OP1	21:G:174:LYS:NZ	2.40	0.53
25:K:14:LYS:HD3	25:K:117:VAL:CG1	2.38	0.53
28:N:31:LYS:HE3	28:N:31:LYS:HA	1.89	0.53
29:O:5:GLN:NE2	29:O:22:LYS:NZ	2.56	0.53
30:P:27:GLU:HA	30:P:30:LYS:NZ	2.23	0.53
39:Y:80:LYS:CG	39:Y:86:LYS:O	2.56	0.53
41:a:134:G:H2'	41:a:135:U:C6	2.43	0.53
41:a:589:U:H2'	41:a:590:A:C8	2.42	0.53
41:a:2867:G:C6	65:y:21:ARG:NH1	2.76	0.53
54:n:72:LYS:HA	54:n:81:GLN:HE22	1.74	0.53
62:v:96:ILE:HA	62:v:100:LYS:CE	2.38	0.53
64:x:38:GLN:HG2	64:x:50:ALA:CB	2.38	0.53
65:y:31:TRP:CZ3	65:y:40:LEU:HD11	2.42	0.53
3:2:19:LYS:O	3:2:22:THR:OG1	2.23	0.53
3:2:53:VAL:HG21	3:2:87:LEU:HD23	1.91	0.53
6:5:15:DT:C2	11:AA:183:TRP:CD1	2.94	0.53
7:6:14:DC:H2'	7:6:15:DC:C6	2.43	0.53
9:9:36:ASP:N	9:9:36:ASP:OD1	2.40	0.53
12:AB:154:VAL:HG11	12:AB:162:LEU:HD21	1.90	0.53
16:AG:374:VAL:O	16:AG:374:VAL:HG12	2.08	0.53
18:D:76:G:C4	18:D:77:A:C8	2.95	0.53
18:D:750:C:C2	18:D:751:U:C5	2.97	0.53
19:E:32:ILE:CG2	19:E:75:HIS:NE2	2.71	0.53
21:G:148:LEU:HD22	21:G:151:ILE:HD11	1.89	0.53
22:H:45:GLU:OE1	22:H:45:GLU:N	2.42	0.53
25:K:86:LYS:N	25:K:86:LYS:HD2	2.23	0.53
25:K:157:ARG:NE	28:N:43:GLU:O	2.40	0.53
27:M:85:TYR:CD2	27:M:151:PHE:CZ	2.97	0.53
39:Y:33:ASN:HB3	39:Y:36:GLU:CG	2.30	0.53
41:a:839:U:H2'	41:a:840:C:H6	1.73	0.53
41:a:1817:G:C6	41:a:1818:U:C5	2.95	0.53
41:a:2287:A:C8	41:a:2289:G:C8	2.97	0.53
50:j:55:LYS:NZ	50:j:59:ARG:HB3	2.23	0.53
53:m:25:LYS:HG3	53:m:29:GLN:HE22	1.73	0.53
60:t:2:ILE:CG2	60:t:8:LEU:HD11	2.38	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
63:w:33:ILE:CD1	63:w:112:TYR:CD1	2.91	0.53
3:2:6:ARG:NH2	3:2:10:VAL:HG22	2.24	0.53
3:2:54:GLU:OE1	3:2:54:GLU:N	2.38	0.53
10:A:16:C:O2	41:a:2181:U:C5'	2.57	0.53
11:AA:855:PRO:HD3	16:AG:103:ASP:OD2	2.08	0.53
16:AG:398:LEU:HG	16:AG:398:LEU:O	2.09	0.53
17:C:38:LYS:HE2	17:C:38:LYS:CA	2.37	0.53
17:C:39:ILE:HD12	18:D:719:C:O2	2.07	0.53
21:G:53:ALA:CA	21:G:56:GLU:OE1	2.57	0.53
27:M:27:VAL:HG12	27:M:43:VAL:HG21	1.90	0.53
41:a:581:C:H2'	41:a:582:A:H8	1.73	0.53
41:a:588:U:H2'	41:a:589:U:C6	2.43	0.53
41:a:813:U:H2'	41:a:814:C:H6	1.74	0.53
41:a:1830:C:C2	41:a:1831:G:C8	2.95	0.53
41:a:2297:A:C2	41:a:2320:U:O4'	2.61	0.53
48:h:175:ARG:CG	48:h:181:MET:HE1	2.35	0.53
51:k:8:LYS:HZ1	51:k:54:ILE:HG12	1.72	0.53
60:t:1:MET:CE	60:t:32:TYR:HB3	2.38	0.53
60:t:41:ILE:HD11	60:t:86:LEU:HD22	1.89	0.53
63:w:94:TYR:C	63:w:116:VAL:HG23	2.32	0.53
5:4:80:HIS:ND1	5:4:83:LYS:HB2	2.23	0.53
8:7:9:U:C4	18:D:1196:A:C8	2.97	0.53
11:AA:628:HIS:HB3	11:AA:647:ARG:HH21	1.73	0.53
11:AA:855:PRO:HA	16:AG:35:THR:OG1	2.06	0.53
12:AB:120:GLU:N	12:AB:162:LEU:HG	2.24	0.53
13:AD:16:ILE:HG23	13:AD:26:VAL:HG22	1.91	0.53
14:AE:66:LYS:HB2	14:AE:69:GLU:CB	2.38	0.53
16:AG:235:LYS:HG2	16:AG:235:LYS:O	2.07	0.53
18:D:197:A:H1'	18:D:198:G:OP2	2.08	0.53
19:E:22:ALA:CA	19:E:25:ARG:HH21	2.21	0.53
23:I:85:GLU:HG3	23:I:89:LYS:NZ	2.23	0.53
24:J:61:VAL:HG21	24:J:200:ILE:HD11	1.90	0.53
26:L:39:LEU:HB3	26:L:62:MET:HE1	1.88	0.53
29:O:10:GLY:HA3	29:O:78:ALA:O	2.08	0.53
32:R:56:ARG:HA	32:R:62:GLU:OE2	2.08	0.53
32:R:74:LEU:HD11	32:R:80:ILE:HD11	1.90	0.53
39:Y:102:ARG:HG3	39:Y:140:GLU:C	2.33	0.53
41:a:15:G:H2'	49:i:15:MET:HE1	1.90	0.53
41:a:743:A:O2'	41:a:1659:G:OP1	2.25	0.53
41:a:1774:C:O2	41:a:1774:C:H2'	2.07	0.53
41:a:2849:U:O5'	65:y:93:ARG:NH2	2.42	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:l:62:GLN:O	52:l:69:ARG:CD	2.56	0.53
52:l:175:ILE:CG2	52:l:180:LEU:HD11	2.38	0.53
59:s:133:ALA:C	59:s:135:GLN:H	2.16	0.53
61:u:111:ILE:HD12	61:u:111:ILE:N	2.24	0.53
62:v:1:MET:CE	62:v:44:ARG:HA	2.38	0.53
64:x:48:LEU:CD2	64:x:87:ILE:HD11	2.38	0.53
66:z:78:LYS:HD3	66:z:117:LEU:HD23	1.88	0.53
2:1:33:LEU:HD23	2:1:51:LEU:HD23	1.89	0.53
2:1:41:LYS:HE3	41:a:2010:G:P	2.48	0.53
7:6:20:DA:N6	8:7:51:G:C2	2.76	0.53
9:9:3:LEU:HD12	9:9:4:ASN:CA	2.37	0.53
9:9:51:TYR:HB2	9:9:88:HIS:HB2	1.90	0.53
11:AA:103:VAL:HB	11:AA:114:VAL:HG11	1.89	0.53
16:AG:179:VAL:HB	16:AG:199:ARG:HH11	1.73	0.53
16:AG:363:LEU:CG	16:AG:410:ALA:CB	2.71	0.53
19:E:25:ARG:HD3	19:E:66:LEU:HD11	1.90	0.53
28:N:87:LYS:HG2	28:N:92:LEU:HA	1.90	0.53
29:O:112:GLU:HG3	29:O:115:LYS:HZ3	1.73	0.53
30:P:47:GLU:OE1	30:P:67:ILE:HG23	2.09	0.53
32:R:25:GLU:OE1	32:R:59:ASN:ND2	2.42	0.53
32:R:27:CYS:SG	32:R:30:LYS:NZ	2.68	0.53
32:R:35:THR:OG1	32:R:56:ARG:HG3	2.08	0.53
41:a:372:G:O2'	43:c:54:LYS:HE3	2.09	0.53
41:a:414:C:H2'	41:a:415:A:C8	2.44	0.53
41:a:1278:C:H5'	63:w:24:MET:SD	2.49	0.53
50:j:4:LEU:HG	50:j:32:ASN:OD1	2.08	0.53
51:k:8:LYS:NZ	51:k:54:ILE:HG12	2.23	0.53
52:l:60:TRP:NE1	52:l:69:ARG:HH12	2.07	0.53
60:t:14:SER:OG	60:t:86:LEU:HD12	2.08	0.53
11:AA:143:ARG:NH1	11:AA:507:GLY:O	2.32	0.53
16:AG:434:LEU:CG	16:AG:456:LEU:N	2.71	0.53
10:B:38:A:O2'	18:D:790:A:P	2.66	0.53
18:D:1329:A:P	38:X:28:THR:HB	2.48	0.53
18:D:1358:U:O4	18:D:1363:A:N1	2.41	0.53
22:H:321:VAL:HG13	22:H:322:VAL:HG23	1.91	0.53
33:S:42:TRP:CH2	47:g:66:ILE:HG23	2.42	0.53
36:V:7:THR:CB	36:V:60:GLU:OE2	2.56	0.53
39:Y:33:ASN:HB2	39:Y:36:GLU:OE2	2.08	0.53
41:a:1412:U:C4	41:a:1413:A:N7	2.77	0.53
41:a:1657:U:O2'	50:j:138:LEU:HD22	2.08	0.53
41:a:2847:U:H2'	41:a:2848:G:O4'	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:g:11:GLU:HA	47:g:25:ARG:HA	1.91	0.53
54:n:93:GLY:HA2	54:n:97:TRP:CZ3	2.44	0.53
56:p:89:LEU:HD22	56:p:162:VAL:HG22	1.91	0.53
62:v:97:GLN:N	62:v:100:LYS:CE	2.72	0.53
3:2:30:ILE:HG22	3:2:32:LEU:CD2	2.38	0.53
5:4:35:GLU:OE1	5:4:36:ALA:O	2.27	0.53
9:9:3:LEU:CG	9:9:4:ASN:H	2.21	0.53
12:AB:154:VAL:HB	12:AB:159:PHE:HB3	1.91	0.53
16:AG:131:ARG:HA	16:AG:186:VAL:CG1	2.38	0.53
16:AG:447:LYS:O	16:AG:470:ILE:HD11	2.05	0.53
10:B:31:G:O2'	18:D:1340:A:H4'	2.08	0.53
18:D:274:A:H4'	36:V:16:LYS:NZ	2.24	0.53
23:I:24:ALA:C	23:I:29:PHE:CE2	2.87	0.53
27:M:4:ARG:CG	27:M:5:ARG:NH1	2.72	0.53
29:O:67:VAL:C	29:O:68:LYS:HD2	2.33	0.53
41:a:78:U:H2'	41:a:79:C:C6	2.44	0.53
41:a:2308:G:C6	54:n:77:PHE:CZ	2.97	0.53
50:j:48:ILE:HG12	50:j:84:LEU:HD21	1.90	0.53
60:t:35:VAL:HG23	60:t:63:VAL:HA	1.89	0.53
65:y:9:GLU:OE2	65:y:55:LEU:N	2.37	0.53
1:0:5:PHE:HB3	1:0:59:ILE:HD12	1.91	0.53
11:AA:855:PRO:HD2	11:AA:887:VAL:HG11	1.91	0.53
12:AB:5:TYR:HA	12:AB:88:VAL:HG22	1.90	0.53
14:AE:514:THR:HG21	14:AE:596:LEU:HD12	1.90	0.53
16:AG:442:ARG:C	16:AG:446:PHE:CD2	2.85	0.53
27:M:103:TRP:HB3	27:M:137:LYS:HD3	1.90	0.53
32:R:110:ARG:NE	32:R:117:TYR:CD2	2.76	0.53
41:a:150:U:H2'	41:a:151:C:C6	2.44	0.53
41:a:1243:C:H1'	61:u:4:ASN:O	2.09	0.53
41:a:1379:U:H4'	41:a:1380:G:OP1	2.09	0.53
42:b:21:LEU:HD21	42:b:41:ARG:NE	2.21	0.53
47:g:47:LYS:HD3	54:n:178:ARG:HH22	1.74	0.53
50:j:131:ASP:OD2	50:j:132:ALA:N	2.42	0.53
56:p:9:VAL:HG22	56:p:69:ARG:NH1	2.24	0.53
60:t:99:ILE:HD13	60:t:118:LEU:CB	2.39	0.53
63:w:24:MET:HE3	63:w:24:MET:CA	2.34	0.53
4:3:26:LYS:HE3	4:3:37:GLU:HB2	1.90	0.53
6:5:17:DC:H5"	6:5:17:DC:H6	1.74	0.53
11:AA:1117:LEU:HD12	11:AA:1195:ILE:HG12	1.90	0.53
12:AB:89:PRO:HG2	14:AE:290:ILE:HG22	1.91	0.53
13:AD:28:LEU:HD12	13:AD:201:LEU:HD23	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:D:1439:G:P	19:E:33:LYS:NZ	2.82	0.53
19:E:56:PRO:HG2	19:E:57:ILE:HD12	1.90	0.53
21:G:23:TRP:HB3	21:G:39:HIS:CE1	2.44	0.53
29:O:47:VAL:O	29:O:80:ARG:HD2	2.09	0.53
29:O:88:MET:HE1	29:O:95:ARG:HA	1.89	0.53
38:X:22:ILE:HB	38:X:25:VAL:CG1	2.39	0.53
41:a:995:C:N4	59:s:2:LYS:HG3	2.24	0.53
41:a:1818:U:C6	48:h:156:ARG:NH2	2.77	0.53
8:7:3:G:C4'	18:D:1500:A:H62	2.22	0.53
12:AB:148:LYS:HZ1	12:AB:150:ILE:CD1	2.19	0.53
16:AG:440:VAL:HG21	16:AG:481:LEU:HD22	1.88	0.53
17:C:12:ARG:NH2	17:C:13:PHE:CE1	2.77	0.53
18:D:62:U:H2'	18:D:63:C:C6	2.44	0.53
18:D:679:C:H2'	18:D:680:C:H6	1.74	0.53
18:D:1208:C:H2'	18:D:1209:C:C6	2.40	0.53
20:F:31:GLU:O	20:F:34:ARG:HG2	2.08	0.53
41:a:67:U:N3	41:a:74:A:C6	2.77	0.53
41:a:858:G:OP2	42:b:78:LYS:NZ	2.35	0.53
41:a:1567:G:OP2	48:h:83:TYR:OH	2.19	0.53
41:a:2387:U:O4'	42:b:41:ARG:NH1	2.41	0.53
54:n:42:GLU:HG3	54:n:49:LEU:HD23	1.91	0.53
54:n:132:VAL:CG2	54:n:152:LEU:HD23	2.39	0.53
8:7:3:G:H3'	18:D:1500:A:N6	2.24	0.52
9:9:93:ALA:O	9:9:129:LEU:O	2.27	0.52
9:9:136:ILE:HG13	9:9:136:ILE:O	2.09	0.52
12:AB:135:GLY:C	12:AB:137:ALA:H	2.17	0.52
15:AF:3:ARG:NH1	15:AF:55:GLU:OE2	2.40	0.52
16:AG:362:TYR:CE1	16:AG:414:LEU:HD21	2.43	0.52
10:B:38:A:O2'	18:D:790:A:O5'	2.27	0.52
33:S:79:LEU:HB2	33:S:84:VAL:HG22	1.91	0.52
34:T:11:ILE:HA	34:T:14:GLU:OE1	2.09	0.52
38:X:68:ASP:O	38:X:71:ARG:HG3	2.09	0.52
39:Y:9:LYS:CG	39:Y:55:PRO:HB3	2.39	0.52
39:Y:16:MET:HG2	39:Y:16:MET:O	2.09	0.52
41:a:1295:C:C2	41:a:1296:G:C8	2.97	0.52
41:a:2649:C:H2'	41:a:2650:U:H6	1.73	0.52
41:a:2833:U:O2	50:j:58:ASN:ND2	2.41	0.52
53:m:26:ASN:O	53:m:30:VAL:HG23	2.08	0.52
61:u:54:GLN:NE2	61:u:60:ARG:HH12	2.07	0.52
62:v:115:GLU:O	62:v:119:LEU:HD23	2.09	0.52
1:0:4:VAL:HG22	1:0:40:MET:HB3	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:61:ASN:OD1	41:a:496:G:H1'	2.09	0.52
3:2:33:LYS:HG3	3:2:80:TRP:CE3	2.45	0.52
5:4:51:GLN:OE1	5:4:57:TYR:OH	2.27	0.52
9:9:87:GLU:OE2	9:9:95:LEU:HG	2.09	0.52
12:AB:27:ASN:ND2	12:AB:58:GLU:HB2	2.24	0.52
14:AE:1000:GLY:HA3	14:AE:1026:PRO:HG2	1.90	0.52
16:AG:363:LEU:HG	16:AG:410:ALA:N	2.16	0.52
17:C:60:LYS:HZ2	18:D:734:G:C2'	2.19	0.52
18:D:769:G:H4'	18:D:1513:A:H4'	1.90	0.52
18:D:1240:U:C5	27:M:116:MET:HE2	2.44	0.52
25:K:111:MET:HE2	25:K:125:ALA:HB1	1.90	0.52
25:K:134:ILE:HG23	25:K:135:ASN:N	2.24	0.52
26:L:36:ILE:O	26:L:36:ILE:HG23	2.09	0.52
28:N:66:PHE:CD2	28:N:67:GLN:OE1	2.62	0.52
29:O:118:LEU:HD23	29:O:124:ARG:HA	1.91	0.52
37:W:66:MET:HG2	37:W:74:PHE:CZ	2.44	0.52
38:X:31:LYS:HG3	38:X:32:ALA:N	2.25	0.52
39:Y:77:VAL:O	39:Y:77:VAL:HG12	2.08	0.52
39:Y:126:ARG:NH1	41:a:1083:U:P	2.83	0.52
41:a:271:G:C4	41:a:272:A:N7	2.77	0.52
41:a:1801:A:OP2	48:h:146:MET:HE1	2.09	0.52
41:a:1820:U:C4	48:h:159:GLY:HA3	2.44	0.52
41:a:1857:G:O2'	41:a:1884:G:N2	2.38	0.52
41:a:2649:C:C2	41:a:2650:U:C5	2.97	0.52
48:h:34:LEU:HD12	48:h:61:ALA:HB1	1.91	0.52
52:l:62:GLN:HA	52:l:69:ARG:HH21	1.74	0.52
56:p:32:GLU:C	56:p:33:LEU:HD12	2.34	0.52
58:r:6:LEU:CD1	58:r:37:VAL:HG23	2.39	0.52
58:r:33:GLN:HB3	58:r:35:LYS:HZ3	1.74	0.52
61:u:58:TYR:CE2	61:u:59:ARG:HG2	2.44	0.52
9:9:59:LEU:HB2	9:9:62:ARG:HG3	1.92	0.52
9:9:106:PHE:CG	9:9:106:PHE:O	2.63	0.52
13:AC:43:LEU:HD13	13:AC:217:ILE:HD11	1.90	0.52
16:AG:213:VAL:HG22	16:AG:213:VAL:O	2.08	0.52
21:G:58:ASN:OD1	21:G:223:GLU:OE1	2.26	0.52
22:H:332:VAL:HG12	22:H:334:ASP:H	1.73	0.52
23:I:58:GLU:OE2	23:I:60:PRO:HD3	2.09	0.52
23:I:85:GLU:O	23:I:89:LYS:HE2	2.08	0.52
26:L:70:VAL:O	26:L:74:LEU:CD2	2.56	0.52
31:Q:84:VAL:HG21	31:Q:97:ILE:CD1	2.38	0.52
38:X:96:PRO:CG	38:X:102:THR:HG22	2.40	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:a:590:A:H2'	41:a:591:U:C6	2.44	0.52
41:a:1394:U:H4'	41:a:1603:A:H4'	1.92	0.52
41:a:1607:C:N4	41:a:1622:G:OP2	2.34	0.52
41:a:1656:C:OP1	50:j:141:ARG:HD3	2.10	0.52
60:t:1:MET:CE	60:t:32:TYR:CB	2.87	0.52
7:6:19:DC:H2'	7:6:20:DA:H8	1.74	0.52
12:AB:154:VAL:HG11	12:AB:162:LEU:CD2	2.39	0.52
14:AE:77:ARG:HD3	14:AE:78:LEU:H	1.73	0.52
16:AG:63:LEU:HA	16:AG:92:TYR:HA	1.91	0.52
16:AG:393:LEU:CB	16:AG:398:LEU:HD22	1.90	0.52
16:AG:434:LEU:HD22	16:AG:459:LEU:CG	2.31	0.52
31:Q:23:ILE:N	31:Q:87:LYS:HZ1	2.08	0.52
31:Q:79:ILE:O	31:Q:105:PHE:HE1	1.91	0.52
31:Q:86:VAL:O	31:Q:113:VAL:HG22	2.08	0.52
33:S:87:ALA:N	33:S:90:ARG:NH1	2.58	0.52
41:a:69:C:O2	41:a:73:A:O2'	2.26	0.52
41:a:1145:C:N3	41:a:1146:C:C5	2.77	0.52
41:a:2093:G:OP2	58:r:22:LYS:HE3	2.09	0.52
51:k:9:ILE:CG2	51:k:27:LYS:HZ1	2.23	0.52
52:l:6:LYS:HZ2	52:l:119:ILE:HA	1.73	0.52
52:l:60:TRP:NE1	52:l:69:ARG:NH1	2.56	0.52
54:n:29:PRO:HB2	54:n:169:LEU:HD22	1.91	0.52
59:s:25:LEU:CD1	59:s:101:ILE:HD13	2.39	0.52
60:t:71:ARG:NH2	60:t:123:LEU:O	2.42	0.52
2:1:27:LYS:O	2:1:71:VAL:HG22	2.10	0.52
8:7:8:U:OP2	18:D:1397:C:C2	2.62	0.52
11:AA:246:LEU:HB3	11:AA:269:ILE:HD13	1.91	0.52
14:AE:342:LEU:HD23	14:AE:1352:ILE:HG23	1.90	0.52
16:AG:9:VAL:HG22	16:AG:24:PHE:CE2	2.44	0.52
18:D:512:U:P	24:J:44:ARG:NH1	2.83	0.52
18:D:1158:C:O2'	21:G:132:LYS:HE2	2.10	0.52
19:E:75:HIS:CE1	19:E:79:LEU:CD1	2.93	0.52
20:F:17:ARG:HA	20:F:20:LYS:NZ	2.24	0.52
21:G:168:HIS:HB3	21:G:169:GLU:OE1	2.10	0.52
23:I:105:GLU:OE1	23:I:107:ARG:NE	2.43	0.52
24:J:50:ASP:O	24:J:53:VAL:HG22	2.09	0.52
32:R:24:LEU:C	32:R:25:GLU:OE1	2.52	0.52
33:S:54:ASP:HA	33:S:59:ARG:HD2	1.90	0.52
38:X:13:LYS:HE3	38:X:17:ILE:HG21	1.91	0.52
39:Y:32:VAL:HA	39:Y:60:VAL:HG21	1.90	0.52
39:Y:58:ILE:HG23	39:Y:66:PHE:CD2	2.45	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:Z:18:ASP:HB3	40:Z:22:LEU:CD1	2.39	0.52
41:a:1167:C:C2	41:a:1168:G:C8	2.97	0.52
41:a:2355:G:H2'	41:a:2356:U:H5'	1.91	0.52
60:t:34:GLY:N	60:t:37:ASP:OD2	2.39	0.52
61:u:56:PRO:O	61:u:60:ARG:HG3	2.09	0.52
4:3:69:ASN:ND2	41:a:329:G:OP2	2.37	0.52
7:6:17:DC:H42	8:7:53:G:H1	1.58	0.52
13:AD:100:LEU:HD21	13:AD:121:VAL:HG11	1.90	0.52
14:AE:526:VAL:HG12	14:AE:549:LYS:HB2	1.90	0.52
14:AE:959:LYS:HB3	14:AE:983:LYS:HB2	1.92	0.52
10:B:48:C:C5	10:B:59:A:C8	2.98	0.52
18:D:1308:U:H3'	38:X:98:ARG:CZ	2.39	0.52
23:I:23:PHE:HD2	30:P:97:ASP:HB2	1.74	0.52
23:I:142:MET:SD	23:I:170:GLU:OE1	2.67	0.52
26:L:88:MET:HE2	26:L:90:MET:HE3	1.91	0.52
39:Y:77:VAL:HA	39:Y:80:LYS:HD3	1.91	0.52
39:Y:78:LEU:HD13	39:Y:108:ILE:HG12	1.90	0.52
39:Y:129:GLU:CB	39:Y:133:ARG:HH12	2.16	0.52
41:a:632:A:H2'	41:a:633:A:C8	2.44	0.52
41:a:833:A:H2'	41:a:834:G:C8	2.44	0.52
41:a:1138:G:C2	59:s:108:MET:HE2	2.45	0.52
41:a:1145:C:C2	41:a:1146:C:C5	2.97	0.52
58:r:143:ILE:O	58:r:143:ILE:HG13	2.08	0.52
63:w:14:SER:HA	63:w:17:ARG:CZ	2.39	0.52
63:w:37:THR:OG1	63:w:40:LYS:CD	2.57	0.52
6:5:9:DG:OP2	11:AA:470:ARG:O	2.28	0.52
18:D:537:G:OP1	32:R:110:ARG:NH2	2.38	0.52
18:D:1371:G:O3'	29:O:71:GLY:HA3	2.10	0.52
21:G:9:MET:HE1	21:G:47:VAL:CG2	2.40	0.52
23:I:49:LYS:NZ	23:I:75:ILE:HD11	2.24	0.52
25:K:137:VAL:O	25:K:141:ILE:HG12	2.09	0.52
28:N:79:SER:HB2	28:N:85:ILE:HG22	1.92	0.52
29:O:21:ILE:HD11	29:O:87:LEU:HD22	1.90	0.52
29:O:88:MET:HE1	29:O:95:ARG:HG3	1.91	0.52
34:T:24:SER:O	34:T:28:GLN:HG2	2.09	0.52
39:Y:60:VAL:CG2	39:Y:66:PHE:HB3	2.28	0.52
39:Y:126:ARG:NH1	41:a:1082:U:C5'	2.73	0.52
41:a:963:U:C2	41:a:964:C:C5	2.98	0.52
41:a:1204:A:O4'	41:a:1206:G:C8	2.63	0.52
41:a:2356:U:C5'	42:b:20:ARG:HD2	2.36	0.52
41:a:2473:U:C4	41:a:2474:U:C5	2.97	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:a:2758:A:H1'	56:p:38:ASN:HD21	1.74	0.52
48:h:74:ILE:CG2	48:h:96:TYR:HD1	2.21	0.52
54:n:94:GLU:HA	54:n:97:TRP:CE3	2.43	0.52
56:p:149:ARG:CZ	56:p:154:PRO:HD3	2.40	0.52
62:v:21:ALA:HB2	62:v:100:LYS:HG3	1.90	0.52
9:9:88:HIS:O	9:9:89:PRO:C	2.51	0.52
12:AB:155:LYS:HG3	12:AB:156:ASN:N	2.25	0.52
16:AG:353:HIS:HA	16:AG:356:ILE:HG23	1.79	0.52
10:B:31:G:H2'	10:B:32:C:O4'	2.10	0.52
18:D:122:G:C5	18:D:123:U:C5	2.98	0.52
18:D:452:A:H2'	18:D:453:G:O4'	2.10	0.52
29:O:57:MET:HA	29:O:60:LYS:CE	2.40	0.52
29:O:123:ARG:O	29:O:123:ARG:CG	2.57	0.52
30:P:22:THR:O	30:P:25:ILE:HG22	2.10	0.52
34:T:63:ARG:HD2	34:T:67:LEU:CD2	2.40	0.52
38:X:71:ARG:HH12	47:g:52:ALA:HB3	1.75	0.52
39:Y:15:GLY:HA2	39:Y:50:LYS:CG	2.33	0.52
41:a:537:G:P	59:s:2:LYS:HE2	2.49	0.52
41:a:998:C:OP1	66:z:84:LYS:NZ	2.39	0.52
41:a:1340:U:C5	41:a:1603:A:C8	2.97	0.52
41:a:1666:G:P	60:t:66:LYS:HD3	2.50	0.52
49:i:26:THR:HG23	49:i:27:SER:N	2.25	0.52
51:k:29:THR:HG23	51:k:30:LYS:HG2	1.90	0.52
57:q:25:VAL:CB	57:q:35:GLN:OE1	2.56	0.52
58:r:29:PHE:CE2	58:r:35:LYS:HE3	2.45	0.52
58:r:71:LYS:HZ2	58:r:72:ILE:HA	1.73	0.52
59:s:9:GLU:HG2	59:s:10:THR:HG23	1.90	0.52
60:t:2:ILE:HG23	60:t:8:LEU:HD11	1.91	0.52
61:u:14:LYS:HE2	61:u:14:LYS:HA	1.91	0.52
4:3:6:ARG:HG3	41:a:84:A:H3'	1.91	0.52
9:9:61:ARG:NE	41:a:1046:A:P	2.83	0.52
11:AA:714:VAL:HB	11:AA:787:PRO:HD2	1.92	0.52
14:AE:510:LEU:HD22	14:AE:601:ILE:HD12	1.91	0.52
16:AG:244:ARG:CD	16:AG:244:ARG:N	2.73	0.52
21:G:26:LYS:HE3	21:G:194:ASP:OD1	2.10	0.52
21:G:49:MET:CE	21:G:201:PRO:CD	2.87	0.52
24:J:74:ASN:O	24:J:77:LYS:HG2	2.10	0.52
30:P:7:ARG:HD3	30:P:75:ASP:OD1	2.10	0.52
30:P:73:LEU:HD21	30:P:75:ASP:OD2	2.10	0.52
41:a:645:C:H2'	41:a:647:G:C8	2.45	0.52
41:a:888:C:C4	41:a:889:C:C4	2.97	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:g:47:LYS:HE2	54:n:115:ARG:NE	2.25	0.52
50:j:55:LYS:HZ2	50:j:60:VAL:HB	1.74	0.52
52:l:6:LYS:CE	52:l:119:ILE:HG23	2.40	0.52
59:s:31:GLU:HG2	59:s:142:ILE:HG12	1.92	0.52
66:z:108:ALA:O	66:z:111:GLU:HG3	2.09	0.52
10:A:56:C:C5	41:a:2168:G:C6	2.98	0.52
11:AA:255:ILE:HB	11:AA:263:VAL:HB	1.92	0.52
11:AA:847:PRO:N	16:AG:104:ARG:NH2	2.57	0.52
12:AB:138:ARG:HD3	12:AB:155:LYS:CB	2.39	0.52
14:AE:67:ASP:C	14:AE:69:GLU:H	2.18	0.52
16:AG:240:THR:HG21	16:AG:247:PRO:HG3	1.92	0.52
18:D:58:C:O2	18:D:58:C:H2'	2.09	0.52
18:D:564:C:P	32:R:12:ARG:HH22	2.30	0.52
18:D:842:U:H3'	18:D:843:U:C5'	2.39	0.52
20:F:37:PHE:HB3	31:Q:124:PRO:O	2.10	0.52
34:T:5:THR:HG23	34:T:6:GLU:N	2.25	0.52
34:T:15:PHE:CD2	34:T:30:ALA:CB	2.92	0.52
39:Y:116:MET:HG2	39:Y:124:MET:HB3	1.91	0.52
41:a:560:C:O2	66:z:48:ARG:NH1	2.37	0.52
41:a:607:U:C5	41:a:620:G:C5	2.97	0.52
42:b:68:LYS:HZ2	42:b:70:GLU:CD	2.16	0.52
4:3:66:GLN:OE1	4:3:69:ASN:ND2	2.43	0.51
8:7:13:U:H5"	8:7:13:U:C6	2.45	0.51
9:9:43:LYS:O	9:9:47:GLU:OE1	2.28	0.51
12:AB:81:PHE:CB	14:AE:141:PHE:O	2.58	0.51
12:AB:138:ARG:HD3	12:AB:155:LYS:HA	1.91	0.51
14:AE:795:TYR:OH	14:AE:1326:GLN:NE2	2.42	0.51
16:AG:139:THR:HA	16:AG:180:ARG:HA	1.92	0.51
16:AG:233:ARG:C	16:AG:327:LEU:HD21	2.34	0.51
16:AG:285:ILE:HD12	16:AG:293:VAL:HG21	1.91	0.51
16:AG:302:LYS:HZ1	16:AG:302:LYS:C	2.11	0.51
16:AG:399:ASP:OD2	16:AG:399:ASP:N	2.40	0.51
16:AG:422:GLU:CA	16:AG:426:GLY:N	2.62	0.51
18:D:1175:G:N3	18:D:1176:A:C8	2.77	0.51
21:G:23:TRP:HZ3	21:G:25:PRO:CA	2.21	0.51
22:H:48:ILE:HG22	22:H:49:PRO:O	2.10	0.51
25:K:156:LYS:NZ	28:N:71:VAL:O	2.42	0.51
30:P:66:GLU:CG	33:S:99:ALA:HB2	2.41	0.51
34:T:3:LEU:HD12	34:T:35:GLN:OE1	2.10	0.51
41:a:139:U:OP2	41:a:140:C:N4	2.43	0.51
41:a:1681:G:H2'	41:a:1757:A:N1	2.25	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:a:2049:G:N2	50:j:161:MET:HE1	2.24	0.51
41:a:2093:G:P	58:r:22:LYS:HZ2	2.24	0.51
41:a:2329:U:H2'	41:a:2330:G:C8	2.45	0.51
41:a:2466:C:N3	41:a:2467:C:C5	2.78	0.51
44:d:15:A:O4'	44:d:109:A:C8	2.63	0.51
44:d:42:C:P	54:n:64:LYS:NZ	2.83	0.51
54:n:15:LYS:O	54:n:18:THR:N	2.43	0.51
54:n:71:ARG:C	54:n:81:GLN:HE22	2.17	0.51
1:0:71:LYS:HG3	1:0:73:LYS:HE3	1.92	0.51
5:4:2:PHE:CE2	5:4:55:GLU:HG2	2.45	0.51
9:9:47:GLU:O	9:9:49:GLY:N	2.43	0.51
11:AA:125:GLY:HA2	11:AA:499:SER:HB2	1.92	0.51
11:AA:846:GLY:C	16:AG:104:ARG:HH22	2.18	0.51
11:AA:1287:LEU:HD13	14:AE:1357:ILE:HD11	1.91	0.51
10:B:76:A:H1'	41:a:2494:G:P	2.50	0.51
17:C:70:TYR:CE2	26:L:49:TYR:CZ	2.98	0.51
18:D:932:C:C5'	27:M:4:ARG:HH11	2.22	0.51
18:D:936:C:C2	18:D:937:A:C8	2.98	0.51
18:D:1086:U:C2	18:D:1087:G:C8	2.97	0.51
21:G:90:PHE:CD2	21:G:154:MET:CE	2.93	0.51
22:H:32:ASP:OD1	22:H:35:VAL:CG2	2.58	0.51
23:I:178:LEU:HD23	23:I:178:LEU:C	2.35	0.51
30:P:24:GLU:O	30:P:28:THR:HG23	2.10	0.51
31:Q:61:PHE:CD1	31:Q:64:GLN:NE2	2.78	0.51
36:V:62:ARG:CA	36:V:73:TRP:CZ3	2.93	0.51
39:Y:55:PRO:C	39:Y:71:LYS:HE2	2.36	0.51
39:Y:78:LEU:HD12	39:Y:112:LYS:NZ	2.25	0.51
41:a:125:A:OP2	53:m:19:ARG:NH2	2.39	0.51
41:a:1154:G:OP2	66:z:58:ARG:CZ	2.58	0.51
41:a:1348:C:C4	41:a:1349:C:C6	2.97	0.51
41:a:2473:U:O2	41:a:2473:U:H2'	2.09	0.51
50:j:131:ASP:OD1	50:j:134:HIS:HB2	2.10	0.51
58:r:2:GLN:HG3	58:r:39:ALA:CB	2.40	0.51
62:v:53:MET:HE3	62:v:120:ALA:CB	2.40	0.51
66:z:74:ILE:HG13	66:z:78:LYS:CE	2.40	0.51
8:7:46:U:O2	8:7:46:U:H2'	2.11	0.51
14:AE:71:LEU:HD22	14:AE:90:VAL:HG21	1.93	0.51
14:AE:79:LYS:CG	16:AG:144:LYS:HD2	2.39	0.51
14:AE:122:SER:HB2	14:AE:132:LEU:HD12	1.91	0.51
16:AG:21:GLU:HB3	16:AG:49:ILE:HD12	1.92	0.51
16:AG:402:THR:HA	16:AG:405:ALA:HB3	1.91	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:D:1176:A:H2'	18:D:1177:G:C8	2.45	0.51
22:H:279:LYS:HA	22:H:331:MET:CB	2.41	0.51
22:H:335:ILE:HG12	22:H:342:ILE:HD12	1.92	0.51
41:a:65:U:H2'	41:a:66:C:H6	1.75	0.51
41:a:617:G:C4'	52:l:199:MET:HE1	2.40	0.51
41:a:2391:G:P	55:o:32:ILE:HD12	2.50	0.51
48:h:52:ARG:NE	48:h:53:HIS:HE1	2.07	0.51
60:t:17:ARG:NH2	60:t:47:ILE:HG23	2.25	0.51
62:v:45:GLN:HE21	62:v:124:LEU:HA	1.75	0.51
66:z:86:ALA:C	66:z:87:SER:HG	2.17	0.51
11:AA:93:SER:HA	11:AA:128:PRO:HA	1.93	0.51
16:AG:362:TYR:CE2	16:AG:382:GLU:HG2	2.45	0.51
18:D:73:C:O2	18:D:73:C:C2'	2.57	0.51
18:D:718:A:H5'	31:Q:119:ASN:HD22	1.76	0.51
20:F:25:LYS:HE3	22:H:336:ASP:OD2	2.11	0.51
23:I:85:GLU:OE2	23:I:88:ARG:NH1	2.26	0.51
23:I:108:LYS:N	23:I:108:LYS:HD2	2.26	0.51
23:I:183:ASP:HB3	23:I:204:LYS:NZ	2.25	0.51
25:K:86:LYS:HZ2	25:K:95:PHE:HE1	1.56	0.51
27:M:66:LEU:CD1	27:M:101:MET:CE	2.84	0.51
30:P:15:HIS:HB3	30:P:70:HIS:CE1	2.46	0.51
39:Y:78:LEU:HD12	39:Y:112:LYS:HZ1	1.76	0.51
40:Z:26:MET:HA	40:Z:30:PHE:CD1	2.45	0.51
41:a:872:U:H2'	41:a:873:C:H6	1.75	0.51
41:a:1666:G:OP1	60:t:66:LYS:HD3	2.10	0.51
41:a:2420:C:H5"	51:k:8:LYS:HE2	1.92	0.51
41:a:2723:C:H4'	63:w:1:MET:HE3	1.92	0.51
41:a:2812:G:H2'	41:a:2813:A:C8	2.45	0.51
48:h:76:ALA:HB1	48:h:94:VAL:CG1	2.39	0.51
50:j:68:PHE:CD2	50:j:75:ALA:HA	2.46	0.51
52:l:168:ASP:HB3	52:l:183:PHE:HE2	1.75	0.51
55:o:31:HIS:O	55:o:32:ILE:C	2.54	0.51
62:v:112:LEU:HA	62:v:115:GLU:OE1	2.10	0.51
66:z:65:ILE:HB	66:z:76:TYR:HE1	1.75	0.51
10:A:6:G:C4	10:A:7:G:C8	2.98	0.51
10:A:33:U:H5"	27:M:84:THR:HG21	1.93	0.51
16:AG:444:LEU:HD22	16:AG:473:LEU:HD21	1.92	0.51
10:B:6:G:C4	10:B:7:G:C8	2.98	0.51
18:D:107:G:C6	19:E:10:ARG:NH2	2.79	0.51
18:D:564:C:H5'	36:V:34:TYR:HE1	1.76	0.51
18:D:767:A:H2'	18:D:768:A:O4'	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:D:868:C:H2'	18:D:869:G:O4'	2.11	0.51
21:G:17:GLY:HA3	21:G:41:ILE:HD11	1.92	0.51
22:H:36:VAL:O	22:H:48:ILE:HB	2.10	0.51
27:M:111:ARG:N	27:M:119:ARG:NH2	2.58	0.51
36:V:15:ASP:OD1	36:V:55:ILE:HD11	2.11	0.51
41:a:626:A:N3	61:u:78:ARG:CZ	2.74	0.51
41:a:960:A:H61	62:v:82:MET:CE	2.24	0.51
41:a:1095:A:H2'	41:a:1096:A:C8	2.45	0.51
41:a:1314:C:C2	41:a:1315:C:C5	2.98	0.51
41:a:2093:G:OP2	58:r:22:LYS:HG2	2.11	0.51
41:a:2250:G:OP1	41:a:2275:C:O2'	2.25	0.51
41:a:2428:G:H21	61:u:60:ARG:CZ	2.23	0.51
41:a:2814:A:H2'	41:a:2815:C:H6	1.75	0.51
51:k:21:TYR:CE2	51:k:49:TYR:CD2	2.98	0.51
59:s:15:TRP:CE3	59:s:135:GLN:O	2.63	0.51
63:w:58:ASP:CG	63:w:80:PHE:CZ	2.89	0.51
5:4:48:MET:CE	5:4:86:LEU:HG	2.40	0.51
10:A:31:G:H2'	10:A:32:C:O4'	2.10	0.51
12:AB:10:LYS:HB2	12:AB:73:ARG:HB3	1.90	0.51
12:AB:148:LYS:HE2	30:P:100:ILE:CD1	2.40	0.51
13:AD:205:MET:HE3	13:AD:213:PRO:HB3	1.91	0.51
16:AG:353:HIS:O	16:AG:356:ILE:CB	2.58	0.51
18:D:107:G:C5	19:E:10:ARG:NH2	2.79	0.51
18:D:978:A:C4	18:D:1319:A:C2	2.98	0.51
21:G:35:ARG:HB3	22:H:14:LYS:NZ	2.26	0.51
21:G:165:ASP:O	21:G:169:GLU:OE1	2.28	0.51
22:H:304:VAL:HG11	22:H:346:LEU:HB2	1.93	0.51
26:L:42:TRP:CZ2	26:L:102:MET:SD	3.01	0.51
35:U:39:PHE:CD1	35:U:50:THR:HG22	2.45	0.51
37:W:41:PHE:O	37:W:44:MET:HG3	2.11	0.51
39:Y:86:LYS:HD3	39:Y:86:LYS:O	2.11	0.51
41:a:265:A:N1	41:a:427:U:O2'	2.40	0.51
41:a:910:A:C8	62:v:12:MET:CE	2.93	0.51
41:a:1198:U:C2	41:a:1199:U:C5	2.98	0.51
41:a:1598:A:C5	41:a:1599:U:C5	2.99	0.51
41:a:1956:U:C4	41:a:1957:C:C5	2.99	0.51
48:h:108:LYS:HD3	48:h:194:GLU:HB2	1.92	0.51
51:k:19:HIS:CE1	51:k:41:PRO:HD3	2.45	0.51
52:l:1:MET:CE	52:l:16:GLU:HA	2.26	0.51
60:t:103:VAL:HG21	60:t:107:LEU:CD2	2.41	0.51
62:v:115:GLU:HA	62:v:118:LYS:NZ	2.25	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:17:GLY:HA2	1:0:97:LYS:HE2	1.92	0.51
11:AA:858:GLY:HA2	16:AG:38:LYS:HB2	1.78	0.51
12:AB:78:PHE:CG	12:AB:85:PRO:HB3	2.46	0.51
13:AC:140:ILE:HD12	13:AC:142:MET:HE3	1.91	0.51
16:AG:329:SER:HA	16:AG:336:LEU:HG	1.92	0.51
18:D:501:C:H2'	18:D:502:A:C8	2.46	0.51
18:D:728:A:H2'	18:D:729:A:C8	2.46	0.51
18:D:754:C:OP1	34:T:72:ARG:NH1	2.44	0.51
18:D:925:G:C2	18:D:927:G:C8	2.98	0.51
18:D:934:C:C4	18:D:1345:U:C5	2.99	0.51
18:D:1226:C:C2'	38:X:102:THR:OG1	2.58	0.51
20:F:36:GLU:OE2	20:F:36:GLU:HA	2.11	0.51
23:I:142:MET:CE	23:I:170:GLU:OE1	2.58	0.51
25:K:36:LEU:HD13	25:K:134:ILE:CD1	2.41	0.51
29:O:9:THR:HB	29:O:85:ARG:NH1	2.25	0.51
29:O:30:ILE:HD13	29:O:39:PHE:HE2	1.75	0.51
31:Q:52:PHE:CZ	31:Q:65:VAL:HG21	2.45	0.51
34:T:11:ILE:HD11	34:T:30:ALA:C	2.36	0.51
41:a:851:C:H2'	41:a:852:U:C6	2.46	0.51
41:a:1318:U:C2	41:a:1319:C:C5	2.99	0.51
41:a:2311:A:C5	54:n:77:PHE:CD2	2.98	0.51
41:a:2483:C:N3	62:v:123:LYS:NZ	2.54	0.51
41:a:2588:G:O6	41:a:2607:G:C6	2.64	0.51
41:a:2698:U:H2'	41:a:2699:C:C6	2.46	0.51
41:a:2813:A:C4	41:a:2814:A:C8	2.99	0.51
48:h:124:ILE:C	48:h:125:LYS:HD3	2.36	0.51
48:h:130:LEU:HD21	48:h:192:LEU:HD21	1.93	0.51
52:l:119:ILE:O	52:l:188:MET:N	2.35	0.51
59:s:15:TRP:CZ3	59:s:135:GLN:CA	2.93	0.51
8:7:2:U:H2'	8:7:3:G:C8	2.45	0.51
9:9:10:ALA:O	9:9:14:GLU:HG3	2.11	0.51
9:9:78:GLY:H	9:9:79:PRO:HD2	1.75	0.51
10:A:48:C:C5	10:A:59:A:C8	2.98	0.51
11:AA:524:ILE:HG21	11:AA:708:VAL:HG13	1.92	0.51
16:AG:285:ILE:CD1	16:AG:285:ILE:N	2.73	0.51
17:C:73:ARG:HH12	31:Q:113:VAL:HB	1.76	0.51
18:D:500:G:H2'	18:D:501:C:C6	2.46	0.51
18:D:512:U:P	24:J:44:ARG:HH12	2.34	0.51
18:D:564:C:H5'	36:V:34:TYR:CE1	2.46	0.51
21:G:16:PHE:HB3	22:H:43:LYS:HA	1.93	0.51
21:G:187:VAL:HG13	21:G:191:SER:HB2	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:H:342:ILE:HG12	22:H:344:LEU:HD12	1.93	0.51
29:O:88:MET:SD	29:O:95:ARG:CZ	2.99	0.51
30:P:7:ARG:HD3	30:P:75:ASP:CG	2.36	0.51
30:P:24:GLU:CA	30:P:27:GLU:OE1	2.59	0.51
41:a:414:C:H2'	41:a:415:A:H8	1.75	0.51
41:a:1824:G:O2'	48:h:252:THR:HG21	2.11	0.51
41:a:1853:A:H2'	41:a:1854:A:C8	2.46	0.51
41:a:2006:C:C2	41:a:2007:U:C5	2.99	0.51
41:a:2133:G:O2'	41:a:2157:G:N2	2.44	0.51
41:a:2193:G:O2'	41:a:2194:U:OP1	2.28	0.51
41:a:2387:U:C4'	42:b:41:ARG:HH12	2.24	0.51
41:a:2727:A:O2'	60:t:70:ARG:NH2	2.43	0.51
48:h:124:ILE:O	48:h:125:LYS:HD3	2.10	0.51
50:j:122:VAL:HG21	50:j:141:ARG:HG3	1.92	0.51
59:s:98:GLU:O	59:s:99:ARG:C	2.53	0.51
1:0:37:GLU:O	1:0:37:GLU:HG3	2.11	0.51
8:7:12:U:H5"	25:K:56:VAL:HG21	1.93	0.51
10:A:23:C:H2'	10:A:24:U:C6	2.46	0.51
10:A:48:C:O2'	10:A:49:G:OP2	2.27	0.51
12:AB:38:ILE:CD1	12:AB:160:ARG:HH11	2.21	0.51
12:AB:118:ILE:CD1	12:AB:142:LEU:CD2	2.89	0.51
16:AG:365:ILE:HD11	16:AG:406:LEU:HD22	1.87	0.51
16:AG:453:VAL:HG11	16:AG:459:LEU:CD2	2.41	0.51
10:B:23:C:H2'	10:B:24:U:C6	2.45	0.51
17:C:60:LYS:CE	18:D:735:C:C4'	2.88	0.51
18:D:49:U:C2	18:D:361:G:N2	2.79	0.51
18:D:335:C:C2	18:D:336:A:C8	2.99	0.51
18:D:501:C:H2'	18:D:502:A:H8	1.75	0.51
18:D:975:A:H8	18:D:1357:A:HO2'	1.57	0.51
21:G:109:GLN:C	21:G:113:ARG:HE	2.19	0.51
21:G:127:ASP:O	21:G:128:LYS:HB3	2.09	0.51
21:G:169:GLU:OE1	21:G:169:GLU:N	2.44	0.51
25:K:111:MET:O	25:K:114:VAL:HG12	2.11	0.51
25:K:158:GLY:C	25:K:159:LYS:HD2	2.34	0.51
26:L:4:TYR:OH	26:L:68:GLN:HG2	2.11	0.51
26:L:11:HIS:HB3	26:L:14:GLN:OE1	2.11	0.51
41:a:247:G:O6	55:o:12:LYS:NZ	2.39	0.51
41:a:1346:G:C6	41:a:1601:G:C6	2.98	0.51
41:a:1454:C:H4'	63:w:63:ARG:NH1	2.26	0.51
41:a:1791:A:C2	41:a:1829:A:C4'	2.94	0.51
41:a:1996:C:H5"	50:j:128:ARG:NH1	2.25	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:c:71:LEU:HB3	43:c:76:GLU:CG	2.41	0.51
59:s:84:ILE:HG23	59:s:84:ILE:O	2.11	0.51
63:w:82:GLU:OE1	63:w:82:GLU:N	2.44	0.51
63:w:103:ARG:HA	63:w:110:MET:HE2	1.93	0.51
11:AA:232:ILE:HG12	11:AA:237:LEU:HG	1.93	0.51
12:AB:9:CYS:N	12:AB:53:ASN:HB3	2.24	0.51
16:AG:442:ARG:C	16:AG:446:PHE:HD2	2.15	0.51
16:AG:451:ARG:NH2	16:AG:470:ILE:CG1	2.67	0.51
18:D:21:G:C2	18:D:22:G:C5	2.99	0.51
25:K:156:LYS:HE3	28:N:71:VAL:CG1	2.41	0.51
26:L:33:GLU:HG3	26:L:33:GLU:O	2.10	0.51
32:R:54:ARG:HH11	32:R:62:GLU:HG3	1.76	0.51
34:T:3:LEU:HD23	34:T:3:LEU:C	2.36	0.51
41:a:271:G:H4'	41:a:272:A:OP1	2.10	0.51
41:a:624:C:O2'	41:a:657:U:OP1	2.29	0.51
41:a:672:C:O2'	52:l:77:ILE:HD11	2.11	0.51
41:a:813:U:H2'	41:a:814:C:C6	2.46	0.51
41:a:2063:C:C2	41:a:2064:C:C6	2.99	0.51
41:a:2086:U:H2'	41:a:2087:G:C8	2.46	0.51
41:a:2252:G:H2'	41:a:2253:G:H8	1.76	0.51
41:a:2315:G:O2'	54:n:125:ARG:HD3	2.09	0.51
42:b:55:ARG:HA	42:b:55:ARG:CZ	2.41	0.51
49:i:30:VAL:HG22	49:i:37:LYS:CD	2.41	0.51
63:w:58:ASP:OD1	63:w:63:ARG:NH2	2.44	0.51
66:z:65:ILE:HB	66:z:76:TYR:CE1	2.45	0.51
2:1:36:LEU:HD23	2:1:48:LYS:HB2	1.94	0.50
5:4:63:ILE:CD1	5:4:91:PHE:CD2	2.93	0.50
6:5:9:DG:P	11:AA:473:ARG:HG3	2.51	0.50
10:A:19:G:N2	41:a:2112:G:O4'	2.44	0.50
11:AA:400:VAL:HG11	11:AA:452:ARG:HD2	1.94	0.50
11:AA:853:ASP:O	16:AG:103:ASP:OD2	2.29	0.50
13:AD:182:ARG:NH1	14:AE:534:GLU:OE1	2.44	0.50
13:AD:288:GLU:C	13:AD:290:LEU:N	2.69	0.50
16:AG:233:ARG:NH1	16:AG:324:ASN:HB2	2.25	0.50
17:C:25:ASP:O	17:C:29:LEU:HD13	2.11	0.50
21:G:23:TRP:CZ3	21:G:25:PRO:HA	2.47	0.50
22:H:273:ARG:NH1	22:H:297:GLU:HB2	2.25	0.50
27:M:71:PRO:HG3	27:M:103:TRP:HH2	1.76	0.50
27:M:132:GLY:O	27:M:136:LYS:NZ	2.44	0.50
34:T:64:ARG:NH2	34:T:89:ARG:HH22	2.07	0.50
39:Y:21:PRO:CB	39:Y:22:PRO:HD3	2.41	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:a:413:C:C2	41:a:414:C:C5	2.99	0.50
41:a:703:U:H2'	41:a:704:G:O4'	2.10	0.50
41:a:1453:A:C8	63:w:73:ASN:OD1	2.64	0.50
41:a:1996:C:H4'	50:j:128:ARG:HH12	1.75	0.50
45:e:20:ASN:HA	45:e:23:ARG:HE	1.76	0.50
47:g:58:ASP:CG	47:g:62:LYS:NZ	2.68	0.50
48:h:18:LYS:HE3	48:h:20:VAL:CG2	2.41	0.50
55:o:25:LYS:HB3	61:u:62:PRO:CG	2.40	0.50
59:s:15:TRP:CD1	59:s:53:TYR:HB2	2.46	0.50
62:v:31:PHE:O	62:v:104:GLU:CD	2.54	0.50
63:w:73:ASN:HD22	63:w:73:ASN:C	2.17	0.50
64:x:53:THR:HG23	64:x:74:VAL:HG21	1.92	0.50
65:y:9:GLU:CG	65:y:55:LEU:HB2	2.41	0.50
2:1:25:ARG:NH1	41:a:519:U:O3'	2.43	0.50
4:3:85:PHE:CE1	4:3:94:ARG:HG2	2.46	0.50
11:AA:481:LEU:HD23	12:AB:16:ARG:HD3	1.79	0.50
11:AA:856:ASN:O	16:AG:37:LYS:HB2	2.11	0.50
12:AB:158:GLU:HB3	12:AB:162:LEU:CD2	2.41	0.50
14:AE:430:HIS:HB3	14:AE:925:GLU:HG3	1.93	0.50
17:C:41:PRO:HD2	22:H:339:ARG:NE	2.26	0.50
18:D:653:U:O5'	28:N:56:LYS:HE2	2.11	0.50
26:L:9:MET:O	26:L:84:VAL:HA	2.12	0.50
26:L:67:PRO:O	26:L:70:VAL:HG22	2.11	0.50
29:O:51:PRO:HA	29:O:103:PHE:HE2	1.76	0.50
30:P:37:ARG:HB3	30:P:75:ASP:HB2	1.94	0.50
33:S:10:GLU:OE2	33:S:63:ARG:HD2	2.11	0.50
39:Y:126:ARG:HD2	39:Y:126:ARG:C	2.36	0.50
39:Y:139:VAL:HG22	39:Y:140:GLU:N	2.25	0.50
41:a:628:G:C5	41:a:636:G:N2	2.79	0.50
41:a:1945:G:C4	41:a:1946:U:C5	2.99	0.50
41:a:2259:U:C6	41:a:2427:C:C4	2.99	0.50
51:k:7:GLU:CG	51:k:27:LYS:HZ3	2.25	0.50
54:n:5:HIS:HD2	54:n:97:TRP:CZ2	2.29	0.50
59:s:30:THR:HG23	59:s:31:GLU:N	2.26	0.50
60:t:38:ILE:HD11	60:t:112:PHE:CZ	2.43	0.50
60:t:114:LYS:O	60:t:118:LEU:HD23	2.12	0.50
62:v:39:GLY:O	62:v:96:ILE:N	2.33	0.50
62:v:105:MET:SD	62:v:113:ALA:HB1	2.51	0.50
62:v:105:MET:HE2	62:v:108:VAL:CG2	2.40	0.50
63:w:12:ARG:NE	63:w:20:MET:HE1	2.26	0.50
64:x:4:LYS:N	64:x:4:LYS:HD3	2.26	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:9:55:VAL:CG1	9:9:56:ARG:N	2.74	0.50
11:AA:974:ARG:HD2	11:AA:1014:LEU:HD21	1.92	0.50
12:AB:21:LEU:HB3	12:AB:26:VAL:CG1	2.38	0.50
16:AG:12:VAL:HG23	16:AG:16:LYS:HE2	1.92	0.50
16:AG:65:VAL:HG12	16:AG:66:ASP:H	1.76	0.50
16:AG:123:ARG:NH1	16:AG:123:ARG:HG2	2.26	0.50
10:B:68:C:C3'	10:B:69:C:H5"	2.42	0.50
17:C:51:TYR:O	17:C:54:GLN:HG3	2.11	0.50
18:D:739:C:O2	34:T:42:HIS:HE1	1.94	0.50
18:D:1145:A:HO2'	18:D:1146:A:P	2.35	0.50
21:G:26:LYS:HD2	21:G:193:PRO:CG	2.39	0.50
22:H:163:ARG:CA	22:H:298:GLU:HG3	2.41	0.50
25:K:62:LYS:HA	25:K:62:LYS:HE3	1.93	0.50
25:K:88:VAL:HG12	25:K:93:ARG:HA	1.94	0.50
32:R:3:THR:O	32:R:6:GLN:N	2.44	0.50
35:U:73:ALA:HA	35:U:76:LYS:CE	2.41	0.50
38:X:71:ARG:HD2	38:X:72:GLU:N	2.27	0.50
41:a:4:U:C2	41:a:5:A:C8	3.00	0.50
41:a:580:U:H2'	41:a:581:C:C6	2.46	0.50
41:a:1790:C:C3'	41:a:1791:A:C8	2.94	0.50
48:h:131:PRO:HD3	48:h:189:ARG:NH1	2.27	0.50
52:l:170:ARG:CZ	52:l:176:ASP:OD1	2.58	0.50
56:p:24:ILE:HG22	56:p:35:ARG:O	2.11	0.50
59:s:35:ARG:HA	59:s:40:HIS:CE1	2.46	0.50
60:t:59:LYS:HZ3	60:t:92:GLU:HG2	1.75	0.50
66:z:82:GLY:HA3	66:z:117:LEU:CD1	2.41	0.50
3:2:10:VAL:HG12	3:2:11:LEU:HD12	1.93	0.50
6:5:10:DT:N1	11:AA:62:TYR:HE2	2.07	0.50
8:7:3:G:C4'	18:D:1500:A:N6	2.74	0.50
11:AA:400:VAL:HG21	11:AA:452:ARG:HE	1.77	0.50
11:AA:562:GLU:OE1	11:AA:662:SER:OG	2.28	0.50
14:AE:412:LEU:HD22	14:AE:441:LEU:HD21	1.94	0.50
10:B:56:C:H2'	10:B:57:A:H5"	1.93	0.50
18:D:311:C:O5'	18:D:311:C:H6	1.94	0.50
18:D:580:C:H2'	18:D:581:G:O4'	2.11	0.50
18:D:958:A:O4'	37:W:55:ARG:NH1	2.45	0.50
18:D:1073:U:O2'	21:G:105:LYS:HE3	2.11	0.50
22:H:303:LEU:O	22:H:303:LEU:CG	2.60	0.50
23:I:142:MET:HE3	23:I:170:GLU:C	2.36	0.50
26:L:99:ALA:HB3	26:L:104:LYS:HZ1	1.76	0.50
31:Q:63:ALA:HB1	31:Q:96:THR:CG2	2.41	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:X:65:VAL:HG23	38:X:66:GLU:OE1	2.12	0.50
41:a:413:C:H2'	41:a:414:C:C6	2.46	0.50
41:a:1665:A:O3'	60:t:66:LYS:NZ	2.44	0.50
41:a:2266:A:H4'	41:a:2267:A:N3	2.26	0.50
41:a:2489:U:H2'	41:a:2490:G:O4'	2.12	0.50
41:a:2682:A:C2	50:j:23:PRO:HB3	2.46	0.50
47:g:16:CYS:CB	47:g:37:CYS:CB	2.90	0.50
54:n:30:ARG:HB2	54:n:30:ARG:NH2	2.25	0.50
54:n:136:ILE:HD12	54:n:141:ILE:HG23	1.92	0.50
55:o:19:LYS:HE2	55:o:19:LYS:HA	1.91	0.50
61:u:58:TYR:CD2	61:u:59:ARG:HG2	2.46	0.50
5:4:2:PHE:CE1	5:4:56:PHE:CE1	2.99	0.50
10:A:15:G:H2'	10:A:15:G:N3	2.27	0.50
14:AE:417:ARG:NH1	15:AF:43:ASN:O	2.45	0.50
16:AG:384:LEU:O	16:AG:387:VAL:HG23	2.11	0.50
17:C:60:LYS:NZ	18:D:735:C:C5'	2.75	0.50
18:D:36:C:C4	18:D:37:U:C5	3.00	0.50
18:D:280:C:H1'	36:V:40:ARG:HH22	1.75	0.50
34:T:64:ARG:HA	34:T:64:ARG:HH11	1.75	0.50
41:a:65:U:C2	41:a:66:C:C6	3.00	0.50
41:a:125:A:C5	53:m:10:LEU:HD13	2.46	0.50
41:a:993:G:C6	41:a:1162:G:C6	2.99	0.50
41:a:1999:C:O3'	41:a:2722:G:N2	2.44	0.50
46:f:4:THR:CB	46:f:37:GLU:OE2	2.58	0.50
52:l:170:ARG:HH12	52:l:176:ASP:N	2.09	0.50
54:n:8:TYR:HE2	54:n:30:ARG:HE	1.59	0.50
54:n:122:PHE:CE2	54:n:128:TYR:CD1	3.00	0.50
56:p:127:THR:HG22	56:p:128:GLN:N	2.26	0.50
59:s:98:GLU:HB3	59:s:102:GLU:OE2	2.12	0.50
3:2:3:ARG:NH2	3:2:4:GLU:HB2	2.26	0.50
5:4:6:ALA:HB3	5:4:65:VAL:HG22	1.93	0.50
5:4:50:MET:CA	5:4:56:PHE:CZ	2.94	0.50
9:9:55:VAL:HG12	9:9:56:ARG:N	2.25	0.50
11:AA:146:VAL:HG21	11:AA:513:GLN:HE21	1.77	0.50
12:AB:148:LYS:HD2	30:P:100:ILE:HG21	1.94	0.50
13:AD:285:THR:HA	13:AD:315:GLY:HA2	1.93	0.50
14:AE:77:ARG:HB3	14:AE:80:HIS:HB2	1.93	0.50
14:AE:157:GLN:HE22	14:AE:188:LEU:HD22	1.76	0.50
16:AG:5:ILE:HA	16:AG:8:VAL:HB	1.93	0.50
25:K:113:ALA:CA	25:K:116:GLU:OE1	2.60	0.50
27:M:35:LYS:HE3	27:M:38:THR:OG1	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:P:26:VAL:HG12	30:P:30:LYS:HZ2	1.76	0.50
33:S:87:ALA:HA	33:S:90:ARG:HG2	1.94	0.50
34:T:3:LEU:HD22	34:T:8:THR:HG23	1.92	0.50
39:Y:37:PHE:HE1	39:Y:58:ILE:HD11	1.77	0.50
40:Z:15:SER:O	40:Z:19:VAL:HG23	2.11	0.50
41:a:532:A:H4'	41:a:533:G:C8	2.46	0.50
41:a:1801:A:OP1	48:h:146:MET:HE1	2.11	0.50
41:a:2063:C:O2	41:a:2450:A:N1	2.45	0.50
41:a:2063:C:C4	41:a:2064:C:C5	3.00	0.50
41:a:2849:U:OP2	65:y:93:ARG:CZ	2.60	0.50
41:a:2884:U:H3	49:i:40:ARG:NH1	2.09	0.50
59:s:15:TRP:CH2	59:s:135:GLN:HG3	2.46	0.50
62:v:73:ILE:HD12	62:v:73:ILE:N	2.26	0.50
3:2:49:LYS:HE2	3:2:49:LYS:HA	1.93	0.50
10:A:68:C:C3'	10:A:69:C:H5"	2.42	0.50
12:AB:27:ASN:OD1	12:AB:58:GLU:HB2	2.11	0.50
12:AB:119:THR:HB	12:AB:123:PHE:CE2	2.46	0.50
16:AG:11:ALA:HB3	16:AG:12:VAL:HA	1.92	0.50
16:AG:216:ILE:HG12	16:AG:221:ILE:HB	1.93	0.50
16:AG:305:MET:HG2	16:AG:336:LEU:HA	1.94	0.50
16:AG:440:VAL:CG2	16:AG:481:LEU:HD21	2.42	0.50
18:D:10:A:OP2	25:K:131:THR:HG21	2.12	0.50
18:D:821:G:H2'	18:D:822:U:C6	2.46	0.50
18:D:864:A:H2'	18:D:865:A:C8	2.46	0.50
18:D:877:G:H5"	28:N:80:ARG:HD2	1.93	0.50
22:H:267:TRP:CE3	22:H:340:ARG:HG3	2.47	0.50
24:J:104:ARG:NE	24:J:104:ARG:HA	2.27	0.50
41:a:234:U:C2	41:a:235:U:C6	3.00	0.50
41:a:372:G:C8	43:c:61:LYS:HD2	2.46	0.50
41:a:594:U:H2'	41:a:595:C:C6	2.47	0.50
41:a:780:G:C2	41:a:782:A:C2	3.00	0.50
41:a:1707:G:C8	41:a:1756:G:C5	2.98	0.50
41:a:1799:G:N2	48:h:154:LEU:HD23	2.26	0.50
41:a:2290:G:H2'	41:a:2291:U:C6	2.47	0.50
41:a:2902:C:N4	41:a:2903:U:O4	2.45	0.50
46:f:41:THR:N	46:f:45:ARG:HH22	2.09	0.50
50:j:46:ARG:NH1	50:j:85:ALA:O	2.32	0.50
50:j:154:LYS:HE3	50:j:156:PHE:CE1	2.46	0.50
51:k:21:TYR:CE2	51:k:49:TYR:CE2	2.99	0.50
52:l:155:GLU:HG2	52:l:156:ASN:N	2.27	0.50
60:t:121:GLU:HG3	60:t:123:LEU:HD12	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:4:48:MET:HE2	5:4:86:LEU:HG	1.93	0.50
11:AA:18:ARG:HE	11:AA:620:ASN:HA	1.77	0.50
12:AB:6:LEU:CD1	14:AE:291:ILE:CD1	2.84	0.50
12:AB:19:GLU:HG2	12:AB:23:ARG:CZ	2.42	0.50
16:AG:433:ASP:O	16:AG:456:LEU:HD21	2.12	0.50
18:D:339:C:C2	18:D:340:U:C5	2.99	0.50
18:D:552:U:O2'	32:R:83:ARG:O	2.19	0.50
18:D:674:G:P	26:L:86:ARG:HH22	2.35	0.50
18:D:744:C:H2'	18:D:745:G:C8	2.47	0.50
20:F:6:VAL:HG12	31:Q:108:THR:O	2.11	0.50
20:F:25:LYS:NZ	22:H:336:ASP:CG	2.68	0.50
21:G:38:VAL:HG22	22:H:75:VAL:HG21	1.92	0.50
23:I:132:ARG:HG3	23:I:135:LYS:HE3	1.92	0.50
27:M:108:ALA:O	27:M:119:ARG:NH2	2.45	0.50
32:R:110:ARG:HE	32:R:117:TYR:HD2	1.57	0.50
41:a:1791:A:C2	41:a:1829:A:O4'	2.65	0.50
41:a:1800:C:HO2'	41:a:1818:U:H3	1.60	0.50
41:a:2159:G:H2'	41:a:2160:C:C6	2.47	0.50
41:a:2305:U:H4'	54:n:133:ARG:NH2	2.26	0.50
41:a:2314:A:C1'	54:n:155:THR:HG21	2.42	0.50
41:a:2682:A:C5'	50:j:11:MET:HE1	2.42	0.50
53:m:25:LYS:C	53:m:29:GLN:HE22	2.20	0.50
62:v:41:LEU:HD22	62:v:45:GLN:NE2	2.27	0.50
65:y:106:LYS:HD3	65:y:109:ARG:NH2	2.26	0.50
2:1:35:ILE:O	2:1:39:THR:HG23	2.12	0.50
5:4:2:PHE:HB2	5:4:61:LEU:HG	1.94	0.50
5:4:62:THR:OG1	5:4:71:LYS:HE3	2.11	0.50
11:AA:529:ARG:HH11	11:AA:572:ILE:HG22	1.77	0.50
12:AB:50:LEU:HD21	14:AE:285:LEU:HB3	1.94	0.50
14:AE:59:ALA:HB3	14:AE:71:LEU:CD2	2.42	0.50
16:AG:248:VAL:HG21	16:AG:275:LEU:HG	1.94	0.50
16:AG:422:GLU:O	16:AG:427:ASP:N	2.45	0.50
18:D:610:U:O2	18:D:610:U:H2'	2.12	0.50
18:D:1106:G:O3'	23:I:172:ARG:HG3	2.11	0.50
21:G:23:TRP:CD1	21:G:39:HIS:CE1	2.97	0.50
23:I:68:ILE:HG13	23:I:101:ILE:HD11	1.93	0.50
24:J:76:TYR:CE2	24:J:204:TYR:CB	2.95	0.50
32:R:62:GLU:OE2	32:R:62:GLU:HA	2.10	0.50
40:Z:18:ASP:HB3	40:Z:22:LEU:HD12	1.93	0.50
41:a:228:C:N4	41:a:2407:A:N3	2.52	0.50
41:a:658:U:O2'	52:l:97:ASN:OD1	2.28	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:a:1069:A:O2'	41:a:1073:A:N6	2.38	0.50
41:a:1665:A:C3'	60:t:66:LYS:HZ2	2.24	0.50
41:a:2179:C:C2	41:a:2180:U:C5	3.00	0.50
41:a:2627:G:O2'	41:a:2781:A:N1	2.43	0.50
41:a:2740:A:H2'	41:a:2741:A:C8	2.47	0.50
48:h:261:LYS:HA	48:h:264:ASP:OD2	2.12	0.50
50:j:152:PRO:CG	50:j:156:PHE:CZ	2.91	0.50
57:q:9:LYS:HZ3	57:q:11:CYS:C	2.20	0.50
59:s:131:ASN:OD1	59:s:131:ASN:O	2.30	0.50
61:u:55:MET:HE1	61:u:60:ARG:HA	1.94	0.50
4:3:6:ARG:HG2	4:3:7:ARG:H	1.77	0.49
6:5:9:DG:H5"	11:AA:473:ARG:HB3	0.54	0.49
12:AB:29:LEU:HB3	12:AB:56:PHE:HD2	1.77	0.49
14:AE:693:VAL:HG21	14:AE:743:MET:HE3	1.93	0.49
16:AG:171:GLU:OE2	16:AG:267:GLY:C	2.54	0.49
10:B:47:U:O2'	10:B:50:U:P	2.70	0.49
17:C:12:ARG:HG3	22:H:264:GLU:CB	2.41	0.49
17:C:66:SER:HA	26:L:49:TYR:CE1	2.47	0.49
18:D:136:C:C2	18:D:137:U:C6	3.00	0.49
18:D:376:G:OP2	35:U:70:ARG:HD3	2.12	0.49
18:D:653:U:O4'	28:N:56:LYS:CE	2.60	0.49
18:D:678:U:H2'	18:D:679:C:H6	1.76	0.49
24:J:170:TRP:CD2	24:J:186:PRO:HB3	2.47	0.49
31:Q:27:PHE:CE2	31:Q:89:PRO:HG2	2.46	0.49
37:W:44:MET:SD	37:W:62:VAL:CG1	2.99	0.49
41:a:16:C:O4'	49:i:15:MET:HE3	2.12	0.49
41:a:537:G:P	59:s:2:LYS:CE	3.00	0.49
41:a:1205:A:C2	52:l:165:HIS:CE1	3.00	0.49
41:a:2230:G:C5'	43:c:30:LEU:HD23	2.42	0.49
47:g:7:PRO:HD2	54:n:62:GLY:O	2.11	0.49
56:p:137:ASP:OD2	56:p:140:VAL:HG23	2.12	0.49
58:r:90:LEU:HD21	58:r:94:ILE:CD1	2.42	0.49
59:s:74:TYR:N	59:s:74:TYR:HD2	2.10	0.49
63:w:82:GLU:O	63:w:86:ARG:HG2	2.13	0.49
9:9:87:GLU:OE2	9:9:95:LEU:HB2	2.12	0.49
11:AA:856:ASN:CA	16:AG:35:THR:CA	2.81	0.49
14:AE:429:LEU:HB3	14:AE:925:GLU:HG2	1.94	0.49
14:AE:1179:PRO:HB2	14:AE:1182:GLY:H	1.75	0.49
16:AG:183:LEU:HD23	16:AG:197:VAL:HG22	1.94	0.49
16:AG:429:LYS:HD2	16:AG:429:LYS:N	2.24	0.49
17:C:60:LYS:HE3	18:D:735:C:C4'	2.42	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:C:71:THR:H	17:C:74:HIS:HE1	1.58	0.49
18:D:160:A:H2'	18:D:161:A:O4'	2.12	0.49
18:D:276:G:C5'	36:V:17:MET:CE	2.89	0.49
18:D:404:G:O2'	18:D:498:A:N1	2.38	0.49
18:D:1492:A:O2'	18:D:1493:A:H5"	2.11	0.49
23:I:82:GLU:O	23:I:86:LYS:CD	2.60	0.49
25:K:157:ARG:CZ	28:N:43:GLU:HG3	2.43	0.49
32:R:7:LEU:HD23	36:V:34:TYR:OH	2.12	0.49
37:W:49:ILE:HG23	37:W:49:ILE:O	2.12	0.49
38:X:3:ARG:HH22	47:g:36:VAL:HG12	1.77	0.49
39:Y:126:ARG:CZ	41:a:1083:U:P	3.00	0.49
41:a:3:U:C2	41:a:4:U:C5	3.01	0.49
41:a:132:G:H2'	41:a:133:U:C6	2.47	0.49
41:a:235:U:C2	41:a:236:C:C5	3.00	0.49
41:a:636:G:N2	61:u:76:GLU:OE2	2.45	0.49
41:a:840:C:C2	41:a:841:G:C8	3.01	0.49
41:a:1036:G:C6	41:a:1120:G:C5	3.01	0.49
41:a:1199:U:H2'	41:a:1200:C:C6	2.47	0.49
41:a:1348:C:O2	41:a:1348:C:H2'	2.11	0.49
41:a:1823:G:O2'	41:a:1824:G:H5'	2.12	0.49
41:a:2331:G:O2'	41:a:2336:A:N1	2.40	0.49
59:s:123:LYS:CE	59:s:132:HIS:HD2	2.25	0.49
62:v:29:GLY:HA3	62:v:104:GLU:HG3	1.94	0.49
66:z:53:ARG:HG3	66:z:57:PHE:HE2	1.75	0.49
2:1:17:VAL:HG12	2:1:76:VAL:HG21	1.94	0.49
3:2:11:LEU:HD12	3:2:11:LEU:N	2.26	0.49
4:3:94:ARG:CB	4:3:103:ILE:HD12	2.43	0.49
11:AA:887:VAL:O	16:AG:105:ILE:CD1	2.48	0.49
14:AE:287:ALA:HB3	14:AE:292:VAL:HG22	1.94	0.49
18:D:1218:C:H2'	18:D:1219:A:C8	2.48	0.49
18:D:1359:C:OP2	33:S:75:ARG:NE	2.43	0.49
21:G:114:LEU:HD13	21:G:144:LEU:HB3	1.94	0.49
25:K:134:ILE:O	25:K:137:VAL:HG12	2.12	0.49
25:K:157:ARG:HH12	28:N:43:GLU:CD	2.20	0.49
26:L:66:ALA:HB1	26:L:67:PRO:HD2	1.94	0.49
29:O:7:TYR:H	29:O:89:GLU:CD	2.19	0.49
39:Y:19:PRO:HG2	39:Y:23:VAL:CG2	2.42	0.49
39:Y:91:LYS:HZ3	39:Y:97:VAL:HG21	1.76	0.49
41:a:15:G:C2'	49:i:15:MET:HE1	2.42	0.49
41:a:57:C:H2'	41:a:58:G:O4'	2.12	0.49
41:a:851:C:C2	41:a:852:U:C5	3.00	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:a:1571:A:H2'	41:a:1572:A:C8	2.47	0.49
41:a:1843:C:C2	41:a:1844:C:C5	3.00	0.49
41:a:2298:A:P	54:n:72:LYS:HZ3	2.33	0.49
41:a:2387:U:H4'	42:b:41:ARG:HH12	1.76	0.49
62:v:70:ASP:C	62:v:92:TRP:CZ3	2.91	0.49
66:z:79:PHE:CE1	66:z:110:VAL:HA	2.46	0.49
3:2:11:LEU:HD11	3:2:46:ALA:HB3	1.95	0.49
6:5:16:DG:O6	11:AA:451:ARG:NH1	2.45	0.49
9:9:43:LYS:HA	9:9:46:ARG:NH1	2.27	0.49
10:A:32:C:H2'	10:A:33:U:H5'	1.94	0.49
11:AA:618:GLN:HG3	14:AE:770:LEU:HD13	1.95	0.49
11:AA:1340:GLU:HB2	14:AE:19:ALA:HB3	1.94	0.49
14:AE:814:CYS:SG	14:AE:815:GLY:N	2.85	0.49
16:AG:342:ASP:N	16:AG:342:ASP:OD1	2.45	0.49
10:B:15:G:H2'	10:B:15:G:N3	2.27	0.49
10:B:23:C:H2'	10:B:24:U:H6	1.77	0.49
18:D:612:C:C2	18:D:613:C:C5	2.99	0.49
18:D:953:G:O6	38:X:103:LYS:CE	2.60	0.49
21:G:111:ILE:HD13	21:G:148:LEU:HD13	1.95	0.49
23:I:188:GLU:OE1	23:I:188:GLU:N	2.45	0.49
28:N:110:VAL:C	28:N:111:MET:SD	2.95	0.49
39:Y:126:ARG:HD2	39:Y:127:SER:N	2.26	0.49
41:a:44:A:H2'	41:a:45:G:O4'	2.12	0.49
41:a:145:C:H2'	41:a:146:A:H8	1.78	0.49
41:a:583:G:OP1	66:z:11:ARG:NH2	2.46	0.49
41:a:756:A:H2'	41:a:757:G:O4'	2.11	0.49
41:a:1142:A:C4	41:a:1144:A:N7	2.80	0.49
41:a:2815:C:O2'	49:i:41:HIS:ND1	2.41	0.49
46:f:41:THR:CA	46:f:45:ARG:HH22	2.26	0.49
47:g:47:LYS:NZ	54:n:115:ARG:HA	2.27	0.49
48:h:141:VAL:HG23	48:h:162:VAL:HG12	1.94	0.49
50:j:184:ARG:HH12	65:y:7:GLN:NE2	2.09	0.49
59:s:54:ILE:O	59:s:123:LYS:HG2	2.12	0.49
65:y:25:THR:OG1	65:y:88:ARG:HB3	2.12	0.49
66:z:58:ARG:HA	66:z:61:TRP:CE3	2.47	0.49
3:2:2:ILE:HG12	3:2:42:GLU:CD	2.37	0.49
7:6:19:DC:H2'	7:6:20:DA:C8	2.48	0.49
9:9:3:LEU:CD1	9:9:4:ASN:N	2.63	0.49
9:9:67:THR:N	9:9:68:PRO:CD	2.75	0.49
10:A:47:U:O2'	10:A:50:U:P	2.71	0.49
10:A:56:C:H2'	10:A:57:A:H5"	1.93	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:D:406:G:C5	18:D:495:A:C5	3.01	0.49
18:D:500:G:H2'	18:D:501:C:H6	1.77	0.49
18:D:555:U:H2'	18:D:556:C:C6	2.47	0.49
18:D:922:G:H2'	18:D:923:A:C8	2.47	0.49
18:D:1215:G:C2	18:D:1216:A:C8	3.01	0.49
19:E:54:MET:CE	19:E:75:HIS:HE1	2.23	0.49
21:G:110:SER:CA	21:G:113:ARG:HE	2.25	0.49
26:L:45:ARG:HA	26:L:45:ARG:NE	2.26	0.49
27:M:18:PHE:CD2	27:M:59:LEU:HD21	2.46	0.49
32:R:38:TYR:HE2	32:R:40:THR:CG2	2.25	0.49
32:R:109:ASP:C	32:R:111:LYS:HZ3	2.21	0.49
36:V:42:THR:HG22	36:V:44:LEU:HD11	1.95	0.49
39:Y:99:LYS:CD	39:Y:138:VAL:O	2.61	0.49
41:a:272:A:N3	41:a:273:G:C8	2.80	0.49
41:a:1223:G:N2	41:a:1226:A:OP2	2.43	0.49
41:a:2298:A:O3'	54:n:72:LYS:HE2	2.11	0.49
41:a:2349:G:O6	41:a:2369:A:N6	2.46	0.49
43:c:65:ASP:CG	43:c:66:THR:N	2.70	0.49
46:f:3:LYS:HE2	46:f:3:LYS:HA	1.94	0.49
48:h:52:ARG:HG3	48:h:53:HIS:ND1	2.27	0.49
52:l:5:LEU:HD23	52:l:122:GLU:HG3	1.95	0.49
5:4:35:GLU:OE1	5:4:93:ARG:NH2	2.46	0.49
9:9:31:ARG:HH22	41:a:1106:G:N2	2.10	0.49
9:9:52:MET:CE	9:9:85:SER:HB2	2.42	0.49
13:AD:100:LEU:HB2	13:AD:144:ILE:HG23	1.94	0.49
16:AG:296:ILE:HD11	16:AG:307:ILE:HD13	1.93	0.49
16:AG:440:VAL:HG22	16:AG:481:LEU:HD21	1.95	0.49
18:D:736:C:H2'	18:D:737:C:H6	1.77	0.49
18:D:744:C:H2'	18:D:745:G:H8	1.78	0.49
22:H:112:ILE:HA	22:H:121:THR:O	2.12	0.49
28:N:106:THR:HB	28:N:121:LEU:CD1	2.41	0.49
34:T:33:THR:HG21	34:T:85:LEU:HD12	1.94	0.49
35:U:12:LYS:HD3	35:U:13:LYS:HG2	1.93	0.49
36:V:62:ARG:HA	36:V:73:TRP:CZ3	2.47	0.49
37:W:33:THR:HG21	37:W:49:ILE:HD11	1.94	0.49
37:W:45:ILE:HA	37:W:62:VAL:HG11	1.93	0.49
38:X:81:MET:HG2	41:a:888:C:C4	2.48	0.49
41:a:1199:U:H2'	41:a:1200:C:H6	1.77	0.49
41:a:1830:C:N3	41:a:1831:G:N7	2.61	0.49
41:a:2591:C:H2'	41:a:2592:G:H8	1.78	0.49
41:a:2684:U:C4	41:a:2685:G:N7	2.81	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:n:16:LEU:HD12	54:n:28:VAL:CG2	2.43	0.49
54:n:70:ALA:O	54:n:81:GLN:OE1	2.31	0.49
60:t:7:MET:SD	60:t:18:ARG:NE	2.85	0.49
64:x:90:VAL:HG22	64:x:115:LEU:HD11	1.94	0.49
66:z:74:ILE:HG13	66:z:78:LYS:HE3	1.94	0.49
2:1:95:ARG:NH1	2:1:97:LEU:HG	2.28	0.49
9:9:67:THR:O	9:9:72:LEU:HG	2.12	0.49
18:D:373:A:C2	18:D:374:A:C8	3.00	0.49
18:D:1017:U:O2'	18:D:1018:G:O4'	2.30	0.49
18:D:1082:A:OP1	25:K:23:LYS:NZ	2.34	0.49
21:G:109:GLN:O	21:G:113:ARG:NE	2.45	0.49
25:K:13:GLU:C	25:K:14:LYS:HD2	2.38	0.49
26:L:35:LYS:HG3	26:L:36:ILE:N	2.27	0.49
27:M:111:ARG:NH2	27:M:126:ASP:OD2	2.43	0.49
28:N:35:ALA:O	28:N:39:VAL:HG23	2.12	0.49
28:N:96:MET:HG2	28:N:96:MET:O	2.12	0.49
34:T:77:ARG:HH21	34:T:80:GLN:NE2	2.11	0.49
38:X:92:ARG:HD2	41:a:888:C:OP1	2.12	0.49
41:a:807:U:OP2	61:u:41:ARG:NH1	2.42	0.49
41:a:1790:C:H2'	41:a:1791:A:C8	2.48	0.49
41:a:1808:A:O2'	43:c:3:ARG:NH1	2.46	0.49
41:a:1932:A:H2'	41:a:1933:G:O4'	2.13	0.49
41:a:2082:A:H2'	41:a:2083:G:O4'	2.12	0.49
41:a:2362:C:O5'	55:o:40:ARG:NH2	2.45	0.49
43:c:6:GLN:CD	43:c:49:LEU:HD22	2.38	0.49
57:q:1:MET:CA	57:q:1:MET:HE3	2.43	0.49
57:q:10:LEU:HD23	57:q:33:HIS:CD2	2.47	0.49
63:w:35:LYS:NZ	63:w:112:TYR:CE2	2.76	0.49
65:y:9:GLU:HG3	65:y:55:LEU:CB	2.42	0.49
2:1:1:MET:CG	2:1:62:ASP:OD2	2.61	0.49
2:1:71:VAL:O	2:1:71:VAL:HG23	2.13	0.49
5:4:89:ILE:CG2	5:4:91:PHE:CE1	2.95	0.49
8:7:3:G:H5"	18:D:1501:C:N4	2.27	0.49
12:AB:6:LEU:O	12:AB:7:LEU:HD23	2.13	0.49
12:AB:92:VAL:HG13	12:AB:96:LEU:O	2.13	0.49
12:AB:136:GLU:OE1	12:AB:160:ARG:CZ	2.61	0.49
14:AE:678:ARG:NH1	14:AE:756:GLU:OE1	2.46	0.49
16:AG:283:PHE:CE2	16:AG:332:SER:HA	2.47	0.49
16:AG:361:LYS:HD2	16:AG:417:ILE:HG12	1.92	0.49
16:AG:448:LEU:CG	16:AG:473:LEU:HD11	2.42	0.49
17:C:24:LYS:HB3	26:L:102:MET:HE1	1.93	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:D:109:A:H2'	18:D:326:G:N2	2.27	0.49
18:D:829:G:O3'	21:G:23:TRP:HZ2	1.95	0.49
23:I:77:ILE:HA	23:I:84:VAL:HG13	1.94	0.49
34:T:33:THR:OG1	34:T:63:ARG:NH1	2.45	0.49
41:a:1921:G:C2'	41:a:1922:G:H5'	2.43	0.49
41:a:2065:C:H2'	41:a:2066:C:H6	1.77	0.49
47:g:36:VAL:HG21	47:g:41:HIS:ND1	2.27	0.49
47:g:63:ARG:HG3	47:g:64:PHE:CD1	2.48	0.49
49:i:40:ARG:NH1	49:i:41:HIS:CD2	2.80	0.49
50:j:55:LYS:HZ2	50:j:60:VAL:CA	2.26	0.49
51:k:34:LEU:CB	51:k:51:GLU:OE2	2.60	0.49
56:p:94:TYR:CE1	56:p:152:ARG:HD2	2.48	0.49
57:q:1:MET:HE1	57:q:35:GLN:HA	1.95	0.49
59:s:55:ILE:CG1	59:s:123:LYS:HE2	2.42	0.49
60:t:1:MET:HE3	60:t:32:TYR:HB3	1.94	0.49
63:w:87:PHE:HZ	63:w:115:LEU:HG	1.77	0.49
65:y:7:GLN:NE2	65:y:10:GLN:HE21	2.11	0.49
66:z:51:ARG:N	66:z:51:ARG:HD2	2.28	0.49
2:1:23:LEU:HD21	2:1:35:ILE:HG22	1.94	0.49
7:6:23:DC:H5'	14:AE:259:ARG:NH1	2.11	0.49
9:9:52:MET:HE2	9:9:85:SER:HB2	1.95	0.49
11:AA:732:ILE:HD11	11:AA:769:PRO:HB3	1.95	0.49
12:AB:2:GLN:HB2	12:AB:60:ASP:HB2	1.95	0.49
14:AE:977:SER:OG	14:AE:980:THR:OG1	2.31	0.49
16:AG:130:PHE:C	16:AG:186:VAL:CG1	2.86	0.49
16:AG:360:THR:HG22	16:AG:360:THR:O	2.10	0.49
17:C:45:THR:HA	22:H:340:ARG:HH21	1.77	0.49
18:D:331:G:H2'	19:E:4:ILE:HD11	1.95	0.49
18:D:429:U:N3	18:D:431:A:N6	2.61	0.49
18:D:925:G:C6	18:D:927:G:N7	2.80	0.49
20:F:63:GLU:O	20:F:67:ARG:HD2	2.12	0.49
25:K:34:THR:HG22	25:K:52:LYS:HD3	1.95	0.49
27:M:74:GLU:OE1	27:M:75:VAL:O	2.30	0.49
27:M:109:ARG:O	27:M:119:ARG:NH2	2.46	0.49
41:a:208:C:H2'	41:a:209:C:H6	1.78	0.49
41:a:2230:G:H5'	43:c:30:LEU:HD23	1.94	0.49
41:a:2245:U:O2'	41:a:2436:G:OP2	2.27	0.49
41:a:2259:U:C2	41:a:2260:C:C5	3.01	0.49
41:a:2392:A:C8	41:a:2429:G:C2	3.00	0.49
41:a:2455:G:H2'	41:a:2456:C:C6	2.48	0.49
49:i:40:ARG:NH1	49:i:41:HIS:CG	2.81	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:k:21:TYR:CE2	51:k:38:LYS:CG	2.96	0.49
52:l:97:ASN:ND2	52:l:100:MET:HE2	2.27	0.49
56:p:26:ILE:HG22	56:p:75:MET:HE2	1.93	0.49
59:s:13:ARG:HH22	59:s:49:ASP:C	2.19	0.49
59:s:73:VAL:CG1	59:s:74:TYR:N	2.75	0.49
61:u:59:ARG:HH11	61:u:59:ARG:HG3	1.78	0.49
61:u:117:THR:HG23	61:u:118:THR:N	2.28	0.49
66:z:72:ASN:ND2	66:z:106:PHE:CE2	2.81	0.49
1:0:73:LYS:HZ1	1:0:88:GLY:HA3	1.78	0.49
3:2:12:ARG:HH21	45:e:29:ARG:CZ	2.25	0.49
3:2:14:PRO:HA	3:2:32:LEU:HD13	1.94	0.49
12:AB:112:PRO:HA	12:AB:133:PRO:HG2	1.95	0.49
14:AE:209:ASN:HB3	14:AE:214:ARG:HH21	1.76	0.49
14:AE:749:LYS:HD3	14:AE:753:SER:HB2	1.94	0.49
16:AG:277:ASP:HB2	16:AG:282:GLN:HG3	1.95	0.49
16:AG:285:ILE:HD13	16:AG:285:ILE:H	1.76	0.49
16:AG:353:HIS:HA	16:AG:356:ILE:HG21	1.94	0.49
16:AG:453:VAL:HG11	16:AG:459:LEU:CG	2.42	0.49
17:C:13:PHE:CB	17:C:51:TYR:CD1	2.95	0.49
18:D:373:A:C2	18:D:482:A:C6	3.00	0.49
18:D:1071:C:H2'	18:D:1072:G:C8	2.47	0.49
21:G:126:PHE:C	21:G:127:ASP:O	2.55	0.49
23:I:164:ARG:HD2	23:I:166:GLU:OE2	2.12	0.49
26:L:65:GLU:OE1	26:L:65:GLU:HA	2.12	0.49
29:O:32:GLN:HG3	29:O:32:GLN:O	2.13	0.49
32:R:74:LEU:HD11	32:R:80:ILE:CD1	2.43	0.49
33:S:57:PRO:HA	33:S:60:GLN:OE1	2.13	0.49
36:V:17:MET:HG3	36:V:20:SER:HB2	1.95	0.49
38:X:9:ILE:HG13	38:X:10:PRO:HD2	1.95	0.49
52:l:40:ARG:HD2	52:l:92:HIS:CE1	2.48	0.49
52:l:194:LYS:O	52:l:197:GLU:N	2.45	0.49
1:0:61:ALA:HB1	1:0:96:VAL:CG2	2.43	0.48
9:9:31:ARG:NE	9:9:31:ARG:HA	2.28	0.48
11:AA:554:HIS:HD2	11:AA:558:VAL:HB	1.77	0.48
12:AB:145:LEU:HD22	12:AB:148:LYS:HG2	1.95	0.48
14:AE:520:ALA:HB3	14:AE:546:ALA:HB2	1.95	0.48
18:D:563:A:N1	18:D:884:U:O4	2.46	0.48
25:K:46:VAL:N	25:K:71:MET:HE2	2.27	0.48
35:U:18:GLN:NE2	35:U:35:ARG:HE	2.10	0.48
36:V:42:THR:HG22	36:V:44:LEU:HD12	1.95	0.48
39:Y:99:LYS:HZ3	39:Y:138:VAL:HG13	1.75	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:a:920:A:C5	41:a:921:C:C5	3.01	0.48
41:a:2014:A:H2'	41:a:2015:A:C8	2.47	0.48
41:a:2677:G:C6	41:a:2731:G:C6	3.01	0.48
48:h:123:ALA:HB1	48:h:125:LYS:HZ3	1.78	0.48
52:l:149:ILE:CG2	52:l:175:ILE:HD11	2.43	0.48
56:p:9:VAL:HG23	56:p:69:ARG:HD2	1.95	0.48
56:p:162:VAL:O	56:p:162:VAL:HG12	2.11	0.48
59:s:13:ARG:NH2	59:s:50:THR:HA	2.27	0.48
59:s:125:TYR:HE2	59:s:130:HIS:HB2	1.78	0.48
60:t:88:ASN:OD1	60:t:89:ASN:N	2.46	0.48
62:v:95:LEU:HD23	62:v:95:LEU:H	1.78	0.48
63:w:38:LEU:N	63:w:39:PRO:CD	2.76	0.48
65:y:40:LEU:HD12	65:y:40:LEU:N	2.28	0.48
9:9:30:SER:O	9:9:31:ARG:CZ	2.59	0.48
11:AA:861:ALA:CB	16:AG:38:LYS:HZ1	2.27	0.48
12:AB:118:ILE:CG1	12:AB:142:LEU:CD2	2.91	0.48
16:AG:36:LYS:HE3	16:AG:43:ILE:HG12	1.95	0.48
16:AG:323:GLN:CA	16:AG:323:GLN:NE2	2.75	0.48
16:AG:389:MET:HA	16:AG:407:ARG:NH1	2.29	0.48
16:AG:444:LEU:HD22	16:AG:473:LEU:CD2	2.43	0.48
18:D:56:U:H2'	18:D:57:G:C8	2.48	0.48
18:D:893:C:C2	18:D:894:G:C8	3.01	0.48
18:D:1319:A:C8	18:D:1323:G:C6	3.01	0.48
23:I:142:MET:HG3	23:I:170:GLU:OE1	2.13	0.48
27:M:16:PRO:CB	29:O:46:MET:HG3	2.42	0.48
27:M:138:ARG:HG2	27:M:142:HIS:CE1	2.48	0.48
38:X:16:VAL:HG23	38:X:17:ILE:N	2.29	0.48
39:Y:57:VAL:HG23	39:Y:71:LYS:HD3	1.93	0.48
41:a:26:G:H2'	41:a:27:G:O4'	2.13	0.48
41:a:1021:A:H3'	41:a:1021:A:N3	2.27	0.48
41:a:1792:G:H5"	48:h:204:VAL:HG23	1.95	0.48
41:a:2093:G:O2'	41:a:2198:A:N1	2.41	0.48
41:a:2297:A:N1	41:a:2321:U:O4	2.47	0.48
41:a:2485:G:O3'	62:v:125:PRO:HB3	2.12	0.48
46:f:41:THR:N	46:f:45:ARG:NH2	2.61	0.48
52:l:147:LEU:HD11	52:l:170:ARG:CD	2.43	0.48
55:o:62:LEU:HG	55:o:65:ALA:HA	1.95	0.48
59:s:88:THR:O	59:s:92:MET:HE2	2.13	0.48
62:v:58:LYS:O	62:v:59:ARG:HG3	2.13	0.48
9:9:95:LEU:HD12	9:9:99:PHE:CZ	2.48	0.48
10:A:22:G:HO2'	10:A:23:C:P	2.36	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:AE:79:LYS:HZ3	16:AG:153:ASP:CG	2.20	0.48
14:AE:425:ARG:NH1	14:AE:458:ASN:O	2.45	0.48
16:AG:288:MET:O	16:AG:288:MET:HG2	2.13	0.48
18:D:123:U:C2	18:D:124:C:C5	3.01	0.48
18:D:123:U:H5"	18:D:311:C:O2'	2.13	0.48
21:G:112:LYS:HE2	21:G:112:LYS:HA	1.95	0.48
24:J:170:TRP:CZ3	24:J:190:ASP:HB3	2.48	0.48
25:K:12:GLN:HB3	25:K:14:LYS:HZ2	1.79	0.48
34:T:64:ARG:CZ	34:T:64:ARG:CB	2.91	0.48
38:X:86:TYR:HE2	38:X:90:ARG:NH2	2.11	0.48
41:a:39:G:H1'	52:l:43:THR:HG21	1.95	0.48
41:a:379:G:N1	41:a:396:G:C6	2.81	0.48
41:a:1405:U:H2'	41:a:1406:U:C5	2.49	0.48
41:a:1590:A:H2'	41:a:1591:A:C8	2.48	0.48
48:h:160:THR:O	48:h:195:VAL:HG12	2.13	0.48
56:p:94:TYR:C	56:p:95:ARG:HD2	2.38	0.48
59:s:15:TRP:HD1	59:s:53:TYR:HB2	1.78	0.48
59:s:39:LYS:HA	59:s:44:TYR:HD1	1.78	0.48
62:v:41:LEU:HG	62:v:96:ILE:HG13	1.95	0.48
62:v:57:VAL:HG22	62:v:60:GLN:O	2.13	0.48
64:x:115:LEU:HD23	64:x:117:PHE:CE1	2.49	0.48
11:AA:1280:ALA:HB1	14:AE:918:ILE:HG22	1.96	0.48
12:AB:32:MET:HE2	12:AB:32:MET:HA	1.95	0.48
16:AG:148:ASP:HA	16:AG:164:ARG:CD	2.44	0.48
16:AG:453:VAL:HG11	16:AG:459:LEU:HD23	1.95	0.48
16:AG:467:LEU:HD12	16:AG:482:ILE:HD11	1.95	0.48
10:B:12:G:C2'	10:B:13:C:OP1	2.61	0.48
10:B:21:A:H4'	10:B:21:A:OP1	2.13	0.48
17:C:60:LYS:NZ	18:D:734:G:C3'	2.76	0.48
18:D:718:A:C5	31:Q:118:HIS:ND1	2.81	0.48
23:I:134:MET:HE2	23:I:168:TYR:CG	2.49	0.48
24:J:113:GLU:O	24:J:117:LEU:HG	2.13	0.48
28:N:40:LEU:O	28:N:44:GLY:N	2.47	0.48
29:O:52:LEU:O	29:O:55:VAL:O	2.31	0.48
30:P:5:ARG:HG3	30:P:7:ARG:HH12	1.78	0.48
38:X:94:GLY:C	38:X:95:LEU:HD22	2.38	0.48
39:Y:74:PRO:O	39:Y:78:LEU:HG	2.13	0.48
40:Z:26:MET:O	40:Z:30:PHE:HB2	2.14	0.48
41:a:879:G:H2'	41:a:880:G:O4'	2.14	0.48
41:a:1664:A:C2'	41:a:1665:A:H5'	2.43	0.48
41:a:2012:G:H8	41:a:2012:G:O5'	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:a:2296:U:H4'	41:a:2297:A:OP1	2.14	0.48
41:a:2298:A:C4	41:a:2321:U:H5	2.31	0.48
41:a:2547:A:H2'	41:a:2548:U:H6	1.77	0.48
48:h:138:GLY:H	48:h:164:ILE:HG23	1.79	0.48
50:j:55:LYS:NZ	50:j:59:ARG:C	2.70	0.48
63:w:114:GLU:N	63:w:114:GLU:OE1	2.46	0.48
66:z:79:PHE:CE1	66:z:110:VAL:HG22	2.48	0.48
11:AA:565:GLU:HA	11:AA:569:ILE:HG12	1.95	0.48
11:AA:860:ALA:N	16:AG:38:LYS:HE2	2.17	0.48
12:AB:151:LYS:HG3	12:AB:151:LYS:O	2.14	0.48
14:AE:640:GLY:N	14:AE:643:ASP:OD2	2.42	0.48
16:AG:59:PHE:CD1	16:AG:97:ILE:HG23	2.48	0.48
16:AG:64:VAL:HA	16:AG:75:ILE:HB	1.94	0.48
16:AG:369:PHE:O	16:AG:373:LEU:HG	2.12	0.48
17:C:60:LYS:CD	18:D:734:G:O2'	2.62	0.48
18:D:35:G:H2'	18:D:36:C:C6	2.48	0.48
20:F:62:ARG:HD2	20:F:63:GLU:N	2.29	0.48
24:J:124:MET:HE2	24:J:128:ARG:CA	2.43	0.48
26:L:38:ARG:HD2	26:L:40:GLU:OE2	2.13	0.48
26:L:62:MET:HE3	26:L:62:MET:CA	2.44	0.48
29:O:52:LEU:HB3	29:O:58:VAL:HG12	1.94	0.48
30:P:63:ASP:OD1	30:P:65:TYR:CZ	2.67	0.48
30:P:64:GLN:OE1	30:P:65:TYR:O	2.31	0.48
39:Y:126:ARG:HH12	41:a:1082:U:C3'	2.26	0.48
41:a:1141:U:H4'	41:a:1142:A:O5'	2.13	0.48
41:a:2515:C:H2'	41:a:2516:A:H8	1.78	0.48
41:a:2809:A:H2'	41:a:2810:A:C8	2.48	0.48
42:b:47:ALA:HB2	42:b:59:LEU:HD11	1.94	0.48
47:g:47:LYS:HE2	54:n:115:ARG:CZ	2.43	0.48
50:j:55:LYS:HZ1	50:j:59:ARG:HB3	1.77	0.48
50:j:124:ARG:HA	50:j:165:MET:CE	2.44	0.48
54:n:22:TYR:HE2	54:n:29:PRO:HD3	1.79	0.48
57:q:2:LYS:CE	57:q:35:GLN:HE21	2.25	0.48
57:q:14:CYS:SG	57:q:33:HIS:HB3	2.53	0.48
59:s:1:MET:HE2	66:z:97:ASP:OD2	2.13	0.48
59:s:98:GLU:OE1	59:s:124:VAL:HG13	2.13	0.48
60:t:20:MET:HB3	60:t:44:LYS:HE2	1.95	0.48
66:z:78:LYS:CD	66:z:117:LEU:HD21	2.43	0.48
2:1:25:ARG:HH12	41:a:520:G:P	2.37	0.48
4:3:6:ARG:NH1	41:a:84:A:H2'	2.27	0.48
9:9:24:SER:O	9:9:116:GLU:HB2	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:A:23:C:H2'	10:A:24:U:H6	1.77	0.48
11:AA:9:LYS:HG2	11:AA:1171:ARG:HH12	1.77	0.48
11:AA:1286:THR:O	11:AA:1290:MET:HB2	2.14	0.48
14:AE:79:LYS:CB	16:AG:159:GLU:OE2	2.60	0.48
10:B:72:A:H2'	10:B:73:A:H5"	1.95	0.48
18:D:43:C:P	35:U:12:LYS:NZ	2.86	0.48
18:D:626:G:O3'	35:U:51:ARG:NH1	2.45	0.48
18:D:718:A:C8	31:Q:118:HIS:HB3	2.48	0.48
18:D:1307:U:H2'	18:D:1308:U:C6	2.49	0.48
18:D:1314:C:H2'	18:D:1315:U:C6	2.48	0.48
18:D:1314:C:H2'	18:D:1315:U:H6	1.78	0.48
18:D:1439:G:OP1	19:E:33:LYS:CE	2.61	0.48
25:K:159:LYS:HZ1	28:N:44:GLY:HA3	1.77	0.48
26:L:36:ILE:HD12	26:L:63:ASN:O	2.14	0.48
27:M:142:HIS:O	27:M:146:GLU:HG2	2.13	0.48
31:Q:94:GLU:O	31:Q:97:ILE:HG22	2.13	0.48
34:T:35:GLN:HB3	34:T:59:MET:HE1	1.95	0.48
34:T:71:LYS:HE2	34:T:78:TYR:CE2	2.48	0.48
41:a:576:U:H2'	41:a:577:G:C8	2.48	0.48
41:a:581:C:C2	41:a:582:A:C8	3.01	0.48
41:a:1844:C:C2	41:a:1845:G:C8	3.02	0.48
41:a:2189:U:O2'	41:a:2190:G:O5'	2.31	0.48
41:a:2193:G:O2'	41:a:2194:U:P	2.72	0.48
41:a:2313:C:H5"	54:n:88:LYS:HD2	1.95	0.48
41:a:2327:A:H2'	41:a:2328:A:C8	2.49	0.48
41:a:2685:G:OP1	60:t:78:ARG:NH2	2.47	0.48
41:a:2754:U:O3'	57:q:19:ARG:NH2	2.46	0.48
49:i:28:LEU:O	49:i:37:LYS:NZ	2.46	0.48
54:n:171:ALA:O	54:n:174:ASP:N	2.46	0.48
59:s:56:VAL:O	59:s:124:VAL:HA	2.14	0.48
64:x:115:LEU:HD23	64:x:117:PHE:HE1	1.79	0.48
5:4:80:HIS:CE1	5:4:83:LYS:HZ3	2.31	0.48
6:5:10:DT:C4'	11:AA:62:TYR:OH	2.61	0.48
6:5:17:DC:C5	11:AA:542:ARG:HD3	2.48	0.48
14:AE:67:ASP:C	14:AE:69:GLU:N	2.71	0.48
10:B:32:C:H2'	10:B:33:U:H5'	1.94	0.48
18:D:378:G:H2'	18:D:379:C:C6	2.49	0.48
18:D:429:U:O2	18:D:430:A:C8	2.67	0.48
18:D:908:A:H2'	18:D:909:A:C8	2.48	0.48
18:D:1397:C:OP1	18:D:1397:C:H2'	2.13	0.48
18:D:1428:A:H2'	18:D:1429:A:O4'	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:E:19:LYS:CG	19:E:20:HIS:N	2.76	0.48
19:E:22:ALA:HA	19:E:25:ARG:HE	1.78	0.48
20:F:4:ILE:CD1	20:F:19:PHE:HA	2.43	0.48
23:I:134:MET:HG3	23:I:151:VAL:CG2	2.44	0.48
24:J:61:VAL:HA	24:J:64:ILE:HD12	1.96	0.48
39:Y:77:VAL:HG13	39:Y:81:LYS:NZ	2.27	0.48
41:a:880:G:C2	41:a:881:G:C8	3.02	0.48
41:a:2091:C:O2	43:c:34:HIS:CE1	2.67	0.48
41:a:2093:G:N7	41:a:2225:A:H2'	2.28	0.48
50:j:101:PHE:CZ	50:j:203:VAL:HG12	2.48	0.48
51:k:7:GLU:HG2	51:k:27:LYS:NZ	2.29	0.48
54:n:8:TYR:HA	54:n:12:VAL:HB	1.95	0.48
54:n:134:GLU:CG	54:n:137:ILE:HG23	2.41	0.48
2:1:95:ARG:NH1	2:1:97:LEU:CD2	2.77	0.48
5:4:1:MET:SD	5:4:3:THR:OG1	2.71	0.48
9:9:25:ALA:CB	9:9:99:PHE:HD2	2.25	0.48
10:A:21:A:H4'	10:A:21:A:OP1	2.13	0.48
12:AB:155:LYS:CG	12:AB:156:ASN:H	2.26	0.48
14:AE:107:LEU:HD22	14:AE:299:LEU:HD21	1.95	0.48
14:AE:1289:ASN:ND2	14:AE:1300:ALA:O	2.46	0.48
16:AG:18:LEU:HB3	16:AG:19:PRO:HD2	1.95	0.48
16:AG:87:LEU:HD22	16:AG:93:VAL:HG21	1.96	0.48
16:AG:220:VAL:CG1	16:AG:245:ILE:HG21	2.44	0.48
18:D:35:G:N3	32:R:115:SER:OG	2.47	0.48
18:D:71:A:N1	18:D:100:G:C8	2.81	0.48
18:D:109:A:C6	18:D:326:G:C6	3.02	0.48
18:D:562:U:O3'	32:R:14:ARG:NH1	2.46	0.48
18:D:1530:G:H2'	18:D:1531:A:C8	2.49	0.48
23:I:119:SER:O	23:I:123:GLN:HG2	2.13	0.48
23:I:156:ARG:HG2	23:I:193:TYR:HB2	1.95	0.48
25:K:148:ASN:ND2	25:K:153:VAL:CG1	2.77	0.48
27:M:71:PRO:O	27:M:96:ARG:NH1	2.47	0.48
36:V:50:ASN:HB2	36:V:52:GLU:OE2	2.13	0.48
40:Z:29:LYS:HG3	40:Z:30:PHE:CE2	2.49	0.48
41:a:871:U:H2'	41:a:872:U:H6	1.78	0.48
41:a:962:G:C5	41:a:963:U:C5	3.01	0.48
41:a:1042:G:C4	41:a:1043:C:C6	3.02	0.48
41:a:2373:G:H2'	41:a:2374:C:C6	2.49	0.48
41:a:2884:U:N3	49:i:40:ARG:NH1	2.62	0.48
52:l:195:GLN:HA	52:l:198:GLU:OE1	2.13	0.48
3:2:56:GLU:OE2	3:2:88:LYS:CA	2.61	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:4:55:GLU:OE1	5:4:55:GLU:N	2.42	0.48
5:4:69:GLU:H	5:4:69:GLU:CD	2.22	0.48
9:9:6:GLN:HA	9:9:9:GLN:HE22	1.74	0.48
9:9:16:SER:HB2	9:9:20:LYS:NZ	2.29	0.48
9:9:103:ASN:HA	9:9:107:GLU:HG3	1.96	0.48
10:A:12:G:C2'	10:A:13:C:OP1	2.61	0.48
10:A:70:G:C3'	10:A:71:C:H5"	2.44	0.48
13:AD:182:ARG:O	13:AD:205:MET:HA	2.13	0.48
16:AG:26:ALA:HB1	16:AG:117:LYS:HG2	1.96	0.48
16:AG:27:LEU:HD22	16:AG:114:ILE:HG12	1.96	0.48
10:B:26:G:H1	10:B:44:A:N6	2.12	0.48
18:D:977:A:O2'	18:D:979:C:OP2	2.25	0.48
19:E:9:LYS:O	19:E:12:ILE:HG12	2.14	0.48
22:H:5:PHE:CE1	22:H:9:PHE:HE1	2.31	0.48
24:J:62:ARG:CZ	24:J:69:GLU:HG2	2.44	0.48
28:N:83:LEU:HD11	32:R:4:VAL:HB	1.95	0.48
29:O:49:ARG:C	29:O:53:GLU:OE1	2.57	0.48
31:Q:31:ILE:HD12	31:Q:46:THR:HG22	1.94	0.48
32:R:80:ILE:HG22	32:R:81:LEU:N	2.27	0.48
41:a:6:A:O3'	59:s:132:HIS:CE1	2.67	0.48
41:a:1197:G:C4	41:a:1198:U:C5	3.02	0.48
41:a:1858:A:N6	41:a:1884:G:H1'	2.29	0.48
41:a:2061:G:C2	41:a:2063:C:C5	3.01	0.48
65:y:13:MET:HG3	65:y:77:HIS:CE1	2.49	0.48
1:0:6:GLN:OE1	1:0:11:GLN:HG2	2.14	0.48
2:1:20:VAL:O	2:1:23:LEU:HB3	2.13	0.48
11:AA:411:ARG:NH2	11:AA:427:ASP:OD2	2.44	0.48
12:AB:115:LYS:CD	12:AB:129:ILE:CB	2.92	0.48
16:AG:448:LEU:HD23	16:AG:473:LEU:HD12	1.95	0.48
18:D:330:C:O2	18:D:330:C:H2'	2.14	0.48
18:D:1127:G:C2	18:D:1128:C:C6	3.01	0.48
24:J:139:PRO:N	24:J:182:PHE:HE2	2.12	0.48
24:J:195:ILE:HG13	24:J:195:ILE:O	2.14	0.48
25:K:112:ARG:C	25:K:116:GLU:OE1	2.57	0.48
30:P:15:HIS:O	30:P:18:ILE:HG22	2.14	0.48
31:Q:85:MET:HB3	31:Q:113:VAL:HG11	1.96	0.48
33:S:47:LYS:O	33:S:50:THR:OG1	2.25	0.48
38:X:86:TYR:CE2	38:X:90:ARG:NE	2.82	0.48
39:Y:126:ARG:NH1	41:a:1083:U:OP2	2.47	0.48
41:a:760:G:H2'	41:a:761:A:O4'	2.14	0.48
41:a:984:A:N3	41:a:984:A:H2'	2.29	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:a:1708:C:H2'	41:a:1709:U:H6	1.79	0.48
41:a:2070:A:H2'	41:a:2071:A:O4'	2.14	0.48
45:e:10:SER:OG	45:e:13:GLU:HG2	2.13	0.48
51:k:19:HIS:CD2	51:k:20:PHE:N	2.82	0.48
56:p:69:ARG:NH1	56:p:73:ASN:HD21	2.11	0.48
58:r:18:GLN:HE22	58:r:39:ALA:HB2	1.79	0.48
62:v:53:MET:SD	62:v:53:MET:N	2.86	0.48
62:v:111:GLU:O	62:v:112:LEU:C	2.57	0.48
63:w:33:ILE:HD11	63:w:112:TYR:CE1	2.48	0.48
65:y:9:GLU:HG3	65:y:55:LEU:HB2	1.96	0.48
66:z:53:ARG:HG2	66:z:57:PHE:CE2	2.49	0.48
2:1:28:LYS:HB2	2:1:31:GLN:OE1	2.14	0.47
8:7:7:U:C6	8:7:7:U:C3'	2.97	0.47
11:AA:1314:GLN:HB2	15:AF:28:ARG:HH12	1.79	0.47
12:AB:51:PHE:CZ	14:AE:288:PRO:CG	2.89	0.47
14:AE:438:GLU:OE2	14:AE:481:ARG:NH1	2.44	0.47
16:AG:207:GLU:HG3	16:AG:210:ARG:HB3	1.96	0.47
16:AG:209:PHE:CE1	16:AG:262:VAL:HG21	2.49	0.47
16:AG:434:LEU:HD11	16:AG:454:CYS:C	2.39	0.47
18:D:808:C:OP1	34:T:48:LYS:HE3	2.14	0.47
18:D:1227:A:C2	18:D:1228:C:C6	3.02	0.47
24:J:76:TYR:HE2	24:J:204:TYR:CB	2.25	0.47
25:K:16:ILE:H	25:K:16:ILE:HD12	1.79	0.47
29:O:49:ARG:O	29:O:53:GLU:OE1	2.32	0.47
29:O:118:LEU:HD22	29:O:123:ARG:C	2.39	0.47
32:R:74:LEU:HD11	32:R:80:ILE:HG13	1.96	0.47
33:S:74:LEU:HD23	33:S:77:PHE:CD2	2.49	0.47
35:U:26:ASN:ND2	35:U:31:ARG:HE	2.11	0.47
41:a:2043:C:C2	41:a:2044:C:C5	3.02	0.47
41:a:2300:C:H2'	41:a:2301:C:H6	1.79	0.47
44:d:42:C:C5	54:n:66:LEU:HD12	2.49	0.47
62:v:42:THR:HA	62:v:93:VAL:HG12	1.95	0.47
64:x:90:VAL:HG13	64:x:115:LEU:HD11	1.96	0.47
5:4:1:MET:O	5:4:1:MET:HE3	2.13	0.47
9:9:24:SER:HG	9:9:85:SER:C	2.22	0.47
10:A:22:G:O2'	10:A:23:C:O5'	2.31	0.47
10:A:26:G:H1	10:A:44:A:N6	2.12	0.47
12:AB:54:TYR:HE2	14:AE:291:ILE:CG2	2.13	0.47
12:AB:102:LYS:NZ	14:AE:285:LEU:HG	2.28	0.47
16:AG:62:TRP:CD1	16:AG:95:ASP:HB2	2.49	0.47
16:AG:299:ASP:CB	16:AG:303:HIS:HA	2.44	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:B:22:G:O2'	10:B:23:C:O5'	2.32	0.47
17:C:65:LEU:HD23	17:C:67:LEU:HD11	1.96	0.47
18:D:1149:C:H2'	18:D:1150:A:H8	1.79	0.47
18:D:1176:A:H2'	18:D:1177:G:O4'	2.15	0.47
18:D:1227:A:H5'	38:X:110:LYS:NZ	2.28	0.47
18:D:1324:A:H2'	18:D:1325:C:H6	1.78	0.47
21:G:110:SER:HA	21:G:113:ARG:HH21	1.79	0.47
31:Q:78:GLY:O	31:Q:80:LYS:NZ	2.42	0.47
37:W:62:VAL:HG13	37:W:66:MET:CE	2.44	0.47
39:Y:106:GLN:OE1	39:Y:125:THR:HG21	2.14	0.47
39:Y:126:ARG:NH1	41:a:1082:U:O5'	2.46	0.47
41:a:208:C:C2	41:a:209:C:C5	3.01	0.47
41:a:1048:A:C4	41:a:1049:C:C5	3.02	0.47
41:a:1321:A:C5	41:a:1322:A:C8	3.02	0.47
41:a:1790:C:H2'	41:a:1791:A:N7	2.29	0.47
41:a:1825:U:P	48:h:52:ARG:NH1	2.86	0.47
41:a:2788:C:H2'	41:a:2789:C:C6	2.50	0.47
43:c:67:VAL:HA	43:c:70:GLU:OE1	2.14	0.47
44:d:117:G:OP1	64:x:56:LYS:HD3	2.14	0.47
50:j:1:MET:O	50:j:204:LYS:HD2	2.15	0.47
52:l:112:LEU:CD1	52:l:117:ARG:HB2	2.39	0.47
54:n:67:ILE:HD13	54:n:87:CYS:HB3	1.95	0.47
54:n:93:GLY:C	54:n:97:TRP:CZ3	2.92	0.47
58:r:58:LEU:O	58:r:61:VAL:HG22	2.14	0.47
59:s:123:LYS:HD2	59:s:132:HIS:HD2	1.78	0.47
62:v:29:GLY:H	62:v:104:GLU:HG2	1.79	0.47
63:w:56:LYS:NZ	63:w:90:ARG:O	2.48	0.47
4:3:40:ASN:OD1	4:3:65:ILE:HB	2.14	0.47
4:3:84:GLY:HA3	4:3:95:PHE:CZ	2.49	0.47
5:4:59:GLU:OE1	5:4:59:GLU:N	2.47	0.47
7:6:10:DG:OP1	14:AE:311:ARG:NH2	2.47	0.47
9:9:3:LEU:O	9:9:4:ASN:OD1	2.32	0.47
11:AA:318:SER:OG	11:AA:320:ASP:OD1	2.31	0.47
11:AA:363:LEU:HB3	11:AA:381:ALA:HB1	1.96	0.47
12:AB:118:ILE:HG12	12:AB:130:PHE:CD2	2.49	0.47
16:AG:61:ARG:HD2	16:AG:73:LYS:CD	2.44	0.47
16:AG:316:GLN:H	16:AG:316:GLN:HG3	1.54	0.47
16:AG:316:GLN:HE21	16:AG:316:GLN:HB2	1.49	0.47
10:B:70:G:C3'	10:B:71:C:H5"	2.44	0.47
18:D:745:G:H2'	18:D:746:A:C8	2.50	0.47
22:H:302:GLY:HA3	22:H:344:LEU:HD13	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:J:62:ARG:NE	24:J:72:PHE:CE2	2.81	0.47
29:O:21:ILE:HD12	29:O:86:ALA:HB1	1.96	0.47
30:P:10:LEU:C	30:P:11:LYS:HD3	2.40	0.47
31:Q:98:ARG:HG2	31:Q:98:ARG:HH11	1.78	0.47
33:S:20:TYR:CD2	33:S:55:SER:OG	2.67	0.47
34:T:15:PHE:CD2	34:T:30:ALA:HB2	2.49	0.47
34:T:29:VAL:HG22	34:T:66:LEU:HD23	1.96	0.47
41:a:1477:A:N6	41:a:1514:G:O2'	2.45	0.47
41:a:1841:U:C2	41:a:1842:G:C8	3.02	0.47
41:a:2246:G:H2'	41:a:2247:A:C8	2.49	0.47
41:a:2351:G:O6	55:o:39:LYS:HE3	2.13	0.47
41:a:2638:G:O2'	41:a:2775:G:N2	2.37	0.47
45:e:14:LEU:HD13	45:e:57:LEU:HD22	1.95	0.47
46:f:27:LEU:O	46:f:38:ARG:NE	2.44	0.47
47:g:45:THR:O	47:g:49:ARG:CZ	2.62	0.47
56:p:8:PRO:C	56:p:69:ARG:HH21	2.22	0.47
56:p:52:PHE:CZ	56:p:72:LEU:HD22	2.50	0.47
62:v:57:VAL:HG22	62:v:57:VAL:O	2.14	0.47
1:0:68:ARG:NH2	1:0:90:ARG:HD3	2.29	0.47
2:1:86:MET:HE1	2:1:88:ARG:CD	2.42	0.47
5:4:53:LYS:O	5:4:56:PHE:HD2	1.97	0.47
9:9:52:MET:HG2	9:9:95:LEU:CD1	2.39	0.47
9:9:77:VAL:CG1	9:9:82:ILE:HG21	2.41	0.47
9:9:108:VAL:O	9:9:109:LYS:HB3	2.12	0.47
10:A:35:A:H2'	10:A:36:U:C6	2.49	0.47
11:AA:786:GLY:N	11:AA:789:THR:OG1	2.41	0.47
12:AB:111:TYR:HB3	12:AB:112:PRO:HD2	1.96	0.47
14:AE:218:THR:HA	14:AE:221:ILE:HG22	1.96	0.47
17:C:21:ILE:HG13	17:C:54:GLN:NE2	2.28	0.47
18:D:1458:G:H5"	19:E:26:SER:OG	2.14	0.47
22:H:37:LEU:HD11	22:H:47:ALA:HA	1.96	0.47
25:K:96:MET:HG2	25:K:125:ALA:HB2	1.97	0.47
27:M:109:ARG:C	27:M:119:ARG:HH21	2.23	0.47
28:N:34:VAL:HG22	28:N:59:LEU:HD21	1.96	0.47
29:O:12:ARG:HD3	29:O:13:LYS:H	1.78	0.47
29:O:63:LEU:HD13	29:O:65:ILE:HD11	1.97	0.47
32:R:99:ARG:NE	32:R:104:CYS:SG	2.87	0.47
33:S:12:LYS:HD2	33:S:16:LEU:CD2	2.44	0.47
36:V:62:ARG:C	36:V:73:TRP:CE3	2.92	0.47
41:a:67:U:N3	41:a:74:A:N6	2.62	0.47
41:a:111:A:O2'	45:e:58:ASN:ND2	2.46	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:a:600:G:H2'	41:a:601:C:C6	2.49	0.47
41:a:909:A:H2'	41:a:912:C:H5	1.80	0.47
41:a:1429:G:H2'	41:a:1430:G:H8	1.79	0.47
41:a:2064:C:H2'	41:a:2065:C:H6	1.80	0.47
41:a:2294:G:OP1	64:x:10:ARG:HD3	2.15	0.47
41:a:2345:G:C5	41:a:2347:C:C5	3.03	0.47
51:k:25:LYS:HD3	51:k:51:GLU:OE2	2.14	0.47
62:v:53:MET:HB2	62:v:116:ALA:HB1	1.96	0.47
4:3:28:VAL:HG23	4:3:34:VAL:HG12	1.96	0.47
9:9:38:MET:SD	39:Y:117:THR:CG2	3.02	0.47
9:9:88:HIS:CB	9:9:89:PRO:CD	2.81	0.47
10:A:48:C:C2'	10:A:49:G:OP2	2.62	0.47
11:AA:103:VAL:HG12	11:AA:117:ILE:HG22	1.97	0.47
16:AG:266:LEU:CD2	16:AG:266:LEU:N	2.73	0.47
16:AG:285:ILE:O	16:AG:288:MET:HE3	2.14	0.47
17:C:73:ARG:NH1	31:Q:113:VAL:CG1	2.76	0.47
18:D:126:G:OP1	18:D:605:U:O2'	2.19	0.47
18:D:375:U:H1'	35:U:28:ARG:HH22	1.79	0.47
18:D:1225:A:H2'	18:D:1226:C:C5	2.49	0.47
18:D:1308:U:P	38:X:98:ARG:CG	3.03	0.47
26:L:9:MET:HE2	26:L:51:ILE:CD1	2.44	0.47
27:M:129:GLU:O	27:M:130:ASN:HB2	2.13	0.47
29:O:89:GLU:O	29:O:92:GLU:OE1	2.32	0.47
37:W:63:THR:HG22	37:W:64:ASP:N	2.30	0.47
39:Y:19:PRO:HG2	39:Y:24:GLY:H	1.79	0.47
41:a:963:U:H2'	41:a:964:C:H6	1.79	0.47
41:a:1385:A:C4	41:a:1386:C:C5	3.02	0.47
41:a:1666:G:H1'	60:t:3:GLN:NE2	2.29	0.47
41:a:2297:A:C6	41:a:2321:U:O4	2.68	0.47
41:a:2299:U:H2'	41:a:2300:C:C6	2.49	0.47
41:a:2748:A:C2	41:a:2757:A:C5	3.03	0.47
41:a:2803:G:H2'	41:a:2804:U:C5	2.50	0.47
52:l:141:MET:O	52:l:142:ALA:HB3	2.13	0.47
62:v:30:SER:N	62:v:104:GLU:OE2	2.48	0.47
2:1:23:LEU:HD21	2:1:35:ILE:CG2	2.44	0.47
5:4:21:ARG:HA	5:4:25:LYS:O	2.14	0.47
5:4:77:VAL:HG13	5:4:77:VAL:O	2.13	0.47
11:AA:560:PRO:O	14:AE:780:ARG:NH2	2.47	0.47
14:AE:516:ASP:OD1	14:AE:516:ASP:N	2.47	0.47
17:C:12:ARG:CZ	17:C:13:PHE:CE1	2.97	0.47
17:C:16:GLU:OE1	17:C:18:VAL:HB	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:D:35:G:H2'	18:D:36:C:H6	1.80	0.47
18:D:436:C:C2	18:D:437:U:C5	3.02	0.47
18:D:642:A:H2'	18:D:643:C:H6	1.80	0.47
18:D:1238:A:H2	18:D:1241:G:N3	2.13	0.47
22:H:70:VAL:HA	22:H:85:SER:HA	1.95	0.47
24:J:62:ARG:HA	24:J:72:PHE:CZ	2.50	0.47
25:K:157:ARG:NH1	28:N:43:GLU:CD	2.72	0.47
28:N:3:MET:O	28:N:3:MET:HE3	2.14	0.47
39:Y:126:ARG:NH2	41:a:1082:U:O3'	2.47	0.47
41:a:1656:C:P	50:j:141:ARG:HD2	2.54	0.47
41:a:1770:G:C6	41:a:1983:G:C5	3.03	0.47
41:a:2040:G:OP1	59:s:106:LYS:NZ	2.38	0.47
41:a:2362:C:OP2	55:o:40:ARG:CZ	2.63	0.47
41:a:2814:A:C4	41:a:2815:C:C5	3.03	0.47
42:b:26:PHE:H	42:b:29:GLU:HG3	1.79	0.47
42:b:45:PHE:HD2	42:b:80:ILE:HD11	1.77	0.47
53:m:25:LYS:HE2	53:m:28:ARG:HH21	1.78	0.47
54:n:12:VAL:O	54:n:16:LEU:HG	2.14	0.47
54:n:38:MET:HE3	54:n:57:LEU:HG	1.96	0.47
61:u:77:ILE:HD11	61:u:108:ALA:HB1	1.95	0.47
64:x:41:ALA:HB2	64:x:48:LEU:HD11	1.95	0.47
2:1:98:LYS:HZ2	41:a:2012:G:P	2.38	0.47
10:A:6:G:O2'	10:A:7:G:H8	1.98	0.47
10:A:30:G:O2'	10:A:31:G:H5'	2.15	0.47
11:AA:207:THR:OG1	11:AA:354:ASP:OD2	2.32	0.47
11:AA:689:ALA:HB2	11:AA:1233:LEU:HD23	1.97	0.47
11:AA:855:PRO:HG2	16:AG:105:ILE:HG22	1.94	0.47
12:AB:50:LEU:HD21	14:AE:285:LEU:CB	2.44	0.47
14:AE:74:LYS:HB2	14:AE:74:LYS:HE2	1.59	0.47
14:AE:77:ARG:HA	14:AE:77:ARG:CZ	2.44	0.47
14:AE:290:ILE:O	14:AE:290:ILE:HG12	2.14	0.47
14:AE:291:ILE:O	14:AE:293:ARG:N	2.46	0.47
14:AE:616:PRO:HA	14:AE:619:ILE:HG22	1.96	0.47
14:AE:804:ALA:O	14:AE:806:ASP:N	2.47	0.47
14:AE:1350:ASN:HA	14:AE:1353:VAL:HG12	1.97	0.47
16:AG:200:SER:C	16:AG:230:PRO:HG2	2.38	0.47
16:AG:233:ARG:O	16:AG:327:LEU:CD2	2.62	0.47
16:AG:243:LYS:O	16:AG:243:LYS:HD3	2.14	0.47
16:AG:363:LEU:HD11	16:AG:410:ALA:HB2	1.92	0.47
16:AG:437:LEU:CG	16:AG:456:LEU:CD1	2.92	0.47
18:D:72:A:C5	18:D:73:C:C5	3.02	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:D:106:C:N4	19:E:10:ARG:HH22	2.12	0.47
18:D:110:C:H2'	18:D:111:G:O4'	2.14	0.47
18:D:197:A:C6	18:D:221:C:H4'	2.50	0.47
18:D:216:U:H2'	18:D:217:C:C6	2.50	0.47
18:D:520:A:O2'	32:R:70:GLU:CD	2.58	0.47
18:D:653:U:N1	28:N:56:LYS:HE3	2.29	0.47
18:D:657:U:C1'	34:T:28:GLN:HE22	2.24	0.47
18:D:687:A:C2	18:D:704:A:C4	3.02	0.47
18:D:864:A:H5'	25:K:90:THR:O	2.14	0.47
18:D:1149:C:C2	18:D:1150:A:C8	3.03	0.47
18:D:1172:C:H2'	18:D:1173:U:C6	2.49	0.47
18:D:1325:C:C2	18:D:1326:U:C5	3.02	0.47
18:D:1363:A:C5	18:D:1365:G:C6	3.03	0.47
21:G:26:LYS:O	21:G:26:LYS:HD3	2.14	0.47
21:G:207:ILE:HG23	21:G:208:ARG:N	2.30	0.47
23:I:25:ASN:O	23:I:27:LYS:N	2.47	0.47
27:M:116:MET:HA	27:M:119:ARG:HD3	1.97	0.47
27:M:135:VAL:HG23	27:M:136:LYS:HD2	1.96	0.47
29:O:7:TYR:O	29:O:89:GLU:CD	2.58	0.47
31:Q:116:ILE:HG13	31:Q:116:ILE:O	2.14	0.47
33:S:63:ARG:HD3	33:S:68:GLY:O	2.15	0.47
36:V:30:LYS:HD3	36:V:35:GLY:HA2	1.97	0.47
39:Y:102:ARG:HE	39:Y:139:VAL:HG21	1.79	0.47
41:a:78:U:OP1	45:e:4:LYS:CE	2.63	0.47
41:a:272:A:C2	41:a:273:G:C5	3.02	0.47
41:a:592:A:C2	55:o:4:ILE:HD11	2.50	0.47
41:a:689:A:H2'	41:a:690:G:C8	2.50	0.47
41:a:1278:C:H2'	41:a:1279:G:H8	1.80	0.47
41:a:1333:G:C2	41:a:1334:G:C8	3.03	0.47
41:a:1385:A:O2'	41:a:1396:U:O2	2.31	0.47
41:a:1441:G:H2'	41:a:1442:U:C6	2.50	0.47
41:a:1467:U:C4	41:a:1546:G:C2	3.03	0.47
41:a:1791:A:C2	41:a:1829:A:H4'	2.49	0.47
41:a:2236:U:H2'	41:a:2237:G:O4'	2.15	0.47
41:a:2243:U:H2'	41:a:2244:U:H6	1.80	0.47
41:a:2520:C:C6	41:a:2567:G:H1'	2.50	0.47
41:a:2771:C:C2	41:a:2772:C:C5	3.01	0.47
45:e:20:ASN:HA	45:e:23:ARG:NE	2.30	0.47
48:h:130:LEU:HG	48:h:135:ILE:HG13	1.96	0.47
50:j:91:THR:HB	50:j:94:GLN:CG	2.44	0.47
52:l:148:ILE:CD1	52:l:187:VAL:HB	2.45	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:l:168:ASP:HB3	52:l:183:PHE:CE2	2.49	0.47
56:p:18:LYS:HE2	56:p:18:LYS:HA	1.96	0.47
58:r:135:HIS:CE1	58:r:137:GLU:OE1	2.62	0.47
62:v:41:LEU:HG	62:v:96:ILE:CG1	2.45	0.47
63:w:44:LEU:C	63:w:44:LEU:HD23	2.40	0.47
66:z:69:ALA:HA	66:z:106:PHE:HZ	1.80	0.47
66:z:69:ALA:O	66:z:74:ILE:HG22	2.15	0.47
9:9:69:PHE:C	9:9:72:LEU:HD11	2.40	0.47
9:9:99:PHE:O	9:9:103:ASN:OD1	2.32	0.47
10:A:33:U:H4'	27:M:84:THR:HB	1.96	0.47
10:A:68:C:H3'	10:A:69:C:H5"	1.97	0.47
10:A:72:A:H2'	10:A:73:A:H5"	1.95	0.47
12:AB:145:LEU:HD22	12:AB:148:LYS:CD	2.44	0.47
13:AD:59:VAL:HG22	13:AD:144:ILE:HA	1.97	0.47
14:AE:1108:GLN:HE21	14:AE:1123:ARG:HH12	1.62	0.47
16:AG:1:MET:SD	16:AG:53:SER:HA	2.55	0.47
16:AG:314:LEU:HB3	16:AG:318:ILE:HD12	1.97	0.47
16:AG:479:GLY:O	16:AG:483:MET:HG2	2.15	0.47
10:B:30:G:O2'	10:B:31:G:H5'	2.15	0.47
18:D:983:A:H5'	18:D:984:C:OP2	2.15	0.47
21:G:19:GLN:NE2	22:H:75:VAL:HG13	2.30	0.47
22:H:115:LYS:HA	22:H:119:GLY:C	2.40	0.47
23:I:181:ASP:HB2	23:I:207:ILE:HD11	1.97	0.47
25:K:57:PRO:HA	25:K:60:ILE:HG12	1.96	0.47
27:M:111:ARG:O	27:M:119:ARG:CZ	2.63	0.47
28:N:112:THR:HG23	28:N:115:ALA:H	1.80	0.47
29:O:127:PHE:CD1	29:O:128:SER:N	2.83	0.47
32:R:2:ALA:CA	32:R:7:LEU:HD11	2.45	0.47
39:Y:52:LEU:O	39:Y:54:ILE:HG12	2.14	0.47
41:a:872:U:H2'	41:a:873:C:C6	2.50	0.47
41:a:1818:U:H6	48:h:156:ARG:NH2	2.13	0.47
41:a:2250:G:OP1	62:v:84:LYS:NZ	2.48	0.47
41:a:2294:G:OP1	64:x:98:GLN:OE1	2.33	0.47
41:a:2299:U:P	54:n:72:LYS:HE2	2.54	0.47
41:a:2513:A:H2'	41:a:2514:U:C6	2.50	0.47
41:a:2537:U:H2'	41:a:2538:C:H6	1.79	0.47
48:h:181:MET:HE2	48:h:181:MET:CA	2.45	0.47
49:i:55:ILE:HD13	63:w:112:TYR:CE1	2.50	0.47
52:l:42:GLY:HA3	52:l:92:HIS:CE1	2.50	0.47
52:l:130:LYS:HB2	52:l:133:LEU:HD12	1.97	0.47
62:v:31:PHE:O	62:v:104:GLU:OE1	2.33	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:73:LYS:HE2	1:0:73:LYS:HA	1.95	0.47
2:1:11:ARG:CZ	2:1:11:ARG:HB3	2.45	0.47
3:2:57:VAL:HG12	3:2:86:THR:OG1	2.15	0.47
5:4:11:GLU:OE2	5:4:19:ARG:NH2	2.47	0.47
10:A:19:G:C6	41:a:2112:G:O5'	2.67	0.47
11:AA:836:LEU:HD13	11:AA:1054:LEU:HD13	1.95	0.47
11:AA:848:GLU:HG2	11:AA:888:THR:HG22	1.96	0.47
11:AA:1311:GLY:O	15:AF:31:GLN:NE2	2.47	0.47
12:AB:7:LEU:HD22	12:AB:78:PHE:HA	1.96	0.47
12:AB:116:VAL:N	12:AB:129:ILE:CD1	2.78	0.47
14:AE:81:ARG:NH2	14:AE:81:ARG:CG	2.77	0.47
16:AG:434:LEU:CD1	16:AG:455:THR:O	2.62	0.47
10:B:35:A:H2'	10:B:36:U:C6	2.49	0.47
10:B:75:C:O2'	10:B:76:A:N7	2.48	0.47
18:D:61:G:O6	19:E:10:ARG:NH2	2.47	0.47
18:D:307:C:O2	18:D:307:C:H2'	2.15	0.47
18:D:309:A:O2'	18:D:607:A:N1	2.45	0.47
18:D:739:C:O2'	34:T:42:HIS:CE1	2.67	0.47
18:D:1308:U:H3'	38:X:98:ARG:NH2	2.29	0.47
22:H:277:GLY:CA	22:H:331:MET:CE	2.93	0.47
23:I:132:ARG:CA	23:I:135:LYS:HE3	2.44	0.47
27:M:95:ARG:CZ	27:M:99:LEU:HD21	2.44	0.47
34:T:48:LYS:O	34:T:50:HIS:N	2.48	0.47
37:W:9:PRO:HD3	47:g:64:PHE:CD2	2.49	0.47
38:X:5:ALA:HB3	38:X:66:GLU:OE2	2.14	0.47
39:Y:102:ARG:HH11	39:Y:141:ASP:CG	2.23	0.47
41:a:104:A:C5	41:a:105:C:C5	3.02	0.47
41:a:1421:G:C2	41:a:1422:G:C8	3.03	0.47
41:a:1794:A:H2'	41:a:1795:C:H6	1.79	0.47
41:a:1936:A:N7	41:a:1945:G:C8	2.83	0.47
41:a:2298:A:H5"	54:n:72:LYS:CE	2.44	0.47
41:a:2351:G:O6	55:o:39:LYS:NZ	2.48	0.47
41:a:2517:C:O2	41:a:2542:A:N6	2.48	0.47
41:a:2700:A:H2'	41:a:2701:U:C6	2.50	0.47
46:f:41:THR:O	46:f:42:PRO:C	2.58	0.47
50:j:9:VAL:O	50:j:197:THR:HG23	2.15	0.47
52:l:42:GLY:HA3	52:l:92:HIS:HE1	1.80	0.47
62:v:50:ARG:CA	62:v:53:MET:SD	3.00	0.47
8:7:8:U:OP2	18:D:1397:C:O2	2.33	0.47
9:9:18:VAL:CG1	9:9:71:CYS:HB2	2.45	0.47
9:9:40:GLU:CD	9:9:54:VAL:HG11	2.39	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:887:VAL:CA	16:AG:105:ILE:CD1	2.57	0.47
12:AB:140:MET:HG2	30:P:102:LEU:O	2.15	0.47
13:AC:102:LEU:HD12	13:AC:115:ILE:HG12	1.96	0.47
13:AD:182:ARG:HD2	14:AE:581:MET:HE1	1.97	0.47
16:AG:33:THR:CG2	16:AG:43:ILE:HD11	2.44	0.47
18:D:306:A:C5	18:D:307:C:C5	3.02	0.47
18:D:520:A:O3'	32:R:70:GLU:OE2	2.32	0.47
18:D:977:A:H1'	18:D:982:U:O4	2.15	0.47
20:F:12:PHE:CE1	31:Q:107:ILE:CG2	2.98	0.47
21:G:117:LEU:HD21	21:G:141:LEU:HB2	1.97	0.47
25:K:157:ARG:NH1	28:N:43:GLU:HA	2.29	0.47
25:K:165:LEU:HD12	28:N:114:ARG:NH1	2.30	0.47
32:R:2:ALA:N	32:R:7:LEU:HD11	2.30	0.47
32:R:5:ASN:HB3	32:R:9:ARG:HH22	1.80	0.47
33:S:63:ARG:NH2	33:S:70:PRO:HD3	2.30	0.47
34:T:77:ARG:NH2	34:T:80:GLN:NE2	2.62	0.47
38:X:13:LYS:HZ2	38:X:17:ILE:HG21	1.80	0.47
41:a:247:G:H4'	41:a:386:G:C5	2.49	0.47
41:a:396:G:C5	41:a:397:U:C5	3.03	0.47
41:a:654:A:N6	55:o:19:LYS:HD2	2.29	0.47
41:a:666:A:H4'	61:u:48:ARG:HD2	1.97	0.47
41:a:783:A:N3	41:a:783:A:H2'	2.29	0.47
41:a:1068:G:O6	41:a:1069:A:N6	2.48	0.47
41:a:1442:U:H2'	41:a:1443:U:H6	1.79	0.47
41:a:1794:A:H2'	41:a:1795:C:C6	2.50	0.47
41:a:2197:U:C5	41:a:2224:G:C6	3.04	0.47
41:a:2364:C:H2'	41:a:2365:G:O4'	2.15	0.47
41:a:2646:C:O5'	41:a:2646:C:H6	1.98	0.47
41:a:2725:A:C4	41:a:2727:A:N7	2.83	0.47
45:e:10:SER:OG	45:e:12:GLU:HG2	2.15	0.47
46:f:12:SER:C	46:f:54:MET:HE1	2.40	0.47
55:o:31:HIS:O	55:o:32:ILE:O	2.33	0.47
60:t:1:MET:CE	60:t:32:TYR:CG	2.98	0.47
2:1:11:ARG:NH1	2:1:11:ARG:HB3	2.30	0.46
3:2:1:MET:HE1	41:a:139:U:C4	2.50	0.46
3:2:5:GLU:HA	45:e:22:LEU:CD2	2.45	0.46
8:7:47:U:H3'	8:7:47:U:H6	1.80	0.46
11:AA:400:VAL:HG22	11:AA:584:TYR:HB3	1.96	0.46
12:AB:104:ILE:C	12:AB:106:ASP:N	2.72	0.46
12:AB:138:ARG:CD	12:AB:155:LYS:HB2	2.45	0.46
14:AE:81:ARG:CZ	16:AG:144:LYS:HE2	2.45	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:AE:287:ALA:CB	14:AE:292:VAL:CG2	2.93	0.46
14:AE:437:PHE:HZ	14:AE:453:VAL:HG11	1.79	0.46
16:AG:233:ARG:HG2	16:AG:270:ARG:CB	2.45	0.46
16:AG:353:HIS:O	16:AG:356:ILE:CA	2.63	0.46
10:B:48:C:O2'	10:B:49:G:OP2	2.27	0.46
10:B:70:G:C2'	10:B:71:C:H5"	2.45	0.46
17:C:12:ARG:NH1	17:C:13:PHE:CE1	2.83	0.46
18:D:22:G:C5	18:D:23:C:C5	3.03	0.46
18:D:610:U:N3	18:D:611:C:C5	2.83	0.46
20:F:33:ARG:O	20:F:36:GLU:HG2	2.14	0.46
21:G:131:LYS:HE3	21:G:132:LYS:NZ	2.29	0.46
22:H:303:LEU:C	22:H:305:HIS:N	2.73	0.46
24:J:41:HIS:ND1	24:J:44:ARG:NH1	2.63	0.46
26:L:17:GLN:C	26:L:21:MET:HE1	2.40	0.46
29:O:86:ALA:HA	29:O:89:GLU:HG2	1.95	0.46
30:P:27:GLU:HA	30:P:30:LYS:HZ1	1.80	0.46
39:Y:20:SER:CB	39:Y:21:PRO:HD3	2.43	0.46
41:a:257:C:O2	61:u:104:GLN:NE2	2.48	0.46
41:a:609:A:H3'	41:a:610:C:H6	1.80	0.46
41:a:1200:C:C2	41:a:1201:U:C5	3.03	0.46
41:a:2702:G:C5	41:a:2703:C:C5	3.03	0.46
42:b:26:PHE:O	42:b:29:GLU:HG2	2.15	0.46
48:h:2:ALA:N	48:h:20:VAL:O	2.48	0.46
49:i:4:GLN:OE1	49:i:8:PRO:CD	2.63	0.46
50:j:74:GLU:HG2	50:j:75:ALA:N	2.31	0.46
52:l:6:LYS:HZ1	52:l:120:VAL:N	2.11	0.46
58:r:31:VAL:HB	58:r:32:PRO:HD3	1.97	0.46
59:s:72:LYS:HD3	59:s:74:TYR:CZ	2.43	0.46
62:v:59:ARG:CZ	62:v:59:ARG:O	2.63	0.46
66:z:108:ALA:O	66:z:112:LYS:HG2	2.14	0.46
1:0:71:LYS:HE2	1:0:90:ARG:HD2	1.97	0.46
2:1:105:VAL:HG13	2:1:105:VAL:O	2.14	0.46
9:9:24:SER:HB3	9:9:116:GLU:HG3	1.94	0.46
9:9:51:TYR:CD2	9:9:88:HIS:HB2	2.49	0.46
16:AG:36:LYS:HB2	16:AG:101:THR:HG21	1.97	0.46
16:AG:400:GLU:H	16:AG:400:GLU:HG2	1.40	0.46
10:B:24:U:H2'	10:B:25:C:C6	2.51	0.46
10:B:46:G:H1'	10:B:47:U:C5	2.51	0.46
10:B:48:C:C2'	10:B:49:G:OP2	2.62	0.46
17:C:31:ASN:OD1	22:H:268:VAL:HG12	2.15	0.46
18:D:1324:A:H2'	18:D:1325:C:C6	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:D:1412:C:H2'	18:D:1413:A:C8	2.49	0.46
30:P:13:PHE:CZ	30:P:67:ILE:HD11	2.50	0.46
30:P:13:PHE:CE1	30:P:67:ILE:HD11	2.50	0.46
41:a:493:G:H2'	41:a:494:G:O4'	2.16	0.46
41:a:644:A:H2'	41:a:645:C:O4'	2.15	0.46
41:a:1006:C:C2	41:a:1138:G:N2	2.83	0.46
41:a:1432:G:H2'	41:a:1433:A:H8	1.80	0.46
41:a:2013:A:C2	41:a:2613:U:O4	2.68	0.46
41:a:2200:C:OP2	43:c:37:ARG:NH2	2.48	0.46
41:a:2314:A:P	54:n:88:LYS:NZ	2.87	0.46
41:a:2419:U:O2'	41:a:2420:C:H5'	2.14	0.46
41:a:2454:G:C6	41:a:2499:C:N4	2.83	0.46
41:a:2683:C:OP1	65:y:51:ARG:NH2	2.46	0.46
48:h:108:LYS:HZ3	48:h:194:GLU:N	2.13	0.46
52:l:175:ILE:HG21	52:l:180:LEU:HD11	1.97	0.46
56:p:155:GLU:O	56:p:159:GLY:HA2	2.15	0.46
59:s:123:LYS:HD2	59:s:132:HIS:CD2	2.51	0.46
1:0:4:VAL:HG23	1:0:39:LEU:HB2	1.97	0.46
2:1:50:VAL:HG12	2:1:105:VAL:CG1	2.45	0.46
3:2:64:LYS:HD2	41:a:1312:U:C4	2.51	0.46
3:2:69:ARG:HG3	3:2:74:ILE:HD13	1.96	0.46
4:3:96:PHE:CE1	4:3:103:ILE:HG12	2.50	0.46
5:4:48:MET:HE3	5:4:85:LYS:HA	1.97	0.46
10:A:19:G:O6	41:a:2112:G:O5'	2.34	0.46
10:A:24:U:H2'	10:A:25:C:C6	2.51	0.46
10:A:70:G:C2'	10:A:71:C:H5"	2.45	0.46
11:AA:889:PRO:HA	16:AG:104:ARG:O	2.15	0.46
12:AB:120:GLU:H	12:AB:162:LEU:HG	1.80	0.46
16:AG:413:ALA:C	16:AG:416:THR:HG1	2.15	0.46
18:D:611:C:C2	18:D:612:C:C5	3.02	0.46
18:D:636:U:H5'	36:V:6:ARG:NE	2.29	0.46
18:D:915:A:C5	18:D:916:U:C6	3.04	0.46
18:D:1382:C:N3	18:D:1383:C:C5	2.83	0.46
18:D:1435:G:H2'	18:D:1436:U:C6	2.51	0.46
21:G:19:GLN:OE1	21:G:21:ARG:CG	2.63	0.46
21:G:110:SER:CA	21:G:113:ARG:HH21	2.27	0.46
23:I:22:TRP:CZ2	23:I:32:ASN:HB2	2.50	0.46
23:I:107:ARG:HB3	23:I:108:LYS:HD2	1.96	0.46
23:I:134:MET:HE1	23:I:167:TRP:CA	2.43	0.46
26:L:38:ARG:NE	26:L:97:THR:O	2.49	0.46
27:M:74:GLU:CG	27:M:91:VAL:CG1	2.94	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:P:59:LYS:HE2	30:P:62:ARG:NH2	2.31	0.46
34:T:76:ALA:C	34:T:80:GLN:NE2	2.68	0.46
36:V:11:ARG:HD2	36:V:56:GLY:C	2.39	0.46
37:W:32:ARG:NH2	37:W:34:TRP:CZ3	2.84	0.46
39:Y:5:GLN:NE2	39:Y:60:VAL:C	2.74	0.46
41:a:626:A:C2	61:u:78:ARG:CZ	2.98	0.46
41:a:1349:C:N3	41:a:1350:C:C5	2.83	0.46
41:a:1688:U:O2'	41:a:1700:A:N7	2.44	0.46
41:a:2616:C:N3	41:a:2617:U:C5	2.83	0.46
41:a:2784:U:H2'	41:a:2785:C:H6	1.80	0.46
47:g:47:LYS:HE2	54:n:115:ARG:HA	1.95	0.46
52:l:1:MET:CE	52:l:20:GLY:N	2.79	0.46
52:l:23:PHE:CE2	52:l:25:GLU:HA	2.50	0.46
59:s:25:LEU:HD11	59:s:101:ILE:HD13	1.97	0.46
60:t:76:VAL:HG12	65:y:73:VAL:HB	1.97	0.46
62:v:41:LEU:HD22	62:v:45:GLN:HE22	1.78	0.46
1:0:4:VAL:CG2	1:0:40:MET:HB3	2.45	0.46
9:9:25:ALA:HB3	9:9:99:PHE:CE2	2.50	0.46
9:9:97:LYS:HZ1	9:9:130:PRO:HA	1.79	0.46
10:A:52:G:C6	10:A:63:G:O6	2.68	0.46
11:AA:28:LEU:HD21	11:AA:524:ILE:HG13	1.97	0.46
14:AE:66:LYS:HB2	14:AE:69:GLU:HB3	1.97	0.46
17:C:60:LYS:HE3	18:D:735:C:H4'	1.97	0.46
18:D:1189:U:OP1	33:S:98:LYS:NZ	2.48	0.46
20:F:19:PHE:HE2	31:Q:110:ILE:C	2.23	0.46
25:K:143:GLY:O	25:K:146:ASN:OD1	2.34	0.46
33:S:6:MET:HE3	33:S:63:ARG:NH1	2.31	0.46
34:T:15:PHE:CE2	34:T:30:ALA:HB1	2.51	0.46
36:V:61:ILE:C	36:V:73:TRP:HZ3	2.23	0.46
38:X:56:LEU:HA	38:X:59:GLU:OE1	2.16	0.46
41:a:374:A:C2	41:a:375:G:H1'	2.51	0.46
41:a:392:U:C2	41:a:393:C:C5	3.03	0.46
41:a:921:C:C2	41:a:922:C:C5	3.03	0.46
42:b:51:VAL:HG12	42:b:59:LEU:HD12	1.96	0.46
50:j:71:ALA:HB3	50:j:73:VAL:HG22	1.98	0.46
55:o:55:LEU:CD2	55:o:59:ILE:HD11	2.45	0.46
56:p:94:TYR:HD1	56:p:107:LEU:HD23	1.79	0.46
60:t:24:VAL:HG23	60:t:33:ALA:HB2	1.97	0.46
61:u:19:LEU:CD2	61:u:27:LEU:HD12	2.45	0.46
64:x:35:ILE:HD11	64:x:102:ARG:HH21	1.81	0.46
1:0:82:HIS:CD2	61:u:23:ILE:HG12	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:4:23:ALA:O	5:4:24:ASN:OD1	2.33	0.46
9:9:59:LEU:HB2	9:9:62:ARG:CG	2.45	0.46
11:AA:1314:GLN:HA	15:AF:28:ARG:HH22	1.80	0.46
12:AB:148:LYS:HB3	30:P:100:ILE:HG23	1.96	0.46
17:C:65:LEU:HG	17:C:65:LEU:O	2.16	0.46
18:D:277:C:OP1	36:V:43:LYS:HD2	2.15	0.46
18:D:737:C:C2	18:D:738:C:C5	3.03	0.46
18:D:1132:C:O2	18:D:1132:C:H2'	2.16	0.46
18:D:1152:A:OP1	30:P:72:ARG:NH1	2.43	0.46
18:D:1512:U:H2'	18:D:1513:A:C8	2.51	0.46
22:H:288:THR:O	22:H:288:THR:HG22	2.16	0.46
25:K:86:LYS:HE3	25:K:95:PHE:CD1	2.50	0.46
26:L:96:VAL:O	26:L:96:VAL:HG23	2.16	0.46
26:L:100:SER:HB2	26:L:101:PRO:HD2	1.98	0.46
27:M:69:VAL:HG23	27:M:100:ALA:HB1	1.97	0.46
28:N:8:ALA:N	28:N:77:ARG:HH11	2.14	0.46
28:N:114:ARG:HD2	28:N:114:ARG:C	2.41	0.46
31:Q:20:VAL:HB	31:Q:35:THR:CG2	2.45	0.46
36:V:7:THR:CG2	36:V:60:GLU:OE2	2.63	0.46
39:Y:37:PHE:HZ	39:Y:56:VAL:HG11	1.79	0.46
39:Y:102:ARG:HD3	39:Y:141:ASP:OD1	2.15	0.46
41:a:6:A:N3	59:s:135:GLN:NE2	2.59	0.46
41:a:591:U:C2	41:a:592:A:C8	3.03	0.46
41:a:1585:C:H2'	41:a:1586:A:O4'	2.15	0.46
41:a:1598:A:C4	41:a:1599:U:C6	3.03	0.46
41:a:1790:C:O3'	41:a:1791:A:C8	2.68	0.46
41:a:2357:G:P	42:b:20:ARG:CZ	3.04	0.46
43:c:71:LEU:O	43:c:76:GLU:HG3	2.16	0.46
48:h:52:ARG:NE	48:h:53:HIS:CE1	2.83	0.46
49:i:52:ARG:HA	49:i:52:ARG:NE	2.31	0.46
52:l:108:ILE:HD11	52:l:180:LEU:HD13	1.97	0.46
58:r:137:GLU:CG	58:r:138:VAL:HG23	2.39	0.46
60:t:8:LEU:N	60:t:8:LEU:HD12	2.31	0.46
65:y:14:LYS:NZ	65:y:76:THR:O	2.49	0.46
66:z:113:ALA:O	66:z:117:LEU:HD13	2.15	0.46
4:3:47:LYS:NZ	41:a:482:A:O5'	2.48	0.46
5:4:2:PHE:CE1	5:4:56:PHE:CZ	3.03	0.46
9:9:94:ARG:CB	9:9:97:LYS:CE	2.94	0.46
10:A:47:U:H2'	10:A:48:C:H4'	1.97	0.46
10:A:65:C:C2'	10:A:66:C:H5'	2.44	0.46
10:A:75:C:O2'	10:A:76:A:N7	2.48	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:AE:86:GLU:N	14:AE:86:GLU:CD	2.73	0.46
15:AF:25:ARG:NH1	15:AF:61:ASN:OD1	2.49	0.46
16:AG:183:LEU:CD2	16:AG:197:VAL:HG22	2.45	0.46
16:AG:228:ARG:HB3	16:AG:234:ALA:HA	1.98	0.46
10:B:52:G:C6	10:B:63:G:O6	2.68	0.46
18:D:280:C:O2	36:V:40:ARG:NE	2.49	0.46
18:D:413:G:N2	18:D:428:G:H1'	2.31	0.46
18:D:771:G:C6	18:D:809:G:C6	3.03	0.46
18:D:821:G:H2'	18:D:822:U:H6	1.79	0.46
18:D:829:G:H4'	21:G:23:TRP:CH2	2.51	0.46
18:D:1226:C:H4'	18:D:1227:A:OP1	2.16	0.46
18:D:1513:A:H2'	18:D:1514:G:C8	2.51	0.46
19:E:54:MET:HE1	19:E:75:HIS:HE1	1.77	0.46
21:G:110:SER:HA	21:G:113:ARG:NE	2.29	0.46
22:H:270:ILE:HG23	22:H:270:ILE:O	2.15	0.46
26:L:29:ILE:HG21	26:L:64:VAL:HG13	1.97	0.46
33:S:79:LEU:HB2	33:S:84:VAL:CG2	2.45	0.46
38:X:3:ARG:HB3	47:g:35:ASP:OD2	2.15	0.46
39:Y:79:LEU:O	39:Y:83:ALA:HB3	2.16	0.46
40:Z:2:ILE:CG2	40:Z:5:ASP:H	2.28	0.46
41:a:6:A:H5'	59:s:131:ASN:OD1	2.15	0.46
41:a:15:G:O2'	49:i:15:MET:HE1	2.16	0.46
41:a:306:U:H2'	41:a:307:G:O4'	2.16	0.46
41:a:391:A:C5	41:a:392:U:C5	3.04	0.46
41:a:753:A:C6	41:a:754:U:C5	3.04	0.46
41:a:1406:U:O2'	41:a:1407:G:P	2.74	0.46
41:a:1499:C:C2	41:a:1500:G:C8	3.03	0.46
41:a:2755:C:H3'	57:q:19:ARG:NH2	2.31	0.46
43:c:76:GLU:OE1	43:c:77:LYS:O	2.34	0.46
45:e:12:GLU:CG	45:e:13:GLU:N	2.78	0.46
47:g:5:ILE:CD1	54:n:64:LYS:CE	2.92	0.46
49:i:40:ARG:HH12	49:i:41:HIS:CD2	2.34	0.46
59:s:55:ILE:HG13	59:s:123:LYS:CE	2.46	0.46
3:2:3:ARG:CZ	3:2:5:GLU:OE1	2.64	0.46
4:3:66:GLN:OE1	41:a:329:G:OP2	2.34	0.46
5:4:53:LYS:HD2	5:4:56:PHE:HE2	1.77	0.46
9:9:38:MET:HA	9:9:41:LEU:HD12	1.96	0.46
11:AA:380:ALA:HA	12:AB:65:HIS:ND1	2.28	0.46
12:AB:6:LEU:HD13	14:AE:291:ILE:CG1	2.46	0.46
16:AG:362:TYR:HE1	16:AG:414:LEU:HD21	1.80	0.46
17:C:14:THR:HG21	17:C:48:ARG:CD	2.46	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:C:21:ILE:CD1	17:C:54:GLN:NE2	2.79	0.46
18:D:110:C:H1'	35:U:25:ARG:NH1	2.31	0.46
18:D:915:A:C6	18:D:916:U:C5	3.04	0.46
18:D:1209:C:C2	18:D:1210:C:C5	3.04	0.46
20:F:58:LYS:O	20:F:62:ARG:NE	2.45	0.46
24:J:138:SER:O	24:J:139:PRO:C	2.57	0.46
30:P:63:ASP:OD2	30:P:63:ASP:C	2.59	0.46
36:V:15:ASP:OD1	36:V:15:ASP:N	2.49	0.46
39:Y:59:THR:C	39:Y:66:PHE:HB2	2.41	0.46
41:a:2743:U:O2'	56:p:153:ARG:NH1	2.49	0.46
41:a:2840:C:C2	41:a:2841:C:C5	3.03	0.46
47:g:18:CYS:HB2	47:g:40:CYS:HB3	1.96	0.46
49:i:4:GLN:OE1	49:i:7:LYS:HA	2.16	0.46
52:l:59:PRO:HB2	52:l:60:TRP:CE3	2.50	0.46
52:l:60:TRP:CD1	52:l:69:ARG:HH12	2.33	0.46
52:l:195:GLN:CA	52:l:198:GLU:OE1	2.64	0.46
57:q:1:MET:HE3	57:q:2:LYS:N	2.31	0.46
63:w:24:MET:HG3	63:w:44:LEU:HD12	1.97	0.46
2:1:86:MET:SD	2:1:88:ARG:HD2	2.56	0.46
6:5:10:DT:OP1	11:AA:476:LYS:HD2	2.16	0.46
11:AA:230:PHE:HB2	11:AA:333:ILE:HB	1.97	0.46
11:AA:812:PHE:HZ	14:AE:503:SER:HB2	1.81	0.46
13:AC:64:VAL:HG11	13:AC:78:ILE:HG21	1.97	0.46
16:AG:61:ARG:HA	16:AG:94:GLU:HA	1.97	0.46
16:AG:138:ILE:HD12	16:AG:183:LEU:CD1	2.45	0.46
16:AG:430:PRO:CG	16:AG:435:LEU:CD2	2.85	0.46
10:B:32:C:C2'	10:B:33:U:H5'	2.46	0.46
17:C:12:ARG:NH2	17:C:28:THR:CG2	2.79	0.46
17:C:63:ARG:HB3	17:C:70:TYR:CE1	2.51	0.46
18:D:151:A:C5	18:D:152:A:C8	3.04	0.46
18:D:440:C:C2	18:D:441:A:C8	3.04	0.46
18:D:765:G:C6	18:D:812:G:C4	3.04	0.46
18:D:816:A:OP1	18:D:1526:G:O2'	2.27	0.46
21:G:187:VAL:N	21:G:200:ILE:O	2.40	0.46
27:M:134:ALA:HA	27:M:137:LYS:CD	2.46	0.46
29:O:58:VAL:HG23	29:O:59:GLU:N	2.31	0.46
34:T:3:LEU:HD23	34:T:4:SER:O	2.15	0.46
34:T:11:ILE:HG21	34:T:31:LEU:CD1	2.45	0.46
35:U:73:ALA:HA	35:U:76:LYS:HE3	1.98	0.46
37:W:77:THR:OG1	37:W:78:ARG:HD2	2.15	0.46
41:a:1019:U:O4	41:a:1142:A:C2	2.69	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:a:1131:G:OP1	59:s:81:ILE:O	2.34	0.46
41:a:1444:G:C4	41:a:1445:G:C8	3.04	0.46
41:a:1613:G:O2'	53:m:3:ARG:CZ	2.64	0.46
41:a:2420:C:C5'	51:k:8:LYS:NZ	2.76	0.46
42:b:53:CYS:SG	42:b:57:HIS:HA	2.55	0.46
58:r:18:GLN:OE1	58:r:39:ALA:HB1	2.15	0.46
62:v:41:LEU:HD22	62:v:124:LEU:HD22	1.97	0.46
62:v:97:GLN:H	62:v:100:LYS:NZ	2.13	0.46
62:v:114:ARG:C	62:v:118:LYS:HZ3	2.23	0.46
1:0:1:MET:O	1:0:15:SER:OG	2.19	0.46
3:2:64:LYS:CE	41:a:1312:U:O4	2.64	0.46
5:4:53:LYS:HD2	5:4:56:PHE:CZ	2.50	0.46
9:9:11:ILE:HG12	9:9:65:GLU:HG2	1.98	0.46
9:9:61:ARG:HE	41:a:1046:A:P	2.39	0.46
12:AB:51:PHE:CZ	14:AE:288:PRO:HG3	2.47	0.46
16:AG:362:TYR:HA	16:AG:413:ALA:HB3	1.94	0.46
10:B:75:C:P	41:a:2602:A:H2'	2.55	0.46
18:D:13:U:C4	18:D:21:G:C2	3.03	0.46
18:D:13:U:O2	18:D:915:A:N7	2.49	0.46
18:D:371:A:H2'	18:D:372:C:O4'	2.15	0.46
18:D:377:G:OP1	35:U:5:ARG:CZ	2.60	0.46
18:D:1006:G:H2'	18:D:1007:U:H6	1.81	0.46
18:D:1368:A:OP1	29:O:113:ARG:NH2	2.48	0.46
19:E:54:MET:O	19:E:58:VAL:HG23	2.16	0.46
19:E:82:GLN:HA	19:E:85:LYS:NZ	2.31	0.46
21:G:197:ASP:OD2	21:G:198:PHE:CE2	2.68	0.46
22:H:297:GLU:OE1	22:H:297:GLU:N	2.49	0.46
23:I:142:MET:HE3	23:I:170:GLU:HB3	1.98	0.46
23:I:183:ASP:HB3	23:I:204:LYS:HZ2	1.80	0.46
27:M:87:VAL:HG12	27:M:151:PHE:HD2	1.81	0.46
33:S:77:PHE:CE1	33:S:93:ILE:HD13	2.51	0.46
35:U:45:GLU:HG3	35:U:46:LYS:CD	2.45	0.46
37:W:9:PRO:HB3	47:g:64:PHE:CZ	2.51	0.46
39:Y:99:LYS:NZ	39:Y:138:VAL:O	2.44	0.46
41:a:57:C:C2	41:a:58:G:C8	3.04	0.46
41:a:67:U:N3	41:a:68:G:C5	2.84	0.46
41:a:404:A:H4'	41:a:405:U:O5'	2.15	0.46
41:a:644:A:C2	41:a:2369:A:H1'	2.51	0.46
41:a:685:A:C8	41:a:773:U:C4	3.04	0.46
41:a:985:C:N3	41:a:986:C:C5	2.84	0.46
41:a:1209:U:O2'	41:a:1237:A:N1	2.46	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:a:1406:U:O2	41:a:1407:G:C8	2.69	0.46
41:a:2289:G:C2	41:a:2290:G:C8	3.04	0.46
41:a:2700:A:H2'	41:a:2701:U:H6	1.81	0.46
41:a:2756:U:N3	41:a:2758:A:N6	2.64	0.46
41:a:2766:A:C5	41:a:2767:C:C5	3.03	0.46
42:b:51:VAL:N	42:b:62:LYS:HZ3	2.14	0.46
45:e:24:GLU:O	45:e:25:GLN:C	2.57	0.46
52:l:149:ILE:CD1	52:l:188:MET:HG2	2.46	0.46
52:l:194:LYS:HG3	52:l:198:GLU:OE2	2.16	0.46
54:n:4:LEU:HD21	54:n:101:GLU:HG3	1.98	0.46
3:2:3:ARG:HH22	3:2:4:GLU:HB2	1.81	0.46
4:3:46:GLN:NE2	4:3:54:GLN:HG2	2.31	0.46
5:4:50:MET:C	5:4:56:PHE:CZ	2.94	0.46
8:7:50:U:H4'	14:AE:322:ARG:CZ	2.46	0.46
9:9:122:GLN:OE1	9:9:122:GLN:N	2.49	0.46
11:AA:888:THR:N	16:AG:105:ILE:HD12	2.24	0.46
13:AD:35:PHE:HA	13:AD:38:THR:HG22	1.97	0.46
14:AE:388:ARG:NH2	14:AE:414:GLU:OE1	2.49	0.46
14:AE:848:VAL:HB	14:AE:858:VAL:HG22	1.98	0.46
10:B:65:C:C2'	10:B:66:C:H5'	2.44	0.46
17:C:34:THR:HB	17:C:38:LYS:H	1.81	0.46
18:D:1323:G:H2'	18:D:1324:A:H8	1.78	0.46
20:F:37:PHE:HA	31:Q:123:PRO:HB2	1.97	0.46
23:I:85:GLU:O	23:I:89:LYS:CE	2.64	0.46
27:M:17:LYS:HZ2	27:M:18:PHE:HD1	1.58	0.46
29:O:113:ARG:HG3	29:O:115:LYS:HZ2	1.81	0.46
30:P:5:ARG:HE	30:P:7:ARG:CZ	2.29	0.46
34:T:32:LEU:HD12	34:T:63:ARG:HA	1.98	0.46
34:T:75:VAL:HG13	34:T:76:ALA:N	2.31	0.46
39:Y:59:THR:O	39:Y:66:PHE:HB2	2.16	0.46
41:a:152:A:H2'	41:a:153:U:C6	2.51	0.46
41:a:235:U:N3	41:a:236:C:C5	2.84	0.46
41:a:1007:C:H5"	59:s:37:ARG:NE	2.31	0.46
41:a:1064:C:O2'	41:a:1065:U:C6	2.62	0.46
41:a:1786:A:H1'	41:a:1938:A:N6	2.31	0.46
44:d:44:G:H3'	54:n:92:ARG:HH22	1.81	0.46
44:d:82:U:O2'	46:f:53:PHE:HE2	1.98	0.46
44:d:83:G:H1'	46:f:53:PHE:CE1	2.51	0.46
46:f:12:SER:CA	46:f:32:ILE:HD11	2.46	0.46
50:j:5:VAL:HG22	50:j:202:ILE:CD1	2.45	0.46
52:l:35:TYR:CD2	52:l:178:VAL:HG11	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:s:73:VAL:CG1	59:s:86:GLN:HG2	2.46	0.46
61:u:110:VAL:HG23	61:u:125:LEU:HD12	1.97	0.46
63:w:37:THR:HG21	63:w:40:LYS:HZ2	1.81	0.46
63:w:115:LEU:HD23	63:w:117:ASP:N	2.30	0.46
64:x:15:ARG:C	64:x:19:GLN:HE22	2.24	0.46
64:x:88:LYS:O	64:x:115:LEU:HD12	2.16	0.46
65:y:103:ARG:HD3	65:y:107:ALA:C	2.41	0.46
3:2:18:GLU:O	3:2:22:THR:HG23	2.15	0.45
7:6:25:DT:H2'	11:AA:496:LYS:CG	2.44	0.45
9:9:87:GLU:OE2	9:9:95:LEU:CG	2.64	0.45
11:AA:176:ILE:HD11	11:AA:428:VAL:HG21	1.98	0.45
12:AB:6:LEU:CD2	14:AE:291:ILE:HD11	2.47	0.45
12:AB:76:SER:O	12:AB:77:HIS:HB3	2.16	0.45
16:AG:305:MET:HB3	16:AG:305:MET:HE3	1.77	0.45
10:B:6:G:O2'	10:B:7:G:H8	1.98	0.45
17:C:33:ILE:O	22:H:338:GLU:CG	2.64	0.45
18:D:269:C:H2'	18:D:270:A:C8	2.51	0.45
18:D:337:G:H2'	18:D:338:A:H8	1.80	0.45
18:D:696:A:H2'	18:D:697:U:H6	1.81	0.45
18:D:723:U:O2	20:F:49:LYS:HE3	2.16	0.45
18:D:878:A:P	28:N:80:ARG:NH1	2.89	0.45
18:D:1287:A:H2'	18:D:1288:A:C8	2.51	0.45
18:D:1437:A:C2	18:D:1438:G:C8	3.04	0.45
20:F:12:PHE:CD1	31:Q:101:ASN:ND2	2.84	0.45
22:H:32:ASP:OD1	22:H:35:VAL:HG23	2.16	0.45
22:H:287:LEU:HG	22:H:292:CYS:HA	1.97	0.45
32:R:30:LYS:O	32:R:81:LEU:HD12	2.16	0.45
32:R:68:GLY:O	32:R:99:ARG:NH1	2.49	0.45
33:S:12:LYS:NZ	33:S:16:LEU:HD21	2.31	0.45
33:S:82:ILE:HG23	33:S:83:LYS:N	2.31	0.45
34:T:47:LYS:HD3	34:T:47:LYS:N	2.30	0.45
41:a:132:G:H2'	41:a:133:U:H6	1.81	0.45
41:a:584:C:N4	41:a:585:G:C6	2.83	0.45
41:a:669:G:H2'	41:a:670:A:N7	2.31	0.45
41:a:783:A:O2'	41:a:785:G:OP1	2.35	0.45
41:a:1107:G:C5	41:a:1108:U:C5	3.04	0.45
41:a:1433:A:H2'	41:a:1434:A:C1'	2.46	0.45
41:a:1707:G:C4	41:a:1708:C:C5	3.04	0.45
41:a:2190:G:H2'	41:a:2191:A:C8	2.49	0.45
41:a:2314:A:O2'	54:n:155:THR:HG21	2.16	0.45
41:a:2373:G:H2'	41:a:2374:C:H6	1.81	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:d:57:A:C5	54:n:26:MET:CE	2.99	0.45
46:f:41:THR:C	46:f:45:ARG:NH2	2.75	0.45
47:g:1:MET:SD	47:g:3:LYS:HE2	2.56	0.45
47:g:16:CYS:SG	47:g:37:CYS:N	2.89	0.45
52:l:21:ARG:HA	52:l:21:ARG:NE	2.31	0.45
56:p:149:ARG:CZ	56:p:162:VAL:C	2.89	0.45
57:q:2:LYS:HE2	57:q:35:GLN:HG3	1.98	0.45
60:t:48:PRO:HB2	60:t:49:ARG:HE	1.81	0.45
63:w:48:VAL:CG1	63:w:49:GLU:OE1	2.64	0.45
63:w:60:VAL:CG2	63:w:63:ARG:NH1	2.78	0.45
65:y:106:LYS:CD	65:y:109:ARG:NH2	2.79	0.45
9:9:59:LEU:HD22	9:9:62:ARG:HE	1.81	0.45
9:9:60:LEU:O	9:9:64:VAL:HB	2.15	0.45
10:A:46:G:H1'	10:A:47:U:C5	2.51	0.45
10:A:50:U:H2'	10:A:51:C:C6	2.51	0.45
12:AB:17:ALA:O	12:AB:20:HIS:HB2	2.17	0.45
14:AE:283:LEU:HD23	14:AE:292:VAL:HG11	1.99	0.45
14:AE:287:ALA:HB3	14:AE:292:VAL:CG2	2.46	0.45
16:AG:102:PHE:HB3	16:AG:103:ASP:CG	2.41	0.45
16:AG:168:LEU:CB	16:AG:171:GLU:HB2	2.46	0.45
16:AG:434:LEU:HD22	16:AG:459:LEU:HD11	1.80	0.45
16:AG:434:LEU:HD11	16:AG:455:THR:CA	2.46	0.45
18:D:673:A:H2'	18:D:674:G:H8	1.79	0.45
18:D:928:G:H2'	18:D:929:G:H8	1.81	0.45
18:D:1055:A:H1'	23:I:156:ARG:NH2	2.31	0.45
18:D:1086:U:O2	18:D:1086:U:H2'	2.16	0.45
18:D:1436:U:H2'	18:D:1437:A:H8	1.82	0.45
20:F:63:GLU:HG2	20:F:67:ARG:CZ	2.46	0.45
20:F:64:ASN:HA	20:F:67:ARG:HD3	1.97	0.45
21:G:18:HIS:CE1	21:G:205:ASP:OD1	2.68	0.45
21:G:101:LEU:HD22	21:G:157:LEU:HD12	1.99	0.45
23:I:135:LYS:O	23:I:138:VAL:HG12	2.17	0.45
26:L:43:GLY:HA2	26:L:58:HIS:CE1	2.51	0.45
32:R:18:LYS:HD3	32:R:19:SER:O	2.16	0.45
37:W:32:ARG:NH2	37:W:34:TRP:HZ3	2.14	0.45
37:W:44:MET:HE1	37:W:66:MET:HE1	1.98	0.45
38:X:104:THR:O	38:X:104:THR:HG22	2.16	0.45
41:a:642:U:O2'	41:a:644:A:N7	2.43	0.45
41:a:1013:C:C2	41:a:1014:A:C8	3.04	0.45
41:a:1408:G:N3	41:a:1408:G:H2'	2.31	0.45
41:a:1588:G:C6	41:a:1589:U:O4	2.69	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:a:1796:U:H2'	41:a:1797:G:C8	2.50	0.45
41:a:2029:G:N1	41:a:2033:A:OP2	2.35	0.45
41:a:2309:A:H2'	41:a:2310:C:O4'	2.16	0.45
41:a:2649:C:H2'	41:a:2650:U:C6	2.51	0.45
48:h:33:LEU:O	48:h:64:ILE:HG12	2.16	0.45
49:i:30:VAL:HG22	49:i:37:LYS:HD2	1.99	0.45
50:j:5:VAL:HB	50:j:32:ASN:ND2	2.31	0.45
52:l:112:LEU:HD21	52:l:186:VAL:HB	1.97	0.45
56:p:69:ARG:NH1	56:p:73:ASN:CG	2.74	0.45
5:4:53:LYS:HB3	5:4:55:GLU:OE1	2.16	0.45
9:9:34:THR:HA	9:9:37:LYS:NZ	2.32	0.45
9:9:68:PRO:O	9:9:72:LEU:HD21	2.16	0.45
13:AD:15:ASP:OD1	13:AD:27:THR:OG1	2.30	0.45
13:AD:286:GLU:N	13:AD:315:GLY:HA2	2.18	0.45
14:AE:797:THR:HG22	14:AE:924:GLY:HA3	1.97	0.45
16:AG:271:ILE:H	16:AG:271:ILE:HG12	1.49	0.45
18:D:110:C:O4'	35:U:25:ARG:NH2	2.49	0.45
18:D:311:C:P	35:U:31:ARG:NH2	2.86	0.45
18:D:356:A:N3	18:D:368:U:O2'	2.37	0.45
18:D:511:C:C2	18:D:512:U:C5	3.05	0.45
18:D:918:A:H2'	18:D:919:A:C8	2.51	0.45
18:D:984:C:C2	18:D:985:C:C5	3.05	0.45
18:D:1173:U:H2'	18:D:1174:G:O4'	2.16	0.45
19:E:54:MET:C	19:E:54:MET:SD	3.00	0.45
21:G:100:MET:SD	21:G:101:LEU:HD23	2.57	0.45
24:J:95:GLU:HG3	24:J:186:PRO:HG3	1.98	0.45
26:L:18:VAL:N	26:L:19:PRO:CD	2.80	0.45
26:L:94:HIS:CG	26:L:95:ALA:H	2.34	0.45
27:M:44:TYR:C	27:M:44:TYR:CD2	2.94	0.45
32:R:18:LYS:NZ	32:R:19:SER:O	2.47	0.45
36:V:64:CYS:SG	36:V:74:THR:OG1	2.69	0.45
39:Y:96:LYS:HD2	39:Y:136:GLY:O	2.15	0.45
39:Y:102:ARG:HH21	39:Y:105:LEU:HD12	1.81	0.45
41:a:152:A:H2'	41:a:153:U:H6	1.82	0.45
41:a:182:A:H2'	41:a:183:C:H6	1.81	0.45
41:a:590:A:H2'	41:a:591:U:H6	1.80	0.45
41:a:923:G:H4'	42:b:29:GLU:OE1	2.16	0.45
41:a:1065:U:HO2'	41:a:1066:U:C5'	2.27	0.45
41:a:1083:U:O2'	41:a:1085:A:OP2	2.31	0.45
41:a:1796:U:H2'	41:a:1797:G:H8	1.82	0.45
41:a:1797:G:O2'	48:h:257:THR:HG22	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:a:2061:G:N2	41:a:2063:C:C6	2.84	0.45
41:a:2572:A:OP2	50:j:149:ASN:O	2.35	0.45
44:d:45:A:C5'	54:n:92:ARG:NH1	2.79	0.45
47:g:56:ARG:HH21	47:g:59:ARG:HH21	1.62	0.45
49:i:28:LEU:HB2	49:i:37:LYS:HE3	1.98	0.45
51:k:19:HIS:CE1	51:k:41:PRO:CD	3.00	0.45
52:l:198:GLU:OE1	52:l:198:GLU:N	2.43	0.45
54:n:22:TYR:CE2	54:n:28:VAL:HA	2.52	0.45
63:w:60:VAL:HG22	63:w:63:ARG:HH12	1.78	0.45
64:x:83:LEU:HD23	64:x:88:LYS:HE3	1.97	0.45
65:y:7:GLN:HE21	65:y:10:GLN:HE21	1.65	0.45
66:z:89:GLU:N	66:z:89:GLU:OE1	2.50	0.45
9:9:23:LEU:HA	9:9:118:ILE:HD11	1.99	0.45
9:9:129:LEU:HD12	9:9:130:PRO:CD	2.43	0.45
10:A:32:C:C2'	10:A:33:U:H5'	2.46	0.45
11:AA:855:PRO:HG3	16:AG:105:ILE:CG2	2.40	0.45
14:AE:79:LYS:N	16:AG:144:LYS:NZ	2.58	0.45
14:AE:781:LYS:HD2	14:AE:933:ARG:HH12	1.81	0.45
14:AE:1341:ARG:NH1	14:AE:1343:GLU:OE2	2.49	0.45
16:AG:227:ALA:CB	16:AG:331:LEU:HA	2.46	0.45
16:AG:434:LEU:CD2	16:AG:455:THR:O	2.51	0.45
10:B:68:C:H3'	10:B:69:C:H5"	1.97	0.45
18:D:735:C:C2	18:D:736:C:C5	3.05	0.45
18:D:915:A:C5	18:D:916:U:C5	3.04	0.45
21:G:77:SER:O	21:G:80:VAL:HG12	2.17	0.45
22:H:304:VAL:O	22:H:304:VAL:CG1	2.63	0.45
23:I:134:MET:HE2	23:I:168:TYR:CB	2.46	0.45
23:I:165:THR:C	23:I:166:GLU:OE1	2.60	0.45
25:K:13:GLU:O	25:K:13:GLU:HG2	2.16	0.45
27:M:78:ARG:CG	27:M:80:VAL:HG13	2.46	0.45
28:N:26:THR:OG1	28:N:58:GLU:CG	2.65	0.45
32:R:56:ARG:HG2	32:R:62:GLU:CD	2.41	0.45
33:S:86:GLU:OE2	33:S:90:ARG:HD3	2.16	0.45
37:W:5:LEU:HD12	37:W:6:LYS:N	2.32	0.45
37:W:44:MET:HE1	37:W:62:VAL:CG2	2.46	0.45
39:Y:126:ARG:HH12	41:a:1082:U:C5'	2.29	0.45
41:a:136:G:C6	41:a:144:A:C6	3.04	0.45
41:a:396:G:C6	41:a:397:U:C4	3.04	0.45
41:a:580:U:O3'	66:z:31:VAL:HG13	2.17	0.45
41:a:597:G:H2'	41:a:598:U:C6	2.52	0.45
41:a:607:U:C6	41:a:620:G:C5	3.05	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:a:1398:C:C2	41:a:1399:C:C5	3.04	0.45
41:a:1665:A:C5'	60:t:66:LYS:NZ	2.79	0.45
41:a:2356:U:H4'	42:b:20:ARG:HD2	1.99	0.45
41:a:2766:A:C6	41:a:2767:C:C5	3.05	0.45
48:h:52:ARG:CD	48:h:53:HIS:CE1	3.00	0.45
54:n:10:ASP:OD1	54:n:11:GLU:HG3	2.17	0.45
56:p:11:VAL:HG13	56:p:11:VAL:O	2.17	0.45
60:t:59:LYS:HZ3	60:t:92:GLU:CG	2.28	0.45
1:0:71:LYS:CG	1:0:73:LYS:HE3	2.47	0.45
4:3:49:VAL:HG23	4:3:51:ALA:O	2.16	0.45
8:7:13:U:H3	24:J:47:ARG:NH1	2.10	0.45
12:AB:118:ILE:CG1	12:AB:142:LEU:HD23	2.46	0.45
12:AB:126:PHE:CD2	12:AB:126:PHE:O	2.70	0.45
14:AE:482:ALA:HA	15:AF:6:VAL:HG21	1.98	0.45
14:AE:1321:SER:OG	14:AE:1349:GLU:OE2	2.32	0.45
16:AG:123:ARG:HG2	16:AG:123:ARG:HH11	1.82	0.45
16:AG:127:VAL:HG22	16:AG:192:GLY:CA	2.46	0.45
16:AG:197:VAL:HG11	16:AG:199:ARG:NH2	2.30	0.45
16:AG:288:MET:HE3	16:AG:289:ALA:N	2.32	0.45
16:AG:314:LEU:HD22	16:AG:318:ILE:HD11	1.98	0.45
16:AG:349:GLN:C	16:AG:351:GLU:N	2.71	0.45
16:AG:429:LYS:HB2	16:AG:430:PRO:HD2	1.99	0.45
17:C:70:TYR:C	17:C:71:THR:HG23	2.42	0.45
18:D:827:U:O4	18:D:872:A:C2	2.69	0.45
18:D:1109:C:C2	18:D:1110:A:C8	3.04	0.45
20:F:38:TYR:O	31:Q:126:LYS:HE3	2.17	0.45
21:G:52:GLU:C	21:G:56:GLU:OE1	2.60	0.45
23:I:24:ALA:HB3	23:I:29:PHE:CD2	2.51	0.45
24:J:172:GLU:CD	24:J:183:LYS:HD2	2.42	0.45
25:K:13:GLU:OE1	25:K:13:GLU:N	2.50	0.45
27:M:69:VAL:HA	27:M:138:ARG:HD3	1.97	0.45
29:O:51:PRO:CA	29:O:103:PHE:HE2	2.30	0.45
29:O:80:ARG:NH2	29:O:103:PHE:CE1	2.85	0.45
31:Q:88:GLY:H	31:Q:114:THR:HG22	1.81	0.45
32:R:122:PRO:C	32:R:123:LYS:HE2	2.42	0.45
38:X:55:THR:HG22	38:X:59:GLU:OE2	2.17	0.45
39:Y:126:ARG:HH12	41:a:1083:U:P	2.40	0.45
41:a:15:G:O2'	49:i:15:MET:HE2	2.15	0.45
41:a:78:U:P	45:e:4:LYS:NZ	2.89	0.45
41:a:400:G:OP2	43:c:57:ARG:NH1	2.46	0.45
41:a:1042:G:C5	41:a:1043:C:C5	3.05	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:a:1889:A:H2'	41:a:1890:A:C8	2.51	0.45
41:a:2065:C:C2	41:a:2066:C:C5	3.04	0.45
41:a:2262:U:N3	41:a:2263:C:C5	2.85	0.45
41:a:2814:A:C5	41:a:2815:C:C5	3.05	0.45
43:c:43:GLU:OE1	43:c:45:ARG:CB	2.65	0.45
45:e:2:LYS:HZ1	45:e:49:ASP:C	2.23	0.45
45:e:12:GLU:HG2	45:e:13:GLU:H	1.80	0.45
46:f:51:VAL:O	46:f:55:VAL:HG12	2.17	0.45
47:g:8:LYS:NZ	47:g:10:GLU:HB2	2.30	0.45
48:h:200:HIS:O	48:h:203:ARG:HG2	2.17	0.45
51:k:7:GLU:OE2	51:k:27:LYS:HG3	2.16	0.45
60:t:17:ARG:NH2	60:t:47:ILE:CG2	2.80	0.45
65:y:31:TRP:CH2	65:y:40:LEU:HD11	2.52	0.45
1:0:74:ILE:HD12	1:0:74:ILE:N	2.32	0.45
4:3:4:LYS:O	4:3:94:ARG:NH2	2.40	0.45
7:6:25:DT:OP1	11:AA:496:LYS:O	2.34	0.45
9:9:61:ARG:CD	41:a:1046:A:O5'	2.64	0.45
10:A:18:G:N7	10:A:57:A:N6	2.65	0.45
11:AA:694:ARG:HH22	13:AC:80:GLU:HG3	1.82	0.45
11:AA:855:PRO:HG2	16:AG:35:THR:HG21	1.97	0.45
14:AE:210:SER:O	14:AE:214:ARG:N	2.43	0.45
14:AE:420:PRO:HA	14:AE:437:PHE:O	2.16	0.45
10:B:47:U:H2'	10:B:48:C:H4'	1.97	0.45
10:B:50:U:H2'	10:B:51:C:C6	2.51	0.45
17:C:65:LEU:HD23	17:C:67:LEU:CD1	2.47	0.45
18:D:198:G:OP2	18:D:198:G:C8	2.70	0.45
18:D:278:G:OP2	36:V:43:LYS:NZ	2.49	0.45
18:D:826:C:O2	28:N:16:ASN:ND2	2.49	0.45
18:D:878:A:P	28:N:80:ARG:HH11	2.39	0.45
18:D:1308:U:H3'	38:X:98:ARG:NE	2.32	0.45
18:D:1328:C:O3'	38:X:28:THR:HB	2.16	0.45
19:E:49:LYS:O	19:E:53:GLU:HG2	2.16	0.45
22:H:54:LYS:HD3	22:H:58:GLY:C	2.42	0.45
22:H:303:LEU:O	22:H:304:VAL:C	2.59	0.45
23:I:39:VAL:HG23	23:I:40:ARG:N	2.32	0.45
24:J:35:GLU:HG2	24:J:36:GLN:N	2.32	0.45
25:K:145:GLU:CD	25:K:146:ASN:N	2.74	0.45
25:K:150:PRO:O	25:K:153:VAL:HG22	2.16	0.45
26:L:98:GLU:OE1	26:L:98:GLU:HA	2.16	0.45
28:N:89:LYS:HG3	28:N:90:ASP:N	2.32	0.45
29:O:86:ALA:O	29:O:89:GLU:CG	2.65	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:Q:51:GLY:O	31:Q:56:ARG:NH1	2.50	0.45
35:U:8:ARG:H	35:U:28:ARG:HD3	1.81	0.45
41:a:581:C:H2'	41:a:582:A:C8	2.50	0.45
41:a:893:C:H2'	41:a:894:U:C5	2.51	0.45
41:a:1310:G:N2	41:a:1313:U:C4	2.85	0.45
41:a:2650:U:H2'	41:a:2651:C:H6	1.81	0.45
41:a:2683:C:H4'	50:j:13:ARG:NH1	2.31	0.45
47:g:47:LYS:CD	54:n:178:ARG:HH22	2.29	0.45
54:n:92:ARG:CZ	54:n:92:ARG:HB3	2.47	0.45
55:o:30:ARG:HH12	61:u:62:PRO:N	2.15	0.45
59:s:17:VAL:HG23	59:s:137:PRO:HB2	1.98	0.45
59:s:136:GLN:N	59:s:137:PRO:CD	2.78	0.45
11:AA:800:MET:HB2	11:AA:800:MET:HE3	1.69	0.45
13:AD:212:ASP:OD1	13:AD:212:ASP:N	2.48	0.45
14:AE:230:SER:OG	14:AE:231:GLY:N	2.49	0.45
14:AE:774:ILE:HA	14:AE:777:HIS:HD2	1.82	0.45
16:AG:239:LYS:CG	16:AG:276:TRP:HB3	2.46	0.45
18:D:675:A:C1'	31:Q:118:HIS:CD2	2.99	0.45
18:D:958:A:C4	37:W:55:ARG:HD3	2.52	0.45
18:D:980:C:C5	18:D:981:U:C2	3.04	0.45
18:D:1060:U:OP1	33:S:85:ARG:NH1	2.48	0.45
18:D:1060:U:H5"	30:P:53:ILE:HD12	1.99	0.45
18:D:1333:A:H2'	18:D:1334:G:O4'	2.17	0.45
18:D:1436:U:H2'	18:D:1437:A:C8	2.52	0.45
21:G:163:VAL:CG1	21:G:185:ALA:HA	2.47	0.45
22:H:24:VAL:HG23	22:H:24:VAL:O	2.16	0.45
22:H:32:ASP:OD1	22:H:35:VAL:HG22	2.17	0.45
22:H:332:VAL:O	22:H:344:LEU:HA	2.17	0.45
23:I:114:LYS:HB2	23:I:185:ASN:ND2	2.32	0.45
27:M:31:MET:HE1	27:M:36:LYS:CD	2.46	0.45
32:R:30:LYS:C	32:R:81:LEU:HD12	2.42	0.45
34:T:10:LYS:CD	34:T:14:GLU:OE2	2.65	0.45
39:Y:64:ARG:O	39:Y:64:ARG:HG3	2.17	0.45
41:a:6:A:O2'	59:s:132:HIS:ND1	2.50	0.45
41:a:535:G:H2'	41:a:536:G:O4'	2.17	0.45
41:a:536:G:H4'	66:z:57:PHE:HZ	1.82	0.45
41:a:1753:G:N2	41:a:1755:A:H3'	2.32	0.45
41:a:2297:A:C2	41:a:2320:U:C1'	3.00	0.45
41:a:2313:C:O3'	54:n:88:LYS:NZ	2.48	0.45
41:a:2727:A:O3'	60:t:70:ARG:NH2	2.50	0.45
52:l:112:LEU:HD23	52:l:118:LEU:HD13	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:m:12:ARG:CG	53:m:44:VAL:HG21	2.47	0.45
54:n:15:LYS:O	54:n:19:GLU:OE1	2.35	0.45
57:q:30:GLU:HB3	57:q:33:HIS:ND1	2.31	0.45
58:r:72:ILE:HG22	58:r:72:ILE:O	2.16	0.45
65:y:31:TRP:CZ3	65:y:40:LEU:CD1	3.00	0.45
5:4:16:ALA:O	5:4:20:LEU:HG	2.17	0.45
9:9:14:GLU:OE1	9:9:63:ALA:HA	2.17	0.45
10:A:11:A:H2'	10:A:12:G:O4'	2.17	0.45
11:AA:24:VAL:HG11	11:AA:704:MET:HE1	1.99	0.45
11:AA:674:ASP:OD2	11:AA:1070:HIS:ND1	2.50	0.45
12:AB:6:LEU:HD22	14:AE:291:ILE:HD11	1.99	0.45
16:AG:233:ARG:HB2	16:AG:327:LEU:CD2	2.42	0.45
10:B:18:G:N7	10:B:57:A:N6	2.65	0.45
18:D:13:U:O4	18:D:20:U:O4	2.34	0.45
18:D:611:C:C2	18:D:612:C:C6	3.04	0.45
20:F:58:LYS:HD2	20:F:58:LYS:C	2.42	0.45
31:Q:52:PHE:CE1	31:Q:65:VAL:HG21	2.52	0.45
41:a:1370:C:H2'	41:a:1371:G:O4'	2.16	0.45
41:a:1709:U:H2'	41:a:1710:G:H8	1.82	0.45
41:a:2016:U:H2'	41:a:2017:U:C6	2.52	0.45
41:a:2347:C:C2	41:a:2348:U:C5	3.05	0.45
43:c:41:GLU:O	43:c:44:LYS:HD2	2.16	0.45
48:h:130:LEU:CA	48:h:189:ARG:HH11	2.24	0.45
52:l:117:ARG:NH1	61:u:1:MET:HE2	2.31	0.45
54:n:63:GLN:HG3	54:n:95:ARG:HD3	1.99	0.45
60:t:42:THR:HG22	60:t:44:LYS:HZ1	1.80	0.45
60:t:108:ARG:CG	60:t:116:ILE:HD13	2.46	0.45
2:1:20:VAL:CG1	2:1:47:VAL:HG11	2.46	0.45
5:4:29:ILE:HD13	44:d:74:U:O2	2.17	0.45
5:4:31:TYR:O	5:4:92:VAL:HA	2.17	0.45
8:7:4:U:C5	18:D:1403:C:H1'	2.52	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:16:ARG:C	12:AB:19:GLU:H	2.24	0.45
12:AB:52:PRO:O	12:AB:54:TYR:N	2.50	0.45
12:AB:148:LYS:HZ2	12:AB:150:ILE:CG1	2.28	0.45
14:AE:513:MET:HB3	14:AE:513:MET:HE2	1.79	0.45
16:AG:3:LYS:HB3	16:AG:6:LEU:HD12	1.99	0.45
16:AG:142:VAL:HB	16:AG:175:PRO:HA	1.99	0.45
17:C:12:ARG:HB2	22:H:264:GLU:CB	2.46	0.45
18:D:824:G:C6	18:D:877:G:C6	3.05	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:D:982:U:P	33:S:6:MET:HE2	2.56	0.45
18:D:1202:U:C5	18:D:1203:C:C5	3.04	0.45
19:E:16:LYS:HG3	19:E:19:LYS:HE3	1.98	0.45
21:G:27:MET:HG3	21:G:27:MET:O	2.16	0.45
25:K:16:ILE:HD11	25:K:38:VAL:CG1	2.46	0.45
25:K:93:ARG:NH2	25:K:93:ARG:CB	2.80	0.45
27:M:4:ARG:HG2	27:M:5:ARG:NH2	2.32	0.45
29:O:113:ARG:HD2	33:S:101:TRP:CD1	2.52	0.45
30:P:26:VAL:C	30:P:30:LYS:HZ3	2.24	0.45
30:P:64:GLN:HG2	33:S:101:TRP:CH2	2.52	0.45
31:Q:21:ALA:HB3	31:Q:84:VAL:HG22	1.99	0.45
33:S:86:GLU:O	33:S:90:ARG:HG2	2.17	0.45
39:Y:102:ARG:NE	39:Y:139:VAL:CG2	2.78	0.45
39:Y:139:VAL:HG22	39:Y:140:GLU:H	1.82	0.45
41:a:219:A:H2'	41:a:220:G:C8	2.52	0.45
41:a:598:U:H2'	41:a:599:A:C8	2.52	0.45
41:a:841:G:H2'	41:a:842:U:C6	2.52	0.45
41:a:1803:A:O2'	48:h:257:THR:HG21	2.16	0.45
41:a:2049:G:N2	50:j:161:MET:CE	2.80	0.45
41:a:2743:U:H2'	41:a:2744:G:O4'	2.17	0.45
41:a:2747:G:C2	41:a:2756:U:C5	3.05	0.45
52:l:23:PHE:CD1	52:l:111:GLU:CD	2.94	0.45
52:l:90:GLN:OE1	52:l:92:HIS:CD2	2.70	0.45
52:l:95:LYS:HE2	52:l:97:ASN:OD1	2.17	0.45
54:n:127:ASN:OD1	54:n:157:THR:HA	2.16	0.45
56:p:91:GLY:HA3	56:p:94:TYR:CD2	2.52	0.45
59:s:98:GLU:O	59:s:100:VAL:N	2.50	0.45
61:u:95:LEU:HD12	61:u:100:ILE:HG21	1.99	0.45
64:x:90:VAL:CG2	64:x:115:LEU:HD21	2.46	0.45
4:3:5:ILE:HG13	4:3:72:ILE:HD11	1.99	0.45
4:3:47:LYS:HZ3	41:a:482:A:P	2.40	0.45
5:4:50:MET:CB	5:4:56:PHE:CE1	2.98	0.45
8:7:2:U:OP2	18:D:926:G:N2	2.50	0.45
10:A:18:G:N2	10:A:58:A:N7	2.65	0.45
10:A:71:C:H2'	10:A:72:A:N9	2.32	0.45
11:AA:1246:ARG:HH11	11:AA:1266:GLY:HA2	1.82	0.45
16:AG:226:ALA:HB1	16:AG:228:ARG:HH11	1.81	0.45
10:B:18:G:C5	10:B:57:A:N6	2.85	0.45
17:C:41:PRO:HD2	22:H:339:ARG:CZ	2.47	0.45
17:C:60:LYS:CE	18:D:735:C:O4'	2.64	0.45
18:D:633:G:H2'	18:D:634:C:H6	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:D:676:A:H2'	18:D:677:U:H6	1.82	0.45
18:D:753:A:OP1	34:T:73:LYS:NZ	2.50	0.45
18:D:1108:G:C5	18:D:1109:C:C5	3.04	0.45
20:F:12:PHE:CD1	31:Q:101:ASN:CG	2.95	0.45
20:F:26:ALA:CB	20:F:28:VAL:HG23	2.47	0.45
28:N:6:PRO:O	28:N:33:LYS:NZ	2.48	0.45
29:O:88:MET:CE	29:O:95:ARG:HG3	2.47	0.45
34:T:8:THR:O	34:T:11:ILE:HG22	2.16	0.45
38:X:55:THR:C	38:X:59:GLU:OE1	2.60	0.45
41:a:221:A:C4	41:a:266:G:N7	2.85	0.45
41:a:372:G:O2'	43:c:54:LYS:CE	2.64	0.45
41:a:607:U:C6	41:a:620:G:N7	2.85	0.45
41:a:952:G:C6	41:a:966:G:C6	3.04	0.45
41:a:1182:G:H2'	41:a:1183:U:O4'	2.17	0.45
41:a:2848:G:C2	41:a:2867:G:C4	3.05	0.45
48:h:108:LYS:HZ3	48:h:194:GLU:H	1.65	0.45
48:h:146:MET:HE2	48:h:153:GLN:OE1	2.17	0.45
48:h:164:ILE:O	48:h:164:ILE:CG2	2.66	0.45
50:j:181:ASP:HB3	50:j:186:LEU:HB2	1.99	0.45
52:l:23:PHE:CE2	52:l:25:GLU:HB2	2.52	0.45
54:n:16:LEU:HD11	54:n:169:LEU:HD13	1.99	0.45
54:n:175:PHE:CG	54:n:176:PRO:HD2	2.52	0.45
59:s:28:LEU:HD12	59:s:142:ILE:CG2	2.47	0.45
59:s:31:GLU:HG2	59:s:142:ILE:HG23	1.98	0.45
59:s:118:MET:HB3	59:s:118:MET:HE2	1.81	0.45
63:w:60:VAL:HA	63:w:63:ARG:CZ	2.47	0.45
9:9:43:LYS:HE3	9:9:102:ALA:HB2	1.97	0.44
10:A:18:G:C5	10:A:57:A:N6	2.85	0.44
10:A:53:G:N3	10:A:54:U:C5	2.85	0.44
11:AA:1002:LEU:HD21	11:AA:1007:LYS:HB2	1.98	0.44
12:AB:31:PRO:C	12:AB:50:LEU:H	2.22	0.44
12:AB:118:ILE:HD12	12:AB:142:LEU:HD22	1.99	0.44
14:AE:68:TYR:CA	14:AE:92:VAL:HG23	2.45	0.44
10:B:18:G:N2	10:B:58:A:N7	2.65	0.44
10:B:53:G:N3	10:B:54:U:C5	2.85	0.44
10:B:71:C:H2'	10:B:72:A:N9	2.32	0.44
17:C:34:THR:OG1	17:C:38:LYS:HB2	2.17	0.44
17:C:60:LYS:HZ3	18:D:735:C:P	2.37	0.44
18:D:339:C:H2'	18:D:340:U:C6	2.50	0.44
18:D:983:A:H2	18:D:984:C:C6	2.34	0.44
18:D:1172:C:H2'	18:D:1173:U:H6	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:E:25:ARG:O	19:E:28:MET:HB2	2.18	0.44
20:F:16:LEU:HD12	31:Q:98:ARG:HH21	1.81	0.44
21:G:96:TRP:CZ2	21:G:100:MET:HE3	2.52	0.44
21:G:109:GLN:C	21:G:113:ARG:NE	2.75	0.44
22:H:49:PRO:CD	22:H:84:LEU:HD21	2.47	0.44
22:H:332:VAL:CG1	22:H:335:ILE:HG13	2.48	0.44
26:L:47:LEU:HD13	26:L:51:ILE:HG12	1.98	0.44
27:M:134:ALA:O	27:M:137:LYS:CG	2.65	0.44
32:R:31:ARG:O	32:R:57:LEU:HD12	2.17	0.44
34:T:11:ILE:HD11	34:T:30:ALA:HB1	1.99	0.44
34:T:15:PHE:CE2	34:T:30:ALA:CB	3.00	0.44
41:a:1146:C:C2	41:a:1147:A:C8	3.05	0.44
41:a:2478:A:C8	41:a:2529:G:C5	3.04	0.44
41:a:2646:C:OP2	41:a:2732:G:O2'	2.25	0.44
41:a:2783:U:H2'	41:a:2784:U:C6	2.52	0.44
50:j:48:ILE:CD1	50:j:84:LEU:HD11	2.46	0.44
54:n:122:PHE:HZ	54:n:170:LEU:HD12	1.81	0.44
55:o:26:HIS:CE1	55:o:48:ALA:HB2	2.51	0.44
56:p:85:LYS:HE3	56:p:164:TYR:HD1	1.67	0.44
57:q:1:MET:HE3	57:q:1:MET:HA	1.97	0.44
1:0:73:LYS:HD3	1:0:86:GLN:HE21	1.82	0.44
6:5:10:DT:H2"	12:AB:71:ALA:H	1.79	0.44
8:7:54:A:O3'	11:AA:688:GLN:NE2	2.51	0.44
9:9:3:LEU:HD12	9:9:5:LEU:H	1.81	0.44
9:9:58:THR:HG23	41:a:1108:U:OP1	2.17	0.44
13:AD:185:TYR:HA	13:AD:202:VAL:O	2.16	0.44
14:AE:79:LYS:CD	16:AG:159:GLU:HB3	2.44	0.44
16:AG:331:LEU:HA	16:AG:331:LEU:HD23	1.79	0.44
16:AG:403:VAL:C	16:AG:405:ALA:N	2.73	0.44
10:B:3:C:H2'	10:B:4:G:C8	2.52	0.44
18:D:219:U:C2	18:D:220:G:C8	3.05	0.44
18:D:524:G:H2'	18:D:525:C:C6	2.52	0.44
18:D:1250:A:H2'	18:D:1251:A:C8	2.52	0.44
21:G:110:SER:OG	21:G:113:ARG:NH2	2.47	0.44
22:H:12:SER:O	22:H:16:ILE:HG13	2.17	0.44
22:H:53:PHE:CE1	22:H:68:VAL:HG21	2.52	0.44
22:H:294:VAL:HG11	22:H:330:VAL:HG21	2.00	0.44
23:I:55:ILE:HD12	23:I:68:ILE:HG12	1.99	0.44
23:I:84:VAL:HG23	23:I:85:GLU:N	2.31	0.44
23:I:156:ARG:CG	23:I:193:TYR:HB2	2.47	0.44
25:K:50:TYR:O	25:K:66:LYS:HE3	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:L:72:ASP:O	26:L:76:THR:HG23	2.17	0.44
29:O:94:LEU:O	29:O:97:GLU:CD	2.60	0.44
32:R:27:CYS:CB	32:R:30:LYS:HE2	2.47	0.44
32:R:110:ARG:N	32:R:111:LYS:HZ3	2.14	0.44
33:S:6:MET:HE3	33:S:63:ARG:HH11	1.82	0.44
37:W:13:LEU:O	37:W:17:LYS:HG2	2.17	0.44
38:X:90:ARG:HD3	38:X:96:PRO:O	2.17	0.44
41:a:900:A:C5	41:a:901:C:C5	3.06	0.44
41:a:1144:A:C4	41:a:1145:C:C5	3.05	0.44
41:a:2095:A:O5'	58:r:11:ASN:OD1	2.35	0.44
41:a:2450:A:C2	41:a:2451:A:C4	3.06	0.44
41:a:2646:C:H2'	41:a:2647:U:O4'	2.17	0.44
41:a:2723:C:H2'	41:a:2724:U:O4'	2.16	0.44
46:f:4:THR:CG2	46:f:37:GLU:OE2	2.65	0.44
48:h:220:VAL:HG23	48:h:225:MET:HE3	2.00	0.44
50:j:3:GLY:O	50:j:82:PHE:CE2	2.69	0.44
51:k:34:LEU:HB2	51:k:51:GLU:OE2	2.16	0.44
55:o:45:ARG:HB3	55:o:46:PRO:CD	2.48	0.44
56:p:141:ILE:HG13	56:p:142:GLY:N	2.32	0.44
3:2:6:ARG:NE	3:2:42:GLU:CD	2.76	0.44
10:A:3:C:H2'	10:A:4:G:C8	2.53	0.44
12:AB:117:ILE:HG21	12:AB:161:LYS:HE2	1.99	0.44
12:AB:120:GLU:CB	12:AB:162:LEU:HB2	2.46	0.44
12:AB:130:PHE:HZ	12:AB:160:ARG:HG3	1.81	0.44
16:AG:339:MET:HE2	16:AG:343:ASP:HB3	1.98	0.44
18:D:682:G:C2	18:D:683:G:C8	3.06	0.44
19:E:58:VAL:HG12	19:E:72:ALA:HB1	1.99	0.44
21:G:128:LYS:C	21:G:129:LEU:HD12	2.42	0.44
23:I:14:ILE:HG13	23:I:178:LEU:HD21	1.99	0.44
23:I:147:LYS:HE2	23:I:204:LYS:C	2.42	0.44
25:K:134:ILE:CG2	25:K:135:ASN:N	2.81	0.44
26:L:9:MET:C	26:L:9:MET:SD	3.00	0.44
33:S:77:PHE:HE1	33:S:93:ILE:CG2	2.30	0.44
37:W:79:THR:HG23	37:W:79:THR:O	2.17	0.44
38:X:2:ALA:HB1	38:X:9:ILE:CG2	2.47	0.44
39:Y:19:PRO:CG	39:Y:23:VAL:CG2	2.95	0.44
41:a:65:U:N3	41:a:66:C:C5	2.86	0.44
41:a:68:G:N2	41:a:74:A:OP2	2.51	0.44
41:a:150:U:C2	41:a:151:C:C5	3.06	0.44
41:a:598:U:H2'	41:a:599:A:H8	1.82	0.44
41:a:730:A:C2	41:a:731:C:C6	3.05	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:a:782:A:N1	48:h:225:MET:HE2	2.32	0.44
41:a:957:C:H5'	62:v:75:GLU:OE1	2.18	0.44
41:a:1414:C:H2'	41:a:1415:U:C6	2.52	0.44
41:a:1443:U:H2'	41:a:1444:G:H8	1.83	0.44
41:a:1656:C:C2	41:a:1657:U:C5	3.05	0.44
41:a:2492:U:C2'	41:a:2493:U:H5'	2.48	0.44
44:d:113:C:HO2'	64:x:46:GLU:CD	2.26	0.44
45:e:24:GLU:O	45:e:28:LEU:HD13	2.17	0.44
47:g:58:ASP:C	47:g:62:LYS:HZ1	2.25	0.44
48:h:240:PHE:CD2	48:h:240:PHE:O	2.71	0.44
50:j:55:LYS:HZ2	50:j:60:VAL:N	2.15	0.44
52:l:1:MET:HE3	52:l:19:PHE:C	2.42	0.44
52:l:6:LYS:HZ1	52:l:119:ILE:C	2.25	0.44
56:p:18:LYS:HG3	56:p:27:LYS:NZ	2.32	0.44
56:p:69:ARG:NH1	56:p:73:ASN:ND2	2.66	0.44
61:u:101:ILE:HG13	61:u:102:GLY:H	1.82	0.44
65:y:15:GLN:NE2	65:y:16:ASP:CG	2.75	0.44
5:4:31:TYR:HE2	44:d:104:A:O4'	2.01	0.44
6:5:11:DA:C5'	12:AB:67:THR:O	2.66	0.44
8:7:12:U:C3'	8:7:12:U:C6	3.00	0.44
9:9:4:ASN:OD1	41:a:1046:A:N7	2.50	0.44
11:AA:560:PRO:HB2	14:AE:776:THR:HG21	1.99	0.44
12:AB:103:ASP:CB	12:AB:105:VAL:HG23	2.34	0.44
12:AB:126:PHE:O	12:AB:126:PHE:CG	2.70	0.44
14:AE:53:ARG:HA	14:AE:54:ASP:HA	1.59	0.44
14:AE:1037:PHE:HB3	14:AE:1040:MET:HB2	1.97	0.44
16:AG:320:ARG:HH11	16:AG:320:ARG:HG2	1.80	0.44
16:AG:355:ALA:CB	16:AG:382:GLU:HG3	2.30	0.44
16:AG:429:LYS:CB	16:AG:430:PRO:HD2	2.48	0.44
17:C:34:THR:HG22	17:C:35:GLU:N	2.33	0.44
17:C:54:GLN:HA	17:C:57:ARG:NH1	2.33	0.44
18:D:511:C:C2	18:D:512:U:C6	3.05	0.44
18:D:622:A:C8	18:D:623:C:C6	3.06	0.44
18:D:653:U:O4'	28:N:56:LYS:HE3	2.16	0.44
18:D:1408:A:H2'	18:D:1409:C:C6	2.53	0.44
19:E:22:ALA:CA	19:E:25:ARG:HE	2.31	0.44
21:G:19:GLN:HE21	22:H:75:VAL:C	2.24	0.44
22:H:37:LEU:HG	22:H:46:SER:O	2.17	0.44
22:H:53:PHE:HE1	22:H:68:VAL:HG21	1.82	0.44
22:H:76:GLU:OE1	22:H:79:PHE:HA	2.18	0.44
26:L:17:GLN:CB	26:L:21:MET:HE1	2.47	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:L:78:PHE:HD1	26:L:87:SER:HB3	1.83	0.44
27:M:138:ARG:HG2	27:M:142:HIS:HE1	1.80	0.44
30:P:47:GLU:HB2	30:P:67:ILE:HG22	1.99	0.44
35:U:6:LEU:HD23	35:U:17:TYR:CB	2.47	0.44
36:V:30:LYS:HB2	36:V:37:PHE:CE1	2.52	0.44
38:X:14:HIS:HB2	38:X:17:ILE:HD13	1.99	0.44
39:Y:44:LYS:HG2	39:Y:68:PHE:HE2	1.83	0.44
39:Y:76:ALA:O	39:Y:80:LYS:NZ	2.33	0.44
41:a:66:C:N4	41:a:74:A:N6	2.66	0.44
41:a:251:A:OP1	61:u:58:TYR:OH	2.23	0.44
41:a:2514:U:H2'	41:a:2515:C:H6	1.81	0.44
41:a:2839:G:C5	41:a:2840:C:C5	3.05	0.44
46:f:31:ARG:HG2	46:f:34:HIS:HB2	2.00	0.44
49:i:17:ARG:CA	49:i:20:ASP:OD1	2.66	0.44
54:n:40:VAL:HG13	54:n:42:GLU:CD	2.43	0.44
55:o:8:ARG:HA	55:o:8:ARG:HE	1.83	0.44
56:p:11:VAL:HG12	56:p:48:ASN:O	2.17	0.44
56:p:121:ILE:HD12	56:p:141:ILE:CG2	2.39	0.44
63:w:13:ASN:O	63:w:17:ARG:HG3	2.17	0.44
65:y:106:LYS:CD	65:y:109:ARG:HH22	2.29	0.44
66:z:66:ASN:CG	66:z:76:TYR:HB2	2.42	0.44
1:0:46:GLU:HG2	1:0:48:LYS:NZ	2.32	0.44
1:0:77:PHE:CD2	66:z:40:ILE:HG21	2.53	0.44
2:1:36:LEU:N	2:1:36:LEU:HD12	2.33	0.44
11:AA:812:PHE:O	14:AE:504:GLN:NE2	2.40	0.44
11:AA:1244:HIS:NE2	11:AA:1266:GLY:O	2.44	0.44
16:AG:282:GLN:NE2	16:AG:282:GLN:CA	2.73	0.44
10:B:11:A:H2'	10:B:12:G:O4'	2.17	0.44
18:D:604:G:H2'	18:D:605:U:O4'	2.17	0.44
20:F:32:VAL:HG11	31:Q:89:PRO:HG3	1.99	0.44
21:G:117:LEU:HD23	21:G:141:LEU:HA	1.98	0.44
23:I:22:TRP:CZ2	23:I:32:ASN:CB	3.01	0.44
26:L:9:MET:HE3	26:L:9:MET:HB3	1.85	0.44
27:M:78:ARG:HG3	27:M:80:VAL:HG13	1.99	0.44
28:N:25:VAL:HG23	28:N:63:LEU:CD1	2.46	0.44
28:N:35:ALA:HB1	28:N:110:VAL:HG11	2.00	0.44
29:O:46:MET:HB3	29:O:50:GLN:NE2	2.31	0.44
30:P:40:ILE:HD12	30:P:73:LEU:CD2	2.48	0.44
31:Q:85:MET:HG3	31:Q:111:THR:HB	2.00	0.44
32:R:38:TYR:CE2	32:R:40:THR:CG2	3.01	0.44
34:T:3:LEU:CD2	34:T:8:THR:HG23	2.47	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:W:39:THR:HG22	37:W:40:ILE:N	2.33	0.44
39:Y:12:VAL:HG22	39:Y:54:ILE:O	2.17	0.44
39:Y:82:ALA:HB3	39:Y:108:ILE:CD1	2.48	0.44
41:a:234:U:C4	41:a:235:U:C5	3.05	0.44
41:a:575:A:C2	41:a:576:U:C6	3.05	0.44
41:a:1020:A:C2	41:a:1141:U:C2	3.06	0.44
41:a:1084:A:N6	41:a:1085:A:N1	2.66	0.44
41:a:1774:C:O2	41:a:1774:C:C2'	2.65	0.44
41:a:1820:U:C2	48:h:201:MET:HE2	2.53	0.44
41:a:1936:A:C8	41:a:1945:G:N7	2.86	0.44
41:a:2063:C:N3	41:a:2064:C:C5	2.86	0.44
41:a:2617:U:C2	41:a:2618:G:C8	3.06	0.44
41:a:2718:G:O2'	41:a:2847:U:H5"	2.18	0.44
43:c:33:LEU:O	43:c:34:HIS:CG	2.70	0.44
47:g:30:HIS:CG	47:g:31:ASP:N	2.85	0.44
50:j:61:THR:OG1	50:j:63:PRO:HD2	2.18	0.44
55:o:55:LEU:C	55:o:55:LEU:HD23	2.42	0.44
56:p:8:PRO:C	56:p:69:ARG:NH2	2.75	0.44
60:t:18:ARG:NE	60:t:18:ARG:HA	2.33	0.44
61:u:91:ASP:HB2	61:u:93:ASN:OD1	2.17	0.44
2:1:20:VAL:HG11	2:1:47:VAL:HG11	1.99	0.44
3:2:65:GLY:H	3:2:76:ARG:HH12	1.64	0.44
8:7:9:U:OP2	8:7:9:U:C6	2.71	0.44
9:9:25:ALA:HB2	9:9:96:PHE:HE1	1.82	0.44
11:AA:148:GLN:NE2	11:AA:535:PRO:O	2.40	0.44
11:AA:712:SER:OG	11:AA:713:GLY:N	2.49	0.44
11:AA:856:ASN:CA	16:AG:35:THR:CB	2.89	0.44
12:AB:31:PRO:HG2	12:AB:51:PHE:CE2	2.53	0.44
14:AE:41:PRO:HB2	14:AE:270:ARG:HG3	1.99	0.44
16:AG:80:ALA:HB1	16:AG:87:LEU:HB2	1.98	0.44
10:B:71:C:H2'	10:B:72:A:C1'	2.47	0.44
10:B:71:C:C3'	10:B:72:A:C8	2.99	0.44
18:D:375:U:OP2	35:U:70:ARG:NE	2.51	0.44
18:D:377:G:H2'	18:D:378:G:H8	1.81	0.44
18:D:414:A:C4	18:D:415:A:C8	3.05	0.44
18:D:715:A:H2'	18:D:716:A:C8	2.52	0.44
18:D:1486:G:H2'	18:D:1487:G:O4'	2.18	0.44
21:G:206:ALA:O	21:G:210:VAL:HG23	2.18	0.44
22:H:49:PRO:HD3	22:H:84:LEU:HD21	1.99	0.44
22:H:163:ARG:N	22:H:298:GLU:CG	2.81	0.44
23:I:72:ARG:NE	23:I:75:ILE:HB	2.32	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:O:63:LEU:CD1	29:O:65:ILE:HD11	2.48	0.44
31:Q:83:GLU:OE1	31:Q:83:GLU:N	2.51	0.44
34:T:26:GLU:HG3	34:T:27:VAL:N	2.33	0.44
38:X:106:ALA:HB3	38:X:110:LYS:CD	2.48	0.44
41:a:30:G:H2'	41:a:31:C:H6	1.82	0.44
41:a:564:C:H1'	66:z:37:GLN:NE2	2.32	0.44
41:a:980:A:N7	41:a:1136:G:H5'	2.32	0.44
41:a:1170:C:O2	41:a:1170:C:H2'	2.18	0.44
41:a:1656:C:H2'	41:a:1657:U:H6	1.81	0.44
41:a:2702:G:C4	41:a:2703:C:C5	3.06	0.44
48:h:123:ALA:HB1	48:h:125:LYS:CE	2.47	0.44
49:i:23:THR:O	49:i:23:THR:HG23	2.17	0.44
50:j:131:ASP:OD1	50:j:133:THR:O	2.36	0.44
52:l:6:LYS:CE	52:l:119:ILE:CG2	2.94	0.44
53:m:41:ARG:NE	53:m:41:ARG:HA	2.32	0.44
61:u:55:MET:SD	61:u:60:ARG:N	2.90	0.44
61:u:101:ILE:C	61:u:105:ILE:HD12	2.42	0.44
62:v:3:GLN:OE1	62:v:4:PRO:O	2.36	0.44
62:v:38:ARG:HB2	62:v:98:PRO:HD3	2.00	0.44
66:z:76:TYR:O	66:z:80:ILE:HG12	2.16	0.44
2:1:78:GLU:OE2	41:a:1262:A:OP1	2.35	0.44
8:7:1:A:C6	10:B:37:A:N1	2.86	0.44
11:AA:557:ARG:NH2	11:AA:607:SER:O	2.49	0.44
13:AD:68:TYR:HE1	13:AD:79:LEU:HD13	1.82	0.44
14:AE:708:ASN:OD1	14:AE:708:ASN:N	2.50	0.44
16:AG:167:MET:HE3	16:AG:173:PHE:CZ	2.53	0.44
18:D:76:G:C5	18:D:77:A:C8	3.06	0.44
18:D:153:C:C2	18:D:154:U:C5	3.06	0.44
18:D:376:G:C2	18:D:389:A:C2	3.06	0.44
18:D:415:A:C6	18:D:416:G:C5	3.06	0.44
18:D:1062:U:H2'	18:D:1063:C:C6	2.53	0.44
21:G:48:PRO:O	21:G:52:GLU:HG2	2.18	0.44
27:M:23:LEU:H	27:M:23:LEU:CD1	2.30	0.44
27:M:106:GLU:O	27:M:110:LYS:HG2	2.18	0.44
30:P:24:GLU:OE2	30:P:92:LEU:CD2	2.66	0.44
30:P:73:LEU:C	30:P:73:LEU:HD23	2.42	0.44
30:P:85:ASP:HA	30:P:88:MET:HE3	2.00	0.44
31:Q:14:LYS:HD3	31:Q:15:GLN:N	2.32	0.44
31:Q:84:VAL:HG21	31:Q:97:ILE:HD11	1.99	0.44
31:Q:91:PRO:HD2	31:Q:92:GLY:H	1.83	0.44
32:R:23:ALA:O	32:R:25:GLU:OE1	2.35	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:T:71:LYS:HE2	34:T:78:TYR:CD2	2.52	0.44
36:V:27:ARG:HH12	36:V:42:THR:CB	2.26	0.44
38:X:3:ARG:NH2	54:n:110:ARG:HD2	2.33	0.44
41:a:27:G:C4	41:a:512:G:N2	2.86	0.44
41:a:536:G:H4'	66:z:57:PHE:CZ	2.53	0.44
41:a:582:A:H5"	66:z:11:ARG:HH12	1.81	0.44
41:a:833:A:OP2	61:u:39:LYS:NZ	2.49	0.44
41:a:837:C:N3	41:a:941:A:N6	2.65	0.44
41:a:910:A:H8	62:v:12:MET:CE	2.31	0.44
41:a:1792:G:C5'	48:h:204:VAL:HG23	2.48	0.44
41:a:1856:U:H2'	41:a:1857:G:O4'	2.17	0.44
41:a:1997:C:OP1	50:j:128:ARG:NH1	2.51	0.44
41:a:2636:C:O2'	50:j:45:TYR:CZ	2.70	0.44
52:l:23:PHE:CD1	52:l:111:GLU:CG	3.00	0.44
54:n:101:GLU:O	54:n:105:THR:OG1	2.23	0.44
55:o:49:MET:H	55:o:49:MET:HE2	1.81	0.44
56:p:137:ASP:OD2	56:p:140:VAL:N	2.45	0.44
59:s:35:ARG:HA	59:s:40:HIS:ND1	2.32	0.44
62:v:96:ILE:HA	62:v:100:LYS:HE3	2.00	0.44
62:v:111:GLU:HG2	62:v:112:LEU:N	2.33	0.44
1:0:93:PHE:CD1	1:0:93:PHE:C	2.96	0.44
9:9:118:ILE:HB	9:9:119:PRO:CD	2.42	0.44
10:A:3:C:H2'	10:A:4:G:H8	1.82	0.44
12:AB:38:ILE:HA	12:AB:42:LYS:O	2.18	0.44
13:AD:192:VAL:HG12	13:AD:193:GLU:H	1.83	0.44
14:AE:596:LEU:HD23	14:AE:596:LEU:HA	1.89	0.44
16:AG:19:PRO:HG2	16:AG:19:PRO:O	2.17	0.44
16:AG:227:ALA:CB	16:AG:330:GLN:C	2.90	0.44
16:AG:320:ARG:HB2	16:AG:323:GLN:CB	2.48	0.44
10:B:3:C:H2'	10:B:4:G:H8	1.82	0.44
10:B:72:A:C3'	10:B:73:A:H5"	2.47	0.44
17:C:38:LYS:NZ	18:D:718:A:C6	2.79	0.44
18:D:108:G:H5"	18:D:108:G:N3	2.33	0.44
18:D:429:U:O2	18:D:430:A:N7	2.50	0.44
18:D:598:U:C2	18:D:599:C:C5	3.06	0.44
18:D:610:U:C2	18:D:611:C:C6	3.06	0.44
18:D:704:A:C4	18:D:705:G:C8	3.05	0.44
18:D:1104:G:H4'	21:G:113:ARG:HH22	1.83	0.44
18:D:1120:C:C2	18:D:1121:U:C5	3.06	0.44
18:D:1146:A:C5	18:D:1147:C:C5	3.06	0.44
18:D:1477:U:H2'	18:D:1478:U:C6	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:H:8:LEU:HD12	22:H:11:GLU:OE2	2.18	0.44
22:H:19:ARG:O	22:H:72:LEU:HD13	2.18	0.44
22:H:277:GLY:HA2	22:H:331:MET:HE3	1.97	0.44
23:I:34:ASP:HB2	33:S:65:ARG:CZ	2.48	0.44
23:I:72:ARG:HD3	23:I:75:ILE:HG22	1.99	0.44
24:J:74:ASN:CA	24:J:77:LYS:HZ3	2.31	0.44
27:M:132:GLY:O	27:M:136:LYS:HD3	2.17	0.44
28:N:110:VAL:O	28:N:111:MET:SD	2.75	0.44
33:S:13:ARG:HB3	33:S:60:GLN:HE21	1.81	0.44
35:U:14:ARG:CD	35:U:42:ILE:HG21	2.47	0.44
39:Y:14:ALA:O	39:Y:16:MET:N	2.51	0.44
39:Y:45:THR:HG22	39:Y:45:THR:O	2.16	0.44
39:Y:60:VAL:HG22	39:Y:66:PHE:CD1	2.52	0.44
41:a:39:G:H2'	41:a:40:U:C6	2.53	0.44
41:a:579:G:H2'	41:a:580:U:C6	2.53	0.44
41:a:594:U:C2	41:a:595:C:C5	3.05	0.44
41:a:730:A:C2	41:a:731:C:C5	3.05	0.44
41:a:1177:G:O2'	41:a:1178:C:O5'	2.28	0.44
41:a:1754:A:N1	41:a:2716:C:O2'	2.34	0.44
41:a:2000:C:OP1	63:w:5:LYS:NZ	2.38	0.44
41:a:2025:C:H2'	41:a:2026:U:C6	2.53	0.44
41:a:2179:C:H2'	41:a:2180:U:H6	1.83	0.44
41:a:2391:G:P	55:o:32:ILE:CD1	3.06	0.44
41:a:2484:G:OP1	62:v:44:ARG:HD2	2.18	0.44
41:a:2548:U:C2	41:a:2549:G:C8	3.06	0.44
41:a:2850:A:N7	41:a:2868:A:O2'	2.41	0.44
43:c:4:VAL:HG22	43:c:11:ARG:HG2	2.00	0.44
45:e:59:GLU:CD	45:e:60:LYS:N	2.76	0.44
48:h:45:ASN:OD1	48:h:46:ASN:N	2.51	0.44
48:h:205:LEU:HD12	48:h:210:ALA:CB	2.44	0.44
50:j:104:VAL:HG12	50:j:105:LYS:N	2.33	0.44
50:j:172:VAL:HG11	50:j:175:LEU:HD11	1.99	0.44
54:n:79:ILE:O	54:n:79:ILE:HG13	2.17	0.44
56:p:27:LYS:HG2	56:p:32:GLU:HG3	1.99	0.44
56:p:83:PHE:HB2	56:p:141:ILE:HD13	2.00	0.44
58:r:127:GLU:OE2	58:r:143:ILE:HB	2.17	0.44
64:x:14:ALA:O	64:x:15:ARG:C	2.61	0.44
64:x:50:ALA:O	64:x:81:ARG:NH2	2.51	0.44
5:4:57:TYR:HD2	62:v:136:MET:HE2	1.81	0.44
9:9:31:ARG:HD2	41:a:1053:C:HO2'	1.75	0.44
10:A:35:A:H2'	10:A:36:U:O4'	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:557:ARG:HB3	11:AA:587:LEU:HD13	2.00	0.44
11:AA:746:ALA:O	11:AA:974:ARG:NH2	2.45	0.44
12:AB:33:ILE:HD11	12:AB:104:ILE:HA	2.00	0.44
12:AB:37:LYS:HE3	12:AB:109:THR:HG21	1.99	0.44
13:AD:78:ILE:HA	13:AD:81:ILE:HG22	2.00	0.44
14:AE:78:LEU:HD23	14:AE:78:LEU:HA	1.81	0.44
14:AE:658:GLU:HA	14:AE:661:VAL:HG22	2.00	0.44
15:AF:58:LEU:HD12	15:AF:59:ILE:HG12	2.00	0.44
16:AG:227:ALA:HB2	16:AG:330:GLN:O	2.18	0.44
17:C:18:VAL:HG13	17:C:51:TYR:HE1	1.83	0.44
17:C:70:TYR:CE2	26:L:49:TYR:CE1	3.05	0.44
18:D:323:U:H4'	19:E:17:ALA:HB3	1.99	0.44
18:D:526:C:P	32:R:88:LYS:HZ3	2.41	0.44
18:D:754:C:O5'	34:T:72:ARG:NH1	2.51	0.44
18:D:1125:U:N3	18:D:1127:G:C8	2.86	0.44
18:D:1492:A:HO2'	18:D:1493:A:H5"	1.83	0.44
19:E:78:ASN:O	19:E:82:GLN:CD	2.61	0.44
20:F:66:ARG:NH2	20:F:67:ARG:NH2	2.66	0.44
21:G:23:TRP:CZ3	21:G:25:PRO:CA	3.01	0.44
22:H:71:ALA:HB3	22:H:83:LEU:O	2.18	0.44
23:I:134:MET:HG3	23:I:151:VAL:HG21	2.00	0.44
26:L:16:GLU:H	26:L:16:GLU:CD	2.26	0.44
31:Q:63:ALA:CB	31:Q:92:GLY:HA3	2.48	0.44
31:Q:84:VAL:HG11	31:Q:97:ILE:HD13	2.00	0.44
34:T:11:ILE:HD13	34:T:31:LEU:HA	1.99	0.44
34:T:15:PHE:HE2	34:T:30:ALA:HB1	1.82	0.44
34:T:71:LYS:HZ3	34:T:78:TYR:HD2	1.62	0.44
39:Y:33:ASN:OD1	39:Y:35:MET:HE2	2.17	0.44
41:a:128:C:C2	41:a:129:C:C5	3.06	0.44
41:a:145:C:H2'	41:a:146:A:C8	2.53	0.44
41:a:782:A:C6	48:h:225:MET:HE2	2.53	0.44
41:a:1824:G:P	48:h:52:ARG:CZ	3.06	0.44
41:a:1913:A:OP2	41:a:1913:A:H3'	2.18	0.44
41:a:1996:C:OP1	60:t:31:ARG:NH2	2.51	0.44
41:a:2021:C:OP1	49:i:9:THR:HG21	2.18	0.44
41:a:2098:U:H2'	41:a:2099:U:O4'	2.18	0.44
41:a:2149:U:H2'	41:a:2150:C:C6	2.52	0.44
44:d:46:A:C5	44:d:47:C:C5	3.06	0.44
47:g:59:ARG:HH11	47:g:63:ARG:CD	2.31	0.44
51:k:7:GLU:HG3	51:k:27:LYS:HZ3	1.83	0.44
54:n:117:LEU:N	54:n:177:PHE:O	2.50	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:s:132:HIS:HA	59:s:135:GLN:OE1	2.17	0.44
63:w:79:LEU:HD23	63:w:83:LEU:HD12	1.99	0.44
1:0:1:MET:HE3	1:0:43:ASN:OD1	2.18	0.43
2:1:36:LEU:HD23	2:1:48:LYS:CA	2.48	0.43
5:4:80:HIS:CD2	5:4:83:LYS:HZ3	2.34	0.43
11:AA:11:ILE:HG22	11:AA:1172:LEU:HD11	1.99	0.43
11:AA:813:GLU:HB2	14:AE:461:PHE:HD2	1.83	0.43
11:AA:998:LEU:HG	11:AA:1011:LEU:HB3	1.99	0.43
13:AD:211:ILE:HD12	13:AD:211:ILE:HA	1.92	0.43
16:AG:104:ARG:N	16:AG:105:ILE:HG12	2.32	0.43
16:AG:363:LEU:CD2	16:AG:409:ARG:N	2.81	0.43
18:D:284:C:C2	18:D:285:C:C5	3.06	0.43
18:D:642:A:C5	18:D:643:C:C5	3.06	0.43
18:D:882:C:O2’	18:D:883:C:H5’	2.18	0.43
18:D:1240:U:OP1	27:M:116:MET:HB2	2.17	0.43
18:D:1315:U:O2	18:D:1360:A:H2	2.00	0.43
22:H:5:PHE:CZ	22:H:9:PHE:CE1	3.06	0.43
23:I:151:VAL:CG1	23:I:200:VAL:HG23	2.47	0.43
25:K:76:LEU:HD12	25:K:76:LEU:O	2.17	0.43
26:L:5:GLU:CD	26:L:61:LEU:HD11	2.42	0.43
26:L:27:ALA:O	26:L:30:THR:OG1	2.29	0.43
29:O:91:ASP:HB3	29:O:94:LEU:HG	2.00	0.43
37:W:68:GLY:HA3	47:g:59:ARG:HH22	1.82	0.43
41:a:607:U:N3	41:a:608:A:N7	2.66	0.43
41:a:858:G:OP1	42:b:78:LYS:HE3	2.18	0.43
41:a:1282:U:H2’	41:a:1283:G:O4’	2.18	0.43
41:a:1349:C:O2	41:a:1349:C:H2’	2.17	0.43
41:a:1790:C:C2’	41:a:1791:A:C8	3.00	0.43
41:a:2175:C:C2’	41:a:2176:A:C8	3.00	0.43
41:a:2590:A:H2’	41:a:2591:C:H6	1.83	0.43
41:a:2615:U:H2’	41:a:2616:C:H6	1.83	0.43
41:a:2848:G:O2’	41:a:2867:G:N2	2.36	0.43
46:f:41:THR:O	46:f:43:ALA:N	2.51	0.43
50:j:107:VAL:HG13	50:j:177:VAL:HG11	2.00	0.43
56:p:94:TYR:CE1	56:p:152:ARG:CD	3.01	0.43
59:s:124:VAL:O	59:s:125:TYR:HD1	2.01	0.43
61:u:95:LEU:HD13	61:u:100:ILE:HD12	2.00	0.43
66:z:14:HIS:O	66:z:18:LEU:HD23	2.18	0.43
4:3:6:ARG:CG	4:3:7:ARG:H	2.31	0.43
5:4:53:LYS:HB2	5:4:56:PHE:HE2	1.84	0.43
9:9:19:ALA:CB	9:9:69:PHE:HE2	2.31	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:A:72:A:C3'	10:A:73:A:H5"	2.47	0.43
12:AB:160:ARG:HE	12:AB:160:ARG:HB2	1.47	0.43
14:AE:708:ASN:HA	14:AE:713:GLU:HA	2.00	0.43
16:AG:143:LYS:HG3	16:AG:153:ASP:HB2	1.99	0.43
10:B:22:G:C8	10:B:22:G:OP2	2.71	0.43
10:B:75:C:P	41:a:2602:A:C2'	3.06	0.43
18:D:636:U:H2'	18:D:637:C:C6	2.52	0.43
18:D:671:G:H4'	26:L:79:ARG:HH12	1.83	0.43
18:D:1389:C:H2'	18:D:1390:U:O4'	2.17	0.43
18:D:1434:A:H2'	18:D:1435:G:O4'	2.18	0.43
19:E:60:ARG:O	19:E:64:LYS:HD3	2.18	0.43
20:F:3:VAL:HG22	31:Q:111:THR:HG23	2.01	0.43
21:G:9:MET:HE1	21:G:47:VAL:HG22	1.99	0.43
23:I:54:ARG:NH1	23:I:69:HIS:NE2	2.66	0.43
23:I:152:GLU:OE2	23:I:165:THR:HG23	2.18	0.43
26:L:35:LYS:HD2	26:L:36:ILE:H	1.82	0.43
28:N:84:ARG:HD2	28:N:124:GLU:OE1	2.17	0.43
29:O:51:PRO:HB3	29:O:103:PHE:HD2	1.83	0.43
30:P:10:LEU:HD22	30:P:22:THR:HG22	1.98	0.43
30:P:52:LEU:HB2	33:S:81:ARG:NH1	2.33	0.43
32:R:57:LEU:HD23	32:R:59:ASN:CG	2.43	0.43
33:S:13:ARG:HB3	33:S:60:GLN:CG	2.46	0.43
38:X:11:ASP:HA	38:X:45:ILE:HB	1.99	0.43
39:Y:93:ASN:O	39:Y:94:LYS:HD2	2.16	0.43
41:a:861:A:H2'	41:a:862:G:O4'	2.17	0.43
41:a:1434:A:H2'	41:a:1435:G:C8	2.53	0.43
41:a:2092:U:C2	41:a:2225:A:O2'	2.71	0.43
41:a:2465:C:O2	41:a:2465:C:H2'	2.18	0.43
41:a:2477:U:O2	57:q:4:ARG:NH2	2.51	0.43
41:a:2747:G:N2	41:a:2756:U:C6	2.85	0.43
48:h:251:GLN:OE1	48:h:255:LYS:CB	2.65	0.43
51:k:7:GLU:OE2	51:k:27:LYS:N	2.50	0.43
52:l:73:ILE:HG13	52:l:73:ILE:O	2.17	0.43
53:m:26:ASN:HA	53:m:29:GLN:HE21	1.83	0.43
54:n:15:LYS:C	54:n:19:GLU:OE1	2.61	0.43
54:n:132:VAL:CG2	54:n:152:LEU:CD2	2.97	0.43
55:o:13:ARG:HG2	61:u:62:PRO:O	2.18	0.43
57:q:3:VAL:HG12	57:q:36:ARG:HB3	2.01	0.43
63:w:87:PHE:HE2	63:w:115:LEU:HD11	1.83	0.43
65:y:106:LYS:CB	65:y:109:ARG:HH22	2.31	0.43
1:0:13:ARG:CZ	66:z:97:ASP:CG	2.91	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:60:LYS:N	1:0:60:LYS:HD3	2.33	0.43
2:1:36:LEU:CD2	2:1:48:LYS:HA	2.49	0.43
4:3:7:ARG:NH2	41:a:84:A:O2'	2.51	0.43
9:9:92:ALA:HB3	9:9:129:LEU:HB2	2.00	0.43
9:9:138:ARG:NH1	40:Z:10:ALA:O	2.51	0.43
11:AA:27:LEU:O	11:AA:528:ARG:NH1	2.43	0.43
12:AB:143:LEU:HD23	12:AB:143:LEU:C	2.42	0.43
13:AD:22:THR:OG1	13:AD:207:THR:OG1	2.36	0.43
14:AE:362:ARG:H	14:AE:365:GLN:HE21	1.66	0.43
17:C:40:VAL:HG13	22:H:339:ARG:CD	2.49	0.43
17:C:40:VAL:HG22	22:H:339:ARG:HE	1.83	0.43
18:D:262:A:H2'	18:D:263:A:C8	2.53	0.43
18:D:746:A:H2'	18:D:747:A:C8	2.53	0.43
18:D:986:U:H2'	18:D:987:G:C8	2.53	0.43
18:D:1103:C:O2	21:G:106:THR:HG21	2.18	0.43
18:D:1315:U:H2'	18:D:1316:G:O4'	2.19	0.43
21:G:64:LYS:HE2	21:G:64:LYS:HA	1.99	0.43
21:G:66:LYS:HB3	21:G:154:MET:HE3	1.99	0.43
21:G:117:LEU:HD21	21:G:141:LEU:CA	2.48	0.43
23:I:58:GLU:OE2	30:P:94:ALA:HB1	2.16	0.43
24:J:49:SER:O	24:J:53:VAL:HG13	2.18	0.43
24:J:105:MET:HE3	24:J:171:LEU:HD13	1.97	0.43
25:K:50:TYR:C	25:K:66:LYS:HE3	2.43	0.43
28:N:35:ALA:HB1	28:N:110:VAL:CG1	2.48	0.43
29:O:21:ILE:CD1	29:O:86:ALA:CB	2.97	0.43
29:O:89:GLU:HG3	29:O:90:TYR:N	2.33	0.43
32:R:25:GLU:OE2	32:R:30:LYS:HE3	2.18	0.43
34:T:5:THR:O	34:T:8:THR:OG1	2.27	0.43
35:U:9:HIS:O	35:U:16:PHE:HB3	2.19	0.43
38:X:71:ARG:NH1	38:X:72:GLU:HG3	2.33	0.43
38:X:90:ARG:NH1	38:X:96:PRO:O	2.51	0.43
41:a:208:C:H2'	41:a:209:C:C6	2.53	0.43
41:a:870:U:N3	41:a:871:U:C5	2.86	0.43
41:a:963:U:H2'	41:a:964:C:C6	2.53	0.43
41:a:966:G:O4'	41:a:2267:A:N6	2.51	0.43
41:a:1409:U:C2	41:a:1410:G:C8	3.06	0.43
41:a:1657:U:C2	41:a:1658:C:C5	3.06	0.43
41:a:2615:U:C2	49:i:4:GLN:HA	2.53	0.43
49:i:55:ILE:CD1	63:w:112:TYR:CD2	3.02	0.43
54:n:6:ASP:O	54:n:10:ASP:OD2	2.36	0.43
54:n:66:LEU:HD23	54:n:67:ILE:N	2.34	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:r:6:LEU:C	58:r:15:LEU:HD13	2.43	0.43
66:z:78:LYS:HG2	66:z:117:LEU:HD21	2.00	0.43
2:1:99:ARG:CZ	2:1:99:ARG:HB2	2.49	0.43
6:5:18:DG:C4	6:5:19:DC:C5	3.06	0.43
8:7:1:A:H2'	8:7:2:U:C6	2.50	0.43
10:A:19:G:N3	10:A:57:A:C4	2.87	0.43
11:AA:855:PRO:HD2	16:AG:105:ILE:CG2	2.41	0.43
13:AD:29:GLU:HB3	13:AD:200:LYS:HG3	1.99	0.43
14:AE:412:LEU:HA	14:AE:415:VAL:HG22	2.01	0.43
16:AG:353:HIS:C	16:AG:357:ASP:HB2	2.43	0.43
10:B:31:G:H5'	18:D:1339:A:C2	2.54	0.43
18:D:283:U:C2	18:D:284:C:C6	3.06	0.43
18:D:316:C:C2	18:D:317:U:C5	3.06	0.43
18:D:564:C:OP1	32:R:12:ARG:CZ	2.66	0.43
18:D:575:G:O2'	18:D:821:G:OP2	2.34	0.43
18:D:1160:G:C6	18:D:1161:C:C5	3.06	0.43
19:E:54:MET:HB2	19:E:54:MET:HE2	1.86	0.43
22:H:123:GLU:HA	22:H:128:ARG:HA	2.01	0.43
26:L:36:ILE:HD12	26:L:36:ILE:HA	1.81	0.43
28:N:10:MET:HB2	28:N:33:LYS:HZ2	1.84	0.43
29:O:86:ALA:C	29:O:89:GLU:HG2	2.43	0.43
32:R:24:LEU:HD23	32:R:95:TYR:HE1	1.83	0.43
36:V:31:HIS:NE2	36:V:34:TYR:HD2	2.15	0.43
36:V:63:GLU:HB2	36:V:73:TRP:CZ2	2.53	0.43
38:X:22:ILE:HG23	38:X:66:GLU:CD	2.44	0.43
41:a:39:G:H2'	41:a:40:U:H6	1.83	0.43
41:a:153:U:H2'	41:a:154:U:C6	2.53	0.43
41:a:532:A:N7	41:a:2021:C:O2'	2.44	0.43
41:a:580:U:C2	41:a:581:C:C5	3.07	0.43
41:a:997:G:H5"	66:z:92:ARG:NH1	2.34	0.43
41:a:1021:A:C2	41:a:1141:U:O4	2.71	0.43
41:a:1269:A:H2'	41:a:1270:C:C6	2.54	0.43
41:a:1506:U:H2'	41:a:1507:C:C6	2.54	0.43
41:a:1900:A:N1	41:a:1970:A:C6	2.87	0.43
41:a:2345:G:N3	41:a:2381:A:H2'	2.33	0.43
41:a:2393:U:C5'	55:o:30:ARG:NH1	2.76	0.43
41:a:2665:A:C2	41:a:2666:C:C6	3.07	0.43
41:a:2846:G:H2'	41:a:2847:U:O4'	2.19	0.43
44:d:39:A:C2	44:d:44:G:C2	3.07	0.43
50:j:146:ILE:HA	50:j:159:LYS:HZ1	1.82	0.43
50:j:204:LYS:HD3	50:j:205:PRO:HD2	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:r:90:LEU:HD21	58:r:94:ILE:HD11	2.00	0.43
62:v:104:GLU:OE1	62:v:104:GLU:HA	2.17	0.43
63:w:12:ARG:HE	63:w:20:MET:HE1	1.82	0.43
65:y:55:LEU:HA	65:y:77:HIS:CD2	2.54	0.43
2:1:19:LEU:HD23	2:1:19:LEU:C	2.43	0.43
3:2:56:GLU:OE1	3:2:86:THR:C	2.61	0.43
6:5:9:DG:H5'	11:AA:473:ARG:CD	2.45	0.43
9:9:70:GLU:HG3	9:9:71:CYS:N	2.34	0.43
11:AA:914:LYS:N	16:AG:105:ILE:C	2.76	0.43
11:AA:1157:GLN:HG3	11:AA:1159:VAL:HG13	2.00	0.43
16:AG:162:ILE:HD13	16:AG:167:MET:CE	2.49	0.43
16:AG:183:LEU:HD22	16:AG:195:LEU:HD13	2.00	0.43
10:B:49:G:O5'	10:B:49:G:H8	2.01	0.43
10:B:75:C:OP1	41:a:2602:A:C8	2.71	0.43
17:C:20:GLU:OE1	17:C:21:ILE:O	2.37	0.43
18:D:13:U:N3	18:D:915:A:C6	2.87	0.43
18:D:674:G:H2'	18:D:675:A:H8	1.84	0.43
18:D:1125:U:O2'	18:D:1126:U:O5'	2.32	0.43
18:D:1157:A:C2	18:D:1181:G:C5	3.06	0.43
18:D:1208:C:C2	18:D:1209:C:C6	3.07	0.43
18:D:1325:C:N3	18:D:1326:U:C5	2.87	0.43
18:D:1381:U:C4	18:D:1382:C:C5	3.07	0.43
18:D:1437:A:N3	18:D:1438:G:C8	2.86	0.43
19:E:16:LYS:HA	19:E:19:LYS:HE3	2.00	0.43
19:E:21:ASN:HB3	19:E:25:ARG:CZ	2.48	0.43
21:G:134:ALA:HA	21:G:137:ARG:HE	1.83	0.43
22:H:76:GLU:OE2	22:H:78:GLY:C	2.61	0.43
22:H:303:LEU:CD2	22:H:305:HIS:HB3	2.48	0.43
23:I:58:GLU:OE1	23:I:65:ARG:CZ	2.65	0.43
23:I:149:ILE:HG13	23:I:201:TRP:O	2.18	0.43
24:J:76:TYR:HE1	24:J:86:THR:HG21	1.83	0.43
26:L:2:ARG:HB2	26:L:4:TYR:CE1	2.53	0.43
27:M:17:LYS:NZ	27:M:18:PHE:CE1	2.78	0.43
27:M:23:LEU:N	27:M:23:LEU:CD1	2.81	0.43
35:U:7:ALA:HA	35:U:28:ARG:HD3	2.01	0.43
38:X:79:ARG:NH1	47:g:56:ARG:NH1	2.66	0.43
38:X:81:MET:HE1	38:X:92:ARG:CD	2.48	0.43
39:Y:99:LYS:CE	39:Y:140:GLU:OE2	2.66	0.43
41:a:61:C:C2	41:a:94:A:C2	3.06	0.43
41:a:307:G:N1	41:a:310:A:OP2	2.47	0.43
41:a:677:A:O2'	41:a:2071:A:H5'	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:a:841:G:C6	41:a:938:G:C6	3.06	0.43
41:a:969:G:H2'	41:a:970:U:C6	2.54	0.43
41:a:1074:G:C6	41:a:1075:C:N4	2.87	0.43
41:a:1169:A:N3	41:a:1169:A:O4'	2.51	0.43
41:a:1657:U:H2'	41:a:1658:C:H6	1.83	0.43
41:a:2466:C:C2	41:a:2467:C:C5	3.06	0.43
41:a:2529:G:N7	57:q:32:LYS:NZ	2.63	0.43
41:a:2616:C:C2	41:a:2617:U:C6	3.06	0.43
44:d:48:U:P	64:x:30:ARG:HH22	2.41	0.43
46:f:6:LYS:HD3	46:f:6:LYS:N	2.33	0.43
52:l:23:PHE:CE2	52:l:25:GLU:CB	3.01	0.43
52:l:131:THR:HG22	52:l:160:ALA:O	2.18	0.43
54:n:33:LYS:CA	54:n:96:MET:SD	3.07	0.43
61:u:122:VAL:CG1	61:u:125:LEU:CD2	2.90	0.43
62:v:74:THR:HA	62:v:88:ASN:O	2.19	0.43
65:y:106:LYS:CA	65:y:109:ARG:NH2	2.81	0.43
9:9:6:GLN:CA	9:9:9:GLN:NE2	2.78	0.43
9:9:31:ARG:NH1	41:a:1054:A:C1'	2.80	0.43
11:AA:811:ASN:ND2	11:AA:1098:LEU:O	2.51	0.43
14:AE:859:PRO:HD2	14:AE:862:THR:HG21	2.01	0.43
16:AG:252:VAL:HG13	16:AG:256:GLY:HA2	1.99	0.43
16:AG:402:THR:C	16:AG:405:ALA:H	2.26	0.43
17:C:60:LYS:NZ	18:D:735:C:C4'	2.74	0.43
18:D:414:A:C2	18:D:415:A:H1'	2.54	0.43
18:D:679:C:N3	18:D:680:C:C5	2.87	0.43
18:D:792:A:H1'	18:D:794:A:N7	2.34	0.43
18:D:1410:A:H2'	18:D:1411:C:C6	2.54	0.43
21:G:131:LYS:O	21:G:135:LEU:HD13	2.19	0.43
21:G:171:ILE:H	21:G:171:ILE:HD12	1.82	0.43
22:H:19:ARG:HD3	22:H:19:ARG:N	2.32	0.43
23:I:69:HIS:CD2	23:I:104:ALA:HB3	2.54	0.43
23:I:132:ARG:CB	23:I:135:LYS:HE3	2.49	0.43
23:I:157:LEU:CD1	23:I:166:GLU:OE1	2.66	0.43
26:L:53:LYS:HD2	26:L:53:LYS:O	2.18	0.43
28:N:31:LYS:N	28:N:31:LYS:HD2	2.34	0.43
34:T:3:LEU:HD23	34:T:4:SER:N	2.33	0.43
36:V:27:ARG:HH22	36:V:42:THR:N	2.16	0.43
40:Z:29:LYS:O	40:Z:30:PHE:HD2	2.02	0.43
41:a:196:A:C5	41:a:805:G:C6	3.07	0.43
41:a:479:A:H4'	41:a:480:A:OP1	2.18	0.43
41:a:1095:A:O2'	41:a:1096:A:O4'	2.36	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:a:1141:U:H4'	41:a:1142:A:O4'	2.18	0.43
41:a:1441:G:H2'	41:a:1442:U:H6	1.83	0.43
41:a:1565:C:OP1	48:h:18:LYS:HD2	2.19	0.43
41:a:1683:U:H2'	41:a:1684:G:H8	1.83	0.43
41:a:1879:C:H2'	41:a:1880:U:O4'	2.18	0.43
41:a:2462:C:C2	41:a:2463:C:C5	3.07	0.43
41:a:2768:U:OP1	59:s:85:LYS:HE3	2.19	0.43
44:d:45:A:C4	44:d:46:A:C8	3.05	0.43
44:d:69:G:C5	44:d:70:C:C6	3.06	0.43
44:d:89:U:O2'	44:d:90:C:P	2.76	0.43
48:h:183:LYS:CE	48:h:265:LYS:O	2.67	0.43
51:k:34:LEU:HB3	51:k:51:GLU:OE2	2.19	0.43
55:o:31:HIS:C	55:o:33:LEU:HG	2.43	0.43
55:o:39:LYS:HG2	55:o:42:ARG:HH12	1.82	0.43
60:t:50:GLY:O	60:t:53:LYS:NZ	2.47	0.43
61:u:103:ILE:HG23	61:u:104:GLN:HG2	1.99	0.43
62:v:1:MET:SD	62:v:44:ARG:HA	2.59	0.43
62:v:53:MET:O	62:v:57:VAL:HG12	2.18	0.43
2:1:74:ILE:HD12	2:1:74:ILE:N	2.34	0.43
3:2:56:GLU:CD	3:2:88:LYS:N	2.76	0.43
4:3:7:ARG:HG3	4:3:8:ASP:N	2.33	0.43
9:9:35:VAL:HG22	9:9:35:VAL:O	2.19	0.43
10:A:71:C:H2'	10:A:72:A:C1'	2.48	0.43
11:AA:444:ASP:OD1	11:AA:444:ASP:N	2.51	0.43
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:6:LEU:N	12:AB:88:VAL:HG21	2.31	0.43
12:AB:112:PRO:HA	12:AB:133:PRO:CG	2.49	0.43
12:AB:138:ARG:HG3	12:AB:154:VAL:O	2.19	0.43
14:AE:288:PRO:HD2	14:AE:291:ILE:CB	2.42	0.43
16:AG:402:THR:C	16:AG:405:ALA:HB3	2.41	0.43
17:C:60:LYS:NZ	18:D:735:C:P	2.92	0.43
18:D:34:C:H2'	18:D:35:G:H8	1.83	0.43
18:D:235:C:H2'	18:D:236:A:H8	1.84	0.43
18:D:553:A:H2'	18:D:554:A:H8	1.84	0.43
18:D:622:A:C8	18:D:623:C:C5	3.06	0.43
18:D:690:G:H2'	18:D:691:G:C8	2.54	0.43
18:D:1184:G:C2	18:D:1185:G:C8	3.07	0.43
22:H:74:ALA:HB3	22:H:83:LEU:HD23	1.99	0.43
24:J:41:HIS:ND1	24:J:44:ARG:CZ	2.82	0.43
26:L:9:MET:HE3	26:L:86:ARG:N	2.33	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:L:85:ILE:HG22	26:L:86:ARG:HG2	1.99	0.43
28:N:47:GLU:OE1	28:N:63:LEU:C	2.62	0.43
29:O:56:ASP:OD1	29:O:56:ASP:N	2.50	0.43
34:T:15:PHE:HD2	34:T:30:ALA:CB	2.31	0.43
34:T:63:ARG:HD2	34:T:67:LEU:HD21	2.00	0.43
36:V:28:PHE:CZ	36:V:37:PHE:HB3	2.53	0.43
41:a:66:C:H42	41:a:74:A:H62	1.67	0.43
41:a:74:A:N7	41:a:88:G:C5	2.87	0.43
41:a:197:A:N6	41:a:2430:A:H2'	2.34	0.43
41:a:573:U:O2'	41:a:574:A:H3'	2.19	0.43
41:a:587:C:O2	61:u:33:ARG:NH2	2.52	0.43
41:a:654:A:H61	55:o:19:LYS:CD	2.31	0.43
41:a:1028:A:N6	41:a:1125:G:H2'	2.34	0.43
41:a:1406:U:O2'	41:a:1407:G:C5'	2.66	0.43
41:a:1956:U:C2	41:a:1957:C:C6	3.06	0.43
41:a:2093:G:P	58:r:22:LYS:HG2	2.58	0.43
41:a:2884:U:O2	49:i:40:ARG:NH2	2.51	0.43
44:d:31:C:C2	44:d:32:U:C5	3.06	0.43
45:e:13:GLU:C	45:e:17:GLU:OE1	2.61	0.43
47:g:47:LYS:CE	54:n:115:ARG:HA	2.49	0.43
48:h:74:ILE:HB	48:h:96:TYR:CD1	2.53	0.43
48:h:265:LYS:HG3	48:h:266:PHE:CD2	2.52	0.43
49:i:17:ARG:CB	49:i:20:ASP:OD1	2.67	0.43
51:k:21:TYR:CE2	51:k:38:LYS:HB3	2.54	0.43
60:t:44:LYS:N	60:t:44:LYS:HD2	2.33	0.43
63:w:73:ASN:C	63:w:73:ASN:ND2	2.76	0.43
66:z:82:GLY:CA	66:z:117:LEU:HD11	2.48	0.43
3:2:6:ARG:HE	3:2:42:GLU:CD	2.27	0.43
9:9:6:GLN:CA	9:9:9:GLN:HE22	2.30	0.43
11:AA:829:THR:HG23	11:AA:1059:ARG:HG2	2.00	0.43
12:AB:90:SER:HB2	12:AB:94:HIS:CE1	2.54	0.43
12:AB:115:LYS:CD	12:AB:129:ILE:CD1	2.63	0.43
12:AB:126:PHE:CE1	12:AB:128:ALA:HB2	2.53	0.43
12:AB:138:ARG:HD2	12:AB:154:VAL:C	2.41	0.43
14:AE:975:ILE:HG22	14:AE:977:SER:H	1.83	0.43
16:AG:15:GLU:HA	16:AG:18:LEU:HB2	2.00	0.43
16:AG:126:VAL:HG13	16:AG:130:PHE:CE2	2.53	0.43
16:AG:277:ASP:HB2	16:AG:282:GLN:CB	2.49	0.43
17:C:27:ALA:HB1	17:C:30:LYS:HE3	2.00	0.43
17:C:27:ALA:CA	17:C:30:LYS:HE3	2.49	0.43
18:D:33:A:H2'	18:D:34:C:C6	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:D:246:A:C2	18:D:282:A:C4	3.06	0.43
18:D:360:G:H2'	18:D:361:G:C8	2.53	0.43
18:D:562:U:C3'	32:R:14:ARG:NH1	2.81	0.43
18:D:611:C:N3	18:D:612:C:C5	2.87	0.43
18:D:621:A:H2'	18:D:622:A:C8	2.54	0.43
18:D:689:C:H2'	18:D:690:G:O4'	2.18	0.43
18:D:723:U:C2	20:F:49:LYS:HE3	2.54	0.43
18:D:1120:C:H2'	18:D:1121:U:H6	1.83	0.43
18:D:1194:U:H2'	18:D:1195:C:C6	2.54	0.43
18:D:1276:G:O5'	18:D:1276:G:H8	2.02	0.43
18:D:1328:C:H5"	38:X:28:THR:HG21	2.01	0.43
19:E:60:ARG:HG3	19:E:64:LYS:NZ	2.34	0.43
20:F:51:SER:OG	20:F:55:ARG:NH2	2.52	0.43
22:H:135:LEU:CB	22:H:157:ILE:CB	2.97	0.43
22:H:332:VAL:O	22:H:333:LEU:HB2	2.17	0.43
25:K:157:ARG:HG2	25:K:159:LYS:HD3	2.01	0.43
29:O:5:GLN:NE2	29:O:22:LYS:HZ2	2.15	0.43
29:O:39:PHE:CD1	29:O:44:ALA:HB1	2.53	0.43
31:Q:85:MET:HB3	31:Q:113:VAL:HG21	2.00	0.43
32:R:74:LEU:HD11	32:R:80:ILE:CG1	2.48	0.43
41:a:30:G:P	66:z:5:LYS:HZ3	2.28	0.43
41:a:271:G:C2	41:a:272:A:C5	3.07	0.43
41:a:996:A:N6	41:a:1160:G:C6	2.87	0.43
41:a:1141:U:O2	41:a:1142:A:N6	2.52	0.43
41:a:1360:G:C8	41:a:1361:G:C8	3.06	0.43
41:a:1386:C:H2'	41:a:1387:A:H8	1.82	0.43
41:a:1839:G:C4	41:a:1840:G:C8	3.06	0.43
41:a:2332:C:OP1	42:b:77:ARG:NH2	2.52	0.43
44:d:55:U:O2'	54:n:26:MET:CE	2.67	0.43
52:l:47:LYS:HA	52:l:51:GLU:CD	2.44	0.43
52:l:170:ARG:NH1	52:l:175:ILE:HA	2.34	0.43
59:s:88:THR:OG1	59:s:91:GLU:HG3	2.18	0.43
62:v:105:MET:HE1	62:v:113:ALA:HA	2.01	0.43
9:9:80:THR:O	41:a:1108:U:OP1	2.37	0.43
11:AA:300:ASP:OD1	11:AA:313:ALA:N	2.52	0.43
11:AA:853:ASP:HA	16:AG:102:PHE:CE1	2.54	0.43
11:AA:858:GLY:H	16:AG:38:LYS:HE3	1.84	0.43
11:AA:887:VAL:HG23	16:AG:105:ILE:CG1	2.41	0.43
13:AD:288:GLU:C	13:AD:290:LEU:H	2.26	0.43
14:AE:117:LEU:HG	14:AE:118:LYS:HG3	2.00	0.43
16:AG:10:GLU:C	16:AG:12:VAL:HG22	2.44	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AG:398:LEU:C	16:AG:398:LEU:HD12	2.44	0.43
18:D:57:G:H2'	18:D:58:C:C6	2.54	0.43
18:D:68:G:H3'	18:D:69:G:H5"	2.01	0.43
18:D:736:C:H4'	26:L:88:MET:HE2	1.99	0.43
18:D:1244:G:C6	18:D:1294:G:C6	3.06	0.43
18:D:1464:U:C2	18:D:1465:A:C8	3.07	0.43
18:D:1513:A:H2'	18:D:1514:G:H8	1.84	0.43
21:G:30:PHE:CG	21:G:45:LYS:NZ	2.87	0.43
23:I:54:ARG:NH2	23:I:56:VAL:CG2	2.82	0.43
31:Q:20:VAL:CG1	31:Q:21:ALA:N	2.82	0.43
31:Q:47:ALA:O	31:Q:52:PHE:HB2	2.19	0.43
31:Q:87:LYS:CG	31:Q:113:VAL:CG2	2.89	0.43
35:U:12:LYS:HD2	35:U:13:LYS:HG2	2.00	0.43
41:a:125:A:C6	53:m:10:LEU:HD13	2.54	0.43
41:a:531:C:C5	41:a:2035:G:C2	3.07	0.43
41:a:1065:U:O2'	41:a:1066:U:P	2.77	0.43
41:a:1319:C:O2'	41:a:1320:C:H5'	2.18	0.43
41:a:2037:A:H2'	41:a:2038:G:C8	2.54	0.43
41:a:2061:G:N3	41:a:2063:C:C5	2.87	0.43
41:a:2262:U:OP1	41:a:2387:U:O2'	2.33	0.43
41:a:2297:A:C2	41:a:2321:U:C5	3.07	0.43
50:j:37:VAL:HG13	50:j:48:ILE:CD1	2.49	0.43
52:l:105:LEU:O	52:l:109:LEU:HG	2.18	0.43
54:n:126:GLY:HA2	54:n:163:ASP:HA	2.01	0.43
58:r:137:GLU:OE1	58:r:137:GLU:N	2.41	0.43
2:1:1:MET:SD	2:1:62:ASP:OD2	2.76	0.43
2:1:85:ILE:O	2:1:85:ILE:HG13	2.19	0.43
3:2:37:ASP:OD2	3:2:37:ASP:C	2.62	0.43
3:2:76:ARG:CZ	3:2:77:ARG:O	2.67	0.43
9:9:3:LEU:CD1	9:9:5:LEU:H	2.31	0.43
9:9:18:VAL:HG13	9:9:71:CYS:HB2	2.00	0.43
11:AA:699:LEU:HG	11:AA:799:ASN:HD22	1.84	0.43
12:AB:2:GLN:HA	12:AB:59:PHE:C	2.43	0.43
12:AB:148:LYS:HB2	12:AB:149:GLU:H	1.72	0.43
14:AE:694:SER:OG	14:AE:738:ARG:NE	2.52	0.43
10:B:19:G:N3	10:B:57:A:C4	2.87	0.43
10:B:35:A:H2'	10:B:36:U:O4'	2.18	0.43
17:C:29:LEU:CD2	17:C:59:ILE:HD13	2.48	0.43
18:D:381:C:H2'	18:D:382:A:O4'	2.19	0.43
18:D:1073:U:O2	21:G:103:ASN:ND2	2.52	0.43
18:D:1127:G:C6	18:D:1128:C:C5	3.07	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:D:1261:A:C5	18:D:1262:C:C6	3.07	0.43
21:G:208:ARG:NH1	21:G:211:THR:CG2	2.82	0.43
22:H:124:LEU:O	22:H:127:ILE:O	2.36	0.43
22:H:305:HIS:CG	22:H:306:VAL:H	2.36	0.43
23:I:22:TRP:CH2	23:I:32:ASN:HB2	2.53	0.43
23:I:72:ARG:O	23:I:75:ILE:HG22	2.19	0.43
25:K:45:ARG:CG	25:K:45:ARG:NE	2.72	0.43
25:K:97:GLN:NE2	25:K:98:PRO:O	2.52	0.43
25:K:157:ARG:NH2	28:N:43:GLU:OE2	2.46	0.43
26:L:1:MET:HE2	26:L:67:PRO:N	2.34	0.43
26:L:2:ARG:C	26:L:65:GLU:OE1	2.62	0.43
26:L:25:TYR:O	26:L:26:THR:C	2.61	0.43
30:P:45:ARG:HD3	30:P:47:GLU:OE2	2.19	0.43
30:P:64:GLN:HG2	33:S:101:TRP:HH2	1.84	0.43
32:R:18:LYS:HD3	32:R:19:SER:N	2.33	0.43
34:T:63:ARG:HD2	34:T:67:LEU:HD23	2.01	0.43
34:T:70:LEU:CD2	34:T:78:TYR:HA	2.49	0.43
37:W:17:LYS:O	37:W:21:LYS:HD3	2.19	0.43
37:W:44:MET:HE1	37:W:62:VAL:HG22	2.01	0.43
38:X:71:ARG:CZ	47:g:50:ASP:O	2.67	0.43
41:a:133:U:H2'	41:a:134:G:C8	2.54	0.43
41:a:192:C:C5	41:a:193:U:C6	3.07	0.43
41:a:310:A:C2	41:a:330:A:C4	3.07	0.43
41:a:353:C:C2	41:a:354:A:C8	3.07	0.43
41:a:407:G:C2	41:a:408:G:C8	3.07	0.43
41:a:685:A:N1	41:a:787:C:H1'	2.33	0.43
41:a:814:C:C2	41:a:815:C:C5	3.07	0.43
41:a:1076:C:H2'	41:a:1077:A:C8	2.54	0.43
41:a:1139:G:O3'	59:s:26:GLY:HA3	2.19	0.43
41:a:1144:A:C5	41:a:1145:C:C5	3.07	0.43
41:a:1145:C:H2'	41:a:1146:C:H6	1.84	0.43
41:a:1996:C:OP1	60:t:31:ARG:NE	2.52	0.43
41:a:2756:U:N3	41:a:2758:A:C6	2.87	0.43
41:a:2806:C:H2'	41:a:2807:U:O4'	2.18	0.43
41:a:2884:U:C2	49:i:40:ARG:CZ	3.02	0.43
43:c:76:GLU:CD	43:c:76:GLU:C	2.87	0.43
52:l:6:LYS:NZ	52:l:119:ILE:C	2.77	0.43
62:v:31:PHE:C	62:v:104:GLU:OE1	2.62	0.43
62:v:105:MET:HG2	62:v:117:PHE:CZ	2.54	0.43
63:w:33:ILE:HG13	63:w:112:TYR:HD1	1.83	0.43
66:z:76:TYR:OH	66:z:92:ARG:HG2	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:24:ILE:HG21	2:1:36:LEU:CD1	2.42	0.42
2:1:31:GLN:H	2:1:31:GLN:CD	2.22	0.42
2:1:75:PHE:HE2	2:1:77:ASP:OD2	2.02	0.42
2:1:95:ARG:C	2:1:95:ARG:HD2	2.44	0.42
3:2:3:ARG:HG3	3:2:5:GLU:OE1	2.19	0.42
4:3:7:ARG:O	4:3:25:VAL:O	2.36	0.42
10:A:71:C:C3'	10:A:72:A:C8	2.99	0.42
11:AA:646:SER:OG	11:AA:647:ARG:N	2.52	0.42
12:AB:140:MET:CE	30:P:102:LEU:CG	2.85	0.42
14:AE:66:LYS:HB2	14:AE:69:GLU:HB2	2.01	0.42
16:AG:224:LYS:HB2	16:AG:276:TRP:CH2	2.54	0.42
16:AG:226:ALA:O	16:AG:228:ARG:N	2.52	0.42
16:AG:234:ALA:HB3	16:AG:271:ILE:HD13	2.01	0.42
16:AG:431:ALA:O	16:AG:435:LEU:HG	2.18	0.42
17:C:33:ILE:O	22:H:338:GLU:HB3	2.19	0.42
18:D:562:U:C2'	32:R:14:ARG:NH1	2.78	0.42
18:D:687:A:C2	18:D:704:A:C6	3.07	0.42
18:D:964:A:C2	18:D:969:A:N3	2.87	0.42
18:D:1107:C:OP1	23:I:172:ARG:HG3	2.19	0.42
18:D:1408:A:H2'	18:D:1409:C:H6	1.84	0.42
18:D:1437:A:C4	18:D:1438:G:C8	3.08	0.42
22:H:31:ILE:O	22:H:31:ILE:HG13	2.18	0.42
23:I:149:ILE:HG13	23:I:202:ILE:HG12	2.01	0.42
27:M:18:PHE:HD2	27:M:59:LEU:CD2	2.31	0.42
32:R:59:ASN:OD1	32:R:59:ASN:C	2.62	0.42
41:a:78:U:C5'	45:e:4:LYS:NZ	2.81	0.42
41:a:320:A:N3	52:l:163:ASN:ND2	2.67	0.42
41:a:538:A:H2'	41:a:539:G:O4'	2.18	0.42
41:a:858:G:P	42:b:78:LYS:HZ1	2.39	0.42
41:a:1009:A:OP2	59:s:39:LYS:NZ	2.37	0.42
41:a:1114:C:H2'	41:a:1115:G:C8	2.54	0.42
41:a:1511:G:H2'	41:a:1512:C:H6	1.84	0.42
41:a:1695:G:N7	48:h:14:ARG:NH2	2.66	0.42
41:a:1707:G:C5	41:a:1708:C:C5	3.07	0.42
41:a:2216:G:H2'	41:a:2217:G:H8	1.83	0.42
41:a:2332:C:P	42:b:77:ARG:HH21	2.42	0.42
41:a:2467:C:OP1	57:q:8:LYS:NZ	2.45	0.42
41:a:2516:A:O2'	41:a:2517:C:H5'	2.18	0.42
41:a:2845:U:H5"	65:y:52:ASN:O	2.19	0.42
44:d:57:A:N7	54:n:26:MET:CE	2.82	0.42
46:f:10:THR:CB	46:f:56:LYS:NZ	2.81	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:h:94:VAL:HG12	48:h:95:LEU:N	2.34	0.42
48:h:130:LEU:CD2	48:h:192:LEU:HD21	2.48	0.42
54:n:20:PHE:HB3	54:n:22:TYR:CE1	2.54	0.42
56:p:94:TYR:HE1	56:p:152:ARG:HD2	1.83	0.42
56:p:149:ARG:HD2	56:p:162:VAL:O	2.18	0.42
59:s:1:MET:SD	59:s:2:LYS:C	3.02	0.42
60:t:7:MET:SD	60:t:18:ARG:HG3	2.59	0.42
60:t:59:LYS:NZ	60:t:92:GLU:CG	2.82	0.42
63:w:12:ARG:NH1	63:w:20:MET:HE1	2.33	0.42
66:z:76:TYR:CZ	66:z:80:ILE:HD11	2.54	0.42
5:4:2:PHE:CD1	5:4:56:PHE:CE1	3.08	0.42
6:5:10:DT:C4	11:AA:62:TYR:HE2	2.27	0.42
8:7:49:G:C2'	8:7:50:U:H5'	2.49	0.42
10:A:11:A:H2'	10:A:12:G:C8	2.54	0.42
10:A:19:G:N2	41:a:2112:G:C1'	2.82	0.42
10:A:19:G:O6	41:a:2111:U:H3'	2.18	0.42
10:A:47:U:O2'	10:A:50:U:OP1	2.37	0.42
10:A:49:G:H8	10:A:49:G:O5'	2.01	0.42
11:AA:22:LEU:HB3	11:AA:655:VAL:HG11	2.01	0.42
11:AA:125:GLY:H	11:AA:495:ALA:HB1	1.84	0.42
12:AB:4:TRP:CE2	12:AB:27:ASN:ND2	2.87	0.42
13:AC:48:LEU:HD23	13:AC:48:LEU:HA	1.87	0.42
14:AE:513:MET:HE1	14:AE:579:LEU:HD13	2.01	0.42
16:AG:288:MET:HE3	16:AG:288:MET:C	2.45	0.42
10:B:11:A:H2'	10:B:12:G:C8	2.54	0.42
10:B:12:G:H2'	10:B:13:C:OP1	2.19	0.42
10:B:47:U:O2'	10:B:50:U:OP1	2.37	0.42
10:B:57:A:O5'	10:B:58:A:P	2.77	0.42
18:D:119:A:C2	18:D:240:G:C8	3.07	0.42
18:D:320:A:H2'	18:D:321:A:O4'	2.19	0.42
18:D:384:G:H2'	18:D:385:C:C6	2.54	0.42
18:D:393:A:C2	18:D:394:G:C8	3.07	0.42
18:D:1526:G:P	20:F:42:THR:HG23	2.59	0.42
19:E:48:GLN:CD	19:E:49:LYS:N	2.77	0.42
20:F:39:GLU:OE2	20:F:44:GLU:HA	2.18	0.42
21:G:26:LYS:CE	21:G:193:PRO:HG2	2.49	0.42
23:I:112:ASP:O	23:I:116:VAL:HG23	2.18	0.42
26:L:29:ILE:HD12	26:L:29:ILE:H	1.83	0.42
30:P:45:ARG:CD	30:P:47:GLU:OE2	2.67	0.42
31:Q:35:THR:HA	31:Q:42:LEU:HG	2.01	0.42
32:R:80:ILE:CG2	32:R:81:LEU:N	2.82	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:W:12:ASP:OD2	37:W:35:SER:CB	2.66	0.42
37:W:40:ILE:HG22	37:W:67:VAL:HA	2.01	0.42
38:X:64:VAL:O	38:X:64:VAL:HG13	2.19	0.42
38:X:101:ARG:C	38:X:103:LYS:H	2.26	0.42
39:Y:14:ALA:C	39:Y:50:LYS:HD2	2.44	0.42
39:Y:23:VAL:HG23	39:Y:27:LEU:HD23	2.01	0.42
41:a:533:G:H2'	41:a:534:U:C6	2.54	0.42
41:a:838:C:C2	41:a:839:U:C6	3.07	0.42
41:a:1212:G:O2'	41:a:1236:G:N2	2.47	0.42
41:a:1365:A:O5'	43:c:28:ARG:NH2	2.51	0.42
41:a:1509:A:N3	41:a:1510:G:C8	2.87	0.42
41:a:1778:U:C4	41:a:1784:A:C4	3.07	0.42
41:a:2557:G:H2'	41:a:2558:C:H6	1.84	0.42
41:a:2579:C:O3'	50:j:137:SER:OG	2.32	0.42
45:e:37:LEU:HD21	45:e:43:LEU:CD2	2.49	0.42
50:j:81:GLU:O	50:j:82:PHE:HD1	2.01	0.42
50:j:91:THR:HG22	50:j:92:VAL:N	2.34	0.42
50:j:156:PHE:CE2	59:s:81:ILE:HD13	2.54	0.42
54:n:12:VAL:HG13	54:n:172:ALA:CB	2.49	0.42
54:n:38:MET:HE3	54:n:57:LEU:CG	2.49	0.42
54:n:73:SER:OG	54:n:80:ARG:HA	2.19	0.42
56:p:45:HIS:HA	56:p:50:LEU:HD13	2.01	0.42
59:s:125:TYR:HE2	59:s:130:HIS:CB	2.32	0.42
59:s:125:TYR:CD2	59:s:130:HIS:HB3	2.54	0.42
60:t:7:MET:C	60:t:18:ARG:NH1	2.77	0.42
65:y:27:GLU:HB3	65:y:87:LYS:HZ1	1.83	0.42
6:5:20:DC:H1'	6:5:21:DA:H5'	2.00	0.42
9:9:15:VAL:HG22	9:9:66:GLY:HA3	2.00	0.42
10:A:18:G:H2'	10:A:57:A:C2	2.55	0.42
10:A:22:G:OP2	10:A:22:G:C8	2.72	0.42
10:A:32:C:O3'	27:M:86:GLN:NE2	2.51	0.42
14:AE:1036:ARG:HE	14:AE:1081:VAL:HG21	1.83	0.42
16:AG:216:ILE:HG13	16:AG:216:ILE:H	1.63	0.42
17:C:44:ILE:CG2	22:H:340:ARG:HB2	2.49	0.42
18:D:120:A:O2'	18:D:122:G:N7	2.48	0.42
18:D:404:G:N7	24:J:2:ALA:HB3	2.33	0.42
18:D:1149:C:N3	18:D:1150:A:N7	2.67	0.42
18:D:1317:C:OP2	33:S:28:LYS:CE	2.66	0.42
20:F:14:VAL:O	20:F:18:ARG:HG3	2.19	0.42
21:G:55:ALA:O	21:G:59:LYS:HG2	2.19	0.42
28:N:66:PHE:C	28:N:67:GLN:OE1	2.62	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:X:71:ARG:NH1	47:g:51:VAL:O	2.52	0.42
39:Y:14:ALA:O	39:Y:15:GLY:C	2.61	0.42
41:a:1198:U:H2'	41:a:1199:U:H6	1.83	0.42
41:a:1665:A:C5'	60:t:66:LYS:HZ2	2.32	0.42
41:a:1827:U:O2'	41:a:1828:G:H5'	2.19	0.42
41:a:1863:G:H2'	41:a:1864:U:H6	1.83	0.42
41:a:2002:G:OP1	63:w:13:ASN:HA	2.19	0.42
41:a:2215:C:H2'	41:a:2216:G:C8	2.54	0.42
41:a:2305:U:H5"	54:n:131:GLY:HA3	2.00	0.42
41:a:2387:U:C4'	42:b:41:ARG:NH1	2.81	0.42
41:a:2547:A:H4'	60:t:29:HIS:NE2	2.34	0.42
41:a:2547:A:H5'	60:t:29:HIS:NE2	2.34	0.42
48:h:71:LYS:CB	48:h:96:TYR:CZ	3.03	0.42
52:l:170:ARG:CZ	52:l:174:GLY:O	2.66	0.42
55:o:45:ARG:HD2	55:o:45:ARG:C	2.43	0.42
58:r:93:SER:OG	58:r:121:VAL:HG13	2.18	0.42
62:v:49:ALA:O	62:v:50:ARG:C	2.62	0.42
66:z:91:ASP:O	66:z:95:LEU:HG	2.20	0.42
10:A:57:A:O5'	10:A:58:A:P	2.77	0.42
12:AB:26:VAL:HG13	12:AB:58:GLU:H	1.84	0.42
13:AC:228:LEU:HD21	13:AD:224:LEU:HD23	2.01	0.42
13:AD:86:LYS:NZ	14:AE:532:GLU:OE2	2.44	0.42
14:AE:609:TYR:HD2	14:AE:610:ARG:HD2	1.84	0.42
16:AG:343:ASP:HB3	16:AG:347:LYS:HE3	2.01	0.42
16:AG:440:VAL:HG13	16:AG:444:LEU:HB2	2.00	0.42
17:C:34:THR:HB	17:C:38:LYS:N	2.35	0.42
18:D:43:C:P	35:U:12:LYS:HE3	2.59	0.42
18:D:124:C:H2'	18:D:125:U:H6	1.84	0.42
18:D:195:A:H5"	19:E:64:LYS:HZ1	1.84	0.42
18:D:256:U:H2'	18:D:257:G:C8	2.55	0.42
18:D:505:G:C2	18:D:506:G:C5	3.07	0.42
18:D:520:A:C2'	32:R:70:GLU:OE1	2.67	0.42
18:D:619:U:H1'	24:J:128:ARG:NH1	2.34	0.42
18:D:619:U:O4'	24:J:128:ARG:CZ	2.67	0.42
18:D:796:C:N3	18:D:797:C:C5	2.87	0.42
18:D:1073:U:C2	18:D:1074:G:C8	3.07	0.42
18:D:1152:A:P	30:P:72:ARG:HH22	2.43	0.42
18:D:1318:A:OP1	37:W:7:LYS:NZ	2.52	0.42
18:D:1329:A:OP1	38:X:28:THR:CB	2.66	0.42
18:D:1382:C:O2	18:D:1382:C:H2'	2.19	0.42
19:E:9:LYS:CG	19:E:13:GLN:NE2	2.82	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:H:74:ALA:HB3	22:H:83:LEU:CD2	2.50	0.42
23:I:23:PHE:CD2	30:P:97:ASP:HB2	2.53	0.42
23:I:156:ARG:O	23:I:156:ARG:HG3	2.20	0.42
25:K:68:ARG:O	25:K:69:ARG:NH1	2.52	0.42
25:K:100:SER:O	25:K:103:THR:HG22	2.20	0.42
25:K:132:ASN:OD1	25:K:134:ILE:HG22	2.18	0.42
27:M:99:LEU:O	27:M:103:TRP:CG	2.73	0.42
29:O:35:LEU:CD2	29:O:45:ARG:HG2	2.50	0.42
29:O:80:ARG:O	29:O:84:THR:HG23	2.18	0.42
30:P:7:ARG:HA	30:P:75:ASP:OD1	2.20	0.42
30:P:56:HIS:C	30:P:57:VAL:HG23	2.44	0.42
32:R:116:LYS:O	32:R:117:TYR:HD1	2.02	0.42
35:U:5:ARG:HA	35:U:71:VAL:HG21	2.01	0.42
36:V:43:LYS:C	36:V:44:LEU:HD12	2.45	0.42
38:X:25:VAL:O	38:X:25:VAL:HG13	2.19	0.42
39:Y:32:VAL:HG13	39:Y:58:ILE:HG21	2.00	0.42
39:Y:99:LYS:HD2	39:Y:140:GLU:OE2	2.19	0.42
39:Y:102:ARG:NH1	39:Y:139:VAL:HG11	2.33	0.42
41:a:136:G:H2'	41:a:137:U:H6	1.85	0.42
41:a:471:A:H2'	41:a:472:A:O4'	2.19	0.42
41:a:973:A:O4'	41:a:1188:U:C6	2.72	0.42
41:a:1064:C:H2'	41:a:1065:U:C6	2.55	0.42
41:a:1665:A:O3'	60:t:66:LYS:CD	2.67	0.42
41:a:1792:G:H5'	48:h:204:VAL:CG2	2.49	0.42
41:a:1906:G:C8	41:a:1929:G:C5	3.08	0.42
41:a:2093:G:P	58:r:22:LYS:CG	3.07	0.42
41:a:2228:G:H2'	41:a:2229:U:C6	2.54	0.42
41:a:2249:U:H3'	41:a:2250:G:C5'	2.50	0.42
41:a:2273:A:H2'	41:a:2274:A:C8	2.54	0.42
41:a:2287:A:N7	41:a:2289:G:C8	2.87	0.42
41:a:2554:U:H2'	41:a:2555:U:C6	2.55	0.42
41:a:2821:A:C2	41:a:2822:G:C4	3.07	0.42
45:e:8:GLU:O	45:e:9:LYS:HD3	2.19	0.42
49:i:4:GLN:OE1	49:i:8:PRO:HD3	2.19	0.42
50:j:16:THR:HG23	50:j:20:VAL:O	2.19	0.42
50:j:61:THR:HG23	50:j:63:PRO:HD2	2.00	0.42
54:n:104:ILE:HD11	54:n:174:ASP:O	2.19	0.42
55:o:30:ARG:CZ	61:u:62:PRO:HB3	2.50	0.42
56:p:70:ALA:HA	56:p:73:ASN:HD22	1.84	0.42
58:r:8:LYS:NZ	58:r:9:VAL:O	2.52	0.42
58:r:114:GLU:OE2	58:r:133:GLN:N	2.53	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:t:110:GLU:OE1	60:t:110:GLU:HA	2.19	0.42
62:v:112:LEU:HD12	62:v:112:LEU:N	2.34	0.42
63:w:70:THR:O	63:w:71:ARG:HB2	2.20	0.42
66:z:111:GLU:OE2	66:z:112:LYS:HD2	2.19	0.42
1:0:77:PHE:CD1	1:0:77:PHE:C	2.98	0.42
4:3:35:ILE:HD11	4:3:62:GLU:C	2.44	0.42
9:9:87:GLU:OE1	9:9:91:ALA:O	2.38	0.42
11:AA:478:ARG:HD2	11:AA:492:MET:HA	2.02	0.42
11:AA:861:ALA:HB1	11:AA:882:ILE:HD13	2.01	0.42
12:AB:81:PHE:CD1	14:AE:141:PHE:O	2.72	0.42
13:AD:46:ILE:HD11	13:AD:224:LEU:HD13	2.02	0.42
14:AE:287:ALA:HB2	14:AE:292:VAL:HG11	1.85	0.42
18:D:250:A:O4’	18:D:252:U:C6	2.72	0.42
18:D:427:U:OP2	18:D:428:G:O2’	2.31	0.42
18:D:563:A:C2	18:D:567:G:C6	3.07	0.42
18:D:662:U:H2’	18:D:663:A:C8	2.55	0.42
18:D:768:A:C5	18:D:769:G:C8	3.08	0.42
18:D:877:G:H5”	28:N:80:ARG:CD	2.49	0.42
18:D:1302:C:OP1	38:X:13:LYS:NZ	2.30	0.42
19:E:50:ALA:O	19:E:54:MET:HG3	2.20	0.42
21:G:134:ALA:HA	21:G:137:ARG:NE	2.35	0.42
22:H:308:GLU:OE1	22:H:308:GLU:N	2.52	0.42
24:J:67:VAL:CG1	24:J:71:GLN:HB3	2.50	0.42
24:J:67:VAL:C	24:J:72:PHE:CE2	2.98	0.42
24:J:117:LEU:HD23	24:J:154:ARG:HH21	1.84	0.42
25:K:133:PRO:HA	25:K:136:VAL:HG12	2.02	0.42
26:L:18:VAL:HA	26:L:21:MET:CE	2.47	0.42
30:P:40:ILE:HD12	30:P:73:LEU:HD22	2.02	0.42
35:U:19:VAL:HG11	35:U:52:LEU:CD2	2.50	0.42
37:W:66:MET:SD	37:W:66:MET:C	3.03	0.42
39:Y:99:LYS:CE	39:Y:138:VAL:O	2.67	0.42
41:a:6:A:O3’	59:s:132:HIS:HE1	2.03	0.42
41:a:136:G:H2’	41:a:137:U:C6	2.54	0.42
41:a:209:C:N3	41:a:210:C:C5	2.88	0.42
41:a:780:G:O2’	41:a:783:A:N6	2.53	0.42
41:a:1588:G:N1	41:a:1589:U:O4	2.53	0.42
41:a:1589:U:O2’	41:a:1590:A:O5’	2.29	0.42
41:a:1709:U:H2’	41:a:1710:G:C8	2.55	0.42
41:a:2052:A:O2’	50:j:148:GLN:O	2.37	0.42
41:a:2813:A:H2’	41:a:2814:A:H8	1.84	0.42
41:a:2859:G:H2’	41:a:2860:A:C8	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:d:39:A:C2	44:d:44:G:C4	3.07	0.42
48:h:91:ILE:HG22	48:h:92:ALA:N	2.33	0.42
52:l:6:LYS:NZ	52:l:119:ILE:CG2	2.83	0.42
53:m:25:LYS:HG3	53:m:29:GLN:NE2	2.34	0.42
60:t:1:MET:HE1	60:t:32:TYR:CB	2.49	0.42
62:v:95:LEU:C	62:v:96:ILE:HD13	2.45	0.42
64:x:83:LEU:HD23	64:x:88:LYS:HD3	2.02	0.42
65:y:106:LYS:HB3	65:y:109:ARG:HH22	1.84	0.42
66:z:12:ALA:O	66:z:16:LYS:HG2	2.19	0.42
2:1:98:LYS:CD	41:a:2012:G:OP1	2.63	0.42
3:2:11:LEU:HD11	3:2:46:ALA:CB	2.50	0.42
3:2:42:GLU:OE1	3:2:42:GLU:HA	2.19	0.42
5:4:80:HIS:HE1	5:4:82:TYR:CG	2.37	0.42
6:5:16:DG:N1	11:AA:451:ARG:NH2	2.66	0.42
9:9:105:LYS:O	9:9:106:PHE:HB3	2.18	0.42
12:AB:120:GLU:H	12:AB:162:LEU:CD1	2.33	0.42
13:AD:31:LEU:HD21	13:AD:39:LEU:HD12	2.00	0.42
14:AE:97:VAL:HG12	14:AE:101:ARG:HG3	2.01	0.42
16:AG:10:GLU:CA	16:AG:12:VAL:HG22	2.50	0.42
16:AG:161:VAL:HB	16:AG:196:PHE:CE1	2.54	0.42
16:AG:208:LEU:HA	16:AG:208:LEU:HD23	1.78	0.42
16:AG:288:MET:HE2	16:AG:288:MET:HB3	1.75	0.42
16:AG:318:ILE:CG1	16:AG:338:VAL:HG11	2.48	0.42
10:B:18:G:H2'	10:B:57:A:C2	2.55	0.42
18:D:119:A:C4	18:D:240:G:N7	2.88	0.42
18:D:306:A:C4	18:D:307:C:C6	3.08	0.42
18:D:552:U:H2'	18:D:553:A:H8	1.84	0.42
18:D:953:G:O6	38:X:103:LYS:HE3	2.18	0.42
20:F:31:GLU:CD	20:F:34:ARG:NH2	2.77	0.42
21:G:101:LEU:HD22	21:G:157:LEU:HD11	1.99	0.42
22:H:34:ASP:OD1	22:H:50:ALA:HB3	2.20	0.42
22:H:308:GLU:C	22:H:310:ASP:H	2.25	0.42
22:H:310:ASP:HB2	22:H:316:ILE:HD11	2.00	0.42
22:H:330:VAL:HB	22:H:344:LEU:HD23	2.01	0.42
22:H:331:MET:SD	22:H:348:GLN:HG2	2.60	0.42
24:J:139:PRO:N	24:J:182:PHE:CE2	2.88	0.42
24:J:153:SER:OG	24:J:156:LYS:NZ	2.53	0.42
24:J:170:TRP:CD1	24:J:171:LEU:HG	2.54	0.42
26:L:88:MET:SD	26:L:90:MET:HE3	2.60	0.42
29:O:50:GLN:OE1	29:O:50:GLN:HA	2.20	0.42
32:R:57:LEU:HG	32:R:58:THR:N	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:T:10:LYS:CE	34:T:10:LYS:HA	2.49	0.42
34:T:10:LYS:HA	34:T:10:LYS:HE2	2.00	0.42
34:T:70:LEU:HG	34:T:78:TYR:HB2	2.02	0.42
35:U:8:ARG:HD3	35:U:17:TYR:CE1	2.54	0.42
41:a:340:A:H2'	41:a:341:C:O4'	2.19	0.42
41:a:532:A:OP1	66:z:45:TYR:OH	2.32	0.42
41:a:579:G:H2'	41:a:580:U:H6	1.85	0.42
41:a:1443:U:H2'	41:a:1444:G:C8	2.54	0.42
41:a:1587:G:H2'	41:a:1588:G:C8	2.54	0.42
41:a:1770:G:C5	41:a:1983:G:C6	3.07	0.42
41:a:1773:A:C8	41:a:1829:A:C8	3.08	0.42
41:a:2175:C:H2'	41:a:2176:A:N7	2.33	0.42
41:a:2571:U:O2'	50:j:151:THR:HG23	2.20	0.42
41:a:2759:G:O2'	56:p:35:ARG:NH1	2.53	0.42
42:b:40:GLN:NE2	42:b:59:LEU:HD23	2.35	0.42
44:d:82:U:O2	46:f:53:PHE:HZ	2.02	0.42
45:e:56:LEU:C	45:e:59:GLU:HG3	2.44	0.42
52:l:77:ILE:O	52:l:77:ILE:HG22	2.19	0.42
54:n:66:LEU:HD23	54:n:67:ILE:C	2.45	0.42
59:s:15:TRP:CE3	59:s:135:GLN:HB3	2.55	0.42
59:s:92:MET:HB2	59:s:92:MET:HE3	1.13	0.42
62:v:115:GLU:HA	62:v:118:LYS:HE2	2.02	0.42
63:w:18:GLN:HE22	63:w:22:ARG:NE	2.18	0.42
63:w:58:ASP:HB2	63:w:80:PHE:CE1	2.54	0.42
65:y:37:LYS:CA	65:y:37:LYS:HE3	2.49	0.42
66:z:47:TYR:CZ	66:z:51:ARG:NH2	2.87	0.42
10:A:5:G:C2'	10:A:6:G:C5'	2.98	0.42
12:AB:120:GLU:H	12:AB:162:LEU:CG	2.31	0.42
12:AB:145:LEU:HG	30:P:88:MET:HE2	2.01	0.42
12:AB:161:LYS:HD3	12:AB:161:LYS:HA	1.55	0.42
16:AG:36:LYS:HB3	16:AG:36:LYS:HE2	1.87	0.42
16:AG:244:ARG:N	16:AG:244:ARG:HE	2.18	0.42
16:AG:277:ASP:HB2	16:AG:282:GLN:CG	2.50	0.42
17:C:51:TYR:HD1	17:C:54:GLN:HE22	1.58	0.42
18:D:21:G:H2'	18:D:22:G:C8	2.54	0.42
18:D:197:A:N6	18:D:221:C:H4'	2.35	0.42
18:D:323:U:H2'	18:D:324:G:O4'	2.19	0.42
18:D:374:A:C6	18:D:375:U:C4	3.08	0.42
18:D:416:G:C4	18:D:417:G:C8	3.07	0.42
18:D:501:C:H1'	18:D:549:C:H1'	2.02	0.42
18:D:684:U:H2'	18:D:685:G:O4'	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:D:951:G:C6	18:D:1231:G:C6	3.08	0.42
18:D:986:U:H2'	18:D:987:G:O4'	2.19	0.42
18:D:1035:A:C6	18:D:1036:A:N7	2.88	0.42
18:D:1202:U:N3	33:S:82:ILE:HD13	2.35	0.42
18:D:1381:U:N3	18:D:1382:C:C5	2.88	0.42
23:I:72:ARG:HD3	23:I:75:ILE:H	1.84	0.42
25:K:88:VAL:HG12	25:K:93:ARG:HG2	2.02	0.42
26:L:1:MET:CE	26:L:67:PRO:HD3	2.50	0.42
29:O:118:LEU:HD23	29:O:118:LEU:HA	1.87	0.42
35:U:69:ASP:C	35:U:69:ASP:OD1	2.63	0.42
36:V:31:HIS:HD2	36:V:34:TYR:H	1.62	0.42
41:a:235:U:C2	41:a:236:C:C6	3.08	0.42
41:a:250:G:H2'	41:a:251:A:C8	2.54	0.42
41:a:367:G:C4	41:a:368:A:C8	3.07	0.42
41:a:704:G:O2'	41:a:726:G:N2	2.45	0.42
41:a:751:A:C6	41:a:789:A:C5	3.08	0.42
41:a:826:U:O2'	61:u:53:GLY:HA3	2.20	0.42
41:a:1385:A:C4	41:a:1403:A:C2	3.06	0.42
41:a:1789:A:OP2	48:h:221:ARG:NH1	2.52	0.42
41:a:2049:G:H21	50:j:161:MET:HE2	1.84	0.42
41:a:2066:C:O2'	41:a:2067:G:H5'	2.20	0.42
41:a:2097:A:H2'	41:a:2098:U:C6	2.55	0.42
41:a:2226:C:H2'	41:a:2227:A:O4'	2.20	0.42
41:a:2708:G:O4'	63:w:71:ARG:NH1	2.52	0.42
50:j:55:LYS:NZ	50:j:56:LYS:O	2.49	0.42
52:l:31:VAL:HG21	52:l:104:ALA:CB	2.50	0.42
56:p:109:PHE:CD1	56:p:152:ARG:NH1	2.88	0.42
62:v:71:LYS:C	62:v:92:TRP:CE3	2.97	0.42
63:w:45:ARG:O	63:w:49:GLU:CD	2.62	0.42
9:9:69:PHE:O	9:9:72:LEU:HD11	2.20	0.42
9:9:94:ARG:N	9:9:94:ARG:HD3	2.34	0.42
12:AB:3:SER:HB3	12:AB:5:TYR:CE2	2.55	0.42
12:AB:104:ILE:C	12:AB:106:ASP:H	2.27	0.42
12:AB:130:PHE:HB3	12:AB:133:PRO:HD3	2.00	0.42
12:AB:136:GLU:HG3	12:AB:160:ARG:HH12	1.84	0.42
14:AE:211:GLU:HA	14:AE:214:ARG:HD2	2.01	0.42
14:AE:907:HIS:ND1	14:AE:908:ILE:O	2.48	0.42
10:B:31:G:H2'	10:B:32:C:C6	2.55	0.42
18:D:299:G:H2'	18:D:300:A:C8	2.55	0.42
18:D:407:U:C2	18:D:408:A:C8	3.08	0.42
18:D:415:A:C4	18:D:416:G:C8	3.07	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:D:539:A:H2'	18:D:540:G:C8	2.54	0.42
18:D:611:C:H2'	18:D:611:C:O2	2.18	0.42
18:D:946:A:C2	18:D:947:G:C5	3.08	0.42
18:D:1319:A:C8	18:D:1323:G:C5	3.08	0.42
18:D:1499:A:H2'	18:D:1500:A:H8	1.84	0.42
21:G:115:LYS:C	21:G:115:LYS:HD3	2.45	0.42
23:I:14:ILE:HB	23:I:178:LEU:HD21	2.01	0.42
24:J:69:GLU:HA	24:J:72:PHE:HD2	1.83	0.42
25:K:111:MET:O	25:K:112:ARG:C	2.63	0.42
26:L:94:HIS:CG	26:L:95:ALA:N	2.88	0.42
29:O:116:VAL:HG11	30:P:62:ARG:HD3	2.02	0.42
31:Q:21:ALA:HA	31:Q:34:ILE:HD13	2.01	0.42
32:R:79:VAL:O	32:R:103:ASP:HB2	2.20	0.42
34:T:77:ARG:HA	34:T:77:ARG:NE	2.35	0.42
35:U:67:ILE:O	35:U:67:ILE:HG13	2.20	0.42
39:Y:45:THR:HG21	39:Y:50:LYS:NZ	2.34	0.42
39:Y:82:ALA:HB3	39:Y:108:ILE:HD12	2.01	0.42
39:Y:102:ARG:CZ	39:Y:139:VAL:HG21	2.50	0.42
41:a:299:A:C5	41:a:322:A:C2	3.08	0.42
41:a:301:G:C4	41:a:302:C:C5	3.07	0.42
41:a:826:U:OP1	41:a:2428:G:H3'	2.20	0.42
41:a:1080:A:C6	41:a:1081:U:C4	3.07	0.42
48:h:71:LYS:HB2	48:h:96:TYR:CZ	2.54	0.42
49:i:55:ILE:HD13	63:w:112:TYR:CE2	2.54	0.42
50:j:57:ALA:O	50:j:60:VAL:HG12	2.19	0.42
50:j:100:LEU:O	50:j:100:LEU:HD12	2.20	0.42
50:j:170:VAL:HG13	50:j:194:PRO:CG	2.50	0.42
52:l:108:ILE:HD11	52:l:180:LEU:CD1	2.50	0.42
54:n:93:GLY:O	54:n:94:GLU:C	2.61	0.42
54:n:132:VAL:HG11	54:n:137:ILE:HD11	2.01	0.42
55:o:29:LEU:O	55:o:29:LEU:HG	2.19	0.42
60:t:108:ARG:HG2	60:t:116:ILE:HD13	2.01	0.42
63:w:96:ARG:O	63:w:113:ILE:HA	2.19	0.42
64:x:36:TYR:CD2	64:x:37:ALA:N	2.88	0.42
64:x:79:ALA:CB	64:x:113:ALA:HB3	2.49	0.42
1:0:52:PRO:HB3	66:z:89:GLU:CD	2.44	0.42
4:3:6:ARG:HG2	4:3:7:ARG:N	2.35	0.42
5:4:77:VAL:HG21	5:4:79:ARG:HE	1.84	0.42
6:5:25:DA:N3	7:6:5:DG:N2	2.68	0.42
8:7:7:U:H6	8:7:7:U:H3'	1.84	0.42
9:9:2:ALA:HB3	9:9:6:GLN:HB2	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:9:17:GLU:OE2	9:9:53:ARG:NH2	2.53	0.42
9:9:24:SER:O	9:9:96:PHE:CE1	2.72	0.42
11:AA:144:VAL:HG23	11:AA:515:MET:HB2	2.02	0.42
11:AA:616:ILE:HG13	11:AA:652:TYR:HB2	2.02	0.42
12:AB:120:GLU:HB3	12:AB:162:LEU:HD12	2.02	0.42
12:AB:148:LYS:CD	30:P:100:ILE:HD13	2.49	0.42
14:AE:800:LEU:HB3	14:AE:920:ALA:HB1	2.02	0.42
14:AE:975:ILE:HD11	14:AE:1003:LEU:HG	2.02	0.42
16:AG:185:SER:O	16:AG:185:SER:OG	2.37	0.42
16:AG:314:LEU:HA	16:AG:314:LEU:HD23	1.85	0.42
16:AG:434:LEU:HD23	16:AG:456:LEU:CB	2.49	0.42
17:C:38:LYS:HA	17:C:38:LYS:CE	2.37	0.42
17:C:44:ILE:HG22	22:H:340:ARG:HB2	2.02	0.42
17:C:70:TYR:HE2	26:L:49:TYR:CZ	2.38	0.42
18:D:643:C:C2	18:D:644:U:C5	3.08	0.42
18:D:745:G:H2'	18:D:746:A:H8	1.84	0.42
18:D:771:G:H2'	18:D:772:U:C6	2.54	0.42
18:D:1368:A:OP1	29:O:116:VAL:HG23	2.20	0.42
18:D:1436:U:C2	18:D:1437:A:C8	3.07	0.42
18:D:1499:A:O2'	18:D:1500:A:H5'	2.20	0.42
22:H:33:LYS:HA	22:H:34:ASP:HA	1.80	0.42
22:H:52:GLN:OE1	22:H:52:GLN:HA	2.18	0.42
22:H:322:VAL:HG12	22:H:323:ASN:HB2	2.02	0.42
25:K:15:LEU:HD23	25:K:15:LEU:H	1.83	0.42
25:K:77:ASN:O	25:K:80:THR:O	2.37	0.42
27:M:66:LEU:HD13	27:M:101:MET:HE3	1.93	0.42
32:R:30:LYS:CB	32:R:57:LEU:HD11	2.47	0.42
35:U:26:ASN:ND2	35:U:31:ARG:CD	2.83	0.42
41:a:126:A:OP1	53:m:45:SER:OG	2.37	0.42
41:a:553:G:C5	41:a:554:U:C5	3.07	0.42
41:a:635:C:OP1	61:u:126:ARG:CZ	2.68	0.42
41:a:667:U:H2'	41:a:668:A:O4'	2.20	0.42
41:a:749:A:H2'	41:a:749:A:N3	2.35	0.42
41:a:958:U:C4	62:v:40:ARG:NH1	2.88	0.42
41:a:1008:A:OP2	59:s:37:ARG:NH1	2.53	0.42
41:a:1361:G:H2'	41:a:1362:C:C6	2.54	0.42
41:a:1839:G:O4'	41:a:1927:A:O4'	2.37	0.42
41:a:1874:C:H2'	41:a:1875:G:O4'	2.20	0.42
41:a:1906:G:C8	41:a:1929:G:C4	3.08	0.42
41:a:2585:U:O2	41:a:2585:U:O4'	2.37	0.42
41:a:2884:U:P	49:i:40:ARG:NH2	2.93	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:c:3:ARG:CD	43:c:30:LEU:HD11	2.50	0.42
44:d:83:G:O4'	46:f:53:PHE:CE2	2.72	0.42
48:h:108:LYS:CG	48:h:109:GLY:N	2.83	0.42
50:j:184:ARG:NH2	65:y:7:GLN:CD	2.72	0.42
51:k:9:ILE:HG22	51:k:27:LYS:HZ1	1.84	0.42
51:k:9:ILE:HD12	51:k:51:GLU:HG2	2.01	0.42
53:m:25:LYS:O	53:m:28:ARG:N	2.52	0.42
54:n:38:MET:HE3	54:n:57:LEU:CD2	2.50	0.42
60:t:118:LEU:O	60:t:119:ALA:C	2.62	0.42
62:v:72:PRO:C	62:v:73:ILE:HD12	2.43	0.42
63:w:45:ARG:CZ	63:w:45:ARG:HB3	2.50	0.42
66:z:111:GLU:OE2	66:z:112:LYS:HG2	2.19	0.42
1:0:47:VAL:C	1:0:48:LYS:HD3	2.45	0.42
9:9:41:LEU:CD1	39:Y:117:THR:HG22	2.50	0.42
9:9:47:GLU:C	9:9:49:GLY:H	2.28	0.42
12:AB:6:LEU:HB2	12:AB:56:PHE:CE1	2.55	0.42
12:AB:29:LEU:H	12:AB:56:PHE:HB2	1.84	0.42
12:AB:104:ILE:O	12:AB:106:ASP:N	2.53	0.42
12:AB:116:VAL:H	12:AB:129:ILE:CD1	2.32	0.42
16:AG:56:PHE:CD1	16:AG:56:PHE:N	2.88	0.42
16:AG:63:LEU:HD22	16:AG:92:TYR:CD1	2.48	0.42
16:AG:206:ILE:HD11	16:AG:226:ALA:HB2	2.02	0.42
16:AG:226:ALA:HB1	16:AG:228:ARG:NH1	2.34	0.42
16:AG:285:ILE:O	16:AG:288:MET:HE2	2.19	0.42
16:AG:320:ARG:HD3	16:AG:320:ARG:HA	1.83	0.42
16:AG:365:ILE:CD1	16:AG:406:LEU:HD21	2.37	0.42
16:AG:433:ASP:HB3	16:AG:456:LEU:CD1	2.47	0.42
10:B:59:A:C5	10:B:60:U:C5	3.08	0.42
17:C:44:ILE:HG21	22:H:339:ARG:C	2.45	0.42
18:D:36:C:N4	18:D:37:U:C4	2.88	0.42
18:D:76:G:C5	18:D:77:A:N7	2.88	0.42
18:D:429:U:H3	18:D:431:A:N6	2.18	0.42
18:D:860:A:H2'	18:D:861:G:O4'	2.20	0.42
18:D:960:U:O2'	18:D:1223:C:H4'	2.20	0.42
18:D:1186:G:O2'	29:O:112:GLU:OE2	2.33	0.42
20:F:5:LYS:HD3	31:Q:109:ASN:OD1	2.19	0.42
21:G:30:PHE:CE1	21:G:201:PRO:HG3	2.53	0.42
25:K:123:VAL:O	25:K:124:LEU:HD23	2.20	0.42
28:N:83:LEU:HD21	32:R:4:VAL:HG21	2.02	0.42
30:P:59:LYS:HE2	30:P:62:ARG:CZ	2.50	0.42
30:P:66:GLU:HG3	33:S:99:ALA:HB2	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:U:4:ILE:N	35:U:4:ILE:HD12	2.34	0.42
36:V:48:ASP:HB3	36:V:75:LEU:CD2	2.49	0.42
37:W:69:HIS:ND1	37:W:74:PHE:HZ	2.17	0.42
41:a:62:U:O2	41:a:62:U:H2'	2.20	0.42
41:a:1343:G:C8	41:a:1597:A:C6	3.08	0.42
41:a:1560:G:C5	41:a:1561:C:C5	3.08	0.42
41:a:1597:A:H5"	41:a:1598:A:H5'	2.02	0.42
41:a:2259:U:C5	41:a:2427:C:N4	2.88	0.42
41:a:2507:C:C2	41:a:2583:G:C2	3.07	0.42
48:h:18:LYS:HE3	48:h:20:VAL:HG21	2.02	0.42
50:j:175:LEU:HB3	50:j:189:VAL:CG1	2.50	0.42
52:l:6:LYS:HB2	52:l:6:LYS:HE2	1.75	0.42
52:l:147:LEU:HB2	52:l:183:PHE:CD2	2.48	0.42
53:m:4:THR:HG23	53:m:5:PHE:N	2.34	0.42
59:s:37:ARG:HA	59:s:118:MET:HE1	2.00	0.42
62:v:135:VAL:HG12	62:v:136:MET:CE	2.50	0.42
63:w:38:LEU:HB3	63:w:39:PRO:HD3	2.02	0.42
1:0:40:MET:HE1	66:z:105:ALA:HB1	2.01	0.41
1:0:77:PHE:HE1	1:0:79:ARG:HA	1.85	0.41
3:2:26:LYS:HE3	3:2:26:LYS:HA	2.02	0.41
9:9:31:ARG:HH11	41:a:1054:A:C4'	2.31	0.41
9:9:77:VAL:O	9:9:77:VAL:CG1	2.67	0.41
10:A:5:G:C2'	10:A:6:G:H5'	2.50	0.41
11:AA:590:PRO:HB2	11:AA:655:VAL:HG21	2.01	0.41
11:AA:856:ASN:CB	16:AG:35:THR:HB	2.48	0.41
12:AB:123:PHE:CD2	12:AB:123:PHE:N	2.79	0.41
14:AE:282:LEU:HD23	14:AE:282:LEU:HA	1.92	0.41
16:AG:131:ARG:HG2	16:AG:186:VAL:CG1	2.47	0.41
16:AG:152:LEU:HD11	16:AG:162:ILE:HD12	2.02	0.41
16:AG:207:GLU:HG3	16:AG:210:ARG:CB	2.50	0.41
16:AG:296:ILE:CD1	16:AG:307:ILE:HA	2.49	0.41
16:AG:354:ALA:O	16:AG:358:THR:HG22	2.19	0.41
10:B:5:G:C2'	10:B:6:G:C5'	2.98	0.41
17:C:12:ARG:CB	22:H:264:GLU:CB	2.98	0.41
18:D:105:G:C5	18:D:106:C:C4	3.08	0.41
18:D:122:G:C4	18:D:123:U:C6	3.08	0.41
18:D:255:G:H2'	18:D:256:U:C6	2.55	0.41
18:D:519:C:H2'	18:D:520:A:O4'	2.20	0.41
18:D:603:U:C2	18:D:604:G:C8	3.08	0.41
18:D:678:U:C2	18:D:679:C:C5	3.08	0.41
18:D:892:A:H2'	18:D:893:C:H6	1.83	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:D:908:A:H2'	18:D:909:A:H8	1.85	0.41
18:D:921:U:H4'	25:K:23:LYS:HZ3	1.83	0.41
18:D:1064:G:O2'	18:D:1190:G:N2	2.53	0.41
18:D:1172:C:C2	18:D:1173:U:C5	3.08	0.41
18:D:1227:A:OP2	38:X:110:LYS:HE3	2.20	0.41
18:D:1241:G:H2'	18:D:1242:G:H8	1.85	0.41
18:D:1309:G:C8	38:X:98:ARG:NH2	2.88	0.41
19:E:22:ALA:N	19:E:25:ARG:HE	2.17	0.41
19:E:53:GLU:O	19:E:57:ILE:CD1	2.68	0.41
20:F:5:LYS:CD	31:Q:109:ASN:OD1	2.68	0.41
21:G:9:MET:HE2	21:G:43:LEU:HD22	2.00	0.41
21:G:47:VAL:N	21:G:48:PRO:HD2	2.35	0.41
23:I:184:TYR:O	23:I:185:ASN:CG	2.63	0.41
24:J:65:TYR:CE1	24:J:100:ASN:CG	2.98	0.41
24:J:76:TYR:O	24:J:76:TYR:CD1	2.73	0.41
27:M:18:PHE:CD2	27:M:59:LEU:HG	2.55	0.41
27:M:37:SER:HA	29:O:41:ARG:HH22	1.85	0.41
27:M:66:LEU:HA	27:M:66:LEU:HD12	1.84	0.41
28:N:27:MET:CA	28:N:58:GLU:OE2	2.67	0.41
29:O:97:GLU:HG2	29:O:98:LEU:N	2.35	0.41
29:O:112:GLU:HG3	29:O:115:LYS:NZ	2.35	0.41
31:Q:79:ILE:O	31:Q:105:PHE:CE1	2.72	0.41
33:S:87:ALA:CA	33:S:90:ARG:CZ	2.96	0.41
38:X:3:ARG:CZ	54:n:110:ARG:HD2	2.49	0.41
38:X:16:VAL:HG23	38:X:17:ILE:CD1	2.47	0.41
40:Z:20:VAL:O	40:Z:20:VAL:CG1	2.65	0.41
41:a:16:C:O4'	49:i:15:MET:HE1	2.20	0.41
41:a:30:G:H2'	41:a:31:C:C6	2.56	0.41
41:a:104:A:C4	41:a:105:C:C6	3.08	0.41
41:a:729:G:C8	48:h:207:LYS:HD2	2.54	0.41
41:a:920:A:H2'	41:a:921:C:H6	1.85	0.41
41:a:938:G:C2	41:a:939:G:C8	3.08	0.41
41:a:1069:A:C2	41:a:1073:A:C8	3.08	0.41
41:a:1246:A:H2'	41:a:1247:A:O4'	2.20	0.41
41:a:1365:A:H4'	43:c:11:ARG:HH12	1.85	0.41
41:a:1824:G:H3'	48:h:52:ARG:HH12	1.84	0.41
41:a:1829:A:C8	41:a:1830:C:C5	3.08	0.41
41:a:1946:U:H2'	41:a:1947:C:H6	1.84	0.41
41:a:2072:C:C2	41:a:2073:C:C5	3.08	0.41
41:a:2218:G:C5'	43:c:45:ARG:HH12	2.33	0.41
41:a:2357:G:OP1	42:b:20:ARG:CZ	2.68	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:a:2392:A:N3	61:u:55:MET:HE2	2.34	0.41
41:a:2673:G:C2	41:a:2674:G:C8	3.08	0.41
41:a:2856:A:C6	41:a:2862:G:C6	3.08	0.41
42:b:21:LEU:HD23	42:b:40:GLN:HA	2.00	0.41
44:d:57:A:C4	44:d:58:A:C8	3.08	0.41
45:e:20:ASN:O	45:e:24:GLU:HG2	2.20	0.41
48:h:245:VAL:HA	48:h:250:VAL:O	2.20	0.41
50:j:68:PHE:CE1	50:j:79:LEU:HD21	2.54	0.41
50:j:151:THR:HG23	50:j:151:THR:O	2.19	0.41
52:l:23:PHE:CD1	52:l:111:GLU:HG3	2.55	0.41
52:l:46:GLN:O	52:l:88:ARG:NH2	2.53	0.41
52:l:149:ILE:HG21	52:l:175:ILE:HD11	2.01	0.41
54:n:141:ILE:HD11	54:n:146:VAL:CG1	2.50	0.41
54:n:142:ASP:CB	54:n:145:LYS:HE2	2.40	0.41
59:s:28:LEU:HD12	59:s:142:ILE:HG21	2.01	0.41
59:s:99:ARG:O	59:s:100:VAL:C	2.63	0.41
60:t:43:ILE:HD12	60:t:56:ASP:HB2	2.02	0.41
62:v:115:GLU:O	62:v:116:ALA:C	2.61	0.41
63:w:38:LEU:HA	63:w:38:LEU:HD12	1.72	0.41
1:0:74:ILE:HD13	1:0:87:GLN:OE1	2.20	0.41
3:2:5:GLU:HA	45:e:22:LEU:HD21	2.02	0.41
5:4:18:ARG:NH1	44:d:93:C:OP2	2.53	0.41
8:7:12:U:H4'	25:K:56:VAL:HG11	2.02	0.41
9:9:95:LEU:O	9:9:98:GLU:HG2	2.20	0.41
10:A:31:G:H2'	10:A:32:C:C6	2.55	0.41
10:A:68:C:C4	10:A:69:C:C5	3.08	0.41
12:AB:115:LYS:HD2	12:AB:129:ILE:CB	2.50	0.41
12:AB:143:LEU:HD23	12:AB:144:ASN:N	2.35	0.41
16:AG:105:ILE:HD13	16:AG:105:ILE:H	1.85	0.41
16:AG:363:LEU:HD21	16:AG:407:ARG:C	2.46	0.41
16:AG:434:LEU:HG	16:AG:455:THR:CA	2.50	0.41
16:AG:434:LEU:CD1	16:AG:455:THR:CA	2.98	0.41
17:C:71:THR:H	17:C:74:HIS:CE1	2.38	0.41
18:D:124:C:H2'	18:D:125:U:C6	2.56	0.41
18:D:997:U:O2'	18:D:998:C:H5'	2.21	0.41
18:D:1251:A:H2'	18:D:1252:A:O4'	2.20	0.41
22:H:309:MET:HE1	22:H:318:PRO:HG3	2.02	0.41
26:L:14:GLN:NE2	26:L:83:ALA:HB2	2.35	0.41
32:R:7:LEU:HD21	32:R:12:ARG:HH21	1.82	0.41
39:Y:96:LYS:CD	39:Y:136:GLY:HA3	2.50	0.41
41:a:138:U:C5	41:a:142:A:C6	3.08	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:a:888:C:C4	41:a:889:C:N4	2.89	0.41
41:a:975:A:H1'	41:a:990:A:C2	2.55	0.41
41:a:2072:C:C2	41:a:2073:C:C6	3.08	0.41
41:a:2461:A:H2'	41:a:2462:C:C6	2.56	0.41
41:a:2756:U:C4	41:a:2759:G:O6	2.73	0.41
45:e:14:LEU:HA	45:e:17:GLU:OE1	2.20	0.41
54:n:38:MET:HE3	54:n:57:LEU:HD23	2.01	0.41
61:u:96:LYS:HG2	61:u:102:GLY:O	2.21	0.41
64:x:15:ARG:C	64:x:19:GLN:NE2	2.78	0.41
64:x:88:LYS:HB3	64:x:116:GLN:OE1	2.20	0.41
6:5:10:DT:C2	11:AA:62:TYR:HE2	2.38	0.41
9:9:23:LEU:HA	9:9:118:ILE:HG13	2.01	0.41
9:9:33:VAL:O	9:9:36:ASP:OD1	2.39	0.41
9:9:117:LEU:O	9:9:117:LEU:CD2	2.67	0.41
10:A:9:G:O2'	10:A:45:G:H2'	2.20	0.41
10:A:19:G:O6	41:a:2112:G:P	2.79	0.41
11:AA:889:PRO:HG2	16:AG:104:ARG:NH1	2.34	0.41
12:AB:90:SER:HB2	12:AB:94:HIS:NE2	2.35	0.41
12:AB:118:ILE:CG2	12:AB:128:ALA:HB3	2.50	0.41
14:AE:836:ARG:HG3	14:AE:869:CYS:HB3	2.02	0.41
10:B:68:C:C4	10:B:69:C:C5	3.08	0.41
17:C:12:ARG:NH1	17:C:13:PHE:CD1	2.89	0.41
17:C:13:PHE:CG	17:C:51:TYR:CD1	3.08	0.41
18:D:13:U:C2	18:D:914:A:C8	3.08	0.41
18:D:562:U:O3'	32:R:12:ARG:HD2	2.20	0.41
18:D:1113:C:C2	18:D:1114:C:C5	3.08	0.41
18:D:1202:U:C2	33:S:82:ILE:HD13	2.55	0.41
18:D:1439:G:H2'	18:D:1440:U:O4'	2.20	0.41
18:D:1493:A:O2'	18:D:1494:G:P	2.78	0.41
22:H:267:TRP:CD2	22:H:340:ARG:HG3	2.56	0.41
22:H:293:PHE:HA	22:H:302:GLY:O	2.20	0.41
26:L:9:MET:SD	26:L:57:ALA:HB1	2.60	0.41
26:L:42:TRP:HB2	26:L:59:TYR:O	2.20	0.41
30:P:79:PRO:HG2	30:P:102:LEU:HD11	2.02	0.41
31:Q:64:GLN:HB2	31:Q:99:ALA:HB2	2.01	0.41
32:R:21:VAL:HG23	32:R:21:VAL:O	2.19	0.41
32:R:66:TYR:CE2	32:R:68:GLY:HA2	2.55	0.41
41:a:241:A:N1	41:a:255:A:H5"	2.36	0.41
41:a:271:G:C2	41:a:272:A:C4	3.08	0.41
41:a:592:A:N3	55:o:4:ILE:HD11	2.35	0.41
41:a:985:C:O2	41:a:986:C:C6	2.73	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:a:1248:G:O2'	66:z:3:ARG:HA	2.21	0.41
41:a:1580:A:C8	41:a:1581:G:C8	3.08	0.41
41:a:1953:A:H2	41:a:2549:G:N3	2.18	0.41
41:a:2049:G:H21	50:j:161:MET:CE	2.33	0.41
41:a:2193:G:HO2'	41:a:2194:U:P	2.41	0.41
41:a:2586:U:H2'	41:a:2587:A:O4'	2.20	0.41
41:a:2838:G:C6	41:a:2839:G:C5	3.08	0.41
46:f:4:THR:O	46:f:5:ILE:HD13	2.19	0.41
61:u:123:ARG:C	61:u:125:LEU:HD22	2.45	0.41
64:x:88:LYS:O	64:x:116:GLN:OE1	2.38	0.41
2:1:49:LYS:NZ	41:a:491:G:O6	2.50	0.41
4:3:85:PHE:HE1	4:3:94:ARG:HG2	1.86	0.41
6:5:16:DG:N2	11:AA:445:ILE:HG21	2.35	0.41
9:9:4:ASN:HB3	9:9:8:LYS:HZ2	1.82	0.41
11:AA:22:LEU:HD22	11:AA:603:ILE:HG21	2.02	0.41
11:AA:855:PRO:CB	16:AG:35:THR:HG1	2.22	0.41
12:AB:148:LYS:HB3	30:P:100:ILE:CG2	2.50	0.41
14:AE:319:SER:HA	14:AE:320:ASN:HA	1.73	0.41
16:AG:26:ALA:CA	16:AG:117:LYS:HG2	2.51	0.41
16:AG:87:LEU:CD2	16:AG:93:VAL:HG21	2.50	0.41
16:AG:339:MET:SD	16:AG:347:LYS:CD	2.94	0.41
10:B:38:A:H4'	18:D:790:A:C1'	2.49	0.41
18:D:407:U:O4'	24:J:116:GLN:OE1	2.39	0.41
18:D:585:G:P	36:V:39:LYS:HZ1	2.44	0.41
18:D:671:G:O2'	26:L:79:ARG:NH1	2.54	0.41
18:D:958:A:H5'	37:W:55:ARG:HH12	1.86	0.41
18:D:980:C:H2'	18:D:981:U:H5'	2.01	0.41
18:D:1071:C:C5'	25:K:54:ARG:HH21	2.33	0.41
18:D:1411:C:H2'	18:D:1412:C:C6	2.56	0.41
18:D:1524:C:H2'	18:D:1525:G:C8	2.55	0.41
19:E:66:LEU:HA	19:E:66:LEU:HD12	1.85	0.41
22:H:336:ASP:HB2	22:H:341:ARG:H	1.84	0.41
23:I:47:LEU:HD22	23:I:76:VAL:HG22	2.03	0.41
23:I:105:GLU:CD	23:I:107:ARG:HH21	2.28	0.41
25:K:82:GLN:OE1	25:K:147:MET:SD	2.78	0.41
27:M:16:PRO:HB3	29:O:46:MET:CG	2.47	0.41
27:M:108:ALA:O	27:M:119:ARG:NE	2.51	0.41
29:O:44:ALA:HA	29:O:47:VAL:HG22	2.03	0.41
31:Q:94:GLU:O	31:Q:94:GLU:OE2	2.39	0.41
32:R:3:THR:O	32:R:4:VAL:C	2.62	0.41
41:a:244:A:H2'	41:a:245:G:O4'	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:a:319:G:H2'	41:a:320:A:O4'	2.21	0.41
41:a:1820:U:C2	48:h:201:MET:CE	3.03	0.41
41:a:1824:G:O5'	48:h:52:ARG:NH1	2.53	0.41
41:a:2244:U:O2'	41:a:2245:U:H5'	2.20	0.41
41:a:2708:G:C2	41:a:2709:G:C8	3.08	0.41
41:a:2722:G:C2'	41:a:2723:C:H5'	2.50	0.41
42:b:30:SER:HA	42:b:66:LYS:HD2	2.03	0.41
48:h:53:HIS:NE2	48:h:219:THR:HG23	2.36	0.41
48:h:124:ILE:O	48:h:124:ILE:HG22	2.21	0.41
48:h:220:VAL:CG2	48:h:225:MET:HE3	2.51	0.41
49:i:34:SER:OG	49:i:36:GLU:HG2	2.20	0.41
50:j:47:ALA:O	50:j:48:ILE:HD13	2.20	0.41
51:k:8:LYS:HA	51:k:24:THR:HA	2.02	0.41
51:k:26:ASN:OD1	51:k:28:ARG:CZ	2.69	0.41
54:n:4:LEU:HD11	54:n:101:GLU:CB	2.50	0.41
60:t:113:MET:SD	60:t:113:MET:C	3.03	0.41
60:t:116:ILE:HG13	60:t:117:SER:N	2.34	0.41
61:u:98:ALA:O	61:u:100:ILE:HG13	2.20	0.41
62:v:57:VAL:CG2	62:v:60:GLN:O	2.69	0.41
62:v:104:GLU:CD	62:v:105:MET:H	2.28	0.41
63:w:98:LEU:CD1	63:w:114:GLU:OE2	2.68	0.41
2:1:23:LEU:CD2	2:1:39:THR:HG21	2.50	0.41
3:2:22:THR:O	3:2:25:GLU:HG2	2.20	0.41
6:5:10:DT:C2'	12:AB:69:ILE:C	2.89	0.41
7:6:14:DC:H2'	7:6:15:DC:H6	1.85	0.41
16:AG:204:MET:SD	16:AG:204:MET:O	2.79	0.41
16:AG:393:LEU:CG	16:AG:398:LEU:HD22	2.22	0.41
16:AG:437:LEU:CD2	16:AG:488:ILE:CD1	2.98	0.41
10:B:5:G:C2'	10:B:6:G:H5'	2.50	0.41
10:B:9:G:O2'	10:B:45:G:H2'	2.20	0.41
17:C:30:LYS:HA	17:C:33:ILE:HG12	2.01	0.41
18:D:124:C:C2	18:D:125:U:C5	3.09	0.41
18:D:545:C:OP2	24:J:62:ARG:NH1	2.53	0.41
18:D:1061:G:H5'	30:P:61:ALA:HB2	2.03	0.41
18:D:1140:C:O2'	18:D:1141:C:O5'	2.39	0.41
24:J:76:TYR:HE1	24:J:86:THR:CG2	2.33	0.41
25:K:123:VAL:C	25:K:124:LEU:HD23	2.45	0.41
27:M:17:LYS:HZ2	27:M:18:PHE:HE1	1.56	0.41
27:M:74:GLU:HG3	27:M:91:VAL:CG1	2.50	0.41
29:O:50:GLN:CA	29:O:53:GLU:OE1	2.69	0.41
32:R:110:ARG:O	32:R:111:LYS:NZ	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:Y:24:GLY:HA3	39:Y:25:PRO:HD3	1.86	0.41
39:Y:102:ARG:NH2	39:Y:139:VAL:HG11	2.36	0.41
40:Z:6:GLN:CD	40:Z:10:ALA:HB2	2.45	0.41
41:a:152:A:C6	41:a:153:U:C4	3.09	0.41
41:a:485:C:N3	41:a:486:C:C5	2.89	0.41
41:a:666:A:H1'	55:o:4:ILE:CD1	2.47	0.41
41:a:700:G:H2'	41:a:701:G:O4'	2.20	0.41
41:a:874:G:C6	41:a:904:G:C6	3.08	0.41
41:a:1026:G:C8	41:a:1134:A:C4	3.09	0.41
41:a:1281:G:H2'	41:a:1282:U:C6	2.55	0.41
41:a:1289:C:H2'	41:a:1290:C:H6	1.84	0.41
41:a:1399:C:C2	41:a:1400:U:C5	3.08	0.41
41:a:1494:A:H2'	41:a:1495:A:C8	2.56	0.41
41:a:1542:U:H2'	41:a:1543:G:O4'	2.20	0.41
41:a:1664:A:N3	60:t:67:LYS:NZ	2.59	0.41
41:a:1951:U:OP1	60:t:54:LYS:NZ	2.52	0.41
41:a:1996:C:H4'	50:j:128:ARG:NH1	2.35	0.41
41:a:2469:A:C6	41:a:2482:A:C8	3.07	0.41
41:a:2520:C:O2'	41:a:2521:C:H5'	2.20	0.41
41:a:2784:U:H2'	41:a:2785:C:C6	2.55	0.41
41:a:2808:G:N1	41:a:2891:U:C5	2.89	0.41
45:e:25:GLN:OE1	45:e:50:VAL:HG21	2.19	0.41
48:h:161:TYR:HB3	48:h:194:GLU:HG2	2.03	0.41
48:h:180:GLU:O	48:h:181:MET:HE2	2.21	0.41
50:j:68:PHE:CZ	50:j:79:LEU:HD21	2.56	0.41
52:l:97:ASN:CG	52:l:100:MET:HE2	2.46	0.41
54:n:8:TYR:O	54:n:13:VAL:HG23	2.20	0.41
56:p:52:PHE:HZ	56:p:72:LEU:HD22	1.85	0.41
56:p:91:GLY:HA2	56:p:160:LYS:CD	2.51	0.41
60:t:1:MET:HE3	60:t:32:TYR:CB	2.50	0.41
62:v:45:GLN:HE22	62:v:125:PRO:HD2	1.84	0.41
62:v:105:MET:HG2	62:v:117:PHE:HZ	1.85	0.41
63:w:24:MET:CG	63:w:44:LEU:HD12	2.51	0.41
63:w:33:ILE:CD1	63:w:112:TYR:HD1	2.32	0.41
1:0:4:VAL:HG23	1:0:4:VAL:O	2.20	0.41
3:2:26:LYS:HA	3:2:26:LYS:CE	2.50	0.41
9:9:96:PHE:HB3	9:9:125:ARG:HH11	1.86	0.41
9:9:118:ILE:CB	9:9:119:PRO:HD3	2.44	0.41
10:A:59:A:C5	10:A:60:U:C5	3.08	0.41
11:AA:310:ILE:HG21	11:AA:325:LEU:HB3	2.02	0.41
12:AB:6:LEU:HB2	12:AB:56:PHE:HE1	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:AE:134:ASP:HB3	14:AE:159:ILE:HG21	2.02	0.41
14:AE:641:ILE:HD12	14:AE:641:ILE:HA	1.89	0.41
16:AG:284:VAL:HG22	16:AG:305:MET:CE	2.50	0.41
16:AG:296:ILE:HD11	16:AG:307:ILE:CD1	2.50	0.41
17:C:60:LYS:NZ	18:D:735:C:O5'	2.52	0.41
18:D:21:G:N2	18:D:22:G:C6	2.88	0.41
18:D:511:C:O3'	24:J:44:ARG:NH1	2.53	0.41
18:D:680:C:H2'	18:D:681:A:H8	1.85	0.41
18:D:687:A:C8	18:D:701:U:C4	3.08	0.41
18:D:820:U:H4'	18:D:821:G:OP2	2.20	0.41
18:D:1174:G:H2'	18:D:1175:G:H5'	2.02	0.41
18:D:1411:C:H2'	18:D:1412:C:H6	1.85	0.41
21:G:187:VAL:HG11	21:G:193:PRO:HB3	2.02	0.41
22:H:70:VAL:O	22:H:71:ALA:HB2	2.20	0.41
23:I:6:HIS:CD2	33:S:89:MET:HB3	2.55	0.41
23:I:123:GLN:HB3	23:I:128:VAL:HG21	2.02	0.41
23:I:147:LYS:CE	23:I:204:LYS:C	2.94	0.41
25:K:147:MET:HE3	25:K:147:MET:O	2.21	0.41
26:L:3:HIS:CD2	26:L:95:ALA:HA	2.56	0.41
26:L:51:ILE:CG2	26:L:86:ARG:HH21	2.34	0.41
29:O:35:LEU:HD21	29:O:45:ARG:HG2	2.03	0.41
29:O:50:GLN:HA	29:O:53:GLU:OE1	2.20	0.41
31:Q:20:VAL:HG12	31:Q:21:ALA:N	2.35	0.41
34:T:18:ASP:O	34:T:19:ALA:HB3	2.20	0.41
39:Y:57:VAL:CG2	39:Y:71:LYS:HD3	2.50	0.41
41:a:66:C:H42	41:a:74:A:N6	2.19	0.41
41:a:690:G:H2'	41:a:691:C:H6	1.85	0.41
41:a:832:U:H2'	41:a:833:A:C8	2.50	0.41
41:a:1322:A:C4	41:a:1323:C:C6	3.08	0.41
41:a:2024:G:C5	41:a:2040:G:C2	3.09	0.41
41:a:2040:G:H2'	41:a:2041:U:O4'	2.20	0.41
41:a:2291:U:H2'	41:a:2292:U:H6	1.85	0.41
41:a:2454:G:C5	41:a:2455:G:C8	3.09	0.41
41:a:2539:C:O2'	57:q:36:ARG:NH2	2.54	0.41
41:a:2686:G:H2'	41:a:2687:U:C6	2.56	0.41
48:h:196:GLY:O	48:h:198:ALA:N	2.53	0.41
51:k:26:ASN:OD1	51:k:28:ARG:NH1	2.54	0.41
55:o:22:PHE:CE1	55:o:62:LEU:HD23	2.55	0.41
62:v:112:LEU:CA	62:v:115:GLU:OE1	2.68	0.41
64:x:21:LEU:HD23	64:x:21:LEU:C	2.46	0.41
64:x:86:GLY:HA2	64:x:88:LYS:HZ3	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:2:50:LEU:HD23	45:e:26:PHE:CE1	2.56	0.41
8:7:50:U:H4'	14:AE:322:ARG:NH1	2.36	0.41
9:9:23:LEU:CA	9:9:118:ILE:HD11	2.50	0.41
11:AA:849:GLU:HB2	11:AA:887:VAL:HG23	2.02	0.41
12:AB:120:GLU:C	12:AB:162:LEU:HD12	2.46	0.41
12:AB:155:LYS:HB3	12:AB:158:GLU:CD	2.45	0.41
13:AD:205:MET:HE1	13:AD:217:ILE:HG13	2.03	0.41
14:AE:138:VAL:HG21	14:AE:145:VAL:HB	2.03	0.41
14:AE:1272:SER:HB2	14:AE:1292:LEU:HD11	2.02	0.41
16:AG:323:GLN:HE21	16:AG:323:GLN:C	2.28	0.41
10:B:9:G:H5"	10:B:11:A:OP2	2.21	0.41
18:D:71:A:C6	18:D:100:G:N7	2.89	0.41
18:D:104:G:C2	18:D:105:G:C5	3.09	0.41
18:D:107:G:C6	18:D:108:G:C4	3.09	0.41
18:D:296:U:O2'	18:D:556:C:O2	2.34	0.41
18:D:375:U:H1'	35:U:28:ARG:NH2	2.36	0.41
18:D:567:G:H2'	18:D:568:G:O4'	2.21	0.41
18:D:602:A:H2'	18:D:603:U:H6	1.86	0.41
18:D:982:U:H4'	18:D:983:A:O4'	2.21	0.41
18:D:1240:U:H5	27:M:116:MET:HE2	1.83	0.41
23:I:66:VAL:HB	23:I:101:ILE:CD1	2.50	0.41
23:I:135:LYS:HG3	23:I:136:ARG:N	2.35	0.41
25:K:80:THR:OG1	25:K:81:LEU:N	2.53	0.41
30:P:73:LEU:HD23	30:P:73:LEU:O	2.21	0.41
31:Q:75:LYS:HG3	31:Q:76:GLU:N	2.36	0.41
32:R:25:GLU:CD	32:R:30:LYS:HE3	2.46	0.41
38:X:13:LYS:CE	38:X:17:ILE:HG21	2.51	0.41
39:Y:34:ILE:HG22	39:Y:34:ILE:O	2.20	0.41
40:Z:14:MET:CG	40:Z:15:SER:H	2.25	0.41
41:a:1252:G:H1	66:z:37:GLN:HE21	1.68	0.41
41:a:1589:U:O2'	41:a:1590:A:P	2.79	0.41
41:a:1651:G:P	63:w:40:LYS:NZ	2.94	0.41
41:a:1822:C:O2'	41:a:1823:G:H5'	2.21	0.41
41:a:2065:C:C2	41:a:2066:C:C6	3.09	0.41
41:a:2210:U:H4'	41:a:2211:A:OP1	2.20	0.41
41:a:2393:U:H2'	41:a:2394:C:C6	2.56	0.41
41:a:2483:C:H1'	62:v:51:ARG:CZ	2.51	0.41
41:a:2590:A:C2	41:a:2591:C:C5	3.08	0.41
41:a:2649:C:C2	41:a:2650:U:C6	3.09	0.41
41:a:2783:U:H2'	41:a:2784:U:H6	1.85	0.41
41:a:2848:G:HO2'	41:a:2867:G:H22	1.63	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:b:17:GLU:OE1	42:b:19:LYS:HD3	2.21	0.41
42:b:70:GLU:HG3	42:b:72:LYS:HG2	2.03	0.41
43:c:66:THR:O	43:c:69:ALA:N	2.53	0.41
44:d:57:A:N7	54:n:26:MET:HE3	2.36	0.41
50:j:34:VAL:HG13	50:j:48:ILE:CG2	2.50	0.41
52:l:170:ARG:HH22	52:l:176:ASP:H	1.68	0.41
52:l:171:ASP:OD1	52:l:172:ALA:N	2.53	0.41
53:m:25:LYS:O	53:m:26:ASN:C	2.64	0.41
53:m:44:VAL:O	53:m:45:SER:C	2.63	0.41
56:p:85:LYS:HD2	56:p:85:LYS:HA	1.77	0.41
56:p:149:ARG:CZ	56:p:154:PRO:CD	2.98	0.41
58:r:54:LEU:HD12	58:r:57:LYS:HE2	2.03	0.41
58:r:66:ASN:CG	58:r:135:HIS:HB2	2.45	0.41
60:t:24:VAL:O	60:t:24:VAL:HG13	2.20	0.41
60:t:61:VAL:HG11	60:t:112:PHE:CE2	2.56	0.41
60:t:102:PRO:HD3	65:y:66:ASN:HB2	2.03	0.41
63:w:28:LEU:HD23	63:w:48:VAL:HG21	2.03	0.41
64:x:51:ALA:HB3	64:x:78:VAL:HB	2.02	0.41
65:y:110:ILE:O	65:y:110:ILE:HG13	2.19	0.41
3:2:6:ARG:NH2	3:2:10:VAL:CG2	2.84	0.41
8:7:1:A:H61	10:B:37:A:N6	2.19	0.41
9:9:33:VAL:H	9:9:36:ASP:CG	2.28	0.41
9:9:129:LEU:CD1	9:9:130:PRO:HD3	2.45	0.41
10:A:33:U:H5"	27:M:84:THR:CG2	2.50	0.41
17:C:70:TYR:CD2	18:D:674:G:H4'	2.55	0.41
18:D:5:U:O2	18:D:5:U:O4'	2.37	0.41
18:D:545:C:C5'	24:J:69:GLU:HG3	2.38	0.41
18:D:678:U:H2'	18:D:679:C:C6	2.53	0.41
18:D:1512:U:H2'	18:D:1513:A:H8	1.85	0.41
21:G:96:TRP:CH2	21:G:100:MET:CE	3.04	0.41
23:I:8:ASN:O	23:I:12:LEU:CD2	2.69	0.41
23:I:156:ARG:HD3	23:I:160:ALA:O	2.21	0.41
24:J:76:TYR:CD1	24:J:76:TYR:C	2.98	0.41
26:L:24:ARG:HA	26:L:24:ARG:NE	2.36	0.41
29:O:5:GLN:HE21	29:O:20:PHE:HB3	1.81	0.41
30:P:6:ILE:CG2	30:P:100:ILE:HG13	2.51	0.41
30:P:56:HIS:ND1	30:P:57:VAL:HG23	2.36	0.41
31:Q:20:VAL:HG13	31:Q:85:MET:CE	2.51	0.41
36:V:11:ARG:HD3	36:V:57:ASP:C	2.46	0.41
41:a:523:C:O2	41:a:554:U:O2'	2.37	0.41
41:a:529:A:C4	41:a:2023:C:C5	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:a:945:A:C4	41:a:2448:A:C2	3.09	0.41
41:a:1048:A:C5	41:a:1049:C:C5	3.09	0.41
41:a:1223:G:N1	41:a:1226:A:OP2	2.50	0.41
41:a:1746:A:H2'	41:a:1747:U:C6	2.56	0.41
44:d:47:C:C4	44:d:48:U:C5	3.09	0.41
48:h:163:GLN:HB3	48:h:175:ARG:HB3	2.02	0.41
48:h:165:VAL:HG12	48:h:175:ARG:NH2	2.35	0.41
50:j:146:ILE:HA	50:j:159:LYS:NZ	2.36	0.41
51:k:21:TYR:CZ	51:k:38:LYS:CG	3.04	0.41
52:l:193:VAL:O	52:l:194:LYS:C	2.62	0.41
55:o:45:ARG:HB3	55:o:46:PRO:HD3	2.02	0.41
56:p:52:PHE:CE1	56:p:69:ARG:HD3	2.55	0.41
56:p:94:TYR:HE1	56:p:152:ARG:CD	2.34	0.41
63:w:60:VAL:HG22	63:w:63:ARG:HH11	1.80	0.41
63:w:78:LYS:HA	63:w:82:GLU:OE1	2.21	0.41
2:1:93:ALA:HB2	41:a:1614:A:C2	2.56	0.41
3:2:30:ILE:HG22	3:2:32:LEU:HD22	2.03	0.41
3:2:57:VAL:HG22	3:2:58:VAL:N	2.35	0.41
5:4:77:VAL:HG21	5:4:79:ARG:HH21	1.86	0.41
6:5:23:DA:H2"	6:5:24:DC:C6	2.56	0.41
8:7:13:U:C6	8:7:13:U:C3'	3.03	0.41
9:9:129:LEU:N	9:9:130:PRO:CD	2.81	0.41
10:A:9:G:H5"	10:A:11:A:OP2	2.21	0.41
10:A:12:G:H2'	10:A:13:C:OP1	2.20	0.41
11:AA:135:THR:HG22	11:AA:144:VAL:HG22	2.02	0.41
11:AA:836:LEU:HD21	11:AA:921:PRO:HD3	2.02	0.41
11:AA:936:ARG:HB2	11:AA:1042:LEU:HD12	2.03	0.41
11:AA:979:LEU:HD11	11:AA:1011:LEU:HD11	2.03	0.41
12:AB:2:GLN:HA	12:AB:59:PHE:O	2.21	0.41
12:AB:5:TYR:HA	12:AB:88:VAL:CG2	2.49	0.41
12:AB:72:THR:HG22	12:AB:73:ARG:H	1.86	0.41
12:AB:151:LYS:HB2	12:AB:151:LYS:HE2	1.49	0.41
14:AE:288:PRO:CG	14:AE:291:ILE:HG21	2.50	0.41
14:AE:1022:PRO:O	14:AE:1126:GLN:NE2	2.45	0.41
16:AG:205:LEU:HD12	16:AG:205:LEU:H	1.86	0.41
16:AG:258:ARG:HH11	16:AG:258:ARG:CG	2.13	0.41
17:C:21:ILE:HD12	17:C:54:GLN:HG3	2.03	0.41
18:D:338:A:C5	18:D:339:C:C5	3.08	0.41
18:D:437:U:H5"	24:J:152:GLN:CD	2.46	0.41
18:D:570:G:H1'	18:D:820:U:C4	2.56	0.41
18:D:588:G:C4'	28:N:3:MET:HE1	2.48	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:D:680:C:C2	18:D:681:A:C8	3.09	0.41
18:D:915:A:H8	18:D:915:A:O5'	2.04	0.41
18:D:920:U:H2'	18:D:921:U:C6	2.56	0.41
18:D:963:G:C2	18:D:964:A:C8	3.09	0.41
18:D:985:C:C2	18:D:986:U:C5	3.08	0.41
18:D:1119:C:C2	18:D:1120:C:C5	3.09	0.41
18:D:1189:U:H4'	23:I:10:ILE:CD1	2.50	0.41
18:D:1217:C:P	33:S:9:ARG:HE	2.41	0.41
18:D:1227:A:C8	38:X:116:ILE:HD11	2.56	0.41
18:D:1228:C:OP1	38:X:107:ARG:CZ	2.69	0.41
20:F:39:GLU:OE1	20:F:44:GLU:OE1	2.38	0.41
22:H:86:ARG:O	22:H:89:ALA:HB3	2.20	0.41
22:H:277:GLY:C	22:H:331:MET:HE3	2.45	0.41
22:H:308:GLU:HB2	22:H:347:LYS:HB3	2.02	0.41
23:I:36:ASP:OD1	23:I:57:ILE:HG21	2.20	0.41
24:J:62:ARG:CG	24:J:72:PHE:CZ	3.02	0.41
24:J:197:GLU:HA	24:J:200:ILE:HD12	2.03	0.41
25:K:58:ALA:O	25:K:62:LYS:HG2	2.21	0.41
25:K:115:LEU:O	25:K:120:VAL:HG12	2.20	0.41
26:L:24:ARG:O	26:L:25:TYR:C	2.62	0.41
26:L:42:TRP:HB3	26:L:59:TYR:HB2	2.03	0.41
27:M:31:MET:HE3	27:M:31:MET:HB2	1.76	0.41
27:M:138:ARG:O	27:M:142:HIS:ND1	2.46	0.41
28:N:28:PRO:HD3	28:N:58:GLU:OE1	2.21	0.41
29:O:21:ILE:HD12	29:O:86:ALA:CB	2.50	0.41
32:R:4:VAL:CG1	32:R:5:ASN:N	2.83	0.41
32:R:25:GLU:HG2	32:R:25:GLU:O	2.20	0.41
32:R:57:LEU:HD23	32:R:59:ASN:OD1	2.20	0.41
34:T:32:LEU:HD13	34:T:62:GLN:OE1	2.21	0.41
34:T:64:ARG:CZ	34:T:89:ARG:HH12	2.33	0.41
34:T:70:LEU:HD23	34:T:78:TYR:HD1	1.85	0.41
36:V:7:THR:C	36:V:8:LEU:HD12	2.46	0.41
37:W:45:ILE:HA	37:W:62:VAL:HG12	2.01	0.41
38:X:3:ARG:NH2	47:g:35:ASP:HB2	2.36	0.41
38:X:55:THR:CG2	38:X:59:GLU:OE2	2.69	0.41
38:X:71:ARG:NH1	38:X:72:GLU:CG	2.84	0.41
39:Y:42:ASN:OD1	39:Y:50:LYS:NZ	2.46	0.41
39:Y:63:ASP:C	39:Y:65:SER:H	2.28	0.41
39:Y:79:LEU:HD11	39:Y:132:ALA:HA	2.02	0.41
39:Y:82:ALA:CB	39:Y:108:ILE:HD12	2.50	0.41
39:Y:100:ILE:HG13	39:Y:139:VAL:CB	2.51	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:a:184:C:C2	41:a:213:A:N1	2.89	0.41
41:a:209:C:C2	41:a:210:C:C6	3.09	0.41
41:a:272:A:C2	41:a:273:G:C8	3.09	0.41
41:a:397:U:H2'	41:a:398:C:C6	2.56	0.41
41:a:465:G:H2'	41:a:466:A:C8	2.56	0.41
41:a:829:A:N7	41:a:2247:A:O2'	2.52	0.41
41:a:967:U:H2'	41:a:968:C:C6	2.56	0.41
41:a:1057:A:C2	41:a:1082:U:N3	2.89	0.41
41:a:1355:G:C2	41:a:1356:G:C8	3.09	0.41
41:a:1398:C:H2'	41:a:1399:C:H6	1.86	0.41
41:a:1427:A:H4'	41:a:1428:C:O4'	2.21	0.41
41:a:1565:C:O2'	41:a:1567:G:N7	2.47	0.41
41:a:1607:C:H4'	41:a:1608:A:O5'	2.21	0.41
41:a:1827:U:H2'	41:a:1828:G:O4'	2.20	0.41
41:a:1945:G:H2'	41:a:1946:U:C6	2.56	0.41
41:a:2366:A:H2'	41:a:2367:G:O4'	2.21	0.41
41:a:2526:G:O2'	57:q:1:MET:HG2	2.21	0.41
41:a:2569:G:C2	41:a:2570:G:C8	3.09	0.41
44:d:8:C:O2'	64:x:40:ILE:HD13	2.21	0.41
44:d:55:U:H2'	44:d:56:G:C8	2.56	0.41
47:g:7:PRO:CG	54:n:62:GLY:O	2.69	0.41
47:g:57:VAL:O	47:g:58:ASP:C	2.62	0.41
48:h:35:GLU:CD	48:h:64:ILE:HD11	2.46	0.41
48:h:189:ARG:HG3	48:h:190:ALA:N	2.36	0.41
49:i:14:GLY:HA2	49:i:17:ARG:HG2	2.02	0.41
50:j:5:VAL:HB	50:j:32:ASN:HD21	1.86	0.41
50:j:11:MET:SD	50:j:12:THR:N	2.94	0.41
50:j:37:VAL:HG22	50:j:48:ILE:HD12	2.02	0.41
50:j:55:LYS:HD3	50:j:55:LYS:C	2.45	0.41
51:k:7:GLU:CG	51:k:27:LYS:NZ	2.84	0.41
52:l:148:ILE:O	52:l:169:VAL:HA	2.21	0.41
52:l:194:LYS:O	52:l:195:GLN:C	2.64	0.41
52:l:194:LYS:C	52:l:198:GLU:OE1	2.63	0.41
54:n:26:MET:HE3	54:n:26:MET:HB2	1.92	0.41
56:p:17:VAL:O	56:p:18:LYS:CE	2.65	0.41
56:p:89:LEU:HD22	56:p:162:VAL:HA	2.02	0.41
56:p:121:ILE:CD1	56:p:141:ILE:HG22	2.43	0.41
56:p:149:ARG:HH12	56:p:154:PRO:HB3	1.85	0.41
58:r:110:VAL:HG21	58:r:114:GLU:OE1	2.21	0.41
59:s:123:LYS:CD	59:s:132:HIS:HD2	2.33	0.41
60:t:103:VAL:HG21	60:t:107:LEU:HD22	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
63:w:18:GLN:CD	63:w:18:GLN:C	2.88	0.41
64:x:48:LEU:CD2	64:x:87:ILE:CD1	2.98	0.41
65:y:48:ILE:HD11	65:y:101:ARG:NH1	2.36	0.41
1:0:13:ARG:C	1:0:14:VAL:HG13	2.46	0.41
3:2:9:LYS:O	3:2:12:ARG:NH2	2.52	0.41
4:3:6:ARG:NH1	41:a:84:A:C2'	2.84	0.41
9:9:38:MET:SD	9:9:41:LEU:HD12	2.61	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
13:AC:42:ALA:HB1	13:AC:224:LEU:HD11	2.03	0.41
13:AD:305:ASP:C	13:AD:307:LEU:H	2.28	0.41
14:AE:1155:ILE:HG13	14:AE:1210:ILE:HB	2.02	0.41
16:AG:43:ILE:HB	16:AG:44:ASP:H	1.54	0.41
16:AG:323:GLN:NE2	16:AG:323:GLN:C	2.79	0.41
16:AG:442:ARG:O	16:AG:446:PHE:CE2	2.63	0.41
18:D:105:G:H2'	18:D:106:C:C6	2.56	0.41
18:D:218:U:H2'	18:D:219:U:O4'	2.20	0.41
18:D:338:A:H2'	18:D:339:C:H6	1.86	0.41
18:D:517:G:O2'	18:D:530:G:H4'	2.21	0.41
18:D:1080:A:OP1	25:K:50:TYR:OH	2.29	0.41
18:D:1186:G:H4'	29:O:112:GLU:OE2	2.21	0.41
20:F:66:ARG:NH2	20:F:67:ARG:HH22	2.19	0.41
21:G:20:THR:O	21:G:23:TRP:CD1	2.74	0.41
21:G:56:GLU:HG2	21:G:198:PHE:CZ	2.55	0.41
21:G:142:GLU:OE2	21:G:142:GLU:HA	2.21	0.41
21:G:185:ALA:O	21:G:200:ILE:N	2.54	0.41
23:I:6:HIS:CD2	23:I:9:GLY:H	2.39	0.41
23:I:113:ALA:HB1	23:I:200:VAL:HG13	2.02	0.41
24:J:188:ARG:NH2	24:J:195:ILE:HG13	2.36	0.41
25:K:46:VAL:HG12	25:K:47:GLY:N	2.36	0.41
26:L:35:LYS:CG	26:L:36:ILE:N	2.84	0.41
29:O:56:ASP:O	29:O:60:LYS:CE	2.69	0.41
33:S:86:GLU:CD	33:S:90:ARG:HD3	2.45	0.41
35:U:4:ILE:HG22	35:U:71:VAL:HG11	2.03	0.41
37:W:34:TRP:O	37:W:36:ARG:N	2.54	0.41
39:Y:9:LYS:O	39:Y:10:LEU:HG	2.21	0.41
39:Y:60:VAL:CG2	39:Y:66:PHE:CD1	3.03	0.41
41:a:181:A:H2'	41:a:182:A:C8	2.56	0.41
41:a:205:G:O2'	41:a:206:U:OP2	2.39	0.41
41:a:320:A:H2'	52:l:131:THR:HG21	2.03	0.41
41:a:409:G:H2'	41:a:410:G:C8	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:a:451:U:C5’	52:l:47:LYS:HZ3	2.34	0.41
41:a:910:A:N1	41:a:2277:G:H1’	2.36	0.41
41:a:1128:G:C6	41:a:2518:A:C6	3.08	0.41
41:a:1172:C:C2’	41:a:1173:U:O4’	2.68	0.41
41:a:1430:G:H2’	41:a:1431:A:C8	2.56	0.41
41:a:1589:U:C2	41:a:1590:A:C8	3.09	0.41
41:a:1676:A:H2’	41:a:1677:A:C8	2.56	0.41
41:a:1792:G:C5’	48:h:204:VAL:CG2	2.99	0.41
41:a:1881:C:C4	41:a:1882:U:C5	3.09	0.41
41:a:1957:C:C2	41:a:1958:C:C5	3.09	0.41
41:a:2531:A:C4	41:a:2532:G:C8	3.08	0.41
41:a:2619:C:O2’	41:a:2620:C:H5’	2.21	0.41
42:b:39:ARG:HA	42:b:39:ARG:HD2	1.92	0.41
44:d:8:C:O3’	64:x:25:ARG:NH1	2.48	0.41
45:e:13:GLU:O	45:e:14:LEU:C	2.63	0.41
54:n:61:SER:O	54:n:63:GLN:N	2.54	0.41
54:n:94:GLU:CA	54:n:97:TRP:HE3	2.30	0.41
54:n:136:ILE:HA	54:n:141:ILE:HG21	2.01	0.41
59:s:53:TYR:HD1	59:s:121:LYS:HB3	1.86	0.41
60:t:80:ASP:OD1	65:y:68:GLU:OE2	2.39	0.41
60:t:98:ARG:NH2	60:t:118:LEU:C	2.79	0.41
61:u:101:ILE:HG13	61:u:102:GLY:N	2.36	0.41
62:v:112:LEU:HD12	62:v:112:LEU:H	1.86	0.41
63:w:49:GLU:OE2	63:w:95:THR:CG2	2.69	0.41
2:1:10:ALA:CB	2:1:103:ILE:CD1	2.99	0.40
3:2:19:LYS:HE2	3:2:84:TYR:OH	2.21	0.40
5:4:50:MET:O	5:4:56:PHE:CZ	2.74	0.40
8:7:4:U:C6	18:D:1403:C:H1’	2.57	0.40
9:9:11:ILE:O	9:9:15:VAL:HG23	2.20	0.40
10:A:1:C:C5	10:A:2:G:N7	2.89	0.40
11:AA:469:VAL:HA	11:AA:472:GLU:HG2	2.01	0.40
11:AA:856:ASN:CG	16:AG:35:THR:HB	2.43	0.40
11:AA:1105:SER:HB2	14:AE:731:ARG:HB3	2.03	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
12:AB:72:THR:HG22	12:AB:73:ARG:N	2.36	0.40
13:AD:257:VAL:N	13:AD:276:HIS:O	2.34	0.40
14:AE:79:LYS:N	16:AG:144:LYS:HZ1	2.16	0.40
14:AE:1003:LEU:HD23	14:AE:1018:ALA:HB2	2.02	0.40
16:AG:125:MET:O	16:AG:125:MET:SD	2.79	0.40
10:B:1:C:C5	10:B:2:G:N7	2.89	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:D:356:A:C5	18:D:357:G:C8	3.08	0.40
18:D:414:A:C2	18:D:415:A:N9	2.89	0.40
18:D:718:A:C2	31:Q:118:HIS:CE1	3.09	0.40
18:D:1141:C:O2'	18:D:1142:G:P	2.79	0.40
19:E:9:LYS:CG	19:E:13:GLN:HE22	2.34	0.40
20:F:12:PHE:O	20:F:16:LEU:HG	2.21	0.40
21:G:6:MET:HA	21:G:9:MET:SD	2.61	0.40
21:G:36:ASN:ND2	22:H:19:ARG:HD2	2.36	0.40
21:G:58:ASN:HB2	21:G:220:THR:OG1	2.21	0.40
22:H:308:GLU:HG2	22:H:309:MET:N	2.31	0.40
23:I:8:ASN:O	23:I:12:LEU:HD23	2.21	0.40
23:I:172:ARG:NH1	23:I:174:PRO:HG3	2.35	0.40
24:J:74:ASN:OD1	24:J:74:ASN:C	2.64	0.40
27:M:35:LYS:CE	27:M:38:THR:OG1	2.69	0.40
28:N:8:ALA:N	28:N:77:ARG:NH1	2.69	0.40
30:P:47:GLU:N	30:P:47:GLU:CD	2.79	0.40
31:Q:20:VAL:CG1	31:Q:85:MET:CE	2.99	0.40
31:Q:36:ASP:OD1	31:Q:40:ASN:N	2.53	0.40
33:S:37:SER:O	33:S:41:ARG:HG3	2.22	0.40
33:S:63:ARG:HH22	33:S:70:PRO:HD3	1.85	0.40
34:T:26:GLU:CG	34:T:27:VAL:N	2.83	0.40
40:Z:17:MET:HE3	40:Z:17:MET:HB2	1.90	0.40
41:a:67:U:C4	41:a:74:A:N6	2.89	0.40
41:a:151:C:C2	41:a:152:A:N7	2.89	0.40
41:a:443:A:N1	52:l:40:ARG:NH2	2.69	0.40
41:a:593:U:H2'	41:a:594:U:H6	1.85	0.40
41:a:708:G:H2'	41:a:709:U:H6	1.86	0.40
41:a:841:G:H2'	41:a:842:U:H6	1.86	0.40
41:a:1177:G:O2'	41:a:1178:C:O4'	2.39	0.40
41:a:1858:A:C2	41:a:1885:A:C1'	3.04	0.40
41:a:1923:U:OP2	41:a:1923:U:H2'	2.21	0.40
41:a:1946:U:H2'	41:a:1947:C:C6	2.56	0.40
41:a:2310:C:O2'	54:n:74:VAL:HG12	2.20	0.40
41:a:2397:G:H2'	41:a:2398:U:H6	1.86	0.40
41:a:2422:C:C4	41:a:2424:C:C4	3.09	0.40
41:a:2839:G:C4	41:a:2840:C:C6	3.09	0.40
41:a:2848:G:N2	41:a:2867:G:C4	2.89	0.40
44:d:113:C:O2'	64:x:46:GLU:CD	2.64	0.40
48:h:144:VAL:HG21	48:h:162:VAL:HG11	2.01	0.40
53:m:42:LEU:N	53:m:42:LEU:HD12	2.36	0.40
58:r:8:LYS:HD2	58:r:13:GLY:O	2.20	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:t:20:MET:CB	60:t:44:LYS:HE2	2.51	0.40
62:v:31:PHE:CZ	62:v:110:GLU:HG3	2.56	0.40
63:w:12:ARG:CZ	63:w:20:MET:HE1	2.51	0.40
63:w:87:PHE:O	63:w:88:ALA:C	2.64	0.40
65:y:6:LYS:C	65:y:6:LYS:HD2	2.46	0.40
1:0:13:ARG:NH2	66:z:97:ASP:CG	2.79	0.40
4:3:86:ARG:CZ	4:3:95:PHE:CD2	3.04	0.40
4:3:86:ARG:NH2	4:3:95:PHE:CB	2.84	0.40
5:4:48:MET:CE	5:4:85:LYS:HA	2.51	0.40
6:5:10:DT:H2"	12:AB:69:ILE:CA	2.50	0.40
8:7:47:U:C3'	8:7:47:U:C6	3.04	0.40
9:9:94:ARG:HB3	9:9:97:LYS:NZ	2.32	0.40
9:9:94:ARG:HA	9:9:97:LYS:HG2	2.03	0.40
11:AA:998:LEU:HD21	11:AA:1015:ALA:HB2	2.02	0.40
12:AB:2:GLN:N	12:AB:60:ASP:OD1	2.54	0.40
12:AB:8:TYR:C	12:AB:76:SER:HB3	2.47	0.40
13:AD:76:GLU:HB3	13:AD:80:GLU:HB3	2.01	0.40
14:AE:79:LYS:HB3	14:AE:79:LYS:NZ	2.36	0.40
14:AE:438:GLU:HG3	14:AE:485:MET:HE1	2.03	0.40
14:AE:706:VAL:HG12	14:AE:715:LYS:HB3	2.04	0.40
14:AE:978:ARG:HB2	14:AE:999:TYR:HB2	2.04	0.40
16:AG:21:GLU:HB3	16:AG:49:ILE:CD1	2.49	0.40
16:AG:216:ILE:HG12	16:AG:221:ILE:HG13	2.03	0.40
16:AG:374:VAL:O	16:AG:374:VAL:CG1	2.68	0.40
10:B:16:C:O2	10:B:16:C:H2'	2.21	0.40
18:D:19:A:C6	18:D:20:U:C4	3.10	0.40
18:D:112:G:N1	18:D:330:C:C5	2.88	0.40
18:D:174:A:C5	18:D:175:C:C5	3.10	0.40
18:D:262:A:C4	18:D:263:A:C8	3.10	0.40
18:D:436:C:N3	18:D:437:U:C5	2.89	0.40
18:D:695:A:O5'	31:Q:53:ARG:CZ	2.69	0.40
18:D:1061:G:C6	18:D:1197:A:C6	3.09	0.40
21:G:17:GLY:C	22:H:43:LYS:HD2	2.46	0.40
22:H:170:ARG:O	22:H:171:ARG:CB	2.69	0.40
24:J:196:ASN:OD1	24:J:198:HIS:ND1	2.54	0.40
26:L:4:TYR:CD2	26:L:91:ARG:HD2	2.57	0.40
26:L:9:MET:CE	26:L:86:ARG:HG2	2.52	0.40
26:L:38:ARG:CZ	26:L:99:ALA:HB2	2.51	0.40
28:N:83:LEU:HD11	32:R:4:VAL:CB	2.51	0.40
28:N:83:LEU:HD23	36:V:36:LYS:CD	2.52	0.40
29:O:118:LEU:HB3	29:O:120:LYS:O	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:Q:49:GLY:C	31:Q:51:GLY:H	2.29	0.40
32:R:3:THR:O	32:R:6:GLN:HB2	2.20	0.40
34:T:21:ASP:C	34:T:22:THR:HG1	2.16	0.40
34:T:67:LEU:CD1	34:T:78:TYR:CE1	3.04	0.40
36:V:61:ILE:HA	36:V:75:LEU:HA	2.02	0.40
39:Y:81:LYS:N	39:Y:81:LYS:CD	2.79	0.40
40:Z:6:GLN:HG3	40:Z:6:GLN:O	2.21	0.40
41:a:151:C:H2'	41:a:152:A:C8	2.53	0.40
41:a:458:G:N2	41:a:469:G:H2'	2.36	0.40
41:a:638:G:H2'	41:a:639:U:C6	2.56	0.40
41:a:966:G:C1'	41:a:2267:A:H62	2.35	0.40
41:a:1289:C:H2'	41:a:1290:C:C6	2.56	0.40
41:a:1843:C:H2'	41:a:1844:C:H6	1.85	0.40
41:a:1958:C:O2'	41:a:1959:G:H5'	2.20	0.40
41:a:1964:G:H4'	41:a:1965:C:OP2	2.19	0.40
41:a:2216:G:H2'	41:a:2217:G:C8	2.57	0.40
41:a:2246:G:H2'	41:a:2247:A:H8	1.86	0.40
41:a:2511:U:C5'	50:j:130:GLN:OE1	2.68	0.40
41:a:2728:U:H5'	60:t:70:ARG:HH22	1.85	0.40
42:b:55:ARG:CZ	42:b:55:ARG:CA	2.99	0.40
48:h:210:ALA:HA	48:h:213:TRP:CE3	2.56	0.40
62:v:45:GLN:NE2	62:v:124:LEU:HD23	2.37	0.40
66:z:66:ASN:OD1	66:z:70:ARG:NE	2.54	0.40
2:1:25:ARG:NH2	41:a:520:G:P	2.87	0.40
5:4:2:PHE:CZ	5:4:56:PHE:CZ	3.08	0.40
6:5:27:DG:N2	7:6:3:DC:O2	2.53	0.40
11:AA:524:ILE:HD12	11:AA:712:SER:HB2	2.02	0.40
12:AB:31:PRO:HG2	12:AB:51:PHE:CD2	2.55	0.40
13:AC:57:THR:HG22	13:AC:58:GLU:HG3	2.04	0.40
14:AE:291:ILE:HD13	14:AE:291:ILE:HA	1.85	0.40
14:AE:1175:LEU:HD22	14:AE:1190:ILE:HD11	2.03	0.40
16:AG:307:ILE:HG13	16:AG:338:VAL:HG23	2.02	0.40
18:D:18:C:C2	18:D:19:A:C8	3.09	0.40
18:D:74:A:C4	18:D:75:G:C8	3.09	0.40
18:D:135:C:H2'	35:U:1:MET:CE	2.51	0.40
18:D:553:A:H2'	18:D:554:A:C8	2.57	0.40
18:D:953:G:O6	38:X:103:LYS:HE2	2.22	0.40
18:D:983:A:C2	18:D:984:C:C6	3.10	0.40
20:F:4:ILE:HD12	20:F:19:PHE:HA	2.03	0.40
21:G:85:LEU:HD23	21:G:85:LEU:C	2.46	0.40
21:G:90:PHE:CD2	21:G:154:MET:SD	3.14	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:G:137:ARG:HG3	21:G:138:THR:N	2.36	0.40
22:H:116:VAL:O	22:H:279:LYS:HG2	2.21	0.40
22:H:309:MET:HE1	22:H:318:PRO:CA	2.51	0.40
24:J:74:ASN:CG	24:J:77:LYS:HZ3	2.29	0.40
27:M:109:ARG:CD	27:M:116:MET:HE1	2.49	0.40
33:S:10:GLU:CD	33:S:63:ARG:HD2	2.45	0.40
33:S:10:GLU:OE1	33:S:63:ARG:HG3	2.20	0.40
34:T:3:LEU:HB2	34:T:35:GLN:OE1	2.21	0.40
35:U:25:ARG:HA	35:U:25:ARG:HD2	1.95	0.40
38:X:36:ALA:HB3	38:X:59:GLU:HG2	2.03	0.40
39:Y:55:PRO:C	39:Y:71:LYS:CE	2.95	0.40
41:a:18:U:H2'	41:a:19:A:H8	1.86	0.40
41:a:404:A:O2'	41:a:405:U:P	2.78	0.40
41:a:789:A:N1	53:m:3:ARG:NH2	2.68	0.40
41:a:1239:G:H2'	41:a:1240:U:O4'	2.21	0.40
41:a:1449:G:C6	41:a:1450:G:N7	2.89	0.40
41:a:1589:U:HO2'	41:a:1590:A:P	2.45	0.40
41:a:2589:A:H2'	41:a:2590:A:H8	1.86	0.40
43:c:67:VAL:CA	43:c:70:GLU:OE1	2.69	0.40
44:d:31:C:O2	44:d:31:C:H2'	2.21	0.40
48:h:53:HIS:CD2	48:h:218:PRO:O	2.74	0.40
48:h:246:THR:HB	48:h:247:PRO:HD2	2.04	0.40
50:j:152:PRO:HG3	50:j:156:PHE:CE1	2.53	0.40
54:n:138:PHE:O	54:n:141:ILE:HG22	2.20	0.40
54:n:150:ARG:HG2	54:n:151:GLY:N	2.36	0.40
58:r:5:LEU:CD1	58:r:17:ASP:HB3	2.50	0.40
59:s:133:ALA:O	59:s:134:ALA:C	2.62	0.40
62:v:106:ASP:OD1	62:v:106:ASP:C	2.64	0.40
65:y:48:ILE:HD11	65:y:101:ARG:HH11	1.86	0.40
66:z:74:ILE:CD1	66:z:79:PHE:HA	2.40	0.40
2:1:32:ALA:O	2:1:36:LEU:CD1	2.70	0.40
9:9:43:LYS:HA	9:9:46:ARG:NH2	2.36	0.40
9:9:122:GLN:HG2	9:9:123:ILE:HG22	2.04	0.40
11:AA:213:LEU:HD13	11:AA:422:LYS:HG2	2.03	0.40
11:AA:741:MET:HE3	11:AA:974:ARG:HH12	1.85	0.40
12:AB:35:LEU:HA	12:AB:106:ASP:CG	2.33	0.40
16:AG:27:LEU:CD2	16:AG:114:ILE:HG23	2.51	0.40
16:AG:282:GLN:HA	16:AG:282:GLN:HE21	1.82	0.40
16:AG:433:ASP:O	16:AG:456:LEU:CD2	2.69	0.40
10:B:16:C:H3'	10:B:17:C:H5"	2.04	0.40
10:B:25:C:C4	10:B:26:G:C8	3.09	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:D:334:C:N3	18:D:335:C:C5	2.90	0.40
18:D:376:G:O3'	35:U:5:ARG:NE	2.54	0.40
18:D:597:G:N7	18:D:598:U:C5	2.89	0.40
18:D:1216:A:C2	18:D:1217:C:C5	3.10	0.40
18:D:1326:U:H2'	18:D:1327:C:C6	2.56	0.40
19:E:43:ASP:CG	19:E:46:ALA:HB3	2.46	0.40
21:G:30:PHE:HA	21:G:45:LYS:NZ	2.35	0.40
22:H:287:LEU:HD23	22:H:318:PRO:HB2	2.02	0.40
23:I:30:ALA:O	33:S:65:ARG:NH2	2.55	0.40
23:I:34:ASP:O	23:I:38:LYS:HG3	2.21	0.40
23:I:147:LYS:CE	23:I:204:LYS:O	2.69	0.40
24:J:138:SER:C	24:J:182:PHE:CE2	3.00	0.40
27:M:93:PRO:O	27:M:96:ARG:HG2	2.21	0.40
29:O:25:ASN:HB2	29:O:27:LYS:NZ	2.36	0.40
35:U:6:LEU:HD12	35:U:6:LEU:N	2.36	0.40
35:U:34:GLU:OE1	35:U:60:TRP:NE1	2.54	0.40
36:V:26:GLU:OE2	36:V:39:LYS:C	2.65	0.40
36:V:31:HIS:HD2	36:V:34:TYR:HB2	1.85	0.40
40:Z:29:LYS:C	40:Z:30:PHE:HD2	2.29	0.40
41:a:216:A:C8	41:a:432:A:C6	3.10	0.40
41:a:379:G:C6	41:a:396:G:O6	2.75	0.40
41:a:672:C:O2'	41:a:673:C:H5'	2.22	0.40
41:a:752:A:P	53:m:1:MET:HE1	2.62	0.40
41:a:1709:U:C2	41:a:1710:G:C8	3.10	0.40
41:a:2205:A:H2'	41:a:2206:C:C6	2.56	0.40
41:a:2223:G:OP1	48:h:171:TYR:OH	2.38	0.40
41:a:2812:G:H2'	41:a:2813:A:H8	1.87	0.40
46:f:25:LEU:C	46:f:25:LEU:HD23	2.46	0.40
48:h:84:ASP:OD2	48:h:91:ILE:HD11	2.21	0.40
50:j:45:TYR:CE2	50:j:81:GLU:OE2	2.75	0.40
50:j:175:LEU:HB3	50:j:189:VAL:HG12	2.02	0.40
55:o:33:LEU:O	55:o:41:LYS:NZ	2.45	0.40
59:s:4:PHE:CG	66:z:100:VAL:HG11	2.56	0.40
60:t:7:MET:CE	60:t:20:MET:HB2	2.51	0.40
60:t:58:LEU:N	60:t:58:LEU:HD23	2.36	0.40
61:u:123:ARG:HG3	61:u:143:GLU:OE2	2.21	0.40
4:3:4:LYS:O	4:3:72:ILE:HD11	2.22	0.40
5:4:78:GLN:OE1	5:4:88:HIS:HB3	2.21	0.40
8:7:9:U:O4	18:D:1196:A:C1'	2.70	0.40
9:9:43:LYS:HG2	9:9:98:GLU:CD	2.47	0.40
10:A:16:C:O2	41:a:2181:U:H5"	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AA:1247:SER:OG	11:AA:1248:THR:N	2.55	0.40
12:AB:147:ASN:C	12:AB:147:ASN:ND2	2.79	0.40
12:AB:158:GLU:HA	12:AB:162:LEU:HA	2.04	0.40
14:AE:144:TYR:HH	14:AE:293:ARG:HH22	1.63	0.40
14:AE:247:PRO:HA	14:AE:250:ARG:HE	1.86	0.40
14:AE:1178:THR:HG23	14:AE:1184:ASP:HB3	2.04	0.40
16:AG:425:LEU:HA	16:AG:429:LYS:HE3	0.95	0.40
18:D:72:A:C4	18:D:73:C:C6	3.10	0.40
18:D:228:A:C4'	35:U:63:GLN:CD	2.95	0.40
18:D:280:C:H1'	36:V:40:ARG:HH12	1.86	0.40
18:D:575:G:H4'	18:D:576:C:OP1	2.22	0.40
18:D:977:A:N6	18:D:1224:U:O5'	2.55	0.40
18:D:1095:U:H2'	18:D:1096:C:C6	2.57	0.40
18:D:1288:A:H2'	18:D:1289:A:O4'	2.21	0.40
19:E:9:LYS:HG3	19:E:13:GLN:HE22	1.87	0.40
19:E:15:GLU:CD	19:E:16:LYS:N	2.80	0.40
19:E:59:ASP:OD1	19:E:76:LYS:HE2	2.21	0.40
21:G:94:HIS:O	21:G:95:ARG:C	2.64	0.40
21:G:126:PHE:O	21:G:127:ASP:C	2.65	0.40
22:H:16:ILE:O	22:H:25:ARG:NH1	2.55	0.40
22:H:303:LEU:O	22:H:305:HIS:HA	2.21	0.40
24:J:71:GLN:O	24:J:74:ASN:HB3	2.22	0.40
30:P:21:ALA:HB1	30:P:92:LEU:HD23	2.03	0.40
36:V:77:ARG:HH21	36:V:78:VAL:H	1.69	0.40
41:a:134:G:H2'	41:a:135:U:H6	1.85	0.40
41:a:239:C:O2'	41:a:622:G:O2'	2.32	0.40
41:a:838:C:H2'	41:a:839:U:H6	1.87	0.40
41:a:849:A:H2'	41:a:850:U:H6	1.87	0.40
41:a:873:C:C2	41:a:874:G:C8	3.09	0.40
41:a:1144:A:C6	41:a:1145:C:C4	3.09	0.40
41:a:1944:U:C5	41:a:1955:U:C2	3.09	0.40
41:a:2072:C:N3	41:a:2073:C:C5	2.90	0.40
41:a:2314:A:O2'	54:n:155:THR:CG2	2.69	0.40
41:a:2639:A:H2'	41:a:2640:G:O4'	2.21	0.40
41:a:2650:U:C2	41:a:2651:C:C5	3.08	0.40
42:b:55:ARG:NE	42:b:55:ARG:CA	2.84	0.40
42:b:58:THR:O	42:b:58:THR:HG23	2.21	0.40
46:f:34:HIS:CD2	46:f:36:VAL:CG2	3.05	0.40
47:g:58:ASP:O	47:g:59:ARG:C	2.64	0.40
50:j:55:LYS:HD3	50:j:56:LYS:N	2.36	0.40
50:j:61:THR:CG2	50:j:64:GLU:HG2	2.52	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:j:171:THR:CG2	50:j:173:GLN:HE21	2.35	0.40
54:n:16:LEU:HD11	54:n:169:LEU:HD12	2.03	0.40
59:s:1:MET:SD	59:s:2:LYS:O	2.79	0.40
61:u:95:LEU:HD13	61:u:100:ILE:CD1	2.51	0.40
62:v:50:ARG:O	62:v:53:MET:SD	2.80	0.40
65:y:27:GLU:OE2	65:y:29:LYS:HG2	2.22	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
1	0	101/103 (98%)	97 (96%)	4 (4%)	0	100 100
2	1	108/110 (98%)	107 (99%)	1 (1%)	0	100 100
3	2	92/100 (92%)	87 (95%)	5 (5%)	0	100 100
4	3	101/104 (97%)	98 (97%)	3 (3%)	0	100 100
5	4	92/94 (98%)	89 (97%)	3 (3%)	0	100 100
9	9	146/165 (88%)	100 (68%)	43 (30%)	3 (2%)	5 24
11	AA	1312/1342 (98%)	1198 (91%)	113 (9%)	1 (0%)	48 78
12	AB	159/162 (98%)	103 (65%)	44 (28%)	12 (8%)	1 5
13	AC	217/329 (66%)	203 (94%)	12 (6%)	2 (1%)	14 41
13	AD	293/329 (89%)	263 (90%)	27 (9%)	3 (1%)	13 39
14	AE	1331/1407 (95%)	1211 (91%)	114 (9%)	6 (0%)	25 54
15	AF	80/91 (88%)	77 (96%)	3 (4%)	0	100 100
16	AG	493/495 (100%)	375 (76%)	86 (17%)	32 (6%)	1 7
17	C	64/75 (85%)	63 (98%)	1 (2%)	0	100 100
19	E	84/87 (97%)	83 (99%)	1 (1%)	0	100 100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
20	F	68/71 (96%)	68 (100%)	0	0	100	100
21	G	223/241 (92%)	212 (95%)	10 (4%)	1 (0%)	30	60
22	H	255/557 (46%)	182 (71%)	66 (26%)	7 (3%)	4	21
23	I	206/233 (88%)	193 (94%)	13 (6%)	0	100	100
24	J	203/206 (98%)	201 (99%)	2 (1%)	0	100	100
25	K	154/167 (92%)	145 (94%)	8 (5%)	1 (1%)	22	50
26	L	102/135 (76%)	97 (95%)	4 (4%)	1 (1%)	13	39
27	M	149/179 (83%)	140 (94%)	8 (5%)	1 (1%)	19	47
28	N	127/130 (98%)	123 (97%)	4 (3%)	0	100	100
29	O	125/130 (96%)	116 (93%)	8 (6%)	1 (1%)	16	44
30	P	97/103 (94%)	89 (92%)	8 (8%)	0	100	100
31	Q	115/129 (89%)	107 (93%)	8 (7%)	0	100	100
32	R	117/124 (94%)	112 (96%)	5 (4%)	0	100	100
33	S	98/101 (97%)	97 (99%)	1 (1%)	0	100	100
34	T	86/89 (97%)	83 (96%)	3 (4%)	0	100	100
35	U	80/82 (98%)	76 (95%)	4 (5%)	0	100	100
36	V	78/84 (93%)	74 (95%)	4 (5%)	0	100	100
37	W	81/92 (88%)	80 (99%)	1 (1%)	0	100	100
38	X	114/118 (97%)	103 (90%)	9 (8%)	2 (2%)	7	27
39	Y	139/142 (98%)	101 (73%)	38 (27%)	0	100	100
40	Z	28/121 (23%)	22 (79%)	6 (21%)	0	100	100
42	b	74/85 (87%)	73 (99%)	1 (1%)	0	100	100
43	c	75/78 (96%)	72 (96%)	3 (4%)	0	100	100
45	e	60/63 (95%)	57 (95%)	3 (5%)	0	100	100
46	f	56/59 (95%)	52 (93%)	4 (7%)	0	100	100
47	g	64/70 (91%)	62 (97%)	2 (3%)	0	100	100
48	h	269/273 (98%)	255 (95%)	14 (5%)	0	100	100
49	i	54/57 (95%)	49 (91%)	5 (9%)	0	100	100
50	j	207/209 (99%)	198 (96%)	9 (4%)	0	100	100
51	k	50/55 (91%)	50 (100%)	0	0	100	100
52	l	199/201 (99%)	188 (94%)	11 (6%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
53	m	44/46 (96%)	43 (98%)	1 (2%)	0	100 100
54	n	175/179 (98%)	160 (91%)	14 (8%)	1 (1%)	22 50
55	o	62/65 (95%)	57 (92%)	4 (6%)	1 (2%)	8 29
56	p	173/177 (98%)	162 (94%)	11 (6%)	0	100 100
57	q	36/38 (95%)	35 (97%)	1 (3%)	0	100 100
58	r	147/149 (99%)	139 (95%)	8 (5%)	0	100 100
59	s	140/142 (99%)	133 (95%)	7 (5%)	0	100 100
60	t	121/123 (98%)	114 (94%)	7 (6%)	0	100 100
61	u	142/144 (99%)	134 (94%)	8 (6%)	0	100 100
62	v	134/136 (98%)	129 (96%)	5 (4%)	0	100 100
63	w	117/127 (92%)	112 (96%)	5 (4%)	0	100 100
64	x	114/117 (97%)	107 (94%)	7 (6%)	0	100 100
65	y	112/115 (97%)	105 (94%)	7 (6%)	0	100 100
66	z	115/118 (98%)	111 (96%)	4 (4%)	0	100 100
All	All	10058/11053 (91%)	9172 (91%)	811 (8%)	75 (1%)	21 47

All (75) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
12	AB	107	PRO
12	AB	130	PHE
12	AB	137	ALA
12	AB	144	ASN
12	AB	160	ARG
13	AD	286	GLU
16	AG	34	ALA
16	AG	105	ILE
16	AG	187	ARG
16	AG	227	ALA
21	G	127	ASP
22	H	304	VAL
27	M	56	LYS
55	o	32	ILE
12	AB	105	VAL
12	AB	127	GLN
14	AE	92	VAL
14	AE	175	GLU

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Mol	Chain	Res	Type
16	AG	63	LEU
16	AG	104	ARG
16	AG	242	ASP
16	AG	268	GLY
16	AG	279	ASN
16	AG	350	ALA
16	AG	365	ILE
22	H	171	ARG
22	H	305	HIS
22	H	309	MET
12	AB	141	LEU
12	AB	152	HIS
16	AG	33	THR
16	AG	102	PHE
16	AG	200	SER
16	AG	305	MET
16	AG	319	GLY
16	AG	355	ALA
16	AG	396	GLU
16	AG	425	LEU
25	K	78	ASN
26	L	96	VAL
29	O	13	LYS
54	n	177	PHE
13	AC	193	GLU
16	AG	48	GLN
16	AG	265	GLU
16	AG	363	LEU
16	AG	401	PRO
22	H	82	THR
12	AB	53	ASN
13	AD	289	LEU
14	AE	74	LYS
14	AE	286	ALA
16	AG	224	LYS
16	AG	399	ASP
22	H	143	ASP
38	X	6	GLY
38	X	66	GLU
9	9	79	PRO
9	9	88	HIS
13	AC	192	VAL

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Mol	Chain	Res	Type
13	AD	306	VAL
14	AE	290	ILE
16	AG	43	ILE
16	AG	70	GLN
16	AG	169	PRO
16	AG	171	GLU
16	AG	323	GLN
16	AG	364	ASP
16	AG	382	GLU
22	H	71	ALA
14	AE	292	VAL
9	9	129	LEU
11	AA	1317	PRO
12	AB	150	ILE
12	AB	116	VAL

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
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%)	89 93
12	AB	141/142 (99%)	117 (83%)	24 (17%)	1 6
13	AC	186/286 (65%)	186 (100%)	0	100 100
13	AD	185/286 (65%)	185 (100%)	0	100 100
14	AE	1122/1168 (96%)	1104 (98%)	18 (2%)	58 75
15	AF	70/75 (93%)	69 (99%)	1 (1%)	62 77

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
16	AG	409/409 (100%)	288 (70%)	121 (30%)	0 1
17	C	57/65 (88%)	57 (100%)	0	100 100
19	E	65/66 (98%)	65 (100%)	0	100 100
20	F	60/61 (98%)	60 (100%)	0	100 100
21	G	187/199 (94%)	187 (100%)	0	100 100
22	H	137/461 (30%)	137 (100%)	0	100 100
23	I	171/190 (90%)	171 (100%)	0	100 100
24	J	172/173 (99%)	171 (99%)	1 (1%)	84 90
25	K	119/126 (94%)	119 (100%)	0	100 100
26	L	91/116 (78%)	91 (100%)	0	100 100
27	M	124/147 (84%)	124 (100%)	0	100 100
28	N	104/105 (99%)	104 (100%)	0	100 100
29	O	105/107 (98%)	105 (100%)	0	100 100
30	P	86/90 (96%)	86 (100%)	0	100 100
31	Q	90/99 (91%)	90 (100%)	0	100 100
32	R	101/104 (97%)	101 (100%)	0	100 100
33	S	83/84 (99%)	83 (100%)	0	100 100
34	T	76/77 (99%)	76 (100%)	0	100 100
35	U	65/65 (100%)	65 (100%)	0	100 100
36	V	74/78 (95%)	74 (100%)	0	100 100
37	W	72/79 (91%)	72 (100%)	0	100 100
38	X	94/96 (98%)	94 (100%)	0	100 100
39	Y	109/110 (99%)	109 (100%)	0	100 100
40	Z	26/85 (31%)	26 (100%)	0	100 100
42	b	58/63 (92%)	58 (100%)	0	100 100
43	c	67/68 (98%)	67 (100%)	0	100 100
45	e	54/55 (98%)	54 (100%)	0	100 100
46	f	48/49 (98%)	48 (100%)	0	100 100
47	g	59/62 (95%)	59 (100%)	0	100 100
48	h	216/218 (99%)	216 (100%)	0	100 100
49	i	47/48 (98%)	47 (100%)	0	100 100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
50	j	164/164 (100%)	164 (100%)	0	100	100
51	k	47/49 (96%)	47 (100%)	0	100	100
52	l	165/165 (100%)	165 (100%)	0	100	100
53	m	38/38 (100%)	38 (100%)	0	100	100
54	n	148/150 (99%)	148 (100%)	0	100	100
55	o	51/52 (98%)	51 (100%)	0	100	100
56	p	136/138 (99%)	136 (100%)	0	100	100
57	q	34/34 (100%)	34 (100%)	0	100	100
58	r	114/114 (100%)	114 (100%)	0	100	100
59	s	116/116 (100%)	116 (100%)	0	100	100
60	t	104/104 (100%)	104 (100%)	0	100	100
61	u	103/103 (100%)	103 (100%)	0	100	100
62	v	109/109 (100%)	109 (100%)	0	100	100
63	w	99/103 (96%)	99 (100%)	0	100	100
64	x	86/87 (99%)	86 (100%)	0	100	100
65	y	99/100 (99%)	99 (100%)	0	100	100
66	z	89/90 (99%)	89 (100%)	0	100	100
All	All	8299/9132 (91%)	8129 (98%)	170 (2%)	50	70

All (170) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
11	AA	145	ILE
11	AA	615	VAL
11	AA	914	LYS
11	AA	1076	ILE
11	AA	1151	LEU
12	AB	115	LYS
12	AB	116	VAL
12	AB	117	ILE
12	AB	118	ILE
12	AB	119	THR
12	AB	120	GLU
12	AB	123	PHE
12	AB	124	GLU
12	AB	126	PHE

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Mol	Chain	Res	Type
12	AB	127	GLN
12	AB	129	ILE
12	AB	138	ARG
12	AB	141	LEU
12	AB	145	LEU
12	AB	146	ILE
12	AB	147	ASN
12	AB	148	LYS
12	AB	149	GLU
12	AB	150	ILE
12	AB	151	LYS
12	AB	154	VAL
12	AB	159	PHE
12	AB	160	ARG
12	AB	161	LYS
14	AE	69	GLU
14	AE	70	CYS
14	AE	71	LEU
14	AE	74	LYS
14	AE	76	LYS
14	AE	77	ARG
14	AE	78	LEU
14	AE	79	LYS
14	AE	81	ARG
14	AE	84	ILE
14	AE	85	CYS
14	AE	92	VAL
14	AE	93	THR
14	AE	290	ILE
14	AE	291	ILE
14	AE	292	VAL
14	AE	514	THR
14	AE	1261	LEU
15	AF	63	ILE
16	AG	5	ILE
16	AG	12	VAL
16	AG	16	LYS
16	AG	36	LYS
16	AG	37	LYS
16	AG	40	GLU
16	AG	43	ILE
16	AG	47	VAL

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Mol	Chain	Res	Type
16	AG	49	ILE
16	AG	50	ASP
16	AG	56	PHE
16	AG	57	ASP
16	AG	61	ARG
16	AG	63	LEU
16	AG	75	ILE
16	AG	97	ILE
16	AG	103	ASP
16	AG	104	ARG
16	AG	114	ILE
16	AG	117	LYS
16	AG	123	ARG
16	AG	125	MET
16	AG	126	VAL
16	AG	131	ARG
16	AG	138	ILE
16	AG	139	THR
16	AG	144	LYS
16	AG	150	ILE
16	AG	154	LEU
16	AG	157	ASN
16	AG	162	ILE
16	AG	167	MET
16	AG	173	PHE
16	AG	174	ARG
16	AG	179	VAL
16	AG	180	ARG
16	AG	182	VAL
16	AG	187	ARG
16	AG	189	GLU
16	AG	195	LEU
16	AG	197	VAL
16	AG	199	ARG
16	AG	201	LYS
16	AG	203	GLU
16	AG	204	MET
16	AG	205	LEU
16	AG	206	ILE
16	AG	207	GLU
16	AG	210	ARG
16	AG	211	ILE

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Mol	Chain	Res	Type
16	AG	213	VAL
16	AG	218	GLU
16	AG	219	GLU
16	AG	221	ILE
16	AG	223	ILE
16	AG	232	SER
16	AG	235	LYS
16	AG	236	ILE
16	AG	238	VAL
16	AG	239	LYS
16	AG	240	THR
16	AG	241	ASN
16	AG	243	LYS
16	AG	244	ARG
16	AG	245	ILE
16	AG	254	MET
16	AG	255	ARG
16	AG	258	ARG
16	AG	259	VAL
16	AG	260	GLN
16	AG	262	VAL
16	AG	265	GLU
16	AG	270	ARG
16	AG	271	ILE
16	AG	273	ILE
16	AG	274	VAL
16	AG	276	TRP
16	AG	278	ASP
16	AG	282	GLN
16	AG	285	ILE
16	AG	288	MET
16	AG	296	ILE
16	AG	297	VAL
16	AG	299	ASP
16	AG	300	GLU
16	AG	301	ASP
16	AG	302	LYS
16	AG	303	HIS
16	AG	305	MET
16	AG	309	VAL
16	AG	310	GLU
16	AG	313	ASN

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Mol	Chain	Res	Type
16	AG	316	GLN
16	AG	320	ARG
16	AG	321	ASN
16	AG	323	GLN
16	AG	327	LEU
16	AG	331	LEU
16	AG	335	GLU
16	AG	336	LEU
16	AG	337	ASN
16	AG	338	VAL
16	AG	340	THR
16	AG	341	VAL
16	AG	342	ASP
16	AG	344	LEU
16	AG	356	ILE
16	AG	358	THR
16	AG	359	PHE
16	AG	361	LYS
16	AG	365	ILE
16	AG	380	THR
16	AG	387	VAL
16	AG	390	LYS
16	AG	396	GLU
16	AG	398	LEU
16	AG	399	ASP
16	AG	400	GLU
16	AG	425	LEU
16	AG	428	ASN
16	AG	429	LYS
24	J	47	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (116) such sidechains are listed below:

Mol	Chain	Res	Type
1	0	6	GLN
1	0	82	HIS
2	1	7	HIS
2	1	9	HIS
3	2	15	HIS
9	9	9	GLN
11	AA	69	GLN
11	AA	314	ASN

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Mol	Chain	Res	Type
11	AA	330	HIS
11	AA	343	HIS
11	AA	387	ASN
11	AA	513	GLN
11	AA	554	HIS
11	AA	688	GLN
11	AA	808	ASN
11	AA	856	ASN
11	AA	1237	HIS
11	AA	1268	GLN
11	AA	1288	GLN
11	AA	1313	HIS
12	AB	27	ASN
12	AB	65	HIS
12	AB	147	ASN
13	AC	23	HIS
13	AD	66	HIS
13	AD	84	ASN
13	AD	117	HIS
13	AD	227	GLN
14	AE	80	HIS
14	AE	157	GLN
14	AE	164	GLN
14	AE	232	ASN
14	AE	365	GLN
14	AE	424	ASN
14	AE	450	HIS
14	AE	469	HIS
14	AE	777	HIS
14	AE	910	ASN
14	AE	1108	GLN
14	AE	1235	ASN
14	AE	1238	GLN
14	AE	1326	GLN
15	AF	62	GLN
16	AG	108	GLN
16	AG	194	GLN
16	AG	260	GLN
16	AG	282	GLN
16	AG	316	GLN
16	AG	323	GLN
16	AG	324	ASN

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Mol	Chain	Res	Type
16	AG	337	ASN
16	AG	428	ASN
17	C	54	GLN
19	E	13	GLN
19	E	61	GLN
20	F	9	ASN
21	G	18	HIS
21	G	36	ASN
21	G	39	HIS
21	G	94	HIS
23	I	3	GLN
23	I	6	HIS
23	I	8	ASN
23	I	190	HIS
24	J	36	GLN
24	J	131	ASN
24	J	198	HIS
25	K	89	HIS
26	L	3	HIS
26	L	68	GLN
27	M	68	ASN
27	M	86	GLN
29	O	5	GLN
29	O	81	HIS
29	O	126	GLN
32	R	77	HIS
33	S	4	GLN
34	T	80	GLN
35	U	26	ASN
35	U	59	HIS
39	Y	5	GLN
45	e	25	GLN
45	e	31	GLN
46	f	20	HIS
46	f	49	ASN
47	g	33	ASN
48	h	53	HIS
48	h	90	ASN
49	i	6	ASN
50	j	173	GLN
51	k	19	HIS
52	l	92	HIS

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Mol	Chain	Res	Type
52	l	94	GLN
52	l	156	ASN
52	l	163	ASN
53	m	29	GLN
54	n	5	HIS
54	n	81	GLN
55	o	24	HIS
55	o	28	ASN
57	q	13	ASN
58	r	133	GLN
59	s	86	GLN
59	s	132	HIS
62	v	13	HIS
62	v	45	GLN
62	v	97	GLN
63	w	18	GLN
64	x	19	GLN
64	x	29	HIS
64	x	38	GLN
65	y	10	GLN
65	y	77	HIS
66	z	37	GLN
66	z	72	ASN
66	z	81	ASN

5.3.3 RNA

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
10	A	75/76 (98%)	29 (38%)	8 (10%)
10	B	75/76 (98%)	29 (38%)	8 (10%)
18	D	1514/1542 (98%)	289 (19%)	20 (1%)
41	a	2859/2904 (98%)	510 (17%)	0
44	d	119/120 (99%)	15 (12%)	0
8	7	23/56 (41%)	14 (60%)	3 (13%)
All	All	4665/4774 (97%)	886 (18%)	39 (0%)

All (886) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
8	7	3	G
8	7	4	U

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Mol	Chain	Res	Type
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	47	U
8	7	50	U
8	7	52	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

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Mol	Chain	Res	Type
10	B	6	G
10	B	7	G
10	B	8	U
10	B	10	G
10	B	13	C
10	B	14	A
10	B	16	C
10	B	17	C
10	B	18	G
10	B	19	G
10	B	20	U
10	B	21	A
10	B	22	G
10	B	23	C
10	B	30	G
10	B	46	G
10	B	47	U
10	B	48	C
10	B	49	G
10	B	52	G
10	B	57	A
10	B	58	A
10	B	59	A
10	B	61	C
10	B	66	C
10	B	69	C
10	B	71	C
10	B	73	A
18	D	4	U
18	D	5	U
18	D	9	G
18	D	22	G
18	D	29	U
18	D	32	A
18	D	39	G
18	D	47	C
18	D	48	C
18	D	50	A
18	D	51	A
18	D	52	C
18	D	54	C
18	D	69	G

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Mol	Chain	Res	Type
18	D	71	A
18	D	72	A
18	D	74	A
18	D	76	G
18	D	82	G
18	D	83	C
18	D	84	U
18	D	87	C
18	D	90	C
18	D	94	G
18	D	95	C
18	D	96	U
18	D	108	G
18	D	120	A
18	D	121	U
18	D	122	G
18	D	131	A
18	D	141	G
18	D	144	G
18	D	148	G
18	D	149	A
18	D	160	A
18	D	164	G
18	D	173	U
18	D	181	A
18	D	182	A
18	D	183	C
18	D	184	G
18	D	197	A
18	D	198	G
18	D	204	G
18	D	208	U
18	D	209	U
18	D	210	C
18	D	211	G
18	D	212	G
18	D	216	U
18	D	226	G
18	D	245	U
18	D	247	G
18	D	251	G
18	D	253	A

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Mol	Chain	Res	Type
18	D	258	G
18	D	262	A
18	D	266	G
18	D	267	C
18	D	271	C
18	D	279	A
18	D	289	G
18	D	299	G
18	D	306	A
18	D	321	A
18	D	328	C
18	D	329	A
18	D	332	G
18	D	347	G
18	D	352	C
18	D	353	A
18	D	354	G
18	D	355	C
18	D	367	U
18	D	372	C
18	D	373	A
18	D	376	G
18	D	382	A
18	D	384	G
18	D	392	C
18	D	397	A
18	D	398	U
18	D	406	G
18	D	411	A
18	D	412	A
18	D	413	G
18	D	414	A
18	D	421	U
18	D	422	C
18	D	424	G
18	D	429	U
18	D	446	G
18	D	451	A
18	D	457	G
18	D	458	U
18	D	463	U
18	D	464	U

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Mol	Chain	Res	Type
18	D	467	U
18	D	468	A
18	D	469	C
18	D	478	A
18	D	479	U
18	D	481	G
18	D	484	G
18	D	485	U
18	D	486	U
18	D	496	A
18	D	497	G
18	D	505	G
18	D	511	C
18	D	518	C
18	D	519	C
18	D	526	C
18	D	531	U
18	D	532	A
18	D	533	A
18	D	542	G
18	D	547	A
18	D	559	A
18	D	564	C
18	D	568	G
18	D	572	A
18	D	573	A
18	D	576	C
18	D	577	G
18	D	579	A
18	D	596	A
18	D	628	G
18	D	633	G
18	D	649	A
18	D	650	G
18	D	653	U
18	D	665	A
18	D	695	A
18	D	700	G
18	D	723	U
18	D	724	G
18	D	731	G
18	D	734	G

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Mol	Chain	Res	Type
18	D	735	C
18	D	747	A
18	D	748	G
18	D	755	G
18	D	760	G
18	D	777	A
18	D	793	U
18	D	794	A
18	D	815	A
18	D	817	C
18	D	828	U
18	D	829	G
18	D	832	G
18	D	841	C
18	D	843	U
18	D	844	G
18	D	845	A
18	D	846	G
18	D	849	G
18	D	874	G
18	D	887	G
18	D	902	G
18	D	914	A
18	D	916	U
18	D	926	G
18	D	934	C
18	D	935	A
18	D	960	U
18	D	963	G
18	D	965	U
18	D	969	A
18	D	972	C
18	D	975	A
18	D	976	G
18	D	987	G
18	D	991	U
18	D	992	U
18	D	993	G
18	D	996	A
18	D	1004	A
18	D	1008	U
18	D	1009	U

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Mol	Chain	Res	Type
18	D	1017	U
18	D	1018	G
18	D	1021	A
18	D	1024	G
18	D	1026	G
18	D	1028	C
18	D	1030	U
18	D	1031	C
18	D	1037	C
18	D	1043	G
18	D	1044	A
18	D	1046	A
18	D	1065	U
18	D	1085	U
18	D	1094	G
18	D	1095	U
18	D	1099	G
18	D	1101	A
18	D	1108	G
18	D	1124	G
18	D	1133	G
18	D	1135	U
18	D	1136	C
18	D	1137	C
18	D	1139	G
18	D	1140	C
18	D	1141	C
18	D	1142	G
18	D	1143	G
18	D	1145	A
18	D	1146	A
18	D	1151	A
18	D	1152	A
18	D	1159	U
18	D	1167	A
18	D	1171	A
18	D	1174	G
18	D	1175	G
18	D	1176	A
18	D	1184	G
18	D	1193	G
18	D	1196	A

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Mol	Chain	Res	Type
18	D	1197	A
18	D	1206	G
18	D	1211	U
18	D	1212	U
18	D	1213	A
18	D	1214	C
18	D	1215	G
18	D	1226	C
18	D	1227	A
18	D	1228	C
18	D	1238	A
18	D	1257	A
18	D	1260	G
18	D	1275	A
18	D	1276	G
18	D	1278	G
18	D	1279	G
18	D	1280	A
18	D	1285	A
18	D	1286	U
18	D	1287	A
18	D	1299	A
18	D	1300	G
18	D	1302	C
18	D	1305	G
18	D	1312	G
18	D	1317	C
18	D	1320	C
18	D	1323	G
18	D	1338	G
18	D	1340	A
18	D	1346	A
18	D	1347	G
18	D	1353	G
18	D	1363	A
18	D	1370	G
18	D	1378	C
18	D	1379	G
18	D	1381	U
18	D	1391	U
18	D	1396	A
18	D	1397	C

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Mol	Chain	Res	Type
18	D	1398	A
18	D	1404	C
18	D	1419	G
18	D	1429	A
18	D	1441	A
18	D	1446	A
18	D	1447	A
18	D	1448	C
18	D	1452	C
18	D	1453	G
18	D	1475	G
18	D	1487	G
18	D	1491	G
18	D	1492	A
18	D	1493	A
18	D	1494	G
18	D	1497	G
18	D	1503	A
18	D	1506	U
18	D	1517	G
18	D	1529	G
18	D	1530	G
18	D	1534	A
41	a	4	U
41	a	10	A
41	a	15	G
41	a	23	G
41	a	34	U
41	a	35	G
41	a	46	G
41	a	58	G
41	a	60	G
41	a	62	U
41	a	63	A
41	a	71	A
41	a	74	A
41	a	75	G
41	a	83	A
41	a	84	A
41	a	85	G
41	a	96	C
41	a	101	A

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Mol	Chain	Res	Type
41	a	102	U
41	a	103	A
41	a	110	G
41	a	118	A
41	a	119	A
41	a	120	U
41	a	131	A
41	a	136	G
41	a	139	U
41	a	140	C
41	a	141	G
41	a	163	C
41	a	165	A
41	a	181	A
41	a	196	A
41	a	215	G
41	a	216	A
41	a	222	A
41	a	225	C
41	a	248	G
41	a	249	C
41	a	261	G
41	a	264	C
41	a	265	A
41	a	266	G
41	a	267	C
41	a	271	G
41	a	272	A
41	a	275	C
41	a	276	U
41	a	278	A
41	a	285	G
41	a	291	G
41	a	311	A
41	a	329	G
41	a	330	A
41	a	353	C
41	a	361	G
41	a	362	A
41	a	371	A
41	a	372	G
41	a	373	U

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Mol	Chain	Res	Type
41	a	375	G
41	a	383	C
41	a	386	G
41	a	396	G
41	a	405	U
41	a	411	G
41	a	412	A
41	a	420	C
41	a	424	G
41	a	451	U
41	a	457	A
41	a	477	A
41	a	481	G
41	a	491	G
41	a	501	A
41	a	503	A
41	a	504	A
41	a	505	A
41	a	509	C
41	a	522	A
41	a	529	A
41	a	531	C
41	a	532	A
41	a	537	G
41	a	543	G
41	a	545	U
41	a	546	U
41	a	547	A
41	a	549	G
41	a	551	G
41	a	563	A
41	a	569	U
41	a	573	U
41	a	575	A
41	a	588	U
41	a	603	A
41	a	609	A
41	a	613	A
41	a	614	A
41	a	615	U
41	a	616	A
41	a	627	A

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Mol	Chain	Res	Type
41	a	637	A
41	a	645	C
41	a	647	G
41	a	654	A
41	a	668	A
41	a	686	U
41	a	710	U
41	a	717	C
41	a	730	A
41	a	738	G
41	a	757	G
41	a	764	A
41	a	765	C
41	a	775	G
41	a	776	G
41	a	782	A
41	a	784	G
41	a	785	G
41	a	800	A
41	a	805	G
41	a	812	C
41	a	819	A
41	a	827	U
41	a	828	U
41	a	845	A
41	a	846	U
41	a	858	G
41	a	859	G
41	a	869	G
41	a	878	A
41	a	881	G
41	a	884	U
41	a	885	C
41	a	888	C
41	a	891	G
41	a	895	U
41	a	896	A
41	a	897	C
41	a	899	A
41	a	907	G
41	a	910	A
41	a	914	G

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Mol	Chain	Res	Type
41	a	915	C
41	a	931	U
41	a	941	A
41	a	945	A
41	a	946	C
41	a	953	G
41	a	961	C
41	a	974	G
41	a	983	A
41	a	995	C
41	a	996	A
41	a	999	U
41	a	1005	C
41	a	1012	U
41	a	1013	C
41	a	1022	G
41	a	1023	U
41	a	1026	G
41	a	1033	U
41	a	1041	G
41	a	1045	C
41	a	1046	A
41	a	1047	G
41	a	1060	U
41	a	1061	U
41	a	1064	C
41	a	1066	U
41	a	1067	A
41	a	1068	G
41	a	1070	A
41	a	1071	G
41	a	1073	A
41	a	1074	G
41	a	1079	C
41	a	1080	A
41	a	1081	U
41	a	1082	U
41	a	1083	U
41	a	1084	A
41	a	1087	G
41	a	1088	A
41	a	1090	A

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Mol	Chain	Res	Type
41	a	1095	A
41	a	1101	U
41	a	1107	G
41	a	1110	G
41	a	1111	A
41	a	1112	G
41	a	1119	U
41	a	1122	G
41	a	1128	G
41	a	1132	U
41	a	1134	A
41	a	1135	C
41	a	1142	A
41	a	1169	A
41	a	1170	C
41	a	1173	U
41	a	1174	U
41	a	1175	A
41	a	1176	U
41	a	1177	G
41	a	1178	C
41	a	1179	G
41	a	1180	U
41	a	1186	G
41	a	1238	G
41	a	1248	G
41	a	1253	A
41	a	1256	G
41	a	1266	G
41	a	1271	G
41	a	1272	A
41	a	1273	U
41	a	1300	G
41	a	1301	A
41	a	1321	A
41	a	1345	C
41	a	1352	U
41	a	1365	A
41	a	1368	G
41	a	1378	A
41	a	1379	U
41	a	1380	G

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Mol	Chain	Res	Type
41	a	1383	A
41	a	1392	A
41	a	1395	A
41	a	1406	U
41	a	1408	G
41	a	1409	U
41	a	1414	C
41	a	1416	G
41	a	1417	C
41	a	1419	A
41	a	1420	A
41	a	1428	C
41	a	1452	G
41	a	1453	A
41	a	1460	U
41	a	1482	G
41	a	1490	A
41	a	1497	U
41	a	1503	A
41	a	1508	A
41	a	1509	A
41	a	1510	G
41	a	1515	A
41	a	1529	G
41	a	1534	U
41	a	1535	A
41	a	1536	C
41	a	1537	G
41	a	1554	U
41	a	1559	U
41	a	1566	A
41	a	1569	A
41	a	1578	U
41	a	1580	A
41	a	1581	G
41	a	1582	C
41	a	1583	A
41	a	1584	U
41	a	1585	C
41	a	1589	U
41	a	1590	A
41	a	1608	A

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Mol	Chain	Res	Type
41	a	1610	A
41	a	1613	G
41	a	1647	U
41	a	1648	U
41	a	1649	G
41	a	1651	G
41	a	1665	A
41	a	1674	G
41	a	1677	A
41	a	1703	G
41	a	1714	U
41	a	1715	G
41	a	1729	U
41	a	1730	C
41	a	1732	C
41	a	1738	G
41	a	1750	G
41	a	1758	U
41	a	1764	C
41	a	1773	A
41	a	1791	A
41	a	1800	C
41	a	1808	A
41	a	1811	G
41	a	1816	C
41	a	1829	A
41	a	1833	C
41	a	1847	A
41	a	1848	A
41	a	1858	A
41	a	1859	U
41	a	1862	G
41	a	1864	U
41	a	1869	G
41	a	1870	C
41	a	1872	A
41	a	1873	G
41	a	1906	G
41	a	1907	G
41	a	1913	A
41	a	1914	C
41	a	1919	A

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Mol	Chain	Res	Type
41	a	1920	C
41	a	1922	G
41	a	1923	U
41	a	1924	C
41	a	1925	C
41	a	1926	U
41	a	1929	G
41	a	1930	G
41	a	1936	A
41	a	1938	A
41	a	1955	U
41	a	1965	C
41	a	1967	C
41	a	1970	A
41	a	1971	U
41	a	1972	G
41	a	1987	A
41	a	1991	U
41	a	1992	G
41	a	1993	U
41	a	1997	C
41	a	2002	G
41	a	2020	A
41	a	2022	U
41	a	2023	C
41	a	2027	G
41	a	2033	A
41	a	2043	C
41	a	2051	A
41	a	2052	A
41	a	2055	C
41	a	2056	G
41	a	2060	A
41	a	2061	G
41	a	2062	A
41	a	2063	C
41	a	2097	A
41	a	2099	U
41	a	2100	G
41	a	2108	A
41	a	2110	G
41	a	2111	U

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Mol	Chain	Res	Type
41	a	2113	U
41	a	2115	G
41	a	2116	G
41	a	2117	A
41	a	2118	U
41	a	2121	G
41	a	2122	U
41	a	2124	G
41	a	2125	G
41	a	2126	A
41	a	2127	G
41	a	2128	G
41	a	2131	U
41	a	2132	U
41	a	2133	G
41	a	2134	A
41	a	2139	U
41	a	2141	G
41	a	2146	C
41	a	2147	A
41	a	2154	A
41	a	2157	G
41	a	2158	A
41	a	2159	G
41	a	2162	G
41	a	2163	A
41	a	2164	C
41	a	2165	C
41	a	2169	A
41	a	2171	A
41	a	2172	U
41	a	2178	C
41	a	2182	U
41	a	2183	A
41	a	2185	U
41	a	2189	U
41	a	2190	G
41	a	2193	G
41	a	2194	U
41	a	2198	A
41	a	2204	G
41	a	2211	A

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Mol	Chain	Res	Type
41	a	2212	A
41	a	2225	A
41	a	2226	C
41	a	2229	U
41	a	2238	G
41	a	2239	G
41	a	2250	G
41	a	2268	A
41	a	2278	A
41	a	2283	C
41	a	2287	A
41	a	2288	A
41	a	2297	A
41	a	2305	U
41	a	2308	G
41	a	2309	A
41	a	2322	A
41	a	2325	G
41	a	2327	A
41	a	2333	A
41	a	2335	A
41	a	2339	C
41	a	2345	G
41	a	2347	C
41	a	2350	C
41	a	2361	G
41	a	2372	U
41	a	2376	A
41	a	2383	G
41	a	2385	C
41	a	2402	U
41	a	2403	C
41	a	2406	A
41	a	2423	U
41	a	2424	C
41	a	2425	A
41	a	2426	A
41	a	2429	G
41	a	2430	A
41	a	2431	U
41	a	2434	A
41	a	2435	A

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Mol	Chain	Res	Type
41	a	2441	U
41	a	2447	G
41	a	2448	A
41	a	2470	G
41	a	2474	U
41	a	2476	A
41	a	2478	A
41	a	2484	G
41	a	2491	U
41	a	2502	G
41	a	2506	U
41	a	2512	C
41	a	2513	A
41	a	2518	A
41	a	2520	C
41	a	2525	G
41	a	2529	G
41	a	2535	G
41	a	2554	U
41	a	2566	A
41	a	2567	G
41	a	2573	C
41	a	2574	G
41	a	2585	U
41	a	2586	U
41	a	2602	A
41	a	2603	G
41	a	2609	U
41	a	2610	C
41	a	2611	C
41	a	2613	U
41	a	2629	U
41	a	2630	G
41	a	2663	G
41	a	2669	G
41	a	2671	G
41	a	2689	U
41	a	2690	U
41	a	2714	G
41	a	2716	C
41	a	2726	A
41	a	2744	G

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Mol	Chain	Res	Type
41	a	2748	A
41	a	2758	A
41	a	2765	A
41	a	2777	G
41	a	2778	A
41	a	2791	G
41	a	2793	C
41	a	2796	U
41	a	2797	U
41	a	2798	U
41	a	2799	A
41	a	2801	G
41	a	2818	U
41	a	2820	A
41	a	2823	A
41	a	2825	G
41	a	2835	A
41	a	2849	U
41	a	2859	G
41	a	2861	U
41	a	2867	G
41	a	2873	A
41	a	2874	C
41	a	2880	C
41	a	2883	A
41	a	2884	U
41	a	2885	G
41	a	2891	U
41	a	2902	C
44	d	2	G
44	d	13	G
44	d	16	G
44	d	17	C
44	d	35	C
44	d	45	A
44	d	51	G
44	d	56	G
44	d	57	A
44	d	66	A
44	d	88	C
44	d	89	U
44	d	90	C

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Mol	Chain	Res	Type
44	d	99	A
44	d	109	A

All (39) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
8	7	4	U
8	7	7	U
8	7	10	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
18	D	121	U
18	D	181	A
18	D	183	C
18	D	197	A
18	D	209	U
18	D	428	G
18	D	496	A
18	D	517	G
18	D	991	U
18	D	992	U
18	D	1145	A
18	D	1196	A
18	D	1211	U
18	D	1212	U
18	D	1213	A
18	D	1214	C
18	D	1447	A

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Mol	Chain	Res	Type
18	D	1491	G
18	D	1492	A
18	D	1493	A

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

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

5.5 Carbohydrates (i)

There are no oligosaccharides in this entry.

5.6 Ligand geometry (i)

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

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

6 Map visualisation

This section contains visualisations of the EMDB entry EMD-43387. 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

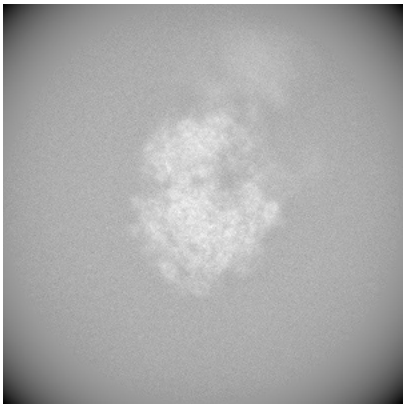
6.1.1 Primary map

X

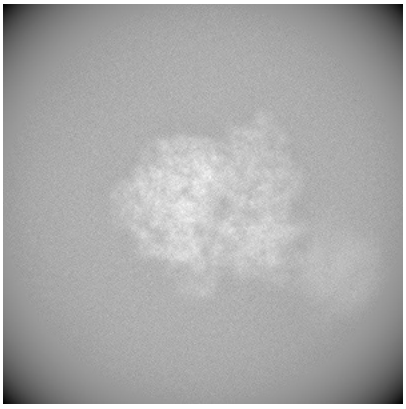
Y

Z

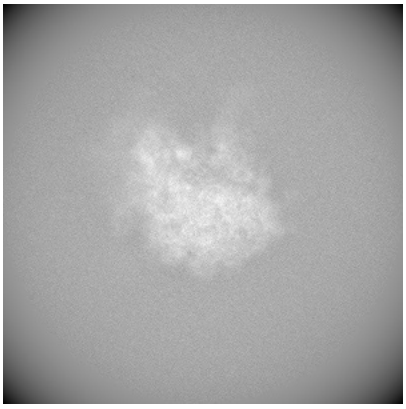
6.1.2 Raw map



X



Y

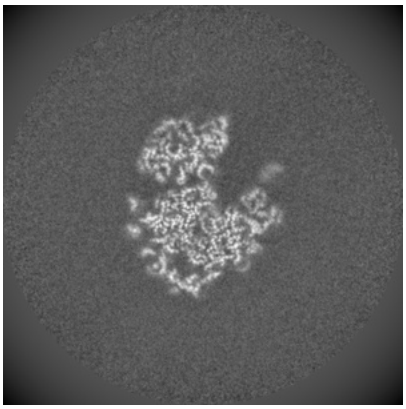


Z

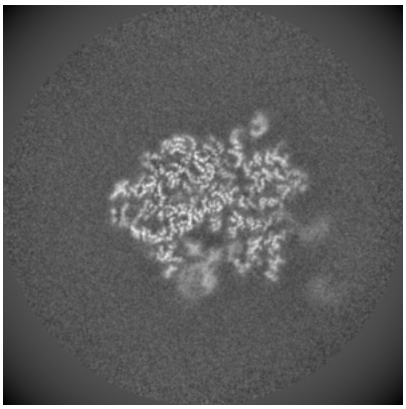
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

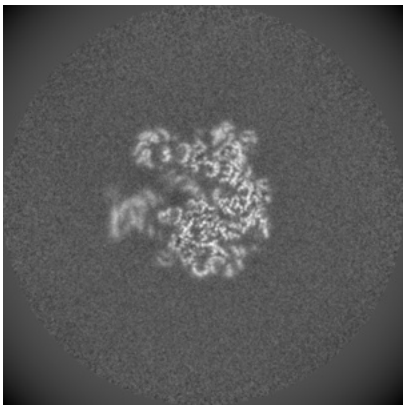
6.2.1 Primary map



X Index: 310

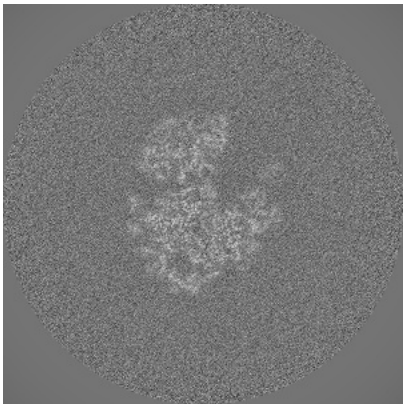


Y Index: 310

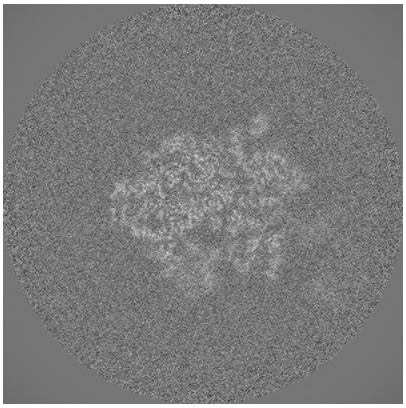


Z Index: 310

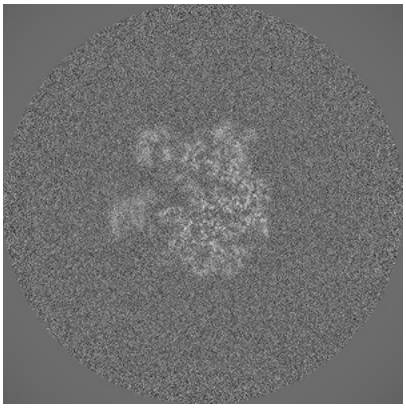
6.2.2 Raw map



X Index: 310



Y Index: 310

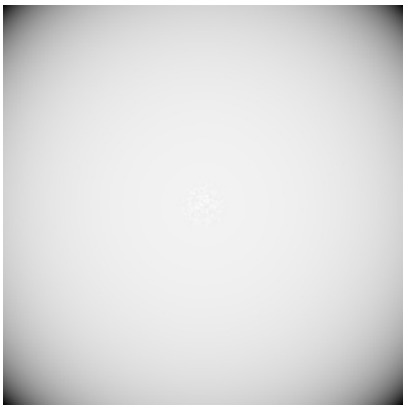


Z Index: 310

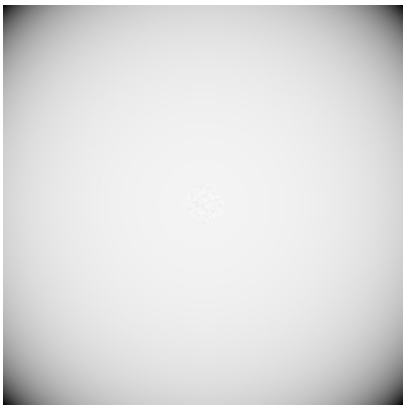
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

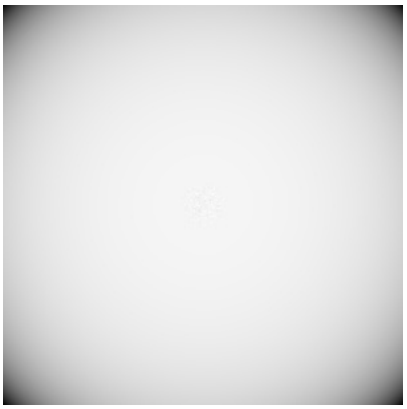
6.3.1 Primary map



X Index: 0

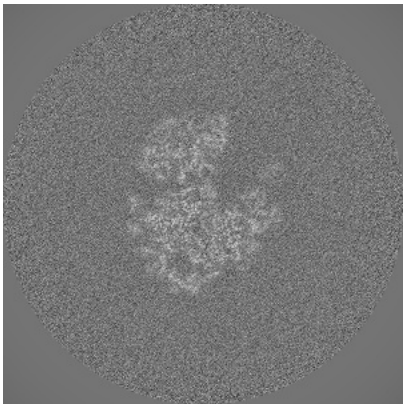


Y Index: 0

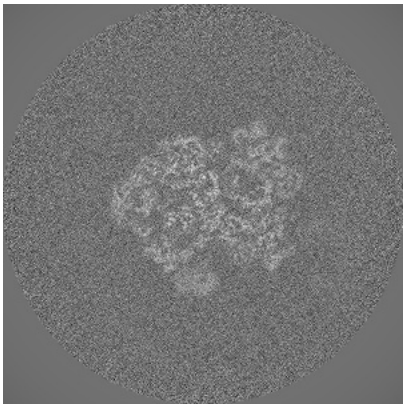


Z Index: 0

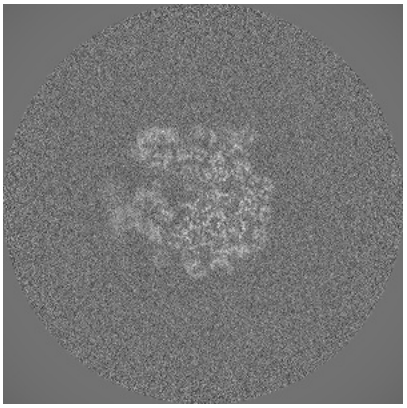
6.3.2 Raw map



X Index: 310



Y Index: 299

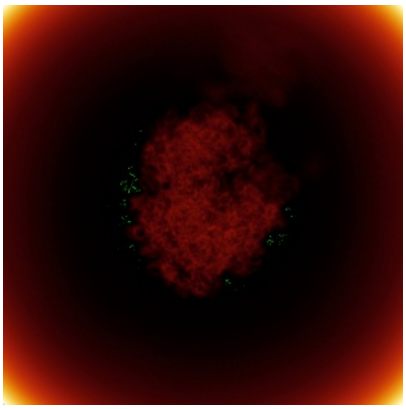


Z Index: 302

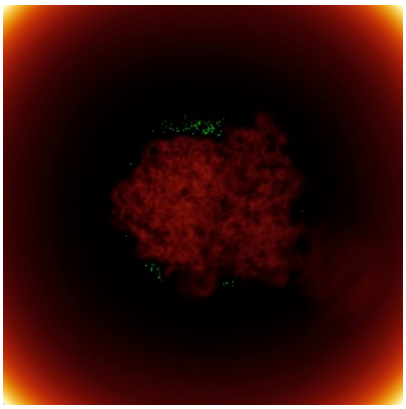
The images above show the largest variance slices of the map in three orthogonal directions.

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

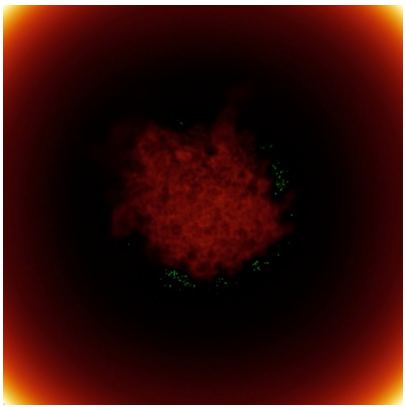
6.4.1 Primary map



X

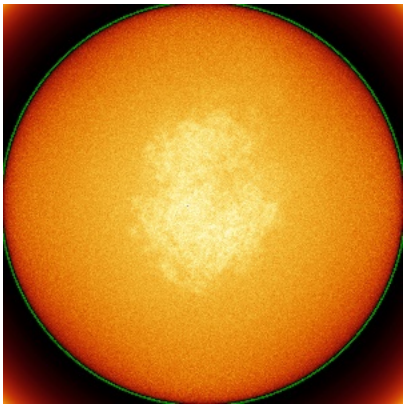


Y

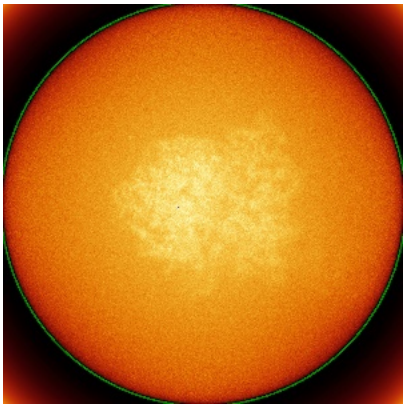


Z

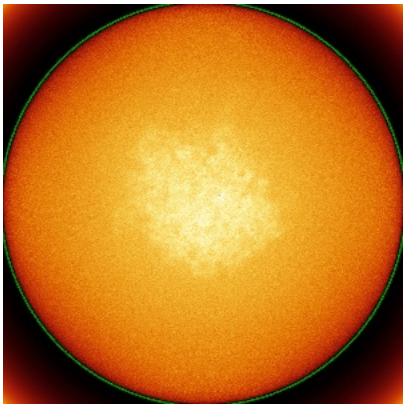
6.4.2 Raw map



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.

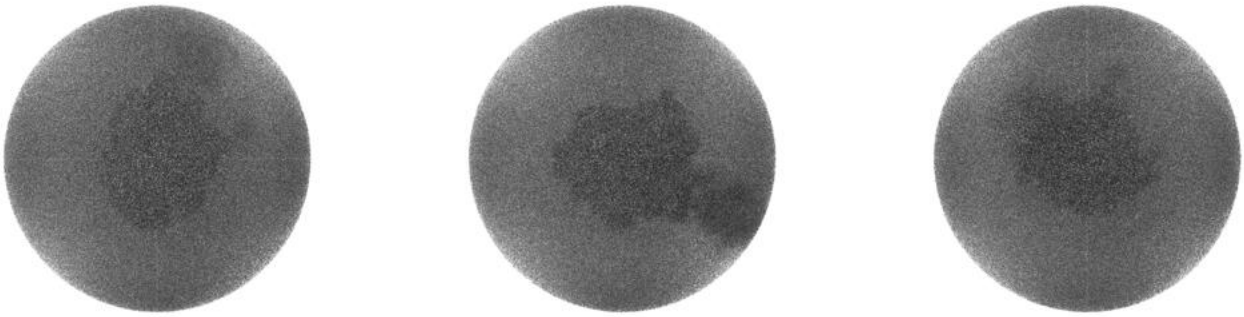
6.5 Orthogonal surface views (i)

6.5.1 Primary map

X Y Z

The images above show the 3D surface view of the map at the recommended contour level 1e-06. 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.

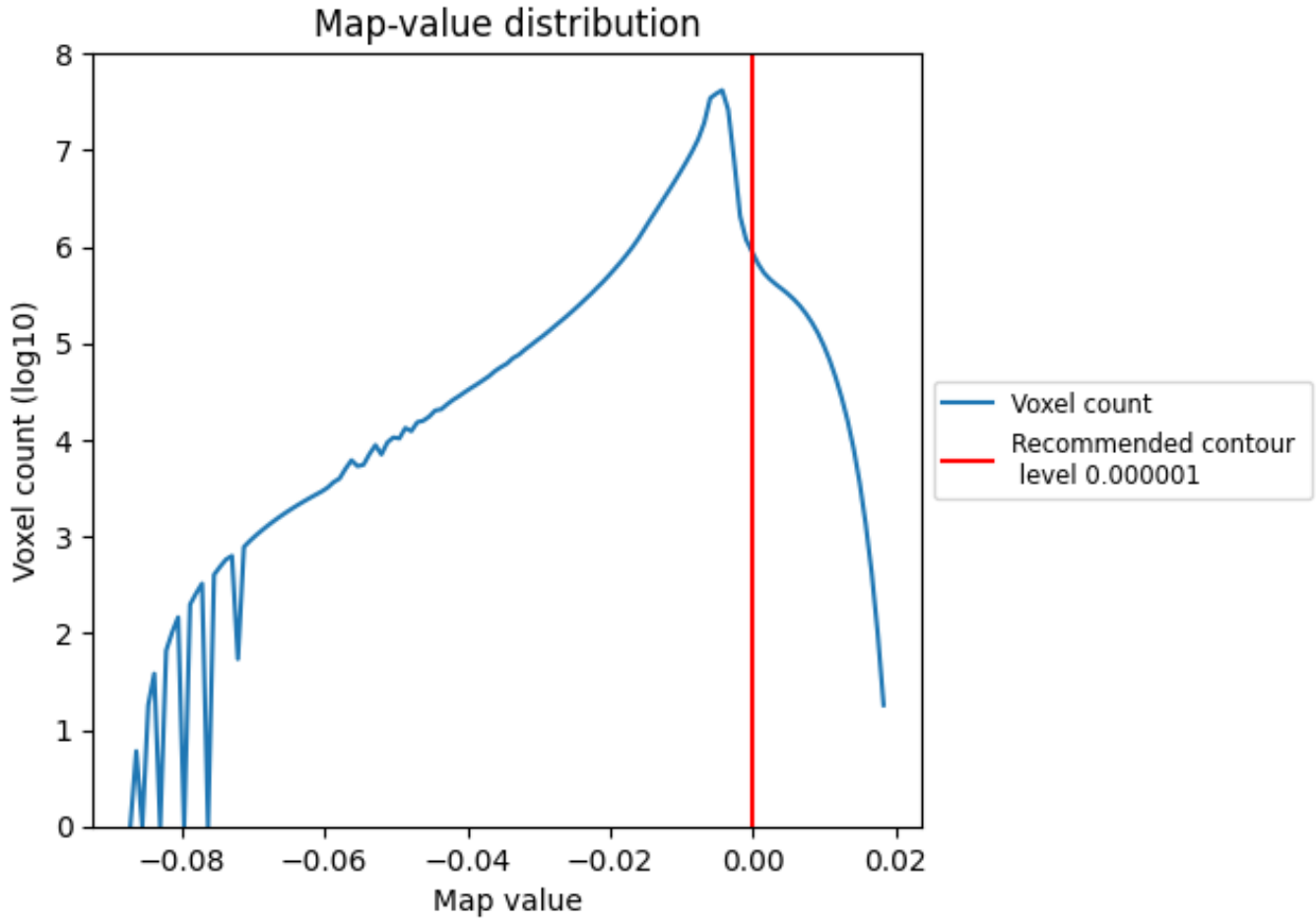
6.6 Mask visualisation (i)

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

7 Map analysis

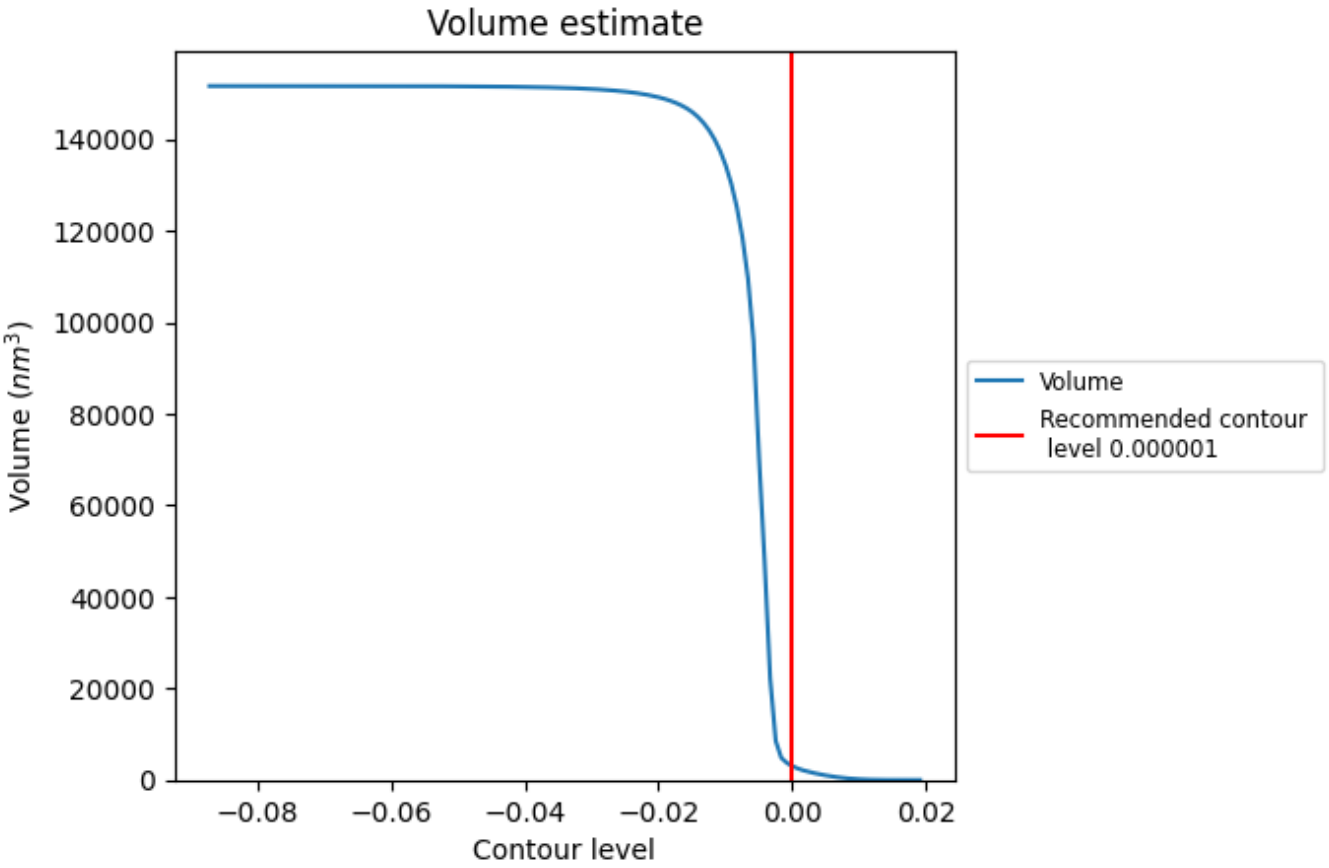
This section contains the results of statistical analysis of the map.

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.

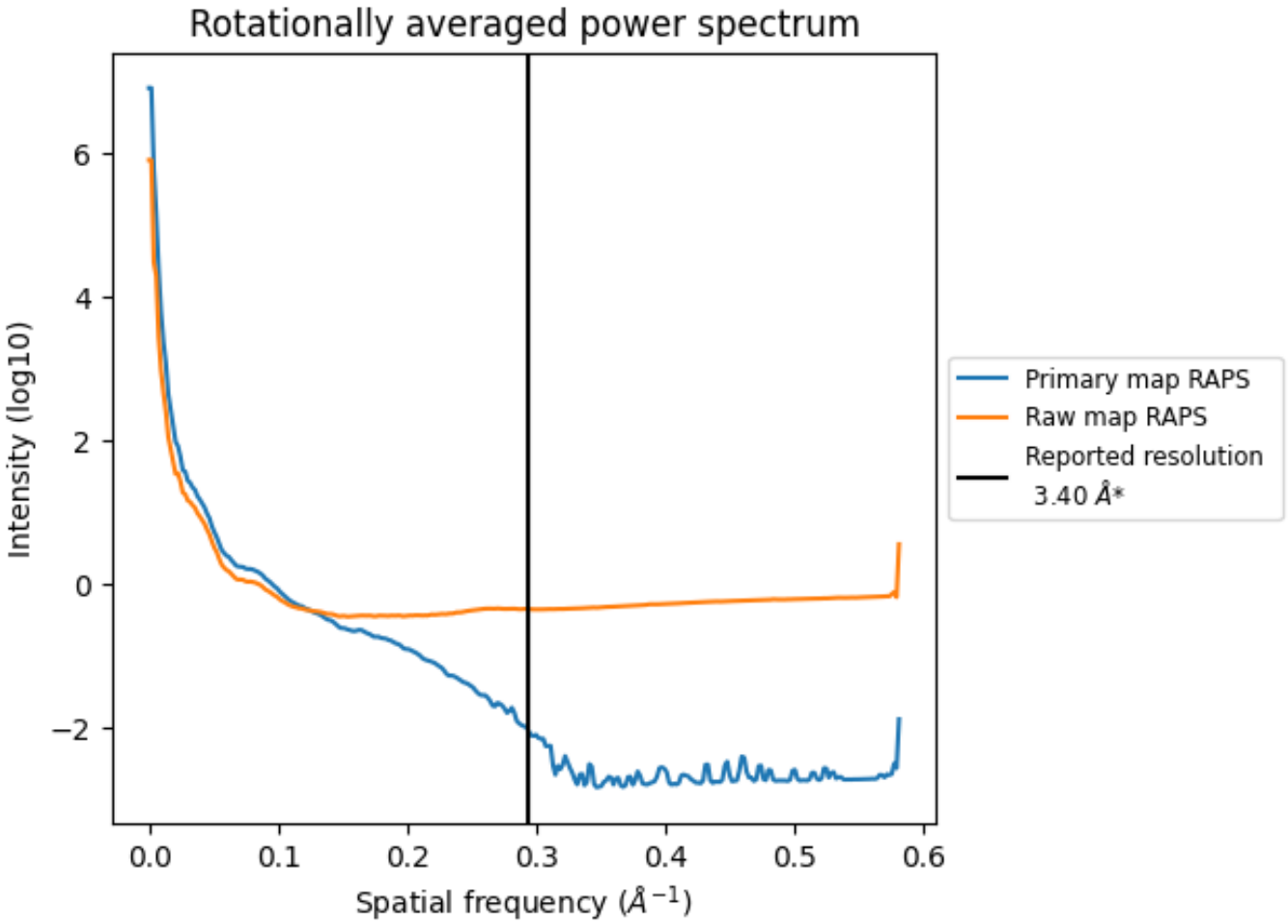
7.2 Volume estimate



The volume at the recommended contour level is 3055 nm^3; this corresponds to an approximate mass of 2760 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)

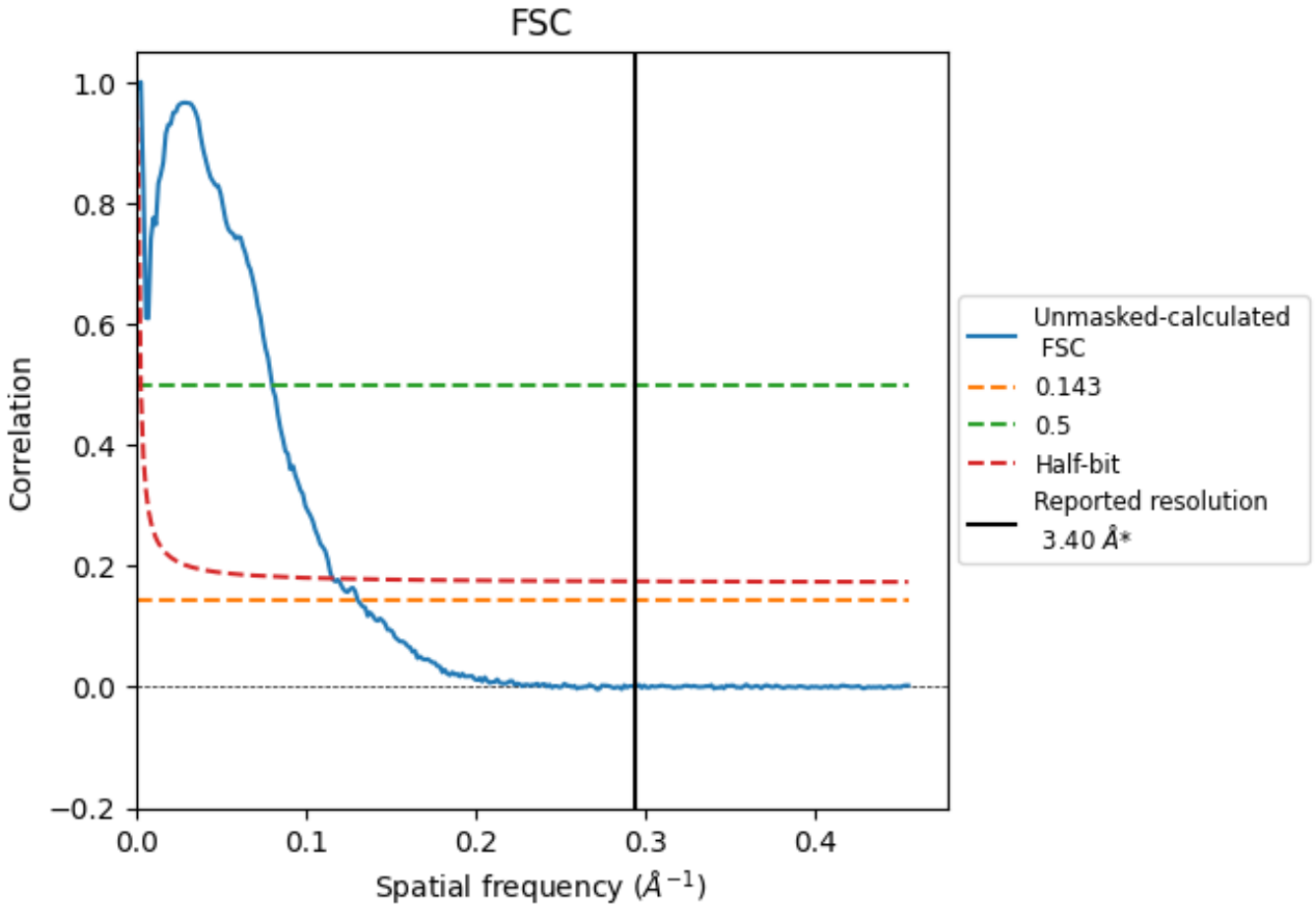


*Reported resolution corresponds to spatial frequency of 0.294 Å^{-1}

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 0.294 Å^{-1}

8.2 Resolution estimates (i)

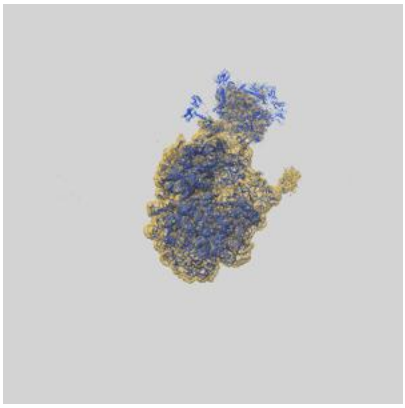
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.40	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	7.66	12.47	8.64

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 7.66 differs from the reported value 3.4 by more than 10 %

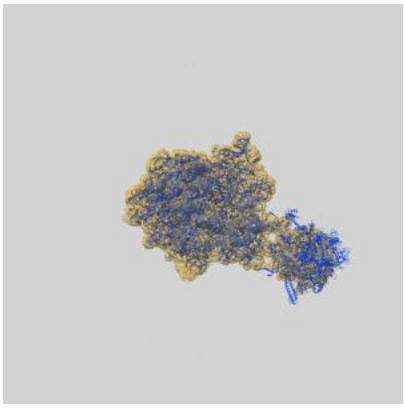
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-43387 and PDB model 8VOO. Per-residue inclusion information can be found in section 3 on page 17.

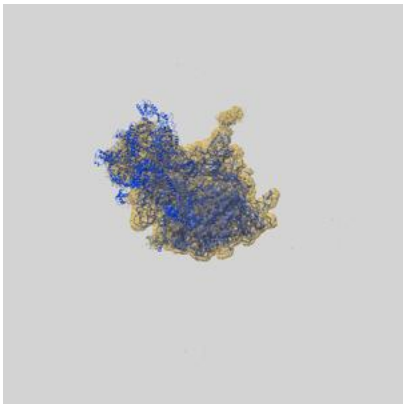
9.1 Map-model overlay



X



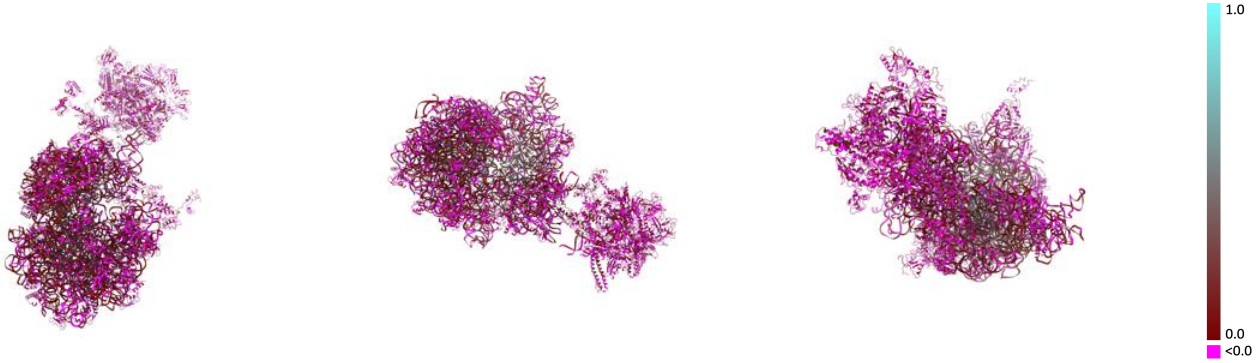
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 1e-06 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.

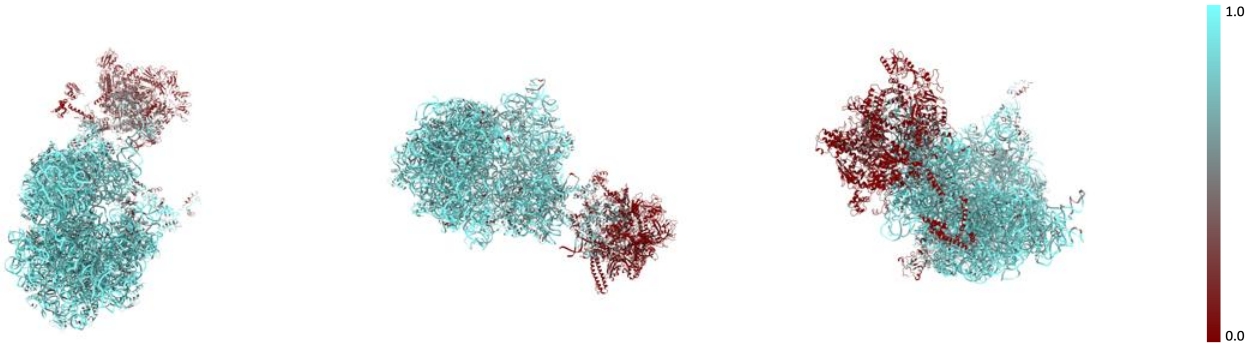
9.2 Q-score mapped to coordinate model



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.

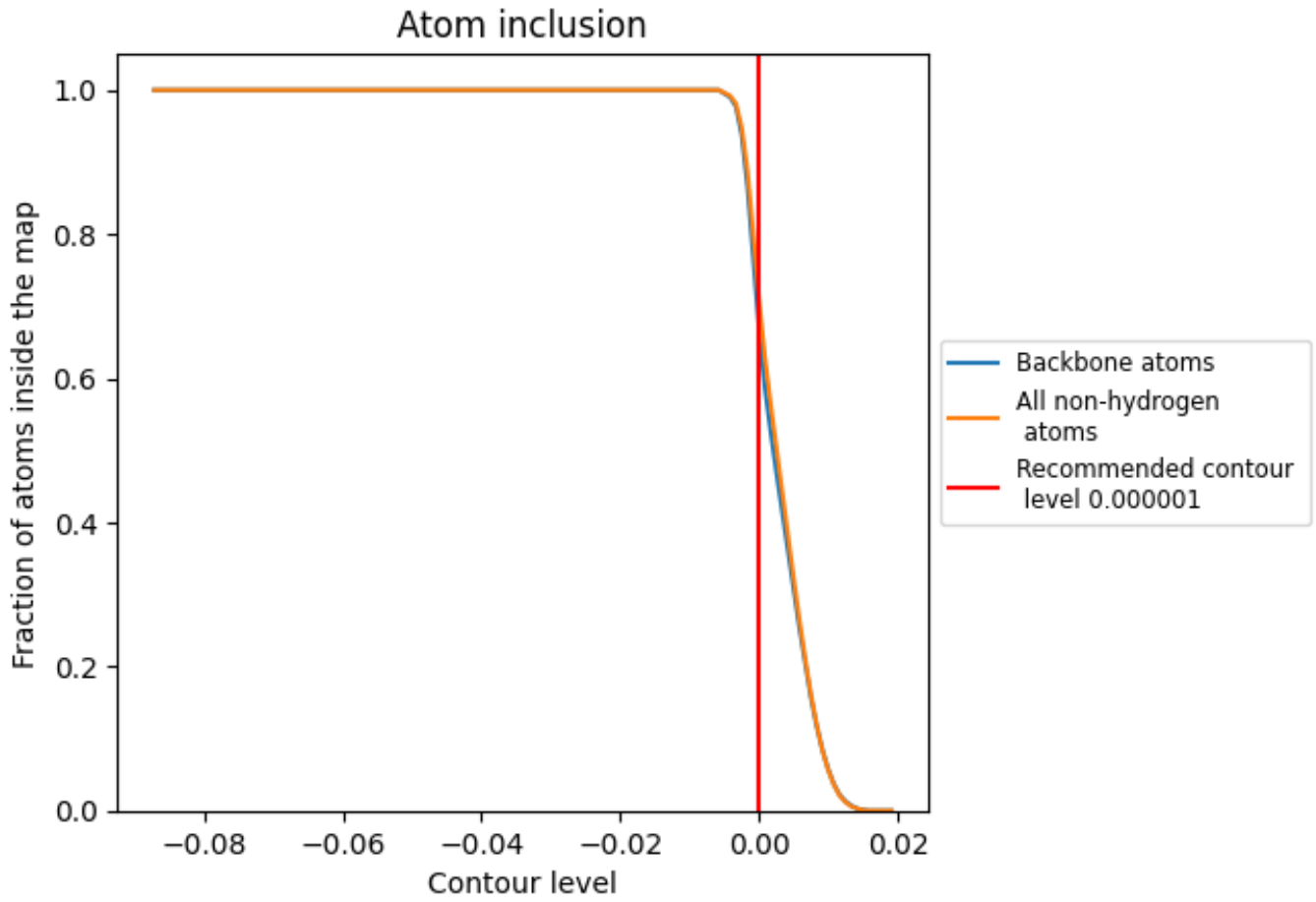
9.3 Atom inclusion mapped to coordinate model



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 (0.000001).

9.4 Atom inclusion (i)



At the recommended contour level, 67% of all backbone atoms, 72% 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 (0.000001) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.7150	0.0820
0	0.8140	0.0300
1	0.8300	0.1110
2	0.8040	0.0360
3	0.7890	0.0030
4	0.8460	0.0400
5	0.4390	0.0320
6	0.3940	0.0500
7	0.6240	0.0340
9	0.7630	0.0470
A	0.9100	0.1480
AA	0.1830	0.0160
AB	0.5300	0.0830
AC	0.0480	0.0050
AD	0.0110	-0.0050
AE	0.2190	0.0260
AF	0.0820	0.0210
AG	0.2940	0.0160
B	0.7960	0.0470
C	0.8180	0.0220
D	0.9290	0.1250
E	0.8100	0.0310
F	0.8180	0.1220
G	0.7390	0.0360
H	0.3640	0.0350
I	0.7120	0.0100
J	0.7680	0.0140
K	0.8580	0.0970
L	0.8280	0.0290
M	0.7650	0.0540
N	0.8560	0.0890
O	0.7650	0.0250
P	0.7430	0.0550
Q	0.8440	0.0920
R	0.8880	0.1990

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Chain	Atom inclusion	Q-score
S	0.7890	0.0130
T	0.8870	0.1380
U	0.7800	0.0030
V	0.8730	0.1410
W	0.6860	0.0220
X	0.7120	0.0150
Y	0.7340	0.0180
Z	0.5150	0.0100
a	0.9330	0.1160
b	0.8290	0.0400
c	0.8150	0.0890
d	0.8920	0.0560
e	0.8040	0.0220
f	0.8780	0.0990
g	0.7690	0.0300
h	0.8340	0.1030
i	0.8390	0.1070
j	0.8140	0.0290
k	0.8250	0.0300
l	0.7980	0.0560
m	0.9240	0.2220
n	0.7950	0.0350
o	0.8000	0.0480
p	0.7680	-0.0060
q	0.7940	0.0120
r	0.5770	0.0270
s	0.8040	0.0090
t	0.8240	0.1020
u	0.8160	0.0440
v	0.8590	0.0840
w	0.8600	0.0660
x	0.7870	0.0210
y	0.7620	0.0360
z	0.8290	0.0470