



Full wwPDB EM Validation Report ⓘ

Mar 30, 2026 – 10:22 AM UTC

PDB ID : 5Z3G / pdb_00005z3g
EMDB ID : EMD-6878
Title : Cryo-EM structure of a nucleolar pre-60S ribosome (Rpf1-TAP)
Authors : Zhu, X.; Zhou, D.; Ye, K.
Deposited on : 2018-01-06
Resolution : 3.65 Å(reported)

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

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

A user guide is available at

<https://www.wwpdb.org/validation/2017/EMValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

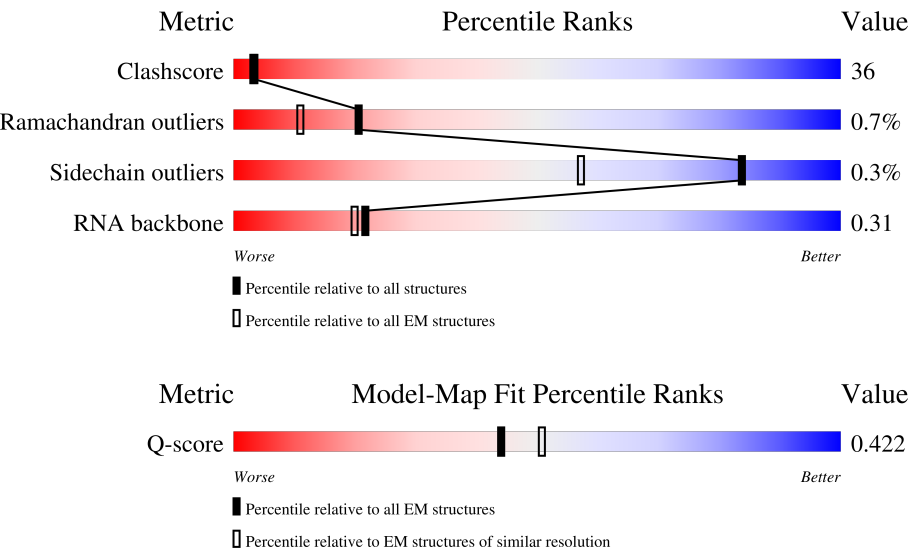
EMDB validation analysis : 0.0.1.dev132
MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh &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

1 Overall quality at a glance i

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

The reported resolution of this entry is 3.65 Å.

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



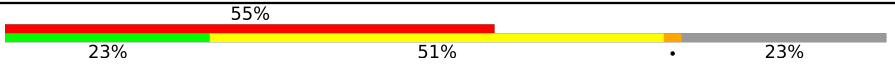
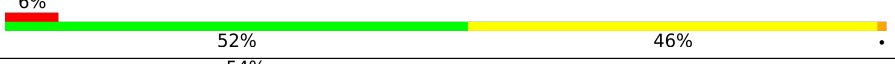
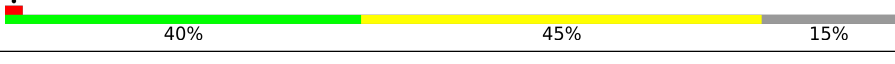
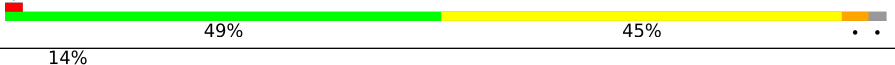
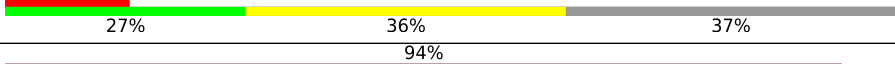
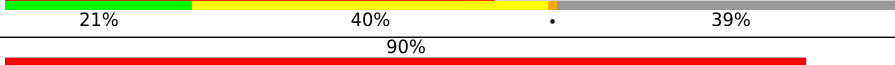
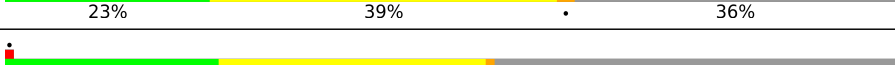
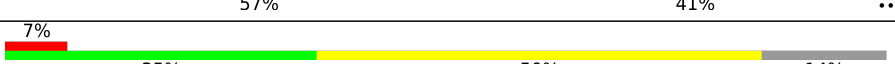
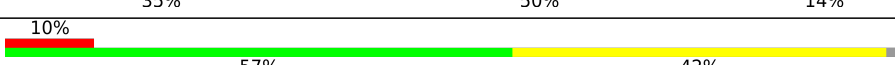
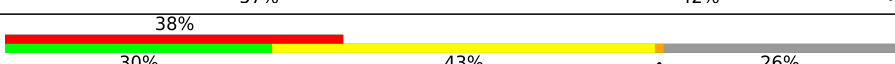
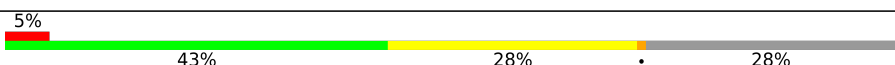
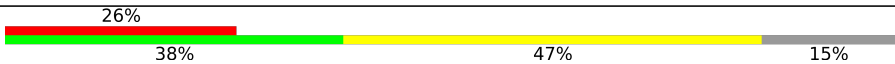
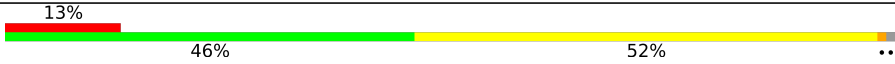
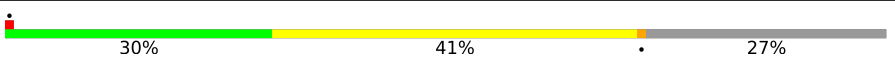
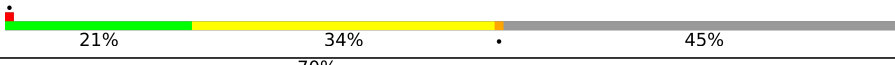
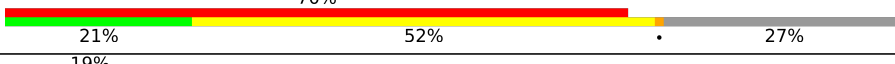
Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
RNA backbone	8273	3508	-
Q-score	-	25397	11564 (3.15 - 4.15)

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

Mol	Chain	Length	Quality of chain
1	A	3396	7% 6% 26% 12% 56%
2	B	158	13% 16% 54% 28% .
3	C	232	11% 14% 13% 72%

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Mol	Chain	Length	Quality of chain
4	D	322	
5	E	220	
6	F	387	
7	G	362	
8	H	376	
9	I	176	
10	J	244	
11	K	256	
12	L	191	
13	M	605	
14	N	245	
15	O	295	
16	P	199	
17	Q	138	
18	R	204	
19	S	199	
20	T	184	
21	U	186	
22	V	463	
23	W	172	
24	X	278	
25	Y	505	
26	Z	306	
27	a	291	
28	b	427	

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Mol	Chain	Length	Quality of chain
29	c	127	
30	d	154	
31	i	130	
32	j	107	
33	l	120	
34	m	100	
35	n	88	

2 Entry composition [i](#)

There are 35 unique types of molecules in this entry. The entry contains 85899 atoms, of which 0 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 RNA chain called 25S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	1501	Total	C	N	O	P	0	0
			32146	14349	5813	10483	1501		

- Molecule 2 is a RNA chain called 5.8S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	B	156	Total	C	N	O	P	0	0
			3313	1482	582	1093	156		

- Molecule 3 is a RNA chain called ITS2 RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	C	65	Total	C	N	O	P	0	0
			1370	614	228	463	65		

- Molecule 4 is a protein called Ribosome biogenesis protein RLP7.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	D	247	Total	C	N	O	S	0	0
			1956	1248	348	357	3		

- Molecule 5 is a protein called Ribosome biogenesis protein 15.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	E	133	Total	C	N	O	S	0	0
			1107	716	198	189	4		

- Molecule 6 is a protein called 60S ribosomal protein L3.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	F	336	Total	C	N	O	S	0	0
			2670	1696	493	475	6		

- Molecule 7 is a protein called 60S ribosomal protein L4-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	G	361	Total	C	N	O	S	0	0
			2749	1730	522	494	3		

- Molecule 8 is a protein called Proteasome-interacting protein CIC1.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	H	256	Total	C	N	O	S	0	0
			2063	1332	341	387	3		

- Molecule 9 is a protein called 60S ribosomal protein L6-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	I	150	Total	C	N	O	S	0	0
			1198	775	214	208	1		

- Molecule 10 is a protein called 60S ribosomal protein L7-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	J	239	Total	C	N	O	S	0	0
			1918	1235	348	334	1		

- Molecule 11 is a protein called 60S ribosomal protein L8-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	K	162	Total	C	N	O	S	0	0
			1247	804	212	229	2		

- Molecule 12 is a protein called 60S ribosomal protein L9-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	L	191	Total	C	N	O	S	0	0
			1518	963	274	277	4		

- Molecule 13 is a protein called Nucleolar protein 7.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	M	371	Total	C	N	O	S	0	0
			3030	1963	523	534	10		

- Molecule 14 is a protein called Eukaryotic translation initiation factor 6.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	N	226	Total	C	N	O	S	0	0
			1709	1060	296	346	7		

- Molecule 15 is a protein called Ribosome production factor 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	O	190	Total	C	N	O	S	0	0
			1591	1031	277	281	2		

- Molecule 16 is a protein called 60S ribosomal protein L13-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	P	108	Total	C	N	O	S	0	0
			867	543	182	142			

- Molecule 17 is a protein called 60S ribosomal protein L14-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	Q	137	Total	C	N	O	S	0	0
			1059	678	200	179	2		

- Molecule 18 is a protein called 60S ribosomal protein L15-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	R	175	Total	C	N	O	S	0	0
			1498	940	315	242	1		

- Molecule 19 is a protein called 60S ribosomal protein L16-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	S	197	Total	C	N	O	S	0	0
			1555	1003	289	262	1		

- Molecule 20 is a protein called 60S ribosomal protein L17-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	T	136	Total	C	N	O	S	0	0
			1057	663	197	197			

- Molecule 21 is a protein called 60S ribosomal protein L18-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	U	134	Total	C	N	O	S	0	0
			1035	659	196	179	1		

- Molecule 22 is a protein called Ribosome biogenesis protein NSA1.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	V	392	Total	C	N	O	S	0	0
			3096	1982	522	581	11		

- Molecule 23 is a protein called 60S ribosomal protein L20-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	W	170	Total	C	N	O	S	0	0
			1425	916	265	241	3		

- Molecule 24 is a protein called Ribosomal RNA-processing protein 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	X	202	Total	C	N	O	S	0	0
			1718	1121	298	295	4		

- Molecule 25 is a protein called ATP-dependent RNA helicase HAS1.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	Y	438	Total	C	N	O	S	0	0
			3486	2245	600	629	12		

- Molecule 26 is a protein called Protein MAK16.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	Z	169	Total	C	N	O	S	0	0
			1410	887	269	245	9		

- Molecule 27 is a protein called Ribosome biogenesis protein BRX1.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	a	212	Total	C	N	O	S	0	0
			1747	1125	309	307	6		

- Molecule 28 is a protein called rRNA-processing protein EBP2.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	b	82	Total	C	N	O	S	0	0
			689	437	122	129	1		

- Molecule 29 is a protein called 60S ribosomal protein L26-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	c	125	Total	C	N	O		0	0
			984	620	191	173			

- Molecule 30 is a protein called Unassigned.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	d	154	Total	C	N	O		0	0
			770	462	154	154			

- Molecule 31 is a protein called 60S ribosomal protein L32.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	i	124	Total	C	N	O	S	0	0
			1001	635	202	163	1		

- Molecule 32 is a protein called 60S ribosomal protein L33-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	j	106	Total	C	N	O	S	0	0
			850	540	165	144	1		

- Molecule 33 is a protein called 60S ribosomal protein L35-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	l	117	Total	C	N	O	S	0	0
			959	609	184	165	1		

- Molecule 34 is a protein called 60S ribosomal protein L36-A.

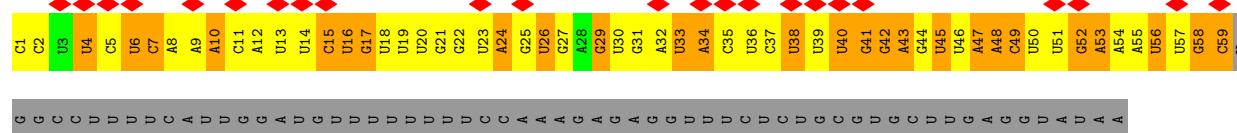
Mol	Chain	Residues	Atoms					AltConf	Trace
34	m	67	Total	C	N	O	S	0	0
			533	329	111	92	1		

- Molecule 35 is a protein called 60S ribosomal protein L37-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	n	72	Total	C	N	O	S	0	0
			575	350	125	95	5		

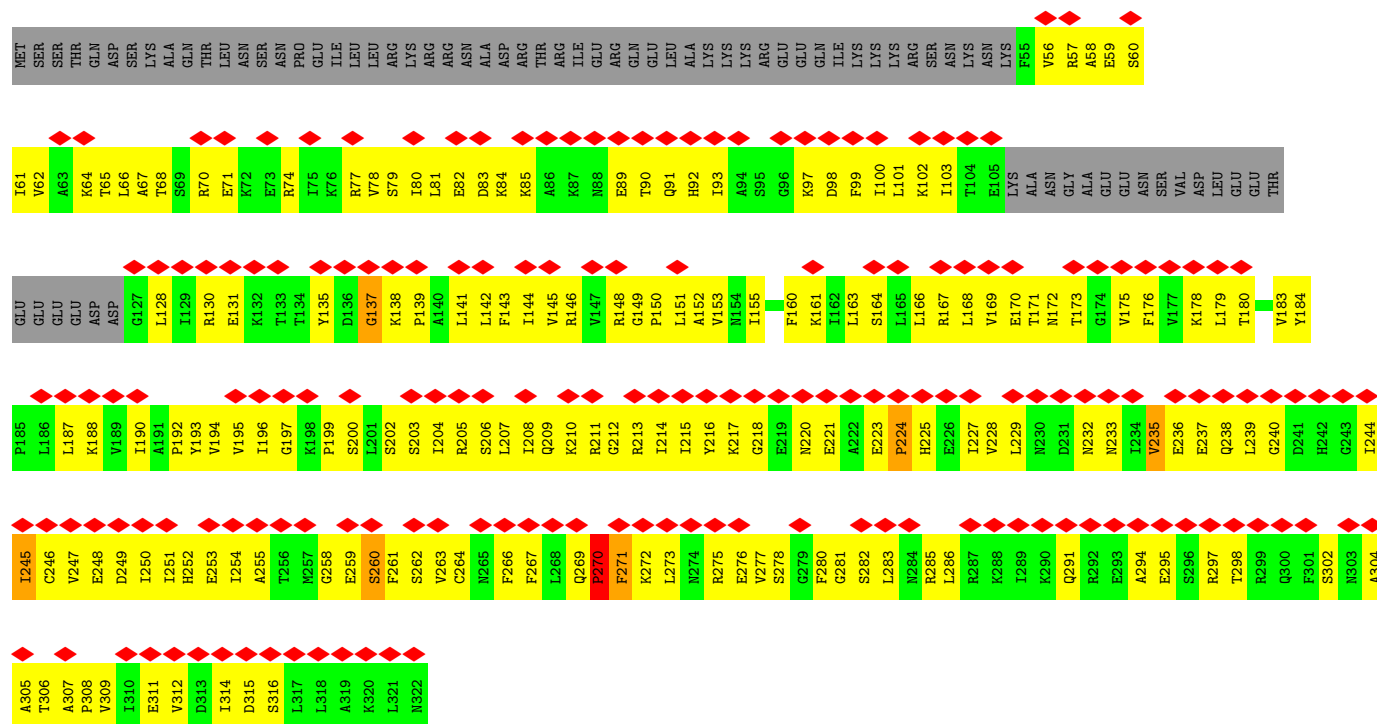




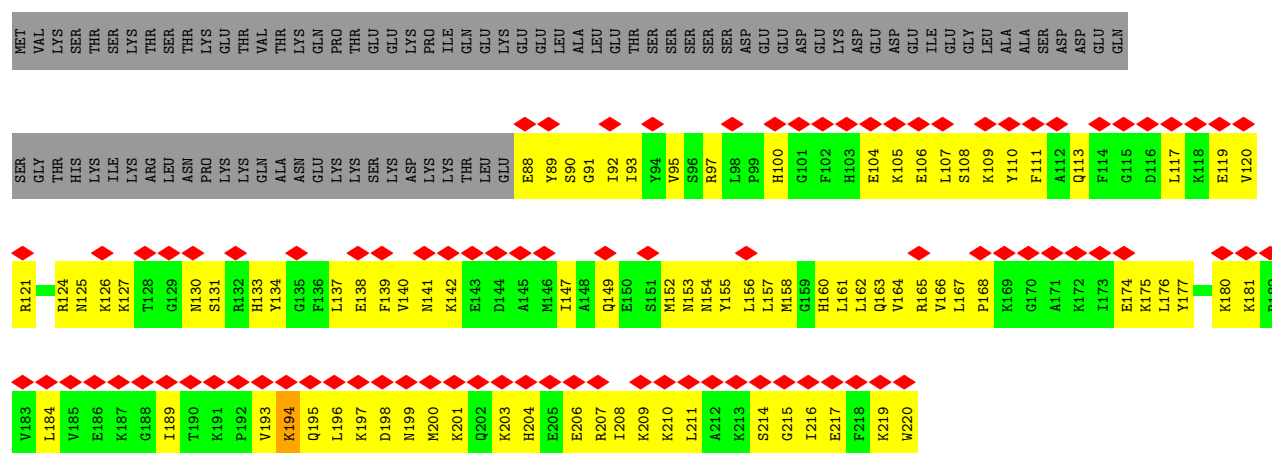
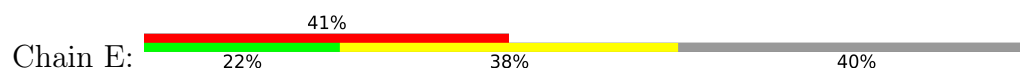




• Molecule 4: Ribosome biogenesis protein RLP7

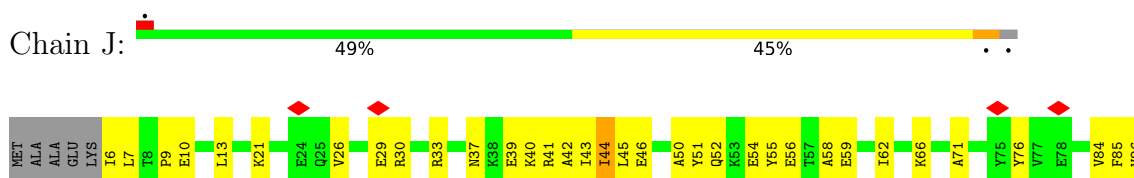
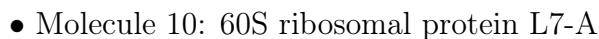


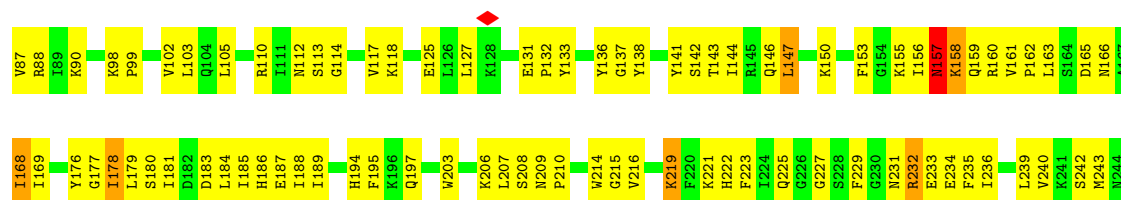
• Molecule 5: Ribosome biogenesis protein 15



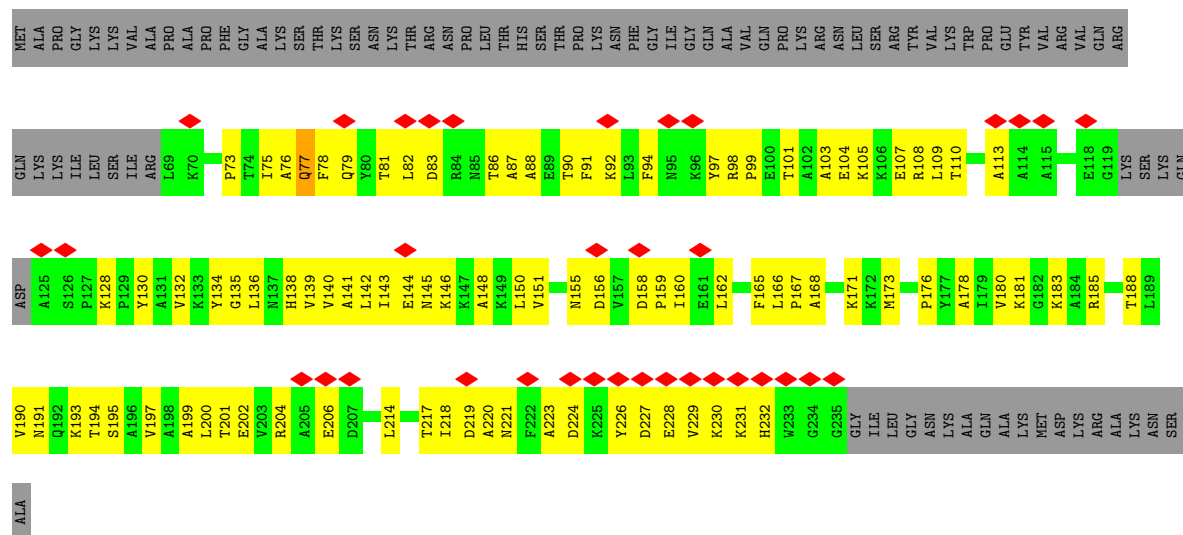
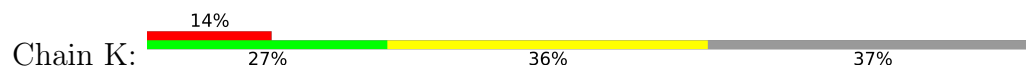
• Molecule 6: 60S ribosomal protein L3







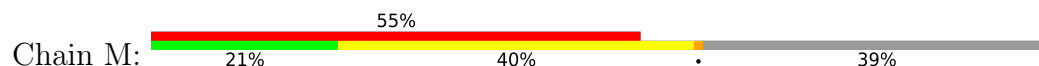
• Molecule 11: 60S ribosomal protein L8-A

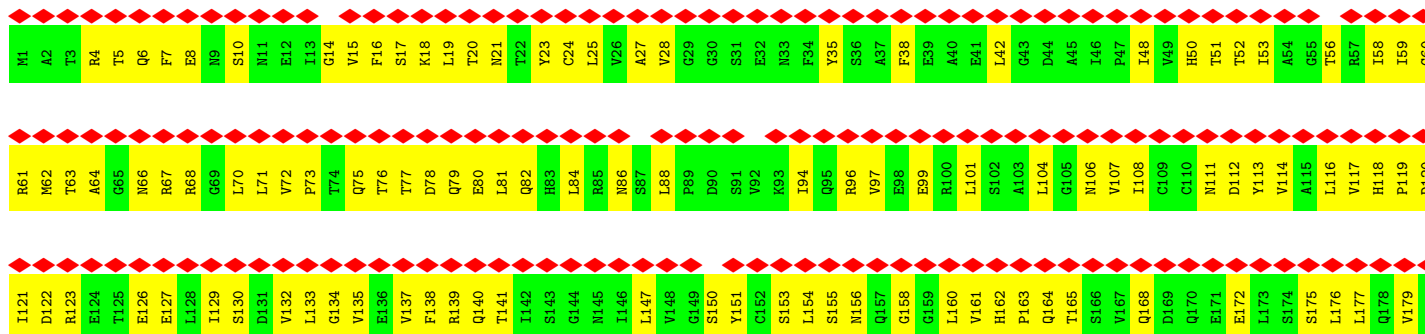
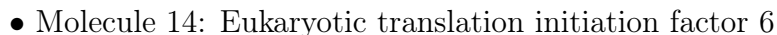


• Molecule 12: 60S ribosomal protein L9-A



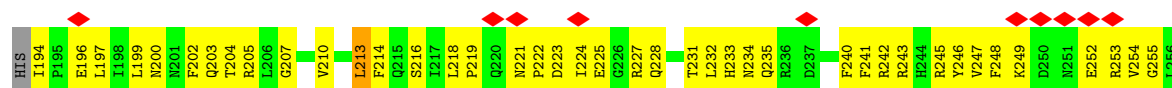
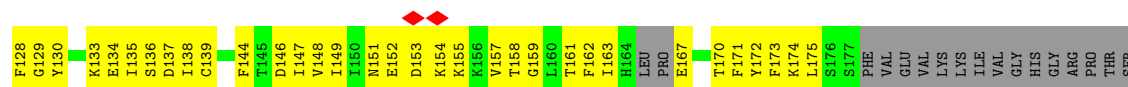
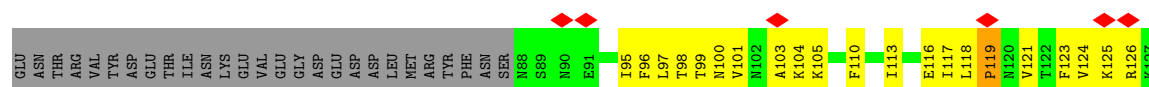
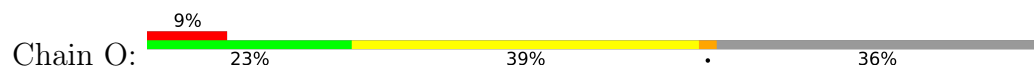
• Molecule 13: Nucleolar protein 7



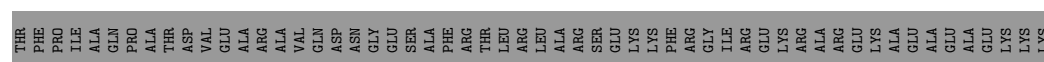
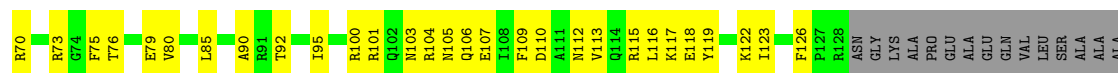
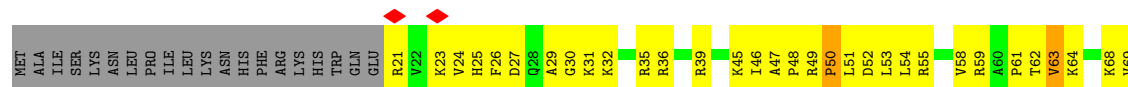
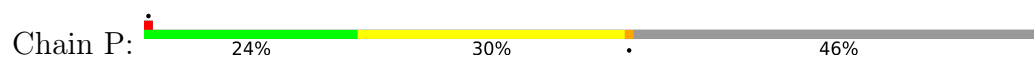




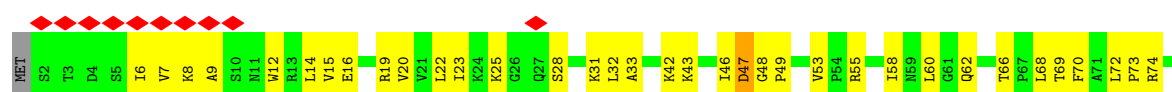
• Molecule 15: Ribosome production factor 1

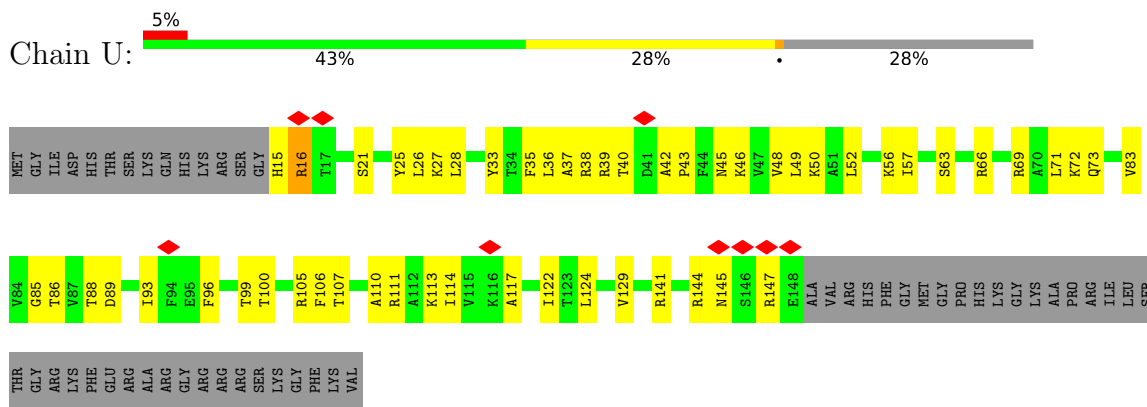


• Molecule 16: 60S ribosomal protein L13-A

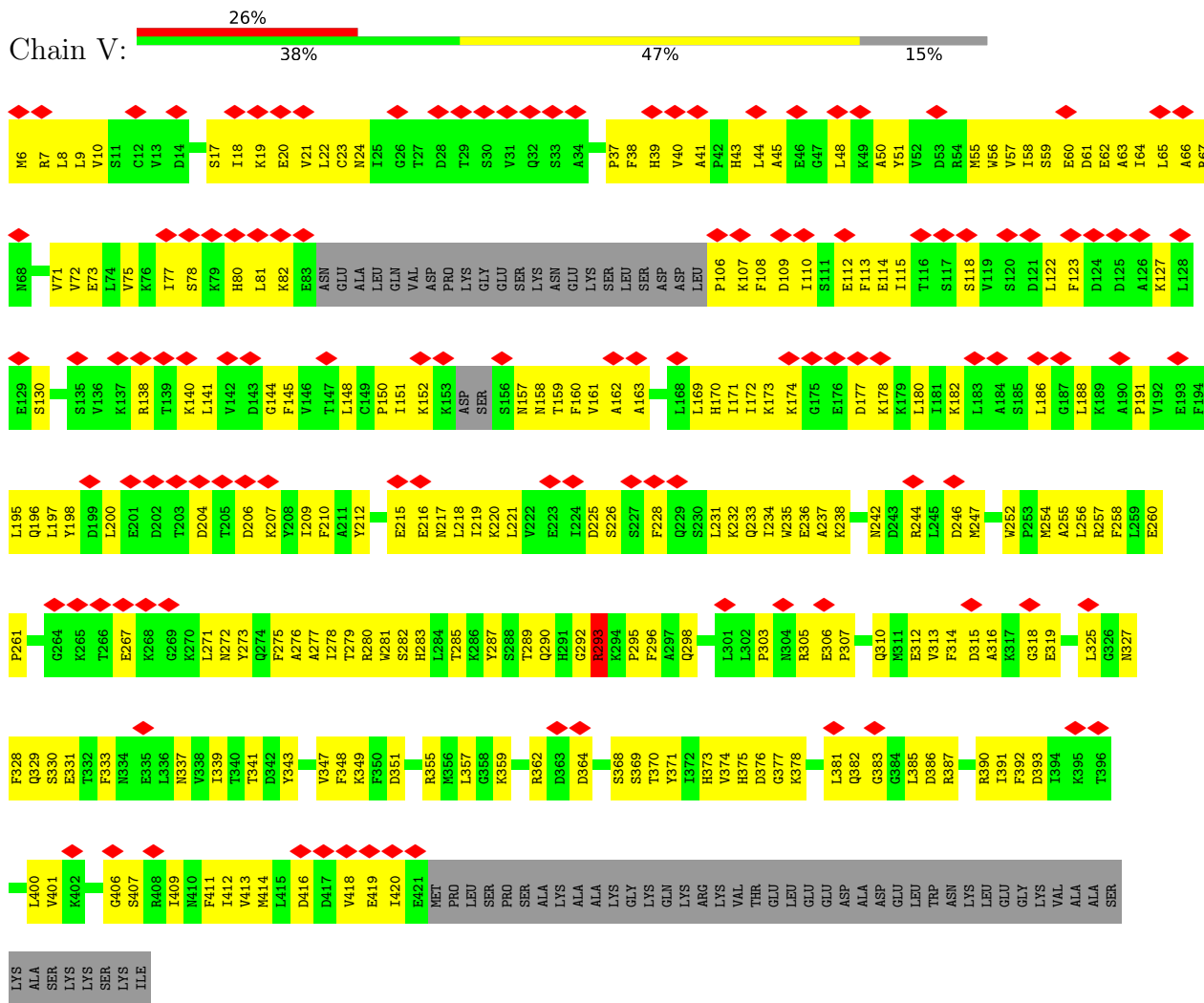


• Molecule 17: 60S ribosomal protein L14-A

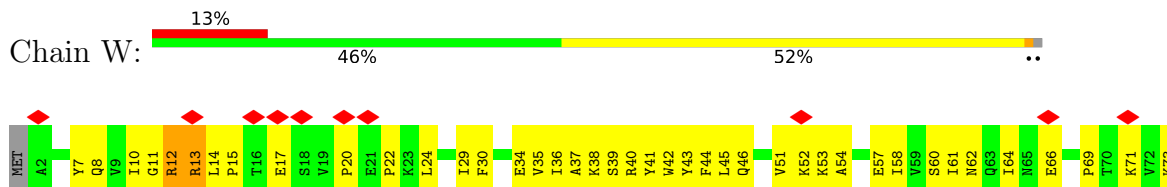




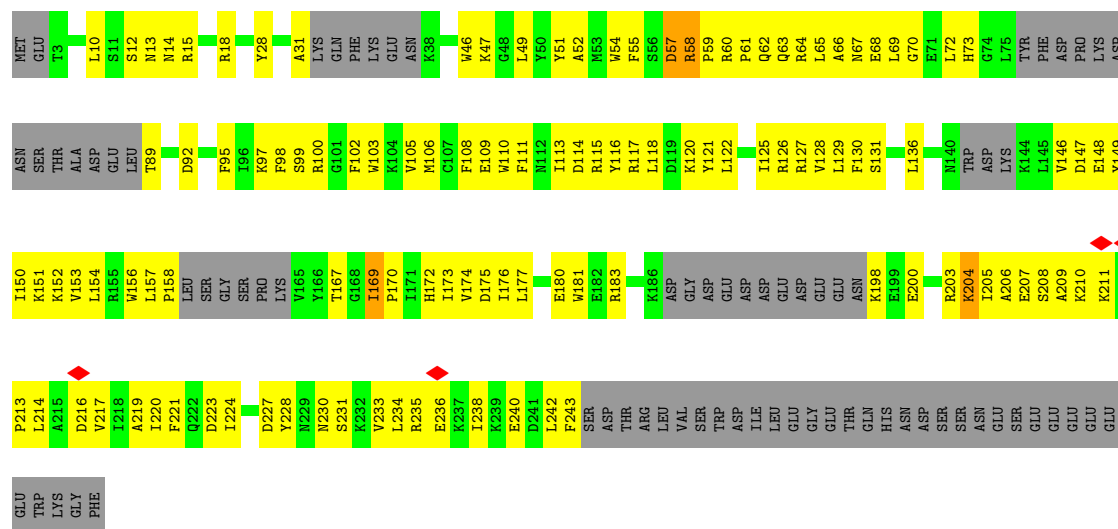
- Molecule 22: Ribosome biogenesis protein NSA1



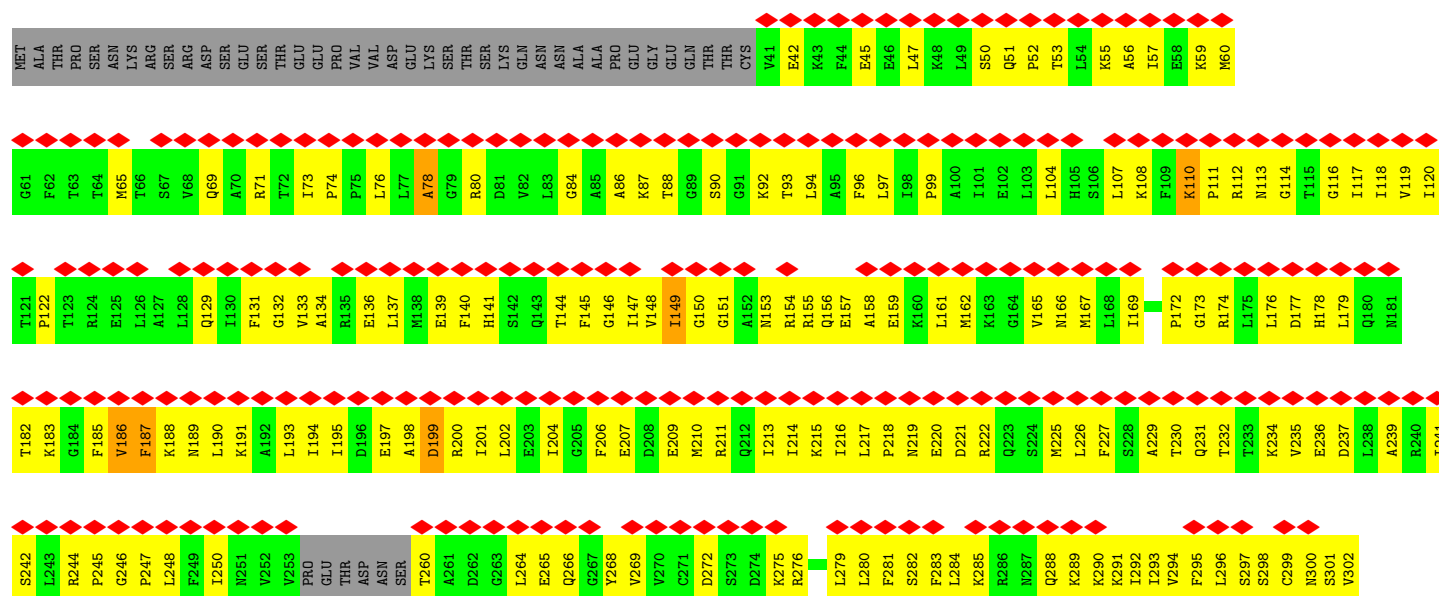
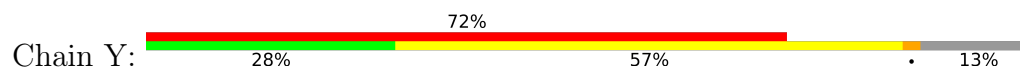
- Molecule 23: 60S ribosomal protein L20-A

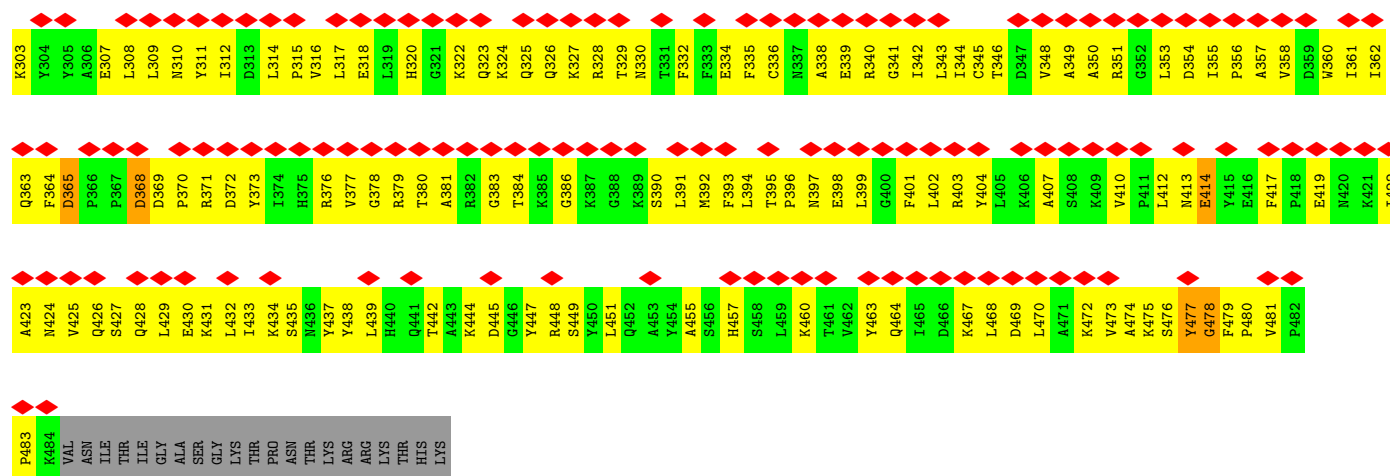


- Molecule 24: Ribosomal RNA-processing protein 1

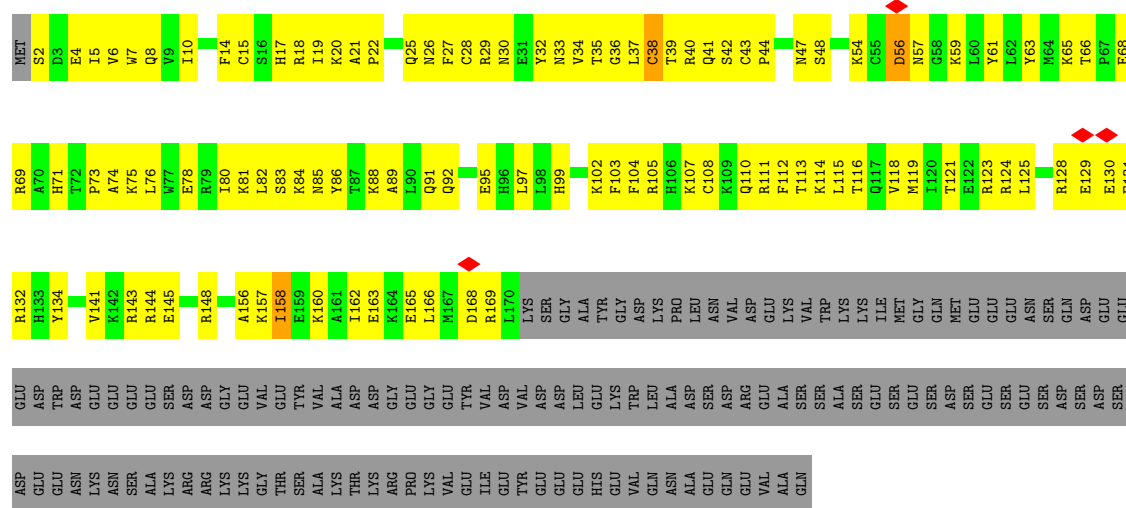
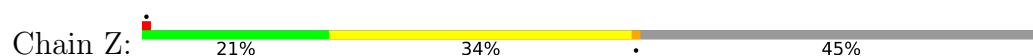


- Molecule 25: ATP-dependent RNA helicase HAS1

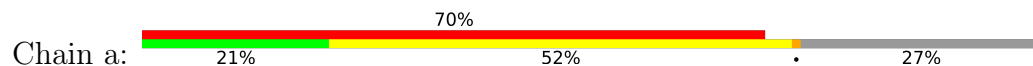


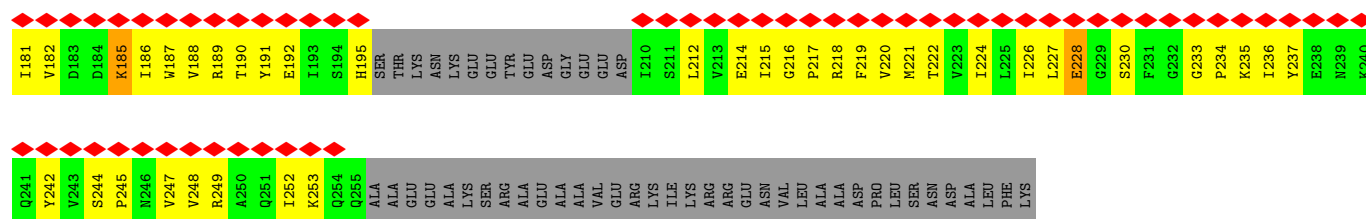


• Molecule 26: Protein MAK16

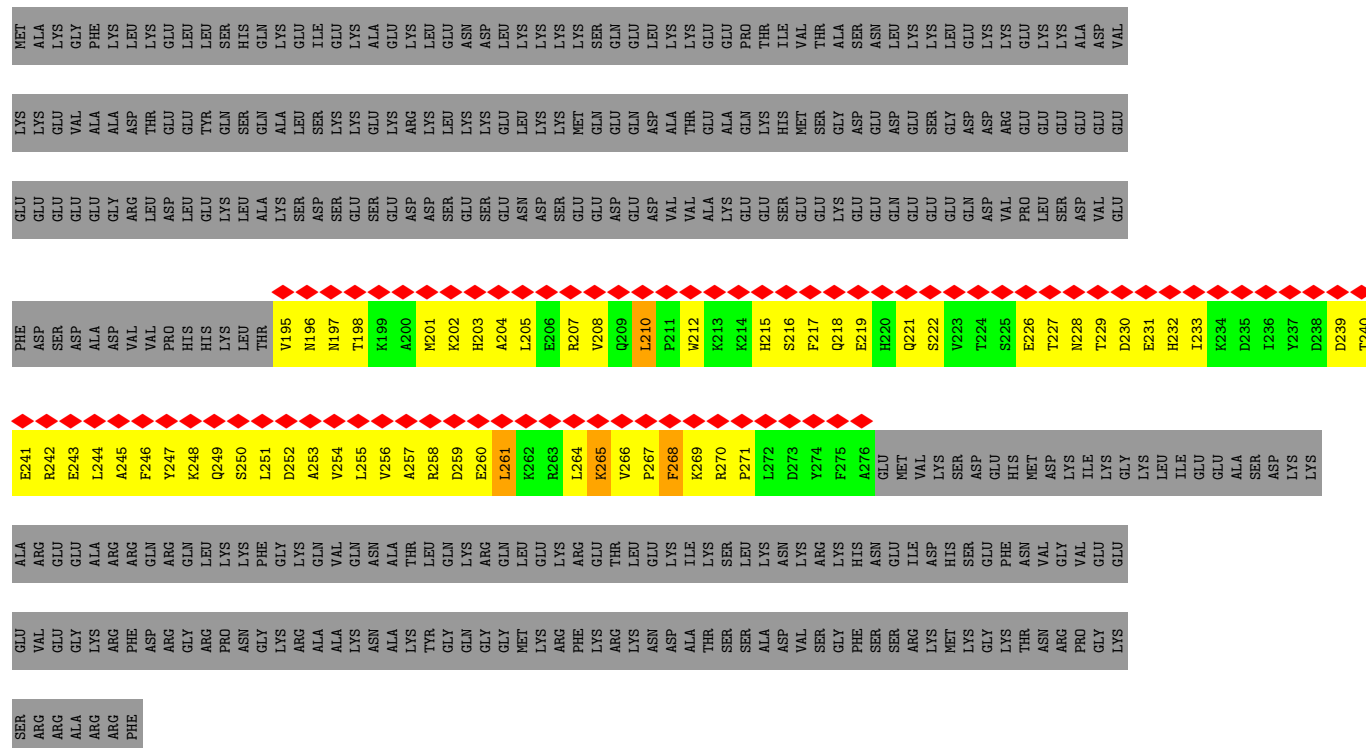


• Molecule 27: Ribosome biogenesis protein BRX1





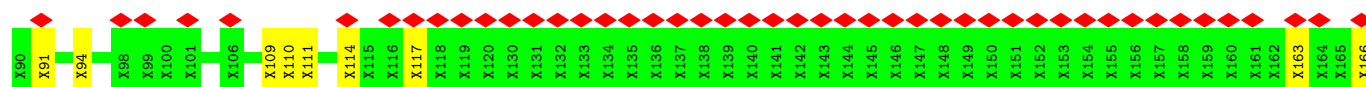
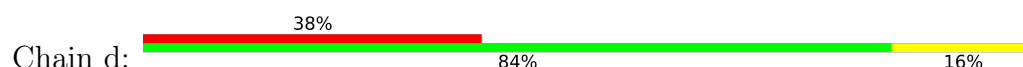
• Molecule 28: rRNA-processing protein EBP2

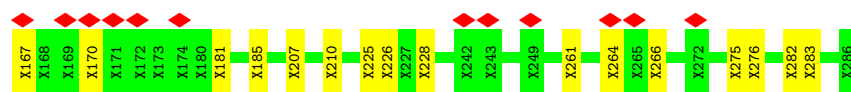


• Molecule 29: 60S ribosomal protein L26-A



• Molecule 30: Unassigned

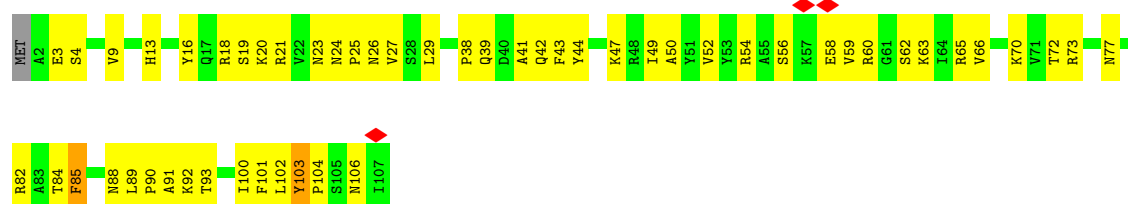




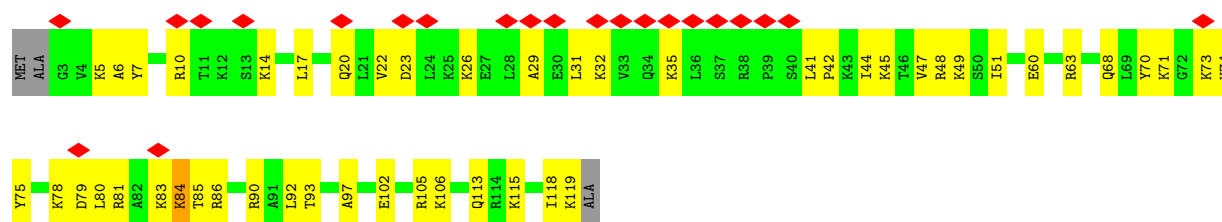
- Molecule 31: 60S ribosomal protein L32



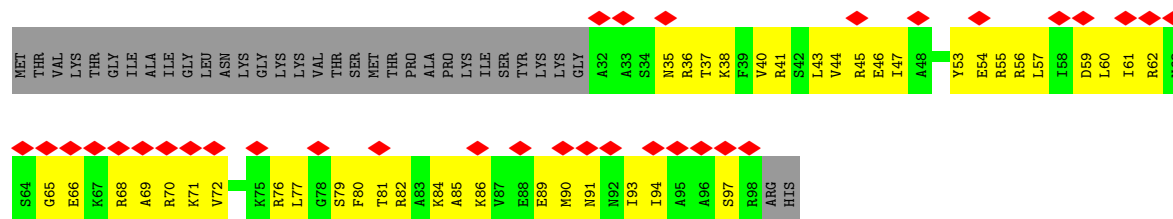
- Molecule 32: 60S ribosomal protein L33-A



- Molecule 33: 60S ribosomal protein L35-A



- Molecule 34: 60S ribosomal protein L36-A



- Molecule 35: 60S ribosomal protein L37-A



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	98155	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 ($e^-/\text{\AA}^2$)	30	Depositor
Minimum defocus (nm)	1000	Depositor
Maximum defocus (nm)	4000	Depositor
Magnification	Not provided	
Image detector	FEI FALCON III (4k x 4k)	Depositor
Maximum map value	0.564	Depositor
Minimum map value	-0.265	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.019	Depositor
Recommended contour level	0.09	Depositor
Map size (Å)	496.8, 496.8, 496.8	wwPDB
Map dimensions	360, 360, 360	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.38, 1.38, 1.38	Depositor

5 Model quality ⓘ

5.1 Standard geometry ⓘ

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	A	0.70	0/35968	0.58	1/56046 (0.0%)
2	B	0.71	0/3702	0.57	0/5764
3	C	0.38	0/1527	0.48	0/2371
4	D	0.38	0/1982	0.72	3/2668 (0.1%)
5	E	0.40	0/1129	0.61	0/1502
6	F	0.41	0/2724	0.71	0/3659
7	G	0.90	0/2801	0.89	1/3792 (0.0%)
8	H	0.40	0/2097	0.65	0/2828
9	I	0.72	0/1218	0.71	0/1637
10	J	0.78	0/1956	0.86	2/2631 (0.1%)
11	K	0.61	0/1268	0.75	0/1716
12	L	0.36	0/1539	0.63	0/2073
13	M	0.35	0/3101	0.74	4/4187 (0.1%)
14	N	0.29	0/1730	0.63	0/2354
15	O	0.63	0/1623	0.81	1/2178 (0.0%)
16	P	0.83	0/880	0.85	0/1182
17	Q	0.68	0/1074	0.72	0/1446
18	R	0.77	0/1529	0.84	0/2046
19	S	0.74	0/1585	0.74	0/2128
20	T	0.52	0/1075	0.68	0/1448
21	U	0.83	0/1050	0.82	1/1419 (0.1%)
22	V	0.53	0/3151	0.73	2/4244 (0.0%)
23	W	0.61	0/1460	0.72	0/1962
24	X	0.73	0/1751	0.86	0/2348
25	Y	0.42	0/3552	0.75	0/4789
26	Z	0.96	0/1437	0.98	2/1927 (0.1%)
27	a	0.36	0/1790	0.73	2/2418 (0.1%)
28	b	0.35	0/704	0.67	0/949
29	c	0.72	0/995	0.77	0/1329
31	i	0.86	0/1022	0.82	0/1367
32	j	1.04	0/868	0.90	2/1168 (0.2%)
33	l	0.61	0/968	0.75	0/1287
34	m	0.47	0/536	0.68	0/711
35	n	0.86	0/587	0.87	0/778

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
All	All	0.65	0/90379	0.68	21/130352 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
4	D	0	2
6	F	0	1
8	H	0	1
10	J	0	3
11	K	0	1
13	M	0	4
15	O	0	3
17	Q	0	1
18	R	0	2
22	V	0	1
23	W	0	3
24	X	0	2
25	Y	0	7
26	Z	0	1
27	a	0	1
28	b	0	3
30	d	0	1
31	i	0	1
33	l	0	1
All	All	0	39

There are no bond length outliers.

All (21) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
13	M	58	ALA	CA-C-N	11.05	133.65	119.84
13	M	58	ALA	C-N-CA	11.05	133.65	119.84
27	a	103	LYS	CA-C-N	9.36	130.02	120.38
27	a	103	LYS	C-N-CA	9.36	130.02	120.38
15	O	119	PRO	N-CA-CB	7.98	111.63	103.25
4	D	224	PRO	N-CA-C	-7.59	96.84	112.47
26	Z	97	LEU	CA-C-N	-6.64	113.53	121.90
26	Z	97	LEU	C-N-CA	-6.64	113.53	121.90
13	M	448	LEU	CA-C-N	6.14	127.51	119.84

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
13	M	448	LEU	C-N-CA	6.14	127.51	119.84
21	U	16	ARG	CG-CD-NE	-5.83	99.19	112.00
1	A	1354	G	O4'-C1'-N9	-5.57	99.84	108.20
22	V	293	ARG	CA-C-N	-5.44	110.38	121.48
22	V	293	ARG	C-N-CA	-5.44	110.38	121.48
7	G	195	ARG	CA-CB-CG	-5.19	103.72	114.10
4	D	271	PHE	N-CA-C	5.18	118.52	110.17
10	J	157	ASN	CA-C-N	5.14	131.35	121.54
10	J	157	ASN	C-N-CA	5.14	131.35	121.54
4	D	137	GLY	N-CA-C	5.11	118.49	111.54
32	j	103	TYR	CA-C-N	5.01	139.03	127.00
32	j	103	TYR	C-N-CA	5.01	139.03	127.00

There are no chirality outliers.

All (39) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
4	D	245	ILE	Peptide
4	D	270	PRO	Peptide
6	F	187	SER	Peptide
8	H	285	ARG	Peptide
10	J	177	GLY	Peptide
10	J	219	LYS	Peptide
10	J	232	ARG	Peptide
11	K	77	GLN	Peptide
13	M	114	LEU	Peptide
13	M	240	SER	Peptide
13	M	3	ILE	Peptide
13	M	62	PHE	Peptide
15	O	221	ASN	Peptide
15	O	271	GLN	Peptide
15	O	275	LYS	Peptide
17	Q	47	ASP	Peptide
18	R	183	THR	Peptide
18	R	3	ALA	Peptide
22	V	59	SER	Peptide
23	W	12	ARG	Peptide
23	W	13	ARG	Peptide
23	W	20	PRO	Peptide
24	X	57	ASP	Peptide
24	X	58	ARG	Peptide
25	Y	110	LYS	Peptide

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Mol	Chain	Res	Type	Group
25	Y	186	VAL	Peptide
25	Y	187	PHE	Peptide
25	Y	365	ASP	Peptide
25	Y	368	ASP	Peptide
25	Y	414	GLU	Peptide
25	Y	478	GLY	Peptide
26	Z	56	ASP	Peptide
27	a	185	LYS	Peptide
28	b	261	LEU	Peptide
28	b	265	LYS	Peptide
28	b	268	PHE	Peptide
30	d	266	UNK	Peptide
31	i	95	GLU	Peptide
33	l	83	LYS	Peptide

5.2 Too-close contacts

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	32146	0	16161	1970	0
2	B	3313	0	1675	228	0
3	C	1370	0	692	124	0
4	D	1956	0	2064	199	0
5	E	1107	0	1159	116	0
6	F	2670	0	2744	241	0
7	G	2749	0	2863	173	0
8	H	2063	0	2152	226	0
9	I	1198	0	1283	75	0
10	J	1918	0	2013	131	0
11	K	1247	0	1304	103	0
12	L	1518	0	1587	142	0
13	M	3030	0	3107	292	0
14	N	1709	0	1701	138	0
15	O	1591	0	1627	140	0
16	P	867	0	924	68	0
17	Q	1059	0	1154	64	0
18	R	1498	0	1548	96	0
19	S	1555	0	1659	82	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
20	T	1057	0	1070	81	0
21	U	1035	0	1115	61	0
22	V	3096	0	3144	226	0
23	W	1425	0	1466	100	0
24	X	1718	0	1773	130	0
25	Y	3486	0	3611	332	0
26	Z	1410	0	1444	146	0
27	a	1747	0	1759	207	0
28	b	689	0	681	87	0
29	c	984	0	1075	65	0
30	d	770	0	171	14	0
31	i	1001	0	1070	55	0
32	j	850	0	880	56	0
33	l	959	0	1068	46	0
34	m	533	0	578	41	0
35	n	575	0	583	27	0
All	All	85899	0	68905	5566	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 36.

All (5566) 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:F:46:PHE:O	6:F:338:LEU:HB2	1.29	1.31
22:V:236:GLU:O	22:V:293:ARG:NH1	1.65	1.28
6:F:217:ALA:HA	6:F:337:THR:O	1.27	1.28
24:X:205:ILE:O	24:X:209:ALA:HB2	1.38	1.22
1:A:474:G:OP1	22:V:293:ARG:HG3	1.39	1.21
22:V:19:LYS:HA	22:V:41:ALA:O	1.45	1.14
6:F:216:ASP:O	6:F:338:LEU:HA	1.47	1.13
13:M:232:VAL:O	13:M:236:LEU:HB2	1.46	1.13
22:V:151:ILE:O	22:V:159:THR:HB	1.51	1.11
12:L:101:VAL:HA	12:L:113:GLU:O	1.51	1.10
8:H:98:LYS:O	8:H:235:PRO:HA	1.52	1.08
1:A:474:G:OP1	22:V:293:ARG:CG	2.03	1.06
15:O:243:ARG:HD2	15:O:259:LEU:HD11	1.36	1.06
22:V:236:GLU:O	22:V:293:ARG:CZ	2.06	1.04
1:A:3109:G:H1	1:A:3125:U:H3	1.09	1.01
25:Y:136:GLU:HG3	25:Y:137:LEU:HG	1.43	0.99
15:O:276:GLU:HA	22:V:138:ARG:HH21	1.28	0.98

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3234:A:H2	1:A:3253:G:H1	1.04	0.97
25:Y:468:LEU:HD23	25:Y:472:LYS:HB2	1.47	0.97
1:A:74:G:OP2	16:P:104:ARG:NH1	1.98	0.97
1:A:745:C:H2'	1:A:746:A:H8	1.30	0.96
15:O:234:ASN:HD21	15:O:295:LEU:HD13	1.30	0.96
25:Y:399:LEU:O	25:Y:402:LEU:HB3	1.65	0.96
14:N:168:GLN:O	14:N:172:GLU:HB2	1.61	0.95
12:L:7:GLU:HA	12:L:55:VAL:O	1.66	0.95
5:E:105:LYS:O	5:E:109:LYS:HB2	1.65	0.95
6:F:311:PHE:HB2	6:F:314:TYR:HB2	1.49	0.95
26:Z:59:LYS:HE2	26:Z:81:LYS:HB2	1.48	0.95
8:H:100:LEU:O	8:H:233:GLN:HA	1.67	0.94
13:M:252:LYS:HD3	13:M:261:SER:HA	1.48	0.94
1:A:393:U:H3	1:A:397:A:H62	0.94	0.94
25:Y:477:TYR:HB3	25:Y:483:PRO:HB3	1.50	0.94
1:A:1382:G:OP2	7:G:188:ARG:NH1	2.01	0.93
1:A:3332:U:O2	1:A:3371:G:O6	1.85	0.93
24:X:173:ILE:O	24:X:177:LEU:HB2	1.68	0.93
1:A:160:G:H1	1:A:261:U:H3	1.16	0.93
2:B:77:A:N1	2:B:78:G:N2	2.16	0.93
1:A:815:G:OP1	35:n:16:HIS:NE2	2.02	0.92
15:O:276:GLU:HB2	22:V:138:ARG:HE	1.33	0.92
25:Y:392:MET:HE2	25:Y:394:LEU:HD21	1.51	0.92
1:A:3066:U:H3	1:A:3075:G:H1	1.09	0.92
1:A:36:C:O2'	1:A:934:G:N3	2.02	0.92
4:D:233:ASN:O	4:D:237:GLU:HB2	1.70	0.92
6:F:221:THR:HA	6:F:330:GLY:HA2	1.50	0.92
14:N:219:GLU:HG2	14:N:224:LEU:HB2	1.49	0.92
1:A:971:G:H1	1:A:1111:U:H3	1.18	0.92
27:a:118:HIS:HB2	27:a:218:ARG:HB3	1.51	0.92
6:F:144:ILE:HG22	6:F:148:LEU:HB2	1.52	0.91
25:Y:355:ILE:H	25:Y:379:ARG:HH22	1.02	0.91
1:A:668:G:H1	1:A:794:U:H3	1.16	0.91
27:a:98:TYR:HA	27:a:112:PHE:O	1.70	0.91
22:V:172:ILE:HG22	22:V:182:LYS:HA	1.52	0.91
25:Y:144:THR:H	25:Y:166:ASN:HB2	1.36	0.91
22:V:10:VAL:HG12	22:V:412:ILE:HG12	1.49	0.91
14:N:73:PRO:HA	14:N:97:VAL:HB	1.50	0.91
1:A:544:C:O2	1:A:547:G:N2	2.04	0.91
1:A:1134:G:H2'	1:A:1135:A:H5''	1.53	0.91
6:F:280:HIS:HB3	6:F:324:VAL:HG11	1.54	0.90

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:98:G:H4'	1:A:281:G:H1'	1.52	0.89
2:B:121:U:O2	2:B:132:G:N2	2.05	0.89
23:W:7:TYR:HA	23:W:62:ASN:O	1.70	0.89
25:Y:354:ASP:HA	25:Y:379:ARG:HH12	1.35	0.89
15:O:152:GLU:HG3	15:O:154:LYS:H	1.37	0.89
16:P:50:PRO:HG2	33:I:118:ILE:HD12	1.54	0.88
27:a:181:ILE:HA	27:a:186:ILE:HG22	1.53	0.88
1:A:3293:U:O2	1:A:3395:G:N2	2.06	0.88
28:b:243:GLU:O	28:b:247:TYR:HB2	1.73	0.88
1:A:784:A:N7	21:U:69:ARG:NH2	2.21	0.88
14:N:20:THR:HG21	14:N:66:ASN:HA	1.56	0.88
19:S:56:ASP:OD1	19:S:59:ARG:NH1	2.07	0.88
1:A:3267:A:N6	9:I:71:VAL:O	2.06	0.88
1:A:158:G:O6	1:A:264:G:N2	2.06	0.87
1:A:3293:U:H3	1:A:3395:G:H1	1.02	0.87
1:A:393:U:H3	1:A:397:A:N6	1.72	0.87
23:W:45:LEU:HD23	23:W:51:VAL:HG21	1.56	0.87
12:L:102:ASN:O	12:L:113:GLU:HB3	1.75	0.87
1:A:197:G:H5''	15:O:288:LYS:HG3	1.57	0.87
1:A:474:G:P	22:V:293:ARG:HG3	2.15	0.86
11:K:94:PHE:HZ	11:K:150:LEU:HD11	1.37	0.86
7:G:338:LYS:O	7:G:340:GLY:N	2.09	0.86
10:J:21:LYS:NZ	24:X:240:GLU:OE2	2.08	0.86
27:a:186:ILE:O	27:a:221:MET:HB3	1.74	0.86
2:B:127:U:H2'	13:M:14:ASN:HD21	1.41	0.86
4:D:247:VAL:HG13	4:D:250:ILE:HD12	1.57	0.86
27:a:218:ARG:NH2	28:b:239:ASP:OD1	2.07	0.86
27:a:92:ARG:HB2	27:a:96:ASP:HB2	1.57	0.86
5:E:197:LYS:HE2	8:H:295:GLN:HB3	1.56	0.86
10:J:112:ASN:ND2	10:J:209:ASN:OD1	2.07	0.86
1:A:3140:G:N7	6:F:28:ARG:NH2	2.23	0.85
4:D:176:PHE:HE1	4:D:204:ILE:HD12	1.41	0.85
1:A:974:G:N1	1:A:1108:U:C4	2.44	0.85
1:A:1348:U:OP2	21:U:38:ARG:NH2	2.09	0.85
26:Z:132:ARG:HB3	31:i:128:LEU:HD23	1.55	0.85
25:Y:147:ILE:HG23	25:Y:149:ILE:HD13	1.58	0.85
24:X:205:ILE:O	24:X:209:ALA:CB	2.22	0.85
1:A:3002:C:O2'	6:F:180:GLU:OE2	1.94	0.85
1:A:429:U:H2'	1:A:430:U:H6	1.40	0.85
1:A:3034:C:H42	12:L:121:LYS:H	1.22	0.85
1:A:3332:U:O2	1:A:3371:G:C6	2.29	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:40:ALA:O	8:H:44:LEU:HB2	1.76	0.85
6:F:313:HIS:HB2	6:F:332:ARG:NH2	1.92	0.84
12:L:152:GLU:O	12:L:156:GLN:HB2	1.77	0.84
1:A:3148:U:H5'	6:F:103:THR:HG23	1.60	0.84
8:H:105:SER:HB3	8:H:107:TYR:HD2	1.43	0.84
15:O:153:ASP:O	15:O:155:LYS:NZ	2.10	0.84
7:G:177:ASP:O	7:G:180:LYS:HB3	1.77	0.84
1:A:953:G:C6	1:A:1142:G:C2	2.67	0.83
1:A:542:G:N2	1:A:549:U:O2	2.10	0.83
25:Y:336:CYS:HA	25:Y:355:ILE:HD13	1.58	0.83
1:A:155:G:H22	25:Y:155:ARG:HH21	1.23	0.83
8:H:282:LYS:HB2	8:H:286:SER:HB2	1.60	0.83
11:K:168:ALA:O	11:K:171:LYS:HB3	1.78	0.83
27:a:179:PHE:HB2	27:a:188:VAL:HG12	1.61	0.83
1:A:68:C:OP2	1:A:301:G:N2	2.12	0.83
12:L:90:MET:HG2	12:L:181:VAL:HG22	1.60	0.83
27:a:137:LEU:HA	27:a:177:MET:O	1.79	0.83
6:F:131:THR:O	6:F:135:ALA:HB3	1.79	0.83
13:M:376:LEU:HD12	13:M:377:GLU:HG3	1.61	0.83
14:N:215:LEU:HA	14:N:218:ILE:HG22	1.61	0.83
20:T:78:VAL:HG22	20:T:80:LYS:H	1.41	0.83
1:A:754:G:O6	1:A:778:U:O2	1.97	0.82
4:D:216:TYR:HB3	4:D:227:ILE:HD12	1.61	0.82
12:L:171:ASP:HB2	12:L:174:LYS:HB2	1.58	0.82
13:M:169:TYR:O	13:M:173:GLU:HB2	1.79	0.82
26:Z:4:GLU:N	26:Z:4:GLU:OE1	2.12	0.82
6:F:139:GLN:HG3	6:F:141:GLY:H	1.44	0.82
1:A:424:G:N3	31:i:24:ARG:NH2	2.27	0.82
8:H:98:LYS:HE2	8:H:236:VAL:HG13	1.62	0.82
4:D:211:ARG:NE	4:D:271:PHE:HB3	1.95	0.82
27:a:101:LEU:O	27:a:109:THR:HA	1.79	0.82
2:B:72:A:N7	29:c:52:ARG:NH1	2.26	0.82
26:Z:34:VAL:HG12	26:Z:111:ARG:HD3	1.61	0.82
22:V:386:ASP:OD2	22:V:390:ARG:NH1	2.12	0.82
25:Y:289:LYS:HD3	25:Y:340:ARG:HB3	1.61	0.82
22:V:236:GLU:C	22:V:293:ARG:NH1	2.37	0.82
1:A:608:A:O3'	7:G:326:ARG:NH1	2.13	0.81
8:H:292:TYR:OH	8:H:294:ASN:ND2	2.13	0.81
4:D:101:LEU:HG	4:D:308:PRO:HB2	1.62	0.81
23:W:46:GLN:HE22	23:W:52:LYS:HA	1.44	0.81
1:A:974:G:O6	1:A:1108:U:O4	1.97	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:45:SER:OG	6:F:338:LEU:O	1.98	0.81
22:V:23:CYS:HB2	22:V:37:PRO:HA	1.59	0.81
1:A:3138:U:H2'	1:A:3139:A:H8	1.45	0.81
1:A:3210:A:H5''	17:Q:109:ARG:HH12	1.44	0.81
1:A:990:U:H3	1:A:1059:G:H1	1.24	0.81
34:m:45:ARG:NH2	34:m:46:GLU:OE2	2.13	0.81
1:A:3075:G:H2'	1:A:3076:C:C6	2.16	0.81
1:A:3234:A:C2	1:A:3253:G:N1	2.46	0.81
1:A:1348:U:OP1	21:U:39:ARG:NH1	2.12	0.81
6:F:183:LEU:O	6:F:191:LYS:NZ	2.14	0.81
25:Y:129:GLN:O	25:Y:132:GLY:N	2.14	0.81
1:A:757:C:N3	1:A:775:A:N6	2.29	0.81
13:M:181:VAL:O	13:M:456:HIS:NE2	2.15	0.80
1:A:3332:U:C2	1:A:3371:G:O6	2.34	0.80
1:A:590:G:O2'	7:G:309:ARG:NH1	2.15	0.80
1:A:285:A:O2'	1:A:287:G:N7	2.14	0.80
1:A:516:A:H2'	1:A:517:G:H8	1.45	0.80
1:A:3025:C:N3	1:A:3031:G:N2	2.30	0.80
4:D:239:LEU:HB3	4:D:244:ILE:HB	1.61	0.80
25:Y:176:LEU:HD11	25:Y:209:GLU:HA	1.61	0.80
1:A:3294:A:H5''	6:F:128:LYS:HG3	1.64	0.80
13:M:232:VAL:O	13:M:236:LEU:CB	2.27	0.80
1:A:257:U:H2'	1:A:258:G:H8	1.46	0.80
25:Y:403:ARG:O	25:Y:407:ALA:N	2.14	0.80
1:A:3162:C:H2'	1:A:3163:A:H8	1.46	0.80
6:F:115:LYS:HG2	6:F:130:PHE:HE2	1.45	0.80
1:A:212:G:OP2	29:c:2:ALA:N	2.14	0.80
3:C:41:G:N2	3:C:42:G:N3	2.29	0.80
6:F:61:ASP:OD1	6:F:69:LYS:NZ	2.14	0.80
6:F:90:VAL:HG22	6:F:104:THR:HA	1.61	0.80
12:L:89:LYS:HG2	12:L:145:VAL:HG22	1.63	0.80
1:A:3298:C:OP1	20:T:74:LYS:NZ	2.15	0.80
15:O:104:LYS:HG2	15:O:105:LYS:H	1.45	0.79
1:A:976:U:OP1	21:U:141:ARG:NH1	2.16	0.79
11:K:83:ASP:OD1	11:K:86:THR:N	2.15	0.79
28:b:215:HIS:ND1	28:b:219:GLU:OE2	2.15	0.79
1:A:956:U:N3	1:A:966:U:O2	2.14	0.79
10:J:143:THR:O	10:J:146:GLN:N	2.15	0.79
14:N:117:VAL:HG23	14:N:139:ARG:HG2	1.63	0.79
1:A:37:U:H2'	1:A:38:U:H6	1.47	0.79
22:V:218:LEU:HD13	22:V:238:LYS:HA	1.65	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3037:U:O3'	6:F:62:ARG:NH2	2.15	0.79
1:A:3308:C:O2'	20:T:69:ARG:O	2.00	0.79
8:H:85:ASN:OD1	8:H:86:LYS:N	2.16	0.79
27:a:186:ILE:HG13	27:a:221:MET:HB3	1.65	0.79
27:a:189:ARG:HH21	28:b:246:PHE:HB3	1.47	0.79
13:M:379:LEU:HA	13:M:382:SER:HB3	1.64	0.79
26:Z:85:ASN:HB2	26:Z:88:LYS:HB2	1.63	0.79
1:A:211:A:OP1	7:G:220:ARG:NH2	2.16	0.79
1:A:3222:U:O2	1:A:3263:G:N1	2.12	0.79
1:A:3333:G:N2	1:A:3369:G:O2'	2.17	0.78
4:D:146:ARG:HH22	4:D:193:TYR:HB3	1.48	0.78
1:A:596:C:OP1	10:J:33:ARG:NH1	2.16	0.78
14:N:129:ILE:HG23	14:N:133:LEU:HB2	1.65	0.78
21:U:36:LEU:HG	21:U:45:ASN:ND2	1.97	0.78
1:A:745:C:O2'	21:U:144:ARG:NH2	2.17	0.78
1:A:3232:G:O6	1:A:3255:U:C4	2.36	0.78
7:G:237:GLN:O	7:G:246:ARG:HG3	1.83	0.78
8:H:283:THR:O	8:H:285:ARG:N	2.16	0.78
14:N:114:VAL:HG21	14:N:177:LEU:HA	1.66	0.78
14:N:216:SER:O	14:N:220:SER:HB2	1.82	0.78
25:Y:155:ARG:O	25:Y:159:GLU:CB	2.31	0.78
27:a:95:GLN:OE1	27:a:249:ARG:NH2	2.15	0.78
27:a:158:HIS:NE2	28:b:210:LEU:HB3	1.99	0.78
11:K:201:THR:HG23	11:K:202:GLU:H	1.47	0.78
5:E:124:ARG:HA	5:E:131:SER:HA	1.66	0.78
3:C:32:A:H2'	8:H:285:ARG:HH22	1.49	0.78
2:B:81:U:HO2'	2:B:82:U:HO2'	1.29	0.78
25:Y:86:ALA:HB3	25:Y:92:LYS:HD3	1.66	0.78
1:A:3098:G:OP1	6:F:279:ASN:ND2	2.15	0.78
14:N:71:LEU:HD23	14:N:104:LEU:HD13	1.66	0.78
15:O:159:GLY:HA2	15:O:173:PHE:O	1.84	0.78
16:P:46:ILE:HG22	16:P:49:ARG:HB2	1.66	0.78
25:Y:292:ILE:HB	25:Y:342:ILE:HG22	1.66	0.78
11:K:135:GLY:O	11:K:139:VAL:N	2.17	0.78
25:Y:200:ARG:NH2	25:Y:204:ILE:O	2.17	0.78
27:a:188:VAL:HG22	27:a:219:PHE:HB3	1.65	0.78
11:K:148:ALA:HA	11:K:201:THR:HB	1.66	0.77
7:G:159:ILE:HG21	7:G:165:ALA:HB2	1.66	0.77
8:H:75:LYS:O	8:H:284:ASN:ND2	2.17	0.77
2:B:83:C:N3	29:c:51:ARG:NH2	2.31	0.77
1:A:1339:C:N4	1:A:1340:G:O6	2.18	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:250:ILE:HA	4:D:253:GLU:HB2	1.67	0.77
13:M:25:LEU:O	13:M:81:ARG:NH2	2.17	0.77
25:Y:468:LEU:HB3	25:Y:473:VAL:HG23	1.65	0.77
1:A:947:G:H2'	1:A:948:C:H6	1.49	0.77
7:G:99:MET:HE2	7:G:102:PRO:HA	1.65	0.77
15:O:286:MET:SD	15:O:294:TYR:OH	2.41	0.77
22:V:373:HIS:HB3	22:V:381:LEU:HD12	1.65	0.77
4:D:285:ARG:HD2	13:M:94:LEU:HD21	1.67	0.77
1:A:163:C:H2'	1:A:164:A:C8	2.19	0.77
1:A:173:G:H1	1:A:245:U:H3	1.33	0.77
17:Q:19:ARG:NH2	17:Q:66:THR:O	2.18	0.77
27:a:180:SER:HB2	28:b:246:PHE:CZ	2.20	0.77
1:A:610:G:N1	1:A:1337:A:OP1	2.16	0.76
18:R:37:HIS:CE1	18:R:63:ARG:HH11	2.02	0.76
22:V:252:TRP:NE1	22:V:254:MET:SD	2.57	0.76
23:W:8:GLN:HB2	23:W:64:ILE:HD11	1.66	0.76
28:b:240:THR:HA	28:b:243:GLU:HB2	1.67	0.76
1:A:644:G:N2	1:A:1118:C:O4'	2.18	0.76
25:Y:87:LYS:HB2	25:Y:90:SER:HB3	1.68	0.76
24:X:14:ASN:O	24:X:18:ARG:NE	2.18	0.76
1:A:1407:A:O3'	31:i:33:ARG:NH1	2.17	0.76
1:A:3276:G:N2	32:j:62:SER:OG	2.17	0.76
13:M:90:LEU:O	13:M:94:LEU:HB3	1.85	0.76
27:a:41:VAL:HA	27:a:45:HIS:HD1	1.49	0.76
7:G:204:GLY:O	7:G:246:ARG:NH2	2.18	0.76
27:a:173:ILE:HB	28:b:268:PHE:HA	1.68	0.76
4:D:99:PHE:O	4:D:184:TYR:OH	2.03	0.76
8:H:254:LEU:HD23	8:H:258:GLU:HB2	1.68	0.76
10:J:160:ARG:HD2	10:J:203:TRP:CE2	2.21	0.76
13:M:180:PHE:HD1	13:M:459:PRO:HD2	1.50	0.76
24:X:150:ILE:O	24:X:154:LEU:HB2	1.86	0.76
27:a:87:LEU:HB2	27:a:99:LEU:HD11	1.68	0.76
1:A:464:U:C4	26:Z:75:LYS:HD3	2.21	0.76
2:B:2:A:H3'	2:B:3:A:H8	1.51	0.76
4:D:146:ARG:HE	4:D:171:THR:HG22	1.49	0.76
5:E:193:VAL:O	5:E:197:LYS:HB3	1.86	0.76
17:Q:20:VAL:O	17:Q:66:THR:OG1	2.03	0.76
23:W:40:ARG:O	23:W:43:TYR:N	2.18	0.76
25:Y:260:THR:HG23	25:Y:377:VAL:HG21	1.68	0.76
27:a:112:PHE:HE1	27:a:222:THR:H	1.30	0.76
20:T:88:VAL:O	20:T:92:GLN:HB2	1.85	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:631:U:H2'	1:A:632:G:H8	1.49	0.76
1:A:633:C:O2'	32:j:21:ARG:O	2.03	0.76
5:E:199:ASN:O	5:E:203:LYS:HB3	1.86	0.76
14:N:68:ARG:NH1	14:N:112:ASP:O	2.19	0.76
25:Y:260:THR:OG1	25:Y:266:GLN:NE2	2.19	0.76
25:Y:330:ASN:O	25:Y:334:GLU:HB2	1.85	0.76
29:c:51:ARG:NH1	29:c:112:ASP:OD2	2.18	0.76
1:A:3233:C:H2'	1:A:3234:A:C8	2.20	0.76
3:C:27:G:H5'	5:E:130:ASN:HD21	1.51	0.76
27:a:113:TYR:HB2	27:a:224:ILE:HD11	1.68	0.76
1:A:3050:U:O4	1:A:3091:A:N6	2.19	0.75
27:a:176:VAL:O	27:a:190:THR:HA	1.86	0.75
1:A:518:G:OP2	1:A:518:G:N2	2.19	0.75
1:A:3200:G:OP1	17:Q:8:LYS:NZ	2.19	0.75
14:N:119:PRO:HA	14:N:139:ARG:HD3	1.69	0.75
23:W:96:ASP:OD2	23:W:102:ALA:N	2.18	0.75
7:G:82:THR:HG23	7:G:84:ARG:H	1.51	0.75
11:K:103:ALA:O	11:K:107:GLU:HG3	1.86	0.75
13:M:379:LEU:HD13	13:M:436:ILE:HD12	1.67	0.75
13:M:434:ASP:OD1	13:M:437:ASN:ND2	2.19	0.75
19:S:125:ARG:HG3	19:S:129:LEU:HD12	1.68	0.75
7:G:329:PRO:HD2	10:J:44:ILE:HD11	1.68	0.75
13:M:135:ALA:HB2	13:M:225:TYR:HB3	1.66	0.75
13:M:421:VAL:N	13:M:426:TYR:OH	2.20	0.75
1:A:3394:U:H2'	1:A:3395:G:H8	1.52	0.75
6:F:331:ASN:OD1	6:F:334:ARG:NH2	2.20	0.75
18:R:140:LYS:HE3	18:R:144:ARG:HH22	1.51	0.75
25:Y:47:LEU:HD21	25:Y:74:PRO:HG3	1.67	0.75
25:Y:282:SER:HA	25:Y:285:LYS:HG3	1.68	0.75
1:A:664:U:H2'	1:A:665:A:H8	1.51	0.75
1:A:668:G:O6	1:A:794:U:O4	2.04	0.75
1:A:974:G:C6	1:A:1108:U:C4	2.75	0.75
2:B:127:U:O2	13:M:14:ASN:ND2	2.19	0.75
14:N:71:LEU:HB2	14:N:132:VAL:HG11	1.68	0.75
14:N:106:ASN:HB3	14:N:147:LEU:HD22	1.68	0.75
15:O:167:GLU:OE1	15:O:167:GLU:N	2.20	0.75
26:Z:7:TRP:O	26:Z:10:ILE:N	2.20	0.75
14:N:156:ASN:ND2	14:N:201:ASP:OD1	2.19	0.75
22:V:50:ALA:O	22:V:67:ARG:NH1	2.20	0.75
27:a:245:PRO:HA	27:a:248:VAL:HG22	1.69	0.75
1:A:598:A:OP1	10:J:41:ARG:NH2	2.19	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3234:A:N1	1:A:3253:G:O6	2.19	0.74
12:L:103:ILE:HG12	12:L:112:ILE:HG12	1.68	0.74
22:V:6:MET:N	22:V:23:CYS:O	2.20	0.74
1:A:198:A:N7	1:A:219:A:N6	2.36	0.74
1:A:3158:G:C8	1:A:3395:G:H2'	2.21	0.74
1:A:3333:G:HO2'	1:A:3334:U:H5	1.33	0.74
2:B:71:A:O2'	2:B:81:U:O4	2.05	0.74
8:H:123:VAL:HG22	8:H:179:LEU:HD11	1.70	0.74
14:N:160:LEU:HD22	14:N:218:ILE:HD13	1.67	0.74
22:V:287:TYR:CZ	22:V:295:PRO:HG3	2.21	0.74
25:Y:302:VAL:HG21	25:Y:320:HIS:HB3	1.68	0.74
25:Y:355:ILE:N	25:Y:379:ARG:HH22	1.80	0.74
1:A:722:G:N2	1:A:748:U:O2	2.21	0.74
1:A:3044:G:H2'	1:A:3045:G:H8	1.48	0.74
1:A:2997:G:N2	1:A:3395:G:O3'	2.21	0.74
1:A:500:C:H4'	9:I:80:ASN:HD21	1.52	0.74
1:A:953:G:C5	1:A:1142:G:C2	2.75	0.74
4:D:59:GLU:HG3	5:E:157:LEU:HD13	1.67	0.74
16:P:50:PRO:O	16:P:52:ASP:N	2.21	0.74
25:Y:339:GLU:HG2	25:Y:340:ARG:H	1.52	0.74
26:Z:66:THR:OG1	26:Z:69:ARG:NH2	2.21	0.74
27:a:138:SER:O	27:a:178:SER:HA	1.86	0.74
24:X:67:ASN:O	24:X:70:GLY:N	2.21	0.74
1:A:3134:A:H5'	19:S:148:LYS:HZ3	1.52	0.74
25:Y:275:LYS:NZ	25:Y:478:GLY:O	2.21	0.74
1:A:1445:U:H3'	1:A:1446:A:H8	1.53	0.74
5:E:199:ASN:O	5:E:203:LYS:CB	2.36	0.74
5:E:204:HIS:NE2	5:E:220:TRP:O	2.17	0.74
11:K:128:LYS:NZ	11:K:202:GLU:OE1	2.17	0.74
24:X:204:LYS:O	24:X:207:GLU:N	2.20	0.74
27:a:119:THR:HA	27:a:217:PRO:HB3	1.69	0.74
1:A:12:A:H2'	1:A:13:A:C8	2.22	0.74
1:A:393:U:O4	1:A:397:A:N7	2.21	0.74
1:A:620:U:H1'	15:O:105:LYS:HD3	1.70	0.74
2:B:83:C:H5''	2:B:85:G:H21	1.52	0.74
23:W:71:LYS:O	23:W:73:LYS:NZ	2.17	0.74
9:I:68:PRO:HG3	9:I:145:LEU:HD23	1.70	0.73
13:M:78:ALA:O	13:M:82:GLU:HB3	1.87	0.73
33:l:68:GLN:HA	33:l:71:LYS:HB2	1.68	0.73
2:B:121:U:O2	2:B:132:G:C2	2.41	0.73
11:K:183:LYS:HB2	11:K:194:THR:HG23	1.68	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:48:VAL:HG23	12:L:49:ASN:H	1.52	0.73
25:Y:93:THR:O	25:Y:97:LEU:CB	2.35	0.73
27:a:113:TYR:OH	27:a:115:GLN:NE2	2.21	0.73
1:A:107:A:OP1	16:P:39:ARG:NH1	2.21	0.73
1:A:484:C:H2'	1:A:485:A:C8	2.24	0.73
25:Y:326:GLN:O	25:Y:329:THR:OG1	2.04	0.73
1:A:91:G:N2	1:A:95:A:OP2	2.22	0.73
1:A:200:C:OP2	29:c:60:ARG:NH1	2.17	0.73
1:A:687:U:OP2	16:P:36:ARG:NH2	2.22	0.73
1:A:1124:U:H6	1:A:1125:U:H5	1.37	0.73
1:A:3207:U:O2'	1:A:3208:G:O5'	2.05	0.73
2:B:126:A:O2'	2:B:129:C:N4	2.21	0.73
9:I:40:LEU:HD13	9:I:84:VAL:HG11	1.70	0.73
22:V:207:LYS:HE3	22:V:225:ASP:HB2	1.71	0.73
22:V:341:THR:HG22	22:V:347:VAL:HG22	1.69	0.73
1:A:3163:A:N6	1:A:3288:G:O6	2.21	0.73
6:F:211:GLN:HE21	6:F:284:ARG:HA	1.52	0.73
19:S:151:ASP:OD1	19:S:152:VAL:N	2.21	0.73
6:F:313:HIS:HB2	6:F:332:ARG:HH22	1.52	0.73
22:V:383:GLY:HA3	22:V:409:ILE:HD11	1.69	0.73
1:A:279:U:H2'	1:A:280:U:H6	1.54	0.73
18:R:182:ASN:HB3	18:R:187:ARG:NE	2.03	0.73
24:X:156:TRP:CZ3	24:X:157:LEU:HD12	2.24	0.73
5:E:163:GLN:HB3	5:E:165:ARG:HH22	1.53	0.73
1:A:2362:C:O2'	1:A:2363:A:O5'	2.05	0.73
13:M:132:ILE:O	13:M:135:ALA:N	2.22	0.73
22:V:287:TYR:CE1	22:V:295:PRO:HG3	2.22	0.73
27:a:119:THR:HG23	27:a:121:ASP:H	1.54	0.73
4:D:209:GLN:HE21	4:D:210:LYS:HE3	1.53	0.73
24:X:117:ARG:HH12	26:Z:68:GLU:CD	1.97	0.73
27:a:31:GLN:HA	27:a:84:ASN:HD21	1.51	0.73
28:b:215:HIS:CD2	28:b:216:SER:H	2.06	0.73
7:G:126:ILE:O	7:G:129:THR:OG1	2.04	0.72
8:H:103:LYS:HD2	8:H:261:ASP:HB3	1.71	0.72
8:H:293:TYR:OH	8:H:295:GLN:NE2	2.22	0.72
13:M:219:LEU:O	13:M:222:LEU:HB3	1.89	0.72
1:A:34:A:N3	1:A:810:A:O2'	2.22	0.72
1:A:312:C:H2'	1:A:313:A:H8	1.54	0.72
25:Y:370:PRO:HA	25:Y:373:TYR:HB3	1.69	0.72
1:A:170:G:O6	1:A:248:U:O2	2.06	0.72
1:A:3038:U:P	6:F:62:ARG:HH21	2.11	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:132:ILE:HD11	8:H:156:CYS:HB2	1.70	0.72
25:Y:309:LEU:HA	25:Y:312:ILE:HG22	1.71	0.72
25:Y:354:ASP:HA	25:Y:379:ARG:NH1	2.04	0.72
1:A:417:A:H2'	1:A:418:A:H8	1.54	0.72
8:H:265:LEU:O	8:H:269:GLN:HB2	1.88	0.72
14:N:18:LYS:NZ	14:N:23:TYR:OH	2.23	0.72
25:Y:148:VAL:HG12	25:Y:174:ARG:HH12	1.53	0.72
25:Y:148:VAL:HG13	25:Y:174:ARG:HH22	1.54	0.72
1:A:2357:A:H2'	1:A:2358:A:C8	2.24	0.72
12:L:51:GLN:HG2	12:L:52:LEU:HB2	1.71	0.72
26:Z:34:VAL:O	26:Z:35:THR:OG1	2.07	0.72
34:m:44:VAL:HA	34:m:47:ILE:HG22	1.70	0.72
1:A:3294:A:OP1	6:F:128:LYS:NZ	2.20	0.72
8:H:221:THR:O	8:H:225:ASN:CB	2.38	0.72
34:m:81:THR:HG23	34:m:82:ARG:HG3	1.72	0.72
1:A:129:U:H2'	1:A:130:A:C8	2.24	0.72
4:D:233:ASN:O	4:D:237:GLU:CB	2.37	0.72
5:E:92:ILE:HD11	5:E:167:LEU:HB2	1.71	0.72
12:L:129:ARG:NE	12:L:153:ASP:HB3	2.04	0.72
25:Y:87:LYS:O	25:Y:92:LYS:NZ	2.22	0.72
25:Y:425:VAL:HA	25:Y:428:GLN:HB2	1.71	0.72
32:j:25:PRO:O	32:j:88:ASN:ND2	2.22	0.72
1:A:1351:U:H5'	26:Z:102:LYS:HE3	1.72	0.72
2:B:130:C:H5'	13:M:4:LYS:HE2	1.72	0.72
6:F:225:GLY:O	6:F:269:GLN:NE2	2.23	0.72
8:H:212:HIS:HA	8:H:217:PHE:HB2	1.71	0.72
14:N:140:GLN:NE2	14:N:172:GLU:OE2	2.23	0.72
1:A:279:U:H2'	1:A:280:U:C6	2.24	0.72
1:A:620:U:O4	15:O:125:LYS:NZ	2.16	0.72
1:A:1177:G:OP1	1:A:1177:G:N2	2.13	0.72
4:D:128:LEU:HD21	4:D:297:ARG:HH12	1.55	0.72
15:O:252:GLU:HG2	15:O:253:ARG:HG3	1.71	0.72
24:X:122:LEU:O	24:X:125:ILE:HG22	1.88	0.72
1:A:417:A:H2'	1:A:418:A:C8	2.24	0.72
2:B:143:U:OP1	18:R:38:ARG:NH2	2.16	0.72
2:B:154:C:H5'	11:K:181:LYS:HD3	1.72	0.72
4:D:99:PHE:HB2	4:D:308:PRO:HB3	1.72	0.72
25:Y:424:ASN:O	25:Y:428:GLN:N	2.16	0.72
1:A:76:G:O2'	16:P:100:ARG:NH1	2.21	0.71
1:A:1349:G:N2	7:G:293:SER:OG	2.18	0.71
1:A:3137:C:OP1	6:F:339:ARG:NH1	2.22	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:20:GLN:HA	13:M:23:ARG:HG2	1.72	0.71
25:Y:455:ALA:HA	25:Y:470:LEU:HD21	1.71	0.71
27:a:185:LYS:HE3	27:a:220:VAL:HG12	1.72	0.71
1:A:346:C:N4	1:A:349:A:OP2	2.23	0.71
1:A:3293:U:N3	1:A:3395:G:N1	2.18	0.71
4:D:202:SER:O	4:D:206:SER:HB2	1.89	0.71
9:I:41:ILE:HG13	9:I:51:ARG:HG2	1.71	0.71
25:Y:444:LYS:O	25:Y:447:TYR:N	2.22	0.71
1:A:86:G:O2'	1:A:98:G:O6	2.07	0.71
1:A:284:A:H5'	27:a:43:TYR:HB2	1.71	0.71
1:A:637:C:O2'	1:A:638:C:OP2	2.06	0.71
6:F:46:PHE:O	6:F:338:LEU:CB	2.24	0.71
14:N:161:VAL:O	14:N:184:GLY:N	2.23	0.71
21:U:40:THR:HG23	21:U:42:ALA:H	1.54	0.71
1:A:1205:A:O2'	1:A:1206:G:OP1	2.08	0.71
1:A:98:G:OP1	18:R:195:ASN:ND2	2.23	0.71
1:A:951:A:OP2	1:A:1367:G:N2	2.21	0.71
3:C:7:C:H41	8:H:184:ASP:CG	1.98	0.71
24:X:217:VAL:O	24:X:220:ILE:N	2.23	0.71
29:c:38:GLU:O	29:c:42:GLN:HB2	1.91	0.71
1:A:542:G:O6	1:A:549:U:O4	2.08	0.71
12:L:42:ASP:O	12:L:64:HIS:NE2	2.19	0.71
13:M:215:PHE:O	13:M:219:LEU:N	2.22	0.71
24:X:113:ILE:HG12	24:X:114:ASP:H	1.55	0.71
24:X:114:ASP:OD2	24:X:116:TYR:N	2.21	0.71
1:A:974:G:C5'	21:U:16:ARG:HH22	2.03	0.71
6:F:218:ILE:HG21	6:F:276:THR:HA	1.73	0.71
10:J:66:LYS:HZ3	10:J:76:TYR:HD2	1.38	0.71
22:V:256:LEU:HD11	22:V:275:PHE:HB2	1.70	0.71
25:Y:433:ILE:HB	25:Y:437:TYR:CD1	2.26	0.71
12:L:105:GLU:HA	12:L:110:LYS:H	1.53	0.71
1:A:3261:C:H2'	1:A:3262:U:H6	1.55	0.71
13:M:58:ALA:HB1	13:M:59:PRO:HD2	1.73	0.71
24:X:49:LEU:O	24:X:52:ALA:N	2.24	0.71
1:A:3015:G:H2'	1:A:3016:A:C8	2.25	0.71
6:F:62:ARG:NH1	6:F:63:PRO:O	2.24	0.71
7:G:162:THR:OG1	7:G:218:ALA:O	2.07	0.71
10:J:157:ASN:O	10:J:158:LYS:HG2	1.91	0.71
22:V:7:ARG:HH12	22:V:110:ILE:HA	1.56	0.71
22:V:247:MET:HE2	26:Z:123:ARG:HG3	1.73	0.70
1:A:123:A:OP1	11:K:105:LYS:NZ	2.24	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:P:55:ARG:NH1	16:P:73:ARG:O	2.19	0.70
18:R:37:HIS:CE1	18:R:63:ARG:HD2	2.26	0.70
8:H:40:ALA:HB1	8:H:289:LEU:HD23	1.72	0.70
8:H:128:LYS:NZ	8:H:130:SER:OG	2.24	0.70
11:K:94:PHE:CZ	11:K:150:LEU:HD11	2.22	0.70
27:a:37:SER:H	27:a:64:LYS:HD2	1.55	0.70
27:a:141:GLN:NE2	28:b:226:GLU:O	2.24	0.70
3:C:47:A:H2'	3:C:48:A:H5'	1.72	0.70
13:M:444:ALA:HB1	13:M:448:LEU:HG	1.72	0.70
22:V:157:ASN:OD1	22:V:173:LYS:NZ	2.24	0.70
28:b:252:ASP:OD1	28:b:253:ALA:N	2.25	0.70
35:n:36:SER:HA	35:n:45:ARG:HH21	1.55	0.70
1:A:300:G:N2	1:A:316:U:O2	2.25	0.70
1:A:1392:G:O2'	1:A:1417:G:N2	2.22	0.70
1:A:3306:U:H1'	1:A:3309:G:H22	1.57	0.70
20:T:46:LYS:NZ	20:T:50:GLN:OE1	2.25	0.70
1:A:268:A:O2'	18:R:14:LYS:NZ	2.25	0.70
1:A:595:G:OP1	10:J:30:ARG:NH2	2.24	0.70
1:A:1415:U:OP1	26:Z:143:ARG:NH1	2.24	0.70
5:E:198:ASP:O	5:E:201:LYS:N	2.24	0.70
6:F:56:ILE:HD12	6:F:359:ILE:HA	1.72	0.70
26:Z:34:VAL:HA	26:Z:111:ARG:HD2	1.73	0.70
32:j:16:TYR:CE2	32:j:91:ALA:HB2	2.26	0.70
16:P:79:GLU:OE2	16:P:112:ASN:ND2	2.23	0.70
19:S:10:ASP:OD1	19:S:11:GLY:N	2.25	0.70
25:Y:413:ASN:OD1	25:Y:414:GLU:N	2.21	0.70
32:j:24:ASN:O	32:j:26:ASN:N	2.25	0.70
34:m:80:PHE:O	34:m:84:LYS:NZ	2.20	0.70
1:A:250:U:O2'	1:A:251:G:O5'	2.07	0.70
1:A:528:U:H3	1:A:564:G:H1	1.40	0.70
1:A:968:G:H2'	1:A:969:C:C6	2.27	0.70
1:A:971:G:N1	1:A:1111:U:N3	2.39	0.70
4:D:217:LYS:HE3	4:D:223:GLU:HB3	1.74	0.70
12:L:113:GLU:OE2	12:L:115:ARG:NH2	2.23	0.70
13:M:17:THR:HB	13:M:20:GLN:HG2	1.73	0.70
15:O:153:ASP:OD2	15:O:155:LYS:NZ	2.23	0.70
22:V:151:ILE:O	22:V:159:THR:CB	2.38	0.70
25:Y:481:VAL:HG13	25:Y:483:PRO:HD3	1.74	0.70
26:Z:54:LYS:HD3	26:Z:63:TYR:HE2	1.56	0.70
1:A:12:A:H2'	1:A:13:A:H8	1.57	0.70
1:A:466:G:H5'	24:X:61:PRO:HG2	1.73	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3316:A:N6	1:A:3389:U:O2'	2.23	0.70
4:D:97:LYS:HE2	4:D:99:PHE:HZ	1.57	0.70
5:E:154:ASN:ND2	11:K:221:ASN:OD1	2.25	0.70
1:A:1329:U:O2'	1:A:1330:A:OP1	2.08	0.70
7:G:71:VAL:HG12	7:G:72:ALA:H	1.56	0.70
5:E:125:ASN:ND2	5:E:127:LYS:O	2.24	0.69
22:V:196:GLN:OE1	22:V:257:ARG:NH1	2.25	0.69
27:a:139:PHE:HB2	27:a:143:PHE:HE2	1.55	0.69
29:c:59:VAL:O	29:c:64:LYS:NZ	2.19	0.69
1:A:3061:G:O2'	1:A:3334:U:OP1	2.10	0.69
1:A:3243:A:N6	19:S:157:GLU:OE2	2.18	0.69
2:B:75:G:H2'	2:B:76:C:C6	2.27	0.69
3:C:230:A:OP1	4:D:148:ARG:NH2	2.25	0.69
8:H:211:THR:HB	8:H:222:LEU:HD11	1.74	0.69
22:V:339:ILE:HG12	22:V:349:LYS:HG2	1.74	0.69
1:A:1288:U:H2'	1:A:1289:G:H8	1.57	0.69
8:H:122:LYS:HG3	8:H:123:VAL:H	1.58	0.69
12:L:28:VAL:HA	12:L:33:THR:HG22	1.72	0.69
25:Y:457:HIS:HA	25:Y:460:LYS:HD3	1.74	0.69
34:m:70:ARG:HH12	34:m:84:LYS:HA	1.56	0.69
3:C:44:G:N2	8:H:242:THR:OG1	2.26	0.69
13:M:169:TYR:OH	13:M:239:ASP:OD2	2.03	0.69
14:N:117:VAL:HG11	14:N:126:GLU:HA	1.73	0.69
4:D:85:LYS:NZ	4:D:98:ASP:OD1	2.24	0.69
32:j:41:ALA:O	32:j:44:TYR:N	2.25	0.69
27:a:142:ARG:O	27:a:145:SER:OG	2.10	0.69
35:n:27:PHE:HA	35:n:34:CYS:HA	1.73	0.69
1:A:239:G:H2'	1:A:240:U:C6	2.27	0.69
1:A:240:U:H4'	1:A:241:G:H5'	1.75	0.69
1:A:1126:G:N2	1:A:1134:G:O6	2.25	0.69
1:A:1169:A:H4'	10:J:219:LYS:HD3	1.74	0.69
1:A:1330:A:OP1	32:j:19:SER:OG	2.10	0.69
5:E:194:LYS:HZ2	5:E:195:GLN:HB2	1.56	0.69
6:F:293:ASN:HD22	6:F:305:ILE:H	1.40	0.69
27:a:87:LEU:HD23	27:a:159:ASN:HD21	1.56	0.69
27:a:182:VAL:HA	28:b:242:ARG:HH12	1.56	0.69
31:i:95:GLU:N	31:i:95:GLU:OE1	2.25	0.69
1:A:808:A:N1	1:A:934:G:N2	2.41	0.69
2:B:21:C:OP2	7:G:194:TYR:OH	2.11	0.69
3:C:33:U:O2'	3:C:34:A:O4'	2.10	0.69
6:F:377:HIS:NE2	6:F:386:ASP:OD2	2.22	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:103:LYS:NZ	8:H:257:GLU:O	2.26	0.69
8:H:110:TRP:HE3	8:H:253:TRP:HH2	1.40	0.69
15:O:159:GLY:HA2	15:O:174:LYS:HA	1.74	0.69
17:Q:12:TRP:HE1	17:Q:14:LEU:HD21	1.58	0.69
22:V:61:ASP:HA	22:V:77:ILE:HB	1.75	0.69
22:V:220:LYS:HG2	22:V:236:GLU:HG3	1.75	0.69
22:V:310:GLN:HE22	22:V:371:TYR:HA	1.57	0.69
1:A:194:U:OP1	22:V:359:LYS:NZ	2.20	0.69
2:B:26:U:H2'	2:B:27:U:C6	2.28	0.69
3:C:16:U:HO2'	3:C:17:G:H8	1.41	0.69
4:D:145:VAL:HG23	4:D:195:VAL:HG13	1.73	0.69
4:D:173:THR:OG1	4:D:272:LYS:NZ	2.19	0.69
5:E:117:LEU:HA	5:E:139:PHE:HA	1.75	0.69
14:N:61:ARG:HE	14:N:195:ALA:HA	1.58	0.69
25:Y:155:ARG:O	25:Y:159:GLU:HB2	1.91	0.69
1:A:602:A:H2'	1:A:603:A:C8	2.28	0.69
1:A:643:U:H5''	1:A:644:G:N7	2.08	0.69
1:A:1348:U:H1'	1:A:1350:A:H1'	1.74	0.69
1:A:2367:A:H2'	1:A:2368:A:C8	2.27	0.69
1:A:3009:G:O2'	6:F:14:LEU:O	2.11	0.69
1:A:3097:C:H2'	1:A:3098:G:C8	2.28	0.69
13:M:115:ASP:O	13:M:118:ILE:HG22	1.91	0.69
1:A:3052:G:H2'	1:A:3053:G:H8	1.58	0.68
2:B:110:C:O2'	2:B:112:U:OP2	2.09	0.68
4:D:139:PRO:HB3	4:D:180:THR:HG22	1.73	0.68
4:D:214:ILE:HG12	4:D:229:LEU:HD11	1.75	0.68
14:N:168:GLN:O	14:N:172:GLU:CB	2.38	0.68
1:A:257:U:H2'	1:A:258:G:C8	2.27	0.68
19:S:58:LEU:HD23	19:S:72:HIS:CD2	2.28	0.68
25:Y:355:ILE:H	25:Y:379:ARG:NH2	1.85	0.68
1:A:407:A:N7	2:B:15:G:N2	2.42	0.68
1:A:474:G:OP1	22:V:293:ARG:HG2	1.92	0.68
1:A:3084:C:O2'	1:A:3332:U:OP1	2.12	0.68
1:A:3232:G:H2'	1:A:3233:C:C6	2.28	0.68
6:F:218:ILE:HG21	6:F:277:SER:H	1.58	0.68
8:H:45:ILE:O	8:H:49:SER:OG	2.08	0.68
24:X:227:ASP:OD1	24:X:228:TYR:N	2.25	0.68
1:A:5:G:H2'	1:A:6:A:H8	1.56	0.68
1:A:3293:U:O4	1:A:3395:G:O6	2.11	0.68
1:A:3375:A:C4	1:A:3378:C:H5''	2.28	0.68
12:L:20:ILE:HG12	12:L:25:VAL:HG22	1.75	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:U:57:ILE:HG12	21:U:147:ARG:NH2	2.08	0.68
28:b:261:LEU:HD23	28:b:264:LEU:HB2	1.73	0.68
1:A:3026:G:N1	1:A:3030:G:O6	2.25	0.68
1:A:3044:G:H2'	1:A:3045:G:C8	2.28	0.68
2:B:37:A:C8	2:B:39:G:N2	2.62	0.68
11:K:81:THR:HG21	11:K:181:LYS:HE3	1.76	0.68
27:a:190:THR:O	27:a:215:ILE:N	2.27	0.68
1:A:465:U:OP1	24:X:15:ARG:NE	2.25	0.68
1:A:1149:G:OP1	32:j:20:LYS:NZ	2.26	0.68
3:C:58:G:O6	5:E:126:LYS:N	2.26	0.68
8:H:236:VAL:HG21	8:H:246:VAL:HG22	1.74	0.68
15:O:100:ASN:OD1	15:O:101:VAL:N	2.25	0.68
1:A:516:A:H2'	1:A:517:G:C8	2.27	0.68
13:M:237:TYR:HB3	13:M:242:LEU:HB2	1.75	0.68
27:a:44:ARG:HB2	27:a:117:LEU:HD21	1.75	0.68
1:A:32:U:C2	1:A:53:G:N1	2.62	0.68
1:A:946:U:O2'	1:A:1405:U:O4	2.12	0.68
11:K:75:ILE:HG22	11:K:76:ALA:H	1.59	0.68
15:O:233:HIS:HE1	15:O:235:GLN:HE21	1.40	0.68
24:X:46:TRP:O	24:X:49:LEU:N	2.27	0.68
4:D:187:LEU:O	4:D:190:ILE:N	2.27	0.68
13:M:174:ARG:HG2	13:M:382:SER:HA	1.76	0.68
32:j:49:ILE:HG12	32:j:100:ILE:HG12	1.75	0.68
1:A:754:G:H2'	1:A:755:A:H8	1.57	0.68
1:A:1447:G:N2	1:A:2356:A:OP2	2.26	0.68
4:D:59:GLU:OE2	5:E:155:TYR:OH	2.09	0.68
13:M:352:TYR:HD2	13:M:358:SER:HB3	1.59	0.68
25:Y:427:SER:HB3	25:Y:431:LYS:HD3	1.76	0.68
28:b:260:GLU:O	28:b:264:LEU:N	2.27	0.68
1:A:737:G:H2'	1:A:738:A:H8	1.59	0.67
1:A:3111:U:H5''	12:L:151:VAL:HG12	1.75	0.67
22:V:244:ARG:HG3	26:Z:57:ASN:O	1.94	0.67
22:V:337:ASN:HD22	22:V:351:ASP:HA	1.59	0.67
26:Z:163:GLU:O	26:Z:166:LEU:N	2.27	0.67
1:A:3049:A:C2	6:F:75:ALA:HB2	2.29	0.67
2:B:150:G:O2'	2:B:152:G:OP1	2.07	0.67
4:D:161:LYS:O	4:D:164:SER:N	2.27	0.67
4:D:202:SER:O	4:D:206:SER:CB	2.41	0.67
14:N:129:ILE:O	14:N:134:GLY:N	2.27	0.67
15:O:276:GLU:CB	22:V:138:ARG:HE	2.07	0.67
1:A:283:G:OP2	1:A:283:G:N2	2.26	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:664:U:H2'	1:A:665:A:C8	2.29	0.67
1:A:733:G:N2	1:A:736:A:OP2	2.27	0.67
5:E:153:ASN:HA	5:E:164:VAL:HG22	1.76	0.67
14:N:187:ASN:OD1	14:N:206:THR:OG1	2.11	0.67
25:Y:145:PHE:HA	25:Y:167:MET:O	1.94	0.67
25:Y:442:THR:O	25:Y:445:ASP:N	2.27	0.67
34:m:60:LEU:O	34:m:65:GLY:N	2.24	0.67
1:A:3057:U:O2'	1:A:3059:G:O4'	2.12	0.67
3:C:22:G:H21	8:H:188:THR:HB	1.60	0.67
9:I:12:SER:OG	9:I:13:GLU:OE1	2.10	0.67
10:J:147:LEU:O	10:J:150:LYS:N	2.25	0.67
12:L:89:LYS:O	12:L:182:SER:N	2.26	0.67
13:M:17:THR:HG22	13:M:19:SER:H	1.60	0.67
18:R:29:GLU:O	18:R:33:LYS:NZ	2.28	0.67
2:B:3:A:N3	20:T:61:ARG:NH2	2.43	0.67
2:B:44:A:H2'	2:B:45:C:C6	2.29	0.67
2:B:128:U:OP2	2:B:129:C:N4	2.27	0.67
6:F:55:THR:HA	6:F:75:ALA:HA	1.77	0.67
12:L:84:LYS:HG2	12:L:191:LEU:HB3	1.75	0.67
22:V:23:CYS:SG	22:V:24:ASN:N	2.65	0.67
4:D:141:LEU:HD11	4:D:176:PHE:HB3	1.75	0.67
23:W:15:PRO:HG3	23:W:22:PRO:HD3	1.76	0.67
26:Z:17:HIS:HB2	26:Z:29:ARG:HG2	1.77	0.67
1:A:363:G:OP2	35:n:56:ARG:NH2	2.26	0.67
1:A:1880:U:H2'	1:A:1881:A:C8	2.30	0.67
1:A:3248:C:H2'	1:A:3249:C:C6	2.28	0.67
1:A:3288:G:HO2'	1:A:3289:G:H8	1.42	0.67
10:J:165:ASP:OD1	10:J:166:ASN:N	2.25	0.67
12:L:128:VAL:HG22	12:L:132:VAL:HG11	1.76	0.67
14:N:119:PRO:HG3	14:N:139:ARG:HB3	1.77	0.67
13:M:169:TYR:O	13:M:173:GLU:CB	2.43	0.67
13:M:222:LEU:O	13:M:226:SER:OG	2.12	0.67
20:T:36:ILE:HD12	20:T:114:VAL:HG11	1.75	0.67
25:Y:275:LYS:HG3	25:Y:476:SER:HA	1.77	0.67
1:A:978:G:N2	1:A:1104:G:O5'	2.27	0.67
1:A:3293:U:H2'	1:A:3294:A:C8	2.30	0.67
6:F:296:THR:O	6:F:300:ARG:NH1	2.27	0.67
1:A:632:G:H2'	1:A:633:C:C6	2.29	0.67
5:E:90:SER:N	5:E:167:LEU:O	2.28	0.67
25:Y:369:ASP:OD2	25:Y:371:ARG:HB2	1.93	0.67
1:A:2351:U:H2'	1:A:2352:A:H8	1.60	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:329:PRO:CD	10:J:44:ILE:HD11	2.24	0.66
13:M:222:LEU:O	13:M:226:SER:CB	2.42	0.66
18:R:126:THR:HG23	18:R:127:TYR:CD2	2.30	0.66
25:Y:201:ILE:HA	25:Y:206:PHE:HD2	1.60	0.66
1:A:441:U:O4	15:O:129:GLY:N	2.27	0.66
1:A:968:G:H2'	1:A:969:C:H6	1.59	0.66
10:J:88:ARG:NH1	10:J:103:LEU:HD13	2.10	0.66
11:K:231:LYS:HG3	11:K:232:HIS:H	1.61	0.66
25:Y:93:THR:O	25:Y:97:LEU:HB3	1.94	0.66
27:a:76:GLU:OE1	27:a:76:GLU:N	2.27	0.66
27:a:191:TYR:HB3	27:a:212:LEU:HB2	1.75	0.66
1:A:1321:G:O3'	23:W:117:ARG:NH1	2.28	0.66
1:A:3180:A:C6	19:S:114:LYS:HD2	2.31	0.66
3:C:231:A:O2'	3:C:232:A:N3	2.27	0.66
4:D:103:ILE:HD13	4:D:130:ARG:HG2	1.78	0.66
4:D:236:GLU:HG2	4:D:245:ILE:HG12	1.78	0.66
6:F:152:LYS:NZ	6:F:189:SER:HB2	2.09	0.66
25:Y:155:ARG:O	25:Y:159:GLU:HB3	1.94	0.66
25:Y:266:GLN:HE21	25:Y:377:VAL:HG11	1.59	0.66
1:A:94:G:H2'	1:A:95:A:C8	2.31	0.66
1:A:591:G:N2	1:A:612:U:OP1	2.28	0.66
1:A:728:G:H5'	21:U:43:PRO:HB2	1.77	0.66
1:A:3147:G:O4'	6:F:101:SER:OG	2.12	0.66
1:A:3305:A:OP1	6:F:223:GLY:N	2.27	0.66
3:C:19:U:H2'	3:C:20:U:C6	2.31	0.66
4:D:137:GLY:HA2	4:D:138:LYS:HB3	1.76	0.66
4:D:205:ARG:NH1	13:M:256:ILE:O	2.22	0.66
13:M:14:ASN:O	13:M:65:ALA:N	2.28	0.66
22:V:78:SER:OG	22:V:112:GLU:OE2	2.14	0.66
25:Y:116:GLY:N	25:Y:166:ASN:O	2.26	0.66
26:Z:10:ILE:O	26:Z:18:ARG:NH2	2.28	0.66
27:a:27:PHE:HB2	27:a:30:LYS:HE3	1.77	0.66
33:l:102:GLU:O	33:l:105:ARG:N	2.29	0.66
1:A:381:U:O2	1:A:388:G:N2	2.28	0.66
1:A:597:G:H2'	1:A:598:A:C8	2.30	0.66
1:A:5:G:H2'	1:A:6:A:C8	2.31	0.66
11:K:158:ASP:HB3	11:K:159:PRO:HD3	1.77	0.66
15:O:224:ILE:HG12	15:O:225:GLU:H	1.61	0.66
15:O:232:LEU:HD23	15:O:241:PHE:HB3	1.77	0.66
25:Y:451:LEU:O	25:Y:455:ALA:HB2	1.95	0.66
27:a:187:TRP:HA	27:a:219:PHE:O	1.95	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:j:18:ARG:NH2	32:j:20:LYS:O	2.29	0.66
1:A:722:G:N2	1:A:749:C:C2	2.63	0.66
1:A:1436:U:H3	7:G:70:ALA:HA	1.58	0.66
1:A:3005:A:N3	1:A:3140:G:N2	2.43	0.66
1:A:3298:C:H5'	20:T:74:LYS:HD2	1.77	0.66
1:A:3323:A:H2'	1:A:3324:C:C6	2.31	0.66
7:G:288:ARG:O	7:G:288:ARG:NH1	2.24	0.66
10:J:86:VAL:O	10:J:114:GLY:HA2	1.96	0.66
13:M:177:ARG:HH21	13:M:189:GLN:HE21	1.41	0.66
13:M:230:HIS:ND1	13:M:244:TYR:OH	2.29	0.66
25:Y:269:VAL:HG23	25:Y:391:LEU:HD22	1.78	0.66
25:Y:350:ALA:O	25:Y:376:ARG:NH1	2.28	0.66
1:A:128:G:H2'	1:A:129:U:C6	2.30	0.66
1:A:974:G:N1	1:A:1108:U:C5	2.58	0.66
1:A:977:C:C4	1:A:1105:A:C5	2.84	0.66
1:A:1159:A:O2'	1:A:1160:C:OP1	2.12	0.66
20:T:10:ASN:O	20:T:14:SER:OG	2.13	0.66
25:Y:397:ASN:HD22	25:Y:467:LYS:HD3	1.60	0.66
25:Y:419:GLU:HB2	25:Y:422:ILE:HG13	1.78	0.66
1:A:542:G:H2'	1:A:543:C:C6	2.31	0.66
1:A:1361:U:O2	10:J:159:GLN:NE2	2.28	0.66
20:T:57:ALA:HB3	20:T:72:GLN:HE21	1.61	0.66
26:Z:61:TYR:HA	26:Z:80:ILE:O	1.96	0.66
27:a:96:ASP:HA	27:a:113:TYR:HE1	1.60	0.66
32:j:16:TYR:HE2	32:j:91:ALA:HB2	1.59	0.66
1:A:297:G:OP2	1:A:297:G:N2	2.25	0.66
1:A:418:A:H2'	1:A:419:G:C8	2.30	0.66
1:A:971:G:N2	1:A:1111:U:O2	2.29	0.66
1:A:2366:C:H4'	19:S:64:PHE:CE2	2.31	0.66
1:A:3305:A:H2'	1:A:3306:U:C2	2.30	0.66
12:L:101:VAL:HG22	12:L:114:VAL:HG22	1.78	0.66
13:M:22:VAL:O	13:M:26:GLN:N	2.29	0.66
22:V:277:ALA:O	22:V:285:THR:OG1	2.14	0.66
22:V:349:LYS:HE3	22:V:357:LEU:HD22	1.77	0.66
32:j:59:VAL:HG13	32:j:60:ARG:H	1.61	0.66
1:A:152:U:OP1	33:l:106:LYS:NZ	2.27	0.65
1:A:3234:A:N1	1:A:3253:G:C6	2.63	0.65
6:F:313:HIS:HB2	6:F:332:ARG:CZ	2.27	0.65
10:J:225:GLN:OE1	10:J:225:GLN:N	2.29	0.65
24:X:117:ARG:NH1	26:Z:68:GLU:OE2	2.29	0.65
1:A:105:C:HO2'	1:A:684:G:HO2'	1.41	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3248:C:H2'	1:A:3249:C:H6	1.62	0.65
6:F:110:LEU:O	6:F:115:LYS:NZ	2.26	0.65
8:H:144:LEU:HD22	8:H:150:LYS:HA	1.78	0.65
22:V:258:PHE:N	22:V:327:ASN:OD1	2.22	0.65
24:X:136:LEU:HD11	24:X:146:VAL:HA	1.78	0.65
27:a:106:ASN:O	28:b:207:ARG:NH2	2.29	0.65
27:a:135:PRO:HG3	27:a:175:HIS:NE2	2.12	0.65
31:i:75:LEU:HD21	31:i:97:ALA:HB2	1.77	0.65
1:A:649:A:O2'	1:A:650:C:OP1	2.14	0.65
10:J:239:LEU:O	10:J:242:SER:N	2.29	0.65
16:P:106:GLN:NE2	16:P:110:ASP:OD1	2.29	0.65
28:b:195:VAL:N	28:b:197:ASN:OD1	2.30	0.65
1:A:962:A:H2'	1:A:963:G:O4'	1.96	0.65
1:A:3138:U:H2'	1:A:3139:A:C8	2.31	0.65
1:A:451:U:H2'	1:A:452:G:H8	1.61	0.65
1:A:966:U:H2'	1:A:967:A:C8	2.32	0.65
14:N:101:LEU:HD13	14:N:121:ILE:HD12	1.77	0.65
24:X:224:ILE:HD11	24:X:238:ILE:HD11	1.79	0.65
1:A:161:G:H2'	1:A:162:G:H8	1.61	0.65
1:A:731:U:H5''	24:X:228:TYR:HE1	1.62	0.65
1:A:3162:C:H2'	1:A:3163:A:C8	2.32	0.65
1:A:3234:A:H2	1:A:3253:G:N1	1.86	0.65
24:X:46:TRP:CZ2	24:X:102:PHE:HB2	2.32	0.65
25:Y:293:ILE:HB	25:Y:361:ILE:HD13	1.77	0.65
35:n:45:ARG:HH11	35:n:47:TYR:HE2	1.43	0.65
1:A:1167:U:O2'	10:J:209:ASN:O	2.14	0.65
1:A:3100:U:O2'	1:A:3101:G:O5'	2.12	0.65
14:N:206:THR:HG21	14:N:215:LEU:HD21	1.78	0.65
22:V:310:GLN:NE2	22:V:370:THR:O	2.30	0.65
24:X:115:ARG:HG3	24:X:116:TYR:N	2.12	0.65
25:Y:194:ILE:HG22	25:Y:225:MET:HB2	1.79	0.65
3:C:229:U:H4'	3:C:231:A:H5''	1.79	0.65
5:E:105:LYS:O	5:E:109:LYS:CB	2.44	0.65
8:H:271:ILE:HG12	8:H:276:ILE:HD11	1.77	0.65
13:M:377:GLU:HB3	13:M:381:LEU:HD13	1.77	0.65
14:N:72:VAL:O	14:N:97:VAL:N	2.26	0.65
14:N:107:VAL:HG13	14:N:118:HIS:HB2	1.76	0.65
15:O:95:ILE:HD11	15:O:121:VAL:HG13	1.78	0.65
19:S:58:LEU:HA	19:S:72:HIS:CD2	2.32	0.65
25:Y:97:LEU:HD21	25:Y:136:GLU:OE2	1.97	0.65
1:A:665:A:OP1	18:R:203:ARG:NH1	2.30	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:976:U:H5	1:A:1106:G:H1	1.45	0.65
1:A:3305:A:H5''	6:F:223:GLY:HA3	1.79	0.65
4:D:209:GLN:HB2	13:M:204:LYS:HD3	1.79	0.65
5:E:174:GLU:HG3	5:E:175:LYS:HG3	1.79	0.65
8:H:173:PHE:O	8:H:176:GLN:NE2	2.28	0.65
13:M:221:PHE:O	13:M:225:TYR:HB2	1.96	0.65
15:O:97:LEU:HB3	15:O:123:PHE:HB3	1.78	0.65
25:Y:51:GLN:O	25:Y:55:LYS:CB	2.43	0.65
29:c:39:LEU:HA	29:c:42:GLN:HB3	1.79	0.65
29:c:45:ILE:HD11	29:c:122:LYS:HD3	1.78	0.65
1:A:3057:U:H3	1:A:3085:G:H21	1.44	0.65
8:H:221:THR:O	8:H:225:ASN:HB3	1.95	0.65
14:N:51:THR:HG21	14:N:84:LEU:HD21	1.79	0.65
14:N:188:ARG:HE	14:N:211:THR:HG23	1.62	0.65
15:O:257:GLN:HG3	20:T:156:ALA:O	1.96	0.65
25:Y:93:THR:O	25:Y:97:LEU:HB2	1.97	0.65
25:Y:363:GLN:HG2	25:Y:373:TYR:HE1	1.60	0.65
1:A:1429:G:OP2	7:G:107:ARG:NH2	2.30	0.64
1:A:3330:A:H5''	6:F:369:ARG:HH12	1.61	0.64
7:G:265:GLU:OE1	7:G:265:GLU:N	2.30	0.64
7:G:311:HIS:CE1	10:J:162:PRO:HG3	2.32	0.64
12:L:90:MET:HA	12:L:181:VAL:HA	1.78	0.64
1:A:275:U:H2'	1:A:276:U:C6	2.33	0.64
1:A:313:A:H2'	1:A:314:U:C6	2.33	0.64
3:C:45:U:O2'	8:H:243:THR:O	2.15	0.64
4:D:202:SER:OG	4:D:205:ARG:NH1	2.30	0.64
25:Y:290:LYS:O	25:Y:341:GLY:N	2.26	0.64
1:A:745:C:H4'	21:U:144:ARG:HE	1.63	0.64
1:A:1063:G:O2'	1:A:1097:G:N3	2.29	0.64
1:A:1138:U:H2'	1:A:1139:G:C8	2.32	0.64
1:A:3394:U:H2'	1:A:3395:G:C8	2.33	0.64
5:E:184:LEU:HD21	8:H:91:THR:HA	1.79	0.64
25:Y:199:ASP:OD1	25:Y:200:ARG:N	2.24	0.64
25:Y:427:SER:O	25:Y:431:LYS:HG2	1.97	0.64
30:d:166:UNK:O	30:d:170:UNK:CB	2.46	0.64
1:A:413:U:H2'	1:A:414:U:C6	2.33	0.64
6:F:20:LYS:HG2	6:F:21:ARG:H	1.62	0.64
7:G:145:ILE:HD11	7:G:148:ILE:HD11	1.79	0.64
11:K:130:TYR:OH	11:K:202:GLU:OE2	2.09	0.64
13:M:237:TYR:HE2	13:M:246:PRO:HD3	1.62	0.64
22:V:7:ARG:NH1	22:V:20:GLU:OE2	2.25	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:V:260:GLU:OE1	22:V:260:GLU:N	2.30	0.64
25:Y:345:CYS:HB2	25:Y:349:ALA:HB3	1.79	0.64
5:E:95:VAL:HG13	5:E:164:VAL:HG12	1.79	0.64
7:G:288:ARG:HB2	24:X:115:ARG:HB3	1.79	0.64
8:H:95:PHE:HA	8:H:237:LYS:HE2	1.79	0.64
10:J:156:ILE:C	10:J:158:LYS:H	2.04	0.64
13:M:114:LEU:HD21	13:M:224:PHE:CD1	2.33	0.64
24:X:180:GLU:OE1	24:X:183:ARG:NH1	2.31	0.64
29:c:55:GLU:HG2	29:c:69:LYS:HB3	1.78	0.64
1:A:3041:U:H2'	1:A:3042:U:O4'	1.97	0.64
2:B:44:A:H2'	2:B:45:C:H6	1.61	0.64
3:C:58:G:N2	5:E:176:LEU:HD23	2.12	0.64
6:F:339:ARG:HD2	6:F:342:LEU:HD21	1.80	0.64
10:J:234:GLU:HG3	10:J:235:PHE:H	1.63	0.64
19:S:91:LYS:O	19:S:96:LYS:NZ	2.31	0.64
24:X:46:TRP:HB3	24:X:105:VAL:HG11	1.79	0.64
25:Y:86:ALA:N	25:Y:229:ALA:O	2.24	0.64
25:Y:292:ILE:HG23	25:Y:360:TRP:HB2	1.79	0.64
4:D:188:LYS:NZ	4:D:307:ALA:O	2.29	0.64
9:I:104:GLU:OE1	9:I:104:GLU:N	2.25	0.64
11:K:88:ALA:O	11:K:92:LYS:HG2	1.98	0.64
13:M:367:VAL:HB	13:M:371:VAL:HG21	1.79	0.64
1:A:531:G:H2'	1:A:532:A:C8	2.32	0.64
1:A:535:G:O2'	1:A:554:A:N6	2.30	0.64
1:A:787:G:H2'	1:A:788:C:H6	1.63	0.64
1:A:3234:A:H2'	1:A:3235:C:H6	1.62	0.64
3:C:37:C:H2'	3:C:38:U:C2	2.33	0.64
5:E:194:LYS:NZ	5:E:195:GLN:HB2	2.13	0.64
6:F:187:SER:OG	6:F:190:GLU:OE1	2.15	0.64
1:A:10:C:C2	1:A:11:A:C8	2.85	0.64
1:A:1422:G:H2'	1:A:1423:C:C6	2.33	0.64
1:A:1425:U:O2'	7:G:36:HIS:NE2	2.25	0.64
1:A:3020:U:H4'	12:L:121:LYS:HE3	1.79	0.64
1:A:3115:C:O2	1:A:3117:C:N4	2.31	0.64
4:D:78:VAL:HG22	4:D:305:ALA:HA	1.79	0.64
8:H:186:ILE:O	8:H:189:SER:N	2.30	0.64
12:L:117:PHE:HD2	12:L:124:ARG:HH22	1.45	0.64
13:M:220:THR:OG1	13:M:223:GLU:OE2	2.16	0.64
8:H:128:LYS:HG2	8:H:129:ASP:H	1.62	0.64
18:R:152:CYS:HB3	33:l:92:LEU:HD11	1.80	0.64
1:A:968:G:O6	1:A:1114:U:O4	2.16	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3187:A:H2	1:A:3205:G:H22	1.46	0.63
13:M:20:GLN:O	13:M:23:ARG:HG2	1.98	0.63
15:O:259:LEU:HB2	20:T:159:LYS:HB2	1.81	0.63
24:X:113:ILE:HG12	24:X:114:ASP:N	2.13	0.63
25:Y:117:ILE:HD11	25:Y:167:MET:HE3	1.80	0.63
25:Y:463:TYR:HB3	25:Y:469:ASP:HB2	1.79	0.63
30:d:91:UNK:O	30:d:94:UNK:N	2.31	0.63
30:d:282:UNK:HA	33:l:119:LYS:HB2	1.79	0.63
1:A:732:C:H2'	1:A:733:G:O4'	1.97	0.63
3:C:58:G:N2	3:C:58:G:OP1	2.29	0.63
4:D:81:LEU:HD21	4:D:85:LYS:HD2	1.78	0.63
4:D:176:PHE:CE1	4:D:204:ILE:HD12	2.28	0.63
1:A:483:G:H5'	26:Z:84:LYS:O	1.97	0.63
6:F:123:TYR:CE1	6:F:124:LYS:HG3	2.34	0.63
13:M:16:ILE:HB	13:M:20:GLN:HE21	1.63	0.63
15:O:231:THR:O	15:O:241:PHE:HA	1.99	0.63
18:R:3:ALA:O	18:R:6:TYR:N	2.27	0.63
22:V:172:ILE:HD12	22:V:180:LEU:HD11	1.79	0.63
24:X:60:ARG:HB2	24:X:61:PRO:HD3	1.81	0.63
25:Y:327:LYS:HD3	25:Y:330:ASN:HD22	1.63	0.63
1:A:211:A:P	7:G:220:ARG:HH21	2.21	0.63
3:C:16:U:H5'	8:H:220:THR:HB	1.80	0.63
6:F:37:ARG:HH11	6:F:187:SER:H	1.47	0.63
14:N:113:TYR:O	14:N:135:VAL:HB	1.99	0.63
15:O:157:VAL:HG23	15:O:175:LEU:HD11	1.80	0.63
19:S:89:SER:O	19:S:95:GLY:HA3	1.99	0.63
22:V:349:LYS:O	22:V:357:LEU:N	2.31	0.63
23:W:12:ARG:HA	23:W:24:LEU:HD23	1.80	0.63
26:Z:131:GLU:HG3	26:Z:132:ARG:HG3	1.80	0.63
27:a:90:GLU:O	27:a:97:LEU:HA	1.98	0.63
34:m:35:ASN:HD22	34:m:38:LYS:HD2	1.62	0.63
1:A:2351:U:H2'	1:A:2352:A:C8	2.33	0.63
1:A:3057:U:O4'	1:A:3086:A:N6	2.32	0.63
1:A:3204:C:H2'	1:A:3205:G:C8	2.33	0.63
1:A:3230:G:H2'	1:A:3231:U:C6	2.34	0.63
6:F:108:GLU:HG2	6:F:137:TYR:CD2	2.33	0.63
9:I:10:TYR:CG	9:I:11:PRO:HD2	2.33	0.63
12:L:32:GLY:H	12:L:82:VAL:HG23	1.63	0.63
14:N:6:GLN:HB2	14:N:208:LEU:HB2	1.80	0.63
14:N:64:ALA:HB3	14:N:71:LEU:HD22	1.79	0.63
22:V:237:ALA:C	22:V:293:ARG:HH11	2.07	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:a:118:HIS:O	27:a:218:ARG:N	2.30	0.63
1:A:37:U:H2'	1:A:38:U:C6	2.31	0.63
1:A:429:U:H2'	1:A:430:U:C6	2.27	0.63
8:H:123:VAL:HB	8:H:151:VAL:HA	1.80	0.63
13:M:431:TRP:HE3	13:M:432:ILE:HD13	1.63	0.63
14:N:219:GLU:O	14:N:223:ARG:N	2.32	0.63
20:T:54:HIS:HA	20:T:83:TRP:CD1	2.33	0.63
27:a:29:ASN:OD1	27:a:31:GLN:NE2	2.31	0.63
1:A:452:G:O2'	1:A:453:C:O5'	2.16	0.63
1:A:3023:U:H3'	1:A:3024:A:C8	2.34	0.63
1:A:3108:G:O2'	12:L:163:GLN:NE2	2.31	0.63
6:F:187:SER:O	6:F:189:SER:N	2.32	0.63
13:M:27:VAL:HG23	13:M:28:SER:H	1.64	0.63
16:P:119:TYR:OH	33:l:118:ILE:HD11	1.99	0.63
19:S:36:VAL:HB	19:S:108:ILE:HD13	1.80	0.63
33:l:74:LYS:HE3	33:l:75:TYR:CE2	2.34	0.63
1:A:260:C:H2'	1:A:261:U:C6	2.34	0.63
1:A:754:G:N2	1:A:778:U:O2'	2.31	0.63
1:A:3174:A:H61	32:j:54:ARG:HH21	1.47	0.63
7:G:12:THR:OG1	7:G:14:GLU:OE1	2.07	0.63
13:M:29:LEU:HA	13:M:32:PHE:CE2	2.33	0.63
18:R:190:THR:O	18:R:194:GLN:HB3	1.99	0.63
24:X:128:VAL:O	24:X:131:SER:N	2.31	0.63
1:A:540:U:H2'	1:A:541:U:C6	2.33	0.63
1:A:974:G:O6	1:A:1108:U:C4	2.51	0.63
1:A:1190:A:OP1	1:A:1297:C:O2'	2.17	0.63
1:A:1411:C:O2'	31:i:121:ASN:ND2	2.23	0.63
1:A:3329:U:H4'	6:F:308:MET:HG3	1.81	0.63
22:V:283:HIS:CG	22:V:298:GLN:HE21	2.17	0.63
23:W:80:ARG:CZ	23:W:89:ASN:HD21	2.10	0.63
1:A:312:C:H2'	1:A:313:A:C8	2.33	0.62
1:A:501:A:OP1	9:I:82:ARG:NH2	2.32	0.62
1:A:1408:G:P	31:i:33:ARG:HH12	2.21	0.62
2:B:8:C:H2'	2:B:9:A:C8	2.34	0.62
2:B:39:G:O6	2:B:106:C:O2	2.17	0.62
2:B:100:U:H2'	2:B:101:U:H6	1.63	0.62
4:D:259:GLU:C	4:D:261:PHE:H	2.07	0.62
6:F:308:MET:SD	6:F:376:LYS:NZ	2.71	0.62
13:M:73:HIS:CG	13:M:74:GLU:H	2.17	0.62
29:c:111:LEU:HD12	29:c:115:ARG:HB2	1.81	0.62
8:H:40:ALA:O	8:H:44:LEU:CB	2.47	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:26:VAL:O	10:J:29:GLU:N	2.32	0.62
22:V:107:LYS:NZ	22:V:109:ASP:OD1	2.32	0.62
22:V:255:ALA:O	22:V:277:ALA:HA	1.98	0.62
28:b:261:LEU:HB3	28:b:266:VAL:O	1.99	0.62
1:A:75:G:O2'	16:P:70:ARG:NH2	2.33	0.62
1:A:185:C:H5''	29:c:122:LYS:HG2	1.82	0.62
1:A:418:A:H2'	1:A:419:G:H8	1.63	0.62
1:A:1189:C:N3	1:A:1315:U:O2'	2.30	0.62
3:C:59:C:H1'	5:E:177:TYR:CE2	2.34	0.62
6:F:26:ARG:NH1	6:F:27:ALA:O	2.33	0.62
6:F:49:TYR:O	6:F:80:ASP:N	2.33	0.62
6:F:115:LYS:HG2	6:F:130:PHE:CE2	2.31	0.62
6:F:199:PHE:O	6:F:201:LYS:HG2	1.98	0.62
7:G:253:ALA:O	7:G:256:THR:OG1	2.15	0.62
13:M:74:GLU:OE2	13:M:76:VAL:HB	2.00	0.62
13:M:78:ALA:O	13:M:82:GLU:CB	2.46	0.62
27:a:177:MET:HA	27:a:189:ARG:O	1.99	0.62
28:b:231:GLU:OE1	28:b:232:HIS:ND1	2.28	0.62
31:i:19:ARG:HE	31:i:28:VAL:HG13	1.63	0.62
1:A:525:C:OP2	17:Q:77:ARG:NH2	2.27	0.62
7:G:229:ASN:OD1	7:G:230:VAL:N	2.31	0.62
10:J:136:TYR:CZ	10:J:231:ASN:HB2	2.34	0.62
20:T:72:GLN:OE1	20:T:72:GLN:N	2.32	0.62
21:U:37:ALA:HA	21:U:45:ASN:HD22	1.64	0.62
21:U:86:THR:HG22	21:U:105:ARG:HB2	1.81	0.62
22:V:50:ALA:HB1	22:V:67:ARG:HD3	1.82	0.62
25:Y:264:LEU:HB2	25:Y:381:ALA:HB3	1.81	0.62
25:Y:280:LEU:O	25:Y:284:LEU:N	2.32	0.62
26:Z:165:GLU:OE2	26:Z:169:ARG:NH2	2.33	0.62
35:n:31:LYS:HB3	35:n:33:THR:HG22	1.82	0.62
1:A:20:A:P	33:l:90:ARG:HH21	2.22	0.62
1:A:1060:U:H2'	1:A:1061:A:H8	1.63	0.62
1:A:1157:G:O2'	1:A:1169:A:N3	2.32	0.62
13:M:379:LEU:O	13:M:383:CYS:N	2.32	0.62
27:a:42:ASN:H	27:a:45:HIS:HB2	1.64	0.62
1:A:81:C:P	18:R:193:ARG:HH21	2.23	0.62
1:A:330:G:C2	1:A:331:G:C8	2.88	0.62
1:A:362:U:O2'	1:A:928:C:O2'	2.18	0.62
1:A:547:G:H1'	1:A:548:G:C8	2.34	0.62
1:A:563:U:H2'	1:A:564:G:H8	1.64	0.62
1:A:3109:G:N2	1:A:3125:U:O2	2.33	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:279:ILE:HD13	8:H:292:TYR:HD2	1.64	0.62
22:V:58:ILE:HD11	22:V:160:PHE:CZ	2.34	0.62
24:X:114:ASP:HB3	24:X:117:ARG:HG3	1.81	0.62
27:a:164:PRO:HG3	28:b:218:GLN:O	1.99	0.62
1:A:51:A:H2'	1:A:52:A:H8	1.63	0.62
1:A:985:U:H2'	1:A:986:U:C6	2.35	0.62
1:A:3162:C:N4	1:A:3163:A:H62	1.97	0.62
5:E:121:ARG:HH22	5:E:174:GLU:C	2.07	0.62
6:F:280:HIS:HB3	6:F:324:VAL:CG1	2.29	0.62
7:G:307:GLN:OE1	7:G:307:GLN:N	2.33	0.62
20:T:57:ALA:HB2	20:T:83:TRP:CE2	2.35	0.62
25:Y:311:TYR:HE2	25:Y:434:LYS:HD2	1.65	0.62
25:Y:368:ASP:OD1	25:Y:369:ASP:N	2.32	0.62
1:A:3030:G:O2'	1:A:3031:G:O5'	2.18	0.62
4:D:253:GLU:C	4:D:258:GLY:H	2.08	0.62
5:E:204:HIS:HE2	5:E:220:TRP:C	2.07	0.62
10:J:102:VAL:O	10:J:105:LEU:N	2.33	0.62
13:M:446:LYS:HB2	13:M:447:TYR:CE2	2.34	0.62
14:N:78:ASP:HA	14:N:81:LEU:HD12	1.82	0.62
18:R:191:TRP:HA	18:R:194:GLN:HG2	1.81	0.62
25:Y:235:VAL:O	25:Y:239:ALA:N	2.33	0.62
1:A:75:G:H2'	1:A:76:G:H5'	1.82	0.62
1:A:464:U:C5	26:Z:75:LYS:HD3	2.35	0.62
2:B:147:U:H2'	2:B:148:G:O4'	2.00	0.62
5:E:200:MET:HG3	8:H:298:LEU:HD11	1.82	0.62
1:A:87:U:H2'	1:A:88:A:H8	1.65	0.62
1:A:3021:A:H62	1:A:3032:A:H5'	1.65	0.62
7:G:355:PHE:O	7:G:358:THR:N	2.32	0.62
9:I:56:LYS:NZ	9:I:101:PHE:O	2.32	0.62
27:a:182:VAL:HG22	28:b:242:ARG:CZ	2.30	0.62
1:A:1203:A:H5'	1:A:1204:A:C4	2.35	0.61
8:H:283:THR:C	8:H:285:ARG:H	2.08	0.61
12:L:188:THR:HA	12:L:189:GLU:HB2	1.82	0.61
13:M:132:ILE:HD11	13:M:232:VAL:HG21	1.79	0.61
13:M:233:LEU:HA	13:M:236:LEU:HB3	1.81	0.61
13:M:440:GLU:OE1	13:M:440:GLU:N	2.28	0.61
1:A:3051:U:N3	1:A:3052:G:N7	2.48	0.61
2:B:115:C:H2'	2:B:116:G:O4'	2.00	0.61
4:D:146:ARG:NH2	4:D:193:TYR:HB3	2.15	0.61
6:F:45:SER:HB3	6:F:181:ILE:HD12	1.81	0.61
8:H:162:THR:O	8:H:165:LYS:HG2	2.00	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:Y:320:HIS:N	25:Y:323:GLN:OE1	2.33	0.61
27:a:195:HIS:HD2	28:b:269:LYS:HE2	1.64	0.61
29:c:83:ASP:OD1	29:c:84:LYS:N	2.33	0.61
34:m:53:TYR:OH	34:m:76:ARG:NH1	2.33	0.61
1:A:621:A:P	15:O:105:LYS:HE2	2.41	0.61
1:A:1429:G:C2	7:G:99:MET:SD	2.93	0.61
1:A:3034:C:N4	12:L:121:LYS:H	1.95	0.61
1:A:3097:C:H2'	1:A:3098:G:H8	1.63	0.61
6:F:195:ALA:HA	6:F:198:HIS:HB2	1.82	0.61
7:G:243:HIS:CG	26:Z:14:PHE:HE2	2.16	0.61
10:J:234:GLU:HG3	10:J:235:PHE:N	2.15	0.61
17:Q:72:LEU:HD11	17:Q:81:VAL:HG22	1.82	0.61
23:W:10:ILE:HB	23:W:60:SER:HB3	1.82	0.61
29:c:67:GLU:O	29:c:84:LYS:NZ	2.33	0.61
1:A:264:G:C5	25:Y:155:ARG:HD3	2.36	0.61
1:A:444:U:H2'	1:A:445:G:O4'	2.00	0.61
1:A:541:U:H2'	1:A:542:G:C8	2.35	0.61
1:A:3232:G:C5	1:A:3256:G:C6	2.87	0.61
2:B:77:A:C6	2:B:78:G:N2	2.68	0.61
3:C:30:U:H2'	3:C:31:G:O4'	2.00	0.61
13:M:26:GLN:HB2	13:M:81:ARG:HH22	1.65	0.61
13:M:68:ILE:HG22	13:M:72:MET:HE3	1.83	0.61
22:V:364:ASP:OD2	22:V:390:ARG:NE	2.33	0.61
23:W:46:GLN:NE2	23:W:52:LYS:HA	2.14	0.61
26:Z:59:LYS:HB3	26:Z:84:LYS:NZ	2.16	0.61
26:Z:103:PHE:CE2	26:Z:107:LYS:HD2	2.36	0.61
1:A:635:G:H2'	1:A:636:C:H5'	1.82	0.61
1:A:1184:A:H2'	1:A:1185:C:C6	2.35	0.61
1:A:1188:U:OP1	1:A:1210:U:O2'	2.18	0.61
1:A:1448:U:OP1	20:T:66:SER:OG	2.17	0.61
1:A:3012:A:OP1	1:A:3099:C:H5	1.83	0.61
1:A:3311:C:H2'	1:A:3312:U:H6	1.64	0.61
4:D:206:SER:HA	4:D:209:GLN:CD	2.25	0.61
8:H:300:GLU:OE1	8:H:300:GLU:N	2.32	0.61
12:L:69:ARG:O	12:L:72:LYS:HB3	2.00	0.61
22:V:107:LYS:HD2	22:V:108:PHE:H	1.64	0.61
27:a:100:TRP:HZ3	27:a:227:LEU:HD12	1.64	0.61
1:A:170:G:C6	1:A:248:U:O2	2.53	0.61
1:A:686:G:H2'	1:A:687:U:H6	1.65	0.61
1:A:733:G:O2'	1:A:735:A:N6	2.32	0.61
1:A:953:G:HO2'	1:A:1116:G:HO2'	1.49	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1447:G:N7	20:T:25:SER:OG	2.31	0.61
1:A:3016:A:O2'	1:A:3017:A:H8	1.84	0.61
7:G:191:LYS:HG2	7:G:194:TYR:HE2	1.64	0.61
20:T:122:ALA:HB3	20:T:143:PRO:HG2	1.82	0.61
21:U:49:LEU:O	21:U:52:LEU:N	2.28	0.61
25:Y:433:ILE:HG23	25:Y:479:PHE:CE2	2.35	0.61
1:A:953:G:O2'	1:A:1116:G:O2'	2.12	0.61
2:B:128:U:O2'	2:B:129:C:O5'	2.18	0.61
13:M:133:ASP:OD1	13:M:134:ASP:N	2.33	0.61
14:N:53:ILE:O	14:N:56:THR:OG1	2.18	0.61
15:O:227:ARG:HA	15:O:246:TYR:HD2	1.66	0.61
22:V:66:ALA:HB2	22:V:148:LEU:HD22	1.82	0.61
23:W:30:PHE:CD2	23:W:103:VAL:HG21	2.36	0.61
25:Y:51:GLN:HE21	25:Y:55:LYS:HD3	1.66	0.61
27:a:33:THR:HG22	27:a:85:ASN:HB2	1.81	0.61
32:j:56:SER:O	32:j:63:LYS:NZ	2.26	0.61
1:A:35:A:H2'	1:A:36:C:C6	2.35	0.61
1:A:155:G:H4'	1:A:156:G:H5''	1.80	0.61
1:A:373:A:N7	1:A:375:A:N6	2.49	0.61
1:A:461:U:H2'	1:A:462:C:C6	2.36	0.61
1:A:2362:C:H2'	1:A:2363:A:C8	2.36	0.61
1:A:2363:A:O2'	1:A:2364:G:O4'	2.14	0.61
1:A:3297:U:O4	6:F:124:LYS:NZ	2.33	0.61
4:D:216:TYR:O	4:D:223:GLU:HG2	2.01	0.61
7:G:42:VAL:HG12	7:G:236:LEU:HD21	1.83	0.61
12:L:165:CYS:SG	12:L:179:ILE:HD13	2.40	0.61
18:R:51:LEU:HB3	18:R:117:ASN:HD22	1.65	0.61
27:a:143:PHE:CZ	27:a:180:SER:HA	2.36	0.61
27:a:185:LYS:HD2	27:a:221:MET:O	2.00	0.61
1:A:92:G:H5'	1:A:93:C:H5''	1.83	0.61
1:A:187:A:C5	1:A:211:A:C2	2.89	0.61
1:A:1354:G:N2	26:Z:26:ASN:OD1	2.32	0.61
1:A:3239:G:H2'	1:A:3240:C:C6	2.35	0.61
4:D:286:LEU:HD21	13:M:102:ALA:HB1	1.81	0.61
7:G:348:GLY:O	7:G:350:LYS:HG3	2.00	0.61
8:H:48:THR:HG21	8:H:251:LEU:HD22	1.82	0.61
23:W:11:GLY:O	23:W:24:LEU:HA	2.00	0.61
25:Y:51:GLN:O	25:Y:55:LYS:HB3	2.01	0.61
26:Z:65:LYS:HE3	26:Z:76:LEU:HD21	1.82	0.61
34:m:61:ILE:HA	34:m:65:GLY:HA2	1.81	0.61
1:A:77:A:OP2	16:P:73:ARG:NH2	2.34	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:264:G:O6	25:Y:153:ASN:ND2	2.33	0.61
1:A:540:U:H2'	1:A:541:U:H6	1.65	0.61
1:A:1295:G:OP1	23:W:84:ARG:NH1	2.33	0.61
1:A:3044:G:C2	1:A:3045:G:C5	2.88	0.61
1:A:3045:G:H2'	1:A:3046:A:H8	1.66	0.61
6:F:212:ASN:ND2	6:F:353:GLU:HA	2.16	0.61
12:L:49:ASN:O	12:L:51:GLN:N	2.33	0.61
16:P:80:VAL:HG13	16:P:85:LEU:HD12	1.83	0.61
20:T:64:ASN:HB3	20:T:80:LYS:HE2	1.82	0.61
25:Y:467:LYS:O	25:Y:472:LYS:HG2	2.01	0.61
28:b:227:THR:OG1	28:b:249:GLN:NE2	2.30	0.61
1:A:432:G:H2'	1:A:433:A:C8	2.36	0.60
1:A:612:U:H2'	1:A:613:G:H8	1.64	0.60
3:C:47:A:C2'	3:C:48:A:H5'	2.30	0.60
8:H:111:LYS:HA	8:H:121:PHE:HE2	1.66	0.60
8:H:111:LYS:HA	8:H:121:PHE:CE2	2.36	0.60
13:M:222:LEU:O	13:M:226:SER:HB2	2.01	0.60
15:O:232:LEU:CD2	15:O:241:PHE:HB3	2.31	0.60
1:A:482:C:H4'	26:Z:85:ASN:HD21	1.67	0.60
1:A:3012:A:C8	1:A:3098:G:H2'	2.37	0.60
4:D:187:LEU:HD22	4:D:309:VAL:HG22	1.81	0.60
4:D:236:GLU:HG2	4:D:245:ILE:HG23	1.83	0.60
8:H:161:LYS:O	8:H:165:LYS:HD2	2.01	0.60
19:S:76:PRO:HB3	19:S:138:LEU:HD23	1.83	0.60
25:Y:92:LYS:HE3	25:Y:229:ALA:HA	1.82	0.60
25:Y:117:ILE:HG13	25:Y:167:MET:HB2	1.83	0.60
1:A:26:A:C5	1:A:330:G:C8	2.89	0.60
1:A:238:A:H2'	1:A:239:G:C8	2.36	0.60
1:A:748:U:H2'	1:A:749:C:C6	2.36	0.60
1:A:3091:A:N3	1:A:3093:C:O2'	2.34	0.60
1:A:3138:U:OP2	6:F:30:LYS:NZ	2.19	0.60
1:A:3239:G:H2'	1:A:3240:C:H6	1.64	0.60
4:D:91:GLN:HG2	4:D:92:HIS:H	1.65	0.60
11:K:204:ARG:HB3	11:K:206:GLU:OE1	2.02	0.60
17:Q:15:VAL:HG22	23:W:150:PHE:O	2.01	0.60
23:W:34:GLU:OE1	23:W:38:LYS:HE2	2.01	0.60
27:a:77:ILE:HD11	34:m:80:PHE:HB2	1.83	0.60
34:m:89:GLU:O	34:m:93:ILE:HG12	2.02	0.60
1:A:39:A:H2'	1:A:42:C:H41	1.65	0.60
1:A:285:A:H5''	27:a:46:ARG:HH22	1.66	0.60
1:A:947:G:H2'	1:A:948:C:C6	2.35	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3036:G:H5'	12:L:122:LYS:NZ	2.17	0.60
3:C:27:G:H5'	5:E:130:ASN:ND2	2.15	0.60
6:F:108:GLU:HG2	6:F:137:TYR:CG	2.36	0.60
12:L:90:MET:HE1	12:L:161:LEU:HB2	1.82	0.60
13:M:458:SER:OG	13:M:460:TRP:O	2.19	0.60
22:V:151:ILE:HD12	22:V:152:LYS:HA	1.84	0.60
27:a:75:ASN:ND2	27:a:230:SER:O	2.32	0.60
1:A:193:C:OP2	22:V:362:ARG:NH1	2.35	0.60
1:A:509:U:O2'	32:j:42:GLN:NE2	2.33	0.60
1:A:3242:G:H5'	1:A:3245:A:N3	2.16	0.60
3:C:35:C:O2	8:H:243:THR:OG1	2.12	0.60
3:C:48:A:O2'	3:C:49:C:O5'	2.15	0.60
11:K:195:SER:OG	11:K:197:VAL:O	2.19	0.60
12:L:125:ASN:OD1	12:L:126:VAL:N	2.35	0.60
14:N:129:ILE:HG22	14:N:137:VAL:HG22	1.83	0.60
18:R:122:ASN:OD1	18:R:123:GLN:N	2.35	0.60
20:T:111:LYS:HB2	20:T:152:GLU:HB2	1.84	0.60
1:A:282:G:O6	18:R:182:ASN:N	2.34	0.60
1:A:644:G:OP2	1:A:646:A:O2'	2.14	0.60
1:A:787:G:H2'	1:A:788:C:C6	2.36	0.60
2:B:5:U:H2'	2:B:6:U:C6	2.36	0.60
5:E:156:LEU:HA	5:E:161:LEU:HA	1.83	0.60
8:H:81:ILE:HG23	8:H:246:VAL:HB	1.82	0.60
8:H:124:LEU:HD11	8:H:177:PHE:CE2	2.36	0.60
12:L:103:ILE:HD11	12:L:144:ILE:HD11	1.83	0.60
14:N:38:PHE:HB3	14:N:42:LEU:HD12	1.84	0.60
22:V:215:GLU:OE1	22:V:215:GLU:N	2.34	0.60
24:X:65:LEU:O	24:X:68:GLU:N	2.33	0.60
26:Z:17:HIS:NE2	26:Z:28:CYS:SG	2.75	0.60
27:a:182:VAL:HB	27:a:185:LYS:O	2.00	0.60
27:a:227:LEU:HD23	27:a:235:LYS:HA	1.82	0.60
1:A:36:C:H2'	1:A:37:U:O4'	2.01	0.60
1:A:197:G:O2'	1:A:198:A:O5'	2.20	0.60
1:A:3082:C:C2	1:A:3083:G:C8	2.89	0.60
2:B:6:U:H2'	2:B:7:U:C6	2.37	0.60
3:C:8:A:O2'	4:D:97:LYS:NZ	2.26	0.60
6:F:37:ARG:HD3	6:F:186:GLY:HA3	1.82	0.60
13:M:14:ASN:HB3	13:M:64:TYR:HA	1.83	0.60
13:M:164:ASN:ND2	13:M:258:GLY:O	2.34	0.60
21:U:15:HIS:N	21:U:50:LYS:HZ3	1.99	0.60
25:Y:244:ARG:HB2	25:Y:245:PRO:HD2	1.83	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:Z:10:ILE:HG23	26:Z:15:CYS:SG	2.41	0.60
1:A:622:A:H2'	1:A:623:U:O4'	2.01	0.60
13:M:190:ALA:O	13:M:197:VAL:HB	2.00	0.60
13:M:367:VAL:HG12	13:M:411:ILE:HD12	1.83	0.60
19:S:193:GLN:O	19:S:196:ALA:N	2.34	0.60
22:V:236:GLU:C	22:V:293:ARG:HH11	2.05	0.60
1:A:32:U:O2	1:A:53:G:C2	2.55	0.60
1:A:1190:A:H3'	1:A:1190:A:N3	2.17	0.60
3:C:26:U:H2'	3:C:27:G:C8	2.37	0.60
6:F:46:PHE:HE2	6:F:81:THR:HG23	1.66	0.60
8:H:125:LEU:HG	8:H:154:ILE:HG22	1.82	0.60
9:I:146:ILE:HG22	9:I:150:LYS:HE2	1.83	0.60
13:M:180:PHE:HD2	13:M:187:TYR:HD2	1.50	0.60
13:M:363:PHE:HZ	13:M:409:HIS:HD1	1.50	0.60
13:M:376:LEU:CD1	13:M:377:GLU:HG3	2.32	0.60
15:O:196:GLU:HG3	15:O:197:LEU:H	1.67	0.60
18:R:23:GLN:HE21	18:R:122:ASN:CG	2.10	0.60
25:Y:281:PHE:O	25:Y:285:LYS:N	2.34	0.60
27:a:191:TYR:HA	27:a:214:GLU:HA	1.83	0.60
1:A:1351:U:O2'	1:A:1352:A:OP1	2.19	0.60
4:D:66:LEU:HB3	4:D:70:ARG:HH12	1.66	0.60
10:J:40:LYS:O	10:J:44:ILE:HG23	2.01	0.60
13:M:237:TYR:CE2	13:M:246:PRO:HD3	2.37	0.60
19:S:55:HIS:O	19:S:58:LEU:N	2.33	0.60
23:W:76:GLY:HA2	23:W:92:LYS:O	2.01	0.60
25:Y:104:LEU:HD11	25:Y:117:ILE:HG23	1.84	0.60
25:Y:293:ILE:HD11	25:Y:335:PHE:CE2	2.36	0.60
1:A:128:G:H2'	1:A:129:U:H6	1.66	0.59
1:A:378:A:O2'	29:c:91:ASN:HB3	2.02	0.59
1:A:501:A:H2'	1:A:502:U:C6	2.35	0.59
1:A:1385:C:H5''	1:A:1386:A:O5'	2.02	0.59
1:A:3232:G:C6	1:A:3256:G:C5	2.90	0.59
13:M:431:TRP:NE1	13:M:442:VAL:HG23	2.16	0.59
14:N:111:ASN:HD22	14:N:155:SER:C	2.10	0.59
14:N:127:GLU:O	14:N:130:SER:N	2.35	0.59
24:X:147:ASP:O	24:X:151:LYS:HG2	2.02	0.59
26:Z:165:GLU:O	26:Z:168:ASP:HB3	2.02	0.59
31:i:87:MET:HE2	31:i:87:MET:HA	1.84	0.59
33:l:74:LYS:HE3	33:l:75:TYR:HE2	1.65	0.59
1:A:55:G:O2'	18:R:108:ARG:NH2	2.36	0.59
1:A:340:C:N4	1:A:341:G:O6	2.36	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:384:A:H3'	1:A:385:A:C8	2.37	0.59
1:A:532:A:H2	1:A:560:G:H22	1.50	0.59
1:A:551:A:O2'	1:A:552:G:O4'	2.20	0.59
1:A:961:C:H3'	1:A:962:A:H8	1.67	0.59
1:A:3195:U:O2'	1:A:3196:U:O4'	2.20	0.59
6:F:294:GLY:HA3	6:F:303:LYS:HE2	1.84	0.59
11:K:101:THR:HG23	11:K:104:GLU:H	1.66	0.59
14:N:5:THR:O	14:N:207:GLY:HA2	2.02	0.59
19:S:39:GLU:CD	19:S:39:GLU:H	2.09	0.59
1:A:651:G:O2'	1:A:1435:A:OP1	2.19	0.59
4:D:79:SER:O	4:D:83:ASP:N	2.35	0.59
13:M:80:PHE:O	13:M:84:LYS:HG2	2.02	0.59
14:N:64:ALA:O	14:N:71:LEU:HB3	2.02	0.59
25:Y:300:ASN:HD22	25:Y:449:SER:HB3	1.67	0.59
26:Z:89:ALA:O	26:Z:92:GLN:N	2.36	0.59
29:c:116:LYS:O	29:c:120:GLN:HG2	2.02	0.59
1:A:94:G:H2'	1:A:95:A:H8	1.66	0.59
1:A:197:G:O3'	15:O:288:LYS:HD2	2.03	0.59
1:A:405:U:H5	1:A:406:G:C6	2.20	0.59
1:A:1297:C:H2'	1:A:1298:C:O4'	2.02	0.59
6:F:53:MET:SD	6:F:77:THR:HG22	2.43	0.59
15:O:249:LYS:HB2	15:O:253:ARG:O	2.03	0.59
25:Y:118:ILE:HD11	25:Y:193:LEU:HG	1.85	0.59
27:a:99:LEU:HB3	27:a:112:PHE:CD2	2.36	0.59
1:A:1383:G:O3'	7:G:138:ARG:NH2	2.36	0.59
1:A:3329:U:O3'	6:F:376:LYS:NZ	2.36	0.59
2:B:49:G:C6	2:B:77:A:N1	2.71	0.59
4:D:200:SER:O	4:D:204:ILE:HG12	2.02	0.59
5:E:220:TRP:HE1	8:H:293:TYR:N	2.01	0.59
6:F:147:GLU:OE1	6:F:147:GLU:N	2.31	0.59
6:F:218:ILE:HB	6:F:275:ARG:O	2.03	0.59
8:H:183:ASP:O	8:H:187:VAL:HG23	2.01	0.59
15:O:245:ARG:HB2	15:O:259:LEU:HD23	1.84	0.59
18:R:61:ILE:HG23	18:R:131:GLU:OE2	2.03	0.59
22:V:215:GLU:O	22:V:217:ASN:HB2	2.02	0.59
27:a:189:ARG:NH1	28:b:250:SER:OG	2.35	0.59
1:A:39:A:H2'	1:A:42:C:N4	2.18	0.59
1:A:155:G:H22	25:Y:155:ARG:NH2	1.97	0.59
1:A:261:U:H2'	1:A:262:U:C6	2.36	0.59
1:A:440:A:H3'	1:A:441:U:H5''	1.83	0.59
1:A:442:G:OP1	26:Z:124:ARG:NH2	2.35	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:501:A:H2'	1:A:502:U:H6	1.67	0.59
1:A:593:C:OP2	9:I:19:LYS:NZ	2.36	0.59
1:A:1404:G:N1	1:A:1407:A:OP2	2.31	0.59
1:A:1433:A:H5'	31:i:27:ARG:O	2.03	0.59
3:C:9:A:H5'	4:D:97:LYS:HE3	1.83	0.59
6:F:137:TYR:O	6:F:139:GLN:HG2	2.03	0.59
6:F:212:ASN:HD21	6:F:353:GLU:HA	1.67	0.59
8:H:239:PRO:HD2	8:H:244:LEU:HD13	1.84	0.59
13:M:20:GLN:HB2	13:M:23:ARG:HE	1.67	0.59
14:N:35:TYR:OH	14:N:48:ILE:O	2.15	0.59
27:a:180:SER:HB2	28:b:246:PHE:HZ	1.67	0.59
35:n:19:CYS:HB2	35:n:27:PHE:HB2	1.84	0.59
1:A:15:C:H2'	1:A:16:A:H8	1.68	0.59
1:A:724:U:H2'	1:A:725:G:C8	2.37	0.59
1:A:977:C:H2'	1:A:978:G:O4'	2.03	0.59
1:A:3250:U:H2'	1:A:3251:U:H6	1.68	0.59
4:D:211:ARG:N	13:M:206:PRO:HB3	2.17	0.59
7:G:317:PRO:C	7:G:319:LYS:H	2.10	0.59
8:H:144:LEU:HD12	8:H:145:ASP:N	2.18	0.59
4:D:248:GLU:O	4:D:251:ILE:HB	2.02	0.59
12:L:4:ILE:HD11	23:W:150:PHE:CD2	2.37	0.59
19:S:41:LEU:HD23	19:S:138:LEU:HD22	1.84	0.59
27:a:149:TYR:HA	27:a:152:ILE:HG22	1.85	0.59
27:a:191:TYR:CD1	27:a:212:LEU:HD13	2.38	0.59
28:b:248:LYS:HA	28:b:251:LEU:HB2	1.85	0.59
32:j:85:PHE:N	32:j:85:PHE:HD1	2.00	0.59
1:A:451:U:H2'	1:A:452:G:C8	2.36	0.59
8:H:268:GLU:HA	8:H:271:ILE:HD12	1.85	0.59
13:M:135:ALA:CB	13:M:225:TYR:HB3	2.31	0.59
16:P:24:VAL:HG12	18:R:199:LEU:HB2	1.84	0.59
16:P:75:PHE:O	16:P:76:THR:HG23	2.03	0.59
16:P:119:TYR:O	16:P:123:ILE:HG23	2.02	0.59
21:U:83:VAL:HG12	21:U:85:GLY:H	1.67	0.59
22:V:22:LEU:HD13	22:V:39:HIS:HB3	1.83	0.59
22:V:331:GLU:OE1	22:V:331:GLU:N	2.36	0.59
29:c:22:ALA:O	29:c:27:ARG:NE	2.35	0.59
1:A:180:C:H2'	1:A:181:U:H6	1.68	0.59
1:A:678:G:C6	1:A:703:G:C2	2.91	0.59
1:A:785:G:OP1	21:U:66:ARG:NH2	2.36	0.59
1:A:1348:U:H1'	1:A:1350:A:N3	2.18	0.59
1:A:1448:U:O2	1:A:2356:A:N7	2.36	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:3:ARG:CZ	7:G:3:ARG:HB2	2.32	0.59
21:U:89:ASP:HB3	21:U:110:ALA:HA	1.83	0.59
22:V:58:ILE:HD11	22:V:160:PHE:HZ	1.67	0.59
22:V:382:GLN:OE1	22:V:383:GLY:N	2.36	0.59
25:Y:296:LEU:HA	25:Y:365:ASP:OD1	2.03	0.59
25:Y:424:ASN:HB3	25:Y:428:GLN:CD	2.28	0.59
26:Z:34:VAL:O	26:Z:42:SER:OG	2.21	0.59
27:a:89:PHE:HE1	27:a:99:LEU:HD13	1.67	0.59
31:i:17:PHE:HE2	31:i:53:PRO:HA	1.66	0.59
1:A:459:G:C5	1:A:472:A:N6	2.71	0.58
1:A:946:U:N3	1:A:947:G:N7	2.51	0.58
1:A:1116:G:H2'	1:A:1117:G:H5''	1.85	0.58
1:A:1296:C:H2'	1:A:1297:C:C6	2.38	0.58
1:A:1346:G:H1'	7:G:307:GLN:NE2	2.18	0.58
4:D:135:TYR:CZ	4:D:137:GLY:HA3	2.37	0.58
8:H:102:VAL:HG21	8:H:234:LEU:HB2	1.85	0.58
9:I:10:TYR:N	26:Z:86:TYR:OH	2.36	0.58
15:O:234:ASN:ND2	15:O:295:LEU:HD13	2.11	0.58
19:S:9:ILE:O	19:S:36:VAL:HG22	2.03	0.58
23:W:78:TRP:CD1	23:W:91:TYR:HD1	2.21	0.58
25:Y:275:LYS:NZ	25:Y:430:GLU:OE1	2.36	0.58
25:Y:281:PHE:HA	25:Y:284:LEU:HB3	1.85	0.58
26:Z:34:VAL:HG12	26:Z:111:ARG:CD	2.32	0.58
1:A:453:C:N4	22:V:246:ASP:OD1	2.36	0.58
2:B:70:G:N2	2:B:88:A:H62	2.01	0.58
4:D:97:LYS:HE2	4:D:99:PHE:CZ	2.38	0.58
4:D:169:VAL:HG12	4:D:170:GLU:H	1.67	0.58
6:F:85:VAL:HG13	6:F:163:HIS:CE1	2.38	0.58
8:H:98:LYS:O	8:H:235:PRO:CA	2.41	0.58
12:L:6:THR:O	12:L:56:ALA:HA	2.02	0.58
13:M:89:LYS:O	13:M:92:ARG:HB3	2.02	0.58
18:R:37:HIS:HE1	18:R:63:ARG:HH11	1.49	0.58
24:X:14:ASN:OD1	24:X:15:ARG:N	2.35	0.58
25:Y:312:ILE:HG23	25:Y:314:LEU:HD13	1.85	0.58
1:A:109:A:H4'	1:A:110:G:OP1	2.03	0.58
2:B:102:U:H2'	2:B:103:G:C8	2.38	0.58
4:D:221:GLU:HB3	4:D:223:GLU:HB2	1.85	0.58
14:N:53:ILE:HD12	14:N:62:MET:HG3	1.84	0.58
17:Q:123:LEU:HB2	19:S:194:LEU:HD21	1.85	0.58
26:Z:134:TYR:CD1	31:i:126:LEU:HD23	2.38	0.58
1:A:294:U:OP2	18:R:15:GLN:NE2	2.36	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:589:A:H1'	1:A:1337:A:H5''	1.84	0.58
1:A:3325:G:H2'	1:A:3326:G:H8	1.67	0.58
11:K:77:GLN:HA	11:K:229:VAL:HG21	1.83	0.58
11:K:99:PRO:O	11:K:191:ASN:ND2	2.36	0.58
14:N:70:LEU:HB3	14:N:94:ILE:HG12	1.83	0.58
18:R:112:ASN:OD1	18:R:113:LEU:N	2.36	0.58
22:V:20:GLU:O	22:V:40:VAL:HA	2.03	0.58
22:V:50:ALA:HB1	22:V:67:ARG:HH11	1.68	0.58
27:a:45:HIS:NE2	27:a:97:LEU:HD11	2.17	0.58
27:a:89:PHE:CE1	27:a:99:LEU:HD13	2.38	0.58
1:A:74:G:H3'	16:P:104:ARG:HH22	1.68	0.58
1:A:183:G:H2'	1:A:184:U:C6	2.38	0.58
1:A:349:A:H3'	1:A:350:C:H6	1.68	0.58
1:A:3181:C:O2'	19:S:164:SER:OG	2.20	0.58
2:B:76:C:H2'	2:B:77:A:C8	2.38	0.58
3:C:231:A:H1'	3:C:232:A:H5'	1.86	0.58
6:F:312:VAL:O	6:F:332:ARG:NH2	2.37	0.58
11:K:78:PHE:O	11:K:79:GLN:HB3	2.02	0.58
15:O:242:ARG:HH11	15:O:262:GLN:NE2	2.01	0.58
20:T:113:TYR:CE2	20:T:153:LYS:HB3	2.38	0.58
25:Y:225:MET:HB3	25:Y:227:PHE:CZ	2.38	0.58
27:a:88:PHE:O	27:a:99:LEU:HA	2.04	0.58
27:a:150:GLN:O	27:a:153:LYS:HB3	2.02	0.58
27:a:245:PRO:O	27:a:249:ARG:HG3	2.04	0.58
28:b:229:THR:HG23	28:b:245:ALA:HB1	1.85	0.58
32:j:93:THR:O	32:j:93:THR:OG1	2.06	0.58
34:m:53:TYR:CE1	34:m:76:ARG:HG2	2.38	0.58
1:A:3023:U:H3'	1:A:3024:A:H8	1.69	0.58
3:C:53:A:C2	8:H:166:ALA:HA	2.38	0.58
8:H:45:ILE:HA	8:H:48:THR:HG22	1.84	0.58
11:K:101:THR:HG22	11:K:104:GLU:HB2	1.85	0.58
12:L:150:SER:O	12:L:154:VAL:HG22	2.04	0.58
13:M:197:VAL:HG12	13:M:199:TRP:HD1	1.67	0.58
13:M:421:VAL:H	13:M:426:TYR:HH	1.51	0.58
18:R:116:LEU:HD23	18:R:117:ASN:HB2	1.86	0.58
21:U:96:PHE:CZ	21:U:114:ILE:HG12	2.39	0.58
1:A:115:A:N6	1:A:265:A:H62	2.01	0.58
1:A:161:G:H4'	25:Y:439:LEU:HD21	1.84	0.58
1:A:439:C:N4	31:i:128:LEU:HD21	2.19	0.58
1:A:625:G:H2'	1:A:626:U:C6	2.38	0.58
1:A:947:G:H5''	31:i:55:ILE:HB	1.85	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3027:A:H2'	1:A:3028:G:O4'	2.03	0.58
4:D:179:LEU:HD11	4:D:184:TYR:HA	1.85	0.58
6:F:362:ALA:HB2	6:F:371:GLN:HE22	1.66	0.58
8:H:128:LYS:HA	8:H:186:ILE:HD11	1.85	0.58
16:P:50:PRO:CG	33:I:118:ILE:HD12	2.32	0.58
18:R:182:ASN:HB3	18:R:187:ARG:HE	1.67	0.58
20:T:49:GLU:OE1	20:T:50:GLN:HG3	2.03	0.58
29:c:14:LYS:O	29:c:17:LYS:N	2.37	0.58
29:c:45:ILE:HG12	29:c:46:LYS:H	1.68	0.58
1:A:745:C:H2'	1:A:746:A:C8	2.23	0.58
1:A:3307:A:OP1	6:F:226:PHE:HB3	2.04	0.58
2:B:21:C:N4	2:B:22:U:O4	2.36	0.58
2:B:83:C:H5''	2:B:85:G:N2	2.19	0.58
4:D:58:ALA:HB2	5:E:110:TYR:CE1	2.38	0.58
13:M:168:ALA:HB1	13:M:264:LEU:HD21	1.85	0.58
19:S:142:SER:HA	19:S:145:VAL:HG22	1.86	0.58
23:W:74:ASN:HD21	23:W:95:ARG:HH11	1.51	0.58
25:Y:211:ARG:HA	25:Y:214:ILE:HD11	1.86	0.58
25:Y:363:GLN:HB3	25:Y:392:MET:HB3	1.85	0.58
27:a:178:SER:O	27:a:188:VAL:HA	2.04	0.58
1:A:1110:U:O2'	1:A:1111:U:OP2	2.19	0.58
1:A:1354:G:C2	26:Z:39:THR:HG22	2.39	0.58
1:A:2366:C:H4'	19:S:64:PHE:HE2	1.69	0.58
1:A:3158:G:H22	1:A:3292:A:H2	1.51	0.58
4:D:197:GLY:N	4:D:314:ILE:HD11	2.18	0.58
6:F:190:GLU:O	6:F:194:TRP:HB2	2.04	0.58
12:L:29:GLY:HA3	12:L:82:VAL:HG21	1.86	0.58
12:L:117:PHE:HB3	12:L:124:ARG:NH2	2.18	0.58
13:M:31:ASP:OD1	13:M:34:ARG:NH2	2.37	0.58
13:M:39:LYS:H	13:M:40:GLY:HA2	1.69	0.58
13:M:409:HIS:HA	13:M:425:THR:O	2.02	0.58
22:V:313:VAL:HG11	22:V:328:PHE:HB2	1.84	0.58
25:Y:335:PHE:HA	25:Y:338:ALA:HB3	1.85	0.58
1:A:161:G:H2'	1:A:162:G:C8	2.39	0.58
1:A:248:U:H2'	1:A:249:U:O4'	2.04	0.58
1:A:549:U:H3'	1:A:550:A:H8	1.69	0.58
1:A:3060:C:HO2'	1:A:3332:U:HO2'	1.45	0.58
1:A:3336:A:H3'	1:A:3337:G:H8	1.68	0.58
2:B:71:A:C2	2:B:81:U:C2	2.92	0.58
4:D:143:PHE:HB3	4:D:197:GLY:O	2.03	0.58
6:F:47:LEU:HD22	6:F:337:THR:HA	1.84	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:211:GLN:NE2	6:F:284:ARG:HA	2.18	0.58
8:H:105:SER:HB3	8:H:107:TYR:CD2	2.31	0.58
13:M:167:LEU:O	13:M:171:ALA:HB3	2.04	0.58
15:O:161:THR:HA	15:O:171:PHE:O	2.03	0.58
25:Y:395:THR:O	25:Y:398:GLU:HG2	2.03	0.58
25:Y:457:HIS:CD2	25:Y:460:LYS:HE2	2.39	0.58
27:a:102:SER:HB2	27:a:107:GLY:HA2	1.86	0.58
32:j:52:VAL:HG22	32:j:66:VAL:HG22	1.86	0.58
1:A:20:A:OP2	33:l:86:ARG:NH2	2.37	0.57
1:A:44:U:H2'	1:A:45:A:O4'	2.03	0.57
1:A:567:G:O2'	1:A:568:G:H5'	2.04	0.57
1:A:743:C:N3	21:U:141:ARG:NH2	2.44	0.57
1:A:3024:A:H5'	12:L:96:HIS:CE1	2.38	0.57
1:A:3317:U:H1'	1:A:3318:G:C6	2.39	0.57
2:B:138:A:H2'	2:B:139:U:C6	2.38	0.57
4:D:67:ALA:HB1	4:D:153:VAL:HG22	1.86	0.57
12:L:38:LEU:HD22	12:L:41:ILE:HG13	1.85	0.57
12:L:81:GLY:HA2	12:L:86:TYR:HE2	1.69	0.57
13:M:220:THR:O	13:M:223:GLU:HG2	2.04	0.57
21:U:36:LEU:HG	21:U:45:ASN:HD21	1.66	0.57
25:Y:84:GLY:H	25:Y:227:PHE:HD1	1.52	0.57
32:j:27:VAL:HG12	32:j:84:THR:HG22	1.85	0.57
1:A:412:G:H2'	1:A:413:U:C6	2.39	0.57
1:A:455:C:H2'	1:A:456:U:C6	2.39	0.57
1:A:609:G:H5'	9:I:22:ARG:NH1	2.19	0.57
1:A:620:U:O2'	1:A:621:A:OP1	2.18	0.57
1:A:1378:U:N3	1:A:1430:U:O2	2.37	0.57
1:A:3045:G:C4	1:A:3046:A:C8	2.92	0.57
1:A:3320:A:H2'	1:A:3321:C:O4'	2.03	0.57
4:D:103:ILE:HG23	4:D:312:VAL:HG12	1.86	0.57
6:F:149:ALA:O	6:F:152:LYS:HB3	2.04	0.57
6:F:168:LYS:HG2	6:F:319:ASN:HD21	1.69	0.57
7:G:3:ARG:NH1	26:Z:71:HIS:HB3	2.18	0.57
13:M:431:TRP:CE3	13:M:432:ILE:HD13	2.39	0.57
14:N:118:HIS:CD2	14:N:120:ASP:HB2	2.39	0.57
15:O:149:ILE:HB	15:O:161:THR:HB	1.86	0.57
18:R:43:THR:OG1	18:R:44:ARG:N	2.37	0.57
23:W:12:ARG:HG2	23:W:57:GLU:OE1	2.04	0.57
23:W:42:TRP:CE3	23:W:53:LYS:HA	2.39	0.57
25:Y:292:ILE:HD12	25:Y:360:TRP:HB2	1.87	0.57
25:Y:430:GLU:HB3	25:Y:479:PHE:HA	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:409:A:C8	1:A:410:U:C6	2.93	0.57
1:A:722:G:C2	1:A:749:C:N3	2.72	0.57
1:A:1151:U:OP1	32:j:21:ARG:NH2	2.37	0.57
1:A:3180:A:N1	19:S:114:LYS:NZ	2.39	0.57
7:G:269:SER:O	7:G:270:SER:OG	2.23	0.57
8:H:221:THR:O	8:H:225:ASN:HB2	2.04	0.57
12:L:152:GLU:O	12:L:156:GLN:CB	2.51	0.57
13:M:15:PHE:HB3	13:M:62:PHE:HB3	1.86	0.57
20:T:51:VAL:HG12	20:T:56:ARG:O	2.03	0.57
25:Y:131:PHE:HD1	25:Y:169:ILE:HD13	1.68	0.57
27:a:185:LYS:HG3	27:a:220:VAL:HG12	1.87	0.57
1:A:1:G:C6	3:C:232:A:H2	2.21	0.57
1:A:3021:A:OP1	1:A:3023:U:H1'	2.04	0.57
1:A:3250:U:H2'	1:A:3251:U:C6	2.39	0.57
1:A:3383:G:H2'	1:A:3384:U:C6	2.39	0.57
9:I:30:LEU:HD11	9:I:57:HIS:CD2	2.40	0.57
12:L:23:ARG:HD3	12:L:43:VAL:O	2.04	0.57
13:M:204:LYS:N	13:M:374:ASP:OD2	2.38	0.57
13:M:214:ASP:OD1	13:M:216:ARG:HG2	2.04	0.57
14:N:111:ASN:ND2	14:N:155:SER:O	2.35	0.57
15:O:116:GLU:OE1	15:O:116:GLU:N	2.33	0.57
22:V:67:ARG:HB3	22:V:71:VAL:O	2.05	0.57
25:Y:275:LYS:HE3	25:Y:476:SER:C	2.29	0.57
26:Z:17:HIS:O	26:Z:17:HIS:CG	2.58	0.57
1:A:186:U:OP2	29:c:122:LYS:NZ	2.36	0.57
1:A:285:A:O5'	1:A:286:U:H5'	2.05	0.57
1:A:432:G:H2'	1:A:433:A:H8	1.67	0.57
1:A:457:C:H5'	1:A:458:U:OP2	2.04	0.57
1:A:1349:G:H22	7:G:293:SER:HG	1.49	0.57
1:A:2351:U:C2	1:A:2352:A:C8	2.93	0.57
1:A:3182:G:C2	1:A:3183:A:C4	2.93	0.57
2:B:121:U:H3	2:B:132:G:H1	1.50	0.57
9:I:41:ILE:HB	9:I:85:ILE:CG2	2.34	0.57
18:R:139:HIS:CE1	18:R:141:ALA:HB3	2.40	0.57
19:S:10:ASP:OD1	19:S:12:LYS:N	2.28	0.57
22:V:22:LEU:O	22:V:38:PHE:N	2.36	0.57
28:b:233:ILE:HD13	28:b:242:ARG:HG3	1.86	0.57
1:A:267:G:H2'	1:A:318:A:N7	2.19	0.57
1:A:722:G:N1	1:A:748:U:N3	2.52	0.57
1:A:1364:C:N4	1:A:1365:G:O6	2.38	0.57
1:A:3368:U:OP1	6:F:384:LYS:HE3	2.05	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:185:ILE:O	10:J:188:ILE:N	2.32	0.57
11:K:94:PHE:O	11:K:97:TYR:N	2.33	0.57
13:M:224:PHE:O	13:M:227:THR:OG1	2.18	0.57
25:Y:265:GLU:OE2	25:Y:412:LEU:HA	2.05	0.57
1:A:129:U:H2'	1:A:130:A:H8	1.68	0.57
1:A:727:G:OP2	1:A:742:G:N2	2.33	0.57
1:A:977:C:N4	1:A:978:G:C2	2.73	0.57
3:C:229:U:O4	4:D:275:ARG:NH2	2.37	0.57
6:F:37:ARG:HH11	6:F:187:SER:N	2.03	0.57
6:F:117:ARG:HH21	6:F:177:HIS:HA	1.70	0.57
11:K:206:GLU:OE1	11:K:206:GLU:N	2.24	0.57
13:M:242:LEU:HD23	13:M:266:SER:HA	1.85	0.57
14:N:70:LEU:O	14:N:94:ILE:HA	2.05	0.57
15:O:171:PHE:CE1	15:O:270:LEU:HD13	2.40	0.57
18:R:140:LYS:HE3	18:R:144:ARG:HH12	1.70	0.57
24:X:149:TYR:O	24:X:152:LYS:HG2	2.04	0.57
25:Y:111:PRO:C	25:Y:113:ASN:H	2.13	0.57
27:a:99:LEU:O	27:a:112:PHE:HB3	2.04	0.57
1:A:267:G:N1	1:A:319:A:N7	2.53	0.57
1:A:721:G:O2'	1:A:722:G:H8	1.88	0.57
6:F:107:ALA:C	6:F:109:HIS:H	2.12	0.57
11:K:79:GLN:H	11:K:155:ASN:HD21	1.52	0.57
26:Z:54:LYS:HD3	26:Z:63:TYR:CE2	2.39	0.57
28:b:212:TRP:CH2	28:b:217:PHE:HA	2.40	0.57
5:E:152:MET:HE3	5:E:164:VAL:HG11	1.86	0.57
8:H:174:ILE:HD12	8:H:177:PHE:HD2	1.69	0.57
8:H:226:ILE:HA	8:H:229:VAL:HG22	1.85	0.57
14:N:15:VAL:HG12	14:N:58:ILE:HB	1.87	0.57
14:N:35:TYR:CE1	14:N:48:ILE:HG12	2.40	0.57
15:O:203:GLN:O	15:O:204:THR:OG1	2.22	0.57
24:X:97:LYS:HA	24:X:100:ARG:HD3	1.87	0.57
31:i:74:PHE:O	31:i:94:ALA:HA	2.05	0.57
33:l:14:LYS:HA	33:l:17:LEU:HD12	1.87	0.57
1:A:339:C:OP1	1:A:1380:G:O2'	2.23	0.57
1:A:1138:U:H2'	1:A:1139:G:H8	1.70	0.57
1:A:3108:G:O6	1:A:3127:A:N6	2.37	0.57
1:A:3232:G:H2'	1:A:3233:C:H6	1.67	0.57
2:B:7:U:H2'	2:B:8:C:H6	1.70	0.57
6:F:122:TRP:CZ2	6:F:127:LYS:HE3	2.40	0.57
6:F:161:LEU:HD23	6:F:180:GLU:HG3	1.86	0.57
6:F:218:ILE:CG2	6:F:277:SER:H	2.18	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:243:HIS:CG	26:Z:14:PHE:CE2	2.92	0.57
8:H:198:ALA:O	8:H:204:THR:OG1	2.19	0.57
12:L:4:ILE:N	23:W:142:GLN:HE21	2.02	0.57
13:M:431:TRP:HD1	13:M:447:TYR:CG	2.22	0.57
17:Q:15:VAL:HG21	23:W:150:PHE:CZ	2.39	0.57
17:Q:109:ARG:HE	19:S:199:TYR:HD1	1.53	0.57
1:A:117:U:O2	11:K:141:ALA:HB1	2.04	0.56
1:A:338:A:OP1	7:G:47:ARG:HA	2.04	0.56
1:A:375:A:H4'	29:c:89:LYS:HG2	1.87	0.56
1:A:3183:A:H2'	1:A:3184:A:H8	1.69	0.56
22:V:215:GLU:HA	22:V:252:TRP:CE3	2.40	0.56
25:Y:45:GLU:OE1	25:Y:45:GLU:N	2.38	0.56
26:Z:17:HIS:CD2	26:Z:28:CYS:SG	2.98	0.56
1:A:32:U:N3	1:A:53:G:N1	2.52	0.56
1:A:139:G:C5	1:A:140:C:C4	2.93	0.56
1:A:567:G:H2'	1:A:568:G:C8	2.40	0.56
1:A:671:U:H2'	1:A:672:A:H8	1.70	0.56
1:A:738:A:H2'	1:A:739:G:H8	1.70	0.56
1:A:953:G:C4	1:A:1142:G:N2	2.73	0.56
1:A:1381:A:C2	1:A:1426:C:C2	2.92	0.56
5:E:104:GLU:HG3	5:E:120:VAL:HG22	1.87	0.56
12:L:68:LEU:O	12:L:71:VAL:HG12	2.05	0.56
25:Y:447:TYR:CE1	25:Y:477:TYR:HA	2.40	0.56
25:Y:477:TYR:CB	25:Y:483:PRO:HB3	2.32	0.56
26:Z:113:THR:O	26:Z:116:THR:OG1	2.22	0.56
27:a:109:THR:HG22	27:a:227:LEU:HB2	1.86	0.56
28:b:217:PHE:CZ	28:b:221:GLN:HA	2.40	0.56
1:A:69:C:C4	1:A:70:A:C8	2.93	0.56
1:A:92:G:H5'	1:A:93:C:C5'	2.34	0.56
1:A:212:G:C6	1:A:222:A:C5	2.93	0.56
1:A:235:A:H2'	1:A:236:G:C8	2.40	0.56
1:A:282:G:N2	18:R:178:HIS:O	2.38	0.56
1:A:562:C:H2'	1:A:563:U:C6	2.40	0.56
1:A:590:G:HO2'	7:G:309:ARG:HH11	1.50	0.56
1:A:804:C:N4	1:A:805:G:O6	2.38	0.56
1:A:1362:G:H4'	10:J:159:GLN:O	2.05	0.56
1:A:3181:C:H2'	1:A:3182:G:O4'	2.05	0.56
1:A:3202:G:H2'	1:A:3203:U:O4'	2.05	0.56
4:D:251:ILE:O	4:D:255:ALA:N	2.33	0.56
6:F:173:GLN:NE2	6:F:175:LYS:O	2.36	0.56
11:K:227:ASP:OD1	11:K:228:GLU:N	2.39	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:360:PHE:HB3	13:M:363:PHE:HB3	1.87	0.56
15:O:124:VAL:C	15:O:126:ARG:H	2.12	0.56
15:O:200:ASN:O	15:O:234:ASN:HB3	2.05	0.56
16:P:107:GLU:OE1	16:P:107:GLU:N	2.33	0.56
24:X:28:TYR:O	24:X:31:ALA:N	2.29	0.56
25:Y:280:LEU:HD12	25:Y:283:PHE:HB2	1.87	0.56
25:Y:361:ILE:HB	25:Y:390:SER:OG	2.06	0.56
26:Z:69:ARG:NE	26:Z:78:GLU:OE2	2.38	0.56
1:A:208:C:H2'	1:A:209:A:H8	1.69	0.56
1:A:349:A:H3'	1:A:350:C:C6	2.40	0.56
1:A:398:A:O2'	1:A:399:A:OP1	2.22	0.56
1:A:431:U:OP1	32:j:65:ARG:NH1	2.38	0.56
1:A:722:G:C2	1:A:749:C:C2	2.94	0.56
1:A:1151:U:H3'	1:A:1152:G:H21	1.70	0.56
1:A:3066:U:O2	1:A:3075:G:N2	2.21	0.56
2:B:70:G:N2	2:B:87:G:N3	2.53	0.56
2:B:104:A:N7	2:B:105:A:C5	2.74	0.56
6:F:35:ASP:OD1	6:F:36:ASP:N	2.39	0.56
12:L:23:ARG:NH1	12:L:39:LYS:HD2	2.21	0.56
13:M:88:ARG:O	13:M:92:ARG:HB2	2.05	0.56
15:O:133:LYS:NZ	15:O:137:ASP:OD2	2.31	0.56
19:S:181:ALA:O	19:S:184:THR:HG22	2.06	0.56
1:A:182:U:H2'	1:A:183:G:H8	1.70	0.56
1:A:427:C:H42	1:A:428:A:N6	2.03	0.56
1:A:653:A:H2'	1:A:654:C:C6	2.41	0.56
1:A:695:C:OP1	7:G:119:ARG:NE	2.32	0.56
6:F:278:ILE:HG13	6:F:279:ASN:H	1.70	0.56
18:R:43:THR:O	18:R:45:PRO:HD3	2.05	0.56
20:T:41:LEU:HD22	20:T:112:LEU:HD23	1.87	0.56
25:Y:320:HIS:CE1	25:Y:322:LYS:HB3	2.41	0.56
33:l:48:ARG:HA	33:l:51:ILE:HG22	1.86	0.56
1:A:192:C:H2'	1:A:193:C:C6	2.41	0.56
1:A:653:A:H2'	1:A:654:C:H6	1.71	0.56
1:A:1350:A:H2'	1:A:1351:U:O4'	2.05	0.56
1:A:3042:U:H2'	1:A:3043:C:C6	2.41	0.56
1:A:3133:C:H2'	1:A:3134:A:H8	1.69	0.56
1:A:3186:A:N3	12:L:44:THR:OG1	2.39	0.56
1:A:3261:C:OP1	17:Q:126:GLN:NE2	2.39	0.56
1:A:3273:A:H4'	9:I:44:ALA:HB1	1.86	0.56
6:F:26:ARG:HB2	6:F:335:ILE:HD11	1.88	0.56
6:F:312:VAL:HG12	6:F:313:HIS:CE1	2.41	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:54:TYR:CE1	9:I:63:LEU:HD22	2.41	0.56
10:J:88:ARG:HD3	10:J:110:ARG:O	2.04	0.56
14:N:4:ARG:HB3	14:N:208:LEU:HA	1.87	0.56
14:N:77:THR:HG23	14:N:80:GLU:H	1.69	0.56
24:X:180:GLU:O	24:X:183:ARG:HB3	2.05	0.56
1:A:83:U:H2'	1:A:84:U:C6	2.41	0.56
1:A:472:A:O2'	1:A:473:G:H8	1.89	0.56
1:A:610:G:N7	7:G:312:VAL:HB	2.21	0.56
1:A:621:A:O2'	1:A:622:A:OP1	2.22	0.56
1:A:679:U:O2'	1:A:788:C:H1'	2.05	0.56
1:A:1419:A:H5''	7:G:193:LYS:HE3	1.86	0.56
1:A:3392:U:O2'	20:T:75:GLU:OE2	2.22	0.56
6:F:131:THR:O	6:F:135:ALA:CB	2.52	0.56
6:F:152:LYS:HZ3	6:F:189:SER:HB2	1.71	0.56
7:G:338:LYS:C	7:G:340:GLY:H	2.07	0.56
13:M:170:VAL:O	13:M:174:ARG:N	2.33	0.56
23:W:42:TRP:O	23:W:46:GLN:HG2	2.06	0.56
1:A:237:G:C2	1:A:238:A:C8	2.94	0.56
1:A:626:U:H2'	1:A:627:U:O4'	2.06	0.56
1:A:953:G:O6	1:A:1142:G:C6	2.58	0.56
1:A:1408:G:C6	1:A:1409:G:N7	2.74	0.56
8:H:110:TRP:O	8:H:114:SER:HB2	2.06	0.56
8:H:160:LEU:HA	8:H:164:TYR:HB2	1.87	0.56
18:R:26:ARG:HG2	18:R:30:TYR:CE2	2.41	0.56
22:V:254:MET:N	22:V:278:ILE:O	2.36	0.56
25:Y:173:GLY:O	25:Y:176:LEU:HB2	2.06	0.56
27:a:151:LEU:HD21	28:b:205:LEU:HA	1.87	0.56
33:l:84:LYS:HG3	33:l:85:THR:H	1.71	0.56
1:A:144:A:OP1	11:K:193:LYS:NZ	2.27	0.56
1:A:208:C:H2'	1:A:209:A:C8	2.41	0.56
1:A:355:A:N1	7:G:82:THR:OG1	2.36	0.56
1:A:548:G:C2	1:A:549:U:H1'	2.41	0.56
1:A:754:G:H8	1:A:754:G:O5'	1.89	0.56
1:A:774:G:H2'	1:A:775:A:C8	2.41	0.56
1:A:806:A:H2'	1:A:807:A:C8	2.41	0.56
1:A:3012:A:C6	1:A:3098:G:C6	2.94	0.56
1:A:3267:A:H8	9:I:69:PHE:CZ	2.23	0.56
2:B:2:A:H3'	2:B:3:A:C8	2.39	0.56
2:B:7:U:H2'	2:B:8:C:C6	2.40	0.56
4:D:263:VAL:O	4:D:267:PHE:CB	2.53	0.56
8:H:144:LEU:HB2	8:H:149:ILE:O	2.06	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:N:63:THR:HA	14:N:104:LEU:HD12	1.88	0.56
24:X:169:ILE:HG13	24:X:170:PRO:HD3	1.88	0.56
24:X:198:LYS:HB2	24:X:200:GLU:OE1	2.06	0.56
25:Y:137:LEU:HD12	25:Y:140:PHE:CE1	2.40	0.56
25:Y:435:SER:HB3	25:Y:442:THR:CG2	2.36	0.56
1:A:164:A:C4	1:A:165:A:H1'	2.41	0.56
1:A:434:U:H2'	1:A:435:C:C6	2.41	0.56
1:A:611:A:C4	1:A:612:U:C5	2.94	0.56
1:A:985:U:H2'	1:A:986:U:H6	1.69	0.56
1:A:1204:A:H2'	1:A:1205:A:O4'	2.05	0.56
1:A:1316:C:OP2	19:S:133:ARG:NE	2.39	0.56
5:E:189:ILE:O	8:H:305:LYS:NZ	2.39	0.56
8:H:99:LEU:HD23	8:H:235:PRO:HG3	1.87	0.56
10:J:197:GLN:OE1	10:J:197:GLN:N	2.38	0.56
13:M:161:LYS:O	13:M:165:GLN:HG3	2.06	0.56
13:M:357:ALA:O	13:M:358:SER:OG	2.23	0.56
18:R:6:TYR:CE1	34:m:40:VAL:HG22	2.41	0.56
18:R:17:ASP:O	18:R:20:ARG:HB3	2.07	0.56
25:Y:325:GLN:O	25:Y:329:THR:HG23	2.06	0.56
25:Y:433:ILE:HG22	25:Y:437:TYR:HB2	1.88	0.56
25:Y:475:LYS:HD2	25:Y:483:PRO:HD2	1.86	0.56
26:Z:17:HIS:HA	26:Z:29:ARG:NH1	2.20	0.56
26:Z:144:ARG:HG3	26:Z:148:ARG:HE	1.70	0.56
34:m:55:ARG:O	34:m:59:ASP:HB2	2.06	0.56
1:A:76:G:H1'	16:P:100:ARG:HD2	1.88	0.55
1:A:350:C:N3	1:A:367:A:C4	2.74	0.55
1:A:599:C:H2'	1:A:600:G:O4'	2.05	0.55
1:A:678:G:C5	1:A:703:G:C2	2.94	0.55
1:A:3129:A:N6	1:A:3131:U:O2	2.39	0.55
4:D:202:SER:OG	13:M:255:ILE:O	2.22	0.55
10:J:131:GLU:CD	10:J:132:PRO:HD3	2.31	0.55
11:K:79:GLN:H	11:K:155:ASN:ND2	2.04	0.55
15:O:219:PRO:HB2	15:O:222:PRO:HA	1.88	0.55
21:U:33:TYR:HB3	21:U:49:LEU:HD12	1.87	0.55
25:Y:50:SER:OG	25:Y:53:THR:OG1	2.23	0.55
25:Y:339:GLU:HG2	25:Y:340:ARG:N	2.20	0.55
25:Y:431:LYS:HG3	25:Y:432:LEU:HD12	1.87	0.55
27:a:189:ARG:NH2	28:b:246:PHE:HB3	2.19	0.55
1:A:738:A:H2'	1:A:739:G:C8	2.40	0.55
1:A:808:A:H8	1:A:808:A:OP2	1.88	0.55
1:A:3022:G:H4'	1:A:3023:U:H5''	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:82:THR:HG23	7:G:84:ARG:N	2.20	0.55
12:L:31:ARG:HD2	12:L:149:ASN:OD1	2.06	0.55
15:O:249:LYS:HE3	15:O:255:GLY:HA3	1.88	0.55
19:S:90:HIS:O	19:S:96:LYS:NZ	2.22	0.55
23:W:147:ASP:OD2	23:W:149:LYS:NZ	2.38	0.55
25:Y:153:ASN:HB3	25:Y:156:GLN:HB3	1.88	0.55
26:Z:110:GLN:O	26:Z:113:THR:OG1	2.19	0.55
29:c:57:LEU:HB3	29:c:105:VAL:HG23	1.88	0.55
1:A:1:G:H22	3:C:232:A:P	2.28	0.55
1:A:5:G:C6	2:B:155:A:C6	2.94	0.55
1:A:65:A:OP1	18:R:176:LYS:NZ	2.31	0.55
1:A:126:U:O4	1:A:142:C:N4	2.40	0.55
1:A:613:G:H2'	1:A:614:C:H6	1.70	0.55
1:A:721:G:OP1	1:A:721:G:H2'	2.07	0.55
1:A:1111:U:O2'	1:A:1112:A:OP2	2.19	0.55
2:B:138:A:H2'	2:B:139:U:H6	1.70	0.55
4:D:143:PHE:HB2	4:D:199:PRO:HD3	1.88	0.55
4:D:275:ARG:HE	4:D:278:SER:HA	1.70	0.55
6:F:382:THR:HB	6:F:387:LEU:HG	1.88	0.55
9:I:65:ILE:HD11	9:I:77:ARG:HB3	1.87	0.55
9:I:108:LYS:HG3	9:I:109:GLU:H	1.71	0.55
12:L:20:ILE:HG22	12:L:21:LYS:O	2.07	0.55
12:L:30:PRO:HD2	12:L:83:THR:HG22	1.87	0.55
12:L:102:ASN:O	12:L:113:GLU:CB	2.50	0.55
14:N:35:TYR:HB2	14:N:50:HIS:CE1	2.41	0.55
15:O:100:ASN:OD1	26:Z:132:ARG:NH1	2.39	0.55
25:Y:464:GLN:O	25:Y:469:ASP:HB3	2.06	0.55
27:a:100:TRP:CZ3	27:a:227:LEU:HD12	2.42	0.55
1:A:81:C:OP2	18:R:193:ARG:NH2	2.39	0.55
1:A:160:G:H2'	1:A:161:G:O4'	2.06	0.55
1:A:687:U:H2'	1:A:688:G:C8	2.42	0.55
1:A:1185:C:H2'	1:A:1186:G:O4'	2.06	0.55
1:A:3124:G:C2	1:A:3125:U:H1'	2.42	0.55
2:B:141:C:O3'	18:R:62:TYR:OH	2.23	0.55
4:D:167:ARG:NH2	4:D:270:PRO:O	2.40	0.55
6:F:108:GLU:OE2	6:F:144:ILE:HD11	2.06	0.55
6:F:111:SER:O	6:F:115:LYS:HG3	2.07	0.55
12:L:20:ILE:HD12	17:Q:7:VAL:HG22	1.89	0.55
12:L:76:ASP:O	12:L:80:THR:HG22	2.05	0.55
13:M:199:TRP:HZ3	13:M:201:VAL:HG23	1.72	0.55
14:N:18:LYS:HE2	14:N:63:THR:OG1	2.06	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:O:276:GLU:CA	22:V:138:ARG:HH21	2.13	0.55
16:P:45:LYS:HG3	16:P:46:ILE:HG12	1.87	0.55
22:V:200:LEU:HD22	22:V:329:GLN:HG2	1.88	0.55
22:V:236:GLU:O	22:V:293:ARG:NE	2.39	0.55
23:W:93:GLU:OE1	23:W:93:GLU:N	2.39	0.55
26:Z:118:VAL:O	26:Z:121:THR:OG1	2.23	0.55
27:a:112:PHE:HE1	27:a:222:THR:N	2.02	0.55
1:A:222:A:C6	1:A:223:U:C4	2.94	0.55
1:A:246:U:H2'	1:A:247:C:H6	1.71	0.55
1:A:335:G:N2	2:B:29:U:C2	2.75	0.55
1:A:336:A:O2'	7:G:48:GLN:NE2	2.40	0.55
1:A:595:G:P	10:J:30:ARG:HH22	2.29	0.55
1:A:3052:G:H2'	1:A:3053:G:C8	2.42	0.55
1:A:3193:C:C2	1:A:3200:G:C2	2.94	0.55
2:B:128:U:O2'	2:B:129:C:O4'	2.24	0.55
6:F:42:ALA:HB3	6:F:184:ASN:HB2	1.88	0.55
8:H:221:THR:HA	8:H:224:ASN:OD1	2.07	0.55
10:J:208:SER:OG	10:J:209:ASN:N	2.37	0.55
11:K:220:ALA:HA	11:K:224:ASP:OD2	2.06	0.55
14:N:107:VAL:HG12	14:N:108:ILE:HD13	1.89	0.55
16:P:92:THR:O	33:l:113:GLN:NE2	2.39	0.55
17:Q:42:LYS:HG3	17:Q:43:LYS:H	1.71	0.55
22:V:157:ASN:OD1	22:V:158:ASN:N	2.39	0.55
27:a:65:LEU:HD21	27:a:74:LEU:HD21	1.88	0.55
27:a:86:VAL:HG12	27:a:104:PRO:HD3	1.89	0.55
1:A:121:A:N6	11:K:108:ARG:HH22	2.05	0.55
1:A:453:C:H5	22:V:242:ASN:HB2	1.70	0.55
1:A:534:U:H1'	23:W:146:LYS:HD3	1.88	0.55
1:A:3323:A:H2'	1:A:3324:C:H6	1.69	0.55
3:C:53:A:H2	8:H:166:ALA:HA	1.72	0.55
6:F:89:VAL:HG23	6:F:199:PHE:HE1	1.71	0.55
7:G:286:VAL:O	7:G:289:ILE:N	2.29	0.55
8:H:38:ILE:HA	8:H:41:VAL:HG12	1.87	0.55
8:H:119:LYS:NZ	8:H:176:GLN:HA	2.21	0.55
8:H:170:ARG:O	8:H:173:PHE:N	2.39	0.55
8:H:180:ILE:HG13	8:H:204:THR:O	2.06	0.55
11:K:143:ILE:HG22	11:K:144:GLU:H	1.72	0.55
13:M:377:GLU:HA	13:M:387:VAL:HG21	1.88	0.55
20:T:30:ARG:HH22	20:T:62:ARG:NH1	2.04	0.55
25:Y:350:ALA:HB3	25:Y:351:ARG:NH1	2.22	0.55
27:a:116:ASN:OD1	27:a:118:HIS:NE2	2.39	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:c:55:GLU:HB2	29:c:108:LYS:HB2	1.89	0.55
33:l:20:GLN:O	33:l:23:ASP:HB3	2.07	0.55
1:A:26:A:C6	1:A:330:G:C5	2.95	0.55
1:A:72:C:H4'	16:P:63:VAL:HG22	1.88	0.55
1:A:216:G:OP1	29:c:16:ARG:NH1	2.38	0.55
1:A:655:C:OP1	31:i:27:ARG:N	2.40	0.55
7:G:29:PRO:HB3	21:U:25:TYR:HE2	1.72	0.55
7:G:351:PRO:HA	10:J:71:ALA:HA	1.89	0.55
13:M:114:LEU:HG	13:M:117:ILE:HG22	1.89	0.55
15:O:100:ASN:HD21	26:Z:132:ARG:CZ	2.19	0.55
21:U:99:THR:OG1	21:U:100:THR:N	2.39	0.55
23:W:36:ILE:O	23:W:39:SER:HB3	2.07	0.55
25:Y:213:ILE:HG13	25:Y:214:ILE:N	2.22	0.55
34:m:86:LYS:O	34:m:90:MET:HG2	2.07	0.55
1:A:147:U:O2'	18:R:41:ARG:NH1	2.40	0.55
1:A:696:C:HO2'	1:A:697:A:P	2.29	0.55
4:D:246:CYS:HB2	4:D:248:GLU:OE2	2.05	0.55
6:F:88:GLY:HA3	6:F:105:VAL:O	2.06	0.55
6:F:216:ASP:HB2	6:F:278:ILE:HD12	1.88	0.55
8:H:105:SER:OG	8:H:231:MET:O	2.17	0.55
9:I:94:GLU:OE1	9:I:94:GLU:N	2.30	0.55
11:K:226:TYR:O	11:K:229:VAL:HG12	2.06	0.55
13:M:431:TRP:HD1	13:M:447:TYR:CD1	2.24	0.55
15:O:275:LYS:HB2	22:V:138:ARG:NH2	2.22	0.55
23:W:30:PHE:HZ	23:W:99:ARG:HH21	1.54	0.55
23:W:154:HIS:ND1	23:W:170:THR:HG21	2.22	0.55
25:Y:339:GLU:OE1	25:Y:339:GLU:N	2.40	0.55
27:a:44:ARG:HH12	27:a:97:LEU:HD13	1.72	0.55
1:A:260:C:H2'	1:A:261:U:H6	1.72	0.55
1:A:428:A:O2'	1:A:429:U:O4'	2.25	0.55
1:A:435:C:H2'	1:A:436:A:C8	2.41	0.55
1:A:974:G:P	21:U:16:ARG:HH22	2.29	0.55
1:A:1383:G:C5	1:A:1384:U:C4	2.95	0.55
1:A:1409:G:C2'	1:A:1410:U:H5'	2.37	0.55
1:A:2382:G:OP2	19:S:91:LYS:NZ	2.40	0.55
1:A:3293:U:C2	1:A:3395:G:N1	2.66	0.55
2:B:114:G:C6	2:B:115:C:C4	2.95	0.55
4:D:213:ARG:O	4:D:269:GLN:HB3	2.07	0.55
8:H:110:TRP:HE3	8:H:253:TRP:CH2	2.22	0.55
10:J:210:PRO:HB3	10:J:243:MET:HG3	1.89	0.55
19:S:113:ASP:OD1	19:S:114:LYS:N	2.38	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:c:100:HIS:CG	29:c:101:PRO:HD2	2.42	0.55
1:A:400:G:O2'	1:A:401:U:OP2	2.24	0.55
1:A:415:G:H2'	1:A:416:A:H8	1.72	0.55
1:A:428:A:N6	1:A:632:G:O6	2.40	0.55
1:A:3189:G:H2'	1:A:3190:C:C6	2.42	0.55
1:A:3371:G:H2'	1:A:3372:A:C8	2.41	0.55
2:B:3:A:H2'	20:T:61:ARG:CZ	2.36	0.55
2:B:125:U:O2'	2:B:126:A:O4'	2.20	0.55
2:B:149:A:H2'	2:B:150:G:C8	2.42	0.55
12:L:4:ILE:H	23:W:142:GLN:HE21	1.54	0.55
12:L:129:ARG:HH22	12:L:154:VAL:HA	1.71	0.55
13:M:151:VAL:O	13:M:152:SER:OG	2.25	0.55
14:N:53:ILE:HB	14:N:62:MET:SD	2.47	0.55
15:O:151:ASN:HB3	15:O:158:THR:O	2.07	0.55
19:S:5:PRO:O	19:S:31:GLN:NE2	2.39	0.55
27:a:144:GLU:HA	27:a:150:GLN:CG	2.37	0.55
1:A:1106:G:C5	1:A:1107:C:N3	2.75	0.54
1:A:3105:U:H2'	1:A:3106:A:C8	2.42	0.54
1:A:3275:U:H5''	1:A:3276:G:C8	2.42	0.54
2:B:41:A:N6	2:B:103:G:O2'	2.36	0.54
3:C:22:G:N2	3:C:23:U:O2	2.41	0.54
6:F:70:ARG:HH22	14:N:28:VAL:HG21	1.72	0.54
7:G:99:MET:HE1	7:G:103:THR:HG23	1.89	0.54
11:K:144:GLU:HA	11:K:173:MET:SD	2.48	0.54
12:L:128:VAL:HG23	12:L:157:ASN:ND2	2.22	0.54
13:M:363:PHE:HE2	13:M:365:PHE:CE1	2.25	0.54
14:N:162:HIS:NE2	14:N:164:GLN:HB2	2.22	0.54
33:l:78:LYS:HG2	33:l:81:ARG:CZ	2.37	0.54
1:A:264:G:C2	25:Y:155:ARG:NH1	2.75	0.54
1:A:3273:A:H2'	1:A:3274:A:O4'	2.06	0.54
23:W:113:ARG:O	23:W:115:ARG:HG2	2.07	0.54
1:A:64:G:OP2	18:R:169:LYS:NZ	2.34	0.54
1:A:166:C:N3	1:A:167:U:C5	2.75	0.54
1:A:275:U:H2'	1:A:276:U:C5	2.42	0.54
1:A:283:G:H5''	1:A:284:A:O4'	2.07	0.54
1:A:432:G:C6	1:A:628:A:N1	2.75	0.54
1:A:1313:G:H5'	19:S:83:ALA:HB1	1.89	0.54
1:A:1384:U:OP2	7:G:202:ARG:HD3	2.07	0.54
1:A:3060:C:O3'	1:A:3371:G:N2	2.40	0.54
1:A:3084:C:H2'	1:A:3085:G:O4'	2.08	0.54
2:B:123:G:C2	2:B:124:G:C5	2.96	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:91:GLN:HG2	4:D:92:HIS:N	2.23	0.54
7:G:181:VAL:O	7:G:182:LEU:HG	2.08	0.54
8:H:189:SER:C	8:H:191:PRO:HD2	2.32	0.54
11:K:188:THR:HA	13:M:96:ARG:NH1	2.21	0.54
13:M:130:ARG:HG3	13:M:131:ASP:OD1	2.07	0.54
13:M:204:LYS:HB3	13:M:373:ILE:HD11	1.90	0.54
13:M:378:PHE:HD1	13:M:379:LEU:HG	1.73	0.54
14:N:99:GLU:HG3	14:N:101:LEU:H	1.71	0.54
17:Q:20:VAL:HA	17:Q:33:ALA:O	2.07	0.54
22:V:64:ILE:HG21	22:V:160:PHE:CE2	2.43	0.54
24:X:113:ILE:HD12	24:X:121:TYR:CD2	2.42	0.54
25:Y:131:PHE:HE1	25:Y:145:PHE:HB2	1.73	0.54
27:a:34:LEU:HG	27:a:83:CYS:SG	2.47	0.54
35:n:52:LYS:HG2	35:n:55:ARG:HH21	1.72	0.54
1:A:7:C:OP1	13:M:92:ARG:NH1	2.40	0.54
1:A:269:G:N2	1:A:295:A:OP2	2.41	0.54
1:A:465:U:OP1	1:A:465:U:H2'	2.07	0.54
1:A:1288:U:H2'	1:A:1289:G:C8	2.41	0.54
1:A:1419:A:OP1	2:B:20:U:O2'	2.26	0.54
1:A:3294:A:H2'	1:A:3295:A:O4'	2.07	0.54
3:C:7:C:N4	8:H:184:ASP:OD1	2.31	0.54
10:J:160:ARG:HE	10:J:203:TRP:CD1	2.25	0.54
13:M:249:ASP:OD2	13:M:251:LYS:HE3	2.08	0.54
22:V:7:ARG:NH2	22:V:109:ASP:O	2.33	0.54
26:Z:15:CYS:HB3	26:Z:17:HIS:ND1	2.22	0.54
1:A:382:U:O2	20:T:97:ASN:ND2	2.41	0.54
1:A:450:G:C2	1:A:485:A:C2	2.95	0.54
1:A:519:A:N7	7:G:360:LYS:NZ	2.53	0.54
1:A:590:G:O6	1:A:591:G:N1	2.41	0.54
1:A:974:G:O5'	21:U:16:ARG:NH2	2.32	0.54
1:A:1060:U:H2'	1:A:1061:A:C8	2.42	0.54
1:A:1351:U:H5'	26:Z:102:LYS:CE	2.37	0.54
1:A:3237:U:C2	1:A:3251:U:C2	2.95	0.54
2:B:109:A:C5	2:B:114:G:C6	2.96	0.54
3:C:44:G:H21	8:H:242:THR:H	1.54	0.54
5:E:193:VAL:N	8:H:302:GLU:OE2	2.28	0.54
9:I:170:LYS:HB3	9:I:172:HIS:CE1	2.42	0.54
25:Y:330:ASN:O	25:Y:334:GLU:CB	2.55	0.54
1:A:19:U:H5'	18:R:138:GLN:NE2	2.23	0.54
1:A:1334:U:H2'	1:A:1335:C:C6	2.42	0.54
2:B:93:U:C4	2:B:94:C:N3	2.76	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:148:G:H3'	2:B:149:A:H8	1.71	0.54
5:E:199:ASN:O	5:E:203:LYS:HB2	2.07	0.54
5:E:214:SER:N	5:E:215:GLY:HA2	2.23	0.54
8:H:97:LEU:HD23	8:H:207:ILE:HA	1.89	0.54
8:H:125:LEU:HD23	8:H:151:VAL:HG11	1.89	0.54
14:N:123:ARG:O	14:N:126:GLU:HB3	2.07	0.54
22:V:221:LEU:HB2	22:V:235:TRP:HB3	1.88	0.54
1:A:87:U:H2'	1:A:88:A:C8	2.43	0.54
1:A:101:G:H2'	1:A:102:C:O4'	2.07	0.54
1:A:132:C:N3	1:A:137:G:N1	2.56	0.54
1:A:208:C:OP2	7:G:163:LYS:NZ	2.28	0.54
1:A:235:A:H2'	1:A:236:G:H8	1.71	0.54
1:A:417:A:H8	1:A:417:A:OP2	1.91	0.54
1:A:616:G:H2'	1:A:617:G:H8	1.71	0.54
1:A:1382:G:C6	1:A:1383:G:N7	2.75	0.54
2:B:111:A:O2'	2:B:112:U:O4'	2.24	0.54
8:H:163:VAL:HG23	8:H:164:TYR:CD2	2.42	0.54
11:K:135:GLY:O	11:K:139:VAL:HG23	2.08	0.54
14:N:21:ASN:ND2	14:N:112:ASP:OD2	2.41	0.54
15:O:100:ASN:HB3	15:O:103:ALA:HB2	1.90	0.54
27:a:31:GLN:HA	27:a:84:ASN:ND2	2.22	0.54
27:a:46:ARG:O	27:a:50:GLN:HG2	2.08	0.54
27:a:179:PHE:O	27:a:180:SER:OG	2.12	0.54
31:i:127:ALA:C	31:i:128:LEU:HD12	2.32	0.54
32:j:27:VAL:HG23	32:j:27:VAL:O	2.08	0.54
32:j:85:PHE:N	32:j:85:PHE:CD1	2.71	0.54
1:A:122:A:C5	1:A:146:U:N3	2.76	0.54
1:A:172:G:C2	1:A:247:C:C2	2.95	0.54
1:A:180:C:H2'	1:A:181:U:C6	2.43	0.54
1:A:199:A:C4	1:A:201:A:C8	2.96	0.54
1:A:639:G:H2'	1:A:640:U:C6	2.43	0.54
1:A:1063:G:H2'	1:A:1097:G:H2'	1.90	0.54
3:C:17:G:OP1	8:H:224:ASN:ND2	2.41	0.54
4:D:141:LEU:HA	4:D:178:LYS:HA	1.88	0.54
5:E:174:GLU:HG3	5:E:175:LYS:N	2.21	0.54
6:F:316:GLU:HG2	6:F:318:LYS:HZ1	1.73	0.54
7:G:38:VAL:O	7:G:42:VAL:HB	2.07	0.54
7:G:288:ARG:HD3	24:X:115:ARG:HA	1.90	0.54
10:J:44:ILE:HG13	10:J:45:LEU:N	2.21	0.54
15:O:110:PHE:O	15:O:113:ILE:HG22	2.08	0.54
15:O:277:GLU:OE2	22:V:385:LEU:HD11	2.07	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:Y:187:PHE:CZ	25:Y:217:LEU:HA	2.43	0.54
34:m:53:TYR:O	34:m:57:LEU:HG	2.07	0.54
1:A:190:U:H2'	29:c:60:ARG:HH21	1.72	0.54
1:A:579:G:H2'	1:A:580:C:H6	1.72	0.54
1:A:596:C:P	10:J:33:ARG:HH12	2.30	0.54
1:A:2361:A:C5	1:A:2362:C:C4	2.96	0.54
1:A:2997:G:H22	1:A:3158:G:H5'	1.73	0.54
1:A:3294:A:OP2	6:F:126:LYS:NZ	2.41	0.54
2:B:107:G:H2'	2:B:108:C:C6	2.43	0.54
2:B:127:U:H2'	13:M:14:ASN:ND2	2.18	0.54
2:B:151:C:O2'	2:B:152:G:O5'	2.25	0.54
3:C:4:U:C5	8:H:161:LYS:HD3	2.43	0.54
4:D:209:GLN:NE2	4:D:210:LYS:HE3	2.21	0.54
4:D:218:GLY:C	4:D:220:ASN:H	2.16	0.54
6:F:83:PRO:HD3	6:F:319:ASN:HB3	1.90	0.54
7:G:62:ALA:HB2	7:G:77:VAL:HG22	1.89	0.54
10:J:239:LEU:O	10:J:242:SER:OG	2.14	0.54
15:O:134:GLU:O	15:O:138:ILE:HG22	2.08	0.54
15:O:252:GLU:OE2	15:O:253:ARG:NE	2.41	0.54
24:X:10:LEU:O	24:X:18:ARG:HG2	2.08	0.54
25:Y:118:ILE:HG12	25:Y:190:LEU:HD11	1.90	0.54
25:Y:219:ASN:HA	25:Y:222:ARG:HB3	1.90	0.54
25:Y:396:PRO:O	25:Y:399:LEU:HG	2.08	0.54
26:Z:17:HIS:NE2	26:Z:30:ASN:OD1	2.40	0.54
26:Z:102:LYS:HA	26:Z:105:ARG:HH21	1.73	0.54
27:a:147:PRO:HB2	28:b:201:MET:SD	2.48	0.54
1:A:61:A:C4	1:A:62:A:C8	2.96	0.54
1:A:168:U:H2'	1:A:169:U:C6	2.43	0.54
1:A:973:A:H61	1:A:1108:U:H3	1.55	0.54
1:A:1295:G:H4'	23:W:115:ARG:HG3	1.90	0.54
1:A:3109:G:H2'	1:A:3110:C:H6	1.72	0.54
1:A:3192:U:H2'	1:A:3193:C:C6	2.43	0.54
1:A:3261:C:P	17:Q:126:GLN:HE21	2.31	0.54
4:D:229:LEU:HB2	13:M:206:PRO:HG2	1.89	0.54
7:G:135:VAL:CG1	7:G:142:VAL:HG11	2.38	0.54
8:H:39:LYS:NZ	8:H:43:GLU:OE1	2.40	0.54
8:H:254:LEU:HD11	8:H:255:ARG:NH1	2.23	0.54
12:L:126:VAL:HG21	12:L:161:LEU:HD23	1.89	0.54
13:M:140:PHE:HA	13:M:143:SER:OG	2.08	0.54
14:N:118:HIS:O	14:N:139:ARG:NH1	2.41	0.54
34:m:36:ARG:O	34:m:40:VAL:HG23	2.08	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:118:U:N3	1:A:122:A:OP2	2.37	0.53
1:A:227:G:N2	1:A:228:U:O2	2.41	0.53
1:A:267:G:C6	1:A:319:A:N7	2.76	0.53
1:A:1295:G:H2'	1:A:1296:C:C6	2.42	0.53
4:D:163:LEU:O	4:D:166:LEU:N	2.41	0.53
6:F:294:GLY:O	6:F:303:LYS:NZ	2.40	0.53
9:I:52:VAL:HG11	9:I:74:VAL:HG11	1.90	0.53
10:J:110:ARG:HB2	10:J:110:ARG:CZ	2.38	0.53
15:O:172:TYR:HD2	15:O:268:LYS:HE3	1.73	0.53
15:O:240:PHE:HD1	15:O:264:THR:HG22	1.74	0.53
19:S:39:GLU:OE1	19:S:39:GLU:N	2.39	0.53
22:V:39:HIS:NE2	22:V:41:ALA:HB2	2.22	0.53
25:Y:114:GLY:HA3	25:Y:189:ASN:HB2	1.90	0.53
25:Y:144:THR:OG1	25:Y:166:ASN:N	2.39	0.53
25:Y:272:ASP:HA	25:Y:396:PRO:HD3	1.90	0.53
27:a:33:THR:O	27:a:59:SER:OG	2.20	0.53
32:j:38:PRO:O	32:j:41:ALA:N	2.40	0.53
1:A:278:U:H2'	1:A:279:U:C6	2.43	0.53
1:A:578:A:H2'	7:G:334:PHE:CD2	2.44	0.53
1:A:621:A:OP2	15:O:105:LYS:HE2	2.08	0.53
1:A:779:G:O2'	1:A:780:A:O5'	2.25	0.53
1:A:962:A:H2'	1:A:963:G:C8	2.43	0.53
1:A:1147:G:OP1	31:i:47:ARG:NH1	2.41	0.53
1:A:3167:A:H1'	1:A:3284:G:N2	2.24	0.53
3:C:53:A:C8	8:H:167:TYR:HE2	2.27	0.53
4:D:59:GLU:H	4:D:59:GLU:CD	2.16	0.53
4:D:135:TYR:CZ	4:D:179:LEU:HD23	2.43	0.53
11:K:98:ARG:NH2	13:M:98:GLU:OE2	2.41	0.53
12:L:81:GLY:HA2	12:L:86:TYR:CE2	2.44	0.53
13:M:69:GLN:HA	13:M:72:MET:HG2	1.90	0.53
13:M:177:ARG:CZ	13:M:189:GLN:HG2	2.38	0.53
18:R:8:GLU:HB3	18:R:46:ASP:OD2	2.08	0.53
20:T:67:ILE:O	20:T:80:LYS:NZ	2.37	0.53
22:V:280:ARG:O	22:V:307:PRO:HA	2.08	0.53
22:V:303:PRO:O	22:V:306:GLU:HG2	2.08	0.53
1:A:197:G:N1	1:A:395:A:C5	2.77	0.53
1:A:285:A:H4'	1:A:286:U:C6	2.44	0.53
1:A:433:A:H2'	1:A:434:U:O4'	2.08	0.53
1:A:446:U:H2'	1:A:447:U:C6	2.43	0.53
1:A:455:C:C2	1:A:476:G:N2	2.76	0.53
1:A:696:C:OP2	7:G:119:ARG:NH2	2.40	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:951:A:C4	1:A:1369:A:C2	2.97	0.53
1:A:977:C:N3	1:A:1105:A:C6	2.77	0.53
1:A:1119:C:H2'	1:A:1120:A:O4'	2.08	0.53
1:A:3078:U:H4'	1:A:3079:U:O5'	2.08	0.53
4:D:205:ARG:NH1	13:M:255:ILE:O	2.41	0.53
8:H:166:ALA:O	8:H:169:ALA:N	2.41	0.53
14:N:119:PRO:HG2	14:N:141:THR:HG23	1.88	0.53
15:O:175:LEU:HB3	15:O:265:LEU:HD23	1.90	0.53
22:V:64:ILE:HD13	22:V:160:PHE:CE2	2.43	0.53
22:V:246:ASP:OD2	26:Z:84:LYS:NZ	2.41	0.53
22:V:339:ILE:HA	22:V:348:PHE:O	2.09	0.53
23:W:66:GLU:HG2	23:W:69:PRO:HA	1.90	0.53
24:X:64:ARG:O	24:X:68:GLU:HG2	2.08	0.53
1:A:341:G:O2'	2:B:22:U:O4	2.23	0.53
1:A:2379:U:H2'	1:A:2380:U:C6	2.43	0.53
1:A:3232:G:C6	1:A:3255:U:N3	2.77	0.53
6:F:79:VAL:HG22	6:F:322:ILE:O	2.09	0.53
6:F:90:VAL:HG21	6:F:104:THR:HG22	1.90	0.53
6:F:169:THR:HG22	6:F:171:LEU:H	1.72	0.53
7:G:320:ASN:O	7:G:323:VAL:HG12	2.08	0.53
12:L:27:VAL:HG12	12:L:34:LEU:HB2	1.91	0.53
14:N:154:LEU:HD23	14:N:177:LEU:HD13	1.90	0.53
14:N:219:GLU:HA	14:N:224:LEU:HD13	1.89	0.53
16:P:80:VAL:HG13	16:P:85:LEU:CD1	2.38	0.53
18:R:23:GLN:O	18:R:27:VAL:HG12	2.09	0.53
20:T:42:THR:HA	20:T:45:GLN:OE1	2.08	0.53
27:a:80:LEU:HD11	34:m:71:LYS:N	2.23	0.53
31:i:19:ARG:NH1	31:i:33:ARG:HB2	2.23	0.53
31:i:63:THR:HA	31:i:66:LEU:HD13	1.91	0.53
1:A:18:G:N2	2:B:142:C:C2	2.77	0.53
1:A:201:A:H4'	1:A:220:G:C2	2.43	0.53
1:A:466:G:H4'	24:X:58:ARG:HD2	1.91	0.53
1:A:606:C:N4	1:A:608:A:N1	2.56	0.53
1:A:733:G:N1	1:A:735:A:OP2	2.42	0.53
2:B:125:U:H2'	2:B:126:A:C8	2.43	0.53
3:C:11:C:H2'	3:C:12:A:H8	1.73	0.53
6:F:296:THR:HG22	6:F:356:LEU:HD13	1.90	0.53
7:G:5:GLN:HE21	24:X:12:SER:HA	1.72	0.53
8:H:190:LEU:N	8:H:191:PRO:HD2	2.23	0.53
13:M:35:LEU:O	13:M:38:PHE:N	2.42	0.53
17:Q:16:GLU:HB3	23:W:149:LYS:HG2	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:Y:220:GLU:HG3	25:Y:221:ASP:H	1.73	0.53
1:A:412:G:H2'	1:A:413:U:H6	1.74	0.53
1:A:655:C:H2'	1:A:656:A:H8	1.74	0.53
1:A:1103:A:H3'	1:A:1104:G:C5	2.43	0.53
1:A:3112:G:H5'	12:L:73:SER:HB3	1.89	0.53
1:A:3182:G:O3'	19:S:161:LYS:NZ	2.37	0.53
2:B:92:A:C6	2:B:93:U:C4	2.96	0.53
2:B:129:C:OP2	13:M:10:GLY:HA3	2.08	0.53
6:F:316:GLU:HG2	6:F:318:LYS:NZ	2.22	0.53
7:G:206:LEU:HD12	7:G:226:GLU:O	2.08	0.53
7:G:230:VAL:HG12	7:G:261:VAL:HG21	1.91	0.53
7:G:281:ILE:HD13	7:G:283:THR:C	2.33	0.53
14:N:62:MET:HE2	14:N:73:PRO:HD2	1.91	0.53
22:V:220:LYS:HD2	22:V:233:GLN:HE22	1.73	0.53
22:V:376:ASP:C	22:V:378:LYS:H	2.17	0.53
25:Y:318:GLU:HG2	25:Y:323:GLN:HE22	1.74	0.53
26:Z:35:THR:CG2	26:Z:107:LYS:HD3	2.39	0.53
1:A:382:U:H2'	1:A:383:G:O4'	2.09	0.53
1:A:404:G:C6	1:A:405:U:C2	2.96	0.53
1:A:609:G:P	7:G:326:ARG:HH12	2.32	0.53
1:A:655:C:C2	1:A:1441:G:N2	2.77	0.53
1:A:745:C:HO2'	21:U:144:ARG:HH21	1.54	0.53
1:A:1201:C:H2'	1:A:1202:A:N3	2.24	0.53
1:A:1376:C:HO2'	1:A:1408:G:HO2'	1.53	0.53
1:A:3032:A:H2'	1:A:3033:A:C8	2.44	0.53
1:A:3122:A:N1	12:L:70:THR:HG21	2.23	0.53
2:B:139:U:C2	2:B:140:G:C8	2.97	0.53
3:C:20:U:H2'	3:C:21:G:O4'	2.09	0.53
4:D:155:ILE:HD13	4:D:160:PHE:CG	2.43	0.53
4:D:255:ALA:HB3	13:M:394:ASP:HB3	1.90	0.53
6:F:58:ARG:HA	6:F:357:LYS:N	2.24	0.53
15:O:240:PHE:HE2	15:O:242:ARG:HG2	1.72	0.53
16:P:62:THR:O	16:P:64:LYS:N	2.41	0.53
22:V:226:SER:HA	22:V:228:PHE:CE1	2.44	0.53
24:X:125:ILE:HG21	24:X:172:HIS:HD2	1.73	0.53
30:d:225:UNK:O	30:d:228:UNK:N	2.41	0.53
1:A:247:C:H2'	1:A:248:U:C6	2.43	0.53
1:A:284:A:C5'	27:a:43:TYR:H	2.22	0.53
1:A:630:A:N6	1:A:631:U:O4	2.42	0.53
1:A:3269:U:H4'	1:A:3270:U:O5'	2.07	0.53
6:F:88:GLY:O	6:F:161:LEU:N	2.29	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:85:PHE:O	10:J:136:TYR:HA	2.09	0.53
13:M:240:SER:OG	13:M:241:GLY:N	2.41	0.53
14:N:222:PHE:HB2	14:N:224:LEU:HD12	1.90	0.53
15:O:202:PHE:HD1	15:O:234:ASN:HD22	1.57	0.53
19:S:24:ALA:O	19:S:27:LEU:N	2.42	0.53
21:U:57:ILE:HA	21:U:147:ARG:HH12	1.74	0.53
22:V:10:VAL:HG23	22:V:19:LYS:HB2	1.91	0.53
22:V:386:ASP:OD1	22:V:387:ARG:N	2.42	0.53
23:W:77:VAL:O	23:W:91:TYR:HA	2.09	0.53
24:X:148:GLU:O	24:X:151:LYS:N	2.41	0.53
24:X:216:ASP:O	24:X:219:ALA:HB3	2.09	0.53
25:Y:119:VAL:HG22	25:Y:169:ILE:HA	1.91	0.53
27:a:114:ILE:HD12	27:a:220:VAL:O	2.09	0.53
1:A:51:A:H2'	1:A:52:A:C8	2.42	0.53
1:A:147:U:H3	11:K:159:PRO:HD2	1.74	0.53
1:A:196:G:N2	1:A:199:A:C8	2.77	0.53
1:A:285:A:OP2	27:a:42:ASN:HA	2.09	0.53
1:A:330:G:N3	1:A:331:G:C8	2.77	0.53
1:A:1124:U:H6	1:A:1125:U:C5	2.21	0.53
1:A:3033:A:O2'	1:A:3034:C:H5'	2.09	0.53
1:A:3103:A:H2'	1:A:3104:U:O4'	2.09	0.53
1:A:3288:G:O2'	1:A:3289:G:H8	1.91	0.53
1:A:3307:A:H2'	1:A:3308:C:C6	2.44	0.53
2:B:39:G:N3	2:B:104:A:N6	2.56	0.53
2:B:127:U:O2'	13:M:13:ARG:NH1	2.42	0.53
4:D:211:ARG:CZ	4:D:271:PHE:HB3	2.39	0.53
6:F:212:ASN:ND2	6:F:353:GLU:OE1	2.42	0.53
10:J:10:GLU:OE2	24:X:172:HIS:HE1	1.91	0.53
11:K:166:LEU:HB2	11:K:167:PRO:HD3	1.91	0.53
12:L:93:VAL:N	12:L:178:GLY:O	2.31	0.53
14:N:217:VAL:O	14:N:221:ILE:HG22	2.09	0.53
17:Q:33:ALA:HB2	17:Q:53:VAL:HG21	1.90	0.53
25:Y:182:THR:HG22	25:Y:186:VAL:HG23	1.91	0.53
26:Z:78:GLU:N	26:Z:78:GLU:OE1	2.39	0.53
1:A:149:U:OP2	18:R:49:ARG:NH1	2.31	0.53
1:A:459:G:C5	1:A:472:A:C6	2.96	0.53
1:A:537:A:C4	1:A:557:A:C8	2.97	0.53
1:A:648:C:H2'	1:A:649:A:H5'	1.90	0.53
1:A:971:G:O6	1:A:1111:U:O4	2.26	0.53
1:A:3182:G:H2'	1:A:3183:A:C8	2.44	0.53
2:B:6:U:H2'	2:B:7:U:H6	1.73	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:68:G:H2'	2:B:69:U:O4'	2.09	0.53
2:B:149:A:H2'	2:B:150:G:H8	1.73	0.53
3:C:16:U:H3'	8:H:221:THR:HB	1.91	0.53
3:C:32:A:H2'	3:C:33:U:H5''	1.91	0.53
5:E:157:LEU:HG	5:E:158:MET:HG3	1.90	0.53
6:F:66:LYS:O	6:F:70:ARG:NH1	2.41	0.53
10:J:176:TYR:CZ	10:J:197:GLN:HG2	2.44	0.53
11:K:78:PHE:HB3	11:K:155:ASN:OD1	2.08	0.53
13:M:223:GLU:HG3	13:M:224:PHE:N	2.24	0.53
13:M:440:GLU:OE2	13:M:442:VAL:HG13	2.09	0.53
22:V:160:PHE:O	22:V:171:ILE:HD12	2.09	0.53
25:Y:298:SER:O	25:Y:301:SER:OG	2.20	0.53
25:Y:310:ASN:HA	25:Y:316:VAL:HG11	1.91	0.53
25:Y:362:ILE:HG22	25:Y:364:PHE:HB2	1.90	0.53
26:Z:59:LYS:HB3	26:Z:84:LYS:HZ1	1.74	0.53
34:m:54:GLU:HG3	34:m:90:MET:SD	2.49	0.53
1:A:15:C:H2'	1:A:16:A:C8	2.44	0.52
1:A:331:G:H2'	1:A:332:C:C6	2.44	0.52
1:A:2352:A:H5''	20:T:83:TRP:O	2.09	0.52
1:A:3059:G:C6	1:A:3085:G:C2	2.97	0.52
4:D:56:VAL:O	4:D:60:SER:OG	2.27	0.52
5:E:204:HIS:O	5:E:207:ARG:HB3	2.09	0.52
10:J:221:LYS:O	10:J:227:GLY:HA3	2.09	0.52
11:K:148:ALA:HA	11:K:201:THR:CB	2.38	0.52
23:W:30:PHE:CE2	23:W:103:VAL:HG21	2.44	0.52
23:W:75:PHE:O	23:W:93:GLU:HA	2.09	0.52
33:l:74:LYS:HG2	33:l:75:TYR:CD2	2.43	0.52
1:A:164:A:N1	1:A:258:G:C6	2.77	0.52
1:A:197:G:C2	1:A:395:A:N7	2.77	0.52
1:A:568:G:OP2	1:A:568:G:H8	1.92	0.52
1:A:593:C:H2'	1:A:594:U:C6	2.44	0.52
1:A:639:G:H2'	1:A:640:U:H6	1.74	0.52
1:A:644:G:H3'	1:A:646:A:N7	2.24	0.52
1:A:1204:A:H62	1:A:1300:G:H21	1.55	0.52
1:A:1341:U:H2'	1:A:1342:C:C6	2.44	0.52
1:A:3042:U:O5'	1:A:3092:C:N4	2.43	0.52
1:A:3075:G:H2'	1:A:3076:C:H6	1.68	0.52
1:A:3191:G:H2'	1:A:3192:U:O4'	2.09	0.52
1:A:3210:A:H5''	17:Q:109:ARG:NH1	2.18	0.52
1:A:3297:U:H2'	1:A:3298:C:H6	1.74	0.52
3:C:57:U:O2	5:E:174:GLU:HG2	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:246:CYS:HB2	4:D:248:GLU:CD	2.34	0.52
13:M:35:LEU:HD13	13:M:71:LEU:HD11	1.91	0.52
20:T:50:GLN:O	20:T:55:GLN:HB2	2.09	0.52
22:V:256:LEU:HD11	22:V:275:PHE:HD1	1.73	0.52
23:W:14:LEU:HG	23:W:57:GLU:HB2	1.91	0.52
25:Y:69:GLN:HE22	25:Y:94:LEU:HD12	1.74	0.52
25:Y:111:PRO:C	25:Y:113:ASN:N	2.68	0.52
25:Y:294:VAL:HA	25:Y:362:ILE:HB	1.90	0.52
1:A:127:G:H2'	1:A:128:G:H8	1.74	0.52
1:A:330:G:H2'	1:A:331:G:H8	1.74	0.52
1:A:815:G:P	35:n:16:HIS:HE2	2.24	0.52
1:A:1059:G:H2'	1:A:1060:U:C6	2.44	0.52
1:A:1315:U:OP2	19:S:44:SER:HB3	2.09	0.52
1:A:3188:G:C2	1:A:3189:G:N7	2.77	0.52
4:D:149:GLY:HA2	4:D:151:LEU:HD12	1.91	0.52
6:F:218:ILE:HG13	6:F:337:THR:CG2	2.39	0.52
10:J:155:LYS:HB2	10:J:203:TRP:CE3	2.45	0.52
18:R:142:ILE:HD11	18:R:148:TYR:HB2	1.91	0.52
19:S:58:LEU:HA	19:S:72:HIS:NE2	2.24	0.52
22:V:151:ILE:HG13	22:V:152:LYS:HG2	1.91	0.52
22:V:161:VAL:HG23	22:V:169:LEU:HD11	1.90	0.52
22:V:186:LEU:HD13	22:V:231:LEU:HD23	1.91	0.52
22:V:289:THR:O	22:V:292:GLY:N	2.43	0.52
22:V:375:HIS:CD2	22:V:414:MET:SD	3.02	0.52
25:Y:51:GLN:O	25:Y:55:LYS:HB2	2.08	0.52
25:Y:231:GLN:HG2	25:Y:232:THR:H	1.74	0.52
33:l:22:VAL:O	33:l:26:LYS:HD3	2.10	0.52
1:A:470:G:OP1	26:Z:61:TYR:OH	2.17	0.52
1:A:482:C:N4	1:A:483:G:O6	2.41	0.52
1:A:974:G:P	21:U:16:ARG:NH2	2.83	0.52
1:A:989:A:H2'	1:A:990:U:H6	1.75	0.52
1:A:3164:C:HO2'	1:A:3165:A:H8	1.56	0.52
2:B:155:A:H4'	11:K:185:ARG:NH1	2.24	0.52
5:E:193:VAL:O	5:E:197:LYS:CB	2.58	0.52
9:I:69:PHE:HB2	9:I:75:PRO:HA	1.91	0.52
13:M:65:ALA:HA	13:M:68:ILE:HD12	1.91	0.52
13:M:187:TYR:HA	13:M:199:TRP:O	2.09	0.52
14:N:53:ILE:HG23	14:N:56:THR:OG1	2.08	0.52
16:P:105:ASN:OD1	16:P:107:GLU:N	2.43	0.52
23:W:11:GLY:N	23:W:41:TYR:OH	2.39	0.52
24:X:148:GLU:C	24:X:151:LYS:H	2.17	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:a:179:PHE:CE1	27:a:186:ILE:HD12	2.44	0.52
1:A:981:U:O2'	1:A:1105:A:O2'	2.25	0.52
1:A:3012:A:N6	1:A:3098:G:C6	2.77	0.52
1:A:3386:G:H2'	1:A:3387:U:C6	2.44	0.52
3:C:53:A:OP1	8:H:168:GLU:HB2	2.10	0.52
4:D:206:SER:O	4:D:209:GLN:HG2	2.10	0.52
5:E:117:LEU:HB3	5:E:139:PHE:HD1	1.74	0.52
7:G:18:ASN:OD1	7:G:19:ALA:N	2.43	0.52
8:H:86:LYS:HZ1	8:H:297:VAL:HG12	1.75	0.52
13:M:74:GLU:OE1	13:M:77:LEU:N	2.43	0.52
13:M:177:ARG:NH2	13:M:196:GLU:HB3	2.25	0.52
14:N:14:GLY:O	14:N:60:GLY:HA3	2.09	0.52
15:O:100:ASN:HD21	26:Z:132:ARG:NH2	2.07	0.52
16:P:90:ALA:HB1	16:P:95:ILE:HB	1.91	0.52
17:Q:28:SER:OG	17:Q:31:LYS:HB2	2.09	0.52
17:Q:48:GLY:H	17:Q:53:VAL:HG23	1.74	0.52
17:Q:81:VAL:O	17:Q:85:TRP:HB2	2.08	0.52
20:T:27:LYS:O	20:T:30:ARG:HB3	2.09	0.52
1:A:168:U:O2'	1:A:169:U:H5'	2.09	0.52
1:A:239:G:H2'	1:A:240:U:C5	2.44	0.52
1:A:398:A:N1	26:Z:143:ARG:NH2	2.56	0.52
1:A:545:U:H4'	1:A:546:C:C6	2.44	0.52
1:A:987:U:H5'	10:J:125:GLU:OE1	2.09	0.52
1:A:2367:A:N6	1:A:2381:G:O6	2.43	0.52
1:A:3044:G:C2	1:A:3098:G:C2	2.98	0.52
1:A:3184:A:O3'	12:L:39:LYS:NZ	2.39	0.52
1:A:3200:G:C2	1:A:3201:C:C2	2.97	0.52
2:B:82:U:H2'	2:B:83:C:H3'	1.92	0.52
2:B:95:G:C4	35:n:79:GLN:NE2	2.78	0.52
3:C:58:G:C5	5:E:126:LYS:HB2	2.45	0.52
3:C:231:A:N6	4:D:280:PHE:HB3	2.25	0.52
4:D:77:ARG:HB3	4:D:305:ALA:HB2	1.91	0.52
7:G:215:ILE:O	7:G:218:ALA:N	2.41	0.52
9:I:157:GLN:O	9:I:160:SER:N	2.40	0.52
10:J:178:ILE:HG23	10:J:183:ASP:HB2	1.92	0.52
22:V:393:ASP:HB2	22:V:400:LEU:HD11	1.92	0.52
24:X:156:TRP:HZ3	24:X:157:LEU:HD12	1.73	0.52
24:X:175:ASP:OD1	24:X:175:ASP:N	2.40	0.52
24:X:181:TRP:CE3	24:X:214:LEU:HD21	2.45	0.52
32:j:18:ARG:HH21	32:j:20:LYS:C	2.16	0.52
34:m:91:ASN:HA	34:m:94:ILE:HG22	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:246:U:H2'	1:A:247:C:C6	2.44	0.52
1:A:517:G:H3'	1:A:518:G:N2	2.24	0.52
1:A:577:C:OP1	10:J:142:SER:OG	2.20	0.52
1:A:3251:U:H2'	1:A:3252:G:H8	1.75	0.52
1:A:3394:U:C2	1:A:3395:G:C8	2.97	0.52
4:D:223:GLU:OE2	4:D:225:HIS:HB3	2.10	0.52
5:E:120:VAL:HA	5:E:137:LEU:HD23	1.91	0.52
6:F:299:ASP:OD2	6:F:358:TRP:HA	2.10	0.52
6:F:312:VAL:HG12	6:F:313:HIS:ND1	2.24	0.52
12:L:9:GLN:HE22	12:L:52:LEU:HD21	1.75	0.52
12:L:103:ILE:HD13	12:L:134:ILE:HB	1.92	0.52
17:Q:32:LEU:HD11	17:Q:94:TRP:CD2	2.44	0.52
27:a:112:PHE:HD1	27:a:222:THR:O	1.92	0.52
27:a:143:PHE:HZ	27:a:180:SER:HA	1.74	0.52
1:A:549:U:C2	1:A:550:A:C8	2.97	0.52
1:A:721:G:C6	1:A:750:G:C5	2.98	0.52
1:A:1105:A:C6	1:A:1106:G:C5	2.98	0.52
1:A:1348:U:C2	1:A:1350:A:C2	2.98	0.52
1:A:1379:G:C6	1:A:1428:A:C2	2.97	0.52
1:A:3017:A:H2'	1:A:3018:C:H6	1.73	0.52
3:C:46:U:O2'	8:H:245:ASN:ND2	2.43	0.52
15:O:194:ILE:HB	15:O:223:ASP:HB3	1.91	0.52
18:R:104:GLU:O	18:R:107:GLY:N	2.43	0.52
22:V:50:ALA:O	22:V:67:ARG:HG3	2.09	0.52
22:V:55:MET:HB3	22:V:411:PHE:HE2	1.75	0.52
25:Y:42:GLU:HB3	25:Y:65:MET:HB2	1.90	0.52
25:Y:222:ARG:O	25:Y:244:ARG:NH1	2.29	0.52
27:a:179:PHE:HE1	27:a:186:ILE:HD12	1.74	0.52
29:c:126:LEU:HD12	29:c:126:LEU:O	2.10	0.52
1:A:61:A:C6	1:A:62:A:C5	2.98	0.52
1:A:347:G:C2	1:A:348:A:C5	2.97	0.52
1:A:612:U:H2'	1:A:613:G:C8	2.44	0.52
1:A:2362:C:O2'	1:A:2363:A:O4'	2.22	0.52
1:A:3035:A:HO2'	1:A:3036:G:P	2.32	0.52
1:A:3072:C:H3'	1:A:3073:A:C8	2.45	0.52
1:A:3293:U:C4	1:A:3395:G:O6	2.63	0.52
2:B:123:G:O2'	2:B:124:G:OP1	2.22	0.52
6:F:222:LYS:HD3	6:F:331:ASN:HB3	1.92	0.52
6:F:313:HIS:HB2	6:F:332:ARG:NH1	2.25	0.52
9:I:11:PRO:O	9:I:12:SER:OG	2.28	0.52
12:L:3:TYR:O	12:L:60:GLY:N	2.36	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:76:VAL:HA	13:M:79:LYS:HD3	1.92	0.52
13:M:363:PHE:HE2	13:M:365:PHE:HE1	1.56	0.52
22:V:152:LYS:H	22:V:157:ASN:ND2	2.08	0.52
25:Y:297:SER:O	25:Y:346:THR:OG1	2.17	0.52
28:b:198:THR:O	28:b:202:LYS:N	2.40	0.52
1:A:88:A:H2'	1:A:89:A:O4'	2.10	0.52
1:A:137:G:H2'	1:A:138:U:C6	2.45	0.52
1:A:147:U:OP2	11:K:136:LEU:HB2	2.08	0.52
1:A:209:A:O2'	1:A:210:U:O5'	2.22	0.52
1:A:562:C:H2'	1:A:563:U:H6	1.75	0.52
1:A:597:G:H2'	1:A:598:A:H8	1.74	0.52
1:A:660:A:H8	1:A:660:A:O5'	1.92	0.52
1:A:1186:G:C2	1:A:1187:C:C2	2.98	0.52
1:A:1395:G:H2'	1:A:1396:C:C6	2.45	0.52
1:A:3163:A:N6	1:A:3288:G:C6	2.78	0.52
2:B:109:A:C6	2:B:114:G:C6	2.98	0.52
6:F:49:TYR:HA	6:F:334:ARG:O	2.10	0.52
6:F:122:TRP:CE2	6:F:127:LYS:HE3	2.45	0.52
8:H:100:LEU:HB2	8:H:234:LEU:O	2.09	0.52
9:I:41:ILE:HB	9:I:85:ILE:HG22	1.90	0.52
11:K:219:ASP:O	11:K:223:ALA:HB3	2.10	0.52
15:O:199:LEU:HA	15:O:232:LEU:O	2.10	0.52
22:V:56:TRP:HB3	22:V:64:ILE:HD11	1.91	0.52
22:V:60:GLU:OE1	22:V:60:GLU:N	2.38	0.52
24:X:156:TRP:CE3	24:X:157:LEU:HD12	2.45	0.52
24:X:231:SER:C	24:X:233:VAL:H	2.17	0.52
24:X:231:SER:OG	24:X:234:LEU:N	2.43	0.52
27:a:114:ILE:HD13	27:a:219:PHE:CE1	2.45	0.52
29:c:40:ARG:NH2	29:c:46:LYS:HE3	2.25	0.52
33:l:6:ALA:O	33:l:10:ARG:NH1	2.43	0.52
1:A:21:G:C6	2:B:37:A:N7	2.78	0.51
1:A:3253:G:H2'	1:A:3254:G:C8	2.45	0.51
6:F:16:PHE:O	6:F:17:LEU:HD12	2.10	0.51
7:G:14:GLU:OE1	7:G:14:GLU:N	2.42	0.51
7:G:138:ARG:HH21	7:G:240:PRO:HB2	1.75	0.51
8:H:128:LYS:HZ2	8:H:130:SER:H	1.58	0.51
9:I:158:TYR:OH	17:Q:114:ASP:OD2	2.20	0.51
12:L:27:VAL:HG12	12:L:78:MET:HE2	1.92	0.51
13:M:122:TYR:HA	13:M:127:ASP:OD2	2.11	0.51
13:M:379:LEU:HD23	13:M:382:SER:HB3	1.90	0.51
20:T:31:GLU:O	20:T:34:GLN:N	2.43	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:V:196:GLN:O	22:V:210:PHE:HA	2.09	0.51
24:X:46:TRP:O	24:X:47:LYS:C	2.53	0.51
35:n:26:SER:OG	35:n:34:CYS:SG	2.64	0.51
35:n:64:MET:O	35:n:68:LYS:HE3	2.10	0.51
1:A:32:U:N3	1:A:53:G:C6	2.77	0.51
1:A:1147:G:C5	1:A:1157:G:C2	2.99	0.51
1:A:3232:G:C6	1:A:3256:G:C6	2.99	0.51
6:F:89:VAL:HG22	6:F:160:VAL:HG22	1.91	0.51
8:H:33:PRO:HG3	8:H:36:ARG:CZ	2.41	0.51
8:H:170:ARG:NH2	8:H:195:GLY:HA3	2.25	0.51
8:H:199:TYR:HD1	8:H:205:THR:HG1	1.57	0.51
12:L:69:ARG:NH1	12:L:72:LYS:HG2	2.25	0.51
13:M:19:SER:HA	13:M:22:VAL:HG22	1.91	0.51
18:R:140:LYS:HE3	18:R:144:ARG:NH2	2.21	0.51
22:V:63:ALA:O	22:V:75:VAL:HB	2.09	0.51
27:a:179:PHE:HA	27:a:187:TRP:O	2.10	0.51
31:i:89:THR:HG22	31:i:117:ILE:HG12	1.92	0.51
1:A:665:A:H2'	1:A:666:A:H8	1.76	0.51
1:A:744:A:C4	21:U:141:ARG:NH2	2.79	0.51
1:A:1214:U:H2'	1:A:1215:U:C6	2.46	0.51
1:A:3334:U:H3	1:A:3369:G:H4'	1.75	0.51
3:C:26:U:P	8:H:196:GLY:H	2.33	0.51
4:D:202:SER:O	4:D:206:SER:OG	2.26	0.51
4:D:264:CYS:O	4:D:267:PHE:HB3	2.11	0.51
8:H:217:PHE:CE1	8:H:222:LEU:HD13	2.46	0.51
25:Y:357:ALA:HA	25:Y:386:GLY:HA3	1.91	0.51
27:a:226:ILE:O	27:a:236:ILE:N	2.32	0.51
1:A:198:A:N7	1:A:219:A:C6	2.77	0.51
1:A:276:U:H2'	1:A:277:G:O4'	2.09	0.51
1:A:637:C:C6	1:A:2361:A:N6	2.79	0.51
1:A:793:C:H2'	1:A:794:U:O4'	2.11	0.51
1:A:2367:A:C6	1:A:2381:G:C6	2.99	0.51
1:A:3099:C:N4	1:A:3136:G:C6	2.78	0.51
4:D:211:ARG:NH2	4:D:273:LEU:HA	2.26	0.51
6:F:225:GLY:C	6:F:269:GLN:HE22	2.17	0.51
7:G:203:ARG:NH1	7:G:226:GLU:OE2	2.43	0.51
7:G:348:GLY:O	7:G:350:LYS:NZ	2.41	0.51
8:H:127:LEU:HD11	8:H:154:ILE:HD12	1.92	0.51
12:L:2:LYS:HD3	12:L:60:GLY:O	2.11	0.51
13:M:20:GLN:CA	13:M:23:ARG:HG2	2.38	0.51
22:V:55:MET:HB3	22:V:411:PHE:CE2	2.45	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:Y:57:ILE:HD13	25:Y:137:LEU:HD21	1.92	0.51
25:Y:198:ALA:HB1	25:Y:202:LEU:HD23	1.93	0.51
35:n:28:HIS:CE1	35:n:31:LYS:HZ3	2.28	0.51
1:A:130:A:C6	1:A:139:G:C6	2.99	0.51
1:A:542:G:H1	1:A:549:U:H3	0.62	0.51
1:A:551:A:O2'	1:A:552:G:O5'	2.29	0.51
1:A:665:A:H2'	1:A:666:A:C8	2.45	0.51
2:B:56:G:N1	2:B:62:C:C4	2.79	0.51
7:G:16:THR:HG22	7:G:18:ASN:H	1.74	0.51
7:G:292:SER:OG	7:G:294:GLU:HG2	2.10	0.51
8:H:124:LEU:HD11	8:H:177:PHE:CZ	2.45	0.51
8:H:267:SER:O	8:H:271:ILE:HG13	2.11	0.51
13:M:252:LYS:O	13:M:256:ILE:N	2.44	0.51
19:S:22:VAL:HG21	19:S:122:GLN:HE21	1.75	0.51
25:Y:104:LEU:O	25:Y:108:LYS:N	2.44	0.51
25:Y:187:PHE:CZ	25:Y:216:ILE:HG22	2.46	0.51
26:Z:36:GLY:O	26:Z:37:LEU:HD12	2.10	0.51
26:Z:92:GLN:O	26:Z:95:GLU:HB3	2.10	0.51
29:c:27:ARG:HH12	29:c:76:LEU:HD12	1.74	0.51
31:i:32:TRP:O	31:i:33:ARG:HD3	2.10	0.51
1:A:583:G:H5''	32:j:106:ASN:CG	2.35	0.51
1:A:675:C:O2'	1:A:679:U:OP1	2.27	0.51
4:D:199:PRO:HB2	4:D:204:ILE:HD11	1.92	0.51
4:D:302:SER:HB3	4:D:307:ALA:HB2	1.92	0.51
7:G:61:SER:O	7:G:61:SER:OG	2.29	0.51
7:G:170:LYS:HG3	7:G:175:HIS:HB2	1.91	0.51
12:L:135:GLU:O	12:L:144:ILE:HG13	2.11	0.51
20:T:22:LEU:HD23	20:T:90:PHE:CD2	2.45	0.51
20:T:39:TRP:HZ3	20:T:47:TYR:CG	2.29	0.51
24:X:230:ASN:HB2	24:X:235:ARG:HD2	1.93	0.51
25:Y:288:GLN:HG3	25:Y:340:ARG:HE	1.75	0.51
26:Z:27:PHE:CE2	31:i:85:LEU:HD21	2.46	0.51
27:a:36:ILE:HG23	27:a:64:LYS:HA	1.93	0.51
27:a:192:GLU:HB3	27:a:215:ILE:HD11	1.93	0.51
1:A:114:A:N1	1:A:266:A:O2'	2.43	0.51
1:A:164:A:N1	1:A:258:G:N1	2.59	0.51
1:A:523:A:O2'	23:W:69:PRO:HD2	2.11	0.51
1:A:583:G:H5''	32:j:106:ASN:ND2	2.26	0.51
1:A:593:C:P	9:I:19:LYS:HZ2	2.34	0.51
1:A:986:U:O2'	10:J:125:GLU:OE1	2.26	0.51
1:A:3021:A:H5''	1:A:3023:U:C1'	2.40	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3256:G:C6	1:A:3257:C:C4	2.99	0.51
6:F:148:LEU:HD12	6:F:151:ILE:HD12	1.93	0.51
6:F:297:SER:HA	6:F:300:ARG:HH12	1.74	0.51
9:I:37:GLY:O	9:I:91:VAL:HG22	2.11	0.51
9:I:154:LEU:HB2	17:Q:119:GLN:HE22	1.76	0.51
13:M:260:SER:HB3	13:M:377:GLU:OE2	2.09	0.51
14:N:218:ILE:HD12	14:N:222:PHE:HE2	1.75	0.51
16:P:23:LYS:HE3	16:P:25:HIS:ND1	2.26	0.51
17:Q:19:ARG:HG3	17:Q:69:THR:HG22	1.93	0.51
17:Q:70:PHE:HE1	17:Q:72:LEU:HD12	1.75	0.51
21:U:89:ASP:HB3	21:U:110:ALA:CA	2.41	0.51
23:W:42:TRP:HH2	23:W:57:GLU:N	2.09	0.51
23:W:80:ARG:HG3	23:W:87:THR:HG21	1.92	0.51
24:X:113:ILE:HD12	24:X:121:TYR:HD2	1.76	0.51
25:Y:129:GLN:NE2	25:Y:348:VAL:HG23	2.25	0.51
25:Y:179:LEU:O	25:Y:183:LYS:HD3	2.11	0.51
25:Y:318:GLU:OE1	25:Y:318:GLU:N	2.44	0.51
25:Y:478:GLY:HA3	25:Y:480:PRO:HD2	1.93	0.51
33:l:41:LEU:O	33:l:44:ILE:HG22	2.10	0.51
1:A:60:A:C4	1:A:61:A:C8	2.99	0.51
1:A:138:U:H2'	1:A:139:G:C8	2.45	0.51
1:A:639:G:C6	1:A:640:U:C4	2.99	0.51
1:A:953:G:N1	1:A:1142:G:N3	2.59	0.51
1:A:1108:U:O2	1:A:1108:U:H2'	2.11	0.51
1:A:3036:G:H2'	1:A:3037:U:O4'	2.11	0.51
1:A:3188:G:C2	1:A:3189:G:C8	2.98	0.51
1:A:3228:C:H1'	1:A:3229:G:OP2	2.11	0.51
1:A:3276:G:OP1	1:A:3276:G:H4'	2.11	0.51
2:B:127:U:O2	13:M:11:ASN:ND2	2.43	0.51
3:C:57:U:H4'	5:E:176:LEU:HG	1.91	0.51
5:E:149:GLN:O	5:E:153:ASN:N	2.44	0.51
5:E:197:LYS:O	5:E:200:MET:HB2	2.10	0.51
7:G:64:SER:HA	7:G:75:PRO:HA	1.93	0.51
10:J:222:HIS:HB3	10:J:225:GLN:OE1	2.10	0.51
12:L:4:ILE:HD12	23:W:143:PHE:CE1	2.46	0.51
22:V:24:ASN:ND2	22:V:420:ILE:HD13	2.25	0.51
22:V:387:ARG:HD3	22:V:406:GLY:C	2.36	0.51
23:W:61:ILE:O	23:W:62:ASN:ND2	2.44	0.51
31:i:95:GLU:HB2	31:i:121:ASN:OD1	2.11	0.51
33:l:79:ASP:N	33:l:79:ASP:OD1	2.43	0.51
1:A:27:C:H2'	1:A:28:C:H6	1.76	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:243:G:H2'	1:A:244:G:C8	2.45	0.51
1:A:672:A:OP2	21:U:56:LYS:N	2.35	0.51
1:A:3055:U:O4	1:A:3085:G:H2'	2.11	0.51
1:A:3200:G:H2'	1:A:3201:C:C6	2.45	0.51
1:A:3325:G:O6	1:A:3381:U:O2	2.28	0.51
2:B:81:U:H4'	2:B:87:G:H4'	1.93	0.51
2:B:143:U:H2'	2:B:144:G:O4'	2.10	0.51
4:D:211:ARG:HG2	4:D:212:GLY:H	1.76	0.51
5:E:104:GLU:HA	5:E:107:LEU:HB2	1.93	0.51
6:F:210:GLU:O	6:F:282:ILE:HD11	2.11	0.51
13:M:164:ASN:HB3	13:M:262:TYR:HE2	1.76	0.51
15:O:232:LEU:HA	15:O:240:PHE:O	2.11	0.51
16:P:79:GLU:OE2	16:P:103:ASN:ND2	2.44	0.51
18:R:8:GLU:O	18:R:11:GLN:N	2.44	0.51
18:R:36:ILE:HG21	18:R:109:ARG:HD3	1.92	0.51
20:T:115:SER:HB3	20:T:151:THR:HG22	1.93	0.51
24:X:207:GLU:O	24:X:210:LYS:HB3	2.09	0.51
27:a:46:ARG:O	27:a:49:ILE:HG13	2.10	0.51
32:j:85:PHE:CZ	32:j:89:LEU:HD11	2.46	0.51
1:A:66:A:H2	1:A:77:A:O3'	1.94	0.51
1:A:378:A:H1'	29:c:90:VAL:HG23	1.91	0.51
1:A:439:C:N4	31:i:128:LEU:HD11	2.25	0.51
1:A:494:G:N2	1:A:495:G:N3	2.59	0.51
1:A:686:G:C5	1:A:687:U:C5	3.00	0.51
1:A:927:C:H6	1:A:927:C:O5'	1.94	0.51
1:A:3035:A:O2'	1:A:3036:G:OP1	2.22	0.51
1:A:3297:U:OP2	6:F:121:ASN:ND2	2.44	0.51
2:B:71:A:C2	2:B:88:A:C8	2.99	0.51
7:G:99:MET:CE	7:G:102:PRO:HA	2.40	0.51
10:J:51:TYR:O	10:J:54:GLU:N	2.44	0.51
10:J:52:GLN:HE21	10:J:56:GLU:HG2	1.75	0.51
12:L:94:TYR:HA	12:L:177:ASP:HB3	1.92	0.51
14:N:77:THR:OG1	14:N:79:GLN:OE1	2.21	0.51
19:S:186:ALA:C	19:S:188:SER:H	2.19	0.51
22:V:9:LEU:HB2	22:V:413:VAL:HG23	1.92	0.51
24:X:227:ASP:HB3	24:X:230:ASN:HD21	1.74	0.51
33:l:5:LYS:HD3	33:l:7:TYR:HE2	1.75	0.51
1:A:427:C:N4	1:A:428:A:N6	2.59	0.50
1:A:1345:G:C2	1:A:1346:G:C5	2.99	0.50
1:A:3293:U:N3	1:A:3395:G:C6	2.70	0.50
4:D:163:LEU:HD22	4:D:168:LEU:HB2	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:223:GLU:CD	4:D:225:HIS:HB3	2.36	0.50
5:E:217:GLU:O	8:H:39:LYS:NZ	2.24	0.50
7:G:99:MET:HG2	7:G:100:PHE:H	1.77	0.50
8:H:176:GLN:OE1	8:H:176:GLN:N	2.34	0.50
11:K:75:ILE:HD11	18:R:18:VAL:HG23	1.91	0.50
12:L:34:LEU:HD21	12:L:149:ASN:HB3	1.94	0.50
12:L:137:SER:OG	12:L:143:GLU:OE1	2.25	0.50
13:M:37:ILE:HD12	13:M:221:PHE:HE1	1.76	0.50
13:M:367:VAL:HB	13:M:371:VAL:HG11	1.93	0.50
17:Q:6:ILE:O	17:Q:8:LYS:HG2	2.10	0.50
18:R:99:ARG:NH2	18:R:118:SER:O	2.42	0.50
19:S:61:ALA:HA	19:S:70:PRO:HD2	1.93	0.50
23:W:129:ILE:HG22	23:W:131:LYS:O	2.11	0.50
25:Y:214:ILE:HD13	25:Y:241:ILE:HG21	1.93	0.50
26:Z:32:TYR:O	26:Z:44:PRO:HG3	2.11	0.50
28:b:255:LEU:O	28:b:258:ARG:N	2.41	0.50
1:A:74:G:H2'	1:A:75:G:H8	1.76	0.50
1:A:430:U:N3	1:A:630:A:C2	2.80	0.50
1:A:483:G:C6	1:A:484:C:C4	3.00	0.50
1:A:724:U:H2'	1:A:725:G:H8	1.76	0.50
1:A:1136:A:H2'	1:A:1137:C:C6	2.46	0.50
1:A:3306:U:O2'	1:A:3308:C:OP2	2.19	0.50
3:C:11:C:H2'	3:C:12:A:C8	2.47	0.50
5:E:197:LYS:HD2	8:H:298:LEU:HD22	1.93	0.50
8:H:36:ARG:NH1	8:H:291:LEU:O	2.36	0.50
8:H:98:LYS:HD3	8:H:238:LEU:HD23	1.92	0.50
8:H:122:LYS:NZ	8:H:150:LYS:O	2.34	0.50
13:M:42:TYR:CD2	13:M:44:ARG:HD3	2.47	0.50
13:M:189:GLN:HG3	13:M:198:ARG:HG2	1.93	0.50
13:M:248:LEU:HB3	13:M:262:TYR:CD1	2.46	0.50
13:M:428:GLN:HG3	13:M:449:PRO:HB3	1.92	0.50
14:N:177:LEU:HG	14:N:179:VAL:HG22	1.93	0.50
25:Y:60:MET:CE	25:Y:136:GLU:HB2	2.41	0.50
27:a:32:ARG:HA	27:a:58:HIS:O	2.11	0.50
28:b:215:HIS:CG	28:b:216:SER:H	2.28	0.50
31:i:101:SER:O	31:i:105:ARG:HG3	2.11	0.50
1:A:170:G:H8	1:A:170:G:OP2	1.94	0.50
1:A:243:G:H2'	1:A:244:G:H8	1.75	0.50
1:A:430:U:C2	1:A:431:U:C5	3.00	0.50
1:A:559:A:N6	1:A:560:G:N3	2.59	0.50
1:A:957:C:C2	1:A:965:A:N1	2.79	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3299:A:H61	1:A:3315:G:H1	1.58	0.50
1:A:3308:C:O2	20:T:69:ARG:HD2	2.11	0.50
4:D:285:ARG:HH11	13:M:94:LEU:HD21	1.77	0.50
8:H:43:GLU:O	8:H:46:LYS:HB3	2.11	0.50
13:M:248:LEU:HD23	13:M:262:TYR:CE1	2.46	0.50
14:N:206:THR:OG1	14:N:210:THR:OG1	2.16	0.50
15:O:252:GLU:HG2	15:O:253:ARG:N	2.25	0.50
17:Q:42:LYS:HG3	17:Q:43:LYS:N	2.25	0.50
18:R:9:GLU:OE2	34:m:41:ARG:HG2	2.11	0.50
19:S:9:ILE:HG23	19:S:35:VAL:HA	1.93	0.50
25:Y:73:ILE:HB	25:Y:74:PRO:HD3	1.93	0.50
1:A:60:A:C6	1:A:61:A:C5	3.00	0.50
1:A:455:C:H2'	1:A:456:U:H6	1.76	0.50
1:A:953:G:O6	1:A:1142:G:C5	2.64	0.50
1:A:1433:A:O2'	1:A:1434:G:O4'	2.26	0.50
1:A:3297:U:H2'	1:A:3298:C:C6	2.45	0.50
3:C:26:U:H2'	3:C:27:G:H8	1.75	0.50
4:D:254:ILE:HG12	4:D:261:PHE:HE1	1.75	0.50
6:F:70:ARG:O	6:F:72:VAL:HG13	2.11	0.50
7:G:321:LYS:O	7:G:324:LEU:N	2.44	0.50
11:K:91:PHE:HE2	11:K:185:ARG:NE	2.09	0.50
12:L:20:ILE:HD13	12:L:45:PHE:CD2	2.47	0.50
13:M:85:THR:O	13:M:89:LYS:HG2	2.11	0.50
15:O:128:PHE:CG	15:O:129:GLY:N	2.80	0.50
26:Z:130:GLU:OE1	26:Z:130:GLU:N	2.30	0.50
1:A:187:A:N1	1:A:211:A:O2'	2.33	0.50
1:A:212:G:H2'	7:G:221:ASN:OD1	2.12	0.50
1:A:631:U:H2'	1:A:632:G:C8	2.39	0.50
1:A:685:G:OP1	16:P:35:ARG:HD2	2.11	0.50
1:A:746:A:H2'	1:A:747:A:C8	2.46	0.50
1:A:958:C:H5'	1:A:959:C:H5''	1.92	0.50
1:A:1115:G:OP2	1:A:1115:G:N2	2.36	0.50
2:B:95:G:O2'	35:n:81:GLY:O	2.20	0.50
6:F:283:TYR:CE2	6:F:325:LYS:HB3	2.46	0.50
7:G:329:PRO:HB3	10:J:41:ARG:HH21	1.77	0.50
8:H:102:VAL:HG21	8:H:234:LEU:HD22	1.93	0.50
9:I:78:ARG:HD3	9:I:106:PHE:CG	2.47	0.50
10:J:235:PHE:O	10:J:239:LEU:N	2.41	0.50
18:R:156:HIS:O	18:R:159:ARG:HG3	2.12	0.50
20:T:24:VAL:HG12	20:T:25:SER:H	1.76	0.50
20:T:47:TYR:CE2	20:T:51:VAL:HG11	2.47	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:X:58:ARG:O	24:X:60:ARG:N	2.45	0.50
25:Y:276:ARG:NH2	25:Y:393:PHE:O	2.45	0.50
27:a:140:ASP:OD1	27:a:141:GLN:N	2.44	0.50
1:A:672:A:C6	1:A:673:U:C4	2.99	0.50
1:A:3216:G:C2	1:A:3259:U:C4	2.99	0.50
1:A:3261:C:H2'	1:A:3262:U:C6	2.41	0.50
4:D:254:ILE:HG12	4:D:261:PHE:CE1	2.47	0.50
5:E:206:GLU:O	5:E:209:LYS:HB3	2.11	0.50
7:G:60:THR:HG22	7:G:62:ALA:H	1.77	0.50
13:M:166:TRP:O	13:M:169:TYR:N	2.42	0.50
16:P:118:GLU:HB3	16:P:122:LYS:NZ	2.27	0.50
22:V:72:VAL:O	22:V:118:SER:HA	2.11	0.50
22:V:314:PHE:CD2	22:V:339:ILE:HG13	2.46	0.50
25:Y:147:ILE:CG2	25:Y:149:ILE:HD13	2.38	0.50
25:Y:397:ASN:HB3	25:Y:467:LYS:HZ1	1.77	0.50
27:a:181:ILE:O	28:b:242:ARG:NH2	2.33	0.50
29:c:61:GLY:O	29:c:64:LYS:HG3	2.12	0.50
31:i:100:ILE:O	31:i:125:ARG:NH1	2.45	0.50
31:i:122:PRO:C	31:i:124:GLY:H	2.19	0.50
32:j:16:TYR:OH	32:j:89:LEU:O	2.17	0.50
32:j:90:PRO:C	32:j:92:LYS:H	2.19	0.50
1:A:116:A:N6	1:A:264:G:H4'	2.26	0.50
1:A:164:A:C2	1:A:258:G:C2	3.00	0.50
1:A:525:C:P	17:Q:77:ARG:HH21	2.34	0.50
1:A:990:U:O2	1:A:1059:G:N2	2.24	0.50
1:A:3000:A:H2'	1:A:3001:C:C6	2.47	0.50
1:A:3182:G:H2'	1:A:3183:A:H8	1.77	0.50
1:A:3198:U:O2'	17:Q:6:ILE:HG21	2.12	0.50
1:A:3267:A:H2'	9:I:69:PHE:CZ	2.47	0.50
1:A:3333:G:O2'	1:A:3334:U:H5	1.94	0.50
2:B:12:A:C4	2:B:13:A:C8	3.00	0.50
2:B:26:U:C2	2:B:27:U:C4	3.00	0.50
12:L:10:ILE:O	12:L:52:LEU:HG	2.11	0.50
13:M:138:MET:HE1	13:M:221:PHE:HB3	1.93	0.50
14:N:73:PRO:HB2	14:N:75:GLN:OE1	2.12	0.50
14:N:188:ARG:HE	14:N:211:THR:CG2	2.23	0.50
20:T:48:LEU:HA	20:T:51:VAL:HG22	1.92	0.50
22:V:151:ILE:HD13	22:V:197:LEU:HD23	1.94	0.50
23:W:52:LYS:NZ	23:W:54:ALA:HB3	2.27	0.50
26:Z:86:TYR:HE1	26:Z:113:THR:HG22	1.77	0.50
27:a:182:VAL:HG21	27:a:187:TRP:CD1	2.46	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:57:A:O2'	1:A:58:G:H5'	2.12	0.50
1:A:287:G:H2'	1:A:288:C:O4'	2.12	0.50
1:A:432:G:C2	1:A:628:A:C2	3.00	0.50
1:A:470:G:H2'	1:A:471:U:O4'	2.12	0.50
1:A:720:A:H2	1:A:784:A:C5	2.30	0.50
1:A:974:G:N2	1:A:976:U:H3	2.10	0.50
1:A:3044:G:H1'	6:F:13:HIS:NE2	2.27	0.50
3:C:7:C:N4	3:C:22:G:C2	2.80	0.50
4:D:144:ILE:HB	4:D:175:VAL:O	2.12	0.50
6:F:50:LYS:HA	6:F:79:VAL:HA	1.93	0.50
9:I:92:SER:HB3	9:I:148:GLU:CD	2.37	0.50
11:K:185:ARG:O	11:K:188:THR:HG22	2.12	0.50
13:M:164:ASN:HB3	13:M:262:TYR:CE2	2.47	0.50
16:P:61:PRO:HB2	16:P:62:THR:HG23	1.92	0.50
20:T:47:TYR:O	20:T:51:VAL:HG13	2.11	0.50
22:V:17:SER:HB3	22:V:45:ALA:HB2	1.94	0.50
25:Y:148:VAL:HG13	25:Y:174:ARG:NH2	2.26	0.50
27:a:169:SER:OG	27:a:170:LYS:N	2.45	0.50
27:a:180:SER:HB2	28:b:246:PHE:CE1	2.45	0.50
1:A:127:G:N3	1:A:128:G:C8	2.80	0.50
1:A:428:A:O2'	1:A:429:U:O5'	2.28	0.50
1:A:754:G:C6	1:A:778:U:O2	2.64	0.50
1:A:1154:A:HO2'	1:A:1155:C:P	2.35	0.50
1:A:1334:U:H2'	1:A:1335:C:H6	1.77	0.50
1:A:3147:G:H4'	6:F:102:LEU:O	2.12	0.50
1:A:3187:A:H5'	12:L:22:SER:HB2	1.94	0.50
1:A:3320:A:H4'	6:F:174:LYS:NZ	2.27	0.50
3:C:56:U:H4'	5:E:134:TYR:CZ	2.47	0.50
4:D:205:ARG:HH12	13:M:256:ILE:C	2.14	0.50
6:F:106:TRP:HE3	6:F:133:TYR:CE2	2.30	0.50
9:I:64:LEU:HD23	9:I:65:ILE:N	2.26	0.50
13:M:22:VAL:O	13:M:26:GLN:HG3	2.12	0.50
17:Q:47:ASP:HB2	17:Q:55:ARG:CB	2.42	0.50
20:T:120:ASN:OD1	20:T:120:ASN:N	2.45	0.50
22:V:122:LEU:HB3	22:V:170:HIS:CD2	2.46	0.50
22:V:281:TRP:O	22:V:282:SER:OG	2.23	0.50
22:V:368:SER:HB3	22:V:385:LEU:HD12	1.93	0.50
27:a:109:THR:CG2	27:a:227:LEU:HB2	2.42	0.50
29:c:58:VAL:HG11	29:c:63:LYS:HB2	1.93	0.50
33:l:70:TYR:O	33:l:73:LYS:HG2	2.12	0.50
1:A:16:A:C6	2:B:144:G:C2	2.99	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:143:G:C2	1:A:144:A:C4	3.00	0.49
1:A:472:A:N3	1:A:473:G:C8	2.80	0.49
1:A:685:G:C2	1:A:686:G:C8	3.00	0.49
1:A:3260:G:H4'	17:Q:126:GLN:HG2	1.94	0.49
2:B:35:C:O5'	2:B:35:C:H6	1.95	0.49
3:C:40:U:H4'	3:C:41:G:H5'	1.94	0.49
7:G:317:PRO:O	7:G:318:LEU:HB2	2.12	0.49
8:H:143:GLN:OE1	8:H:223:THR:OG1	2.30	0.49
8:H:275:GLN:HB3	8:H:297:VAL:HG11	1.94	0.49
9:I:10:TYR:HB3	26:Z:113:THR:HG21	1.94	0.49
10:J:55:TYR:O	10:J:58:ALA:N	2.44	0.49
16:P:68:LYS:HG2	16:P:69:VAL:N	2.27	0.49
24:X:72:LEU:HD21	24:X:98:PHE:CZ	2.47	0.49
24:X:173:ILE:O	24:X:177:LEU:CB	2.52	0.49
25:Y:144:THR:H	25:Y:166:ASN:CB	2.14	0.49
26:Z:132:ARG:NH2	31:i:128:LEU:HD22	2.27	0.49
29:c:56:VAL:CG2	29:c:104:LEU:HB3	2.42	0.49
1:A:1:G:H8	2:B:156:U:H2'	1.77	0.49
1:A:283:G:N2	1:A:284:A:O3'	2.44	0.49
1:A:1147:G:C4	1:A:1157:G:N2	2.80	0.49
1:A:1290:A:H2'	1:A:1291:A:C8	2.48	0.49
1:A:3071:U:H3'	1:A:3072:C:C6	2.47	0.49
2:B:121:U:C2	2:B:132:G:N1	2.69	0.49
3:C:6:U:H1'	8:H:186:ILE:HG12	1.93	0.49
8:H:72:GLU:HA	8:H:75:LYS:HD2	1.93	0.49
10:J:153:PHE:CD1	10:J:162:PRO:HA	2.48	0.49
10:J:160:ARG:HD2	10:J:203:TRP:NE1	2.26	0.49
14:N:72:VAL:HG13	14:N:96:ARG:HA	1.93	0.49
15:O:257:GLN:CD	20:T:156:ALA:HB1	2.37	0.49
19:S:12:LYS:HB2	19:S:40:GLU:OE1	2.11	0.49
20:T:27:LYS:HB3	20:T:63:PHE:CD2	2.47	0.49
25:Y:199:ASP:HA	25:Y:231:GLN:CD	2.38	0.49
25:Y:351:ARG:HD3	25:Y:376:ARG:HH12	1.77	0.49
25:Y:364:PHE:HD1	25:Y:393:PHE:CD2	2.30	0.49
25:Y:372:ASP:HA	25:Y:376:ARG:HG2	1.94	0.49
25:Y:377:VAL:C	25:Y:379:ARG:H	2.20	0.49
27:a:150:GLN:O	27:a:154:GLU:HG2	2.12	0.49
27:a:181:ILE:HA	27:a:186:ILE:CG2	2.36	0.49
27:a:237:TYR:CD1	28:b:196:ASN:HA	2.47	0.49
32:j:24:ASN:C	32:j:26:ASN:H	2.20	0.49
33:l:6:ALA:HB1	33:l:10:ARG:HH12	1.76	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:10:C:H2'	1:A:11:A:H8	1.77	0.49
1:A:285:A:H4'	1:A:286:U:C5	2.47	0.49
1:A:805:G:H2'	1:A:806:A:H5''	1.94	0.49
1:A:1346:G:C2	1:A:1359:C:O2	2.65	0.49
1:A:1397:C:H2'	1:A:1398:U:O4'	2.12	0.49
1:A:3275:U:H3'	1:A:3276:G:O4'	2.11	0.49
1:A:3303:G:C6	1:A:3305:A:C2	3.01	0.49
3:C:15:C:H5'	3:C:16:U:N3	2.26	0.49
4:D:200:SER:O	4:D:203:SER:OG	2.26	0.49
10:J:155:LYS:HB2	10:J:203:TRP:HE3	1.78	0.49
11:K:86:THR:O	11:K:90:THR:HG23	2.12	0.49
16:P:106:GLN:HE21	16:P:110:ASP:CG	2.20	0.49
23:W:155:ARG:HH21	23:W:171:PHE:C	2.20	0.49
24:X:152:LYS:HG3	24:X:153:VAL:N	2.26	0.49
25:Y:332:PHE:CZ	25:Y:353:LEU:HB3	2.47	0.49
27:a:109:THR:O	27:a:226:ILE:HA	2.12	0.49
31:i:125:ARG:C	31:i:126:LEU:HD12	2.37	0.49
32:j:50:ALA:HB3	32:j:101:PHE:HE2	1.76	0.49
1:A:552:G:H2'	1:A:553:U:C6	2.47	0.49
1:A:565:U:H2'	1:A:566:G:H8	1.78	0.49
1:A:1329:U:HO2'	1:A:1330:A:P	2.31	0.49
1:A:1408:G:C2	1:A:1409:G:C8	3.00	0.49
1:A:3300:U:H2'	1:A:3301:U:C6	2.47	0.49
4:D:253:GLU:HA	4:D:258:GLY:HA3	1.93	0.49
5:E:97:ARG:NH2	5:E:163:GLN:HE22	2.10	0.49
8:H:35:GLU:OE1	8:H:35:GLU:N	2.43	0.49
10:J:131:GLU:OE1	10:J:131:GLU:N	2.43	0.49
12:L:71:VAL:O	12:L:75:VAL:HG22	2.13	0.49
13:M:133:ASP:HB2	13:M:198:ARG:O	2.12	0.49
13:M:243:ILE:HD12	13:M:246:PRO:HA	1.94	0.49
14:N:14:GLY:HA2	14:N:17:SER:OG	2.13	0.49
14:N:204:ALA:HB3	14:N:224:LEU:HD21	1.94	0.49
15:O:162:PHE:O	15:O:170:THR:HA	2.13	0.49
16:P:27:ASP:O	16:P:30:GLY:N	2.45	0.49
27:a:37:SER:N	27:a:64:LYS:HD2	2.26	0.49
1:A:22:G:C6	2:B:36:G:C2	3.01	0.49
1:A:177:U:C4	1:A:178:U:C5	3.00	0.49
1:A:196:G:OP1	15:O:284:PRO:HB2	2.11	0.49
1:A:1118:C:H2'	1:A:1119:C:C6	2.47	0.49
1:A:1389:G:C2	1:A:1419:A:C6	3.00	0.49
1:A:3314:A:H2'	1:A:3315:G:C8	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:80:ILE:O	4:D:83:ASP:HB2	2.12	0.49
10:J:59:GLU:O	10:J:62:ILE:N	2.43	0.49
13:M:16:ILE:HG12	13:M:65:ALA:HB2	1.94	0.49
13:M:39:LYS:N	13:M:40:GLY:HA2	2.27	0.49
21:U:144:ARG:HG3	21:U:145:ASN:H	1.76	0.49
25:Y:107:LEU:HD22	25:Y:110:LYS:HD2	1.94	0.49
25:Y:318:GLU:HG2	25:Y:323:GLN:NE2	2.27	0.49
25:Y:346:THR:CG2	25:Y:348:VAL:HG12	2.42	0.49
26:Z:26:ASN:OD1	26:Z:26:ASN:N	2.41	0.49
27:a:172:PHE:CD1	28:b:267:PRO:HD2	2.47	0.49
27:a:189:ARG:HE	28:b:246:PHE:HB3	1.77	0.49
1:A:173:G:H2'	1:A:173:G:N3	2.26	0.49
1:A:799:G:C4	1:A:801:A:N7	2.81	0.49
1:A:1176:C:OP1	19:S:28:LEU:HD12	2.12	0.49
1:A:3088:G:H2'	1:A:3089:C:O4'	2.12	0.49
1:A:3158:G:N2	1:A:3292:A:H2	2.11	0.49
1:A:3378:C:O3'	6:F:313:HIS:HA	2.12	0.49
2:B:21:C:O2'	2:B:22:U:OP1	2.23	0.49
2:B:48:A:C5	2:B:62:C:C5	3.01	0.49
5:E:180:LYS:HG3	5:E:181:LYS:H	1.76	0.49
7:G:317:PRO:C	7:G:319:LYS:N	2.70	0.49
18:R:112:ASN:OD1	18:R:113:LEU:HG	2.13	0.49
21:U:106:PHE:HB2	21:U:111:ARG:HH21	1.77	0.49
22:V:161:VAL:HG11	22:V:197:LEU:HD11	1.94	0.49
22:V:232:LYS:HE3	22:V:234:ILE:HG22	1.94	0.49
23:W:77:VAL:HG22	23:W:126:VAL:HG22	1.95	0.49
25:Y:146:GLY:N	25:Y:165:VAL:HG21	2.27	0.49
25:Y:172:PRO:HB2	25:Y:209:GLU:OE1	2.13	0.49
25:Y:174:ARG:O	25:Y:177:ASP:HB3	2.12	0.49
25:Y:424:ASN:HB3	25:Y:428:GLN:NE2	2.28	0.49
27:a:182:VAL:HA	28:b:242:ARG:NH1	2.25	0.49
27:a:218:ARG:NH2	28:b:243:GLU:OE2	2.46	0.49
27:a:248:VAL:O	27:a:252:ILE:HG23	2.13	0.49
1:A:161:G:O2'	25:Y:439:LEU:HD11	2.13	0.49
1:A:276:U:C2	1:A:277:G:C8	3.00	0.49
1:A:585:A:H5''	32:j:70:LYS:HZ1	1.76	0.49
1:A:3030:G:O2'	1:A:3031:G:O4'	2.29	0.49
1:A:3232:G:N1	1:A:3255:U:C2	2.80	0.49
2:B:71:A:H62	2:B:87:G:H21	1.61	0.49
3:C:21:G:C4	3:C:22:G:C8	3.00	0.49
3:C:58:G:H3'	3:C:58:G:N3	2.27	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:200:MET:SD	8:H:277:ARG:NH1	2.80	0.49
6:F:163:HIS:HB3	6:F:178:LEU:HD23	1.94	0.49
8:H:32:ILE:HG22	8:H:292:TYR:HB2	1.95	0.49
14:N:118:HIS:O	14:N:121:ILE:HG22	2.12	0.49
16:P:116:LEU:O	16:P:119:TYR:N	2.45	0.49
22:V:247:MET:CE	26:Z:123:ARG:HG3	2.41	0.49
26:Z:83:SER:OG	26:Z:84:LYS:N	2.45	0.49
27:a:32:ARG:N	27:a:84:ASN:OD1	2.44	0.49
32:j:41:ALA:O	32:j:43:PHE:N	2.45	0.49
1:A:284:A:H2'	27:a:43:TYR:CD2	2.48	0.49
1:A:333:G:C2	2:B:31:G:C2	3.01	0.49
1:A:484:C:H2'	1:A:485:A:H8	1.75	0.49
1:A:730:C:C2	1:A:740:G:C2	3.01	0.49
1:A:968:G:O6	1:A:1114:U:C4	2.64	0.49
1:A:3134:A:H5'	19:S:148:LYS:NZ	2.27	0.49
1:A:3243:A:H4'	6:F:95:THR:HG22	1.94	0.49
6:F:116:ARG:O	6:F:175:LYS:HE2	2.12	0.49
8:H:103:LYS:HB3	8:H:262:ASN:HD21	1.78	0.49
11:K:165:PHE:HA	34:m:47:ILE:CD1	2.42	0.49
12:L:89:LYS:HB2	12:L:183:HIS:HB3	1.94	0.49
13:M:63:TYR:HB2	13:M:68:ILE:HD11	1.93	0.49
13:M:173:GLU:HG2	13:M:175:LEU:HB2	1.94	0.49
14:N:79:GLN:HA	14:N:82:GLN:HG2	1.95	0.49
15:O:275:LYS:HE2	22:V:138:ARG:HH12	1.78	0.49
15:O:279:GLU:HB3	22:V:385:LEU:HD13	1.94	0.49
19:S:182:ASN:OD1	19:S:183:ALA:N	2.46	0.49
22:V:387:ARG:HD3	22:V:407:SER:N	2.28	0.49
26:Z:33:ASN:HD21	26:Z:36:GLY:HA2	1.77	0.49
30:d:114:UNK:O	30:d:117:UNK:N	2.45	0.49
1:A:349:A:C4	2:B:24:G:H1'	2.48	0.49
1:A:613:G:H2'	1:A:614:C:C6	2.47	0.49
1:A:657:A:H5'	2:B:17:A:O2'	2.11	0.49
1:A:2361:A:C6	1:A:2362:C:N3	2.81	0.49
1:A:3082:C:H2'	1:A:3083:G:O4'	2.12	0.49
2:B:53:A:H2'	2:B:54:A:C8	2.47	0.49
4:D:102:LYS:HZ2	4:D:311:GLU:C	2.21	0.49
5:E:92:ILE:HG22	5:E:138:GLU:HB2	1.95	0.49
6:F:278:ILE:HG13	6:F:279:ASN:N	2.26	0.49
10:J:137:GLY:HA3	10:J:236:ILE:HB	1.95	0.49
13:M:165:GLN:NE2	13:M:245:PRO:HB2	2.28	0.49
13:M:440:GLU:HG2	13:M:442:VAL:N	2.26	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:Q:23:ILE:HD11	17:Q:46:ILE:HD13	1.94	0.49
23:W:66:GLU:HG2	23:W:69:PRO:CA	2.43	0.49
25:Y:56:ALA:HA	25:Y:59:LYS:HD3	1.94	0.49
31:i:13:HIS:CE1	31:i:17:PHE:HE1	2.31	0.49
1:A:150:A:C6	1:A:151:A:N7	2.81	0.49
1:A:236:G:C6	1:A:237:G:C5	3.01	0.49
1:A:270:U:O2'	1:A:318:A:H1'	2.12	0.49
1:A:358:G:N2	1:A:362:U:C2	2.80	0.49
1:A:385:A:H5'	30:d:109:UNK:CB	2.43	0.49
1:A:431:U:H2'	1:A:432:G:H8	1.77	0.49
1:A:1160:C:OP1	1:A:1160:C:H2'	2.11	0.49
1:A:1391:C:H4'	1:A:1392:G:OP2	2.13	0.49
1:A:3210:A:OP1	17:Q:109:ARG:NH1	2.45	0.49
3:C:33:U:H5''	8:H:285:ARG:NH2	2.27	0.49
4:D:79:SER:HA	4:D:82:GLU:HB2	1.95	0.49
8:H:103:LYS:HB3	8:H:262:ASN:ND2	2.28	0.49
9:I:78:ARG:HD3	9:I:106:PHE:CD2	2.48	0.49
11:K:144:GLU:HA	11:K:173:MET:HE1	1.95	0.49
14:N:63:THR:HB	14:N:71:LEU:O	2.13	0.49
22:V:172:ILE:HD12	22:V:180:LEU:HD21	1.95	0.49
27:a:45:HIS:CD2	27:a:97:LEU:HD21	2.47	0.49
28:b:251:LEU:O	28:b:254:VAL:HG12	2.13	0.49
1:A:250:U:H1'	1:A:251:G:N7	2.28	0.48
1:A:381:U:H3	1:A:388:G:H1	1.61	0.48
1:A:465:U:H6	24:X:15:ARG:NH1	2.11	0.48
1:A:593:C:H2'	1:A:594:U:H6	1.77	0.48
1:A:2361:A:C5	1:A:2362:C:N4	2.81	0.48
1:A:2363:A:C5	1:A:2364:G:C6	3.01	0.48
1:A:3108:G:OP2	1:A:3120:C:N4	2.47	0.48
1:A:3254:G:C2	1:A:3255:U:C2	3.01	0.48
3:C:23:U:O2'	3:C:24:A:OP2	2.28	0.48
3:C:227:C:H1'	4:D:171:THR:HG21	1.95	0.48
6:F:105:VAL:HG13	6:F:144:ILE:HG12	1.94	0.48
9:I:173:MET:HA	9:I:173:MET:HE2	1.94	0.48
10:J:187:GLU:OE2	10:J:194:HIS:N	2.43	0.48
14:N:194:GLY:HA2	14:N:197:MET:HG2	1.95	0.48
18:R:98:LEU:O	18:R:101:THR:N	2.46	0.48
19:S:51:LYS:HG3	19:S:55:HIS:CD2	2.48	0.48
21:U:21:SER:O	21:U:27:LYS:NZ	2.45	0.48
25:Y:295:PHE:O	25:Y:364:PHE:HB3	2.13	0.48
26:Z:47:ASN:O	26:Z:48:SER:OG	2.20	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:Z:91:GLN:O	26:Z:95:GLU:HB2	2.13	0.48
27:a:87:LEU:HD23	27:a:159:ASN:ND2	2.27	0.48
27:a:90:GLU:OE2	27:a:92:ARG:HG2	2.12	0.48
1:A:561:C:C2	1:A:562:C:C5	3.01	0.48
1:A:687:U:H2'	1:A:688:G:H8	1.78	0.48
1:A:964:G:C2	1:A:965:A:C5	3.01	0.48
1:A:1169:A:H4'	10:J:219:LYS:CD	2.42	0.48
1:A:1383:G:OP1	7:G:203:ARG:NH2	2.45	0.48
1:A:3003:G:C6	1:A:3004:C:C4	3.01	0.48
1:A:3015:G:C5	1:A:3040:A:C2	3.02	0.48
1:A:3105:U:H2'	1:A:3106:A:H8	1.78	0.48
2:B:110:C:H4'	2:B:112:U:C5	2.48	0.48
6:F:293:ASN:HB2	6:F:305:ILE:H	1.77	0.48
7:G:243:HIS:ND1	26:Z:14:PHE:HE2	2.11	0.48
16:P:27:ASP:HB2	16:P:31:LYS:HG3	1.94	0.48
18:R:7:LEU:O	18:R:10:LEU:HB3	2.13	0.48
18:R:21:PHE:HD2	18:R:22:LEU:HD12	1.77	0.48
22:V:57:VAL:HG23	22:V:62:GLU:O	2.13	0.48
24:X:221:PHE:O	24:X:224:ILE:N	2.47	0.48
26:Z:14:PHE:HD1	26:Z:15:CYS:O	1.95	0.48
27:a:29:ASN:CG	27:a:31:GLN:HE22	2.21	0.48
1:A:26:A:C4	1:A:27:C:C5	3.01	0.48
1:A:110:G:C2	1:A:111:C:H1'	2.48	0.48
1:A:284:A:C5'	27:a:43:TYR:HB2	2.41	0.48
1:A:504:A:N6	1:A:588:G:O6	2.45	0.48
1:A:586:C:OP2	32:j:70:LYS:NZ	2.47	0.48
1:A:697:A:C5	1:A:698:U:C4	3.01	0.48
1:A:1169:A:C5	1:A:1170:A:C5	3.02	0.48
1:A:3058:U:O2'	1:A:3059:G:N7	2.45	0.48
3:C:25:G:H21	8:H:199:TYR:HB2	1.78	0.48
4:D:263:VAL:O	4:D:267:PHE:HB3	2.13	0.48
6:F:188:ILE:O	6:F:192:VAL:HG12	2.14	0.48
8:H:291:LEU:HD12	8:H:292:TYR:HB3	1.95	0.48
12:L:161:LEU:O	12:L:164:ILE:HG22	2.13	0.48
13:M:26:GLN:O	13:M:81:ARG:NH1	2.46	0.48
20:T:67:ILE:HB	20:T:80:LYS:HE3	1.95	0.48
22:V:80:HIS:ND1	22:V:81:LEU:O	2.45	0.48
22:V:283:HIS:CD2	22:V:298:GLN:HE21	2.32	0.48
27:a:44:ARG:HG3	27:a:45:HIS:CD2	2.47	0.48
27:a:112:PHE:CG	27:a:113:TYR:N	2.81	0.48
27:a:138:SER:HB3	27:a:178:SER:HB3	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:a:179:PHE:C	27:a:180:SER:HG	2.14	0.48
29:c:31:LEU:HD22	29:c:101:PRO:HG3	1.95	0.48
30:d:207:UNK:O	30:d:210:UNK:N	2.46	0.48
32:j:84:THR:O	32:j:84:THR:OG1	2.28	0.48
34:m:66:GLU:HA	34:m:69:ALA:HB3	1.94	0.48
1:A:26:A:H2'	1:A:27:C:C6	2.48	0.48
1:A:542:G:C6	1:A:550:A:C6	3.02	0.48
1:A:668:G:O6	1:A:794:U:C4	2.66	0.48
1:A:953:G:C6	1:A:1142:G:N1	2.80	0.48
1:A:1212:A:C2	1:A:1213:G:C4	3.01	0.48
1:A:1343:A:C2	1:A:1362:G:C2	3.01	0.48
1:A:3392:U:H2'	1:A:3393:U:C6	2.48	0.48
2:B:46:G:N2	2:B:47:C:C2	2.82	0.48
3:C:16:U:O2'	3:C:17:G:H8	1.95	0.48
11:K:201:THR:HG23	11:K:202:GLU:N	2.24	0.48
12:L:110:LYS:HZ1	12:L:128:VAL:HG21	1.78	0.48
24:X:57:ASP:HB3	24:X:58:ARG:HH11	1.78	0.48
34:m:53:TYR:CD2	34:m:53:TYR:N	2.80	0.48
1:A:66:A:N7	1:A:68:C:C2	2.82	0.48
1:A:258:G:H2'	1:A:259:C:C6	2.49	0.48
1:A:290:G:H2'	1:A:291:C:O4'	2.14	0.48
1:A:464:U:N3	26:Z:75:LYS:HD3	2.28	0.48
1:A:720:A:H2'	1:A:720:A:N3	2.28	0.48
1:A:953:G:C5	1:A:1142:G:N2	2.81	0.48
1:A:1105:A:N1	1:A:1106:G:C5	2.81	0.48
1:A:1183:C:OP1	23:W:158:LYS:NZ	2.36	0.48
1:A:1448:U:C2	1:A:2356:A:N7	2.82	0.48
1:A:3046:A:O3'	6:F:329:PRO:HA	2.14	0.48
1:A:3330:A:H5''	6:F:369:ARG:NH1	2.25	0.48
1:A:3370:A:O5'	6:F:384:LYS:HB2	2.12	0.48
2:B:72:A:C8	29:c:52:ARG:NH1	2.82	0.48
2:B:129:C:H2'	2:B:130:C:O4'	2.13	0.48
5:E:220:TRP:NE1	8:H:293:TYR:H	2.11	0.48
7:G:260:GLN:O	7:G:270:SER:OG	2.30	0.48
8:H:158:LYS:O	8:H:161:LYS:HG2	2.14	0.48
10:J:186:HIS:CG	10:J:186:HIS:O	2.65	0.48
13:M:373:ILE:O	13:M:376:LEU:HD23	2.13	0.48
14:N:82:GLN:O	14:N:86:ASN:N	2.46	0.48
16:P:75:PHE:O	16:P:101:ARG:NH1	2.46	0.48
20:T:82:ARG:HG2	20:T:83:TRP:N	2.27	0.48
25:Y:187:PHE:CE1	25:Y:217:LEU:HD23	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:Y:207:GLU:OE1	25:Y:207:GLU:N	2.42	0.48
25:Y:294:VAL:HB	25:Y:344:ILE:HG13	1.95	0.48
26:Z:86:TYR:CE1	26:Z:113:THR:HG22	2.49	0.48
1:A:168:U:H2'	1:A:169:U:H6	1.77	0.48
1:A:281:G:H8	1:A:281:G:OP1	1.95	0.48
1:A:645:A:OP1	1:A:1153:A:N6	2.47	0.48
1:A:658:G:C5	1:A:659:G:N7	2.82	0.48
1:A:1100:U:H2'	1:A:1101:G:C8	2.48	0.48
1:A:2363:A:H2'	1:A:2364:G:C8	2.48	0.48
1:A:3379:C:C2	1:A:3380:U:C5	3.02	0.48
2:B:112:U:H3'	2:B:113:U:O4'	2.12	0.48
3:C:32:A:O2'	8:H:285:ARG:NH1	2.46	0.48
4:D:210:LYS:HB3	13:M:146:PRO:HB3	1.94	0.48
6:F:182:GLN:HG2	6:F:183:LEU:H	1.79	0.48
10:J:9:PRO:HG2	26:Z:99:HIS:CD2	2.49	0.48
10:J:214:TRP:O	10:J:216:VAL:HG22	2.14	0.48
12:L:102:ASN:HB2	12:L:113:GLU:OE1	2.13	0.48
13:M:204:LYS:HE3	13:M:374:ASP:OD1	2.14	0.48
17:Q:12:TRP:NE1	23:W:151:PRO:HB3	2.29	0.48
19:S:186:ALA:O	19:S:188:SER:N	2.46	0.48
25:Y:397:ASN:OD1	25:Y:468:LEU:HD12	2.14	0.48
28:b:247:TYR:O	28:b:251:LEU:HD13	2.14	0.48
1:A:151:A:C6	1:A:152:U:C4	3.02	0.48
1:A:180:C:C2	1:A:181:U:C5	3.01	0.48
1:A:469:G:H5'	26:Z:81:LYS:HE3	1.95	0.48
1:A:610:G:H22	1:A:1337:A:P	2.36	0.48
1:A:1152:G:O2'	1:A:1154:A:OP2	2.19	0.48
1:A:1335:C:H2'	1:A:1336:U:C6	2.49	0.48
1:A:3037:U:OP1	6:F:348:ARG:HD3	2.14	0.48
1:A:3096:C:O3'	6:F:325:LYS:HE2	2.14	0.48
1:A:3163:A:C6	1:A:3164:C:C4	3.01	0.48
2:B:107:G:H4'	2:B:138:A:H5'	1.95	0.48
4:D:245:ILE:HG22	4:D:246:CYS:N	2.28	0.48
11:K:104:GLU:HA	11:K:107:GLU:CD	2.38	0.48
12:L:24:ILE:HG23	12:L:37:ASN:HA	1.94	0.48
13:M:143:SER:HB2	13:M:160:GLN:HG2	1.95	0.48
13:M:209:ILE:HG23	13:M:211:SER:H	1.77	0.48
13:M:447:TYR:CD1	13:M:453:LEU:HG	2.48	0.48
18:R:140:LYS:HG2	18:R:144:ARG:NH1	2.29	0.48
19:S:55:HIS:HA	19:S:58:LEU:HD12	1.95	0.48
24:X:220:ILE:O	24:X:223:ASP:HB2	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:Y:150:GLY:HA2	25:Y:174:ARG:HD3	1.96	0.48
26:Z:157:LYS:HE2	26:Z:160:LYS:HD2	1.95	0.48
27:a:57:PRO:HG3	27:a:132:GLY:O	2.13	0.48
1:A:17:G:H2'	1:A:18:G:O4'	2.14	0.48
1:A:66:A:C2	1:A:77:A:H4'	2.48	0.48
1:A:609:G:H3'	1:A:609:G:N3	2.28	0.48
1:A:2352:A:H2'	1:A:2353:G:C8	2.49	0.48
1:A:3164:C:OP1	20:T:159:LYS:HG2	2.14	0.48
2:B:9:A:H2'	2:B:10:A:C8	2.49	0.48
2:B:118:C:H2'	2:B:119:C:H6	1.78	0.48
6:F:56:ILE:HG13	6:F:323:MET:SD	2.54	0.48
7:G:230:VAL:CG1	7:G:261:VAL:HG21	2.43	0.48
9:I:139:LYS:O	9:I:142:ASP:HB3	2.14	0.48
19:S:39:GLU:OE2	19:S:106:GLU:HB3	2.14	0.48
20:T:54:HIS:HA	20:T:83:TRP:NE1	2.28	0.48
25:Y:129:GLN:O	25:Y:132:GLY:CA	2.61	0.48
25:Y:363:GLN:HG2	25:Y:373:TYR:CE1	2.46	0.48
25:Y:397:ASN:CG	25:Y:468:LEU:HD12	2.38	0.48
25:Y:404:TYR:O	25:Y:407:ALA:HB3	2.13	0.48
26:Z:66:THR:CB	26:Z:69:ARG:HH22	2.26	0.48
1:A:49:A:C2	1:A:279:U:H4'	2.49	0.48
1:A:267:G:OP2	1:A:267:G:H8	1.97	0.48
1:A:430:U:C2	1:A:630:A:H2	2.32	0.48
1:A:545:U:H5''	1:A:546:C:H5'	1.95	0.48
1:A:744:A:C5	1:A:745:C:C2	3.02	0.48
1:A:973:A:H2'	1:A:974:G:C8	2.49	0.48
1:A:2353:G:C6	1:A:2354:C:C4	3.02	0.48
1:A:3095:U:H2'	1:A:3096:C:H6	1.77	0.48
1:A:3234:A:H2'	1:A:3235:C:C6	2.45	0.48
1:A:3372:A:C6	1:A:3373:U:C4	3.01	0.48
2:B:5:U:H2'	2:B:6:U:O4'	2.13	0.48
2:B:108:C:H2'	2:B:109:A:O4'	2.13	0.48
3:C:43:A:N1	3:C:44:G:C6	2.81	0.48
4:D:190:ILE:HG13	4:D:194:VAL:HG22	1.95	0.48
6:F:191:LYS:O	6:F:194:TRP:HB3	2.14	0.48
10:J:66:LYS:NZ	10:J:76:TYR:HD2	2.10	0.48
13:M:369:ARG:N	13:M:390:GLU:HB3	2.29	0.48
18:R:147:ARG:O	18:R:150:TRP:NE1	2.47	0.48
21:U:57:ILE:HG12	21:U:147:ARG:HH22	1.78	0.48
22:V:18:ILE:HG13	22:V:43:HIS:HB2	1.96	0.48
22:V:145:PHE:HA	22:V:163:ALA:O	2.12	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:V:256:LEU:HD11	22:V:275:PHE:CD1	2.48	0.48
24:X:59:PRO:O	24:X:62:GLN:HB3	2.13	0.48
25:Y:308:LEU:O	25:Y:311:TYR:N	2.39	0.48
26:Z:59:LYS:CE	26:Z:81:LYS:HD3	2.44	0.48
27:a:98:TYR:CA	27:a:112:PHE:O	2.53	0.48
27:a:134:ARG:NE	27:a:164:PRO:HB3	2.29	0.48
1:A:58:G:H4'	18:R:155:VAL:HG12	1.96	0.48
1:A:63:A:H8	1:A:63:A:O5'	1.96	0.48
1:A:93:C:H4'	1:A:94:G:O5'	2.14	0.48
1:A:139:G:H2'	1:A:140:C:C6	2.48	0.48
1:A:164:A:H2'	1:A:165:A:H1'	1.96	0.48
1:A:340:C:N4	1:A:341:G:C6	2.82	0.48
1:A:466:G:C6	1:A:468:G:C5	3.01	0.48
1:A:474:G:H2'	1:A:475:G:O4'	2.13	0.48
1:A:476:G:H2'	1:A:477:A:O4'	2.14	0.48
1:A:725:G:C6	1:A:746:A:N6	2.81	0.48
1:A:1150:A:C5	1:A:1151:U:C5	3.02	0.48
1:A:1161:G:C8	1:A:1365:G:C2	3.02	0.48
1:A:1169:A:C6	1:A:1170:A:C6	3.01	0.48
1:A:3050:U:H2'	1:A:3051:U:C6	2.49	0.48
2:B:70:G:C2	2:B:87:G:C2	3.02	0.48
3:C:38:U:O2	3:C:41:G:N1	2.47	0.48
5:E:93:ILE:CG2	5:E:137:LEU:HB2	2.43	0.48
5:E:206:GLU:O	5:E:210:LYS:HG3	2.14	0.48
6:F:53:MET:O	6:F:364:LYS:NZ	2.44	0.48
10:J:138:TYR:HE2	10:J:233:GLU:OE2	1.96	0.48
12:L:23:ARG:HH22	12:L:39:LYS:C	2.21	0.48
13:M:11:ASN:HA	13:M:14:ASN:HB2	1.94	0.48
13:M:170:VAL:HA	13:M:173:GLU:HB3	1.96	0.48
25:Y:93:THR:HB	25:Y:133:VAL:HG11	1.96	0.48
25:Y:195:ILE:HD13	25:Y:226:LEU:HG	1.95	0.48
26:Z:54:LYS:HB3	26:Z:63:TYR:CE2	2.49	0.48
26:Z:157:LYS:O	26:Z:158:ILE:HG22	2.14	0.48
27:a:122:GLU:OE1	27:a:122:GLU:N	2.47	0.48
28:b:204:ALA:O	28:b:208:VAL:HG12	2.13	0.48
30:d:163:UNK:O	30:d:167:UNK:CB	2.61	0.48
1:A:342:A:C5	1:A:368:G:C5	3.02	0.47
1:A:537:A:C5	1:A:538:G:C8	3.02	0.47
1:A:564:G:H2'	1:A:565:U:C6	2.49	0.47
1:A:977:C:N4	1:A:1105:A:N7	2.61	0.47
1:A:988:U:H2'	1:A:989:A:C8	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1350:A:N7	26:Z:41:GLN:NE2	2.62	0.47
1:A:1394:A:H5''	1:A:1395:G:OP2	2.14	0.47
1:A:3021:A:N3	1:A:3021:A:H5'	2.29	0.47
1:A:3081:C:H2'	1:A:3082:C:C6	2.49	0.47
1:A:3148:U:O2'	6:F:106:TRP:HH2	1.97	0.47
1:A:3166:C:O5'	1:A:3166:C:H6	1.97	0.47
4:D:84:LYS:HG2	4:D:89:GLU:HG3	1.96	0.47
4:D:143:PHE:HE2	4:D:145:VAL:HG13	1.78	0.47
6:F:20:LYS:CG	6:F:21:ARG:H	2.26	0.47
10:J:153:PHE:HD2	10:J:160:ARG:CZ	2.27	0.47
11:K:143:ILE:O	11:K:144:GLU:HG2	2.14	0.47
12:L:4:ILE:HD13	23:W:148:LEU:HD11	1.95	0.47
13:M:152:SER:O	13:M:154:LYS:N	2.47	0.47
13:M:189:GLN:HA	13:M:197:VAL:O	2.14	0.47
14:N:61:ARG:HH21	14:N:195:ALA:C	2.22	0.47
20:T:117:ILE:CD1	20:T:148:LEU:HB3	2.44	0.47
21:U:96:PHE:HD2	21:U:117:ALA:HB3	1.78	0.47
21:U:107:THR:O	21:U:110:ALA:N	2.46	0.47
24:X:175:ASP:OD1	24:X:176:ILE:N	2.46	0.47
25:Y:78:ALA:C	25:Y:80:ARG:H	2.21	0.47
25:Y:110:LYS:O	25:Y:112:ARG:N	2.47	0.47
27:a:116:ASN:HB3	27:a:220:VAL:HG21	1.96	0.47
34:m:93:ILE:O	34:m:97:SER:N	2.46	0.47
1:A:453:C:C5	22:V:242:ASN:HB2	2.49	0.47
1:A:544:C:O2	1:A:548:G:C2	2.67	0.47
1:A:629:U:H2'	1:A:630:A:O4'	2.13	0.47
1:A:724:U:C2	1:A:725:G:C8	3.02	0.47
1:A:805:G:H2'	1:A:936:A:H61	1.79	0.47
1:A:809:G:H2'	1:A:810:A:H8	1.79	0.47
1:A:946:U:C2	1:A:947:G:N7	2.82	0.47
1:A:1880:U:H2'	1:A:1881:A:H8	1.75	0.47
1:A:3021:A:H5''	1:A:3023:U:H1'	1.96	0.47
1:A:3086:A:H5'	1:A:3087:A:OP2	2.14	0.47
1:A:3133:C:H2'	1:A:3134:A:C8	2.49	0.47
1:A:3188:G:N3	1:A:3189:G:C8	2.82	0.47
2:B:69:U:H2'	2:B:70:G:O4'	2.14	0.47
4:D:90:THR:HG23	4:D:93:ILE:HG23	1.95	0.47
7:G:337:GLU:CD	7:G:337:GLU:H	2.22	0.47
8:H:171:ASN:OD1	8:H:172:ALA:N	2.47	0.47
12:L:129:ARG:NH1	12:L:157:ASN:HB2	2.29	0.47
25:Y:53:THR:O	25:Y:57:ILE:HG12	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:Y:307:GLU:O	25:Y:310:ASN:HB3	2.14	0.47
33:I:45:LYS:HZ3	33:I:49:LYS:CG	2.27	0.47
1:A:70:A:HI'	1:A:74:G:N1	2.29	0.47
1:A:73:C:O2'	16:P:59:ARG:HD2	2.14	0.47
1:A:3050:U:H3	1:A:3094:A:HI'	1.80	0.47
1:A:3113:A:O3'	12:L:69:ARG:HG2	2.14	0.47
2:B:77:A:C6	2:B:78:G:C2	3.01	0.47
5:E:157:LEU:HD12	5:E:158:MET:H	1.79	0.47
6:F:95:THR:C	6:F:97:ARG:H	2.22	0.47
6:F:217:ALA:CA	6:F:337:THR:O	2.24	0.47
6:F:218:ILE:O	6:F:337:THR:HG22	2.13	0.47
8:H:302:GLU:HA	8:H:305:LYS:HG2	1.96	0.47
11:K:151:VAL:HA	11:K:199:ALA:HB2	1.96	0.47
13:M:20:GLN:HB2	13:M:23:ARG:NE	2.29	0.47
13:M:44:ARG:HB2	13:M:64:TYR:HE2	1.79	0.47
13:M:76:VAL:HA	13:M:79:LYS:HB2	1.95	0.47
13:M:153:SER:HA	13:M:156:ILE:HD12	1.96	0.47
13:M:365:PHE:CD1	13:M:409:HIS:HB2	2.50	0.47
15:O:146:ASP:N	15:O:146:ASP:OD1	2.46	0.47
15:O:240:PHE:CE2	15:O:242:ARG:CZ	2.97	0.47
18:R:114:ARG:NH1	18:R:137:PRO:HG3	2.29	0.47
19:S:95:GLY:O	19:S:98:ALA:N	2.46	0.47
24:X:15:ARG:HA	24:X:18:ARG:NH2	2.30	0.47
24:X:217:VAL:O	24:X:220:ILE:HG22	2.14	0.47
25:Y:187:PHE:HZ	25:Y:217:LEU:HA	1.80	0.47
25:Y:346:THR:HG22	25:Y:348:VAL:HG12	1.97	0.47
27:a:114:ILE:HD13	27:a:219:PHE:CZ	2.50	0.47
27:a:249:ARG:HA	27:a:252:ILE:HG12	1.96	0.47
31:i:17:PHE:N	31:i:17:PHE:CD1	2.81	0.47
1:A:143:G:H2'	1:A:144:A:C8	2.49	0.47
1:A:186:U:O2	1:A:231:G:C2	2.67	0.47
1:A:809:G:H2'	1:A:810:A:C8	2.49	0.47
1:A:945:C:O2'	1:A:1406:A:N3	2.46	0.47
1:A:951:A:C2	1:A:952:A:C4	3.03	0.47
1:A:977:C:C4	1:A:978:G:C4	3.02	0.47
1:A:1362:G:O2'	10:J:159:GLN:O	2.28	0.47
1:A:1375:G:C2	1:A:1376:C:C5	3.02	0.47
5:E:93:ILE:HD11	5:E:164:VAL:HB	1.96	0.47
7:G:142:VAL:O	7:G:145:ILE:HG12	2.13	0.47
11:K:132:VAL:HG12	11:K:200:LEU:HD23	1.96	0.47
11:K:188:THR:HA	13:M:96:ARG:CZ	2.45	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:65:ALA:O	13:M:68:ILE:HB	2.14	0.47
13:M:79:LYS:O	13:M:83:HIS:HB2	2.14	0.47
14:N:14:GLY:HA2	14:N:17:SER:HG	1.80	0.47
14:N:58:ILE:O	14:N:58:ILE:HG13	2.13	0.47
14:N:77:THR:HG23	14:N:79:GLN:H	1.80	0.47
14:N:216:SER:O	14:N:220:SER:CB	2.57	0.47
22:V:215:GLU:O	22:V:216:GLU:C	2.57	0.47
24:X:69:LEU:HD12	24:X:69:LEU:H	1.80	0.47
25:Y:80:ARG:HH22	25:Y:248:LEU:HG	1.78	0.47
25:Y:193:LEU:HD12	25:Y:217:LEU:HD13	1.96	0.47
27:a:136:VAL:HG21	28:b:268:PHE:HE1	1.78	0.47
1:A:185:C:C2	1:A:232:G:C2	3.03	0.47
1:A:227:G:C2	1:A:228:U:C2	3.02	0.47
1:A:637:C:HO2'	1:A:638:C:P	2.36	0.47
1:A:953:G:O5'	1:A:953:G:H8	1.97	0.47
1:A:1159:A:HO2'	1:A:1160:C:P	2.37	0.47
1:A:1380:G:N2	1:A:1427:U:O2	2.48	0.47
1:A:1382:G:C6	1:A:1383:G:C5	3.02	0.47
1:A:2353:G:H5''	20:T:86:LYS:HB2	1.96	0.47
1:A:3189:G:C2	1:A:3190:C:C2	3.03	0.47
1:A:3222:U:C2	1:A:3264:G:N1	2.82	0.47
1:A:3251:U:H2'	1:A:3252:G:C8	2.50	0.47
2:B:155:A:C6	2:B:156:U:C5	3.03	0.47
6:F:41:VAL:HB	6:F:194:TRP:CD1	2.50	0.47
6:F:152:LYS:HZ2	6:F:189:SER:HB2	1.77	0.47
7:G:285:ASP:HA	26:Z:4:GLU:CD	2.39	0.47
10:J:43:ILE:O	10:J:46:GLU:HG2	2.15	0.47
13:M:53:ASN:HB3	13:M:56:SER:O	2.14	0.47
13:M:180:PHE:CD2	13:M:187:TYR:HD2	2.32	0.47
16:P:47:ALA:HB3	16:P:48:PRO:HD3	1.97	0.47
17:Q:22:LEU:HD12	17:Q:31:LYS:O	2.14	0.47
18:R:103:GLU:OE2	18:R:118:SER:HB3	2.15	0.47
22:V:8:LEU:HB2	22:V:21:VAL:CG2	2.44	0.47
23:W:87:THR:OG1	23:W:88:HIS:N	2.46	0.47
24:X:180:GLU:OE2	24:X:183:ARG:HD2	2.14	0.47
27:a:51:ASP:OD2	27:a:119:THR:OG1	2.29	0.47
27:a:139:PHE:HB2	27:a:143:PHE:CE2	2.43	0.47
34:m:35:ASN:ND2	34:m:38:LYS:HD2	2.29	0.47
1:A:66:A:C5	1:A:68:C:C2	3.02	0.47
1:A:126:U:C2	1:A:127:G:C8	3.02	0.47
1:A:167:U:H2'	1:A:168:U:C6	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:500:C:C4'	9:I:80:ASN:HD21	2.26	0.47
1:A:1148:G:N1	1:A:1156:C:N3	2.63	0.47
1:A:1383:G:C6	1:A:1384:U:N3	2.83	0.47
1:A:3047:U:H2'	1:A:3048:A:N3	2.29	0.47
1:A:3133:C:C2	1:A:3134:A:C8	3.02	0.47
1:A:3336:A:H3'	1:A:3337:G:C8	2.50	0.47
2:B:5:U:C4	2:B:6:U:C4	3.03	0.47
2:B:34:U:O2	35:n:71:SER:HA	2.14	0.47
2:B:50:C:N4	2:B:51:G:O6	2.48	0.47
4:D:227:ILE:HG22	4:D:228:VAL:O	2.13	0.47
4:D:253:GLU:O	4:D:258:GLY:N	2.43	0.47
5:E:106:GLU:OE1	5:E:106:GLU:N	2.44	0.47
6:F:37:ARG:HD3	6:F:186:GLY:CA	2.44	0.47
6:F:373:PRO:HA	6:F:376:LYS:HB3	1.97	0.47
7:G:55:LYS:HD2	7:G:59:GLN:HE21	1.78	0.47
7:G:148:ILE:HA	7:G:149:PRO:C	2.40	0.47
12:L:12:VAL:HG23	12:L:16:VAL:HG23	1.96	0.47
13:M:38:PHE:HE1	13:M:114:LEU:HD12	1.78	0.47
13:M:99:VAL:O	13:M:103:LYS:HG2	2.15	0.47
15:O:257:GLN:OE1	20:T:156:ALA:HB1	2.15	0.47
19:S:113:ASP:OD1	19:S:114:LYS:HG2	2.15	0.47
22:V:127:LYS:O	22:V:130:SER:OG	2.33	0.47
22:V:315:ASP:OD1	22:V:316:ALA:N	2.40	0.47
26:Z:35:THR:HA	31:i:87:MET:HG3	1.95	0.47
27:a:43:TYR:O	27:a:47:HIS:HB2	2.14	0.47
29:c:74:TYR:HE2	29:c:77:LYS:HD2	1.78	0.47
1:A:132:C:C2	1:A:137:G:C2	3.03	0.47
1:A:167:U:H2'	1:A:168:U:H6	1.79	0.47
1:A:171:G:C2	1:A:172:G:C8	3.03	0.47
1:A:516:A:OP1	7:G:344:ALA:N	2.42	0.47
1:A:532:A:O2'	1:A:533:A:H5'	2.15	0.47
1:A:542:G:H2'	1:A:543:C:H6	1.77	0.47
1:A:616:G:H2'	1:A:617:G:C8	2.50	0.47
1:A:678:G:C6	1:A:703:G:N1	2.83	0.47
1:A:774:G:H2'	1:A:775:A:N7	2.30	0.47
1:A:987:U:H5'	10:J:125:GLU:CD	2.40	0.47
1:A:1184:A:O2'	1:A:1185:C:H5'	2.14	0.47
1:A:3003:G:C2	1:A:3146:G:C5	3.01	0.47
1:A:3123:A:HO2'	12:L:40:HIS:HD1	1.62	0.47
1:A:3176:G:H1'	32:j:3:GLU:CD	2.39	0.47
1:A:3191:G:C4	1:A:3202:G:N2	2.83	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3191:G:C6	1:A:3202:G:N1	2.83	0.47
1:A:3293:U:O2	1:A:3395:G:C2	2.68	0.47
2:B:53:A:H2'	2:B:54:A:H8	1.80	0.47
2:B:71:A:H62	2:B:87:G:N2	2.12	0.47
2:B:80:A:O3'	2:B:81:U:H2'	2.15	0.47
2:B:81:U:N3	2:B:83:C:C5	2.83	0.47
2:B:148:G:C2	2:B:149:A:C5	3.03	0.47
3:C:29:G:N1	3:C:50:U:O4	2.47	0.47
4:D:71:GLU:O	4:D:74:ARG:HB3	2.14	0.47
4:D:142:LEU:HD13	4:D:196:ILE:HG21	1.97	0.47
4:D:236:GLU:CG	4:D:245:ILE:HG23	2.44	0.47
4:D:249:ASP:CG	13:M:414:ARG:HH12	2.23	0.47
5:E:208:ILE:HA	5:E:211:LEU:HG	1.96	0.47
5:E:220:TRP:HE1	8:H:293:TYR:H	1.62	0.47
6:F:31:ALA:HB3	6:F:339:ARG:HH11	1.79	0.47
6:F:41:VAL:HG21	6:F:190:GLU:O	2.14	0.47
6:F:89:VAL:HG23	6:F:199:PHE:CE1	2.50	0.47
6:F:218:ILE:HG13	6:F:337:THR:HG22	1.96	0.47
8:H:128:LYS:HG2	8:H:129:ASP:N	2.29	0.47
10:J:136:TYR:OH	10:J:231:ASN:HB2	2.15	0.47
10:J:223:PHE:HE2	23:W:35:VAL:HG21	1.80	0.47
13:M:438:LYS:HB2	13:M:440:GLU:OE1	2.14	0.47
15:O:147:ILE:HD11	15:O:163:ILE:HD12	1.97	0.47
15:O:240:PHE:HZ	15:O:262:GLN:HG3	1.80	0.47
15:O:289:GLU:OE2	15:O:291:LYS:N	2.47	0.47
23:W:109:ASP:OD1	23:W:113:ARG:NH1	2.47	0.47
24:X:103:TRP:CZ3	24:X:125:ILE:HD11	2.50	0.47
25:Y:158:ALA:HB2	25:Y:178:HIS:CD2	2.50	0.47
25:Y:190:LEU:HB3	25:Y:218:PRO:HG2	1.97	0.47
25:Y:202:LEU:HD22	25:Y:235:VAL:HG13	1.97	0.47
25:Y:430:GLU:HG2	25:Y:479:PHE:HD1	1.80	0.47
26:Z:59:LYS:HD2	26:Z:82:LEU:O	2.14	0.47
26:Z:128:ARG:HG2	26:Z:129:GLU:N	2.29	0.47
28:b:261:LEU:HD12	28:b:268:PHE:CE1	2.49	0.47
29:c:86:THR:HB	29:c:94:SER:OG	2.15	0.47
1:A:95:A:H3'	1:A:96:G:O4'	2.15	0.47
1:A:144:A:H2'	1:A:145:G:O4'	2.14	0.47
1:A:193:C:H2'	1:A:194:U:C6	2.50	0.47
1:A:215:G:N1	1:A:216:G:C5	2.82	0.47
1:A:440:A:OP1	26:Z:128:ARG:NH1	2.47	0.47
1:A:465:U:O2	1:A:466:G:C6	2.67	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:611:A:C6	1:A:612:U:C4	3.03	0.47
1:A:657:A:C4	1:A:658:G:C8	3.02	0.47
1:A:736:A:C8	1:A:737:G:C8	3.02	0.47
1:A:3047:U:C4	1:A:3048:A:N1	2.82	0.47
1:A:3091:A:C6	1:A:3094:A:C8	3.02	0.47
1:A:3181:C:C4	1:A:3182:G:C5	3.03	0.47
2:B:103:G:H2'	2:B:105:A:N7	2.29	0.47
2:B:107:G:H2'	2:B:108:C:H6	1.77	0.47
6:F:219:ALA:O	6:F:274:SER:HA	2.14	0.47
9:I:166:LYS:N	9:I:169:ASP:OD2	2.37	0.47
11:K:228:GLU:HG2	11:K:232:HIS:CD2	2.49	0.47
12:L:47:LYS:HG3	12:L:52:LEU:O	2.14	0.47
14:N:147:LEU:O	14:N:150:SER:OG	2.32	0.47
14:N:187:ASN:H	14:N:210:THR:HG23	1.80	0.47
15:O:227:ARG:O	15:O:246:TYR:HB3	2.15	0.47
15:O:242:ARG:NH2	26:Z:158:ILE:HG12	2.29	0.47
17:Q:130:THR:HA	17:Q:133:LYS:HE2	1.95	0.47
18:R:133:ILE:C	18:R:134:LEU:HD12	2.40	0.47
22:V:312:GLU:CD	22:V:373:HIS:HA	2.39	0.47
23:W:46:GLN:HA	23:W:51:VAL:HG22	1.96	0.47
25:Y:122:PRO:HB3	25:Y:201:ILE:CD1	2.45	0.47
25:Y:189:ASN:O	25:Y:191:LYS:NZ	2.43	0.47
25:Y:236:GLU:O	25:Y:239:ALA:N	2.47	0.47
26:Z:104:PHE:O	26:Z:108:CYS:HB2	2.14	0.47
27:a:134:ARG:HH12	28:b:221:GLN:NE2	2.13	0.47
27:a:140:ASP:OD1	28:b:228:ASN:HA	2.15	0.47
28:b:212:TRP:HH2	28:b:217:PHE:HA	1.80	0.47
28:b:233:ILE:HD12	28:b:241:GLU:CD	2.40	0.47
29:c:71:SER:OG	29:c:72:SER:N	2.47	0.47
31:i:32:TRP:CZ2	31:i:53:PRO:HD2	2.49	0.47
32:j:38:PRO:HD3	32:j:77:ASN:O	2.15	0.47
1:A:15:C:O5'	1:A:15:C:H6	1.98	0.47
1:A:279:U:O2'	1:A:280:U:H5'	2.15	0.47
1:A:357:A:C6	1:A:363:G:C6	3.03	0.47
1:A:428:A:N1	1:A:632:G:C6	2.83	0.47
1:A:720:A:P	21:U:69:ARG:HH12	2.38	0.47
1:A:777:U:H2'	1:A:778:U:O4'	2.15	0.47
1:A:953:G:C6	1:A:1142:G:C4	3.03	0.47
1:A:3205:G:C5	23:W:171:PHE:CZ	3.03	0.47
3:C:13:U:C2	3:C:14:U:H5	2.33	0.47
4:D:204:ILE:O	4:D:208:ILE:HG22	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:222:HIS:ND1	10:J:223:PHE:N	2.63	0.47
12:L:75:VAL:O	12:L:79:ILE:HG12	2.15	0.47
13:M:428:GLN:CG	13:M:449:PRO:HB3	2.45	0.47
19:S:51:LYS:HE2	19:S:55:HIS:NE2	2.30	0.47
20:T:32:THR:OG1	20:T:87:SER:OG	2.28	0.47
22:V:256:LEU:HD12	22:V:276:ALA:O	2.15	0.47
22:V:325:LEU:HD11	22:V:327:ASN:HD22	1.80	0.47
24:X:89:THR:HA	24:X:92:ASP:OD2	2.15	0.47
25:Y:433:ILE:HG23	25:Y:479:PHE:HE2	1.79	0.47
1:A:281:G:N3	1:A:281:G:H2'	2.29	0.47
1:A:415:G:H2'	1:A:416:A:C8	2.50	0.47
1:A:753:C:C2	1:A:781:G:C2	3.02	0.47
1:A:778:U:H3'	1:A:779:G:C8	2.49	0.47
1:A:807:A:H2	1:A:808:A:C4	2.33	0.47
1:A:952:A:H4'	1:A:968:G:N2	2.30	0.47
1:A:1124:U:H2'	1:A:1125:U:H5	1.80	0.47
1:A:1310:G:C2	1:A:1311:G:C5	3.03	0.47
1:A:3025:C:N4	1:A:3031:G:H22	2.13	0.47
1:A:3046:A:C4	1:A:3047:U:C5	3.03	0.47
1:A:3123:A:O2'	12:L:40:HIS:ND1	2.45	0.47
2:B:61:A:P	33:I:48:ARG:HH21	2.38	0.47
2:B:152:G:H2'	2:B:153:U:C6	2.49	0.47
3:C:51:U:O2'	3:C:52:G:H5'	2.15	0.47
5:E:217:GLU:OE1	5:E:217:GLU:N	2.47	0.47
6:F:291:GLU:H	6:F:291:GLU:CD	2.23	0.47
8:H:292:TYR:CZ	8:H:294:ASN:HB2	2.50	0.47
11:K:140:VAL:HG22	11:K:166:LEU:HD21	1.96	0.47
12:L:93:VAL:HB	12:L:178:GLY:H	1.79	0.47
14:N:62:MET:HE1	14:N:76:THR:HB	1.96	0.47
15:O:104:LYS:HG2	15:O:105:LYS:N	2.23	0.47
19:S:8:VAL:HA	19:S:34:VAL:HG23	1.97	0.47
22:V:172:ILE:HB	22:V:180:LEU:HD21	1.97	0.47
25:Y:290:LYS:HE3	25:Y:292:ILE:HD11	1.96	0.47
30:d:261:UNK:O	30:d:264:UNK:N	2.47	0.47
1:A:210:U:OP2	7:G:162:THR:N	2.40	0.46
1:A:211:A:H5''	7:G:221:ASN:HD22	1.79	0.46
1:A:357:A:N6	1:A:363:G:O6	2.47	0.46
1:A:457:C:N3	1:A:474:G:C6	2.83	0.46
1:A:513:G:C4	1:A:514:G:C8	3.02	0.46
1:A:538:G:C4	1:A:539:C:C6	3.03	0.46
1:A:792:G:H2'	1:A:793:C:C6	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1121:U:H2'	1:A:1122:U:C6	2.50	0.46
1:A:1317:A:C4	1:A:1319:G:N7	2.82	0.46
1:A:3006:A:H2'	1:A:3007:U:O4'	2.16	0.46
1:A:3200:G:H2'	1:A:3201:C:H6	1.81	0.46
2:B:42:G:C6	2:B:43:A:N7	2.83	0.46
2:B:53:A:C4	2:B:54:A:C8	3.02	0.46
2:B:114:G:C2	2:B:115:C:C2	3.03	0.46
4:D:304:ALA:C	4:D:306:THR:H	2.23	0.46
5:E:193:VAL:HG13	8:H:302:GLU:CD	2.40	0.46
9:I:99:GLU:OE1	9:I:99:GLU:N	2.35	0.46
10:J:210:PRO:HA	10:J:243:MET:HA	1.97	0.46
11:K:90:THR:HG22	11:K:214:LEU:HD11	1.97	0.46
19:S:166:GLU:O	19:S:169:ALA:HB3	2.14	0.46
21:U:46:LYS:O	21:U:50:LYS:HB3	2.14	0.46
25:Y:155:ARG:NH1	25:Y:159:GLU:OE1	2.48	0.46
25:Y:187:PHE:CD2	25:Y:188:LYS:HD2	2.51	0.46
27:a:37:SER:CB	27:a:89:PHE:HB2	2.45	0.46
1:A:26:A:C8	1:A:330:G:C8	3.03	0.46
1:A:151:A:C5	1:A:152:U:C5	3.02	0.46
1:A:388:G:H2'	1:A:389:A:H8	1.80	0.46
1:A:429:U:C6	1:A:430:U:H5	2.33	0.46
1:A:495:G:H2'	1:A:496:C:C6	2.51	0.46
1:A:496:C:H2'	1:A:497:C:C6	2.50	0.46
1:A:513:G:H2'	1:A:514:G:H8	1.79	0.46
1:A:545:U:H4'	1:A:546:C:C5	2.50	0.46
1:A:1348:U:C2	1:A:1350:A:H2	2.34	0.46
1:A:3329:U:H2'	1:A:3330:A:O4'	2.14	0.46
2:B:130:C:H5'	13:M:4:LYS:CE	2.43	0.46
4:D:101:LEU:CG	4:D:308:PRO:HB2	2.39	0.46
6:F:137:TYR:CE1	6:F:144:ILE:HD12	2.50	0.46
7:G:318:LEU:HD21	10:J:146:GLN:HG2	1.98	0.46
8:H:267:SER:OG	8:H:268:GLU:OE1	2.33	0.46
10:J:143:THR:O	10:J:144:ILE:C	2.57	0.46
11:K:109:LEU:O	11:K:113:ALA:HB2	2.15	0.46
12:L:67:ALA:O	12:L:70:THR:OG1	2.29	0.46
13:M:114:LEU:HD21	13:M:224:PHE:HD1	1.81	0.46
14:N:158:GLY:C	14:N:222:PHE:HE1	2.22	0.46
16:P:50:PRO:C	16:P:52:ASP:H	2.22	0.46
18:R:19:LEU:O	18:R:23:GLN:HB2	2.16	0.46
19:S:98:ALA:O	19:S:101:ARG:N	2.37	0.46
22:V:65:LEU:HD12	22:V:73:GLU:HB2	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:V:151:ILE:HA	22:V:152:LYS:HA	1.63	0.46
22:V:212:TYR:CZ	22:V:220:LYS:HE2	2.50	0.46
24:X:67:ASN:O	24:X:68:GLU:C	2.58	0.46
25:Y:52:PRO:HB3	25:Y:139:GLU:HB3	1.97	0.46
25:Y:199:ASP:HA	25:Y:231:GLN:OE1	2.15	0.46
27:a:41:VAL:HG12	27:a:46:ARG:HG3	1.97	0.46
27:a:190:THR:HG22	27:a:215:ILE:HB	1.98	0.46
27:a:252:ILE:HG13	27:a:253:LYS:N	2.30	0.46
1:A:139:G:C6	1:A:140:C:C4	3.04	0.46
1:A:250:U:O2'	1:A:251:G:C8	2.67	0.46
1:A:430:U:H2'	1:A:431:U:C6	2.50	0.46
1:A:458:U:N3	1:A:473:G:C6	2.83	0.46
1:A:2998:U:H2'	1:A:2999:U:C6	2.51	0.46
1:A:3150:A:H5''	1:A:3151:U:OP2	2.15	0.46
1:A:3192:U:H2'	1:A:3193:C:H6	1.79	0.46
1:A:3329:U:H5''	6:F:376:LYS:NZ	2.30	0.46
2:B:103:G:H3'	2:B:105:A:C8	2.50	0.46
7:G:140:HIS:O	7:G:142:VAL:HG13	2.15	0.46
8:H:95:PHE:C	8:H:237:LYS:HE2	2.39	0.46
11:K:82:LEU:HD11	11:K:178:ALA:HB1	1.98	0.46
13:M:11:ASN:HA	13:M:14:ASN:HD22	1.79	0.46
13:M:431:TRP:HZ2	13:M:441:LEU:HD12	1.81	0.46
15:O:133:LYS:O	15:O:136:SER:OG	2.26	0.46
22:V:198:TYR:OH	22:V:261:PRO:HD3	2.14	0.46
24:X:46:TRP:CE2	24:X:102:PHE:HB2	2.50	0.46
25:Y:51:GLN:HB3	25:Y:52:PRO:HD3	1.96	0.46
25:Y:137:LEU:O	25:Y:140:PHE:HB2	2.15	0.46
25:Y:148:VAL:CG1	25:Y:174:ARG:HH12	2.24	0.46
27:a:174:ASP:OD1	28:b:270:ARG:HG2	2.15	0.46
35:n:36:SER:O	35:n:45:ARG:NE	2.47	0.46
1:A:91:G:H21	1:A:94:G:H3'	1.81	0.46
1:A:335:G:C6	1:A:336:A:C5	3.04	0.46
1:A:414:U:H2'	1:A:415:G:C8	2.50	0.46
1:A:510:G:C2	1:A:582:G:C4	3.02	0.46
1:A:553:U:H2'	1:A:554:A:O4'	2.15	0.46
1:A:589:A:H5''	1:A:590:G:OP2	2.16	0.46
1:A:600:G:H5'	1:A:601:U:OP2	2.14	0.46
1:A:637:C:C5	1:A:2361:A:N6	2.83	0.46
1:A:3070:A:H2'	1:A:3071:U:O4'	2.14	0.46
1:A:3200:G:C6	1:A:3201:C:C4	3.03	0.46
1:A:3379:C:H5'	6:F:313:HIS:HA	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:57:C:O2'	2:B:61:A:O2'	2.05	0.46
2:B:75:G:C2	2:B:76:C:C4	3.03	0.46
3:C:52:G:H4'	8:H:168:GLU:OE1	2.15	0.46
4:D:248:GLU:HA	4:D:251:ILE:HG13	1.98	0.46
7:G:62:ALA:HB3	7:G:90:PHE:CD2	2.49	0.46
8:H:95:PHE:HA	8:H:237:LYS:CE	2.43	0.46
8:H:107:TYR:HB3	8:H:230:TYR:CE1	2.50	0.46
8:H:124:LEU:HD11	8:H:177:PHE:CD2	2.50	0.46
8:H:135:VAL:HB	8:H:219:LEU:HD21	1.97	0.46
8:H:140:LEU:HD23	8:H:144:LEU:HD23	1.98	0.46
8:H:209:ILE:HD11	8:H:225:ASN:ND2	2.31	0.46
10:J:37:ASN:O	10:J:40:LYS:N	2.48	0.46
11:K:143:ILE:HG22	11:K:173:MET:SD	2.54	0.46
13:M:427:ILE:HG22	13:M:447:TYR:HB3	1.96	0.46
18:R:65:ARG:HG2	18:R:127:TYR:CD1	2.50	0.46
22:V:82:LYS:NZ	22:V:107:LYS:HA	2.30	0.46
24:X:106:MET:O	24:X:110:TRP:HB2	2.15	0.46
25:Y:435:SER:HA	25:Y:438:TYR:CD2	2.51	0.46
26:Z:125:LEU:HD21	31:i:113:LYS:HG2	1.98	0.46
27:a:164:PRO:HA	27:a:165:ASN:HA	1.54	0.46
32:j:103:TYR:HA	32:j:104:PRO:C	2.40	0.46
1:A:1:G:N1	3:C:232:A:OP2	2.43	0.46
1:A:60:A:C5	1:A:61:A:N7	2.84	0.46
1:A:165:A:H2'	1:A:166:C:C6	2.51	0.46
1:A:225:C:H4'	29:c:32:SER:O	2.16	0.46
1:A:274:G:C2	1:A:275:U:C2	3.04	0.46
1:A:674:G:H2'	1:A:675:C:O4'	2.15	0.46
1:A:974:G:C5	1:A:975:C:C5	3.04	0.46
1:A:3320:A:H4'	6:F:174:LYS:HZ1	1.79	0.46
6:F:114:VAL:HG11	6:F:163:HIS:CG	2.51	0.46
8:H:107:TYR:O	8:H:110:TRP:HB3	2.15	0.46
8:H:111:LYS:HG2	8:H:121:PHE:HZ	1.80	0.46
8:H:213:ALA:H	8:H:217:PHE:HB2	1.80	0.46
13:M:24:LYS:NZ	13:M:72:MET:SD	2.64	0.46
20:T:89:LYS:O	20:T:92:GLN:HB3	2.15	0.46
23:W:40:ARG:O	23:W:41:TYR:C	2.58	0.46
23:W:69:PRO:O	23:W:97:VAL:HG12	2.14	0.46
25:Y:199:ASP:CG	25:Y:200:ARG:H	2.21	0.46
25:Y:291:LYS:O	25:Y:292:ILE:HD13	2.16	0.46
25:Y:433:ILE:C	25:Y:437:TYR:HB2	2.40	0.46
32:j:41:ALA:O	32:j:42:GLN:C	2.59	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:m:53:TYR:CD1	34:m:76:ARG:HG2	2.51	0.46
1:A:5:G:O6	2:B:155:A:N6	2.49	0.46
1:A:71:A:H4'	1:A:72:C:C6	2.50	0.46
1:A:176:G:N2	1:A:243:G:C4	2.84	0.46
1:A:210:U:O2	7:G:217:LYS:HD3	2.15	0.46
1:A:539:C:C2	1:A:540:U:C5	3.04	0.46
1:A:640:U:N3	1:A:641:C:N3	2.64	0.46
1:A:1148:G:C2	1:A:1156:C:C2	3.03	0.46
1:A:1335:C:H2'	1:A:1336:U:H6	1.79	0.46
1:A:1347:U:OP2	7:G:300:ARG:NH2	2.37	0.46
1:A:3012:A:H2'	1:A:3013:U:C6	2.51	0.46
1:A:3314:A:C8	1:A:3314:A:OP2	2.69	0.46
1:A:3335:A:C2	1:A:3336:A:C8	3.04	0.46
2:B:91:C:H2'	2:B:92:A:C8	2.51	0.46
2:B:93:U:H2'	2:B:94:C:O4'	2.16	0.46
4:D:216:TYR:HD1	4:D:238:GLN:NE2	2.13	0.46
7:G:327:LEU:HD12	7:G:327:LEU:H	1.81	0.46
8:H:41:VAL:O	8:H:45:ILE:HG12	2.16	0.46
8:H:116:THR:O	25:Y:281:PHE:HB3	2.16	0.46
8:H:122:LYS:CG	8:H:123:VAL:H	2.27	0.46
8:H:229:VAL:HA	8:H:233:GLN:OE1	2.16	0.46
9:I:43:LEU:O	9:I:48:ARG:HB2	2.16	0.46
12:L:183:HIS:HE1	12:L:185:GLY:HA3	1.81	0.46
13:M:77:LEU:HA	13:M:80:PHE:CD2	2.50	0.46
13:M:93:ALA:O	13:M:97:GLY:N	2.32	0.46
13:M:141:LEU:O	13:M:144:ASN:HB3	2.16	0.46
15:O:163:ILE:HG12	15:O:170:THR:CG2	2.46	0.46
15:O:202:PHE:CE1	15:O:234:ASN:HB2	2.51	0.46
15:O:240:PHE:CD1	15:O:264:THR:HG22	2.51	0.46
18:R:18:VAL:HG13	18:R:19:LEU:HD12	1.98	0.46
20:T:31:GLU:C	20:T:31:GLU:CD	2.83	0.46
20:T:41:LEU:O	20:T:44:ALA:HB3	2.16	0.46
23:W:15:PRO:HG3	23:W:22:PRO:CD	2.45	0.46
23:W:40:ARG:HA	23:W:43:TYR:HB3	1.97	0.46
24:X:63:GLN:O	24:X:66:ALA:N	2.49	0.46
25:Y:298:SER:OG	25:Y:299:CYS:N	2.49	0.46
27:a:144:GLU:HA	27:a:150:GLN:HG2	1.98	0.46
34:m:68:ARG:O	34:m:72:VAL:HG22	2.16	0.46
1:A:77:A:OP2	16:P:73:ARG:HD2	2.15	0.46
1:A:130:A:H2'	1:A:131:C:C6	2.51	0.46
1:A:164:A:C6	1:A:165:A:C4	3.04	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:330:G:C4	1:A:331:G:C8	3.04	0.46
1:A:503:C:H2'	1:A:504:A:H8	1.79	0.46
1:A:528:U:O2	1:A:564:G:N2	2.43	0.46
1:A:535:G:OP1	23:W:146:LYS:NZ	2.48	0.46
1:A:544:C:H1'	1:A:548:G:N2	2.31	0.46
1:A:547:G:C2	1:A:548:G:C5	3.04	0.46
1:A:658:G:C4	1:A:659:G:C8	3.04	0.46
1:A:1204:A:H62	1:A:1300:G:N2	2.14	0.46
1:A:1291:A:H2'	1:A:1292:C:O4'	2.16	0.46
1:A:2997:G:N2	1:A:3158:G:H5'	2.31	0.46
1:A:3005:A:C4	1:A:3140:G:N2	2.83	0.46
1:A:3047:U:O2'	1:A:3048:A:H5'	2.16	0.46
1:A:3208:G:H5''	1:A:3210:A:O4'	2.15	0.46
2:B:127:U:H3	13:M:11:ASN:HD21	1.63	0.46
3:C:8:A:C6	3:C:21:G:C6	3.03	0.46
4:D:211:ARG:HE	4:D:271:PHE:HB3	1.73	0.46
4:D:294:ALA:HA	4:D:297:ARG:HG2	1.98	0.46
5:E:117:LEU:CA	5:E:139:PHE:HA	2.44	0.46
6:F:227:GLU:OE1	6:F:270:ARG:NH2	2.49	0.46
6:F:314:TYR:OH	6:F:333:LYS:HA	2.16	0.46
8:H:291:LEU:HD12	8:H:292:TYR:N	2.31	0.46
10:J:132:PRO:HA	10:J:229:PHE:CD1	2.49	0.46
12:L:10:ILE:HD13	12:L:75:VAL:HG21	1.97	0.46
12:L:139:ASN:OD1	12:L:140:VAL:HG23	2.15	0.46
14:N:16:PHE:CE1	14:N:58:ILE:HG22	2.51	0.46
17:Q:112:LEU:O	17:Q:117:ARG:NH2	2.49	0.46
22:V:197:LEU:HG	22:V:210:PHE:CE1	2.51	0.46
22:V:215:GLU:O	22:V:215:GLU:HG2	2.16	0.46
25:Y:119:VAL:CG2	25:Y:169:ILE:HA	2.45	0.46
25:Y:137:LEU:HB2	25:Y:140:PHE:CG	2.51	0.46
27:a:228:GLU:CB	27:a:233:GLY:HA3	2.46	0.46
1:A:150:A:C4	1:A:151:A:C8	3.04	0.46
1:A:373:A:H61	1:A:394:G:H4'	1.80	0.46
1:A:538:G:C5	1:A:539:C:C5	3.03	0.46
1:A:806:A:C8	1:A:935:U:C4	3.03	0.46
1:A:971:G:N1	1:A:1111:U:C2	2.83	0.46
1:A:1293:U:H2'	1:A:1294:A:C8	2.50	0.46
1:A:3015:G:H2'	1:A:3016:A:H8	1.78	0.46
1:A:3046:A:C5	1:A:3047:U:C4	3.03	0.46
1:A:3047:U:N3	1:A:3048:A:C6	2.83	0.46
1:A:3108:G:C6	1:A:3127:A:C6	3.03	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3302:U:N3	1:A:3303:G:N7	2.63	0.46
2:B:82:U:H2'	2:B:83:C:H2'	1.97	0.46
2:B:123:G:C2	2:B:124:G:C6	3.04	0.46
3:C:48:A:OP2	3:C:48:A:H8	1.99	0.46
8:H:217:PHE:CZ	8:H:222:LEU:HD13	2.51	0.46
11:K:144:GLU:HA	11:K:173:MET:CE	2.46	0.46
13:M:130:ARG:NH1	13:M:131:ASP:OD1	2.48	0.46
14:N:190:SER:HB3	14:N:193:VAL:HA	1.97	0.46
15:O:205:ARG:NE	22:V:387:ARG:HH12	2.13	0.46
21:U:93:ILE:HD11	21:U:113:LYS:HD3	1.98	0.46
23:W:91:TYR:HE2	23:W:93:GLU:OE2	1.98	0.46
28:b:256:VAL:O	28:b:259:ASP:HB3	2.16	0.46
32:j:39:GLN:H	32:j:39:GLN:CD	2.23	0.46
34:m:37:THR:HB	34:m:41:ARG:NH1	2.31	0.46
1:A:49:A:H62	18:R:187:ARG:NH1	2.13	0.46
1:A:565:U:C2	1:A:566:G:C8	3.04	0.46
1:A:576:C:H2'	1:A:577:C:C6	2.51	0.46
1:A:1388:U:O2'	1:A:1389:G:H5'	2.15	0.46
1:A:3095:U:H2'	1:A:3096:C:C6	2.50	0.46
1:A:3097:C:H5''	6:F:279:ASN:O	2.15	0.46
1:A:3314:A:OP1	6:F:116:ARG:HD3	2.15	0.46
1:A:3370:A:C4	1:A:3371:G:C8	3.04	0.46
3:C:12:A:H2	3:C:14:U:C4	2.34	0.46
4:D:215:ILE:HD11	4:D:217:LYS:NZ	2.31	0.46
5:E:91:GLY:C	5:E:138:GLU:HG2	2.40	0.46
8:H:222:LEU:O	8:H:226:ILE:HG12	2.15	0.46
10:J:232:ARG:O	10:J:234:GLU:N	2.44	0.46
11:K:151:VAL:HA	11:K:199:ALA:CB	2.46	0.46
18:R:56:LYS:HG3	18:R:57:GLN:O	2.16	0.46
20:T:101:ASN:O	20:T:105:LYS:HG2	2.16	0.46
22:V:267:GLU:HB2	22:V:290:GLN:OE1	2.16	0.46
23:W:52:LYS:HZ1	23:W:54:ALA:HB3	1.80	0.46
23:W:57:GLU:OE1	23:W:58:ILE:N	2.49	0.46
25:Y:50:SER:HG	25:Y:53:THR:HG1	1.56	0.46
25:Y:299:CYS:HA	25:Y:302:VAL:HG22	1.97	0.46
27:a:32:ARG:H	27:a:85:ASN:HD22	1.64	0.46
27:a:147:PRO:O	27:a:150:GLN:HB2	2.16	0.46
27:a:186:ILE:HG12	27:a:221:MET:O	2.16	0.46
27:a:244:SER:O	27:a:247:VAL:N	2.46	0.46
28:b:265:LYS:O	28:b:265:LYS:HG3	2.15	0.46
31:i:99:ASN:OD1	31:i:99:ASN:N	2.43	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:m:43:LEU:O	34:m:46:GLU:N	2.47	0.46
1:A:6:A:C2	2:B:154:C:O2	2.69	0.46
1:A:408:A:H2'	1:A:409:A:O4'	2.16	0.46
1:A:410:U:H2'	1:A:411:U:H6	1.81	0.46
1:A:428:A:C5	1:A:429:U:C4	3.04	0.46
1:A:432:G:C2	1:A:433:A:C4	3.04	0.46
1:A:644:G:C2	1:A:1118:C:H5'	2.51	0.46
1:A:977:C:C2	1:A:1105:A:C6	3.03	0.46
1:A:1104:G:H5'	1:A:1105:A:O4'	2.16	0.46
1:A:1124:U:H2'	1:A:1125:U:C5	2.51	0.46
1:A:1190:A:N6	1:A:1317:A:H62	2.13	0.46
1:A:3016:A:O2'	1:A:3017:A:O5'	2.34	0.46
1:A:3022:G:H1'	1:A:3031:G:O6	2.15	0.46
1:A:3234:A:C4	1:A:3235:C:C5	3.04	0.46
5:E:180:LYS:CG	5:E:181:LYS:H	2.29	0.46
12:L:88:TYR:CE2	12:L:154:VAL:HG23	2.51	0.46
12:L:114:VAL:O	12:L:123:ILE:HD12	2.16	0.46
13:M:46:PRO:HG2	13:M:48:ASN:O	2.15	0.46
13:M:67:ASP:O	13:M:70:TYR:HB3	2.16	0.46
19:S:27:LEU:HD22	19:S:101:ARG:HB2	1.97	0.46
24:X:95:PHE:HA	24:X:98:PHE:HB3	1.97	0.46
27:a:44:ARG:HH21	27:a:94:HIS:C	2.24	0.46
28:b:243:GLU:O	28:b:247:TYR:CB	2.56	0.46
29:c:85:VAL:HG12	29:c:97:ILE:HB	1.98	0.46
31:i:11:LYS:O	31:i:12:LYS:HB2	2.16	0.46
35:n:17:THR:O	35:n:27:PHE:HB3	2.15	0.46
1:A:130:A:N1	1:A:139:G:C6	2.84	0.45
1:A:198:A:N7	1:A:219:A:N1	2.64	0.45
1:A:199:A:C2	1:A:219:A:C5	3.04	0.45
1:A:216:G:C2	1:A:217:U:O2	2.69	0.45
1:A:284:A:H5'	27:a:43:TYR:CB	2.43	0.45
1:A:1354:G:C8	1:A:1357:G:H4'	2.51	0.45
1:A:1366:A:H2'	1:A:1367:G:O4'	2.16	0.45
1:A:1409:G:C6	1:A:1410:U:C4	3.04	0.45
1:A:1449:A:H62	1:A:2355:G:H21	1.65	0.45
1:A:3080:G:C2	1:A:3081:C:C4	3.04	0.45
1:A:3230:G:C5	1:A:3231:U:C4	3.04	0.45
1:A:3322:A:H2'	1:A:3323:A:H8	1.81	0.45
3:C:35:C:O2'	8:H:84:ASN:ND2	2.49	0.45
5:E:89:TYR:HA	5:E:168:PRO:HA	1.97	0.45
5:E:125:ASN:N	5:E:130:ASN:O	2.44	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:22:ALA:HB2	6:F:273:HIS:HA	1.98	0.45
7:G:281:ILE:H	7:G:281:ILE:HG13	1.50	0.45
8:H:180:ILE:O	8:H:181:LEU:HD12	2.16	0.45
9:I:154:LEU:HD12	17:Q:119:GLN:OE1	2.15	0.45
11:K:138:HIS:O	11:K:141:ALA:HB3	2.17	0.45
13:M:367:VAL:HG23	13:M:389:SER:HA	1.98	0.45
13:M:431:TRP:HD1	13:M:447:TYR:CD2	2.34	0.45
22:V:8:LEU:HB2	22:V:21:VAL:HG22	1.98	0.45
22:V:390:ARG:HB3	22:V:392:PHE:CE1	2.52	0.45
24:X:47:LYS:O	24:X:51:TYR:HD2	1.98	0.45
24:X:128:VAL:O	24:X:129:LEU:C	2.57	0.45
25:Y:182:THR:O	25:Y:185:PHE:N	2.42	0.45
27:a:49:ILE:O	27:a:53:SER:CB	2.63	0.45
28:b:216:SER:OG	28:b:217:PHE:N	2.43	0.45
31:i:122:PRO:O	31:i:123:LYS:HB3	2.16	0.45
34:m:79:SER:HB2	34:m:81:THR:HG22	1.98	0.45
1:A:11:A:H3'	1:A:12:A:H8	1.81	0.45
1:A:13:A:C2	1:A:15:C:C4	3.04	0.45
1:A:74:G:H5'	16:P:104:ARG:HH22	1.82	0.45
1:A:193:C:H5'	22:V:359:LYS:H	1.82	0.45
1:A:544:C:OP2	1:A:544:C:H6	1.99	0.45
1:A:731:U:H5''	24:X:228:TYR:CE1	2.49	0.45
1:A:929:A:O2'	35:n:49:TRP:O	2.33	0.45
1:A:987:U:H5'	10:J:125:GLU:OE2	2.16	0.45
1:A:1346:G:O2'	7:G:307:GLN:NE2	2.49	0.45
1:A:1441:G:H2'	1:A:1442:U:O4'	2.16	0.45
1:A:3044:G:C4	1:A:3045:G:N7	2.84	0.45
1:A:3049:A:C2	1:A:3050:U:C2	3.04	0.45
1:A:3303:G:C4	1:A:3305:A:C6	3.05	0.45
2:B:17:A:H8	2:B:17:A:O5'	1.99	0.45
4:D:100:ILE:HB	4:D:311:GLU:CD	2.41	0.45
4:D:262:SER:HB3	4:D:266:PHE:CE2	2.51	0.45
4:D:263:VAL:O	4:D:267:PHE:HB2	2.15	0.45
6:F:303:LYS:HD2	6:F:361:THR:HB	1.97	0.45
13:M:79:LYS:O	13:M:83:HIS:CB	2.64	0.45
13:M:364:VAL:HG12	13:M:386:ASN:H	1.81	0.45
13:M:438:LYS:HE2	13:M:440:GLU:HB3	1.97	0.45
15:O:99:THR:HG23	15:O:100:ASN:O	2.16	0.45
15:O:202:PHE:O	15:O:207:GLY:HA3	2.16	0.45
15:O:292:LYS:NZ	15:O:294:TYR:OH	2.26	0.45
22:V:9:LEU:HB2	22:V:413:VAL:CG2	2.46	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:Y:139:GLU:O	25:Y:141:HIS:HD2	1.99	0.45
27:a:187:TRP:CZ3	27:a:220:VAL:HG22	2.52	0.45
31:i:19:ARG:HH11	31:i:33:ARG:HB2	1.80	0.45
31:i:20:HIS:CG	31:i:42:VAL:HG21	2.51	0.45
1:A:1:G:N1	3:C:231:A:O2'	2.48	0.45
1:A:593:C:C4	1:A:594:U:C4	3.05	0.45
1:A:3001:C:H2'	1:A:3002:C:H6	1.80	0.45
1:A:3036:G:C6	1:A:3037:U:C4	3.04	0.45
4:D:172:ASN:HB3	4:D:273:LEU:HD11	1.98	0.45
5:E:163:GLN:HB3	5:E:165:ARG:NH2	2.28	0.45
6:F:87:VAL:HG13	6:F:163:HIS:NE2	2.30	0.45
7:G:138:ARG:HD2	7:G:243:HIS:O	2.16	0.45
7:G:207:VAL:HB	7:G:227:THR:HG22	1.98	0.45
7:G:339:LEU:O	7:G:339:LEU:HD23	2.17	0.45
8:H:110:TRP:HA	8:H:253:TRP:CZ2	2.52	0.45
8:H:154:ILE:HG13	8:H:154:ILE:O	2.16	0.45
10:J:163:LEU:O	10:J:168:ILE:HD12	2.16	0.45
12:L:129:ARG:NH1	12:L:153:ASP:O	2.50	0.45
13:M:63:TYR:CD2	13:M:68:ILE:HD11	2.51	0.45
13:M:123:PRO:HA	13:M:124:SER:HA	1.51	0.45
14:N:84:LEU:HB3	14:N:94:ILE:HD13	1.97	0.45
14:N:119:PRO:HA	14:N:139:ARG:HH11	1.80	0.45
15:O:205:ARG:HG2	22:V:387:ARG:NH1	2.31	0.45
15:O:224:ILE:CG1	15:O:225:GLU:H	2.29	0.45
15:O:246:TYR:CE1	26:Z:166:LEU:HD13	2.51	0.45
15:O:277:GLU:HB2	22:V:343:TYR:O	2.16	0.45
22:V:66:ALA:HB1	22:V:145:PHE:CD2	2.51	0.45
22:V:204:ASP:O	22:V:206:ASP:N	2.49	0.45
22:V:252:TRP:CD1	22:V:280:ARG:HG3	2.51	0.45
22:V:272:ASN:CA	22:V:290:GLN:HE21	2.30	0.45
22:V:331:GLU:H	22:V:331:GLU:CD	2.25	0.45
22:V:387:ARG:HG2	22:V:407:SER:C	2.42	0.45
24:X:200:GLU:O	24:X:203:ARG:HB2	2.17	0.45
25:Y:202:LEU:HD21	25:Y:231:GLN:CD	2.41	0.45
25:Y:308:LEU:HD21	25:Y:429:LEU:HG	1.98	0.45
25:Y:356:PRO:HB3	25:Y:384:THR:OG1	2.15	0.45
27:a:153:LYS:O	27:a:157:VAL:HG23	2.16	0.45
28:b:197:ASN:O	28:b:201:MET:HB2	2.15	0.45
1:A:128:G:C5	1:A:129:U:C4	3.04	0.45
1:A:173:G:N1	1:A:246:U:C2	2.83	0.45
1:A:285:A:O2'	1:A:287:G:C8	2.70	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:331:G:H2'	1:A:332:C:H6	1.81	0.45
1:A:755:A:N6	1:A:778:U:O2	2.50	0.45
1:A:961:C:H3'	1:A:962:A:C8	2.51	0.45
1:A:974:G:OP1	21:U:16:ARG:NH1	2.45	0.45
1:A:1346:G:N1	1:A:1359:C:C2	2.85	0.45
1:A:3005:A:H2	1:A:3144:G:C6	2.34	0.45
1:A:3306:U:O2'	1:A:3309:G:N2	2.50	0.45
2:B:13:A:C6	2:B:14:C:C4	3.04	0.45
2:B:56:G:C6	2:B:62:C:N3	2.85	0.45
5:E:207:ARG:HH12	8:H:290:PRO:N	2.15	0.45
8:H:110:TRP:O	8:H:114:SER:CB	2.64	0.45
13:M:35:LEU:HA	13:M:38:PHE:HB3	1.98	0.45
14:N:62:MET:HE2	14:N:72:VAL:HG23	1.97	0.45
14:N:70:LEU:HD23	14:N:94:ILE:HG12	1.98	0.45
15:O:272:ARG:HD2	15:O:272:ARG:HA	1.65	0.45
17:Q:135:LEU:HD23	17:Q:136:ALA:N	2.31	0.45
20:T:55:GLN:N	20:T:55:GLN:OE1	2.50	0.45
24:X:59:PRO:O	24:X:60:ARG:C	2.57	0.45
27:a:90:GLU:CD	27:a:92:ARG:HG2	2.42	0.45
32:j:72:THR:OG1	32:j:73:ARG:N	2.49	0.45
1:A:341:G:N1	2:B:24:G:O6	2.50	0.45
1:A:383:G:C2	1:A:385:A:P	3.10	0.45
1:A:427:C:N4	1:A:428:A:H62	2.15	0.45
1:A:693:A:O2'	7:G:234:ASN:HA	2.16	0.45
1:A:695:C:OP2	7:G:115:HIS:NE2	2.35	0.45
1:A:3043:C:H2'	1:A:3044:G:O4'	2.16	0.45
1:A:3215:A:C2	9:I:157:GLN:HG2	2.51	0.45
1:A:3245:A:H5'	1:A:3246:G:H5''	1.98	0.45
1:A:3260:G:H4'	17:Q:126:GLN:HA	1.99	0.45
1:A:3268:A:H4'	9:I:46:ARG:HH22	1.82	0.45
4:D:58:ALA:O	4:D:61:ILE:HB	2.16	0.45
8:H:263:VAL:O	8:H:267:SER:CB	2.64	0.45
9:I:105:TYR:OH	9:I:134:ARG:HA	2.16	0.45
13:M:26:GLN:HB2	13:M:81:ARG:NH2	2.31	0.45
13:M:162:ILE:HG12	13:M:229:LEU:HG	1.98	0.45
15:O:235:GLN:HG3	26:Z:156:ALA:HB2	1.99	0.45
16:P:58:VAL:O	16:P:70:ARG:HB3	2.17	0.45
18:R:119:TYR:CZ	18:R:131:GLU:OE1	2.69	0.45
23:W:12:ARG:NH1	23:W:15:PRO:HD3	2.31	0.45
25:Y:131:PHE:CE2	25:Y:147:ILE:HD11	2.51	0.45
25:Y:151:GLY:H	25:Y:154:ARG:HH12	1.65	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:a:88:PHE:O	27:a:99:LEU:HD12	2.17	0.45
29:c:100:HIS:CD2	29:c:101:PRO:HD2	2.51	0.45
1:A:29:C:C2	1:A:56:G:N2	2.84	0.45
1:A:130:A:N6	1:A:139:G:O6	2.50	0.45
1:A:651:G:H2'	1:A:652:G:C8	2.52	0.45
1:A:722:G:N1	1:A:748:U:C2	2.82	0.45
1:A:1323:G:H2'	1:A:1324:U:C6	2.51	0.45
1:A:1404:G:C6	1:A:1408:G:C6	3.05	0.45
1:A:3112:G:O2'	12:L:70:THR:HG22	2.17	0.45
1:A:3211:C:H2'	1:A:3212:C:C6	2.51	0.45
1:A:3325:G:C2	1:A:3383:G:C6	3.04	0.45
2:B:36:G:OP1	35:n:66:TYR:OH	2.18	0.45
3:C:21:G:O3'	4:D:92:HIS:HB2	2.17	0.45
3:C:46:U:H4'	8:H:245:ASN:OD1	2.17	0.45
7:G:240:PRO:CG	7:G:246:ARG:HD3	2.47	0.45
7:G:323:VAL:HG22	7:G:327:LEU:HD13	1.97	0.45
8:H:71:GLU:O	8:H:75:LYS:N	2.49	0.45
8:H:114:SER:HA	8:H:117:ALA:HB2	1.97	0.45
9:I:36:PRO:HB3	9:I:55:LEU:O	2.17	0.45
12:L:16:VAL:HG21	12:L:79:ILE:HG23	1.99	0.45
13:M:98:GLU:O	13:M:101:SER:OG	2.31	0.45
14:N:114:VAL:HG13	14:N:138:PHE:CZ	2.51	0.45
14:N:122:ASP:OD1	14:N:122:ASP:N	2.50	0.45
23:W:12:ARG:HH22	23:W:15:PRO:HG2	1.80	0.45
25:Y:80:ARG:NH2	25:Y:248:LEU:HG	2.32	0.45
25:Y:268:TYR:CE1	25:Y:402:LEU:HD13	2.51	0.45
26:Z:39:THR:O	26:Z:40:ARG:C	2.60	0.45
26:Z:43:CYS:O	26:Z:47:ASN:ND2	2.50	0.45
26:Z:115:LEU:O	26:Z:119:MET:HG2	2.16	0.45
29:c:87:LYS:O	29:c:94:SER:HA	2.16	0.45
1:A:91:G:C2	1:A:96:G:C6	3.05	0.45
1:A:186:U:H5''	1:A:187:A:OP1	2.17	0.45
1:A:404:G:OP1	1:A:406:G:O6	2.35	0.45
1:A:486:U:O2'	1:A:487:U:OP1	2.29	0.45
1:A:782:U:H2'	1:A:783:A:O4'	2.16	0.45
1:A:808:A:OP2	1:A:808:A:C8	2.70	0.45
1:A:953:G:C6	1:A:1142:G:N3	2.84	0.45
1:A:3061:G:H1'	1:A:3333:G:C5'	2.47	0.45
1:A:3113:A:O2'	12:L:69:ARG:HB3	2.16	0.45
1:A:3151:U:O2'	1:A:3395:G:N2	2.50	0.45
1:A:3241:G:OP1	6:F:153:LYS:NZ	2.50	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3375:A:O2'	1:A:3378:C:H5'	2.17	0.45
2:B:123:G:H2'	2:B:123:G:N3	2.30	0.45
3:C:43:A:N6	3:C:44:G:O6	2.49	0.45
3:C:53:A:C4	8:H:167:TYR:CE2	3.05	0.45
4:D:203:SER:O	4:D:207:LEU:CB	2.64	0.45
4:D:211:ARG:HH21	4:D:273:LEU:HA	1.81	0.45
6:F:173:GLN:HG3	6:F:175:LYS:H	1.82	0.45
7:G:34:ILE:O	7:G:35:VAL:C	2.60	0.45
7:G:248:VAL:HG11	7:G:250:TRP:CE2	2.52	0.45
10:J:188:ILE:HD12	10:J:188:ILE:HA	1.81	0.45
11:K:190:VAL:O	11:K:190:VAL:HG22	2.17	0.45
13:M:199:TRP:CZ3	13:M:201:VAL:HG23	2.51	0.45
14:N:138:PHE:HE1	14:N:176:LEU:HD23	1.82	0.45
15:O:242:ARG:HH22	26:Z:158:ILE:HG12	1.81	0.45
28:b:232:HIS:NE2	28:b:245:ALA:HB2	2.32	0.45
35:n:39:TYR:CD1	35:n:40:PRO:HA	2.51	0.45
1:A:24:G:H8	1:A:24:G:O5'	1.99	0.45
1:A:74:G:H3'	16:P:104:ARG:NH2	2.31	0.45
1:A:164:A:C6	1:A:165:A:C5	3.05	0.45
1:A:227:G:C2	1:A:228:U:O2	2.70	0.45
1:A:374:A:C2	1:A:375:A:C6	3.05	0.45
1:A:731:U:H2'	1:A:732:C:H6	1.82	0.45
1:A:962:A:H2'	1:A:963:G:H8	1.79	0.45
1:A:3183:A:H2'	1:A:3184:A:C8	2.50	0.45
2:B:8:C:H2'	2:B:9:A:H8	1.81	0.45
3:C:21:G:C5	3:C:22:G:C8	3.05	0.45
4:D:91:GLN:N	4:D:91:GLN:OE1	2.49	0.45
5:E:196:LEU:O	5:E:200:MET:HG2	2.17	0.45
10:J:50:ALA:O	10:J:54:GLU:HG2	2.17	0.45
10:J:90:LYS:HG2	10:J:133:TYR:CD1	2.51	0.45
10:J:118:LYS:HB2	10:J:195:PHE:CE2	2.52	0.45
13:M:18:ARG:HA	13:M:21:ALA:HB3	1.97	0.45
13:M:174:ARG:HD2	13:M:352:TYR:CZ	2.52	0.45
15:O:123:PHE:CE1	15:O:125:LYS:HA	2.52	0.45
23:W:82:ASP:OD1	23:W:87:THR:HB	2.17	0.45
27:a:32:ARG:HH22	27:a:167:ARG:HH21	1.63	0.45
27:a:164:PRO:HG3	28:b:219:GLU:HA	1.99	0.45
33:l:31:LEU:O	33:l:35:LYS:HB2	2.16	0.45
1:A:645:A:H4'	1:A:646:A:OP2	2.15	0.45
1:A:655:C:H5''	31:i:26:HIS:HB2	1.99	0.45
1:A:1124:U:C6	1:A:1125:U:H5	2.26	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3025:C:H42	1:A:3031:G:H22	1.64	0.45
1:A:3108:G:C5	1:A:3109:G:C8	3.04	0.45
1:A:3121:U:H1'	1:A:3122:A:H5''	1.99	0.45
1:A:3181:C:N4	1:A:3182:G:C6	2.85	0.45
1:A:3313:U:H4'	6:F:173:GLN:HB2	1.99	0.45
4:D:171:THR:O	4:D:272:LYS:NZ	2.50	0.45
4:D:176:PHE:CE1	4:D:204:ILE:HG23	2.52	0.45
5:E:108:SER:OG	5:E:120:VAL:HG11	2.17	0.45
5:E:149:GLN:OE1	5:E:166:VAL:HG13	2.17	0.45
10:J:185:ILE:O	10:J:188:ILE:HG22	2.17	0.45
12:L:36:LYS:HD3	12:L:74:LEU:HD23	1.98	0.45
12:L:128:VAL:CG2	12:L:132:VAL:HG11	2.46	0.45
15:O:126:ARG:HH12	15:O:128:PHE:HB2	1.81	0.45
15:O:277:GLU:HG3	22:V:368:SER:CB	2.46	0.45
17:Q:12:TRP:CD1	23:W:151:PRO:HB3	2.52	0.45
22:V:177:ASP:O	22:V:178:LYS:HB2	2.17	0.45
22:V:219:ILE:HD12	22:V:287:TYR:CE2	2.52	0.45
24:X:73:HIS:HB2	24:X:131:SER:OG	2.17	0.45
24:X:181:TRP:CD2	24:X:214:LEU:HD21	2.51	0.45
25:Y:435:SER:HB3	25:Y:442:THR:HG21	1.98	0.45
26:Z:162:ILE:O	26:Z:166:LEU:HG	2.17	0.45
32:j:16:TYR:CD1	32:j:25:PRO:HA	2.52	0.45
1:A:43:A:H62	1:A:92:G:N2	2.15	0.45
1:A:53:G:P	35:n:48:ASN:HB2	2.56	0.45
1:A:257:U:C2	1:A:258:G:C8	3.04	0.45
1:A:320:G:C2	1:A:321:C:C4	3.05	0.45
1:A:334:A:C2	2:B:30:C:C2	3.04	0.45
1:A:548:G:H2'	1:A:549:U:O4'	2.16	0.45
1:A:658:G:C6	1:A:659:G:C5	3.04	0.45
1:A:963:G:C4	1:A:964:G:C8	3.05	0.45
1:A:1139:G:H3'	1:A:1140:G:H8	1.81	0.45
1:A:1346:G:N1	1:A:1359:C:O2	2.50	0.45
1:A:2357:A:C2	1:A:2358:A:C5	3.05	0.45
1:A:3049:A:O2'	6:F:364:LYS:HE3	2.16	0.45
1:A:3057:U:O4	1:A:3331:U:O2'	2.35	0.45
2:B:46:G:C2	2:B:47:C:C4	3.05	0.45
2:B:83:C:O4'	2:B:85:G:N2	2.49	0.45
4:D:187:LEU:O	4:D:190:ILE:HG22	2.17	0.45
13:M:186:VAL:O	13:M:200:LEU:HA	2.17	0.45
15:O:207:GLY:O	15:O:210:VAL:HG22	2.17	0.45
19:S:34:VAL:HG23	19:S:34:VAL:O	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:T:157:VAL:HG13	20:T:158:ALA:N	2.32	0.45
22:V:150:PRO:HA	22:V:160:PHE:HD1	1.80	0.45
22:V:256:LEU:HD13	22:V:277:ALA:HB2	1.98	0.45
23:W:104:GLU:OE1	23:W:105:THR:N	2.50	0.45
25:Y:76:LEU:HD22	25:Y:99:PRO:HG3	1.98	0.45
25:Y:202:LEU:CD2	25:Y:235:VAL:HG22	2.47	0.45
25:Y:365:ASP:OD1	25:Y:365:ASP:O	2.35	0.45
28:b:217:PHE:CE2	28:b:221:GLN:HG2	2.51	0.45
31:i:21:HIS:HD2	31:i:24:ARG:HD2	1.83	0.45
1:A:68:C:O3'	18:R:177:GLY:HA2	2.17	0.44
1:A:162:G:H2'	1:A:163:C:H6	1.82	0.44
1:A:192:C:H2'	1:A:193:C:H6	1.82	0.44
1:A:333:G:C6	2:B:31:G:N1	2.85	0.44
1:A:727:G:C5	1:A:743:C:C4	3.05	0.44
1:A:1317:A:C5	1:A:1319:G:C8	3.05	0.44
1:A:1345:G:C2	1:A:1360:C:N3	2.85	0.44
1:A:1363:A:H8	1:A:1363:A:O5'	1.99	0.44
1:A:1421:G:H2'	1:A:1422:G:H8	1.82	0.44
1:A:3325:G:C2	1:A:3383:G:N1	2.85	0.44
2:B:56:G:C6	2:B:62:C:C4	3.05	0.44
2:B:71:A:O2'	2:B:83:C:N4	2.50	0.44
6:F:55:THR:O	6:F:56:ILE:HD13	2.17	0.44
8:H:85:ASN:ND2	8:H:274:TYR:O	2.50	0.44
8:H:214:ASN:HA	8:H:215:LYS:HA	1.50	0.44
10:J:166:ASN:OD1	10:J:181:ILE:N	2.48	0.44
11:K:110:THR:O	11:K:113:ALA:HB3	2.17	0.44
11:K:158:ASP:OD2	18:R:41:ARG:HD2	2.16	0.44
13:M:138:MET:O	13:M:142:PHE:HD2	2.00	0.44
13:M:417:LEU:HD12	13:M:417:LEU:O	2.17	0.44
22:V:81:LEU:HD12	22:V:107:LYS:HE2	1.97	0.44
24:X:57:ASP:HB3	24:X:58:ARG:HG3	1.99	0.44
24:X:181:TRP:CD1	24:X:181:TRP:C	2.96	0.44
28:b:202:LYS:O	28:b:205:LEU:HB3	2.17	0.44
29:c:74:TYR:HD2	29:c:77:LYS:HB2	1.82	0.44
1:A:59:G:C8	2:B:33:A:C4	3.05	0.44
1:A:165:A:C5	1:A:166:C:C4	3.05	0.44
1:A:268:A:P	18:R:47:LYS:HZ2	2.41	0.44
1:A:283:G:N1	1:A:285:A:OP1	2.50	0.44
1:A:409:A:C8	1:A:410:U:C5	3.05	0.44
1:A:497:C:H2'	1:A:498:A:O4'	2.17	0.44
1:A:696:C:O2'	1:A:697:A:O5'	2.29	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:725:G:N1	1:A:746:A:C6	2.86	0.44
1:A:778:U:N3	1:A:779:G:O6	2.50	0.44
1:A:808:A:C2	1:A:934:G:N2	2.85	0.44
1:A:1169:A:C6	1:A:1170:A:C5	3.06	0.44
1:A:1422:G:H2'	1:A:1423:C:H6	1.79	0.44
1:A:3184:A:C6	1:A:3185:U:C4	3.06	0.44
2:B:155:A:H4'	11:K:185:ARG:CZ	2.48	0.44
3:C:1:C:C2	4:D:59:GLU:HG2	2.52	0.44
5:E:140:VAL:HG12	5:E:141:ASN:CG	2.43	0.44
7:G:353:ALA:O	7:G:357:GLU:HB2	2.17	0.44
8:H:123:VAL:HG11	8:H:151:VAL:HG12	2.00	0.44
8:H:209:ILE:HD12	8:H:229:VAL:HG11	1.99	0.44
9:I:43:LEU:HA	9:I:43:LEU:HD23	1.78	0.44
9:I:51:ARG:NH2	9:I:161:ALA:O	2.51	0.44
11:K:214:LEU:O	11:K:218:ILE:HD12	2.16	0.44
12:L:104:VAL:O	12:L:110:LYS:HA	2.17	0.44
13:M:90:LEU:O	13:M:94:LEU:CB	2.60	0.44
13:M:167:LEU:HB3	13:M:259:LEU:HD22	1.99	0.44
15:O:275:LYS:HB2	22:V:138:ARG:HH22	1.82	0.44
19:S:151:ASP:OD1	19:S:152:VAL:HG23	2.18	0.44
21:U:25:TYR:HE1	26:Z:5:ILE:HD11	1.82	0.44
23:W:97:VAL:HG12	23:W:97:VAL:O	2.18	0.44
24:X:153:VAL:HG13	24:X:157:LEU:HD13	1.99	0.44
31:i:125:ARG:O	31:i:126:LEU:HD12	2.17	0.44
32:j:47:LYS:HD2	32:j:102:LEU:C	2.42	0.44
32:j:59:VAL:HG13	32:j:60:ARG:N	2.31	0.44
33:l:102:GLU:N	33:l:102:GLU:OE1	2.48	0.44
1:A:259:C:H2'	1:A:260:C:H6	1.81	0.44
1:A:697:A:C6	1:A:698:U:N3	2.85	0.44
1:A:1435:A:C8	1:A:1437:C:C6	3.05	0.44
1:A:2357:A:H2'	1:A:2358:A:H8	1.78	0.44
1:A:3092:C:H5'	1:A:3093:C:OP1	2.17	0.44
1:A:3099:C:N3	1:A:3136:G:C4	2.86	0.44
1:A:3325:G:H2'	1:A:3326:G:C8	2.51	0.44
1:A:3383:G:C2	1:A:3384:U:C2	3.04	0.44
2:B:6:U:C2	2:B:7:U:C5	3.05	0.44
2:B:94:C:H5''	35:n:76:ASN:ND2	2.33	0.44
4:D:276:GLU:HB3	4:D:291:GLN:HE22	1.81	0.44
6:F:34:LYS:O	6:F:35:ASP:HB2	2.17	0.44
8:H:209:ILE:HG23	8:H:211:THR:HG23	1.99	0.44
8:H:227:LYS:HB3	8:H:231:MET:CE	2.47	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:188:ILE:CG2	10:J:189:ILE:N	2.80	0.44
11:K:75:ILE:HG22	11:K:76:ALA:N	2.28	0.44
11:K:173:MET:HE3	11:K:173:MET:HB2	1.76	0.44
13:M:53:ASN:HD22	13:M:56:SER:C	2.26	0.44
13:M:177:ARG:HG3	13:M:178:LYS:N	2.32	0.44
13:M:256:ILE:O	13:M:257:SER:OG	2.26	0.44
14:N:24:CYS:SG	14:N:48:ILE:HD12	2.57	0.44
15:O:200:ASN:HB2	15:O:233:HIS:HA	2.00	0.44
16:P:49:ARG:HA	16:P:50:PRO:HD3	1.75	0.44
19:S:189:ASP:OD1	19:S:189:ASP:N	2.49	0.44
25:Y:131:PHE:CE1	25:Y:145:PHE:HB2	2.51	0.44
25:Y:197:GLU:C	25:Y:199:ASP:H	2.25	0.44
26:Z:33:ASN:HB3	26:Z:44:PRO:HD3	2.00	0.44
1:A:26:A:C2	1:A:27:C:C2	3.05	0.44
1:A:76:G:OP2	16:P:73:ARG:N	2.50	0.44
1:A:170:G:C6	1:A:171:G:C5	3.05	0.44
1:A:365:A:O2'	7:G:84:ARG:HB2	2.18	0.44
1:A:550:A:N6	1:A:551:A:N6	2.65	0.44
1:A:551:A:O2'	1:A:552:G:H8	2.01	0.44
1:A:928:C:H2'	1:A:929:A:C8	2.52	0.44
1:A:1373:A:N1	1:A:1374:G:C5	2.85	0.44
1:A:2362:C:C4	1:A:2363:A:C6	3.06	0.44
1:A:3069:G:C6	1:A:3070:A:N7	2.85	0.44
1:A:3076:C:C4	1:A:3077:A:N7	2.86	0.44
1:A:3083:G:N2	1:A:3333:G:OP1	2.49	0.44
2:B:10:A:H2'	2:B:11:C:O4'	2.17	0.44
2:B:21:C:H2'	2:B:22:U:H5'	1.99	0.44
2:B:150:G:C2	2:B:152:G:C5	3.05	0.44
3:C:18:U:H2'	3:C:19:U:H6	1.81	0.44
5:E:100:HIS:CE1	5:E:133:HIS:NE2	2.86	0.44
7:G:62:ALA:HB3	7:G:90:PHE:CE2	2.53	0.44
7:G:243:HIS:CE1	26:Z:14:PHE:HE2	2.35	0.44
8:H:44:LEU:HD11	8:H:283:THR:OG1	2.18	0.44
11:K:214:LEU:O	11:K:217:THR:N	2.47	0.44
12:L:129:ARG:CZ	12:L:132:VAL:HB	2.47	0.44
13:M:352:TYR:CD2	13:M:358:SER:HB3	2.46	0.44
15:O:240:PHE:CZ	15:O:242:ARG:HB3	2.53	0.44
22:V:23:CYS:CB	22:V:37:PRO:HA	2.39	0.44
25:Y:260:THR:HB	25:Y:410:VAL:HG21	1.98	0.44
27:a:49:ILE:O	27:a:53:SER:HB3	2.17	0.44
27:a:172:PHE:HD2	28:b:271:PRO:HG3	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:b:231:GLU:O	28:b:232:HIS:CG	2.70	0.44
33:l:60:GLU:O	33:l:63:ARG:N	2.50	0.44
1:A:5:G:N1	2:B:155:A:C6	2.86	0.44
1:A:20:A:OP2	33:l:90:ARG:NH2	2.50	0.44
1:A:335:G:C2	2:B:29:U:N3	2.85	0.44
1:A:411:U:H2'	1:A:412:G:H8	1.82	0.44
1:A:593:C:H2'	1:A:594:U:O4'	2.17	0.44
1:A:687:U:C2	1:A:688:G:C8	3.05	0.44
1:A:731:U:H5'	24:X:228:TYR:OH	2.17	0.44
1:A:792:G:C6	1:A:793:C:N4	2.85	0.44
1:A:952:A:N6	1:A:953:G:N1	2.66	0.44
1:A:1106:G:C4	1:A:1107:C:O2	2.71	0.44
1:A:1203:A:H4'	1:A:1204:A:O5'	2.16	0.44
1:A:3004:C:C4	1:A:3005:A:N1	2.86	0.44
1:A:3141:A:C6	1:A:3144:G:C4	3.06	0.44
1:A:3229:G:C6	1:A:3230:G:C6	3.06	0.44
1:A:3256:G:H2'	1:A:3257:C:C6	2.52	0.44
2:B:4:C:C4'	20:T:61:ARG:HE	2.30	0.44
2:B:103:G:C2	2:B:105:A:N6	2.85	0.44
2:B:123:G:C2	2:B:131:A:N1	2.85	0.44
2:B:148:G:C2	2:B:149:A:C4	3.06	0.44
4:D:57:ARG:O	4:D:60:SER:N	2.51	0.44
4:D:282:SER:OG	4:D:283:LEU:N	2.46	0.44
5:E:97:ARG:O	5:E:162:LEU:HD22	2.18	0.44
5:E:219:LYS:HE2	8:H:36:ARG:HE	1.83	0.44
6:F:50:LYS:HA	6:F:79:VAL:HG12	1.99	0.44
6:F:346:THR:HG23	6:F:351:LEU:HD21	1.99	0.44
8:H:233:GLN:O	8:H:234:LEU:HD12	2.18	0.44
10:J:234:GLU:CG	10:J:235:PHE:H	2.28	0.44
11:K:79:GLN:N	11:K:155:ASN:HD21	2.16	0.44
11:K:134:TYR:CD1	11:K:190:VAL:HG21	2.53	0.44
12:L:102:ASN:HA	12:L:136:PHE:CZ	2.52	0.44
14:N:61:ARG:NH2	14:N:195:ALA:O	2.51	0.44
15:O:223:ASP:CG	15:O:224:ILE:H	2.25	0.44
19:S:74:ARG:O	19:S:75:ALA:C	2.60	0.44
24:X:157:LEU:CB	24:X:158:PRO:HD3	2.47	0.44
28:b:227:THR:HG1	28:b:249:GLN:HE22	1.64	0.44
33:l:41:LEU:HD12	33:l:42:PRO:HD2	1.98	0.44
1:A:28:C:N3	1:A:57:A:N1	2.65	0.44
1:A:215:G:C2	1:A:216:G:C4	3.06	0.44
1:A:313:A:C5	1:A:314:U:C4	3.05	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:405:U:H5	1:A:406:G:C5	2.35	0.44
1:A:415:G:C6	2:B:9:A:C6	3.06	0.44
1:A:509:U:H2'	1:A:510:G:O4'	2.17	0.44
1:A:534:U:C4	17:Q:74:ARG:NH2	2.86	0.44
1:A:576:C:H2'	1:A:577:C:H6	1.82	0.44
1:A:1375:G:C2	1:A:1376:C:C6	3.06	0.44
1:A:2361:A:N7	1:A:2362:C:N4	2.66	0.44
1:A:3080:G:H2'	1:A:3081:C:C6	2.53	0.44
2:B:13:A:C4	2:B:14:C:C5	3.06	0.44
2:B:128:U:N3	13:M:47:ARG:HD2	2.33	0.44
3:C:14:U:H2'	3:C:16:U:O2	2.18	0.44
6:F:46:PHE:CE2	6:F:81:THR:HG23	2.48	0.44
11:K:150:LEU:HA	11:K:176:PRO:O	2.18	0.44
12:L:82:VAL:HG13	12:L:83:THR:N	2.33	0.44
12:L:122:LYS:HD3	12:L:122:LYS:HA	1.76	0.44
14:N:162:HIS:HB2	14:N:163:PRO:HD2	1.99	0.44
14:N:172:GLU:O	14:N:175:SER:OG	2.35	0.44
20:T:105:LYS:HA	20:T:105:LYS:HD2	1.84	0.44
20:T:159:LYS:HE2	20:T:159:LYS:HB3	1.80	0.44
22:V:123:PHE:CZ	22:V:144:GLY:HA2	2.52	0.44
23:W:80:ARG:HH11	23:W:87:THR:HG21	1.82	0.44
1:A:5:G:C6	2:B:155:A:N1	2.86	0.44
1:A:34:A:N7	1:A:50:U:O4	2.51	0.44
1:A:143:G:H2'	1:A:144:A:H8	1.83	0.44
1:A:254:A:C6	1:A:255:A:N7	2.85	0.44
1:A:412:G:OP1	20:T:30:ARG:NH2	2.50	0.44
1:A:614:C:H2'	1:A:615:U:C6	2.52	0.44
1:A:974:G:C5	1:A:975:C:H5	2.35	0.44
1:A:3055:U:C2	1:A:3087:A:C6	3.06	0.44
1:A:3245:A:H5'	1:A:3246:G:C5'	2.48	0.44
3:C:4:U:O4	8:H:161:LYS:HB2	2.17	0.44
3:C:10:A:C6	3:C:11:C:C4	3.06	0.44
4:D:281:GLY:O	4:D:285:ARG:HB2	2.17	0.44
10:J:127:LEU:HD23	10:J:136:TYR:CE1	2.53	0.44
12:L:1:MET:SD	23:W:139:TYR:HB3	2.57	0.44
13:M:168:ALA:O	13:M:172:LYS:HB3	2.18	0.44
13:M:220:THR:HA	13:M:223:GLU:HG2	2.00	0.44
13:M:225:TYR:HD1	13:M:228:LEU:HD12	1.82	0.44
13:M:431:TRP:CD1	13:M:447:TYR:CD1	3.06	0.44
15:O:213:LEU:O	15:O:216:SER:N	2.49	0.44
16:P:109:PHE:O	16:P:113:VAL:HG23	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:Q:49:PRO:HG2	17:Q:82:SER:HB2	2.00	0.44
22:V:221:LEU:HD12	22:V:235:TRP:HB3	1.99	0.44
24:X:204:LYS:O	24:X:206:ALA:N	2.51	0.44
25:Y:134:ALA:C	25:Y:136:GLU:H	2.26	0.44
25:Y:317:LEU:O	25:Y:343:LEU:HA	2.18	0.44
26:Z:85:ASN:ND2	26:Z:88:LYS:HD2	2.32	0.44
26:Z:85:ASN:O	26:Z:89:ALA:N	2.33	0.44
28:b:254:VAL:O	28:b:268:PHE:HE2	2.01	0.44
1:A:81:C:C2	1:A:82:C:C5	3.06	0.44
1:A:96:G:H2'	1:A:97:U:C6	2.52	0.44
1:A:123:A:H5'	1:A:124:U:OP2	2.18	0.44
1:A:124:U:H2'	1:A:125:C:H6	1.82	0.44
1:A:278:U:H2'	1:A:279:U:H6	1.82	0.44
1:A:439:C:H41	31:i:128:LEU:HD11	1.83	0.44
1:A:489:C:C4	1:A:490:A:N7	2.86	0.44
1:A:618:C:H4'	1:A:619:A:OP1	2.18	0.44
1:A:1421:G:C2	1:A:1422:G:C5	3.05	0.44
1:A:2362:C:C5	1:A:2363:A:N6	2.85	0.44
1:A:3128:G:O2'	1:A:3129:A:H5'	2.18	0.44
1:A:3132:C:O5'	1:A:3132:C:H6	2.00	0.44
1:A:3267:A:C8	9:I:73:GLY:HA2	2.53	0.44
2:B:2:A:H8	2:B:2:A:OP2	2.00	0.44
3:C:58:G:H22	5:E:176:LEU:HD23	1.83	0.44
4:D:102:LYS:HD2	4:D:311:GLU:O	2.18	0.44
4:D:150:PRO:O	4:D:152:ALA:N	2.51	0.44
6:F:49:TYR:CD1	6:F:335:ILE:HG22	2.53	0.44
7:G:145:ILE:HB	7:G:150:LEU:HD12	2.00	0.44
7:G:246:ARG:HA	7:G:246:ARG:HD2	1.75	0.44
12:L:189:GLU:HA	12:L:190:ASP:HA	1.69	0.44
13:M:63:TYR:O	13:M:64:TYR:HB2	2.18	0.44
13:M:369:ARG:HG2	13:M:391:ALA:N	2.32	0.44
13:M:373:ILE:HD12	13:M:374:ASP:N	2.33	0.44
14:N:16:PHE:CZ	14:N:58:ILE:HG22	2.52	0.44
16:P:23:LYS:HE3	16:P:25:HIS:CE1	2.52	0.44
18:R:6:TYR:HE1	34:m:40:VAL:HG22	1.79	0.44
18:R:115:VAL:HG12	18:R:116:LEU:N	2.32	0.44
19:S:37:ARG:NE	19:S:40:GLU:OE1	2.50	0.44
20:T:48:LEU:O	20:T:51:VAL:HG22	2.16	0.44
22:V:82:LYS:NZ	22:V:106:PRO:O	2.51	0.44
25:Y:291:LYS:HG2	25:Y:358:VAL:HG12	1.99	0.44
25:Y:417:PHE:CZ	25:Y:419:GLU:HG2	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:Z:21:ALA:HB1	26:Z:22:PRO:HD2	2.00	0.44
29:c:5:SER:O	29:c:8:VAL:HG12	2.18	0.44
1:A:11:A:C4	1:A:12:A:C8	3.06	0.44
1:A:201:A:H2'	1:A:202:G:H8	1.83	0.44
1:A:227:G:C2	1:A:228:U:N3	2.86	0.44
1:A:255:A:C2	1:A:256:G:C8	3.06	0.44
1:A:320:G:N2	1:A:321:C:C2	2.85	0.44
1:A:464:U:C2	26:Z:75:LYS:HG2	2.53	0.44
1:A:595:G:H1	1:A:609:G:H5''	1.83	0.44
1:A:601:U:H3'	1:A:602:A:C8	2.52	0.44
1:A:620:U:O2'	15:O:105:LYS:NZ	2.33	0.44
1:A:746:A:C4	1:A:747:A:C8	3.06	0.44
1:A:977:C:N4	1:A:978:G:C6	2.86	0.44
1:A:3021:A:N6	1:A:3032:A:H5'	2.29	0.44
1:A:3183:A:C2	1:A:3184:A:C5	3.05	0.44
1:A:3205:G:C6	23:W:171:PHE:CE1	3.06	0.44
2:B:28:C:O2'	2:B:29:U:H5'	2.18	0.44
2:B:72:A:C5	2:B:73:U:C5	3.06	0.44
2:B:81:U:O3'	2:B:82:U:H4'	2.17	0.44
3:C:231:A:C6	4:D:280:PHE:CD1	3.05	0.44
5:E:97:ARG:CZ	5:E:163:GLN:HE22	2.31	0.44
5:E:97:ARG:HG3	5:E:160:HIS:HB3	1.98	0.44
6:F:194:TRP:O	6:F:197:GLU:HB2	2.18	0.44
9:I:129:GLU:HB3	9:I:130:ILE:H	1.55	0.44
9:I:153:PRO:C	9:I:155:LEU:H	2.26	0.44
10:J:55:TYR:O	10:J:56:GLU:C	2.61	0.44
11:K:134:TYR:CG	11:K:190:VAL:HG21	2.53	0.44
12:L:142:ASP:O	12:L:143:GLU:HB2	2.18	0.44
13:M:20:GLN:HA	13:M:23:ARG:CG	2.46	0.44
13:M:214:ASP:OD1	13:M:215:PHE:N	2.50	0.44
14:N:78:ASP:O	14:N:81:LEU:HB2	2.18	0.44
16:P:126:PHE:HD2	33:l:115:LYS:O	2.01	0.44
17:Q:72:LEU:HD23	17:Q:73:PRO:O	2.18	0.44
22:V:296:PHE:HZ	22:V:333:PHE:CE2	2.35	0.44
26:Z:19:ILE:HG21	31:i:74:PHE:CZ	2.53	0.44
29:c:57:LEU:HB3	29:c:105:VAL:CG2	2.48	0.44
30:d:282:UNK:O	30:d:283:UNK:C	2.66	0.44
32:j:39:GLN:OE1	32:j:39:GLN:N	2.38	0.44
1:A:185:C:H4'	29:c:122:LYS:HA	2.00	0.43
1:A:490:A:OP2	1:A:490:A:H8	1.99	0.43
1:A:671:U:H2'	1:A:672:A:C8	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1449:A:C2	1:A:2356:A:C4	3.06	0.43
1:A:3005:A:C4	1:A:3140:G:C2	3.06	0.43
1:A:3026:G:C2	1:A:3030:G:C6	3.06	0.43
1:A:3046:A:C6	1:A:3047:U:C4	3.06	0.43
1:A:3163:A:C6	1:A:3288:G:C6	3.06	0.43
1:A:3230:G:C2	1:A:3231:U:C2	3.06	0.43
1:A:3275:U:H3'	1:A:3276:G:C4'	2.48	0.43
2:B:81:U:C5'	2:B:88:A:H5'	2.47	0.43
3:C:13:U:H1'	3:C:14:U:C6	2.53	0.43
5:E:184:LEU:HD12	5:E:184:LEU:O	2.16	0.43
7:G:46:LYS:O	7:G:47:ARG:HG3	2.18	0.43
8:H:140:LEU:CD2	8:H:144:LEU:HD23	2.49	0.43
10:J:156:ILE:HD12	10:J:161:VAL:HB	2.00	0.43
12:L:159:ALA:HA	12:L:162:GLN:HG2	1.98	0.43
15:O:227:ARG:C	15:O:246:TYR:HB3	2.42	0.43
16:P:26:PHE:N	16:P:26:PHE:CD1	2.85	0.43
18:R:13:LYS:O	18:R:19:LEU:HD22	2.18	0.43
22:V:7:ARG:HD2	22:V:416:ASP:OD1	2.18	0.43
22:V:21:VAL:C	22:V:22:LEU:HD12	2.43	0.43
24:X:13:ASN:HA	24:X:55:PHE:HE2	1.81	0.43
24:X:220:ILE:O	24:X:224:ILE:HG23	2.17	0.43
24:X:220:ILE:HA	24:X:220:ILE:HD12	1.61	0.43
25:Y:201:ILE:O	25:Y:206:PHE:HB2	2.18	0.43
34:m:66:GLU:OE2	34:m:70:ARG:HD2	2.18	0.43
1:A:41:G:H21	1:A:42:C:H5''	1.83	0.43
1:A:102:C:C5	1:A:103:G:N7	2.86	0.43
1:A:238:A:C6	1:A:239:G:C6	3.06	0.43
1:A:565:U:H2'	1:A:566:G:C8	2.53	0.43
1:A:638:C:N4	1:A:639:G:O6	2.51	0.43
1:A:695:C:C5	1:A:696:C:H5	2.36	0.43
1:A:946:U:C2	1:A:947:G:C8	3.07	0.43
1:A:974:G:C2	1:A:976:U:O4	2.71	0.43
1:A:977:C:N4	1:A:978:G:N1	2.66	0.43
1:A:1322:U:H2'	1:A:1323:G:H8	1.83	0.43
1:A:1438:U:C2	1:A:1439:U:C6	3.06	0.43
1:A:2999:U:H3	1:A:3149:G:H1	1.66	0.43
1:A:3064:U:H2'	1:A:3065:G:C8	2.53	0.43
1:A:3114:A:H62	1:A:3118:C:H42	1.65	0.43
1:A:3129:A:N6	1:A:3131:U:C2	2.86	0.43
2:B:142:C:H5''	18:R:38:ARG:NH1	2.32	0.43
8:H:76:LYS:O	8:H:283:THR:HG22	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:136:SER:HB3	8:H:139:ASP:CG	2.43	0.43
9:I:176:PHE:O	17:Q:113:THR:HG23	2.18	0.43
11:K:87:ALA:O	11:K:90:THR:OG1	2.24	0.43
18:R:5:LYS:HD3	34:m:37:THR:HG22	2.00	0.43
21:U:124:LEU:HD23	21:U:124:LEU:HA	1.63	0.43
22:V:369:SER:OG	22:V:382:GLN:NE2	2.46	0.43
1:A:150:A:C5	1:A:151:A:C8	3.06	0.43
1:A:155:G:C8	1:A:266:A:H2	2.36	0.43
1:A:197:G:N2	1:A:372:A:N7	2.66	0.43
1:A:235:A:C2	1:A:236:G:C5	3.06	0.43
1:A:592:A:C6	1:A:593:C:C4	3.07	0.43
1:A:722:G:C2	1:A:748:U:O2	2.71	0.43
1:A:722:G:H2'	1:A:723:U:H6	1.83	0.43
1:A:800:G:N2	1:A:801:A:C2	2.86	0.43
1:A:1354:G:C8	1:A:1354:G:H5''	2.52	0.43
1:A:1387:G:C6	1:A:1421:G:O6	2.71	0.43
1:A:2352:A:C6	1:A:2353:G:C5	3.06	0.43
1:A:3225:C:C4	1:A:3226:A:N7	2.86	0.43
2:B:27:U:O5'	2:B:27:U:H6	2.02	0.43
4:D:81:LEU:HD13	4:D:305:ALA:O	2.19	0.43
5:E:196:LEU:HD12	5:E:197:LYS:N	2.33	0.43
8:H:149:ILE:HG21	8:H:230:TYR:CZ	2.53	0.43
10:J:103:LEU:HD23	10:J:103:LEU:HA	1.68	0.43
12:L:45:PHE:CE1	12:L:55:VAL:HG12	2.53	0.43
13:M:360:PHE:CE1	13:M:441:LEU:HD13	2.53	0.43
15:O:246:TYR:HH	15:O:248:PHE:HZ	1.60	0.43
16:P:21:ARG:HB3	18:R:196:THR:HG23	1.98	0.43
17:Q:82:SER:O	17:Q:85:TRP:HB3	2.19	0.43
18:R:121:VAL:HG23	18:R:122:ASN:N	2.33	0.43
20:T:30:ARG:HH22	20:T:62:ARG:HH12	1.66	0.43
25:Y:56:ALA:CB	25:Y:137:LEU:HD22	2.48	0.43
25:Y:299:CYS:SG	25:Y:320:HIS:HB2	2.58	0.43
33:I:29:ALA:HA	33:I:32:LYS:HE2	2.00	0.43
1:A:1:G:N2	3:C:232:A:O5'	2.49	0.43
1:A:121:A:N6	11:K:108:ARG:NH2	2.66	0.43
1:A:189:G:C4	1:A:191:U:C5	3.06	0.43
1:A:236:G:C4	1:A:237:G:C8	3.06	0.43
1:A:366:A:H2'	1:A:367:A:O4'	2.18	0.43
1:A:433:A:H2'	1:A:434:U:C6	2.53	0.43
1:A:486:U:H2'	1:A:487:U:O4'	2.18	0.43
1:A:621:A:H2'	1:A:622:A:H8	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1445:U:H3'	1:A:1446:A:C8	2.43	0.43
1:A:3062:G:N1	1:A:3082:C:C4	2.86	0.43
1:A:3109:G:H2'	1:A:3110:C:C6	2.51	0.43
1:A:3146:G:H4'	6:F:100:ARG:HD2	2.00	0.43
1:A:3212:C:C4	1:A:3213:A:C5	3.07	0.43
1:A:3378:C:O2'	6:F:313:HIS:N	2.31	0.43
3:C:231:A:C5	4:D:280:PHE:CG	3.06	0.43
4:D:202:SER:HA	4:D:205:ARG:HH11	1.83	0.43
7:G:140:HIS:HB3	7:G:142:VAL:HG13	1.99	0.43
9:I:135:VAL:O	9:I:138:GLN:HB3	2.17	0.43
10:J:13:LEU:HD23	10:J:13:LEU:HA	1.85	0.43
11:K:104:GLU:O	11:K:107:GLU:HB2	2.19	0.43
12:L:134:ILE:HG22	12:L:146:LEU:HG	2.00	0.43
20:T:108:ASP:OD1	20:T:110:THR:HG22	2.19	0.43
22:V:8:LEU:CD2	22:V:414:MET:HG3	2.48	0.43
22:V:43:HIS:C	22:V:44:LEU:HG	2.43	0.43
22:V:351:ASP:OD1	22:V:355:ARG:N	2.50	0.43
23:W:17:GLU:O	23:W:17:GLU:HG2	2.18	0.43
25:Y:157:GLU:CD	25:Y:178:HIS:CE1	2.96	0.43
25:Y:339:GLU:CG	25:Y:340:ARG:H	2.28	0.43
25:Y:475:LYS:HA	25:Y:483:PRO:HB2	2.01	0.43
26:Z:85:ASN:CB	26:Z:88:LYS:HB2	2.42	0.43
27:a:36:ILE:CG1	27:a:62:GLU:HB2	2.49	0.43
27:a:218:ARG:HH22	28:b:239:ASP:CG	2.16	0.43
33:l:45:LYS:HE2	33:l:49:LYS:HE3	1.99	0.43
1:A:59:G:O6	1:A:330:G:N1	2.52	0.43
1:A:100:A:O2'	1:A:101:G:H5'	2.19	0.43
1:A:185:C:N3	1:A:232:G:N1	2.67	0.43
1:A:230:U:H2'	1:A:231:G:O4'	2.18	0.43
1:A:294:U:H4'	34:m:77:LEU:CD2	2.48	0.43
1:A:404:G:C6	1:A:405:U:N3	2.87	0.43
1:A:414:U:H2'	1:A:415:G:H8	1.84	0.43
1:A:418:A:C6	1:A:419:G:C6	3.06	0.43
1:A:740:G:H2'	1:A:741:U:C6	2.54	0.43
1:A:1139:G:C2	1:A:1140:G:C5	3.07	0.43
1:A:3109:G:O2'	1:A:3110:C:H5'	2.19	0.43
1:A:3369:G:N2	6:F:383:LEU:HD23	2.33	0.43
2:B:123:G:C6	2:B:131:A:N6	2.86	0.43
4:D:291:GLN:O	4:D:295:GLU:HB2	2.18	0.43
6:F:95:THR:OG1	6:F:98:GLY:O	2.33	0.43
8:H:263:VAL:O	8:H:267:SER:OG	2.36	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:280:PHE:HB3	8:H:288:VAL:HB	2.00	0.43
11:K:75:ILE:C	11:K:77:GLN:H	2.26	0.43
13:M:194:GLY:O	13:M:196:GLU:HG3	2.18	0.43
15:O:117:ILE:HG13	15:O:118:LEU:HD12	2.00	0.43
15:O:126:ARG:NH1	15:O:128:PHE:HB2	2.34	0.43
17:Q:32:LEU:HD23	17:Q:32:LEU:HA	1.71	0.43
19:S:172:ARG:O	19:S:175:THR:OG1	2.24	0.43
21:U:35:PHE:O	21:U:38:ARG:N	2.51	0.43
22:V:418:VAL:HG12	22:V:419:GLU:O	2.19	0.43
24:X:65:LEU:HA	24:X:68:GLU:HG2	2.00	0.43
24:X:118:LEU:HD23	24:X:118:LEU:HA	1.76	0.43
24:X:213:PRO:O	24:X:217:VAL:HG23	2.19	0.43
25:Y:358:VAL:HG21	25:Y:361:ILE:HD11	1.99	0.43
25:Y:467:LYS:HZ2	25:Y:468:LEU:HG	1.84	0.43
26:Z:19:ILE:HG21	31:i:74:PHE:CE1	2.53	0.43
26:Z:114:LYS:O	26:Z:118:VAL:HG23	2.18	0.43
27:a:33:THR:H	27:a:59:SER:HA	1.83	0.43
27:a:134:ARG:NH2	28:b:218:GLN:O	2.51	0.43
33:l:84:LYS:O	33:l:85:THR:OG1	2.21	0.43
1:A:138:U:H2'	1:A:139:G:H8	1.84	0.43
1:A:259:C:H2'	1:A:260:C:C6	2.54	0.43
1:A:377:A:C5	1:A:400:G:C5	3.07	0.43
1:A:696:C:OP1	7:G:272:VAL:HG12	2.17	0.43
1:A:745:C:C4'	21:U:144:ARG:HE	2.30	0.43
1:A:798:G:C6	1:A:799:G:C5	3.06	0.43
1:A:798:G:C4	1:A:799:G:C8	3.07	0.43
1:A:933:A:N1	7:G:98:ARG:NH1	2.67	0.43
1:A:979:U:H3'	1:A:980:A:H4'	2.00	0.43
1:A:1116:G:H21	1:A:1117:G:H3'	1.82	0.43
1:A:1334:U:C2	1:A:1335:C:C5	3.07	0.43
1:A:1409:G:C5	1:A:1410:U:C5	3.07	0.43
1:A:2367:A:C6	1:A:2381:G:N1	2.86	0.43
1:A:3015:G:C6	1:A:3040:A:C2	3.07	0.43
1:A:3132:C:O2'	1:A:3133:C:H5'	2.17	0.43
1:A:3193:C:N3	1:A:3200:G:C6	2.86	0.43
1:A:3220:G:C5	1:A:3266:G:C2	3.06	0.43
1:A:3303:G:C5	1:A:3305:A:N1	2.87	0.43
1:A:3331:U:H3'	1:A:3332:U:C6	2.53	0.43
2:B:68:G:C5	2:B:69:U:C5	3.07	0.43
3:C:17:G:H2'	3:C:18:U:H6	1.84	0.43
3:C:35:C:H1'	8:H:243:THR:OG1	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:119:GLU:OE2	5:E:121:ARG:N	2.52	0.43
6:F:86:VAL:HG22	6:F:162:VAL:HG12	2.01	0.43
7:G:178:LEU:HA	7:G:178:LEU:HD23	1.75	0.43
8:H:268:GLU:O	8:H:272:LYS:HG3	2.18	0.43
9:I:58:LEU:HD23	9:I:58:LEU:HA	1.81	0.43
9:I:170:LYS:O	9:I:173:MET:N	2.41	0.43
10:J:234:GLU:HG3	10:J:235:PHE:CD1	2.53	0.43
11:K:101:THR:O	11:K:104:GLU:HB3	2.18	0.43
12:L:26:LYS:HG3	12:L:35:THR:HG22	1.99	0.43
14:N:52:THR:HA	14:N:59:ILE:HG22	1.99	0.43
15:O:97:LEU:HD23	15:O:98:THR:N	2.34	0.43
15:O:167:GLU:HG2	15:O:167:GLU:O	2.19	0.43
15:O:172:TYR:HB3	15:O:269:ARG:HB2	2.00	0.43
22:V:200:LEU:HA	22:V:200:LEU:HD23	1.75	0.43
22:V:312:GLU:HB2	22:V:339:ILE:HB	2.00	0.43
24:X:136:LEU:HD21	24:X:146:VAL:HG22	2.00	0.43
25:Y:162:MET:HE1	25:Y:182:THR:HG23	2.00	0.43
25:Y:268:TYR:OH	25:Y:402:LEU:HD22	2.19	0.43
26:Z:134:TYR:CG	31:i:126:LEU:HD23	2.53	0.43
29:c:52:ARG:O	29:c:70:ILE:HB	2.18	0.43
34:m:53:TYR:CE1	34:m:76:ARG:NH1	2.87	0.43
1:A:155:G:C4	1:A:266:A:H2	2.37	0.43
1:A:281:G:OP1	1:A:281:G:C8	2.72	0.43
1:A:579:G:H2'	1:A:580:C:C6	2.54	0.43
1:A:592:A:C5	1:A:593:C:C5	3.06	0.43
1:A:944:C:H4'	1:A:944:C:OP1	2.18	0.43
1:A:3018:C:H5''	14:N:8:GLU:OE1	2.19	0.43
1:A:3072:C:H2'	1:A:3073:A:O4'	2.19	0.43
1:A:3165:A:H1'	1:A:3286:G:N2	2.33	0.43
3:C:42:G:H1'	3:C:43:A:C8	2.53	0.43
4:D:92:HIS:ND1	4:D:92:HIS:O	2.51	0.43
4:D:272:LYS:HA	4:D:272:LYS:HD2	1.77	0.43
5:E:193:VAL:HA	5:E:196:LEU:HG	2.00	0.43
7:G:130:ALA:O	7:G:132:ALA:N	2.51	0.43
7:G:205:PRO:HB3	7:G:247:PHE:CE2	2.54	0.43
7:G:208:VAL:HG12	7:G:209:TYR:N	2.34	0.43
10:J:87:VAL:HA	10:J:113:SER:O	2.19	0.43
10:J:186:HIS:O	10:J:186:HIS:ND1	2.52	0.43
12:L:111:PHE:CD1	12:L:127:PRO:HA	2.54	0.43
13:M:43:PRO:HB2	13:M:62:PHE:H	1.82	0.43
13:M:189:GLN:OE1	13:M:460:TRP:HZ3	2.02	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:O:228:GLN:HA	15:O:245:ARG:HA	2.01	0.43
18:R:6:TYR:CD1	34:m:40:VAL:HG13	2.54	0.43
19:S:84:LEU:C	19:S:84:LEU:HD23	2.44	0.43
20:T:60:PHE:CZ	20:T:82:ARG:HB3	2.54	0.43
21:U:26:LEU:C	21:U:26:LEU:HD12	2.43	0.43
21:U:40:THR:HG23	21:U:42:ALA:N	2.30	0.43
22:V:271:LEU:HB3	22:V:273:TYR:CE2	2.54	0.43
25:Y:335:PHE:CE2	25:Y:355:ILE:HG12	2.54	0.43
27:a:190:THR:HB	27:a:216:GLY:O	2.19	0.43
28:b:229:THR:HG22	28:b:229:THR:O	2.18	0.43
32:j:9:VAL:HG21	32:j:44:TYR:OH	2.19	0.43
1:A:2:U:H3'	1:A:3:U:C6	2.54	0.43
1:A:124:U:H2'	1:A:125:C:C6	2.54	0.43
1:A:172:G:C6	1:A:247:C:N3	2.86	0.43
1:A:226:C:H2'	1:A:227:G:O4'	2.19	0.43
1:A:404:G:O6	1:A:405:U:N3	2.52	0.43
1:A:415:G:C6	2:B:9:A:N1	2.87	0.43
1:A:446:U:H2'	1:A:447:U:H6	1.83	0.43
1:A:613:G:C4	1:A:614:C:C5	3.07	0.43
1:A:742:G:H4'	21:U:73:GLN:NE2	2.34	0.43
1:A:805:G:C4	1:A:936:A:N6	2.87	0.43
1:A:1120:A:H2'	1:A:1121:U:C6	2.54	0.43
1:A:1317:A:C4	1:A:1319:G:C8	3.07	0.43
1:A:3036:G:C6	1:A:3037:U:C5	3.07	0.43
1:A:3084:C:C2	1:A:3085:G:C8	3.06	0.43
2:B:130:C:H5''	13:M:9:ARG:NH2	2.33	0.43
3:C:14:U:H2'	3:C:16:U:C2	2.54	0.43
3:C:35:C:H4'	8:H:84:ASN:HD21	1.82	0.43
4:D:66:LEU:HD23	4:D:66:LEU:HA	1.84	0.43
4:D:192:PRO:HG2	4:D:193:TYR:CE2	2.54	0.43
8:H:297:VAL:O	8:H:300:GLU:HB2	2.19	0.43
10:J:6:ILE:C	10:J:7:LEU:HD23	2.43	0.43
12:L:10:ILE:HB	12:L:53:ILE:O	2.19	0.43
12:L:82:VAL:HG13	12:L:83:THR:H	1.84	0.43
13:M:73:HIS:CG	13:M:74:GLU:N	2.84	0.43
13:M:143:SER:HB2	13:M:160:GLN:CG	2.48	0.43
13:M:209:ILE:HG23	13:M:211:SER:N	2.34	0.43
17:Q:20:VAL:HG23	17:Q:66:THR:OG1	2.19	0.43
20:T:40:GLU:OE2	20:T:42:THR:HG22	2.19	0.43
22:V:18:ILE:HD11	22:V:44:LEU:HD21	2.00	0.43
22:V:162:ALA:O	22:V:169:LEU:HD12	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:V:191:PRO:HG2	22:V:215:GLU:CD	2.44	0.43
23:W:8:GLN:HB3	23:W:62:ASN:HB2	2.01	0.43
25:Y:234:LYS:HD2	25:Y:237:ASP:OD1	2.18	0.43
25:Y:397:ASN:OD1	25:Y:398:GLU:N	2.52	0.43
26:Z:35:THR:OG1	26:Z:42:SER:OG	2.36	0.43
27:a:44:ARG:O	27:a:48:LEU:HG	2.18	0.43
1:A:21:G:N7	2:B:37:A:C6	2.87	0.43
1:A:30:G:C6	1:A:55:G:C6	3.06	0.43
1:A:31:C:H2'	1:A:32:U:C6	2.54	0.43
1:A:139:G:C2	1:A:140:C:C2	3.07	0.43
1:A:165:A:H3'	1:A:166:C:H6	1.84	0.43
1:A:341:G:N2	2:B:22:U:C6	2.86	0.43
1:A:392:G:C2	1:A:393:U:C5	3.07	0.43
1:A:649:A:H2'	1:A:650:C:C6	2.54	0.43
1:A:725:G:H3'	1:A:726:G:H8	1.83	0.43
1:A:782:U:O5'	1:A:782:U:H6	2.02	0.43
1:A:1411:C:H5'	31:i:98:HIS:N	2.34	0.43
1:A:3167:A:H1'	1:A:3284:G:H22	1.82	0.43
1:A:3315:G:C5	6:F:123:TYR:CE2	3.06	0.43
1:A:3373:U:C4	1:A:3374:U:C4	3.07	0.43
1:A:3379:C:H4'	6:F:314:TYR:O	2.18	0.43
2:B:39:G:C6	2:B:106:C:O2	2.71	0.43
2:B:63:G:O2'	33:l:49:LYS:HE2	2.18	0.43
2:B:128:U:P	2:B:129:C:H41	2.41	0.43
3:C:10:A:C2	3:C:19:U:C2	3.07	0.43
3:C:231:A:C5	3:C:232:A:C5	3.07	0.43
4:D:250:ILE:HG23	4:D:264:CYS:HB3	2.01	0.43
5:E:97:ARG:HG2	5:E:161:LEU:O	2.18	0.43
5:E:117:LEU:CB	5:E:139:PHE:HA	2.49	0.43
6:F:26:ARG:HG2	6:F:27:ALA:O	2.19	0.43
6:F:362:ALA:HB2	6:F:371:GLN:NE2	2.31	0.43
8:H:201:LYS:HB3	8:H:203:GLU:OE1	2.18	0.43
10:J:178:ILE:HD13	10:J:184:LEU:HA	2.01	0.43
10:J:179:LEU:C	10:J:179:LEU:HD12	2.44	0.43
12:L:100:ASN:ND2	12:L:115:ARG:HH21	2.17	0.43
13:M:167:LEU:O	13:M:171:ALA:CB	2.66	0.43
13:M:234:TYR:HA	13:M:244:TYR:CG	2.54	0.43
20:T:13:LYS:O	20:T:14:SER:OG	2.36	0.43
21:U:63:SER:HA	21:U:88:THR:O	2.19	0.43
24:X:154:LEU:CD2	24:X:220:ILE:HD11	2.49	0.43
25:Y:241:ILE:O	25:Y:242:SER:OG	2.31	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:Y:295:PHE:N	25:Y:362:ILE:O	2.30	0.43
26:Z:68:GLU:OE1	26:Z:68:GLU:HA	2.19	0.43
31:i:13:HIS:CE1	31:i:17:PHE:CE1	3.06	0.43
31:i:77:ALA:O	31:i:108:ILE:HD11	2.19	0.43
1:A:130:A:C6	1:A:139:G:N1	2.87	0.43
1:A:208:C:O2'	1:A:209:A:H5'	2.19	0.43
1:A:259:C:C2	1:A:260:C:C5	3.07	0.43
1:A:388:G:C4	1:A:389:A:C8	3.07	0.43
1:A:408:A:N3	1:A:655:C:O2'	2.43	0.43
1:A:488:U:H2'	1:A:489:C:C6	2.54	0.43
1:A:542:G:N2	1:A:543:C:C2	2.87	0.43
1:A:688:G:H2'	1:A:690:A:C8	2.54	0.43
1:A:1107:C:C5	1:A:1108:U:C4	3.07	0.43
1:A:1333:C:N3	1:A:1334:U:C5	2.87	0.43
1:A:3045:G:H2'	1:A:3046:A:C8	2.49	0.43
1:A:3188:G:C6	1:A:3205:G:O6	2.72	0.43
1:A:3310:A:C6	1:A:3311:C:C4	3.06	0.43
2:B:56:G:C2	2:B:62:C:C2	3.07	0.43
2:B:142:C:P	18:R:62:TYR:HH	2.42	0.43
3:C:31:G:H8	3:C:31:G:O5'	2.02	0.43
4:D:163:LEU:O	4:D:167:ARG:N	2.52	0.43
4:D:220:ASN:HB3	4:D:221:GLU:HG3	2.00	0.43
8:H:108:LYS:HB3	8:H:109:PRO:HD3	2.01	0.43
8:H:187:VAL:HA	8:H:190:LEU:HD12	2.00	0.43
8:H:217:PHE:CZ	8:H:219:LEU:HD23	2.54	0.43
8:H:302:GLU:HA	8:H:305:LYS:HE2	2.01	0.43
9:I:26:ARG:HG2	9:I:27:PRO:HD2	2.01	0.43
10:J:62:ILE:HD12	10:J:62:ILE:HA	1.77	0.43
10:J:84:VAL:CG2	10:J:117:VAL:HB	2.48	0.43
11:K:145:ASN:N	11:K:146:LYS:HA	2.34	0.43
12:L:4:ILE:HD12	23:W:143:PHE:HE1	1.84	0.43
12:L:77:ASN:O	12:L:81:GLY:HA3	2.19	0.43
13:M:18:ARG:O	13:M:22:VAL:HG13	2.19	0.43
13:M:73:HIS:ND1	13:M:74:GLU:N	2.64	0.43
13:M:83:HIS:O	13:M:86:PHE:HB3	2.19	0.43
13:M:110:ASP:OD1	13:M:110:ASP:N	2.51	0.43
14:N:213:PRO:O	14:N:217:VAL:HG23	2.18	0.43
22:V:73:GLU:OE1	22:V:115:ILE:HG21	2.19	0.43
22:V:312:GLU:OE2	22:V:373:HIS:HA	2.19	0.43
23:W:41:TYR:O	23:W:45:LEU:CB	2.67	0.43
25:Y:190:LEU:HD13	25:Y:217:LEU:HD22	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:Y:292:ILE:O	25:Y:342:ILE:HA	2.18	0.43
26:Z:112:PHE:O	26:Z:116:THR:HG23	2.19	0.43
26:Z:141:VAL:O	26:Z:145:GLU:HG2	2.18	0.43
29:c:70:ILE:HG12	29:c:80:VAL:HG21	1.99	0.43
31:i:64:LYS:HG2	31:i:65:PHE:CD2	2.54	0.43
32:j:89:LEU:HD23	32:j:89:LEU:HA	1.83	0.43
34:m:53:TYR:HA	34:m:56:ARG:HH11	1.83	0.43
1:A:284:A:C4	27:a:43:TYR:HE2	2.37	0.42
1:A:799:G:H2'	1:A:801:A:H62	1.84	0.42
1:A:811:U:H2'	1:A:812:G:C8	2.54	0.42
1:A:971:G:C6	1:A:1111:U:N3	2.87	0.42
1:A:1137:C:H3'	1:A:1138:U:H6	1.82	0.42
1:A:3075:G:C6	1:A:3076:C:N4	2.87	0.42
1:A:3190:C:H2'	1:A:3191:G:H8	1.83	0.42
1:A:3191:G:C2	1:A:3192:U:C2	3.07	0.42
1:A:3234:A:C6	1:A:3235:C:C4	3.07	0.42
1:A:3335:A:H2'	1:A:3335:A:N3	2.33	0.42
2:B:123:G:H2'	2:B:124:G:C8	2.53	0.42
3:C:6:U:H5'	3:C:7:C:H5''	2.00	0.42
3:C:14:U:H2'	3:C:16:U:H3	1.83	0.42
4:D:64:LYS:O	4:D:68:THR:HG23	2.19	0.42
4:D:135:TYR:CE2	4:D:137:GLY:HA3	2.54	0.42
6:F:168:LYS:CG	6:F:319:ASN:HD21	2.32	0.42
7:G:36:HIS:O	7:G:40:THR:HG23	2.19	0.42
7:G:177:ASP:OD1	7:G:180:LYS:HE3	2.19	0.42
7:G:215:ILE:HG23	7:G:216:VAL:N	2.34	0.42
8:H:81:ILE:CG2	8:H:246:VAL:HB	2.46	0.42
14:N:77:THR:CG2	14:N:80:GLU:H	2.32	0.42
15:O:231:THR:HG21	26:Z:162:ILE:HD11	2.00	0.42
20:T:93:GLY:O	20:T:96:GLN:HB3	2.18	0.42
23:W:57:GLU:CD	23:W:58:ILE:N	2.77	0.42
25:Y:300:ASN:O	25:Y:303:LYS:HB3	2.19	0.42
28:b:257:ALA:O	28:b:260:GLU:HB2	2.19	0.42
29:c:56:VAL:HG21	29:c:104:LEU:HB3	2.01	0.42
1:A:291:C:H2'	1:A:292:U:O2	2.19	0.42
1:A:360:G:H2'	1:A:361:A:C8	2.54	0.42
1:A:613:G:C6	1:A:614:C:C4	3.07	0.42
1:A:678:G:C5	1:A:703:G:N2	2.87	0.42
1:A:815:G:C2	1:A:926:A:C2	3.07	0.42
1:A:1109:U:C4	1:A:1110:U:N3	2.80	0.42
1:A:1135:A:H3'	1:A:1136:A:H8	1.85	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1310:G:H2'	1:A:1311:G:C8	2.54	0.42
1:A:2352:A:H2'	1:A:2353:G:H8	1.85	0.42
1:A:3007:U:H2'	1:A:3008:A:C8	2.53	0.42
1:A:3028:G:H2'	1:A:3029:A:C8	2.54	0.42
1:A:3062:G:H3'	1:A:3063:C:C6	2.54	0.42
1:A:3300:U:O2	1:A:3315:G:N2	2.53	0.42
2:B:44:A:N1	2:B:101:U:C4	2.87	0.42
4:D:260:SER:C	4:D:262:SER:H	2.27	0.42
6:F:85:VAL:HA	6:F:202:THR:HA	2.00	0.42
7:G:23:PRO:HB2	7:G:25:VAL:HG12	2.01	0.42
7:G:212:ASP:OD1	7:G:214:GLY:N	2.39	0.42
9:I:40:LEU:CD1	9:I:54:TYR:HB2	2.49	0.42
9:I:90:LYS:HG3	9:I:91:VAL:N	2.34	0.42
10:J:141:TYR:HA	10:J:189:ILE:HD12	2.00	0.42
13:M:31:ASP:HA	13:M:34:ARG:NH2	2.33	0.42
13:M:203:PHE:HD1	13:M:205:PHE:CE2	2.36	0.42
15:O:210:VAL:O	15:O:213:LEU:HB2	2.19	0.42
16:P:27:ASP:C	16:P:29:ALA:N	2.76	0.42
22:V:77:ILE:HG12	22:V:113:PHE:CE1	2.54	0.42
25:Y:210:MET:HA	25:Y:213:ILE:HG12	2.01	0.42
25:Y:423:ALA:O	25:Y:426:GLN:HB3	2.18	0.42
27:a:163:PRO:O	27:a:166:ALA:N	2.52	0.42
31:i:95:GLU:HB3	31:i:120:THR:OG1	2.18	0.42
31:i:109:LEU:O	31:i:110:ALA:C	2.60	0.42
1:A:122:A:C6	1:A:146:U:N3	2.87	0.42
1:A:264:G:N7	25:Y:155:ARG:HD3	2.35	0.42
1:A:331:G:O2'	1:A:332:C:H5'	2.19	0.42
1:A:472:A:O2'	1:A:473:G:P	2.77	0.42
1:A:594:U:O2'	1:A:595:G:H5'	2.20	0.42
1:A:953:G:H5''	1:A:954:U:C5'	2.50	0.42
1:A:990:U:H2'	1:A:991:G:H5''	2.01	0.42
1:A:1433:A:OP1	31:i:19:ARG:NH2	2.52	0.42
1:A:3212:C:C2	1:A:3213:A:C8	3.07	0.42
1:A:3335:A:H5''	1:A:3336:A:OP2	2.20	0.42
2:B:150:G:N2	2:B:152:G:C5	2.88	0.42
4:D:62:VAL:HG11	5:E:158:MET:SD	2.60	0.42
4:D:155:ILE:HD13	4:D:160:PHE:CD1	2.54	0.42
5:E:88:GLU:OE2	5:E:142:LYS:HE2	2.19	0.42
5:E:97:ARG:NH1	5:E:163:GLN:HE22	2.17	0.42
6:F:293:ASN:HD22	6:F:305:ILE:N	2.10	0.42
7:G:156:LEU:O	7:G:157:GLU:C	2.62	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:288:ARG:HB2	24:X:115:ARG:CB	2.47	0.42
8:H:202:VAL:HA	8:H:205:THR:HG22	2.01	0.42
12:L:112:ILE:O	12:L:125:ASN:HA	2.19	0.42
13:M:418:LYS:HA	13:M:419:ASN:HA	1.62	0.42
14:N:7:PHE:HB3	14:N:10:SER:O	2.19	0.42
15:O:235:GLN:CG	26:Z:156:ALA:HB2	2.49	0.42
16:P:25:HIS:CD2	18:R:200:TRP:CZ3	3.07	0.42
17:Q:113:THR:HB	17:Q:116:GLU:HG3	2.02	0.42
19:S:34:VAL:HG12	19:S:103:LYS:HB2	2.01	0.42
24:X:72:LEU:HD21	24:X:98:PHE:HZ	1.84	0.42
25:Y:120:ILE:HD13	25:Y:195:ILE:HG13	2.02	0.42
25:Y:214:ILE:HD13	25:Y:241:ILE:CG2	2.49	0.42
25:Y:288:GLN:NE2	25:Y:315:PRO:HG3	2.34	0.42
25:Y:324:LYS:O	25:Y:328:ARG:HG3	2.19	0.42
26:Z:20:LYS:HA	26:Z:26:ASN:HB3	2.01	0.42
27:a:186:ILE:O	27:a:221:MET:CB	2.57	0.42
1:A:1:G:H4'	1:A:3:U:C5	2.55	0.42
1:A:16:A:C6	2:B:144:G:N1	2.87	0.42
1:A:36:C:H4'	1:A:808:A:N1	2.34	0.42
1:A:139:G:C6	1:A:140:C:N4	2.87	0.42
1:A:498:A:C2	1:A:616:G:C2	3.07	0.42
1:A:597:G:C2	1:A:598:A:C5	3.07	0.42
1:A:703:G:C2	1:A:704:U:C2	3.07	0.42
1:A:1103:A:H3'	1:A:1104:G:C4	2.53	0.42
1:A:1152:G:O2'	1:A:1153:A:H5'	2.18	0.42
1:A:1373:A:N6	1:A:1374:G:O6	2.53	0.42
1:A:3135:U:C4	1:A:3136:G:N7	2.87	0.42
1:A:3197:G:C2	1:A:3199:G:C4	3.08	0.42
1:A:3230:G:H2'	1:A:3231:U:H6	1.83	0.42
3:C:14:U:C2	3:C:16:U:C2	3.08	0.42
7:G:7:THR:OG1	7:G:147:GLU:OE1	2.33	0.42
7:G:46:LYS:C	7:G:47:ARG:HG3	2.44	0.42
7:G:239:ALA:O	7:G:241:GLY:N	2.52	0.42
10:J:157:ASN:OD1	10:J:158:LYS:N	2.53	0.42
11:K:156:ASP:O	11:K:183:LYS:HD3	2.19	0.42
13:M:174:ARG:HB2	13:M:352:TYR:CD1	2.55	0.42
13:M:235:LYS:O	13:M:238:THR:OG1	2.33	0.42
13:M:373:ILE:H	13:M:373:ILE:HG13	1.66	0.42
13:M:447:TYR:O	13:M:448:LEU:HB2	2.19	0.42
14:N:19:LEU:HG	14:N:23:TYR:O	2.19	0.42
22:V:161:VAL:HG21	22:V:210:PHE:CE1	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:W:93:GLU:HB2	23:W:140:VAL:HG21	2.00	0.42
24:X:167:THR:C	24:X:170:PRO:HD2	2.44	0.42
25:Y:111:PRO:O	25:Y:113:ASN:N	2.52	0.42
27:a:88:PHE:HB3	27:a:100:TRP:HB2	2.01	0.42
27:a:143:PHE:HE1	27:a:181:ILE:HG13	1.83	0.42
27:a:151:LEU:HD23	27:a:151:LEU:HA	1.79	0.42
27:a:188:VAL:CG2	27:a:219:PHE:HB3	2.41	0.42
28:b:244:LEU:O	28:b:247:TYR:HB3	2.20	0.42
29:c:38:GLU:O	29:c:42:GLN:CB	2.65	0.42
1:A:66:A:C6	1:A:68:C:O2	2.73	0.42
1:A:206:G:N2	1:A:207:U:H1'	2.33	0.42
1:A:209:A:C2	7:G:162:THR:HG21	2.54	0.42
1:A:445:G:C6	1:A:490:A:C6	3.08	0.42
1:A:466:G:C5'	24:X:61:PRO:HG2	2.47	0.42
1:A:472:A:C4	1:A:473:G:C8	3.08	0.42
1:A:539:C:H2'	1:A:540:U:C6	2.55	0.42
1:A:590:G:O6	1:A:591:G:C6	2.73	0.42
1:A:951:A:OP2	1:A:1367:G:N1	2.50	0.42
1:A:989:A:H2'	1:A:990:U:C6	2.52	0.42
1:A:1102:A:H4'	1:A:1103:A:OP1	2.19	0.42
1:A:1343:A:N3	1:A:1362:G:N2	2.68	0.42
1:A:1345:G:N2	1:A:1346:G:C4	2.87	0.42
1:A:3060:C:H4'	1:A:3371:G:H22	1.84	0.42
1:A:3272:C:H5	9:I:78:ARG:HH22	1.67	0.42
1:A:3334:U:H3	1:A:3369:G:C4'	2.32	0.42
3:C:48:A:HO2'	3:C:49:C:P	2.40	0.42
4:D:236:GLU:O	4:D:240:GLY:N	2.52	0.42
6:F:74:GLU:OE2	6:F:283:TYR:OH	2.30	0.42
6:F:308:MET:SD	6:F:376:LYS:HD2	2.59	0.42
7:G:181:VAL:C	7:G:183:LYS:H	2.27	0.42
8:H:227:LYS:HB3	8:H:231:MET:HE3	2.01	0.42
8:H:292:TYR:CE2	8:H:294:ASN:HB2	2.54	0.42
13:M:11:ASN:HD22	13:M:14:ASN:HD22	1.67	0.42
13:M:16:ILE:HD11	13:M:63:TYR:HD2	1.85	0.42
13:M:37:ILE:HD12	13:M:221:PHE:CE1	2.53	0.42
13:M:426:TYR:HB3	13:M:449:PRO:HD2	2.02	0.42
14:N:153:SER:C	14:N:154:LEU:HD12	2.44	0.42
17:Q:92:GLU:H	17:Q:92:GLU:CD	2.27	0.42
19:S:27:LEU:HD11	19:S:102:LEU:HB2	2.01	0.42
19:S:74:ARG:O	19:S:142:SER:OG	2.22	0.42
21:U:28:LEU:HD23	21:U:28:LEU:HA	1.78	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:W:44:PHE:HE1	23:W:122:HIS:ND1	2.18	0.42
25:Y:448:ARG:CZ	25:Y:448:ARG:HB3	2.49	0.42
27:a:110:ILE:CD1	27:a:226:ILE:HG12	2.49	0.42
1:A:132:C:O2'	1:A:133:U:H6	2.03	0.42
1:A:162:G:O2'	1:A:163:C:H5'	2.19	0.42
1:A:267:G:H2'	1:A:318:A:C8	2.55	0.42
1:A:381:U:H2'	1:A:382:U:C6	2.55	0.42
1:A:504:A:C2	1:A:505:G:C5	3.08	0.42
1:A:721:G:O2'	1:A:722:G:P	2.77	0.42
1:A:754:G:H1	1:A:778:U:H2'	1.83	0.42
1:A:798:G:H2'	1:A:799:G:H8	1.84	0.42
1:A:3044:G:N1	1:A:3045:G:C6	2.87	0.42
1:A:3327:G:N1	1:A:3380:U:O4	2.53	0.42
2:B:123:G:N1	2:B:131:A:C6	2.88	0.42
3:C:8:A:H2'	3:C:9:A:C8	2.55	0.42
3:C:9:A:H61	3:C:19:U:H3	1.67	0.42
4:D:277:VAL:HG12	4:D:278:SER:O	2.20	0.42
4:D:297:ARG:HG3	4:D:298:THR:N	2.34	0.42
6:F:46:PHE:CG	6:F:47:LEU:N	2.87	0.42
6:F:216:ASP:OD1	6:F:218:ILE:HG23	2.20	0.42
6:F:314:TYR:CD2	6:F:332:ARG:NH2	2.85	0.42
7:G:286:VAL:O	7:G:287:THR:C	2.61	0.42
11:K:73:PRO:HB3	11:K:230:LYS:O	2.20	0.42
11:K:91:PHE:HZ	11:K:180:VAL:HG11	1.83	0.42
11:K:181:LYS:HE3	11:K:181:LYS:HB2	1.75	0.42
12:L:66:ALA:O	12:L:70:THR:HG23	2.19	0.42
13:M:177:ARG:CZ	13:M:196:GLU:HB3	2.49	0.42
14:N:190:SER:OG	14:N:192:VAL:O	2.23	0.42
17:Q:6:ILE:O	17:Q:6:ILE:HG22	2.19	0.42
17:Q:112:LEU:HA	17:Q:112:LEU:HD23	1.80	0.42
19:S:76:PRO:O	19:S:77:SER:C	2.63	0.42
22:V:44:LEU:HD12	22:V:44:LEU:O	2.20	0.42
25:Y:157:GLU:OE1	25:Y:174:ARG:NH2	2.47	0.42
25:Y:214:ILE:HD12	25:Y:215:LYS:N	2.34	0.42
25:Y:264:LEU:HD22	25:Y:380:THR:HB	2.00	0.42
27:a:148:HIS:HB3	28:b:201:MET:CE	2.50	0.42
27:a:215:ILE:HD11	28:b:270:ARG:HH22	1.85	0.42
30:d:110:UNK:O	30:d:111:UNK:C	2.67	0.42
33:l:49:LYS:HA	33:l:49:LYS:HD3	1.83	0.42
1:A:80:G:H4'	1:A:326:U:O2'	2.19	0.42
1:A:114:A:O2'	1:A:115:A:H5'	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:128:G:C4	1:A:129:U:C5	3.08	0.42
1:A:185:C:N4	1:A:232:G:O6	2.52	0.42
1:A:235:A:C2	1:A:236:G:C4	3.07	0.42
1:A:342:A:C5	1:A:368:G:N7	2.88	0.42
1:A:347:G:H2'	1:A:348:A:H8	1.84	0.42
1:A:721:G:O2'	1:A:722:G:O5'	2.32	0.42
1:A:1298:C:H2'	1:A:1299:U:O2	2.19	0.42
1:A:1409:G:H2'	1:A:1410:U:H5'	2.02	0.42
1:A:1428:A:N6	1:A:1430:U:H3	2.18	0.42
3:C:18:U:H2'	3:C:19:U:C6	2.54	0.42
6:F:218:ILE:HG21	6:F:277:SER:N	2.31	0.42
9:I:45:GLY:O	9:I:48:ARG:N	2.46	0.42
10:J:29:GLU:O	10:J:33:ARG:HB2	2.19	0.42
11:K:104:GLU:OE2	11:K:108:ARG:HD2	2.19	0.42
14:N:133:LEU:HB3	14:N:135:VAL:HG22	2.02	0.42
15:O:104:LYS:HD3	15:O:154:LYS:HZ1	1.84	0.42
17:Q:107:GLU:CD	17:Q:107:GLU:C	2.86	0.42
18:R:26:ARG:HD3	18:R:30:TYR:OH	2.20	0.42
22:V:279:THR:OG1	22:V:283:HIS:HB2	2.19	0.42
22:V:312:GLU:HB3	22:V:374:VAL:HG23	2.01	0.42
23:W:13:ARG:CZ	23:W:51:VAL:HG12	2.49	0.42
24:X:54:TRP:HD1	24:X:55:PHE:CE1	2.37	0.42
24:X:206:ALA:O	24:X:209:ALA:HB3	2.19	0.42
24:X:224:ILE:O	24:X:230:ASN:ND2	2.53	0.42
25:Y:59:LYS:HD2	25:Y:59:LYS:N	2.35	0.42
25:Y:111:PRO:HG3	25:Y:191:LYS:NZ	2.34	0.42
27:a:127:GLY:HA2	27:a:192:GLU:OE2	2.19	0.42
27:a:182:VAL:HG22	28:b:242:ARG:NH1	2.34	0.42
28:b:210:LEU:O	28:b:212:TRP:N	2.47	0.42
30:d:181:UNK:O	30:d:185:UNK:N	2.53	0.42
33:l:93:THR:O	33:l:97:ALA:N	2.52	0.42
34:m:84:LYS:O	34:m:85:ALA:C	2.63	0.42
1:A:1:G:C5	3:C:232:A:C2	3.08	0.42
1:A:559:A:N7	1:A:560:G:C8	2.88	0.42
1:A:560:G:C5	1:A:561:C:C5	3.07	0.42
1:A:1187:C:C5	1:A:1188:U:C5	3.08	0.42
1:A:2352:A:C6	1:A:2353:G:C6	3.07	0.42
1:A:3238:G:N1	1:A:3250:U:C2	2.87	0.42
1:A:3256:G:H2'	1:A:3257:C:H6	1.85	0.42
1:A:3367:C:H2'	1:A:3368:U:H5	1.85	0.42
2:B:39:G:H1'	2:B:104:A:H61	1.85	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:75:G:H2'	2:B:76:C:H6	1.79	0.42
2:B:114:G:H2'	2:B:115:C:O4'	2.20	0.42
2:B:150:G:C2	2:B:152:G:N7	2.87	0.42
3:C:15:C:HO2'	3:C:16:U:P	2.42	0.42
3:C:45:U:H4'	8:H:240:ARG:O	2.20	0.42
4:D:130:ARG:O	4:D:131:GLU:HB3	2.20	0.42
6:F:82:PRO:HB3	6:F:319:ASN:HD22	1.85	0.42
7:G:133:SER:OG	26:Z:6:VAL:HG11	2.20	0.42
7:G:235:LEU:O	7:G:235:LEU:HD12	2.20	0.42
13:M:378:PHE:CD2	13:M:378:PHE:N	2.88	0.42
13:M:431:TRP:CD1	13:M:447:TYR:CG	3.06	0.42
15:O:147:ILE:HG12	15:O:163:ILE:HB	2.02	0.42
16:P:54:LEU:HG	16:P:75:PHE:HZ	1.84	0.42
17:Q:8:LYS:HB2	17:Q:9:ALA:HB2	2.00	0.42
18:R:27:VAL:HB	18:R:122:ASN:ND2	2.35	0.42
18:R:66:VAL:HG22	18:R:128:LYS:O	2.20	0.42
18:R:98:LEU:HA	18:R:98:LEU:HD23	1.84	0.42
18:R:144:ARG:O	18:R:145:ASP:HB3	2.19	0.42
21:U:48:VAL:HG13	21:U:49:LEU:N	2.33	0.42
21:U:144:ARG:HG3	21:U:145:ASN:N	2.35	0.42
22:V:8:LEU:HD22	22:V:414:MET:HA	2.01	0.42
22:V:161:VAL:HG11	22:V:197:LEU:HD21	2.02	0.42
22:V:314:PHE:CZ	22:V:337:ASN:HB3	2.55	0.42
22:V:381:LEU:HD13	22:V:412:ILE:HG22	2.02	0.42
25:Y:55:LYS:O	25:Y:59:LYS:NZ	2.42	0.42
25:Y:86:ALA:O	25:Y:230:THR:HG23	2.20	0.42
25:Y:144:THR:N	25:Y:166:ASN:OD1	2.53	0.42
25:Y:377:VAL:C	25:Y:379:ARG:N	2.77	0.42
25:Y:381:ALA:HA	25:Y:383:GLY:N	2.35	0.42
26:Z:25:GLN:HG2	26:Z:26:ASN:N	2.33	0.42
28:b:203:HIS:ND1	28:b:203:HIS:O	2.53	0.42
29:c:120:GLN:HE22	29:c:126:LEU:HG	1.83	0.42
32:j:3:GLU:HG3	32:j:4:SER:N	2.34	0.42
1:A:26:A:N3	1:A:27:C:C6	2.88	0.42
1:A:281:G:H2'	1:A:282:G:C5'	2.50	0.42
1:A:526:C:H2'	1:A:527:A:O4'	2.20	0.42
1:A:559:A:N6	1:A:560:G:C2	2.88	0.42
1:A:660:A:H5''	1:A:661:G:OP1	2.19	0.42
1:A:972:A:C2	1:A:973:A:C8	3.07	0.42
1:A:1330:A:C2	1:A:1332:A:C8	3.08	0.42
1:A:2358:A:H2'	1:A:2359:C:O4'	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3002:C:C2	1:A:3147:G:N2	2.88	0.42
1:A:3025:C:C4	1:A:3031:G:N2	2.88	0.42
1:A:3303:G:C6	1:A:3305:A:N1	2.88	0.42
2:B:98:U:C5	2:B:99:C:C2	3.08	0.42
2:B:103:G:H3'	2:B:105:A:H8	1.85	0.42
3:C:26:U:OP1	8:H:196:GLY:N	2.42	0.42
4:D:56:VAL:HG13	5:E:113:GLN:NE2	2.34	0.42
4:D:146:ARG:HA	4:D:194:VAL:HG12	2.01	0.42
4:D:252:HIS:ND1	13:M:394:ASP:OD1	2.43	0.42
5:E:180:LYS:HG3	5:E:181:LYS:N	2.35	0.42
5:E:216:ILE:HG23	8:H:43:GLU:OE2	2.20	0.42
7:G:134:LEU:HA	7:G:134:LEU:HD23	1.59	0.42
7:G:221:ASN:OD1	7:G:221:ASN:C	2.62	0.42
8:H:183:ASP:C	8:H:187:VAL:HG23	2.44	0.42
8:H:197:LYS:HD2	8:H:197:LYS:HA	1.75	0.42
9:I:59:GLU:OE2	9:I:102:ASN:HB2	2.20	0.42
10:J:40:LYS:C	10:J:42:ALA:N	2.77	0.42
10:J:90:LYS:HG2	10:J:133:TYR:HD1	1.85	0.42
11:K:139:VAL:HG21	11:K:197:VAL:HG12	2.01	0.42
13:M:434:ASP:OD2	13:M:457:LEU:HD12	2.20	0.42
14:N:51:THR:O	14:N:59:ILE:HG21	2.20	0.42
15:O:276:GLU:HB2	22:V:138:ARG:NE	2.16	0.42
15:O:282:HIS:ND1	15:O:283:LYS:O	2.53	0.42
16:P:54:LEU:HD12	16:P:54:LEU:HA	1.85	0.42
19:S:16:VAL:O	19:S:17:GLY:C	2.63	0.42
21:U:129:VAL:HG21	24:X:111:PHE:CE1	2.55	0.42
25:Y:219:ASN:HA	25:Y:222:ARG:HE	1.84	0.42
25:Y:444:LYS:O	25:Y:445:ASP:C	2.63	0.42
28:b:198:THR:C	28:b:202:LYS:HZ3	2.27	0.42
29:c:35:LEU:HD23	29:c:106:ILE:HB	2.01	0.42
29:c:112:ASP:H	29:c:115:ARG:HB2	1.85	0.42
32:j:13:HIS:ND1	32:j:93:THR:O	2.53	0.42
1:A:22:G:N3	2:B:40:A:C2	2.87	0.42
1:A:197:G:N1	1:A:395:A:C6	2.88	0.42
1:A:389:A:H2'	1:A:390:G:H8	1.85	0.42
1:A:410:U:O2'	1:A:411:U:H5'	2.19	0.42
1:A:974:G:N3	1:A:974:G:H2'	2.34	0.42
1:A:1210:U:H2'	1:A:1211:U:C6	2.55	0.42
1:A:1347:U:C5	21:U:38:ARG:NH1	2.88	0.42
1:A:1438:U:N3	1:A:1439:U:C5	2.88	0.42
1:A:3062:G:H3'	1:A:3063:C:H6	1.85	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3197:G:N2	1:A:3199:G:C2	2.88	0.42
1:A:3213:A:H5''	17:Q:128:ARG:NH1	2.34	0.42
1:A:3298:C:H2'	1:A:3299:A:O4'	2.20	0.42
1:A:3329:U:H5''	6:F:376:LYS:HZ3	1.84	0.42
2:B:52:A:C2	2:B:53:A:C4	3.08	0.42
3:C:36:U:H2'	3:C:37:C:C2	2.55	0.42
4:D:100:ILE:HB	4:D:311:GLU:OE1	2.20	0.42
4:D:259:GLU:O	4:D:261:PHE:N	2.50	0.42
5:E:166:VAL:C	5:E:167:LEU:HD12	2.45	0.42
5:E:175:LYS:O	5:E:176:LEU:HB2	2.20	0.42
5:E:184:LEU:HD11	8:H:91:THR:HB	2.02	0.42
6:F:62:ARG:HA	6:F:62:ARG:HD2	1.80	0.42
8:H:181:LEU:HA	8:H:207:ILE:HG13	2.02	0.42
8:H:259:PHE:O	8:H:263:VAL:HG23	2.20	0.42
10:J:88:ARG:HH12	10:J:103:LEU:HD13	1.80	0.42
10:J:127:LEU:O	10:J:131:GLU:HB3	2.20	0.42
10:J:153:PHE:HD2	10:J:160:ARG:NH2	2.18	0.42
12:L:115:ARG:NH1	12:L:123:ILE:HD13	2.35	0.42
13:M:22:VAL:O	13:M:25:LEU:N	2.51	0.42
13:M:227:THR:O	13:M:230:HIS:HB3	2.19	0.42
13:M:426:TYR:N	13:M:448:LEU:HD23	2.35	0.42
14:N:4:ARG:HE	14:N:215:LEU:CD1	2.33	0.42
15:O:130:TYR:HB2	15:O:135:ILE:HD11	2.02	0.42
19:S:27:LEU:HD23	19:S:27:LEU:HA	1.72	0.42
20:T:112:LEU:HA	20:T:152:GLU:HA	2.02	0.42
20:T:159:LYS:HB3	20:T:160:ALA:H	1.75	0.42
21:U:71:LEU:HD23	21:U:71:LEU:HA	1.85	0.42
24:X:200:GLU:HA	24:X:203:ARG:HD2	2.02	0.42
26:Z:69:ARG:HB3	26:Z:76:LEU:HA	2.02	0.42
33:l:84:LYS:HG3	33:l:85:THR:N	2.34	0.42
1:A:82:C:C4	1:A:83:U:C5	3.08	0.41
1:A:88:A:H1'	1:A:99:A:N6	2.35	0.41
1:A:212:G:C5	1:A:222:A:C8	3.07	0.41
1:A:428:A:H2'	1:A:429:U:C6	2.55	0.41
1:A:450:G:C2	1:A:451:U:C2	3.08	0.41
1:A:455:C:C2	1:A:476:G:C2	3.08	0.41
1:A:456:U:C2	1:A:475:G:N2	2.88	0.41
1:A:485:A:C2	1:A:486:U:C2	3.08	0.41
1:A:537:A:H2'	1:A:538:G:O4'	2.18	0.41
1:A:653:A:O2'	1:A:654:C:H5'	2.19	0.41
1:A:686:G:H2'	1:A:687:U:C6	2.51	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:695:C:C4	1:A:696:C:C5	3.08	0.41
1:A:744:A:C6	1:A:745:C:O2	2.73	0.41
1:A:800:G:C6	1:A:933:A:N6	2.88	0.41
1:A:1154:A:O2'	1:A:1155:C:P	2.78	0.41
1:A:1400:G:C2	1:A:1401:A:C8	3.08	0.41
1:A:1448:U:N3	1:A:2356:A:C8	2.77	0.41
1:A:3096:C:O2'	6:F:326:GLY:HA3	2.19	0.41
1:A:3245:A:H5''	1:A:3246:G:C8	2.54	0.41
1:A:3263:G:H2'	1:A:3264:G:C8	2.55	0.41
1:A:3302:U:C4	1:A:3303:G:N7	2.88	0.41
2:B:74:U:HO2'	2:B:75:G:H3'	1.84	0.41
2:B:149:A:C4	2:B:150:G:C8	3.07	0.41
4:D:66:LEU:HD21	5:E:100:HIS:O	2.20	0.41
6:F:82:PRO:O	6:F:84:VAL:HG23	2.20	0.41
8:H:123:VAL:C	8:H:124:LEU:HD12	2.45	0.41
10:J:239:LEU:O	10:J:240:VAL:C	2.63	0.41
12:L:48:VAL:HG23	12:L:49:ASN:N	2.28	0.41
12:L:114:VAL:HB	12:L:124:ARG:O	2.19	0.41
16:P:95:ILE:HD12	16:P:95:ILE:HG23	1.81	0.41
19:S:10:ASP:OD1	19:S:10:ASP:C	2.62	0.41
19:S:108:ILE:HG23	19:S:108:ILE:HD12	1.74	0.41
20:T:108:ASP:CG	20:T:110:THR:HG22	2.45	0.41
22:V:114:GLU:OE1	22:V:114:GLU:N	2.53	0.41
22:V:188:LEU:HD22	22:V:212:TYR:CZ	2.55	0.41
22:V:328:PHE:CE2	22:V:330:SER:HB3	2.54	0.41
22:V:328:PHE:CZ	22:V:330:SER:HB3	2.55	0.41
22:V:371:TYR:CE2	22:V:412:ILE:HB	2.55	0.41
25:Y:200:ARG:HG3	25:Y:206:PHE:CE2	2.55	0.41
26:Z:80:ILE:HG22	26:Z:81:LYS:O	2.20	0.41
27:a:99:LEU:HB3	27:a:112:PHE:HD2	1.82	0.41
1:A:32:U:C2	1:A:53:G:C2	3.08	0.41
1:A:166:C:C4	1:A:167:U:C5	3.08	0.41
1:A:197:G:N2	1:A:372:A:C5	2.84	0.41
1:A:335:G:H2'	1:A:336:A:O4'	2.20	0.41
1:A:521:A:H8	1:A:521:A:H5'	1.85	0.41
1:A:672:A:C2	1:A:791:A:C2	3.07	0.41
1:A:800:G:C5	1:A:933:A:C6	3.09	0.41
1:A:949:C:C2	1:A:950:G:C8	3.08	0.41
1:A:954:U:H2'	1:A:955:U:H6	1.84	0.41
1:A:1182:A:OP2	23:W:158:LYS:HD2	2.21	0.41
1:A:1321:G:N2	23:W:112:ALA:HB2	2.35	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1334:U:H5'	10:J:207:LEU:O	2.20	0.41
1:A:2351:U:N3	1:A:2352:A:N7	2.67	0.41
1:A:3003:G:C2	1:A:3146:G:C6	3.08	0.41
1:A:3234:A:C5	1:A:3235:C:C5	3.07	0.41
2:B:7:U:O2'	2:B:8:C:H5'	2.20	0.41
3:C:4:U:C4	8:H:161:LYS:HB2	2.55	0.41
3:C:38:U:C2	3:C:41:G:C6	3.08	0.41
3:C:39:U:O2'	3:C:40:U:OP2	2.31	0.41
4:D:179:LEU:HA	4:D:183:VAL:HG11	2.02	0.41
5:E:110:TYR:HD2	5:E:111:PHE:CD1	2.37	0.41
5:E:193:VAL:HG13	8:H:302:GLU:HG3	2.02	0.41
8:H:95:PHE:CA	8:H:237:LYS:HE2	2.47	0.41
9:I:85:ILE:HD12	9:I:85:ILE:HA	1.92	0.41
10:J:166:ASN:CG	10:J:180:SER:HB2	2.45	0.41
10:J:236:ILE:HD12	10:J:236:ILE:HA	1.95	0.41
14:N:77:THR:HG23	14:N:79:GLN:N	2.35	0.41
15:O:95:ILE:HD11	15:O:121:VAL:HG22	2.01	0.41
17:Q:20:VAL:HG22	17:Q:68:LEU:O	2.20	0.41
19:S:51:LYS:HE2	19:S:55:HIS:HE2	1.85	0.41
24:X:117:ARG:O	24:X:120:LYS:N	2.54	0.41
24:X:181:TRP:CZ2	24:X:214:LEU:HG	2.56	0.41
25:Y:158:ALA:O	25:Y:161:LEU:N	2.53	0.41
25:Y:246:GLY:N	25:Y:247:PRO:CD	2.83	0.41
27:a:56:LEU:HD21	27:a:160:PHE:HA	2.01	0.41
29:c:74:TYR:CD2	29:c:77:LYS:HB2	2.55	0.41
32:j:58:GLU:N	32:j:63:LYS:HZ3	2.18	0.41
33:l:92:LEU:H	33:l:92:LEU:HD12	1.85	0.41
1:A:36:C:H4'	1:A:934:G:N2	2.35	0.41
1:A:359:U:OP1	1:A:359:U:H6	2.03	0.41
1:A:455:C:O2'	1:A:456:U:H5'	2.19	0.41
1:A:532:A:C2	1:A:533:A:C5	3.08	0.41
1:A:542:G:C2	1:A:543:C:C4	3.09	0.41
1:A:619:A:N1	1:A:621:A:N6	2.68	0.41
1:A:675:C:N4	1:A:676:G:C6	2.88	0.41
1:A:737:G:N3	1:A:738:A:C8	2.88	0.41
1:A:950:G:H1'	1:A:1369:A:H61	1.85	0.41
1:A:1062:A:C2	1:A:1098:A:C8	3.08	0.41
1:A:1147:G:C6	1:A:1148:G:N7	2.88	0.41
1:A:3044:G:N1	1:A:3098:G:C6	2.89	0.41
1:A:3064:U:C4	1:A:3080:G:C2	3.08	0.41
1:A:3187:A:N6	1:A:3188:G:O6	2.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3220:G:C6	1:A:3221:C:C4	3.08	0.41
1:A:3293:U:O2	1:A:3395:G:N1	2.53	0.41
1:A:3300:U:C4	1:A:3301:U:C4	3.08	0.41
2:B:26:U:O2	2:B:27:U:C4	2.73	0.41
4:D:250:ILE:O	4:D:254:ILE:N	2.53	0.41
4:D:259:GLU:C	4:D:261:PHE:N	2.74	0.41
4:D:315:ASP:OD1	4:D:316:SER:N	2.51	0.41
6:F:339:ARG:CZ	6:F:342:LEU:HD11	2.50	0.41
7:G:181:VAL:HG12	7:G:182:LEU:N	2.35	0.41
8:H:97:LEU:HG	8:H:98:LYS:H	1.84	0.41
10:J:141:TYR:HD1	10:J:189:ILE:HD13	1.85	0.41
11:K:142:LEU:HA	11:K:142:LEU:HD23	1.75	0.41
12:L:110:LYS:NZ	12:L:128:VAL:HG21	2.36	0.41
12:L:129:ARG:CZ	12:L:153:ASP:HB3	2.50	0.41
14:N:25:LEU:HD11	14:N:88:LEU:HD21	2.03	0.41
14:N:78:ASP:O	14:N:82:GLN:HG2	2.21	0.41
15:O:273:GLY:H	15:O:276:GLU:HB3	1.85	0.41
15:O:273:GLY:HA3	22:V:138:ARG:HD2	2.01	0.41
16:P:69:VAL:HG22	16:P:70:ARG:H	1.85	0.41
17:Q:97:SER:O	17:Q:101:LYS:HG3	2.21	0.41
19:S:157:GLU:OE1	19:S:160:ARG:NH2	2.52	0.41
23:W:37:ALA:O	23:W:40:ARG:N	2.53	0.41
23:W:135:VAL:O	23:W:141:LYS:HD3	2.21	0.41
24:X:126:ARG:O	24:X:127:ARG:C	2.64	0.41
25:Y:71:ARG:CZ	25:Y:250:ILE:HG12	2.50	0.41
25:Y:288:GLN:CG	25:Y:340:ARG:HE	2.33	0.41
25:Y:348:VAL:HG13	25:Y:349:ALA:N	2.35	0.41
27:a:44:ARG:NH1	27:a:97:LEU:HD13	2.33	0.41
27:a:52:LEU:HD23	27:a:55:LEU:HD22	2.02	0.41
27:a:242:TYR:CZ	27:a:244:SER:HA	2.55	0.41
29:c:80:VAL:HG12	29:c:99:LEU:O	2.20	0.41
1:A:51:A:C4	1:A:52:A:C8	3.07	0.41
1:A:85:A:H61	1:A:99:A:H3'	1.85	0.41
1:A:127:G:C2	1:A:128:G:C5	3.08	0.41
1:A:213:A:C5	1:A:214:G:C8	3.08	0.41
1:A:423:A:H2	31:i:24:ARG:HH12	1.67	0.41
1:A:747:A:O2'	1:A:748:U:H5'	2.20	0.41
1:A:1140:G:C6	1:A:1141:C:N4	2.89	0.41
1:A:1147:G:C6	1:A:1157:G:N1	2.88	0.41
1:A:3117:C:H2'	1:A:3118:C:O4'	2.20	0.41
1:A:3189:G:H2'	1:A:3190:C:H6	1.82	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3199:G:C2	1:A:3200:G:C8	3.09	0.41
1:A:3216:G:C6	1:A:3259:U:C2	3.08	0.41
2:B:116:G:H2'	2:B:116:G:N3	2.35	0.41
4:D:143:PHE:CB	4:D:197:GLY:O	2.67	0.41
6:F:37:ARG:HD2	6:F:187:SER:H	1.85	0.41
6:F:58:ARG:HB2	6:F:355:SER:O	2.20	0.41
6:F:102:LEU:HD23	6:F:102:LEU:HA	1.80	0.41
6:F:130:PHE:O	6:F:131:THR:C	2.63	0.41
6:F:220:VAL:HB	6:F:334:ARG:NH1	2.35	0.41
8:H:156:CYS:O	8:H:159:ASP:N	2.52	0.41
13:M:446:LYS:HB2	13:M:447:TYR:CD2	2.55	0.41
14:N:27:ALA:O	14:N:50:HIS:ND1	2.53	0.41
15:O:218:LEU:HA	15:O:218:LEU:HD23	1.89	0.41
16:P:116:LEU:O	16:P:117:LYS:C	2.61	0.41
17:Q:58:ILE:HG13	17:Q:62:GLN:OE1	2.20	0.41
20:T:17:ALA:HB2	20:T:98:ALA:HB2	2.02	0.41
22:V:122:LEU:HB3	22:V:170:HIS:NE2	2.35	0.41
22:V:244:ARG:CD	26:Z:57:ASN:HB2	2.50	0.41
24:X:174:VAL:O	24:X:177:LEU:HB3	2.20	0.41
24:X:208:SER:O	24:X:211:LYS:HB2	2.20	0.41
25:Y:111:PRO:HG3	25:Y:191:LYS:HZ1	1.86	0.41
25:Y:363:GLN:HB3	25:Y:392:MET:CB	2.50	0.41
26:Z:7:TRP:O	26:Z:8:GLN:C	2.63	0.41
26:Z:19:ILE:O	26:Z:20:LYS:HB3	2.21	0.41
26:Z:73:PRO:O	26:Z:74:ALA:C	2.62	0.41
28:b:229:THR:HG22	28:b:242:ARG:HE	1.85	0.41
33:l:63:ARG:NH2	33:l:80:LEU:HD23	2.36	0.41
1:A:26:A:C6	1:A:330:G:C4	3.08	0.41
1:A:50:U:H2'	1:A:51:A:H8	1.85	0.41
1:A:64:G:C6	1:A:322:U:C5	3.08	0.41
1:A:76:G:P	16:P:70:ARG:HH22	2.40	0.41
1:A:147:U:H3	11:K:159:PRO:CD	2.32	0.41
1:A:236:G:N1	1:A:237:G:C5	2.88	0.41
1:A:489:C:H42	1:A:490:A:N6	2.18	0.41
1:A:552:G:C2	1:A:553:U:C2	3.08	0.41
1:A:621:A:H2'	1:A:622:A:C8	2.56	0.41
1:A:638:C:C4	1:A:639:G:N7	2.88	0.41
1:A:731:U:H2'	1:A:732:C:C6	2.55	0.41
1:A:961:C:H6	1:A:961:C:H2'	1.69	0.41
1:A:3223:A:C6	1:A:3263:G:C5	3.09	0.41
1:A:3288:G:C2	1:A:3289:G:C4	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:21:C:H5''	7:G:194:TYR:OH	2.20	0.41
2:B:60:U:O2'	2:B:61:A:H5'	2.20	0.41
2:B:123:G:N1	2:B:124:G:O6	2.54	0.41
3:C:36:U:OP2	5:E:203:LYS:NZ	2.51	0.41
4:D:146:ARG:HE	4:D:171:THR:CG2	2.25	0.41
4:D:246:CYS:O	4:D:248:GLU:N	2.53	0.41
5:E:93:ILE:HG22	5:E:137:LEU:HB2	2.02	0.41
6:F:51:ALA:HB1	6:F:314:TYR:CE2	2.56	0.41
7:G:232:SER:OG	7:G:233:LEU:N	2.54	0.41
8:H:102:VAL:HG12	8:H:103:LYS:N	2.35	0.41
10:J:39:GLU:C	10:J:39:GLU:CD	2.89	0.41
11:K:91:PHE:CZ	11:K:180:VAL:HG11	2.55	0.41
11:K:160:ILE:H	11:K:160:ILE:HD12	1.84	0.41
12:L:94:TYR:CE1	12:L:98:PRO:HA	2.55	0.41
13:M:142:PHE:HA	13:M:145:LEU:HG	2.02	0.41
13:M:369:ARG:H	13:M:390:GLU:HB3	1.85	0.41
14:N:79:GLN:O	14:N:82:GLN:HB2	2.20	0.41
14:N:108:ILE:HG23	14:N:116:LEU:O	2.19	0.41
14:N:126:GLU:HB2	14:N:139:ARG:NH2	2.36	0.41
15:O:96:PHE:HB2	15:O:144:PHE:CD2	2.56	0.41
15:O:148:VAL:HG13	15:O:162:PHE:HE1	1.85	0.41
15:O:273:GLY:HA3	15:O:276:GLU:HB2	2.02	0.41
16:P:112:ASN:O	16:P:113:VAL:C	2.64	0.41
16:P:118:GLU:HB3	16:P:122:LYS:HZ1	1.85	0.41
18:R:140:LYS:O	18:R:144:ARG:NH1	2.53	0.41
20:T:111:LYS:O	20:T:153:LYS:HG2	2.20	0.41
22:V:151:ILE:HD12	22:V:151:ILE:HA	1.95	0.41
24:X:242:LEU:C	24:X:243:PHE:CD1	2.98	0.41
25:Y:174:ARG:HH11	25:Y:174:ARG:HG3	1.86	0.41
25:Y:193:LEU:CD1	25:Y:217:LEU:HD13	2.50	0.41
25:Y:378:GLY:O	25:Y:383:GLY:HA2	2.21	0.41
26:Z:130:GLU:H	26:Z:130:GLU:CD	2.20	0.41
27:a:138:SER:O	27:a:178:SER:CA	2.63	0.41
28:b:233:ILE:HD12	28:b:241:GLU:OE1	2.20	0.41
32:j:29:LEU:CD2	32:j:82:ARG:HG2	2.49	0.41
1:A:8:C:H2'	1:A:9:U:C6	2.55	0.41
1:A:70:A:H1'	1:A:74:G:N2	2.35	0.41
1:A:91:G:N7	1:A:93:C:C2	2.89	0.41
1:A:195:U:O4	1:A:201:A:N6	2.53	0.41
1:A:331:G:C4	1:A:332:C:C5	3.09	0.41
1:A:596:C:C4	1:A:597:G:C8	3.08	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:979:U:H3'	1:A:980:A:C4'	2.50	0.41
1:A:1157:G:H5'	10:J:90:LYS:NZ	2.36	0.41
1:A:1332:A:H2'	1:A:1333:C:C6	2.56	0.41
1:A:3024:A:N6	1:A:3031:G:C4	2.88	0.41
1:A:3051:U:C2	1:A:3052:G:N7	2.88	0.41
1:A:3057:U:C4	1:A:3086:A:C5	3.09	0.41
1:A:3084:C:H1'	1:A:3332:U:H5''	2.03	0.41
1:A:3245:A:H5'	1:A:3246:G:O5'	2.20	0.41
1:A:3267:A:H2'	9:I:69:PHE:CE1	2.56	0.41
3:C:23:U:H5	8:H:95:PHE:C	2.29	0.41
3:C:59:C:H1'	5:E:177:TYR:HE2	1.84	0.41
4:D:90:THR:OG1	4:D:93:ILE:HD13	2.20	0.41
4:D:251:ILE:HG22	13:M:394:ASP:OD2	2.20	0.41
5:E:208:ILE:HG23	5:E:211:LEU:HD11	2.01	0.41
6:F:180:GLU:N	6:F:180:GLU:OE1	2.54	0.41
6:F:341:SER:C	6:F:343:TYR:H	2.28	0.41
7:G:147:GLU:C	7:G:148:ILE:HG13	2.46	0.41
7:G:284:SER:HG	26:Z:2:SER:CB	2.27	0.41
13:M:155:ILE:CG2	13:M:222:LEU:HD11	2.50	0.41
14:N:161:VAL:HG21	14:N:165:THR:HG21	2.03	0.41
14:N:223:ARG:HD2	14:N:223:ARG:HA	1.80	0.41
15:O:104:LYS:HD3	15:O:154:LYS:HE3	2.01	0.41
19:S:124:LEU:HD23	19:S:124:LEU:HA	1.83	0.41
22:V:195:LEU:HD21	22:V:210:PHE:CD1	2.56	0.41
25:Y:88:THR:HA	25:Y:229:ALA:CB	2.50	0.41
25:Y:131:PHE:O	25:Y:134:ALA:N	2.51	0.41
25:Y:429:LEU:HB3	25:Y:430:GLU:HG3	2.02	0.41
25:Y:469:ASP:HA	25:Y:470:LEU:HA	1.59	0.41
25:Y:474:ALA:O	25:Y:483:PRO:HB2	2.19	0.41
27:a:37:SER:H	27:a:64:LYS:CD	2.27	0.41
27:a:48:LEU:HD11	27:a:117:LEU:HD22	2.02	0.41
27:a:228:GLU:HB2	27:a:234:PRO:HD2	2.03	0.41
28:b:215:HIS:CG	28:b:216:SER:N	2.89	0.41
29:c:25:SER:O	29:c:28:ARG:HB3	2.21	0.41
30:d:275:UNK:O	30:d:276:UNK:C	2.68	0.41
32:j:90:PRO:O	32:j:91:ALA:HB3	2.20	0.41
33:l:45:LYS:HZ3	33:l:49:LYS:HG3	1.85	0.41
1:A:8:C:H2'	1:A:9:U:H6	1.86	0.41
1:A:45:A:C5	1:A:46:U:C5	3.08	0.41
1:A:75:G:O2'	1:A:76:G:OP1	2.32	0.41
1:A:79:U:C2	1:A:325:A:C2	3.08	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:218:G:N2	1:A:372:A:C2	2.89	0.41
1:A:245:U:H2'	1:A:246:U:O4'	2.21	0.41
1:A:611:A:C5	1:A:612:U:C5	3.08	0.41
1:A:804:C:O2'	7:G:74:ILE:HG22	2.21	0.41
1:A:1106:G:H2'	1:A:1107:C:O2	2.21	0.41
1:A:1120:A:N1	1:A:1139:G:C6	2.88	0.41
1:A:1347:U:H5''	7:G:303:GLY:H	1.86	0.41
1:A:2361:A:C2'	1:A:2362:C:O5'	2.68	0.41
1:A:3041:U:C4	1:A:3042:U:C4	3.09	0.41
3:C:26:U:H2'	3:C:27:G:O4'	2.20	0.41
3:C:33:U:H5''	8:H:285:ARG:HH22	1.84	0.41
5:E:152:MET:HB3	5:E:152:MET:HE2	1.88	0.41
5:E:194:LYS:HB3	5:E:194:LYS:HE3	1.84	0.41
6:F:49:TYR:OH	6:F:164:THR:HG21	2.20	0.41
6:F:148:LEU:HD12	6:F:148:LEU:HA	1.88	0.41
6:F:220:VAL:HA	6:F:273:HIS:O	2.20	0.41
6:F:286:GLY:C	6:F:320:ASP:HB2	2.46	0.41
9:I:51:ARG:NH1	9:I:163:PHE:HB2	2.36	0.41
10:J:215:GLY:O	10:J:216:VAL:C	2.63	0.41
13:M:160:GLN:O	13:M:163:CYS:HB2	2.21	0.41
13:M:237:TYR:HD2	13:M:244:TYR:HA	1.85	0.41
15:O:227:ARG:O	15:O:246:TYR:N	2.47	0.41
18:R:142:ILE:HD12	18:R:142:ILE:HA	1.82	0.41
19:S:75:ALA:O	19:S:78:ARG:N	2.38	0.41
20:T:157:VAL:HG13	20:T:158:ALA:H	1.86	0.41
21:U:114:ILE:O	21:U:117:ALA:N	2.52	0.41
25:Y:213:ILE:HG13	25:Y:214:ILE:H	1.85	0.41
25:Y:280:LEU:HD12	25:Y:283:PHE:HD2	1.85	0.41
1:A:122:A:H2	1:A:145:G:N3	2.18	0.41
1:A:155:G:N2	25:Y:155:ARG:HH21	2.04	0.41
1:A:274:G:C6	1:A:275:U:C4	3.09	0.41
1:A:385:A:H4'	1:A:386:A:OP1	2.20	0.41
1:A:402:A:H4'	1:A:403:C:OP2	2.19	0.41
1:A:466:G:O6	1:A:468:G:C6	2.73	0.41
1:A:542:G:C6	1:A:550:A:N1	2.88	0.41
1:A:549:U:O4	1:A:550:A:N6	2.54	0.41
1:A:606:C:C4	1:A:608:A:C6	3.08	0.41
1:A:683:U:H5'	18:R:204:LYS:HZ2	1.83	0.41
1:A:692:A:C4	1:A:693:A:C8	3.09	0.41
1:A:728:G:C4	1:A:729:C:C6	3.09	0.41
1:A:808:A:C6	1:A:934:G:N1	2.89	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1408:G:C4	1:A:1409:G:C8	3.09	0.41
1:A:3141:A:C5	1:A:3144:G:C5	3.09	0.41
4:D:74:ARG:NH2	4:D:192:PRO:HG3	2.35	0.41
4:D:247:VAL:O	4:D:250:ILE:HB	2.21	0.41
7:G:115:HIS:CE1	7:G:119:ARG:NH2	2.89	0.41
7:G:209:TYR:C	7:G:254:ALA:HB2	2.45	0.41
8:H:266:ILE:O	8:H:269:GLN:HB3	2.20	0.41
9:I:13:GLU:OE2	26:Z:114:LYS:HD3	2.19	0.41
11:K:162:LEU:HD21	18:R:45:PRO:HG2	2.03	0.41
12:L:46:THR:O	12:L:53:ILE:HG23	2.20	0.41
13:M:38:PHE:CE1	13:M:114:LEU:HD12	2.54	0.41
14:N:52:THR:HA	14:N:59:ILE:CG2	2.51	0.41
16:P:32:LYS:O	16:P:36:ARG:HG2	2.20	0.41
16:P:53:LEU:O	16:P:55:ARG:HG2	2.21	0.41
18:R:124:ASP:OD1	18:R:125:SER:N	2.51	0.41
19:S:138:LEU:HA	19:S:138:LEU:HD12	1.85	0.41
22:V:174:LYS:HE3	22:V:174:LYS:HB3	1.88	0.41
24:X:99:SER:O	24:X:102:PHE:N	2.54	0.41
24:X:167:THR:O	24:X:170:PRO:HD2	2.21	0.41
27:a:141:GLN:HE21	28:b:228:ASN:ND2	2.18	0.41
28:b:231:GLU:C	28:b:233:ILE:H	2.29	0.41
32:j:23:ASN:OD1	32:j:23:ASN:C	2.63	0.41
1:A:26:A:N7	1:A:330:G:C8	2.89	0.41
1:A:61:A:H2'	1:A:62:A:O4'	2.20	0.41
1:A:63:A:C6	1:A:64:G:C6	3.08	0.41
1:A:127:G:C2	1:A:142:C:N3	2.89	0.41
1:A:247:C:C4	1:A:248:U:C4	3.09	0.41
1:A:258:G:C6	1:A:259:C:C4	3.09	0.41
1:A:407:A:C5	2:B:15:G:N2	2.88	0.41
1:A:412:G:H21	20:T:118:GLN:NE2	2.19	0.41
1:A:459:G:C4	1:A:472:A:C6	3.08	0.41
1:A:508:U:C2	1:A:584:G:C6	3.09	0.41
1:A:527:A:H2'	1:A:528:U:O4'	2.21	0.41
1:A:598:A:H4'	7:G:325:LEU:HD13	2.02	0.41
1:A:649:A:HO2'	1:A:650:C:P	2.43	0.41
1:A:657:A:N1	1:A:658:G:C5	2.89	0.41
1:A:803:C:O2'	7:G:92:ASN:ND2	2.54	0.41
1:A:1122:U:H2'	1:A:1123:U:C6	2.56	0.41
1:A:1125:U:O4	1:A:1126:G:N1	2.54	0.41
1:A:1340:G:H2'	1:A:1341:U:O4'	2.20	0.41
1:A:1351:U:N3	26:Z:41:GLN:NE2	2.69	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1443:G:H2'	1:A:1444:G:H8	1.86	0.41
1:A:3021:A:H61	1:A:3032:A:H3'	1.86	0.41
1:A:3050:U:H2'	1:A:3051:U:H6	1.84	0.41
1:A:3062:G:O6	1:A:3082:C:N4	2.54	0.41
1:A:3146:G:H2'	1:A:3147:G:C8	2.56	0.41
1:A:3164:C:O2'	1:A:3165:A:H8	2.04	0.41
1:A:3184:A:C5	1:A:3185:U:C5	3.09	0.41
1:A:3187:A:OP1	12:L:23:ARG:HG3	2.20	0.41
1:A:3228:C:H4'	1:A:3229:G:O5'	2.21	0.41
1:A:3234:A:N1	1:A:3254:G:C6	2.89	0.41
1:A:3300:U:H2'	1:A:3301:U:H6	1.86	0.41
1:A:3308:C:OP2	1:A:3309:G:N2	2.54	0.41
1:A:3325:G:C2	1:A:3326:G:C8	3.09	0.41
2:B:15:G:O2'	2:B:16:G:H5'	2.21	0.41
2:B:26:U:C2	2:B:27:U:C5	3.09	0.41
2:B:69:U:H3'	2:B:70:G:C8	2.56	0.41
4:D:65:THR:O	4:D:68:THR:OG1	2.35	0.41
4:D:169:VAL:HG12	4:D:170:GLU:N	2.34	0.41
4:D:232:ASN:HA	4:D:235:VAL:HB	2.03	0.41
7:G:3:ARG:NH1	26:Z:71:HIS:CB	2.83	0.41
7:G:187:LEU:HD23	7:G:187:LEU:HA	1.89	0.41
8:H:187:VAL:HA	8:H:190:LEU:HG	2.02	0.41
8:H:207:ILE:HG21	8:H:235:PRO:HG2	2.03	0.41
8:H:248:LEU:HD23	8:H:249:GLY:N	2.36	0.41
9:I:10:TYR:CD2	9:I:11:PRO:HD2	2.56	0.41
9:I:30:LEU:HD23	9:I:30:LEU:HA	1.84	0.41
10:J:160:ARG:NH2	10:J:206:LYS:HD3	2.35	0.41
11:K:156:ASP:OD1	11:K:156:ASP:N	2.53	0.41
13:M:224:PHE:CE2	13:M:228:LEU:HD11	2.55	0.41
13:M:410:GLN:O	13:M:427:ILE:HG13	2.20	0.41
16:P:119:TYR:HE1	33:I:118:ILE:HD13	1.86	0.41
18:R:20:ARG:O	18:R:23:GLN:HB3	2.21	0.41
20:T:154:GLU:OE1	20:T:154:GLU:N	2.51	0.41
21:U:88:THR:HA	21:U:107:THR:OG1	2.21	0.41
22:V:56:TRP:HB3	22:V:64:ILE:CG1	2.50	0.41
22:V:172:ILE:O	22:V:172:ILE:HG13	2.20	0.41
22:V:207:LYS:HD2	22:V:207:LYS:HA	1.94	0.41
22:V:237:ALA:O	22:V:293:ARG:NH1	2.54	0.41
23:W:149:LYS:HB2	23:W:149:LYS:HE2	1.75	0.41
24:X:130:PHE:HB2	24:X:180:GLU:HG2	2.03	0.41
25:Y:153:ASN:O	25:Y:157:GLU:N	2.47	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:Y:188:LYS:HD2	25:Y:188:LYS:HA	1.87	0.41
26:Z:56:ASP:HB2	26:Z:61:TYR:CE2	2.55	0.41
26:Z:88:LYS:O	26:Z:92:GLN:HG3	2.21	0.41
27:a:75:ASN:O	27:a:78:ALA:HB3	2.21	0.41
27:a:112:PHE:CE1	27:a:221:MET:HA	2.55	0.41
27:a:137:LEU:HB2	28:b:222:SER:CB	2.51	0.41
29:c:30:LEU:HA	29:c:30:LEU:HD23	1.81	0.41
29:c:43:TYR:HD1	29:c:126:LEU:HB3	1.85	0.41
29:c:83:ASP:C	29:c:84:LYS:HG2	2.45	0.41
32:j:49:ILE:HD13	32:j:49:ILE:HG21	1.83	0.41
35:n:28:HIS:CE1	35:n:31:LYS:NZ	2.88	0.41
35:n:35:SER:O	35:n:45:ARG:NH2	2.54	0.41
1:A:22:G:C5	2:B:36:G:C2	3.09	0.41
1:A:30:G:C4	1:A:55:G:N2	2.89	0.41
1:A:38:U:C4	1:A:46:U:O2	2.73	0.41
1:A:59:G:C8	2:B:33:A:C5	3.08	0.41
1:A:209:A:O2'	1:A:210:U:H3'	2.21	0.41
1:A:222:A:C5	1:A:223:U:C5	3.09	0.41
1:A:388:G:H2'	1:A:389:A:C8	2.56	0.41
1:A:413:U:H2'	1:A:414:U:H6	1.83	0.41
1:A:791:A:C5	1:A:792:G:N7	2.89	0.41
1:A:811:U:H2'	1:A:812:G:O4'	2.21	0.41
1:A:977:C:N4	1:A:1105:A:C8	2.89	0.41
1:A:1212:A:C4	1:A:1213:G:C8	3.09	0.41
1:A:1214:U:OP2	23:W:137:ARG:NH2	2.48	0.41
1:A:3148:U:O2'	6:F:106:TRP:CH2	2.73	0.41
1:A:3232:G:O6	1:A:3255:U:O4	2.37	0.41
1:A:3322:A:H2'	1:A:3323:A:C8	2.56	0.41
1:A:3378:C:OP1	6:F:313:HIS:HD2	2.04	0.41
2:B:101:U:C2	2:B:102:U:C6	3.09	0.41
2:B:129:C:P	13:M:10:GLY:HA3	2.61	0.41
6:F:19:ARG:HD2	6:F:268:GLY:HA3	2.03	0.41
6:F:36:ASP:OD1	6:F:37:ARG:N	2.53	0.41
6:F:282:ILE:HG13	6:F:282:ILE:O	2.20	0.41
7:G:113:VAL:O	7:G:114:ASN:C	2.62	0.41
7:G:140:HIS:HB3	7:G:142:VAL:CG1	2.52	0.41
9:I:152:THR:HA	9:I:153:PRO:HD3	1.97	0.41
10:J:86:VAL:HG22	10:J:136:TYR:HB3	2.04	0.41
12:L:17:THR:OG1	12:L:28:VAL:HB	2.21	0.41
12:L:45:PHE:CD1	12:L:55:VAL:HG12	2.56	0.41
13:M:16:ILE:CB	13:M:20:GLN:HE21	2.33	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:O:162:PHE:HE2	15:O:214:PHE:HE1	1.69	0.41
17:Q:8:LYS:HA	17:Q:9:ALA:HA	1.84	0.41
17:Q:15:VAL:HG21	23:W:150:PHE:CE2	2.56	0.41
18:R:160:GLU:OE1	18:R:160:GLU:N	2.40	0.41
20:T:14:SER:N	20:T:107:LEU:HD21	2.36	0.41
21:U:72:LYS:HA	21:U:72:LYS:HD3	1.86	0.41
21:U:96:PHE:CE2	21:U:114:ILE:HG12	2.56	0.41
22:V:416:ASP:OD1	22:V:416:ASP:N	2.54	0.41
23:W:17:GLU:OE1	23:W:17:GLU:N	2.43	0.41
23:W:78:TRP:HA	23:W:90:MET:O	2.21	0.41
24:X:63:GLN:O	24:X:64:ARG:C	2.63	0.41
24:X:129:LEU:HA	24:X:129:LEU:HD12	1.82	0.41
25:Y:279:LEU:HA	25:Y:279:LEU:HD23	1.70	0.41
25:Y:361:ILE:O	25:Y:390:SER:HA	2.21	0.41
26:Z:69:ARG:O	26:Z:76:LEU:HD12	2.21	0.41
33:l:47:VAL:HG23	33:l:48:ARG:N	2.36	0.41
35:n:58:THR:OG1	35:n:59:THR:N	2.53	0.41
1:A:70:A:H1'	1:A:74:G:H1	1.86	0.40
1:A:146:U:O2	1:A:148:G:C2	2.74	0.40
1:A:185:C:C4	1:A:232:G:N1	2.89	0.40
1:A:244:G:H2'	1:A:245:U:C6	2.56	0.40
1:A:254:A:C6	1:A:255:A:C5	3.09	0.40
1:A:331:G:C2	2:B:33:A:C2	3.09	0.40
1:A:639:G:C2	1:A:640:U:C2	3.09	0.40
1:A:1409:G:C6	1:A:1410:U:C5	3.09	0.40
1:A:1444:G:C6	1:A:1445:U:C2	3.09	0.40
1:A:1444:G:C2	1:A:2360:C:C2	3.09	0.40
1:A:1880:U:C2	1:A:1881:A:N7	2.89	0.40
1:A:3234:A:C2	1:A:3254:G:N1	2.89	0.40
1:A:3296:A:H2'	1:A:3297:U:H6	1.84	0.40
1:A:3386:G:H2'	1:A:3387:U:H6	1.85	0.40
2:B:82:U:H2'	2:B:83:C:C2'	2.51	0.40
3:C:22:G:N1	8:H:184:ASP:OD1	2.54	0.40
4:D:102:LYS:HB3	4:D:131:GLU:CD	2.46	0.40
5:E:90:SER:HB2	5:E:168:PRO:O	2.22	0.40
5:E:154:ASN:HD21	11:K:220:ALA:HB3	1.85	0.40
10:J:163:LEU:O	10:J:165:ASP:N	2.54	0.40
11:K:107:GLU:O	11:K:110:THR:OG1	2.25	0.40
12:L:111:PHE:HD1	12:L:128:VAL:HG12	1.86	0.40
14:N:218:ILE:HG23	14:N:219:GLU:N	2.36	0.40
14:N:222:PHE:HB2	14:N:224:LEU:CD1	2.51	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:P:105:ASN:OD1	16:P:105:ASN:C	2.64	0.40
17:Q:25:LYS:HE2	17:Q:25:LYS:HB3	1.89	0.40
21:U:46:LYS:O	21:U:50:LYS:CB	2.69	0.40
22:V:319:GLU:O	22:V:377:GLY:HA3	2.21	0.40
24:X:58:ARG:O	24:X:61:PRO:HD2	2.21	0.40
27:a:111:LYS:O	27:a:224:ILE:HB	2.21	0.40
29:c:37:LYS:O	29:c:40:ARG:N	2.54	0.40
29:c:54:ASP:N	29:c:54:ASP:OD1	2.53	0.40
29:c:104:LEU:HA	29:c:104:LEU:HD23	1.92	0.40
32:j:89:LEU:HA	32:j:90:PRO:HD3	1.87	0.40
1:A:45:A:C5	1:A:46:U:C6	3.09	0.40
1:A:172:G:N3	1:A:172:G:H2'	2.36	0.40
1:A:260:C:C2	1:A:261:U:C5	3.08	0.40
1:A:267:G:N1	1:A:319:A:C5	2.89	0.40
1:A:377:A:C6	1:A:400:G:N7	2.90	0.40
1:A:500:C:C2	1:A:501:A:C8	3.09	0.40
1:A:538:G:H2'	1:A:539:C:O4'	2.21	0.40
1:A:722:G:C2	1:A:749:C:O2	2.73	0.40
1:A:971:G:C2	1:A:972:A:C8	3.09	0.40
1:A:1135:A:N3	1:A:1135:A:H2'	2.37	0.40
1:A:1433:A:C8	1:A:1434:G:C6	3.09	0.40
1:A:2366:C:N3	1:A:2382:G:C6	2.89	0.40
1:A:2369:G:C2	1:A:2379:U:C2	3.09	0.40
1:A:3211:C:H2'	1:A:3212:C:O4'	2.21	0.40
3:C:57:U:H4'	5:E:176:LEU:CG	2.51	0.40
4:D:199:PRO:CB	4:D:204:ILE:HD11	2.52	0.40
4:D:202:SER:CA	4:D:205:ARG:HH11	2.34	0.40
5:E:189:ILE:HB	8:H:301:LEU:HD21	2.02	0.40
6:F:49:TYR:HD1	6:F:335:ILE:HA	1.87	0.40
7:G:140:HIS:O	7:G:142:VAL:N	2.54	0.40
8:H:250:ASN:HB3	8:H:253:TRP:CD2	2.56	0.40
12:L:23:ARG:HH21	12:L:23:ARG:HD2	1.75	0.40
12:L:102:ASN:H	12:L:113:GLU:HB3	1.86	0.40
13:M:14:ASN:C	13:M:65:ALA:H	2.23	0.40
13:M:66:LYS:O	13:M:69:GLN:HB2	2.21	0.40
14:N:117:VAL:CG1	14:N:129:ILE:HD12	2.52	0.40
15:O:196:GLU:HG3	15:O:197:LEU:N	2.34	0.40
15:O:240:PHE:CZ	15:O:262:GLN:HG3	2.55	0.40
18:R:35:VAL:O	18:R:64:VAL:HA	2.22	0.40
19:S:21:SER:O	19:S:24:ALA:HB3	2.21	0.40
20:T:74:LYS:HB2	20:T:74:LYS:HE3	1.88	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:V:48:LEU:O	22:V:51:TYR:HD2	2.05	0.40
24:X:233:VAL:O	24:X:236:GLU:N	2.54	0.40
25:Y:144:THR:OG1	25:Y:165:VAL:HA	2.21	0.40
25:Y:268:TYR:HB3	25:Y:414:GLU:O	2.21	0.40
25:Y:364:PHE:O	25:Y:365:ASP:OD1	2.40	0.40
34:m:53:TYR:HE1	34:m:76:ARG:CZ	2.34	0.40
1:A:26:A:H2'	1:A:27:C:H6	1.85	0.40
1:A:127:G:C2	1:A:128:G:C4	3.10	0.40
1:A:165:A:C2	1:A:166:C:C2	3.10	0.40
1:A:390:G:C5	1:A:391:A:C8	3.09	0.40
1:A:398:A:C6	26:Z:143:ARG:NH2	2.89	0.40
1:A:485:A:H2'	1:A:486:U:C6	2.56	0.40
1:A:549:U:N3	1:A:550:A:C5	2.90	0.40
1:A:954:U:C5	1:A:1115:G:C8	3.09	0.40
1:A:1160:C:H2'	1:A:1160:C:H6	1.61	0.40
1:A:3044:G:O2'	6:F:13:HIS:CD2	2.75	0.40
1:A:3059:G:C6	1:A:3060:C:C5	3.09	0.40
1:A:3175:U:H6	1:A:3175:U:H2'	1.58	0.40
1:A:3326:G:N7	1:A:3327:G:C8	2.89	0.40
6:F:58:ARG:HA	6:F:357:LYS:H	1.85	0.40
6:F:293:ASN:ND2	6:F:305:ILE:H	2.14	0.40
7:G:31:ARG:O	7:G:32:PRO:C	2.64	0.40
8:H:254:LEU:HD12	8:H:255:ARG:H	1.87	0.40
9:I:26:ARG:CG	9:I:27:PRO:HD2	2.52	0.40
10:J:239:LEU:HD23	10:J:240:VAL:N	2.37	0.40
11:K:190:VAL:O	11:K:191:ASN:HB2	2.22	0.40
13:M:63:TYR:CB	13:M:68:ILE:HD11	2.51	0.40
13:M:136:LEU:O	13:M:140:PHE:HD2	2.04	0.40
14:N:67:ARG:HD3	14:N:112:ASP:CG	2.45	0.40
14:N:71:LEU:HD12	14:N:132:VAL:HG21	2.03	0.40
15:O:213:LEU:O	15:O:216:SER:OG	2.36	0.40
16:P:115:ARG:O	16:P:118:GLU:HB2	2.22	0.40
18:R:121:VAL:HG23	18:R:122:ASN:H	1.85	0.40
19:S:34:VAL:HA	19:S:103:LYS:O	2.21	0.40
19:S:55:HIS:C	19:S:58:LEU:H	2.26	0.40
22:V:209:ILE:HD12	22:V:209:ILE:HG23	1.88	0.40
22:V:283:HIS:HE1	22:V:305:ARG:NH1	2.19	0.40
22:V:391:ILE:HB	22:V:401:VAL:HB	2.04	0.40
24:X:114:ASP:CG	24:X:115:ARG:N	2.78	0.40
25:Y:96:PHE:HB2	25:Y:227:PHE:CE2	2.56	0.40
25:Y:417:PHE:CE2	25:Y:419:GLU:HG2	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:a:228:GLU:HB3	27:a:233:GLY:HA3	2.02	0.40
28:b:228:ASN:C	28:b:230:ASP:H	2.29	0.40
28:b:231:GLU:O	28:b:232:HIS:ND1	2.55	0.40
28:b:269:LYS:HD2	28:b:269:LYS:N	2.36	0.40
29:c:91:ASN:OD1	29:c:91:ASN:N	2.41	0.40
30:d:225:UNK:O	30:d:226:UNK:C	2.70	0.40
1:A:1:G:C6	3:C:232:A:C2	3.06	0.40
1:A:5:G:C6	2:B:155:A:N6	2.90	0.40
1:A:70:A:C6	1:A:71:A:C6	3.10	0.40
1:A:162:G:H2'	1:A:163:C:C6	2.56	0.40
1:A:162:G:N1	1:A:260:C:N3	2.69	0.40
1:A:216:G:C5	1:A:217:U:N3	2.89	0.40
1:A:621:A:HO2'	1:A:622:A:P	2.42	0.40
1:A:682:U:H5''	1:A:683:U:OP1	2.22	0.40
1:A:721:G:OP1	1:A:721:G:H8	2.03	0.40
1:A:962:A:C5	1:A:963:G:C5	3.10	0.40
1:A:1105:A:H5'	1:A:1106:G:OP2	2.21	0.40
1:A:1136:A:C4	1:A:1137:C:C5	3.09	0.40
1:A:1178:G:N3	1:A:1328:C:O2'	2.52	0.40
1:A:1187:C:P	23:W:113:ARG:HH21	2.45	0.40
1:A:1354:G:H22	26:Z:26:ASN:CG	2.27	0.40
1:A:2362:C:N3	1:A:2363:A:N1	2.69	0.40
1:A:3204:C:H2'	1:A:3205:G:H8	1.81	0.40
1:A:3332:U:O2	1:A:3372:A:C6	2.74	0.40
4:D:214:ILE:HG12	4:D:229:LEU:CD1	2.47	0.40
7:G:315:LYS:HB3	7:G:320:ASN:HD22	1.86	0.40
8:H:38:ILE:HG12	8:H:260:VAL:HG21	2.04	0.40
10:J:62:ILE:O	10:J:66:LYS:HG2	2.22	0.40
10:J:98:LYS:HB3	10:J:99:PRO:HD3	2.03	0.40
10:J:157:ASN:OD1	10:J:157:ASN:C	2.64	0.40
12:L:4:ILE:HD11	23:W:150:PHE:CE2	2.56	0.40
13:M:20:GLN:C	13:M:23:ARG:HG2	2.46	0.40
13:M:164:ASN:HD21	13:M:261:SER:HB2	1.86	0.40
13:M:378:PHE:CD1	13:M:379:LEU:N	2.87	0.40
14:N:114:VAL:HB	14:N:177:LEU:CD1	2.52	0.40
14:N:151:TYR:CG	14:N:162:HIS:CE1	3.09	0.40
19:S:43:ILE:HG22	19:S:44:SER:N	2.37	0.40
22:V:57:VAL:HA	22:V:63:ALA:HA	2.04	0.40
23:W:29:ILE:HG23	23:W:29:ILE:HD12	1.80	0.40
23:W:57:GLU:CD	23:W:58:ILE:H	2.29	0.40
23:W:78:TRP:CD1	23:W:78:TRP:N	2.89	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:X:108:PHE:CD2	24:X:109:GLU:HG2	2.57	0.40
24:X:121:TYR:O	24:X:125:ILE:HB	2.21	0.40
27:a:148:HIS:HB3	28:b:201:MET:HE2	2.03	0.40
27:a:186:ILE:HG21	27:a:186:ILE:HD13	1.84	0.40
28:b:249:GLN:O	28:b:253:ALA:CB	2.69	0.40
29:c:63:LYS:O	29:c:64:LYS:C	2.64	0.40
34:m:62:ARG:HE	34:m:94:ILE:HD12	1.85	0.40
1:A:86:G:N2	1:A:98:G:C8	2.90	0.40
1:A:116:A:C4	1:A:265:A:N3	2.90	0.40
1:A:130:A:C6	1:A:131:C:C4	3.09	0.40
1:A:198:A:C5	1:A:219:A:C6	3.09	0.40
1:A:351:A:C8	2:B:52:A:H2	2.40	0.40
1:A:428:A:C6	1:A:632:G:O6	2.75	0.40
1:A:505:G:H2'	1:A:506:U:C6	2.56	0.40
1:A:600:G:C2	1:A:604:G:C6	3.10	0.40
1:A:686:G:C4	1:A:687:U:C6	3.09	0.40
1:A:746:A:C2	1:A:747:A:C5	3.09	0.40
1:A:813:G:N2	1:A:814:U:C2	2.90	0.40
1:A:1334:U:H5''	10:J:206:LYS:HB3	2.04	0.40
1:A:1373:A:C6	1:A:1374:G:C5	3.10	0.40
1:A:3017:A:H2'	1:A:3018:C:C6	2.56	0.40
1:A:3037:U:H2'	1:A:3038:U:H5'	2.04	0.40
1:A:3045:G:C5	1:A:3046:A:N7	2.89	0.40
1:A:3052:G:N3	1:A:3053:G:C8	2.89	0.40
1:A:3081:C:C2	1:A:3082:C:C5	3.10	0.40
1:A:3118:C:H2'	1:A:3119:U:O4'	2.21	0.40
1:A:3256:G:C5	1:A:3257:C:C5	3.10	0.40
2:B:35:C:C5'	35:n:70:VAL:HG21	2.52	0.40
2:B:35:C:H5'	35:n:70:VAL:HG21	2.04	0.40
5:E:117:LEU:HB2	5:E:138:GLU:O	2.22	0.40
6:F:209:PHE:HE1	6:F:340:LYS:HB3	1.85	0.40
7:G:92:ASN:OD1	7:G:93:MET:HE2	2.21	0.40
7:G:117:GLU:CD	7:G:117:GLU:C	2.90	0.40
9:I:9:TRP:HE3	26:Z:86:TYR:CE1	2.39	0.40
9:I:36:PRO:HA	9:I:54:TYR:CD2	2.56	0.40
9:I:108:LYS:HG3	9:I:109:GLU:N	2.34	0.40
10:J:169:ILE:H	10:J:169:ILE:HG13	1.72	0.40
11:K:183:LYS:HB2	11:K:194:THR:CG2	2.44	0.40
13:M:71:LEU:O	13:M:74:GLU:HB2	2.22	0.40
13:M:92:ARG:HH22	13:M:96:ARG:HD2	1.87	0.40
13:M:114:LEU:O	13:M:117:ILE:HG22	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:O:139:CYS:HB3	15:O:144:PHE:HB2	2.03	0.40
15:O:194:ILE:HB	15:O:223:ASP:OD2	2.22	0.40
15:O:247:VAL:O	15:O:254:VAL:HG13	2.21	0.40
17:Q:42:LYS:O	17:Q:60:LEU:HG	2.22	0.40
19:S:75:ALA:O	19:S:76:PRO:C	2.63	0.40
20:T:119:VAL:HG12	20:T:146:ILE:HG23	2.04	0.40
22:V:140:LYS:O	22:V:141:LEU:HD23	2.22	0.40
22:V:318:GLY:HA2	22:V:377:GLY:O	2.21	0.40
25:Y:275:LYS:HE3	25:Y:476:SER:O	2.21	0.40
25:Y:392:MET:HE1	25:Y:401:PHE:CE2	2.56	0.40
26:Z:15:CYS:C	26:Z:17:HIS:N	2.80	0.40
26:Z:28:CYS:HB2	26:Z:38:CYS:N	2.36	0.40
27:a:136:VAL:O	27:a:176:VAL:HG13	2.22	0.40
29:c:25:SER:OG	29:c:26:GLN:N	2.54	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	
4	D	243/322 (76%)	198 (82%)	41 (17%)	4 (2%)	7	32
5	E	131/220 (60%)	109 (83%)	20 (15%)	2 (2%)	8	33
6	F	332/387 (86%)	290 (87%)	40 (12%)	2 (1%)	21	51
7	G	359/362 (99%)	317 (88%)	40 (11%)	2 (1%)	21	51
8	H	252/376 (67%)	218 (86%)	33 (13%)	1 (0%)	30	58
9	I	146/176 (83%)	133 (91%)	13 (9%)	0	100	100
10	J	237/244 (97%)	212 (90%)	20 (8%)	5 (2%)	5	28
11	K	158/256 (62%)	132 (84%)	26 (16%)	0	100	100
12	L	189/191 (99%)	167 (88%)	18 (10%)	4 (2%)	5	28

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
13	M	365/605 (60%)	305 (84%)	58 (16%)	2 (0%)	24	55
14	N	224/245 (91%)	199 (89%)	25 (11%)	0	100	100
15	O	184/295 (62%)	152 (83%)	29 (16%)	3 (2%)	7	32
16	P	106/199 (53%)	84 (79%)	19 (18%)	3 (3%)	4	23
17	Q	135/138 (98%)	113 (84%)	22 (16%)	0	100	100
18	R	171/204 (84%)	148 (86%)	23 (14%)	0	100	100
19	S	195/199 (98%)	179 (92%)	15 (8%)	1 (0%)	24	55
20	T	132/184 (72%)	116 (88%)	16 (12%)	0	100	100
21	U	132/186 (71%)	121 (92%)	11 (8%)	0	100	100
22	V	386/463 (83%)	362 (94%)	24 (6%)	0	100	100
23	W	168/172 (98%)	145 (86%)	23 (14%)	0	100	100
24	X	190/278 (68%)	160 (84%)	29 (15%)	1 (0%)	24	55
25	Y	434/505 (86%)	372 (86%)	59 (14%)	3 (1%)	18	48
26	Z	167/306 (55%)	144 (86%)	22 (13%)	1 (1%)	21	51
27	a	206/291 (71%)	191 (93%)	14 (7%)	1 (0%)	24	55
28	b	80/427 (19%)	70 (88%)	10 (12%)	0	100	100
29	c	123/127 (97%)	115 (94%)	6 (5%)	2 (2%)	7	32
31	i	122/130 (94%)	111 (91%)	11 (9%)	0	100	100
32	j	104/107 (97%)	94 (90%)	10 (10%)	0	100	100
33	l	115/120 (96%)	104 (90%)	10 (9%)	1 (1%)	14	43
34	m	65/100 (65%)	58 (89%)	7 (11%)	0	100	100
35	n	70/88 (80%)	65 (93%)	4 (6%)	1 (1%)	9	34
All	All	5921/7903 (75%)	5184 (88%)	698 (12%)	39 (1%)	20	48

All (39) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
7	G	339	LEU
15	O	119	PRO
8	H	284	ASN
26	Z	158	ILE
6	F	34	LYS
12	L	22	SER
12	L	50	ASN

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Mol	Chain	Res	Type
16	P	51	LEU
25	Y	477	TYR
29	c	45	ILE
4	D	224	PRO
5	E	194	LYS
13	M	378	PHE
16	P	63	VAL
19	S	187	GLU
24	X	204	LYS
33	l	84	LYS
4	D	260	SER
6	F	35	ASP
10	J	147	LEU
10	J	157	ASN
10	J	158	LYS
13	M	433	PHE
25	Y	78	ALA
25	Y	199	ASP
27	a	228	GLU
4	D	270	PRO
12	L	21	LYS
15	O	213	LEU
29	c	14	LYS
35	n	40	PRO
10	J	168	ILE
16	P	50	PRO
5	E	147	ILE
7	G	317	PRO
10	J	178	ILE
15	O	274	ILE
4	D	235	VAL
12	L	79	ILE

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
4	D	218/287 (76%)	218 (100%)	0	100	100
5	E	118/199 (59%)	118 (100%)	0	100	100
6	F	282/323 (87%)	281 (100%)	1 (0%)	84	79
7	G	288/289 (100%)	287 (100%)	1 (0%)	86	81
8	H	236/346 (68%)	236 (100%)	0	100	100
9	I	130/153 (85%)	130 (100%)	0	100	100
10	J	202/205 (98%)	201 (100%)	1 (0%)	81	79
11	K	129/208 (62%)	129 (100%)	0	100	100
12	L	171/171 (100%)	171 (100%)	0	100	100
13	M	334/548 (61%)	333 (100%)	1 (0%)	86	81
14	N	194/211 (92%)	194 (100%)	0	100	100
15	O	176/276 (64%)	174 (99%)	2 (1%)	65	71
16	P	87/159 (55%)	87 (100%)	0	100	100
17	Q	108/109 (99%)	108 (100%)	0	100	100
18	R	152/176 (86%)	152 (100%)	0	100	100
19	S	160/162 (99%)	159 (99%)	1 (1%)	78	78
20	T	109/146 (75%)	108 (99%)	1 (1%)	70	73
21	U	110/151 (73%)	109 (99%)	1 (1%)	70	73
22	V	345/410 (84%)	344 (100%)	1 (0%)	86	81
23	W	154/156 (99%)	154 (100%)	0	100	100
24	X	186/257 (72%)	185 (100%)	1 (0%)	81	79
25	Y	380/440 (86%)	379 (100%)	1 (0%)	86	81
26	Z	153/274 (56%)	152 (99%)	1 (1%)	76	76
27	a	198/263 (75%)	198 (100%)	0	100	100
28	b	76/383 (20%)	75 (99%)	1 (1%)	61	69
29	c	108/110 (98%)	108 (100%)	0	100	100
31	i	107/111 (96%)	107 (100%)	0	100	100
32	j	90/91 (99%)	89 (99%)	1 (1%)	65	71
33	l	104/105 (99%)	104 (100%)	0	100	100
34	m	55/82 (67%)	55 (100%)	0	100	100
35	n	60/71 (84%)	60 (100%)	0	100	100
All	All	5220/6872 (76%)	5205 (100%)	15 (0%)	84	81

All (15) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
6	F	85	VAL
7	G	281	ILE
10	J	44	ILE
13	M	442	VAL
15	O	277	GLU
15	O	295	LEU
19	S	118	VAL
20	T	24	VAL
21	U	122	ILE
22	V	293	ARG
24	X	169	ILE
25	Y	149	ILE
26	Z	38	CYS
28	b	210	LEU
32	j	85	PHE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (112) such sidechains are listed below:

Mol	Chain	Res	Type
4	D	238	GLN
4	D	242	HIS
5	E	100	HIS
5	E	113	GLN
5	E	130	ASN
5	E	154	ASN
6	F	211	GLN
6	F	212	ASN
6	F	293	ASN
6	F	319	ASN
6	F	345	ASN
7	G	9	HIS
7	G	48	GLN
7	G	59	GLN
7	G	114	ASN
7	G	320	ASN
8	H	84	ASN
8	H	101	ASN
8	H	212	HIS
8	H	295	GLN
9	I	57	HIS
9	I	172	HIS

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Mol	Chain	Res	Type
10	J	25	GLN
10	J	52	GLN
11	K	137	ASN
11	K	138	HIS
11	K	145	ASN
11	K	155	ASN
11	K	232	HIS
12	L	9	GLN
12	L	50	ASN
12	L	163	GLN
12	L	183	HIS
13	M	11	ASN
13	M	14	ASN
13	M	20	GLN
13	M	189	GLN
13	M	445	ASN
14	N	82	GLN
15	O	200	ASN
15	O	201	ASN
15	O	220	GLN
15	O	221	ASN
15	O	233	HIS
15	O	234	ASN
15	O	235	GLN
15	O	244	HIS
15	O	257	GLN
15	O	262	GLN
16	P	25	HIS
16	P	106	GLN
18	R	15	GLN
18	R	23	GLN
18	R	32	GLN
18	R	37	HIS
18	R	117	ASN
18	R	138	GLN
18	R	139	HIS
19	S	42	ASN
19	S	50	ASN
20	T	64	ASN
20	T	96	GLN
20	T	97	ASN
20	T	118	GLN

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Mol	Chain	Res	Type
21	U	45	ASN
22	V	24	ASN
22	V	233	GLN
22	V	283	HIS
22	V	290	GLN
22	V	298	GLN
22	V	310	GLN
22	V	337	ASN
22	V	373	HIS
22	V	375	HIS
23	W	3	HIS
23	W	46	GLN
23	W	62	ASN
23	W	74	ASN
24	X	39	GLN
24	X	43	ASN
24	X	67	ASN
24	X	73	HIS
24	X	172	HIS
24	X	229	ASN
24	X	230	ASN
25	Y	51	GLN
25	Y	105	HIS
25	Y	178	HIS
25	Y	266	GLN
25	Y	300	ASN
25	Y	330	ASN
25	Y	363	GLN
25	Y	397	ASN
26	Z	41	GLN
26	Z	47	ASN
26	Z	99	HIS
26	Z	110	GLN
27	a	85	ASN
27	a	115	GLN
27	a	141	GLN
27	a	195	HIS
28	b	197	ASN
28	b	209	GLN
28	b	215	HIS
28	b	221	GLN
29	c	120	GLN

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Mol	Chain	Res	Type
31	i	13	HIS
31	i	49	ASN
32	j	42	GLN
32	j	75	HIS
32	j	88	ASN
34	m	35	ASN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	A	1482/3396 (43%)	506 (34%)	38 (2%)
2	B	155/158 (98%)	50 (32%)	3 (1%)
3	C	63/232 (27%)	34 (53%)	0
All	All	1700/3786 (44%)	590 (34%)	41 (2%)

All (590) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	A	2	U
1	A	3	U
1	A	6	A
1	A	7	C
1	A	12	A
1	A	13	A
1	A	14	U
1	A	15	C
1	A	22	G
1	A	25	U
1	A	26	A
1	A	28	C
1	A	38	U
1	A	40	A
1	A	41	G
1	A	42	C
1	A	43	A
1	A	48	A
1	A	49	A
1	A	59	G
1	A	60	A
1	A	65	A
1	A	66	A

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Mol	Chain	Res	Type
1	A	69	C
1	A	71	A
1	A	73	C
1	A	74	G
1	A	76	G
1	A	78	U
1	A	85	A
1	A	91	G
1	A	92	G
1	A	93	C
1	A	96	G
1	A	104	G
1	A	106	A
1	A	108	A
1	A	109	A
1	A	110	G
1	A	111	C
1	A	112	U
1	A	113	C
1	A	116	A
1	A	117	U
1	A	120	G
1	A	122	A
1	A	123	A
1	A	124	U
1	A	131	C
1	A	133	U
1	A	134	U
1	A	135	C
1	A	136	G
1	A	147	U
1	A	148	G
1	A	149	U
1	A	155	G
1	A	156	G
1	A	157	A
1	A	161	G
1	A	165	A
1	A	166	C
1	A	170	G
1	A	173	G
1	A	187	A

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Mol	Chain	Res	Type
1	A	190	U
1	A	191	U
1	A	192	C
1	A	193	C
1	A	200	C
1	A	206	G
1	A	210	U
1	A	211	A
1	A	212	G
1	A	218	G
1	A	219	A
1	A	221	A
1	A	225	C
1	A	226	C
1	A	228	U
1	A	233	C
1	A	237	G
1	A	240	U
1	A	241	G
1	A	243	G
1	A	244	G
1	A	245	U
1	A	248	U
1	A	249	U
1	A	250	U
1	A	251	G
1	A	252	U
1	A	253	A
1	A	259	C
1	A	265	A
1	A	267	G
1	A	268	A
1	A	269	G
1	A	270	U
1	A	277	G
1	A	281	G
1	A	282	G
1	A	284	A
1	A	285	A
1	A	286	U
1	A	287	G
1	A	295	A

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Mol	Chain	Res	Type
1	A	298	U
1	A	299	G
1	A	304	G
1	A	316	U
1	A	323	A
1	A	326	U
1	A	329	U
1	A	330	G
1	A	332	C
1	A	337	G
1	A	338	A
1	A	339	C
1	A	346	C
1	A	349	A
1	A	352	A
1	A	354	U
1	A	356	C
1	A	375	A
1	A	376	G
1	A	386	A
1	A	390	G
1	A	392	G
1	A	396	A
1	A	397	A
1	A	398	A
1	A	399	A
1	A	401	U
1	A	402	A
1	A	403	C
1	A	404	G
1	A	407	A
1	A	410	U
1	A	412	G
1	A	417	A
1	A	421	G
1	A	422	A
1	A	424	G
1	A	438	A
1	A	439	C
1	A	440	A
1	A	441	U
1	A	446	U

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Mol	Chain	Res	Type
1	A	453	C
1	A	464	U
1	A	465	U
1	A	466	G
1	A	467	U
1	A	468	G
1	A	473	G
1	A	475	G
1	A	487	U
1	A	490	A
1	A	494	G
1	A	495	G
1	A	498	A
1	A	501	A
1	A	510	G
1	A	512	U
1	A	515	C
1	A	517	G
1	A	520	U
1	A	521	A
1	A	523	A
1	A	525	C
1	A	530	G
1	A	534	U
1	A	535	G
1	A	540	U
1	A	541	U
1	A	543	C
1	A	544	C
1	A	545	U
1	A	546	C
1	A	547	G
1	A	548	G
1	A	550	A
1	A	551	A
1	A	552	G
1	A	555	U
1	A	557	A
1	A	558	U
1	A	559	A
1	A	568	G
1	A	572	A

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Mol	Chain	Res	Type
1	A	578	A
1	A	579	G
1	A	592	A
1	A	593	C
1	A	597	G
1	A	604	G
1	A	608	A
1	A	609	G
1	A	610	G
1	A	611	A
1	A	616	G
1	A	619	A
1	A	620	U
1	A	621	A
1	A	622	A
1	A	627	U
1	A	635	G
1	A	636	C
1	A	637	C
1	A	642	U
1	A	643	U
1	A	644	G
1	A	645	A
1	A	646	A
1	A	647	A
1	A	649	A
1	A	650	C
1	A	659	G
1	A	660	A
1	A	661	G
1	A	668	G
1	A	669	U
1	A	675	C
1	A	676	G
1	A	677	A
1	A	679	U
1	A	681	U
1	A	682	U
1	A	683	U
1	A	684	G
1	A	686	G
1	A	688	G

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Mol	Chain	Res	Type
1	A	689	U
1	A	691	A
1	A	705	A
1	A	721	G
1	A	722	G
1	A	726	G
1	A	734	C
1	A	735	A
1	A	742	G
1	A	747	A
1	A	752	C
1	A	754	G
1	A	756	U
1	A	757	C
1	A	774	G
1	A	775	A
1	A	776	U
1	A	777	U
1	A	779	G
1	A	780	A
1	A	781	G
1	A	785	G
1	A	786	A
1	A	806	A
1	A	814	U
1	A	933	A
1	A	940	G
1	A	944	C
1	A	948	C
1	A	958	C
1	A	961	C
1	A	962	A
1	A	964	G
1	A	965	A
1	A	967	A
1	A	973	A
1	A	974	G
1	A	975	C
1	A	976	U
1	A	977	C
1	A	978	G
1	A	980	A

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Mol	Chain	Res	Type
1	A	981	U
1	A	982	C
1	A	984	G
1	A	987	U
1	A	990	U
1	A	991	G
1	A	1063	G
1	A	1098	A
1	A	1099	A
1	A	1103	A
1	A	1104	G
1	A	1111	U
1	A	1112	A
1	A	1116	G
1	A	1117	G
1	A	1118	C
1	A	1127	G
1	A	1135	A
1	A	1136	A
1	A	1138	U
1	A	1139	G
1	A	1142	G
1	A	1150	A
1	A	1151	U
1	A	1153	A
1	A	1155	C
1	A	1159	A
1	A	1160	C
1	A	1178	G
1	A	1179	A
1	A	1180	A
1	A	1181	U
1	A	1182	A
1	A	1186	G
1	A	1204	A
1	A	1206	G
1	A	1208	U
1	A	1209	G
1	A	1215	U
1	A	1218	U
1	A	1296	C
1	A	1297	C

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Mol	Chain	Res	Type
1	A	1299	U
1	A	1313	G
1	A	1314	C
1	A	1316	C
1	A	1318	A
1	A	1325	U
1	A	1330	A
1	A	1331	U
1	A	1332	A
1	A	1337	A
1	A	1345	G
1	A	1348	U
1	A	1349	G
1	A	1350	A
1	A	1351	U
1	A	1352	A
1	A	1353	U
1	A	1354	G
1	A	1355	A
1	A	1356	U
1	A	1357	G
1	A	1359	C
1	A	1360	C
1	A	1370	G
1	A	1373	A
1	A	1385	C
1	A	1386	A
1	A	1388	U
1	A	1393	A
1	A	1394	A
1	A	1399	A
1	A	1400	G
1	A	1404	G
1	A	1405	U
1	A	1410	U
1	A	1418	A
1	A	1419	A
1	A	1423	C
1	A	1424	C
1	A	1428	A
1	A	1429	G
1	A	1434	G

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Mol	Chain	Res	Type
1	A	1435	A
1	A	1436	U
1	A	1437	C
1	A	1440	G
1	A	1442	U
1	A	1443	G
1	A	1446	A
1	A	1447	G
1	A	1450	G
1	A	1451	C
1	A	1881	A
1	A	2357	A
1	A	2358	A
1	A	2359	C
1	A	2362	C
1	A	2363	A
1	A	2370	G
1	A	2999	U
1	A	3012	A
1	A	3014	U
1	A	3017	A
1	A	3021	A
1	A	3022	G
1	A	3023	U
1	A	3024	A
1	A	3025	C
1	A	3026	G
1	A	3028	G
1	A	3029	A
1	A	3031	G
1	A	3032	A
1	A	3035	A
1	A	3036	G
1	A	3037	U
1	A	3040	A
1	A	3047	U
1	A	3049	A
1	A	3056	U
1	A	3057	U
1	A	3058	U
1	A	3064	U
1	A	3068	U

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Mol	Chain	Res	Type
1	A	3074	G
1	A	3078	U
1	A	3079	U
1	A	3086	A
1	A	3087	A
1	A	3090	U
1	A	3092	C
1	A	3093	C
1	A	3094	A
1	A	3097	C
1	A	3099	C
1	A	3100	U
1	A	3101	G
1	A	3104	U
1	A	3110	C
1	A	3115	C
1	A	3122	A
1	A	3125	U
1	A	3126	C
1	A	3130	A
1	A	3131	U
1	A	3132	C
1	A	3138	U
1	A	3142	A
1	A	3143	C
1	A	3144	G
1	A	3150	A
1	A	3165	A
1	A	3166	C
1	A	3173	G
1	A	3174	A
1	A	3176	G
1	A	3179	U
1	A	3180	A
1	A	3181	C
1	A	3184	A
1	A	3187	A
1	A	3188	G
1	A	3196	U
1	A	3199	G
1	A	3207	U
1	A	3208	G

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Mol	Chain	Res	Type
1	A	3210	A
1	A	3212	C
1	A	3213	A
1	A	3217	C
1	A	3218	A
1	A	3219	G
1	A	3223	A
1	A	3224	G
1	A	3226	A
1	A	3227	A
1	A	3229	G
1	A	3232	G
1	A	3242	G
1	A	3244	A
1	A	3245	A
1	A	3246	G
1	A	3251	U
1	A	3253	G
1	A	3254	G
1	A	3259	U
1	A	3260	G
1	A	3263	G
1	A	3265	C
1	A	3267	A
1	A	3268	A
1	A	3269	U
1	A	3270	U
1	A	3271	G
1	A	3273	A
1	A	3275	U
1	A	3276	G
1	A	3277	U
1	A	3278	C
1	A	3279	A
1	A	3286	G
1	A	3289	G
1	A	3292	A
1	A	3293	U
1	A	3295	A
1	A	3304	U
1	A	3309	G
1	A	3310	A

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Mol	Chain	Res	Type
1	A	3314	A
1	A	3316	A
1	A	3317	U
1	A	3320	A
1	A	3324	C
1	A	3327	G
1	A	3328	G
1	A	3330	A
1	A	3333	G
1	A	3334	U
1	A	3335	A
1	A	3336	A
1	A	3338	C
1	A	3368	U
1	A	3369	G
1	A	3370	A
1	A	3374	U
1	A	3375	A
1	A	3378	C
1	A	3381	U
1	A	3382	U
2	B	2	A
2	B	4	C
2	B	7	U
2	B	20	U
2	B	22	U
2	B	23	U
2	B	34	U
2	B	39	G
2	B	42	G
2	B	51	G
2	B	52	A
2	B	59	A
2	B	62	C
2	B	63	G
2	B	71	A
2	B	77	A
2	B	78	G
2	B	81	U
2	B	82	U
2	B	83	C
2	B	84	C

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Mol	Chain	Res	Type
2	B	86	U
2	B	87	G
2	B	89	A
2	B	90	U
2	B	95	G
2	B	99	C
2	B	100	U
2	B	104	A
2	B	106	C
2	B	109	A
2	B	111	A
2	B	112	U
2	B	113	U
2	B	114	G
2	B	116	G
2	B	123	G
2	B	124	G
2	B	125	U
2	B	126	A
2	B	128	U
2	B	129	C
2	B	130	C
2	B	131	A
2	B	144	G
2	B	148	G
2	B	149	A
2	B	151	C
2	B	152	G
2	B	154	C
3	C	2	C
3	C	4	U
3	C	5	C
3	C	6	U
3	C	7	C
3	C	10	A
3	C	15	C
3	C	16	U
3	C	17	G
3	C	24	A
3	C	26	U
3	C	29	G
3	C	33	U

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Mol	Chain	Res	Type
3	C	34	A
3	C	38	U
3	C	40	U
3	C	41	G
3	C	42	G
3	C	43	A
3	C	45	U
3	C	47	A
3	C	48	A
3	C	49	C
3	C	52	G
3	C	53	A
3	C	54	A
3	C	55	A
3	C	56	U
3	C	58	G
3	C	59	C
3	C	229	U
3	C	230	A
3	C	231	A
3	C	232	A

All (41) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	A	2	U
1	A	13	A
1	A	75	G
1	A	160	G
1	A	239	G
1	A	250	U
1	A	315	C
1	A	385	A
1	A	420	G
1	A	452	G
1	A	486	U
1	A	618	C
1	A	621	A
1	A	645	A
1	A	646	A
1	A	649	A
1	A	661	G

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Mol	Chain	Res	Type
1	A	720	A
1	A	976	U
1	A	1102	A
1	A	1103	A
1	A	1152	G
1	A	1154	A
1	A	1159	A
1	A	1203	A
1	A	1205	A
1	A	1329	U
1	A	1351	U
1	A	2362	C
1	A	3030	G
1	A	3035	A
1	A	3078	U
1	A	3218	A
1	A	3228	C
1	A	3269	U
1	A	3276	G
1	A	3292	A
1	A	3316	A
2	B	21	C
2	B	123	G
2	B	151	C

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](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues

The following chains have linkage breaks:

Mol	Chain	Number of breaks
30	d	6

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	d	174:UNK	C	180:UNK	N	119.43
1	d	120:UNK	C	130:UNK	N	51.93
1	d	233:UNK	C	240:UNK	N	39.23
1	d	213:UNK	C	220:UNK	N	26.40
1	d	250:UNK	C	259:UNK	N	16.25
1	d	190:UNK	C	200:UNK	N	13.74

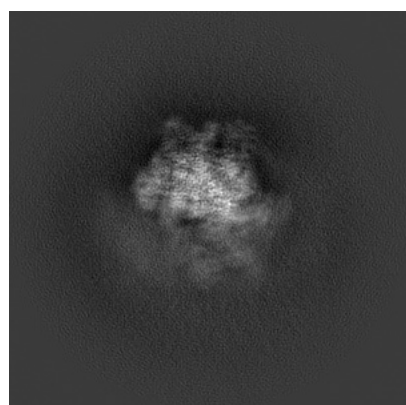
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-6878. These allow visual inspection of the internal detail of the map and identification of artifacts.

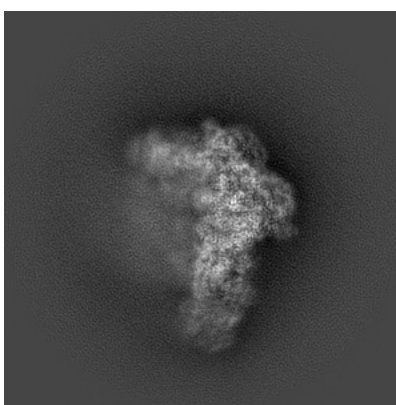
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

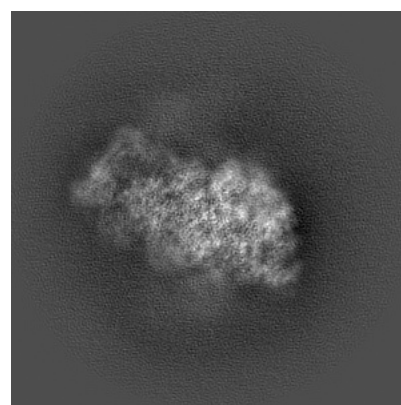
6.1.1 Primary map



X



Y

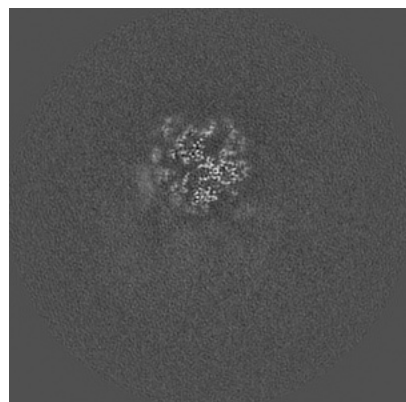


Z

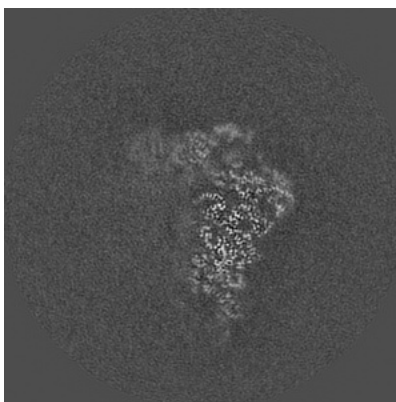
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

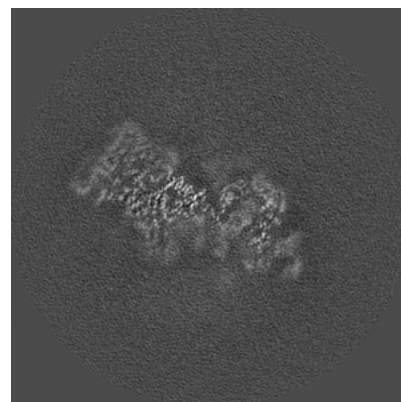
6.2.1 Primary map



X Index: 180



Y Index: 180

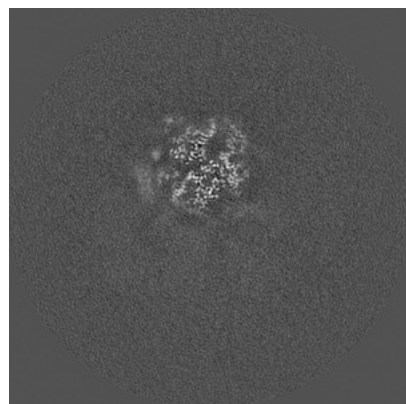


Z Index: 180

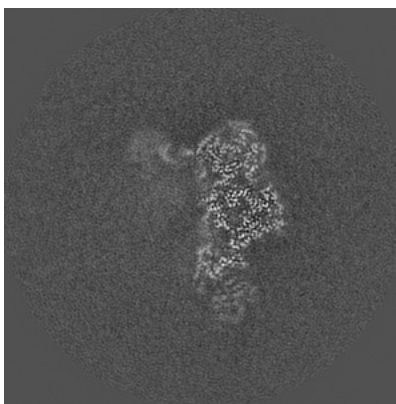
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

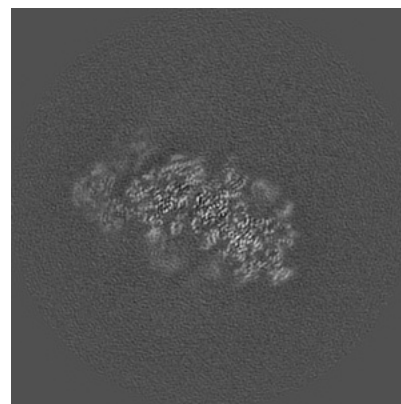
6.3.1 Primary map



X Index: 182



Y Index: 168

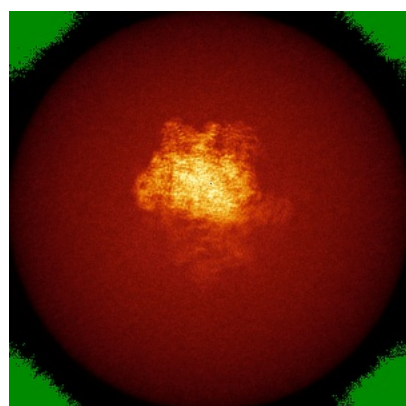


Z Index: 195

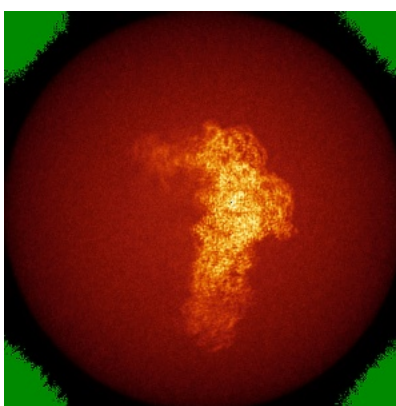
The images above show the largest variance slices of the map in three orthogonal directions.

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

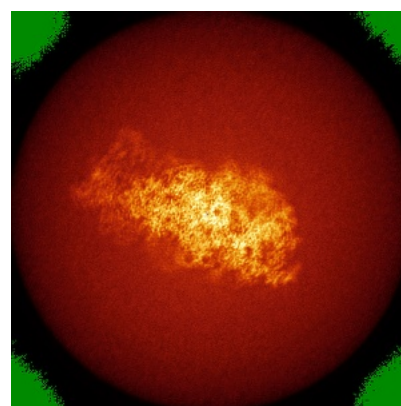
6.4.1 Primary map



X



Y



Z

The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.09. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

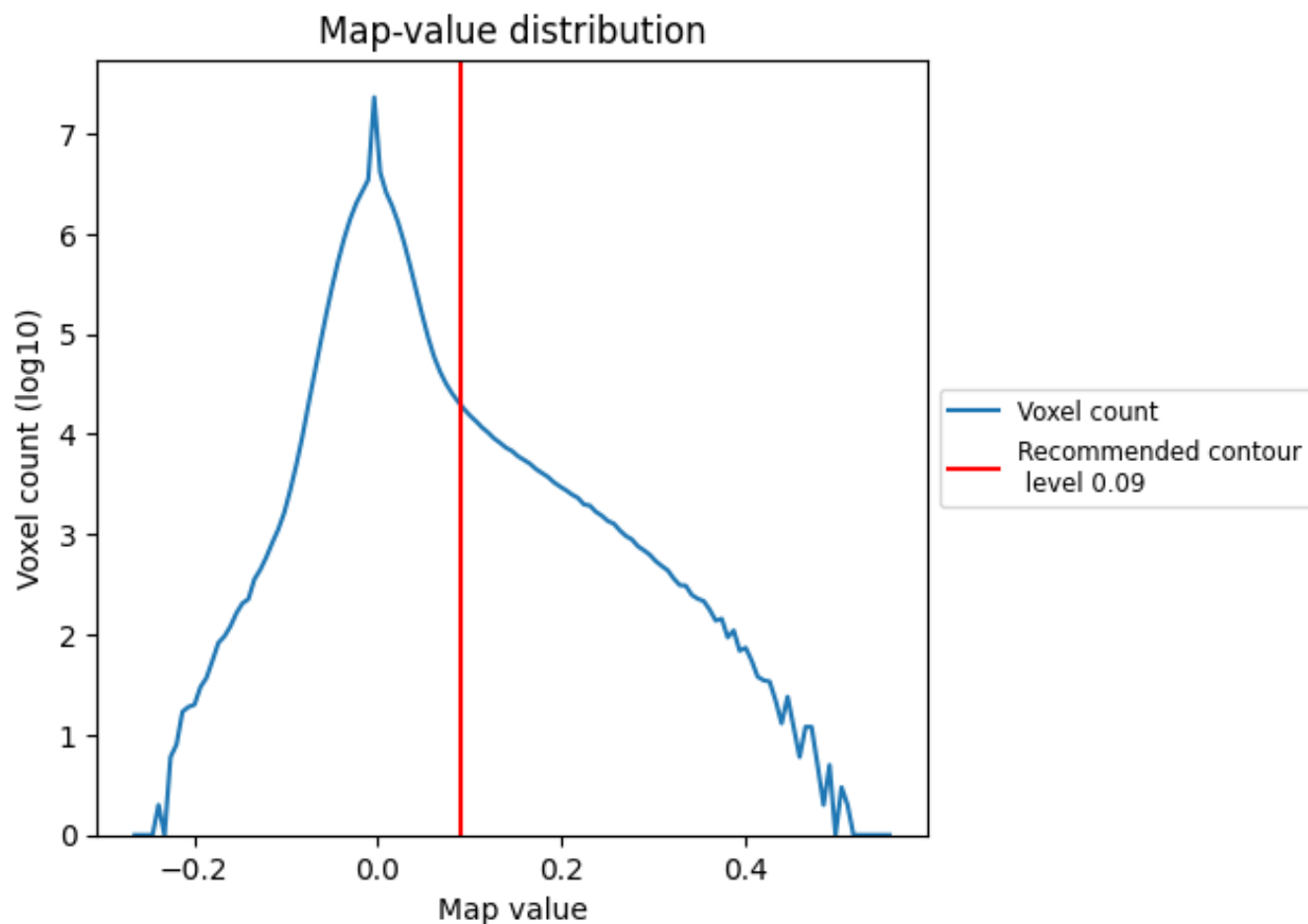
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

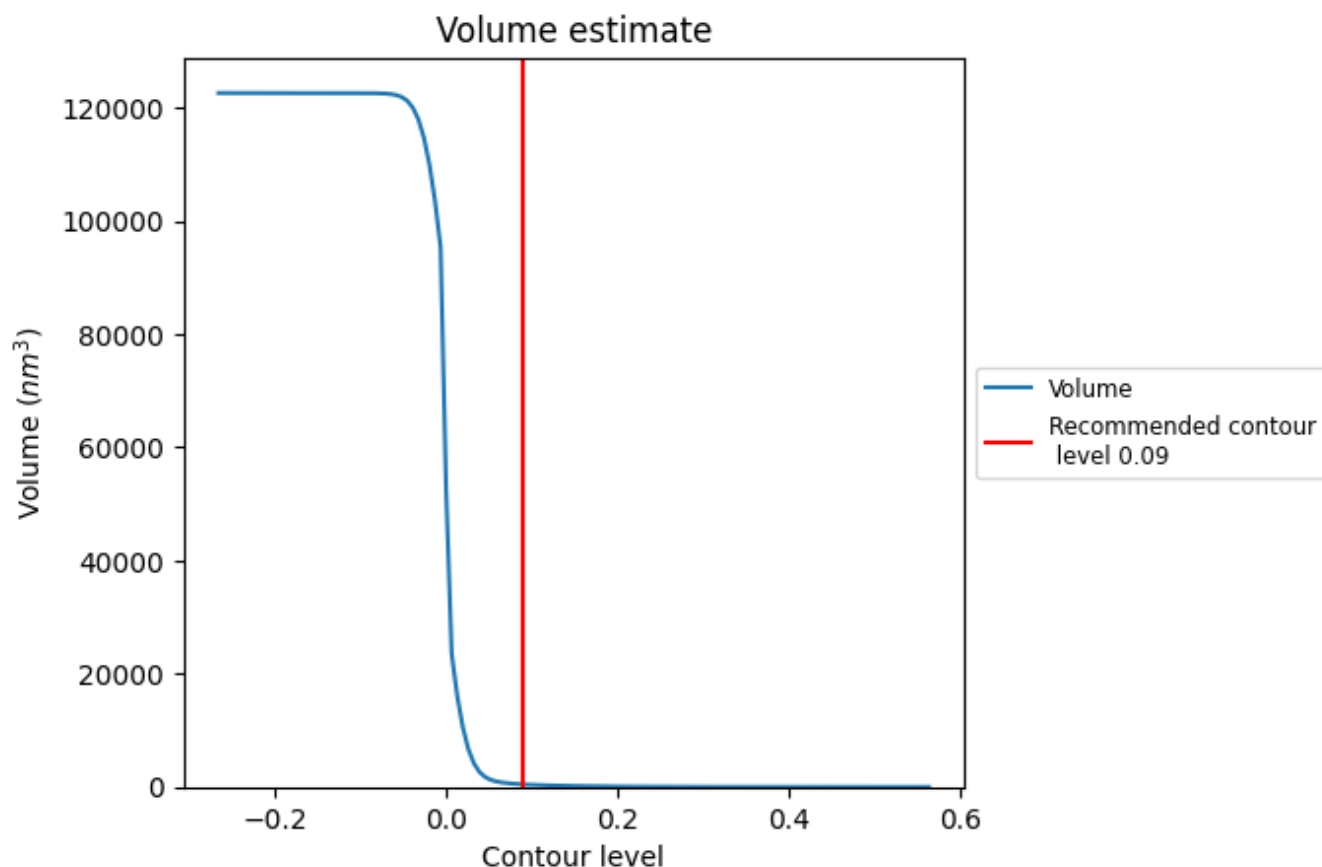
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

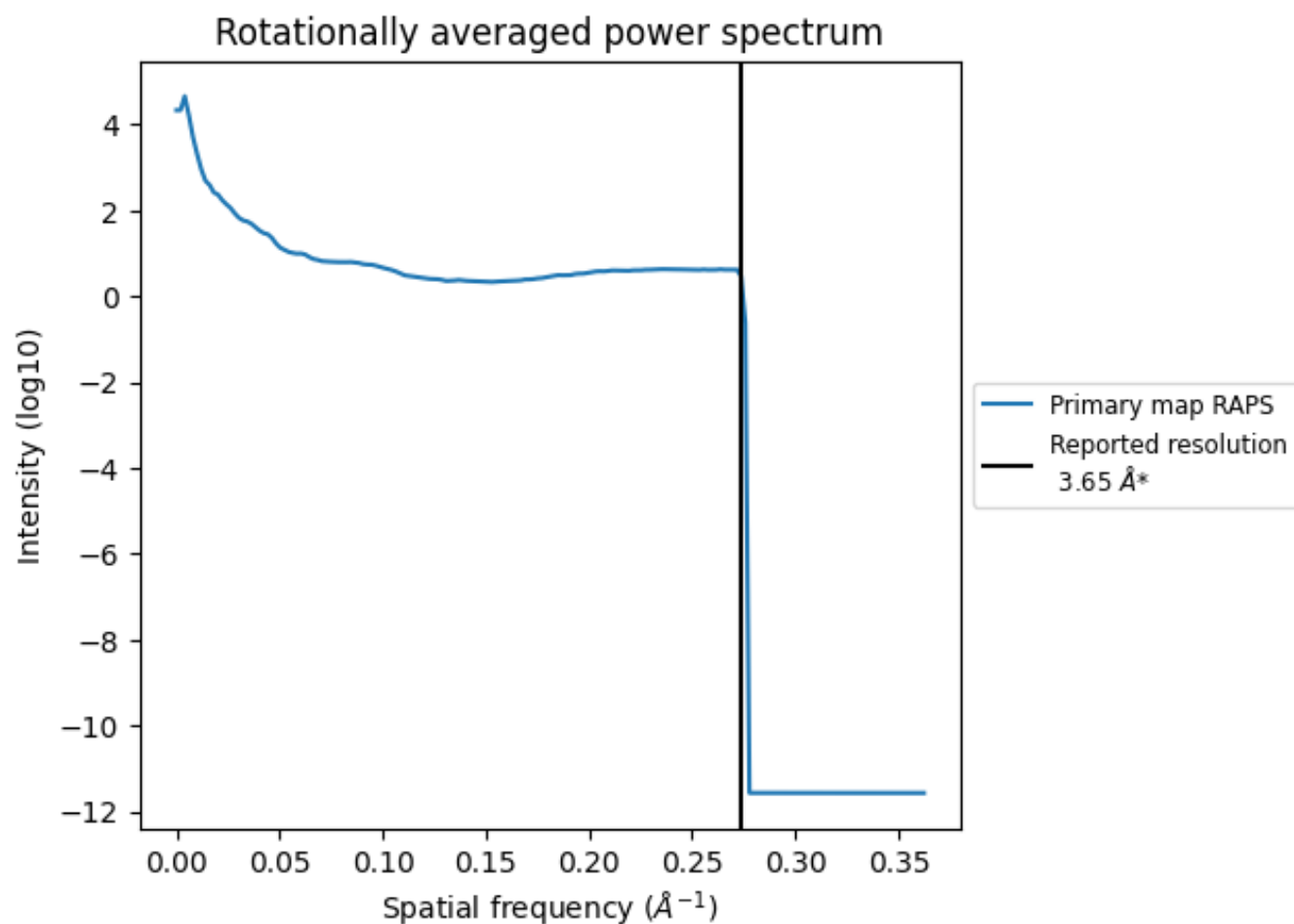
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 459 nm³; this corresponds to an approximate mass of 415 kDa.

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

7.3 Rotationally averaged power spectrum ⓘ

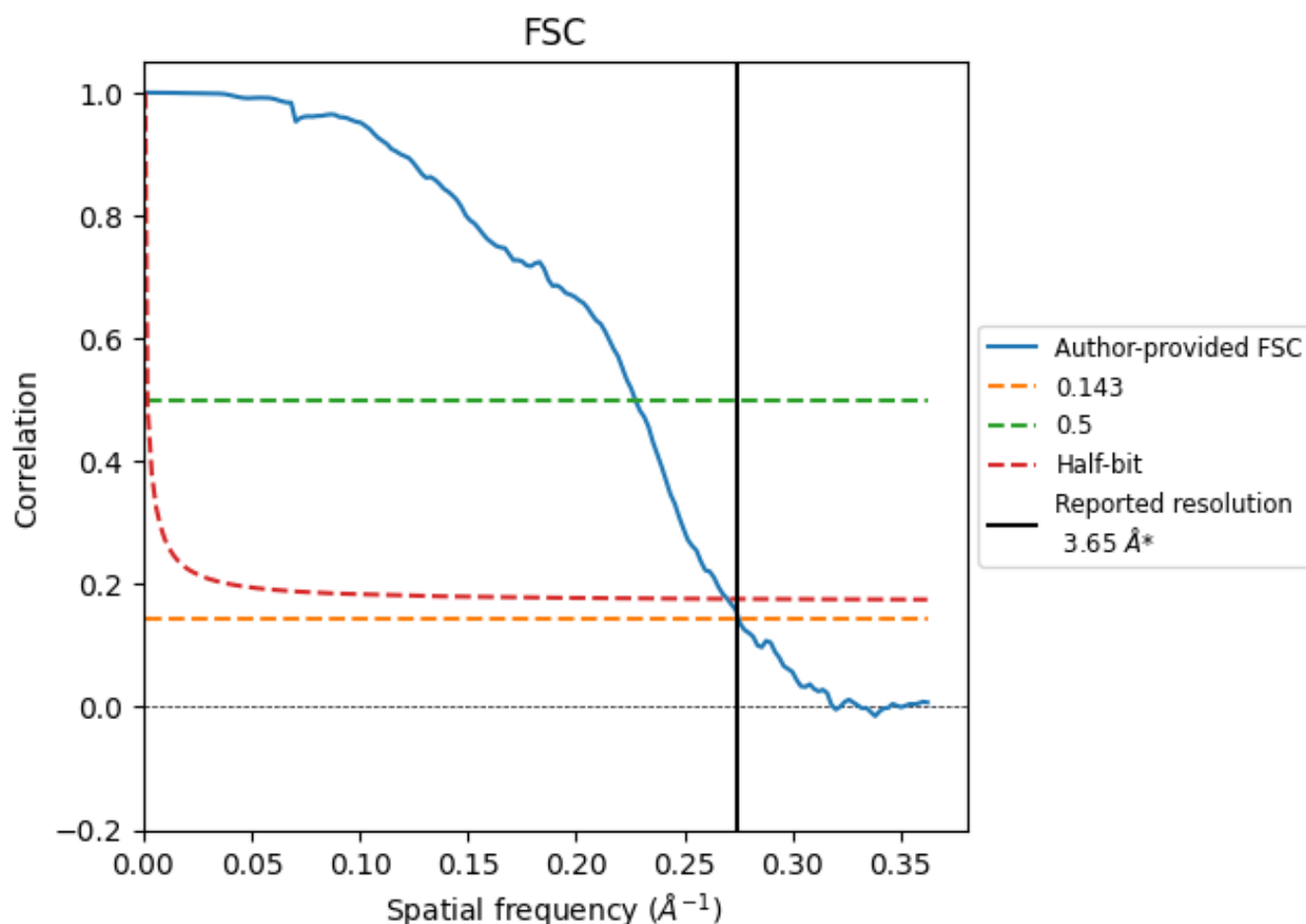


*Reported resolution corresponds to spatial frequency of 0.274 $\text{\AA}^{-1}$

8 Fourier-Shell correlation [i](#)

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

8.1 FSC [i](#)



*Reported resolution corresponds to spatial frequency of 0.274 $\text{\AA}^{-1}$

8.2 Resolution estimates [i](#)

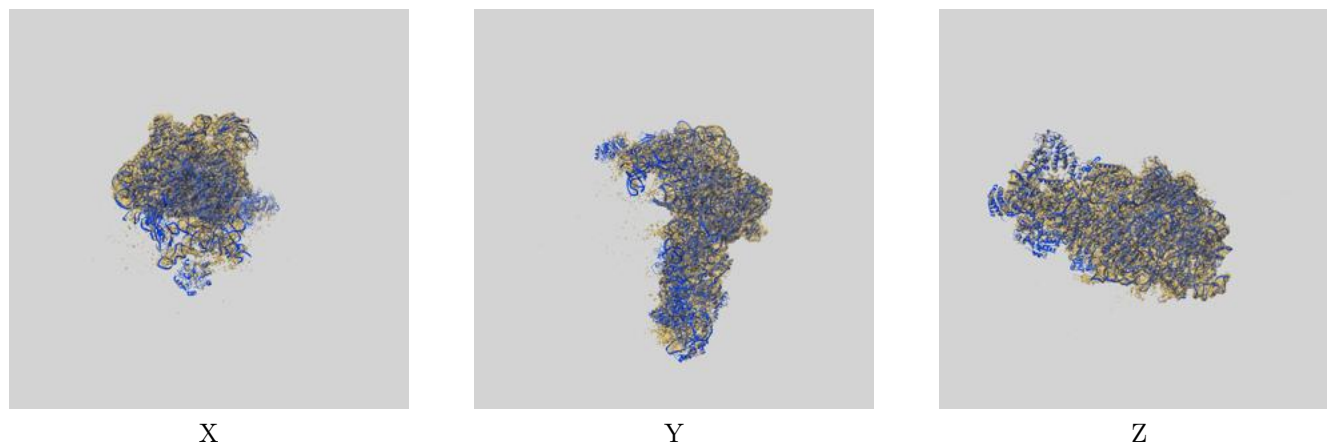
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.65	-	-
Author-provided FSC curve	3.64	4.40	3.71
Unmasked-calculated*	-	-	-

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps.

9 Map-model fit [i](#)

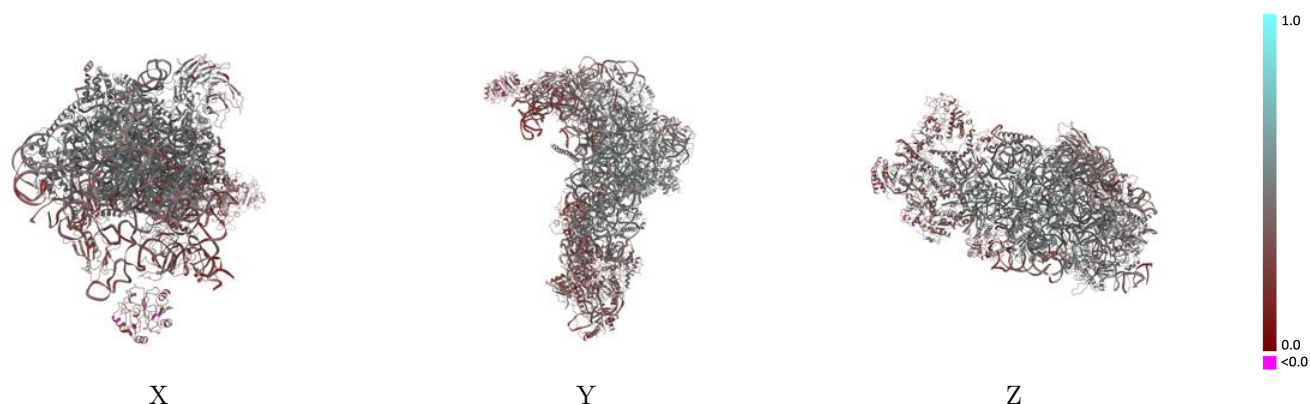
This section contains information regarding the fit between EMDB map EMD-6878 and PDB model 5Z3G. Per-residue inclusion information can be found in section [3](#) on page [11](#).

9.1 Map-model overlay [i](#)



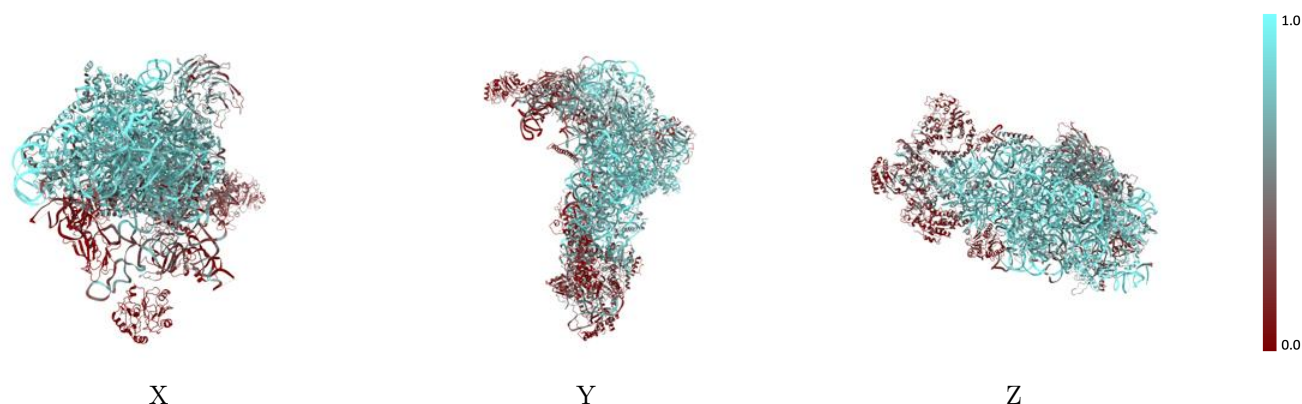
The images above show the 3D surface view of the map at the recommended contour level 0.09 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



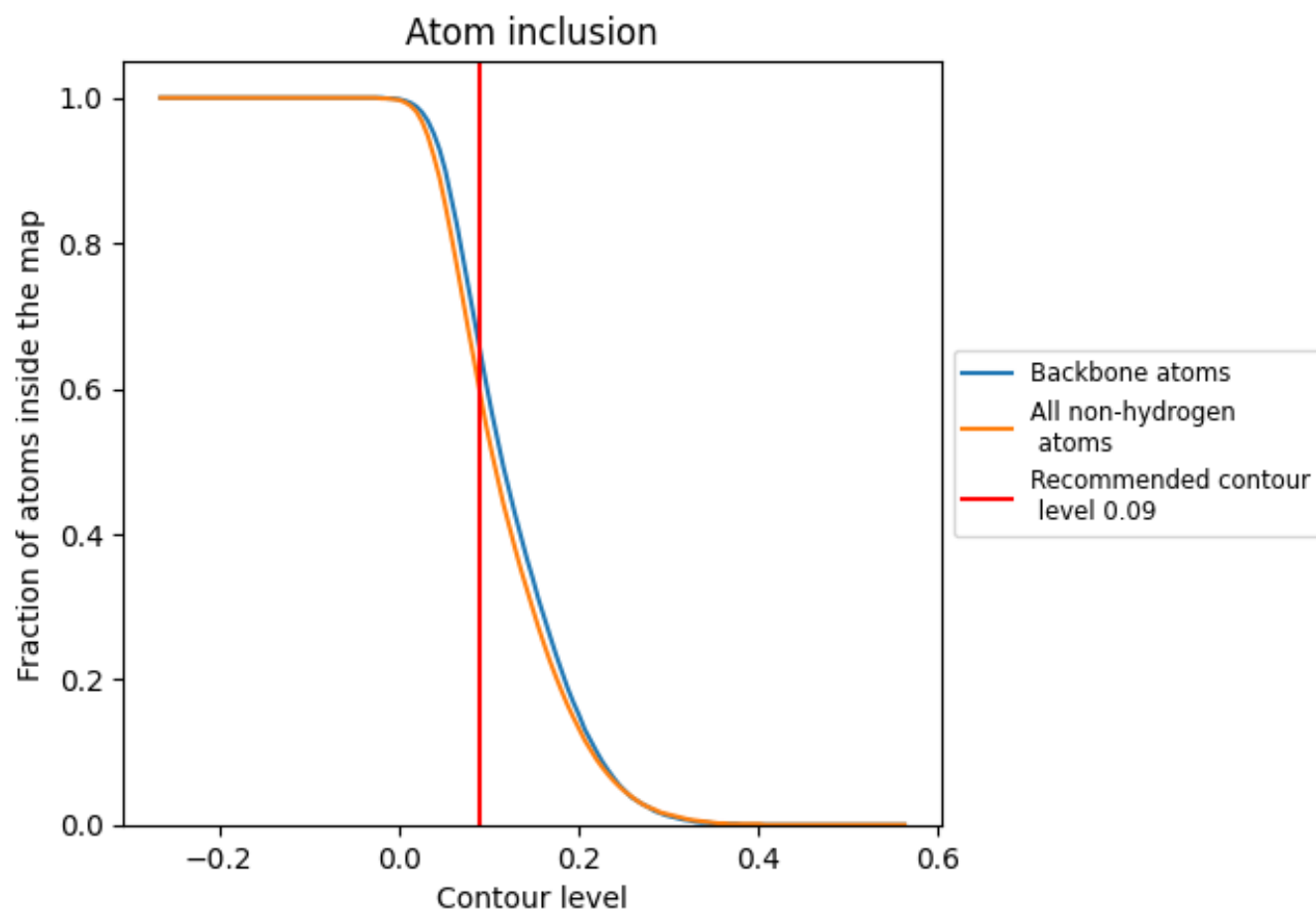
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

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



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.09).

9.4 Atom inclusion [i](#)



At the recommended contour level, 66% of all backbone atoms, 60% 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 (0.09) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.6010	 0.4220
A	 0.7610	 0.4290
B	 0.7800	 0.4320
C	 0.5090	 0.3770
D	 0.2750	 0.3480
E	 0.2920	 0.3550
F	 0.3700	 0.3670
G	 0.7680	 0.5190
H	 0.2450	 0.3530
I	 0.7650	 0.4890
J	 0.7790	 0.4920
K	 0.5770	 0.4550
L	 0.0990	 0.3730
M	 0.1380	 0.2980
N	 0.0460	 0.2850
O	 0.6260	 0.4490
P	 0.7690	 0.4960
Q	 0.7370	 0.4630
R	 0.6890	 0.4930
S	 0.7160	 0.4770
T	 0.4010	 0.4380
U	 0.7380	 0.4870
V	 0.5210	 0.4380
W	 0.6500	 0.4530
X	 0.7730	 0.4610
Y	 0.1910	 0.3440
Z	 0.7960	 0.4920
a	 0.1030	 0.3090
b	 0.0120	 0.2680
c	 0.7530	 0.4970
d	 0.5730	 0.4430
i	 0.7540	 0.5340
j	 0.8170	 0.5310
l	 0.5980	 0.4430
m	 0.4630	 0.4030
n	 0.8040	 0.5170

