



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 23, 2026 – 01:45 PM UTC

PDB ID : 3CF5 / pdb_00003cf5
Title : Thiopeptide antibiotic Thiostrepton bound to the large ribosomal subunit of *Deinococcus radiodurans*
Authors : Harms, J.M.; Wilson, D.N.; Schlutzen, F.; Connell, S.R.; Stachelhaus, T.; Zaborowska, Z.; Spahn, C.M.T.; Fucini, P.
Deposited on : 2008-03-02
Resolution : 3.30 Å(reported)

This is a Full wwPDB X-ray Structure 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/XrayValidationReportHelp>

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:

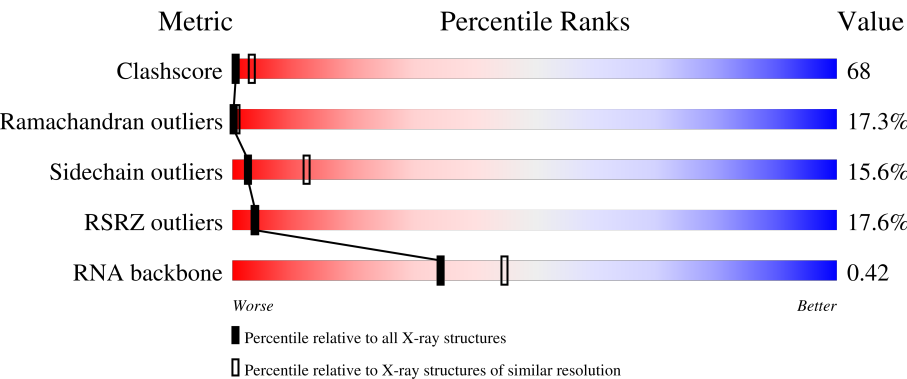
MolProbity : 4-5-2 with Phenix2.0
Mogul : 2022.3.0, CSD as543be (2022)
Xtriage (Phenix) : 2.0
EDS : 3.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4 : 9.0.010 (Gargrove)
Density-Fitness : 1.0.12
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (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:
X-RAY DIFFRACTION

The reported resolution of this entry is 3.30 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)	Similar resolution (#Entries, resolution range(Å))
Clashscore	190562	1209 (3.32-3.28)
Ramachandran outliers	187476	1188 (3.32-3.28)
Sidechain outliers	187428	1187 (3.32-3.28)
RSRZ outliers	180081	1169 (3.32-3.28)
RNA backbone	3983	1048 (3.60-3.00)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower 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 electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	1	55	96% 96%
2	2	47	98% 98%
3	3	66	95% 94% 5%
4	4	37	24% 5% 73% 22%
5	5	19	16% 42% 37% 21%

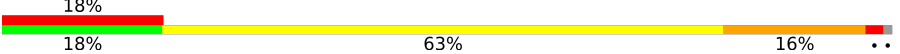
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Mol	Chain	Length	Quality of chain
6	A	274	
7	B	211	
8	C	205	
9	D	180	
10	E	185	
11	F	144	
12	G	174	
13	H	134	
14	I	156	
15	J	142	
16	K	116	
17	L	114	
18	M	166	
19	N	118	
20	O	100	
21	P	134	
22	Q	95	
23	R	115	
24	S	237	
25	T	91	
26	U	81	
27	V	67	
28	W	55	
29	X	2880	
30	Y	60	

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Mol	Chain	Length	Quality of chain
31	Z	123	

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

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
5	BB9	5	13	-	X	-	-

2 Entry composition

There are 32 unique types of molecules in this entry. The entry contains 84475 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called 50S RIBOSOMAL PROTEIN L33.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
1	1	53	Total C 53 53	0	0	53

- Molecule 2 is a protein called 50S RIBOSOMAL PROTEIN L34.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
2	2	46	Total C 46 46	0	0	46

- Molecule 3 is a protein called 50S RIBOSOMAL PROTEIN L35.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
3	3	63	Total C 63 63	0	0	63

- Molecule 4 is a protein called 50S RIBOSOMAL PROTEIN L36.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
4	4	37	Total C N O S 297 179 66 47 5	0	0	0

- Molecule 5 is a protein called THIOSTREPTON.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
5	5	19	Total C N O S 114 72 19 18 5	0	0	1

- Molecule 6 is a protein called 50S RIBOSOMAL PROTEIN L2.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
6	A	240	Total C N O S 1826 1137 366 321 2	0	0	0

- Molecule 7 is a protein called 50S RIBOSOMAL PROTEIN L3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	B	205	Total	C	N	O	S	0	0	0
			1539	965	295	271	8			

- Molecule 8 is a protein called 50S RIBOSOMAL PROTEIN L4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	C	197	Total	C	N	O	S	0	0	0
			1506	935	287	282	2			

- Molecule 9 is a protein called 50S RIBOSOMAL PROTEIN L5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
9	D	177	Total	C	N	O	S	0	0	0
			1400	892	247	254	7			

- Molecule 10 is a protein called 50S RIBOSOMAL PROTEIN L6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	E	171	Total	C	N	O	S	0	0	0
			1286	812	237	236	1			

- Molecule 11 is a protein called 50S RIBOSOMAL PROTEIN L11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	F	144	Total	C	N	O	S	0	0	0
			1044	663	179	197	5			

- Molecule 12 is a protein called 50S RIBOSOMAL PROTEIN L13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
12	G	142	Total	C	N	O	S	0	0	0
			1114	704	209	198	3			

- Molecule 13 is a protein called 50S RIBOSOMAL PROTEIN L14.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
13	H	134	Total	C	N	O	S	0	0	0
			997	614	198	180	5			

- Molecule 14 is a protein called 50S RIBOSOMAL PROTEIN L15.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
14	I	141	Total	C	N	O	0	0	0
			1067	655	216	196			

- Molecule 15 is a protein called 50S RIBOSOMAL PROTEIN L16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
15	J	136	Total	C	N	O	S	0	0	0
			1090	696	202	185	7			

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
J	1	MET	-	initiating methionine	UNP Q9RXJ5

- Molecule 16 is a protein called 50S RIBOSOMAL PROTEIN L17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
16	K	113	Total	C	N	O	S	0	0	0
			878	541	178	157	2			

- Molecule 17 is a protein called 50S RIBOSOMAL PROTEIN L18.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
17	L	104	Total	C	N	O	0	0	0
			779	476	161	142			

- Molecule 18 is a protein called 50S RIBOSOMAL PROTEIN L19.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
18	M	108	Total	C	N	O	0	0	0
			871	543	172	156			

- Molecule 19 is a protein called 50S RIBOSOMAL PROTEIN L20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
19	N	117	Total	C	N	O	S	0	0	0
			978	608	210	159	1			

- Molecule 20 is a protein called 50S RIBOSOMAL PROTEIN L21.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
20	O	94	Total	C	N	O	0	0	0
			741	465	139	137			

- Molecule 21 is a protein called 50S RIBOSOMAL PROTEIN L22.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
21	P	127	Total	C	N	O	S	0	0	0
			1014	639	199	174	2			

- Molecule 22 is a protein called 50S RIBOSOMAL PROTEIN L23.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
22	Q	93	Total	C	N	O	S	0	0	0
			726	458	136	130	2			

- Molecule 23 is a protein called 50S RIBOSOMAL PROTEIN L24.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
23	R	110	Total	C	N	O	S	0	0	0
			825	513	160	151	1			

- Molecule 24 is a protein called 50S RIBOSOMAL PROTEIN L25.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
24	S	175	Total	C	N	O	S	0	0	0
			1345	849	236	254	6			

- Molecule 25 is a protein called 50S RIBOSOMAL PROTEIN L27.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
25	T	84	Total	C	N	O	S	0	0	0
			625	393	122	109	1			

- Molecule 26 is a protein called 50S RIBOSOMAL PROTEIN L28.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
26	U	72	Total	C	N	O	0	0	0
			552	341	116	95			

- Molecule 27 is a protein called 50S RIBOSOMAL PROTEIN L29.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
27	V	66	Total	C	N	O	S	0	0	0
			533	327	107	96	3			

- Molecule 28 is a protein called 50S RIBOSOMAL PROTEIN L30.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
28	W	55	Total	C	N	O	S	0	0	0
			424	264	82	76	2			

- Molecule 29 is a RNA chain called RRNA-23S RIBOSOMAL RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
29	X	2686	Total	C	N	O	P	0	0	0
			57651	25718	10642	18606	2685			

- Molecule 30 is a protein called 50S RIBOSOMAL PROTEIN L32.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
30	Y	58	Total	C	N	O	S	0	0	0
			457	281	94	77	5			

- Molecule 31 is a RNA chain called RRNA-5S RIBOSOMAL RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
31	Z	122	Total	C	N	O	P	0	0	0
			2598	1161	476	840	121			

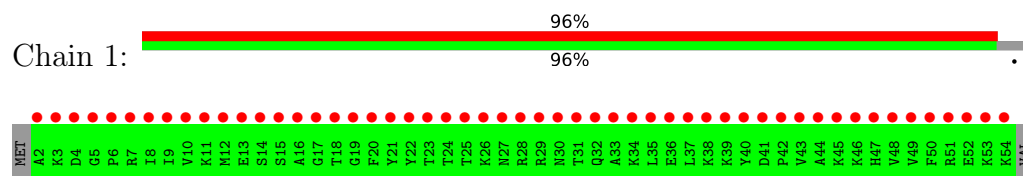
- Molecule 32 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
32	M	1	Total	Mg	0	0
			1	1		
32	X	30	Total	Mg	0	0
			30	30		
32	Z	5	Total	Mg	0	0
			5	5		

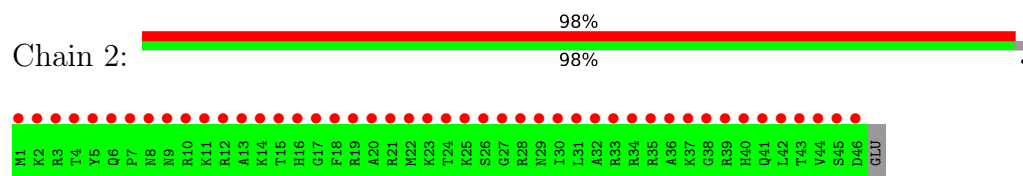
3 Residue-property plots

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

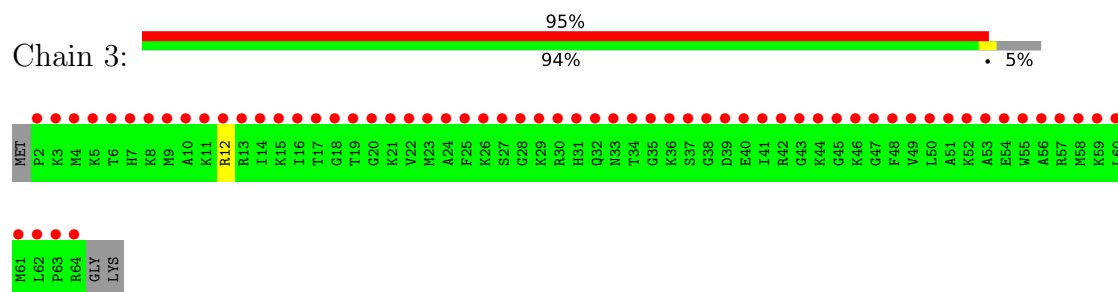
- Molecule 1: 50S RIBOSOMAL PROTEIN L33



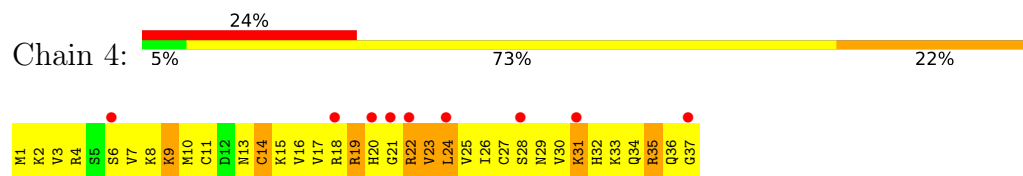
- Molecule 2: 50S RIBOSOMAL PROTEIN L34



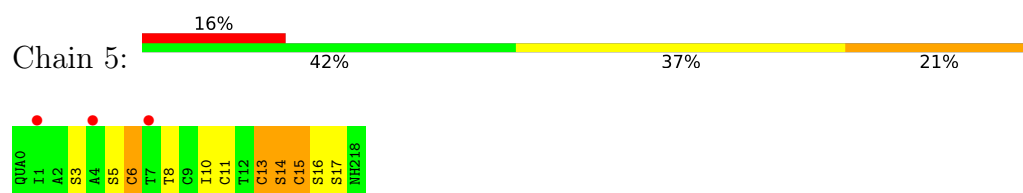
- Molecule 3: 50S RIBOSOMAL PROTEIN L35



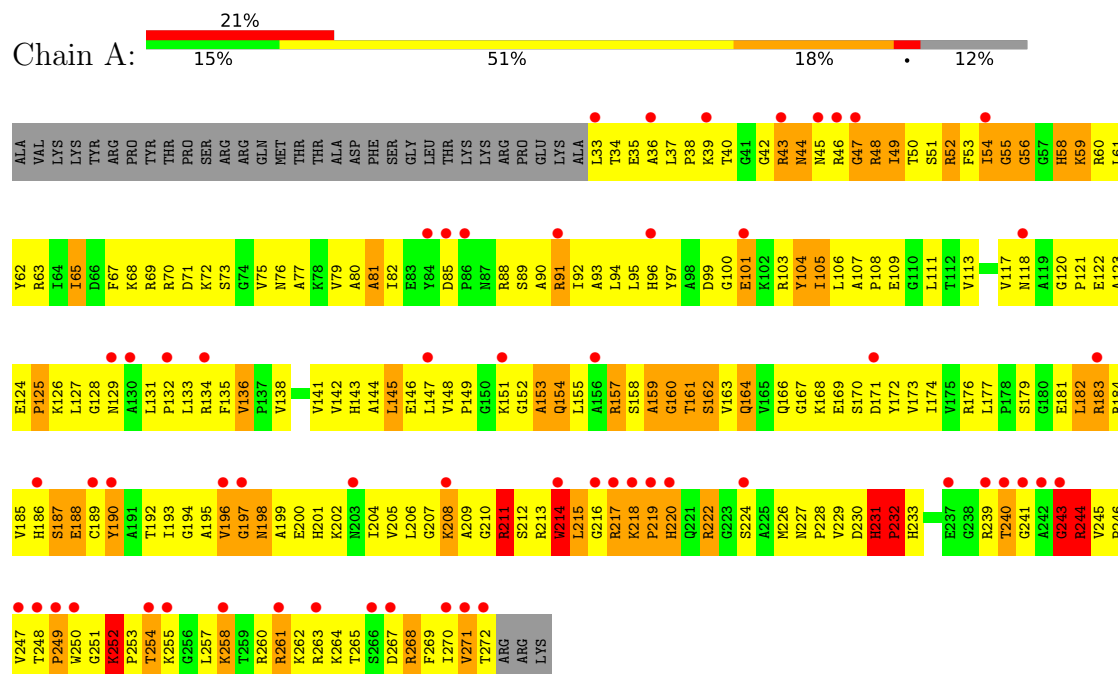
- Molecule 4: 50S RIBOSOMAL PROTEIN L36



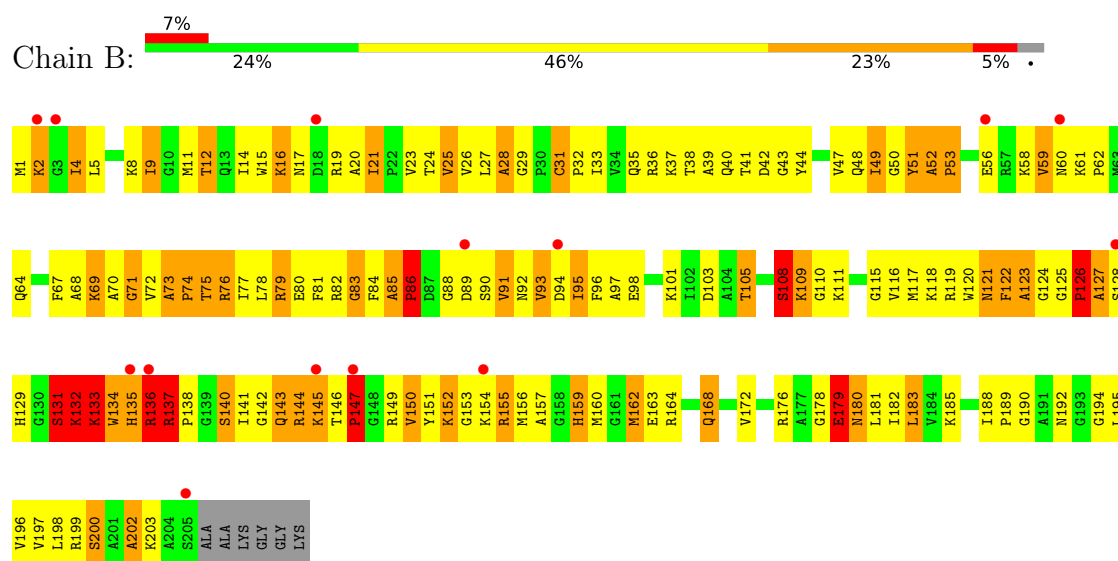
- Molecule 5: THIOSTREPTON



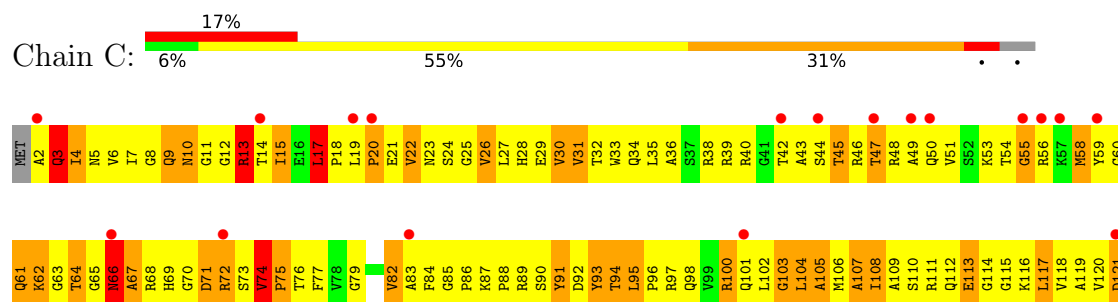
• Molecule 6: 50S RIBOSOMAL PROTEIN L2

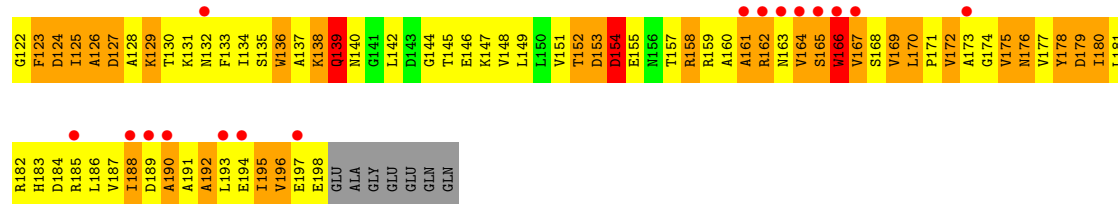


• Molecule 7: 50S RIBOSOMAL PROTEIN L3

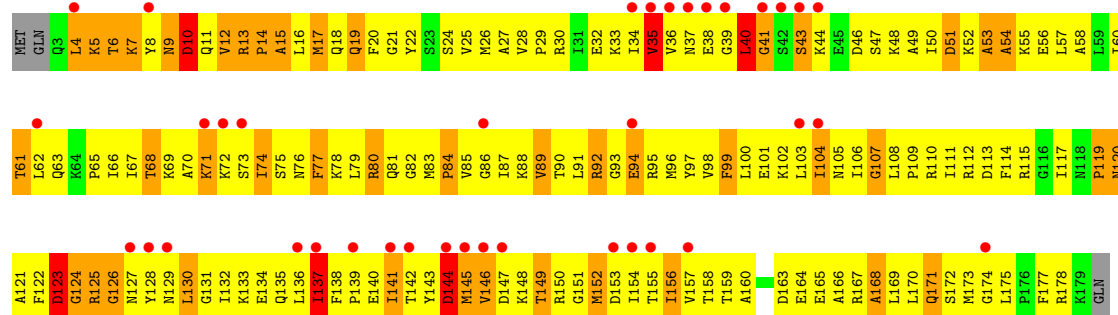
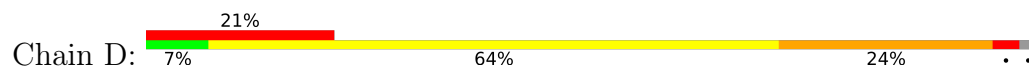


• Molecule 8: 50S RIBOSOMAL PROTEIN L4

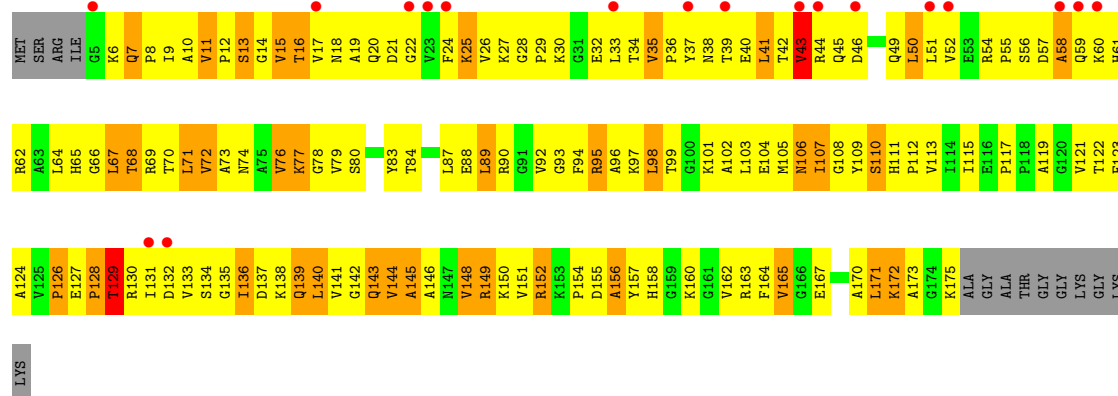
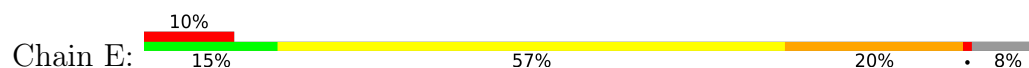




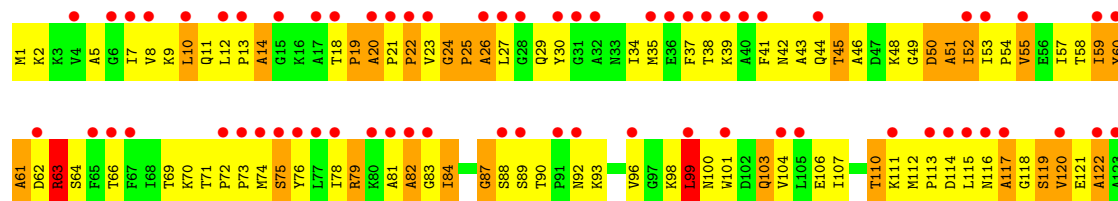
● Molecule 9: 50S RIBOSOMAL PROTEIN L5



● Molecule 10: 50S RIBOSOMAL PROTEIN L6

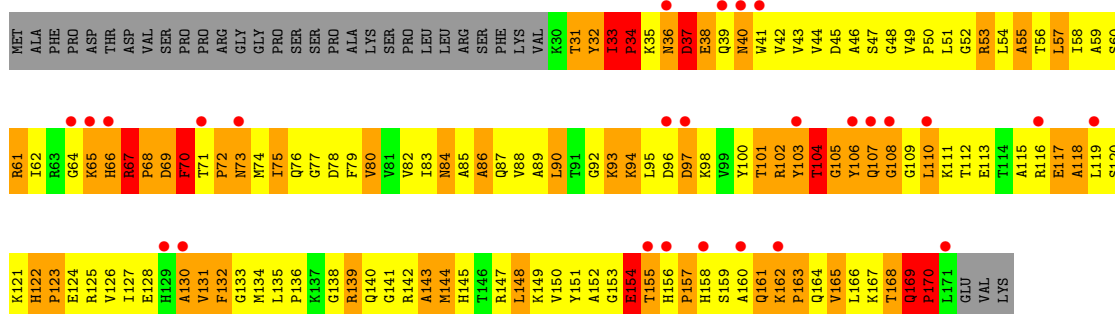


● Molecule 11: 50S RIBOSOMAL PROTEIN L11

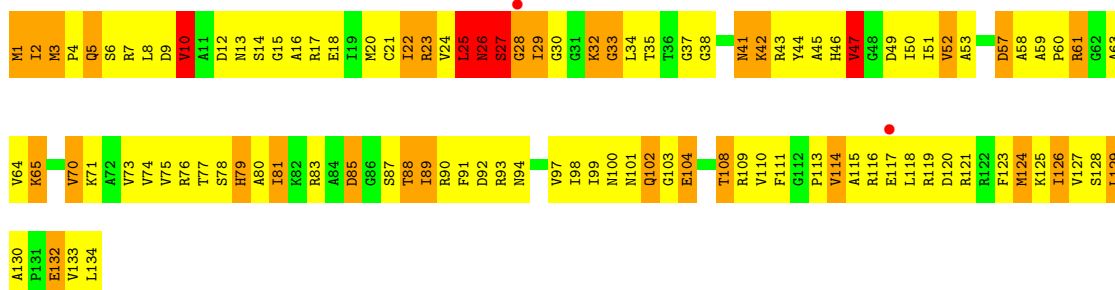




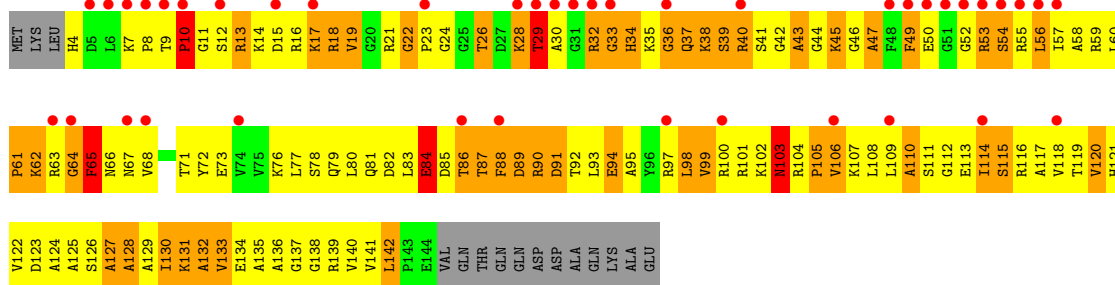
• Molecule 12: 50S RIBOSOMAL PROTEIN L13



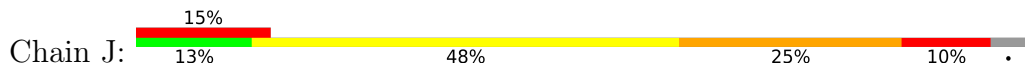
• Molecule 13: 50S RIBOSOMAL PROTEIN L14

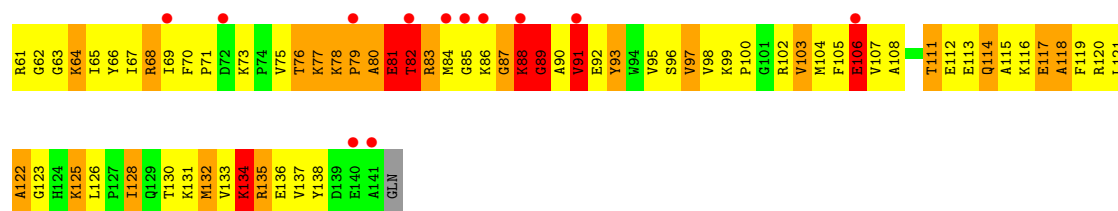


• Molecule 14: 50S RIBOSOMAL PROTEIN L15

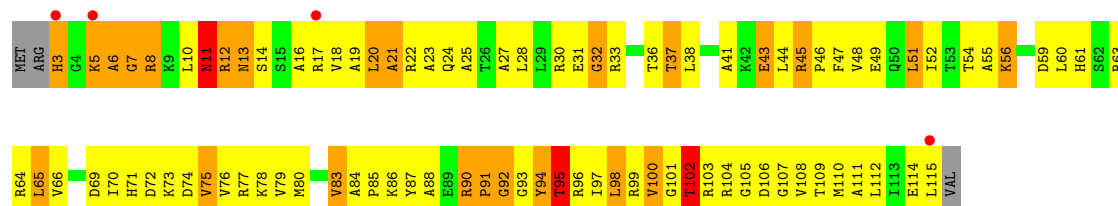
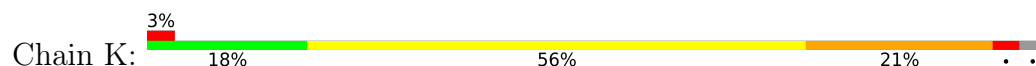


• Molecule 15: 50S RIBOSOMAL PROTEIN L16

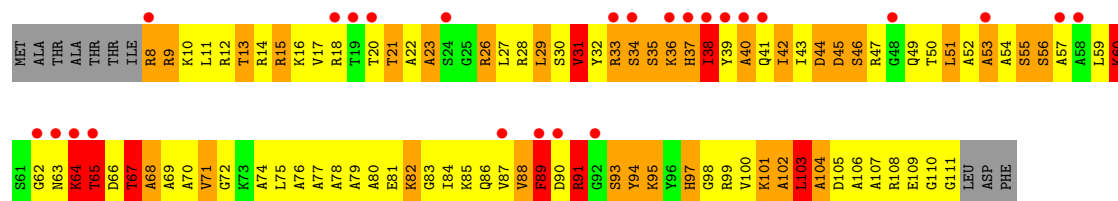




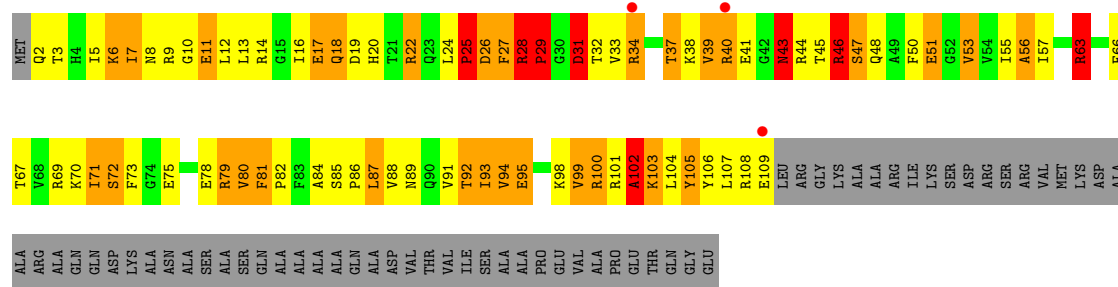
• Molecule 16: 50S RIBOSOMAL PROTEIN L17



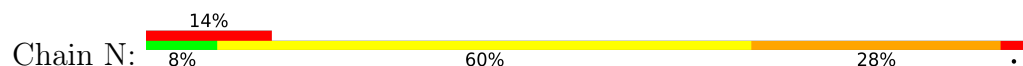
• Molecule 17: 50S RIBOSOMAL PROTEIN L18

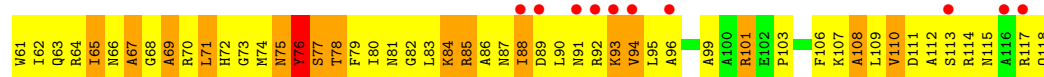


• Molecule 18: 50S RIBOSOMAL PROTEIN L19

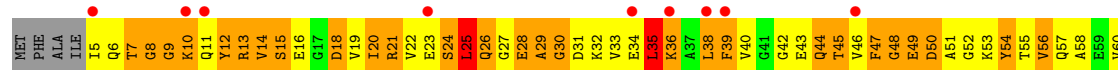


• Molecule 19: 50S RIBOSOMAL PROTEIN L20

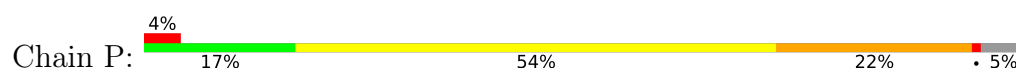




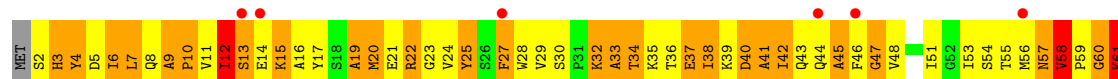
• Molecule 20: 50S RIBOSOMAL PROTEIN L21



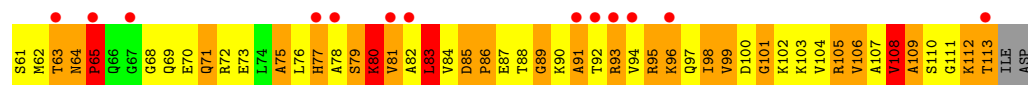
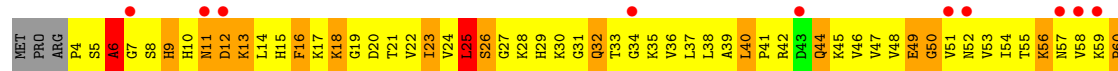
• Molecule 21: 50S RIBOSOMAL PROTEIN L22



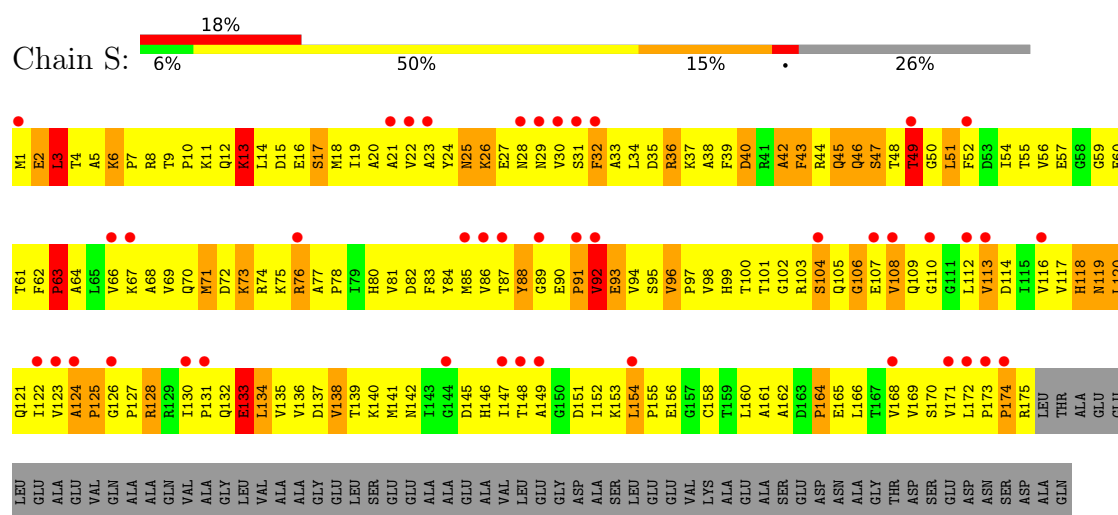
• Molecule 22: 50S RIBOSOMAL PROTEIN L23



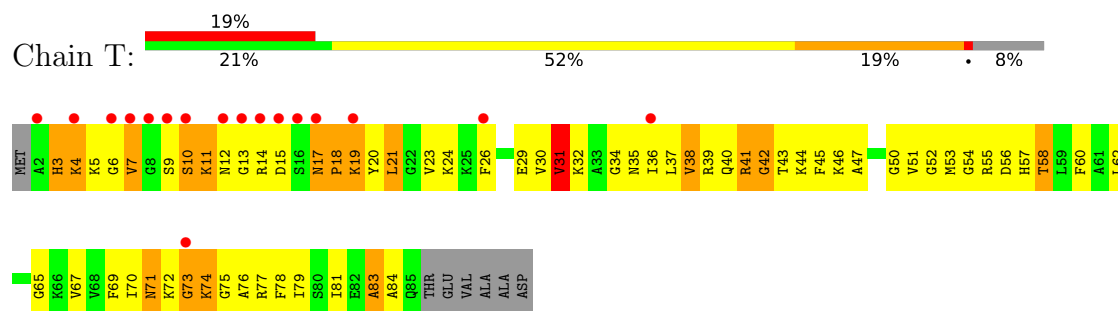
• Molecule 23: 50S RIBOSOMAL PROTEIN L24



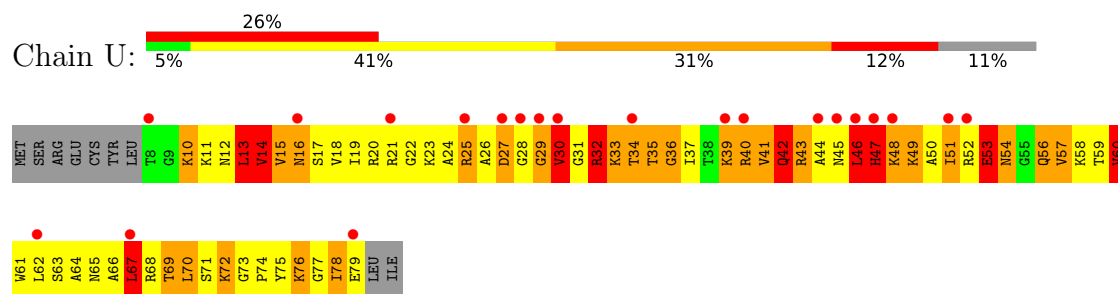
• Molecule 24: 50S RIBOSOMAL PROTEIN L25



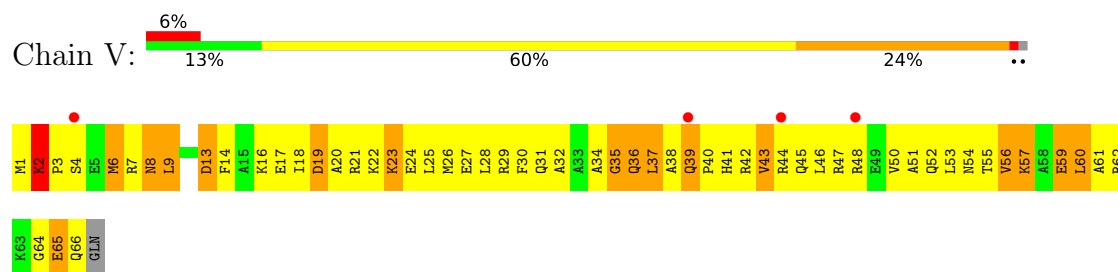
● Molecule 25: 50S RIBOSOMAL PROTEIN L27



- Molecule 26: 50S RIBOSOMAL PROTEIN L28

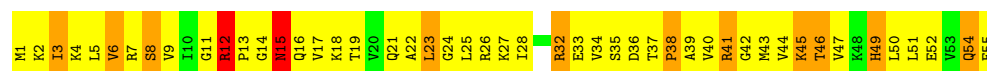


● Molecule 27: 50S RIBOSOMAL PROTEIN L29

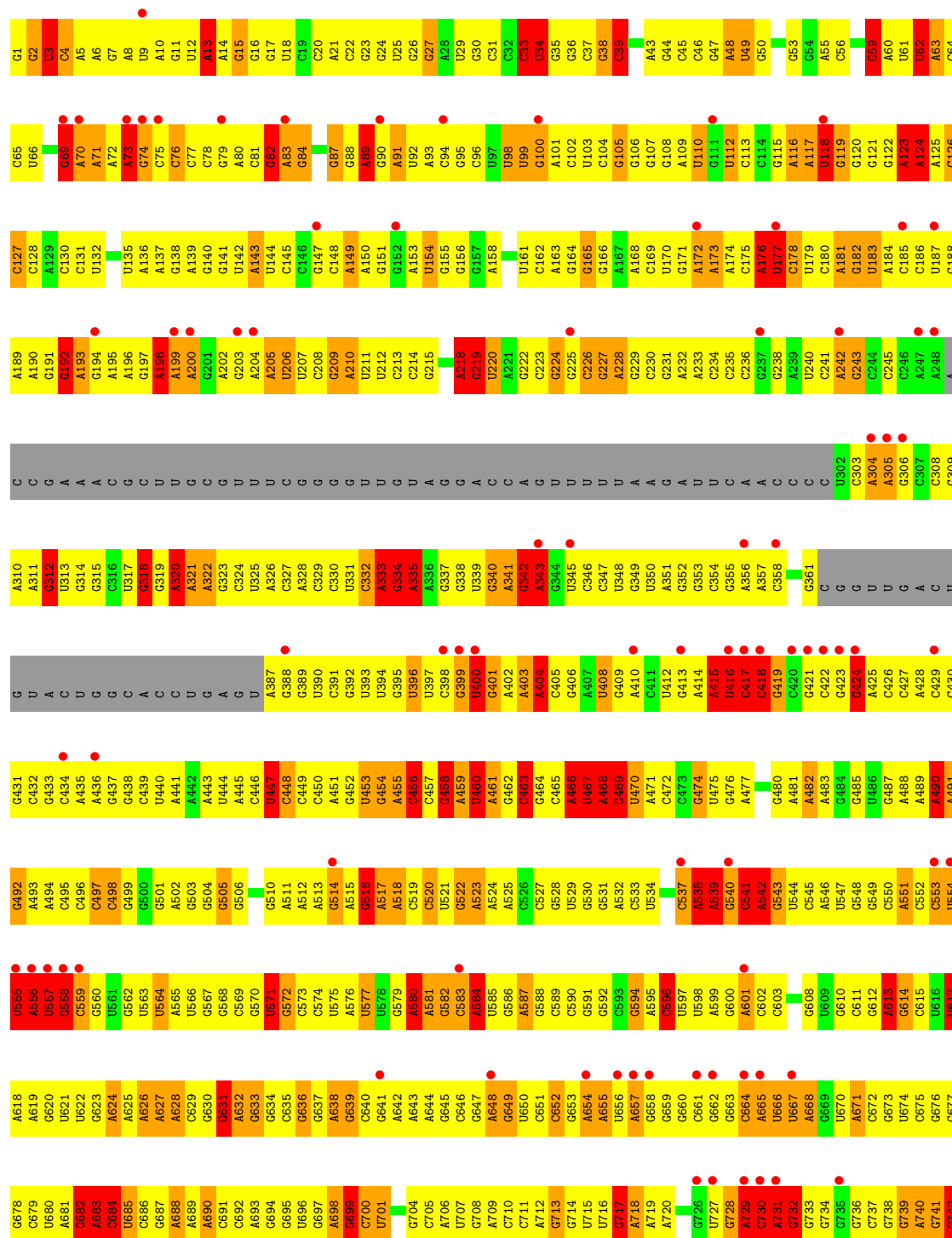
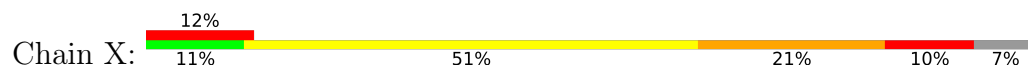


• Molecule 28: 50S RIBOSOMAL PROTEIN L30



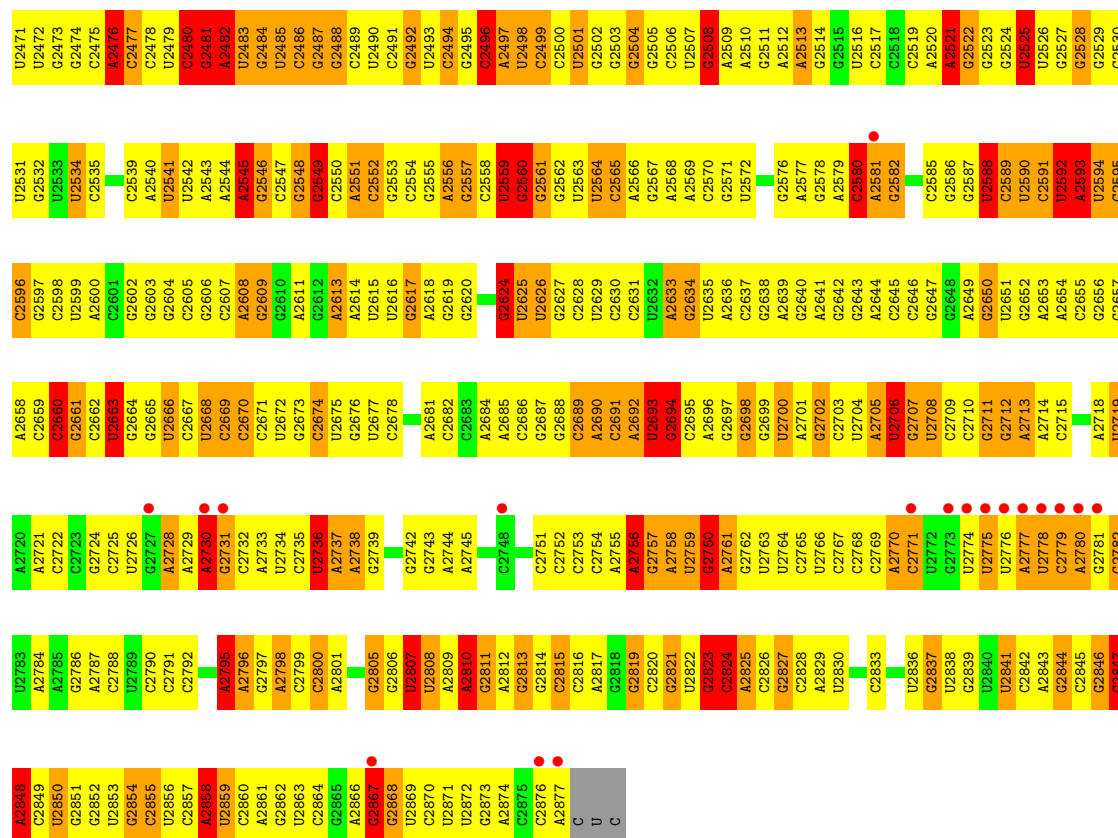


● Molecule 29: RRNA-23S RIBOSOMAL RNA



G1545	U1486	C1363	U1424	G1485	U1485	G1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1485	U1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C2349	C2350	C2351	C2352	C2353	C2354	C2355	C2356	C2357	C2358	C2359	C2360	C2361	C2362	C2363	C2364	C2365	C2366	C2367	C2368	C2369	C2370	C2371	C2372	C2373	C2374	C2375	C2376	C2377	C2378	C2379	C2380	C2381	C2382	C2383	C2384	C2385	C2386	C2387	C2388	C2389	C2390	C2391	C2392	C2393	C2394	C2395	C2396	C2397	C2398	C2399	C2400	C2401	C2402	C2403	C2404	C2405	C2406	C2407	C2408	C2409																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
U2285	C2227	U2228	U2229	U2230	U2231	U2232	U2233	U2234	U2235	U2236	U2237	U2238	U2239	U2240	U2241	U2242	U2243	U2244	U2245	U2246	U2247	U2248	U2249	U2250	U2251	U2252	U2253	U2254	U2255	U2256	U2257	U2258	U2259	U2260	U2261	U2262	U2263	U2264	U2265	U2266	U2267	U2268	U2269	U2270	U2271	U2272	U2273	U2274	U2275	U2276	U2277	U2278	U2279	U2280	U2281	U2282	U2283	U2284	U2285	U2286	U2287	U2288	U2289	U2290	U2291	U2292	U2293	U2294	U2295	U2296	U2297	U2298	U2299	U2300	U2301	U2302	U2303	U2304	U2305	U2306	U2307	U2308	U2309	U2310	U2311	U2312	U2313	U2314	U2315	U2316	U2317	U2318	U2319	U2320	U2321	U2322	U2323	U2324	U2325	U2326	U2327	U2328	U2329	U2330	U2331	U2332	U2333	U2334	U2335	U2336	U2337	U2338	U2339	U2340	U2341	U2342	U2343	U2344	U2345	U2346	U2347	U2348	U2349	U2350	U2351	U2352	U2353	U2354	U2355	U2356	U2357	U2358	U2359	U2360	U2361	U2362	U2363	U2364	U2365	U2366	U2367	U2368	U2369	U2370	U2371	U2372	U2373	U2374	U2375	U2376	U2377	U2378	U2379	U2380	U2381	U2382	U2383	U2384	U2385	U2386	U2387	U2388	U2389	U2390	U2391	U2392	U2393	U2394	U2395	U2396	U2397	U2398	U2399	U2400	U2401	U2402	U2403	U2404	U2405	U2406	U2407	U2408	U2409	U2410	U2411	U2412	U2413	U2414	U2415	U2416	U2417	U2418	U2419	U2420	U2421	U2422	U2423	U2424	U2425	U2426	U2427	U2428	U2429	U2430	U2431	U2432	U2433	U2434	U2435	U2436	U2437	U2438	U2439	U2440	U2441	U2442	U2443	U2444	U2445	U2446	U2447	U2448	U2449	U2450	U2451	U2452	U2453	U2454	U2455	U2456	U2457	U2458	U2459	U2460	U2461	U2462	U2463	U2464	U2465	U2466	U2467	U2468	U2469	U2470	U2471	U2472	U2473	U2474	U2475	U2476	U2477	U2478	U2479	U2480	U2481	U2482	U2483	U2484	U2485	U2486	U2487	U2488	U2489	U2490	U2491	U2492	U2493	U2494	U2495	U2496	U2497	U2498	U2499	U2500	U2501	U2502	U2503	U2504	U2505	U2506	U2507	U2508	U2509	U2510	U2511	U2512	U2513	U2514	U2515	U2516	U2517	U2518	U2519	U2520	U2521	U2522	U2523	U2524	U2525	U2526	U2527	U2528	U2529	U2530	U2531	U2532	U2533	U2534	U2535	U2536	U2537	U2538	U2539	U2540	U2541	U2542	U2543	U2544	U2545	U2546	U2547	U2548	U2549	U2550	U2551	U2552	U2553	U2554	U2555	U2556	U2557	U2558	U2559	U2560	U2561	U2562	U2563	U2564	U2565	U2566	U2567	U2568	U2569	U2570	U2571	U2572	U2573	U2574	U2575	U2576	U2577	U2578	U2579	U2580	U2581	U2582	U2583	U2584	U2585	U2586	U2587	U2588	U2589	U2590	U2591	U2592	U2593	U2594	U2595	U2596	U2597	U2598	U2599	U2600	U2601	U2602	U2603	U2604	U2605	U2606	U2607	U2608	U2609	U2610	U2611	U2612	U2613	U2614	U2615	U2616	U2617	U2618	U2619	U2620	U2621	U2622	U2623	U2624	U2625	U2626	U2627	U2628	U2629	U2630	U2631	U2632	U2633	U2634	U2635	U2636	U2637	U2638	U2639	U2640	U2641	U2642	U2643	U2644	U2645	U2646	U2647	U2648	U2649	U2650	U2651	U2652	U2653	U2654	U2655	U2656	U2657	U2658	U2659	U2660	U2661	U2662	U2663	U2664	U2665	U2666	U2667	U2668	U2669	U2670	U2671	U2672	U2673	U2674	U2675	U2676	U2677	U2678	U2679	U2680	U2681	U2682	U2683	U2684	U2685	U2686	U2687	U2688	U2689	U2690	U2691	U2692	U2693	U2694	U2695	U2696	U2697	U2698	U2699	U2700	U2701	U2702	U2703	U2704	U2705	U2706	U2707	U2708	U2709	U2710	U2711	U2712	U2713	U2714	U2715	U2716	U2717	U2718	U2719	U2720	U2721	U2722	U2723	U2724	U2725	U2726	U2727	U2728	U2729	U2730	U2731	U2732	U2733	U2734	U2735	U2736	U2737	U2738	U2739	U2740	U2741	U2742	U2743	U2744	U2745	U2746	U2747	U2748	U2749	U2750	U2751	U2752	U2753	U2754	U2755	U2756	U2757	U2758	U2759	U2760	U2761	U2762	U2763	U2764	U2765	U2766	U2767	U2768	U2769	U2770	U2771	U2772	U2773	U2774	U2775	U2776	U2777	U2778	U2779	U2780	U2781	U2782	U2783	U2784	U2785	U2786	U2787	U2788	U2789	U2790	U2791	U2792	U2793	U2794	U2795	U2796	U2797	U2798	U2799	U2800	U2801	U2802	U2803	U2804	U2805	U2806	U2807	U2808	U2809	U2810	U2811	U2812	U2813	U2814	U2815	U2816	U2817	U2818	U2819	U2820	U2821	U2822	U2823	U2824	U2825	U2826	U2827	U2828	U2829	U2830	U2831	U2832	U2833	U2834	U2835	U2836	U2837	U2838	U2839	U2840	U2841	U2842	U2843	U2844	U2845	U2846	U2847	U2848	U2849	U2850	U2851	U2852	U2853	U2854	U2855	U2856	U2857	U2858	U2859	U2860	U2861	U2862	U2863	U2864	U2865	U2866	U2867	U2868	U2869	U2870	U2871	U2872	U2873	U2874	U2875	U2876	U2877	U2878	U2879	U2880	U2881	U2882	U2883	U2884	U2885	U2886	U2887	U2888	U2889	U2890	U2891	U2892	U2893	U2894	U2895	U2896	U2897	U2898	U2899	U2900	U2901	U2902	U2903	U2904	U2905	U2906	U2907	U2908	U2909	U2910	U2911	U2912	U2913	U2914	U2915	U2916	U2917	U2918	U2919	U2920	U2921	U2922	U2923	U2924	U2925	U2926	U2927	U2928	U2929	U2930	U2931	U2932	U2933	U2934	U2935	U2936	U2937	U2938	U2939	U2940	U2941	U2942	U2943	U2944	U2945	U2946	U2947	U2948	U2949	U2950	U2951	U2952	U2953	U2954	U2955	U2956	U2957	U2958	U2959	U2960	U2961	U2962	U2963	U2964	U2965	U2966	U2967	U2968	U2969	U2970	U2971	U2972	U2973	U2974	U2975	U2976	U2977	U2978	U2979	U2980	U2981	U2982	U2983	U2984	U2985	U2986	U2987	U2988	U2989	U2990	U2991	U2992	U2993	U2994	U2995	U2996	U2997	U2998	U2999	U3000	U3001	U3002	U3003	U3004	U3005	U3006	U3007	U3008	U3009	U3010	U3011	U3012	U3013	U3014	U3015	U3016	U3017	U3018	U3019	U3020	U3021	U3022	U3023	U3024	U3025	U3026	U3027	U3028	U3029	U3030	U3031	U3032	U3033	U3034	U3035	U3036	U3037	U3038	U3039	U3040	U3041	U3042	U3043	U3044	U3045	U3046	U3047	U3048	U3049	U3050	U3051	U3052	U3053	U3054	U3055	U3056	U3057	U3058	U3059	U3060	U3061	U3062	U3063	U3064	U3065	U3066	U3067	U3068	U3069	U3070	U3071	U3072	U3073	U3074	U3075	U3076	U3077	U3078	U3079	U3080	U3081	U3082	U3083	U3084	U3085	U3086	U3087	U3088	U3089	U3090	U3091	U3092	U3093	U3094	U3095	U3096	U3097	U3098	U3099	U3100	U3101	U3102	U3103	U3104	U3105	U3106	U3107	U3108	U3109	U3110	U3111	U3112	U3113	U3114	U3115	U3116	U3117	U3118	U3119	U3120	U3121	U3122	U3123	U3124	U3125	U3126	U3127	U3128	U3129	U3130	U3131	U3132	U3133	U3134	U3135	U3136	U3137	U3138	U3139	U3140	U3141	U3142	U3143	U3144	U3145	U3146	U3147	U3148	U3149	U3150	U3151	U3152	U3153	U3154	U3155	U3156	U3157	U3158	U3159	U3160	U3161	U3162	U3163	U3164	U3165	U3166	U3167	U3168	U3169	U3170	U3171	U3172	U3173	U3174	U3175	U3176	U3177	U3178	U3179	U3180	U3181	U3182	U3183	U3184	U3185	U3186	U3187	U3188	U3189	U3190	U3191	U3192	U3193	U3194	U3195	U3196	U3197	U3198	U3199	U3200	U3201	U3202	U3203	U3204	U3205	U3206	U3207	U3208	U3209	U3210	U3211	U3212	U3213	U3214	U3215	U3216	U3217	U3218	U3219	U3220	U3221	U3222	U3223	U3224	U3225	U3226	U3227	U3228	U3229	U3230	U3231	U3232	U3233	U3234	U3235	U3236	U3237	U3238	U3239	U3240	U3241	U3242	U3243	U3244	U3245	U3246	U3247	U3248	U3249	U3250	U3251	U3252	U3253	U3254	U3255	U3256	U3257	U3258	U3259	U3260	U3261	U3262	U3263	U3264	U3265	U3266	U3267	U3268	U3269	U3270	U3271	U3272	U3273	U3274	U3275	U3276	U3277	U3278	U3279	U3280	U3281	U3282	U3283	U3284	U3285	U3286	U3287	U3288	U3289	U3290	U3291	U3292	U3293	U3294	U3295	U3296	U3297	U3298	U3299	U3300	U3301	U3302	U3303	U3304	U3305	U3306	U3307	U3308	U3309	U3310	U3311	U3312	U3313	U3314	U3315	U3316	U3317	U3318	U3319	U3320	U3321	U3322	U3323	U3324	U3325	U3326	U3327	U3328	U3329	U3330	U3331	U3332	U3333	U3334	U3335	U3336	U3337	U3338	U3339	U3340	U3341	U3342	U3343	U3344	U3345	U3346	U3347	U3348	U3349	U3350	U3351	U3352	U3353	U3354	U3355	U3356	U3357	U3358	U3359	U3360	U3361	U3362	U3363	U3364	U3365	U3366	U3367	U3368	U3369	U3370	U3371	U3372	U3373	U3374	U3375	U3376	U3377	U3378	U3379	U3380	U3381	U3382	U3383	U3384	U3385	U3386	U3387	U3388	U3389	U3390	U3391	U3392	U3393	U3394	U3395	U3396	U3397	U3398	U3399	U3400	U3401	U3402	U3403	U3404	U3405	U3406	U3407	U3408</



4 Data and refinement statistics

Property	Value	Source
Space group	I 2 2 2	Depositor
Cell constants a, b, c, α , β , γ	169.90Å 408.90Å 694.50Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	30.00 – 3.30 30.00 – 3.31	Depositor EDS
% Data completeness (in resolution range)	94.1 (30.00-3.30) 93.1 (30.00-3.31)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	2.14 (at 3.31Å)	Xtriage
Refinement program	CNS	Depositor
R, R_{free}	0.276 , 0.318 0.240 , (Not available)	Depositor DCC
R_{free} test set	No test flags present.	wwPDB-VP
Wilson B-factor (Å ²)	67.5	Xtriage
Anisotropy	0.110	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.18 , 53.6	EDS
L-test for twinning ²	$\langle L \rangle = 0.42$, $\langle L^2 \rangle = 0.25$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.88	EDS
Total number of atoms	84475	wwPDB-VP
Average B, all atoms (Å ²)	49.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.08% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

²Theoretical values of $\langle |L| \rangle$, $\langle L^2 \rangle$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality ⓘ

5.1 Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: DHA, BB9, DBU, QUA, NH2, TS9, MG, MH6, DCY

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$
4	4	0.56	0/298	0.92	1/390 (0.3%)
5	5	1.73	0/31	1.26	0/38
6	A	0.68	0/1862	1.28	19/2510 (0.8%)
7	B	1.00	4/1567 (0.3%)	1.48	29/2105 (1.4%)
8	C	0.79	1/1529 (0.1%)	1.33	20/2070 (1.0%)
9	D	0.56	0/1419	1.07	12/1903 (0.6%)
10	E	0.60	0/1308	1.19	10/1771 (0.6%)
11	F	0.64	1/1063 (0.1%)	1.17	12/1440 (0.8%)
12	G	0.84	0/1138	1.46	23/1539 (1.5%)
13	H	1.07	3/1007 (0.3%)	1.47	15/1352 (1.1%)
14	I	0.79	1/1081 (0.1%)	1.34	11/1448 (0.8%)
15	J	0.83	1/1113 (0.1%)	1.42	22/1486 (1.5%)
16	K	1.14	2/886 (0.2%)	1.46	8/1188 (0.7%)
17	L	0.60	0/785	1.29	10/1048 (1.0%)
18	M	0.92	1/884 (0.1%)	1.88	20/1186 (1.7%)
19	N	0.77	0/994	1.26	11/1323 (0.8%)
20	O	0.68	0/750	1.21	4/1000 (0.4%)
21	P	0.97	0/1027	1.32	11/1373 (0.8%)
22	Q	0.80	0/737	1.39	18/988 (1.8%)
23	R	0.70	0/835	1.57	18/1121 (1.6%)
24	S	0.61	0/1370	1.07	11/1862 (0.6%)
25	T	0.67	0/633	1.19	5/838 (0.6%)
26	U	0.78	2/556 (0.4%)	1.53	15/741 (2.0%)
27	V	0.54	0/537	1.04	4/714 (0.6%)
28	W	0.75	0/426	1.28	6/568 (1.1%)
29	X	0.60	12/64561 (0.0%)	1.05	479/100708 (0.5%)
30	Y	0.95	0/469	1.65	13/629 (2.1%)
31	Z	0.40	0/2904	0.77	0/4525
All	All	0.65	28/91770 (0.0%)	1.12	807/137864 (0.6%)

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
6	A	0	1
19	N	0	2
22	Q	0	1
29	X	2	257
30	Y	0	1
31	Z	0	4
All	All	2	266

All (28) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
13	H	2	ILE	CA-CB	-7.99	1.44	1.54
29	X	1856	U	O3'-P	-6.91	1.50	1.61
29	X	1056	U	O5'-C5'	6.50	1.52	1.42
29	X	1855	G	O3'-P	-6.49	1.51	1.61
11	F	52	ILE	CA-CB	6.44	1.60	1.53
29	X	551	A	O3'-P	-6.44	1.51	1.61
29	X	1856	U	C4'-C3'	-6.42	1.43	1.52
7	B	127	ALA	CA-CB	-6.31	1.44	1.53
29	X	557	U	C1'-N1	6.25	1.56	1.47
29	X	1860	A	O3'-P	-6.04	1.52	1.61
13	H	3	MET	SD-CE	5.95	1.94	1.79
7	B	9	ILE	CA-CB	-5.87	1.47	1.54
13	H	10	VAL	CA-CB	-5.83	1.47	1.54
29	X	1056	U	P-O5'	5.68	1.68	1.59
29	X	415	A	C3'-O3'	5.61	1.50	1.42
7	B	126	PRO	CA-C	-5.61	1.44	1.52
16	K	94	TYR	CA-C	-5.56	1.46	1.52
29	X	1859	A	O3'-P	-5.53	1.52	1.61
26	U	39	LYS	CA-C	-5.41	1.50	1.53
7	B	164	ARG	CA-C	-5.33	1.46	1.52
15	J	18	MET	CG-SD	5.20	1.93	1.80
26	U	30	VAL	CA-CB	5.10	1.61	1.54
18	M	29	PRO	CA-C	5.09	1.59	1.52
16	K	8	ARG	CA-C	5.08	1.59	1.52
8	C	47	THR	CA-CB	5.07	1.62	1.53
29	X	728	G	C3'-O3'	5.05	1.49	1.42
29	X	1055	A	C3'-O3'	5.01	1.49	1.42
14	I	29	THR	CA-CB	5.01	1.61	1.53

All (807) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
18	M	28	ARG	CA-C-N	27.84	154.64	119.84
18	M	28	ARG	C-N-CA	27.84	154.64	119.84
29	X	1055	A	N9-C1'-C2'	-24.20	75.70	112.00
29	X	2324	G	N9-C1'-C2'	19.26	142.88	114.00
29	X	557	U	N1-C1'-C2'	17.00	139.50	114.00
29	X	417	C	N1-C1'-C2'	16.23	138.35	114.00
12	G	69	ASP	N-CA-C	-13.01	97.38	113.38
29	X	1856	U	P-O3'-C3'	-12.87	100.89	120.20
29	X	1854	G	P-O3'-C3'	-12.51	101.44	120.20
14	I	36	GLY	N-CA-C	12.41	125.99	112.33
29	X	1861	G	P-O3'-C3'	-12.36	101.66	120.20
29	X	1975	G	C2'-C3'-O3'	12.19	127.79	109.50
29	X	2854	G	N9-C1'-C2'	12.19	132.28	114.00
6	A	211	ARG	N-CA-C	-11.93	97.20	112.23
29	X	731	A	N9-C1'-C2'	11.84	129.76	112.00
29	X	1632	A	N9-C1'-C2'	11.79	131.69	114.00
12	G	120	SER	N-CA-C	-11.75	98.37	113.17
7	B	125	GLY	CA-C-N	11.37	134.05	119.84
7	B	125	GLY	C-N-CA	11.37	134.05	119.84
16	K	90	ARG	CA-C-N	11.35	134.03	119.84
16	K	90	ARG	C-N-CA	11.35	134.03	119.84
23	R	78	ALA	N-CA-C	-11.11	101.19	112.97
29	X	1632	A	C2'-C3'-O3'	11.02	126.04	109.50
18	M	28	ARG	C-N-CD	-11.01	79.85	125.00
29	X	2325	A	N9-C1'-C2'	10.97	128.46	112.00
29	X	556	A	N9-C1'-C2'	10.97	130.46	114.00
17	L	65	THR	N-CA-C	-10.96	100.01	113.50
29	X	558	G	C3'-C2'-C1'	-10.93	90.37	101.30
29	X	2327	U	P-O3'-C3'	-10.82	103.97	120.20
29	X	2326	C	O4'-C4'-C3'	-10.72	93.28	104.00
29	X	1278	A	N9-C1'-C2'	10.60	127.91	112.00
17	L	34	SER	N-CA-C	-10.56	100.39	113.38
19	N	67	ALA	N-CA-C	-10.38	100.64	113.20
29	X	1857	G	P-O3'-C3'	-10.24	104.83	120.20
26	U	33	LYS	N-CA-C	-10.06	99.72	112.90
8	C	74	VAL	CA-C-N	10.06	132.42	119.84
8	C	74	VAL	C-N-CA	10.06	132.42	119.84
18	M	3	THR	N-CA-C	-9.92	92.99	109.46
29	X	1723	U	C2'-C3'-O3'	9.90	124.36	109.50
23	R	99	VAL	N-CA-C	-9.86	100.18	113.00
23	R	40	LEU	CA-C-N	9.76	132.03	119.84
23	R	40	LEU	C-N-CA	9.76	132.03	119.84

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
15	J	19	THR	N-CA-C	9.73	123.87	109.07
18	M	103	LYS	N-CA-C	9.67	125.72	111.02
29	X	1288	A	N9-C1'-C2'	9.64	126.46	112.00
13	H	85	ASP	N-CA-C	-9.61	100.89	111.36
29	X	728	G	P-O3'-C3'	9.59	134.58	120.20
26	U	18	VAL	N-CA-C	9.55	120.19	108.53
29	X	1056	U	O4'-C4'-C3'	-9.51	94.49	104.00
29	X	2841	U	C2'-C3'-O3'	9.47	123.71	109.50
21	P	60	ILE	CA-C-N	9.47	129.22	119.19
21	P	60	ILE	C-N-CA	9.47	129.22	119.19
30	Y	35	GLN	N-CA-C	9.46	123.58	110.06
29	X	1979	C	C1'-C2'-O2'	-9.43	97.65	111.80
29	X	1859	A	P-O3'-C3'	-9.40	106.09	120.20
29	X	2756	A	C2'-C3'-O3'	9.37	123.55	109.50
23	R	64	ASN	CA-C-N	9.31	131.47	119.84
23	R	64	ASN	C-N-CA	9.31	131.47	119.84
15	J	76	THR	N-CA-C	9.30	122.39	109.18
29	X	2854	G	C4'-C3'-O3'	-9.29	95.47	109.40
26	U	51	ILE	N-CA-C	9.28	121.09	108.84
23	R	109	ALA	N-CA-C	-9.27	102.55	113.21
29	X	2823	G	C2'-C3'-O3'	9.26	123.40	109.50
29	X	460	U	C4'-C3'-O3'	-9.23	95.55	109.40
12	G	117	GLU	N-CA-C	-9.22	101.31	111.36
29	X	2034	A	N9-C1'-C2'	9.21	127.82	114.00
29	X	795	A	C2'-C3'-O3'	-9.21	95.69	109.50
29	X	2608	A	C2'-C3'-O3'	9.21	123.31	109.50
29	X	1264	C	N1-C1'-C2'	9.15	125.72	112.00
29	X	1142	G	N9-C1'-C2'	9.14	127.70	114.00
29	X	777	A	C2'-C3'-O3'	9.10	123.15	109.50
29	X	1285	A	C2'-C3'-O3'	9.07	123.11	109.50
6	A	231	HIS	CA-C-N	9.06	131.16	119.84
6	A	231	HIS	C-N-CA	9.06	131.16	119.84
29	X	804	C	C4'-C3'-O3'	-9.05	95.83	109.40
29	X	1314	A	N9-C1'-C2'	9.00	127.50	114.00
29	X	729	A	O4'-C4'-C3'	-8.95	95.05	104.00
26	U	39	LYS	N-CA-C	8.95	116.12	108.78
29	X	1853	C	P-O3'-C3'	-8.94	106.79	120.20
29	X	2624	G	C2'-C3'-O3'	-8.89	100.36	113.70
7	B	59	VAL	N-CA-C	8.88	120.51	107.37
30	Y	4	HIS	CA-C-N	-8.74	111.02	119.85
30	Y	4	HIS	C-N-CA	-8.74	111.02	119.85
29	X	728	G	N9-C1'-C2'	8.70	125.05	112.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
23	R	25	LEU	N-CA-C	-8.65	99.37	110.53
29	X	580	A	N9-C1'-C2'	8.65	126.97	114.00
14	I	87	THR	N-CA-C	-8.62	102.93	113.19
13	H	124	MET	N-CA-C	8.54	121.36	111.11
8	C	72	ARG	N-CA-C	-8.54	102.18	112.59
30	Y	48	ASN	N-CA-C	8.47	120.43	111.03
29	X	2545	A	C4'-C3'-O3'	-8.43	100.35	113.00
29	X	1979	C	N1-C1'-C2'	8.43	126.64	114.00
29	X	557	U	C3'-C2'-C1'	8.42	109.92	101.50
12	G	66	HIS	N-CA-C	-8.38	103.04	113.18
29	X	556	A	C4'-C3'-O3'	8.38	121.97	109.40
29	X	1055	A	P-O3'-C3'	8.36	132.74	120.20
29	X	683	A	C2'-C3'-O3'	8.34	122.01	109.50
29	X	1790	G	C2'-C3'-O3'	8.32	121.97	109.50
29	X	556	A	P-O3'-C3'	8.31	132.67	120.20
29	X	1055	A	C4'-C3'-O3'	8.27	125.40	113.00
29	X	417	C	C3'-C2'-C1'	8.26	109.76	101.50
29	X	2319	G	P-O3'-C3'	-8.26	107.81	120.20
29	X	415	A	N9-C1'-C2'	8.25	124.38	112.00
15	J	88	LYS	N-CA-C	8.25	119.14	108.34
15	J	48	ILE	N-CA-C	-8.24	103.78	111.45
29	X	1979	C	C3'-C2'-O2'	-8.22	102.27	114.60
22	Q	58	VAL	CA-C-N	8.20	130.09	119.84
22	Q	58	VAL	C-N-CA	8.20	130.09	119.84
8	C	170	LEU	CA-C-N	8.19	130.07	119.84
8	C	170	LEU	C-N-CA	8.19	130.07	119.84
29	X	690	A	C2'-C3'-O3'	-8.15	101.47	113.70
22	Q	32	LYS	N-CA-C	-8.15	98.21	110.28
29	X	1167	A	N9-C1'-C2'	8.14	124.21	112.00
29	X	2320	G	P-O3'-C3'	-8.12	108.02	120.20
15	J	9	LYS	N-CA-C	8.12	121.24	111.82
19	N	54	LYS	N-CA-C	-8.09	102.15	110.97
23	R	71	GLN	N-CA-C	-8.08	96.51	109.76
29	X	1854	G	C2'-C3'-O3'	-8.07	101.60	113.70
29	X	765	C	C2'-C3'-O3'	8.03	121.54	109.50
10	E	148	VAL	N-CA-C	-8.01	103.05	110.82
29	X	2824	C	N1-C1'-C2'	8.01	126.01	114.00
16	K	102	THR	N-CA-C	-7.99	98.69	110.52
29	X	1862	C	O4'-C4'-C3'	-7.96	96.04	104.00
23	R	86	PRO	N-CA-C	-7.92	106.44	114.68
29	X	2404	A	C2'-C3'-O3'	7.92	121.38	109.50
29	X	218	A	N9-C1'-C2'	7.89	125.83	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	1353	A	N9-C1'-C2'	7.88	125.82	114.00
29	X	2322	U	C4'-C3'-O3'	7.87	124.81	113.00
14	I	22	GLY	CA-C-N	7.86	129.23	120.66
14	I	22	GLY	C-N-CA	7.86	129.23	120.66
18	M	40	ARG	N-CA-C	7.86	122.71	113.20
26	U	67	LEU	N-CA-C	-7.85	102.97	112.54
12	G	76	GLN	N-CA-C	-7.84	101.33	113.02
29	X	1716	G	C2'-C3'-O3'	7.81	121.22	109.50
17	L	93	SER	N-CA-C	-7.81	102.71	111.07
29	X	580	A	C4'-C3'-O3'	-7.81	97.69	109.40
20	O	61	VAL	N-CA-C	7.80	117.86	110.53
26	U	36	GLY	N-CA-C	-7.79	100.64	113.02
29	X	2496	C	N1-C1'-C2'	7.78	123.67	112.00
17	L	36	LYS	N-CA-C	-7.78	102.00	112.26
29	X	2229	G	C4'-C3'-O3'	-7.76	97.76	109.40
29	X	555	U	O4'-C4'-C3'	-7.74	96.26	104.00
29	X	1265	G	N9-C1'-C2'	7.74	125.60	114.00
29	X	818	G	C4'-C3'-O3'	-7.70	97.85	109.40
29	X	1799	A	C2'-C3'-O3'	7.69	121.04	109.50
29	X	417	C	C4'-C3'-O3'	7.68	120.93	109.40
29	X	1664	G	N9-C1'-C2'	7.67	125.51	114.00
19	N	101	ARG	N-CA-C	7.65	120.73	111.40
29	X	1441	A	C2'-C3'-O3'	7.65	120.98	109.50
13	H	130	ALA	CA-C-N	7.62	127.33	119.56
13	H	130	ALA	C-N-CA	7.62	127.33	119.56
29	X	1862	C	C4'-C3'-C2'	7.61	110.21	102.60
29	X	2015	G	C2'-C3'-O3'	7.61	120.91	109.50
29	X	1775	A	C2'-C3'-O3'	7.58	120.87	109.50
29	X	2325	A	C2'-C3'-O3'	7.58	125.07	113.70
13	H	70	VAL	N-CA-C	7.56	119.69	108.96
29	X	2405	A	C4'-C3'-O3'	7.55	120.72	109.40
28	W	41	ARG	N-CA-C	-7.55	102.41	111.69
9	D	25	VAL	N-CA-C	-7.54	103.94	113.22
29	X	2846	G	C4'-C3'-O3'	-7.54	101.69	113.00
29	X	1927	U	C2'-C3'-O3'	7.54	120.80	109.50
29	X	2189	A	P-O3'-C3'	7.53	131.50	120.20
29	X	747	A	C5'-C4'-C3'	7.52	127.28	116.00
11	F	60	TYR	N-CA-C	-7.52	100.14	111.34
29	X	89	A	C4'-C3'-O3'	-7.51	101.74	113.00
29	X	841	G	N9-C1'-C2'	7.49	123.23	112.00
29	X	2197	U	C3'-C2'-C1'	-7.49	93.81	101.30
18	M	31	ASP	N-CA-C	7.46	119.93	110.24

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	571	U	N1-C1'-C2'	7.44	125.16	114.00
15	J	135	ARG	N-CA-C	7.44	118.33	108.07
29	X	418	C	N1-C1'-C2'	7.43	123.15	112.00
7	B	168	GLN	N-CA-C	7.42	121.64	110.14
29	X	1811	A	C2'-C3'-O3'	7.42	120.63	109.50
12	G	144	MET	N-CA-C	7.39	119.34	111.28
29	X	1963	G	C2'-C3'-O3'	7.39	120.59	109.50
15	J	21	ASP	N-CA-C	7.38	120.09	110.43
25	T	19	LYS	N-CA-C	7.37	126.51	110.80
21	P	64	ALA	N-CA-C	-7.34	103.42	112.38
29	X	1033	G	N9-C1'-C2'	7.34	123.01	112.00
20	O	50	ASP	N-CA-C	-7.33	104.22	113.01
22	Q	72	ARG	N-CA-C	-7.32	101.41	110.41
29	X	1852	G	P-O3'-C3'	-7.31	109.24	120.20
29	X	2313	G	N9-C1'-C2'	7.30	124.95	114.00
29	X	2617	G	C4'-C3'-O3'	-7.30	102.05	113.00
7	B	136	ARG	N-CA-C	7.29	119.72	110.24
16	K	65	LEU	N-CA-C	-7.27	103.29	111.14
19	N	50	ARG	N-CA-C	-7.24	102.99	111.03
29	X	2437	G	C4'-C3'-O3'	-7.24	102.14	113.00
29	X	415	A	P-O3'-C3'	7.23	131.04	120.20
29	X	1854	G	C4'-C3'-O3'	7.23	123.84	113.00
29	X	1139	A	C2'-C3'-O3'	7.21	120.32	109.50
29	X	2823	G	N9-C1'-C2'	7.20	124.80	114.00
14	I	32	ARG	N-CA-C	-7.20	97.11	108.63
29	X	2593	A	N9-C1'-C2'	7.20	124.80	114.00
29	X	1862	C	P-O3'-C3'	-7.19	109.42	120.20
8	C	100	ARG	N-CA-C	-7.18	103.45	111.71
23	R	21	THR	N-CA-C	-7.17	98.64	110.17
29	X	1858	C	C4'-C3'-O3'	-7.15	102.27	113.00
29	X	984	A	N9-C1'-C2'	7.14	124.71	114.00
29	X	1854	G	O3'-P-O5'	7.13	114.70	104.00
29	X	2591	C	C2'-C3'-O3'	-7.13	103.00	113.70
29	X	2592	U	C4'-C3'-O3'	-7.12	102.32	113.00
8	C	64	THR	N-CA-C	-7.10	104.75	113.41
29	X	1337	G	C4'-C3'-O3'	-7.09	98.77	109.40
7	B	200	SER	N-CA-C	-7.08	101.15	110.43
29	X	1153	A	C4'-C3'-O3'	-7.08	102.39	113.00
22	Q	61	LYS	N-CA-C	7.07	125.87	110.80
29	X	542	A	C4'-C3'-O3'	-7.06	102.41	113.00
30	Y	13	LYS	N-CA-C	-7.05	102.72	111.75
12	G	130	ALA	N-CA-C	-7.05	103.93	114.64

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
26	U	48	LYS	N-CA-C	7.05	117.17	107.73
29	X	780	U	C2'-C3'-O3'	7.04	124.26	113.70
29	X	788	G	C2'-C3'-O3'	7.04	120.05	109.50
29	X	814	G	C4'-C3'-O3'	7.04	119.95	109.40
29	X	416	U	N1-C1'-C2'	7.03	122.54	112.00
29	X	34	U	C4'-C3'-O3'	-7.02	102.47	113.00
29	X	1266	G	N9-C1'-C2'	7.00	124.50	114.00
25	T	17	ASN	CA-C-N	6.99	128.57	119.84
25	T	17	ASN	C-N-CA	6.99	128.57	119.84
29	X	417	C	P-O3'-C3'	6.97	130.66	120.20
6	A	171	ASP	N-CA-C	-6.96	103.78	112.90
15	J	85	GLY	N-CA-C	-6.96	100.58	110.75
29	X	1869	A	P-O5'-C5'	-6.96	110.45	120.90
29	X	1856	U	C4'-C3'-C2'	6.96	109.56	102.60
29	X	2669	C	C2'-C3'-O3'	-6.95	99.07	109.50
17	L	23	ALA	N-CA-C	-6.95	103.76	111.82
29	X	334	G	C2'-C3'-O3'	6.95	119.92	109.50
11	F	141	GLY	CA-C-N	6.94	128.51	119.84
11	F	141	GLY	C-N-CA	6.94	128.51	119.84
27	V	59	GLU	N-CA-C	-6.93	104.96	113.41
29	X	2034	A	C4'-C3'-O3'	-6.92	99.01	109.40
29	X	1947	G	N9-C1'-C2'	6.92	124.38	114.00
29	X	2323	U	C3'-C2'-C1'	-6.92	94.38	101.30
29	X	1337	G	N9-C1'-C2'	6.92	124.38	114.00
18	M	81	PHE	N-CA-C	6.89	120.43	109.40
29	X	558	G	C4'-C3'-O3'	6.88	123.33	113.00
29	X	752	G	C2'-C3'-O3'	-6.88	99.18	109.50
29	X	1632	A	C1'-C2'-O2'	-6.88	101.48	111.80
8	C	71	ASP	N-CA-C	-6.87	100.05	109.95
30	Y	36	CYS	CB-CA-C	6.87	124.09	110.42
29	X	2198	U	N1-C1'-C2'	6.86	122.29	112.00
10	E	95	ARG	N-CA-C	6.86	118.81	108.46
7	B	51	TYR	N-CA-C	6.83	125.36	110.80
19	N	40	LEU	N-CA-C	-6.83	104.59	113.12
30	Y	51	TYR	N-CA-C	6.82	120.47	110.17
29	X	985	G	N9-C1'-C2'	6.81	124.21	114.00
29	X	1856	U	C4'-C3'-O3'	-6.80	102.80	113.00
29	X	2476	A	N9-C1'-C2'	6.80	124.20	114.00
13	H	102	GLN	N-CA-C	-6.80	104.67	114.12
23	R	6	ALA	N-CA-C	6.79	125.27	110.80
29	X	551	A	P-O3'-C3'	6.79	130.38	120.20
29	X	2521	A	N9-C1'-C2'	6.78	124.17	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	Q	64	ARG	N-CA-C	-6.77	101.25	111.34
12	G	80	VAL	N-CA-C	6.77	117.62	107.80
17	L	35	SER	N-CA-C	-6.76	99.27	109.96
29	X	955	G	N9-C1'-C2'	6.76	122.14	112.00
29	X	1442	C	C2'-C3'-O3'	6.75	119.63	109.50
29	X	400	U	C4'-C3'-O3'	-6.75	99.28	109.40
29	X	683	A	N9-C1'-C2'	6.74	124.11	114.00
29	X	1631	C	N1-C1'-C2'	6.74	122.11	112.00
29	X	2588	U	C4'-C3'-O3'	-6.74	102.89	113.00
27	V	23	LYS	N-CA-C	-6.74	104.01	111.82
6	A	91	ARG	N-CA-C	-6.72	99.20	109.41
26	U	39	LYS	CB-CA-C	-6.71	107.40	117.07
6	A	222	ARG	N-CA-C	6.71	120.10	110.10
29	X	2428	U	N1-C1'-C2'	6.71	124.07	114.00
12	G	75	ILE	N-CA-C	6.70	118.79	109.55
29	X	312	G	N9-C1'-C2'	6.70	124.04	114.00
19	N	41	ASN	N-CA-C	-6.67	104.09	111.82
10	E	40	GLU	N-CA-C	-6.67	105.55	113.21
29	X	343	A	N9-C1'-C2'	6.66	121.99	112.00
29	X	460	U	N1-C1'-C2'	6.65	123.98	114.00
29	X	925	U	C4'-C3'-O3'	6.64	119.37	109.40
29	X	1152	C	N1-C1'-C2'	6.64	121.96	112.00
29	X	728	G	O3'-P-O5'	6.64	113.96	104.00
29	X	1852	G	O4'-C4'-C3'	-6.64	97.36	104.00
29	X	2261	G	C4'-C3'-O3'	6.62	119.33	109.40
29	X	1031	C	C2'-C3'-O3'	6.62	119.43	109.50
11	F	55	VAL	N-CA-C	6.61	118.62	107.18
29	X	1927	U	N1-C1'-C2'	6.60	123.90	114.00
12	G	95	LEU	N-CA-C	-6.59	105.77	113.88
14	I	16	ARG	N-CA-C	6.59	119.03	110.53
6	A	254	THR	N-CA-C	6.59	120.26	111.30
6	A	261	ARG	N-CA-C	6.59	117.16	108.07
29	X	469	G	C2'-C3'-O3'	6.58	119.37	109.50
11	F	99	LEU	N-CA-C	6.58	116.96	108.34
26	U	49	LYS	N-CA-C	6.57	118.54	108.42
29	X	995	A	C4'-C3'-O3'	-6.56	103.15	113.00
29	X	2190	A	C4'-C3'-O3'	6.56	122.84	113.00
29	X	2810	A	C2'-C3'-O3'	-6.56	99.67	109.50
21	P	78	ASN	N-CA-C	-6.55	103.15	112.13
29	X	731	A	O4'-C4'-C3'	6.54	110.55	104.00
15	J	77	LYS	N-CA-C	6.54	118.71	108.96
29	X	1582	A	N9-C1'-C2'	6.54	123.81	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
8	C	162	ARG	N-CA-C	-6.54	103.92	112.41
15	J	41	ALA	N-CA-C	6.52	116.88	108.34
24	S	15	ASP	N-CA-C	-6.52	101.58	111.56
10	E	89	LEU	N-CA-C	-6.52	99.96	110.32
29	X	1855	G	O3'-P-O5'	6.51	113.77	104.00
29	X	1139	A	N9-C1'-C2'	6.51	123.76	114.00
29	X	219	G	N9-C1'-C2'	6.50	121.75	112.00
29	X	2807	U	C4'-C3'-O3'	-6.48	103.27	113.00
29	X	2608	A	N9-C1'-C2'	6.48	123.72	114.00
29	X	2324	G	O4'-C1'-N9	-6.48	98.48	108.20
26	U	53	GLU	N-CA-C	6.46	116.99	107.88
29	X	1860	A	C4'-C3'-O3'	-6.46	103.31	113.00
29	X	467	U	N1-C1'-C2'	6.46	121.69	112.00
29	X	804	C	N1-C1'-C2'	6.45	123.67	114.00
29	X	1975	G	N9-C1'-C2'	6.43	123.64	114.00
12	G	108	GLY	N-CA-C	-6.43	97.95	113.18
29	X	2229	G	C2'-C3'-O3'	6.42	119.14	109.50
7	B	144	ARG	N-CA-C	6.42	118.33	109.29
16	K	95	THR	N-CA-C	-6.41	97.15	110.80
30	Y	34	PRO	CB-CA-C	6.40	120.54	110.49
29	X	1581	C	N1-C1'-C2'	6.40	123.60	114.00
29	X	1250	A	C4'-C3'-O3'	-6.39	103.41	113.00
29	X	1771	A	C4'-C3'-O3'	-6.37	99.85	109.40
15	J	118	ALA	N-CA-C	-6.36	105.37	113.01
29	X	1278	A	C2'-C3'-O3'	6.36	123.24	113.70
29	X	871	U	N1-C1'-C2'	6.35	121.53	112.00
29	X	2303	C	C4'-C3'-O3'	-6.35	103.47	113.00
7	B	138	PRO	N-CA-C	-6.35	101.92	111.57
29	X	2824	C	C2'-C3'-O3'	6.34	119.02	109.50
23	R	77	HIS	CA-C-O	6.34	122.33	118.33
8	C	49	ALA	N-CA-C	-6.32	104.13	112.34
29	X	177	U	N1-C1'-C2'	6.32	121.48	112.00
29	X	516	G	C4'-C3'-O3'	-6.32	103.52	113.00
29	X	2325	A	P-O3'-C3'	6.32	129.68	120.20
13	H	25	LEU	N-CA-C	-6.32	102.38	110.53
10	E	42	THR	N-CA-C	6.31	119.14	110.24
29	X	1633	C	N1-C1'-C2'	6.31	123.46	114.00
29	X	613	A	N9-C1'-C2'	6.30	123.46	114.00
29	X	2198	U	P-O5'-C5'	-6.30	111.45	120.90
29	X	728	G	C2'-C3'-O3'	6.29	123.14	113.70
29	X	730	C	N1-C1'-C2'	6.29	121.44	112.00
29	X	2496	C	C4'-C3'-O3'	-6.29	103.57	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	490	A	N9-C1'-C2'	6.28	123.42	114.00
29	X	2545	A	N9-C1'-C2'	6.27	121.40	112.00
24	S	73	LYS	N-CA-C	-6.26	101.51	110.59
29	X	2038	C	C2'-C3'-O3'	-6.26	104.31	113.70
29	X	1407	G	C4'-C3'-O3'	-6.26	103.61	113.00
14	I	35	LYS	N-CA-C	-6.26	97.47	110.80
28	W	12	ARG	CA-C-N	6.25	126.22	119.78
28	W	12	ARG	C-N-CA	6.25	126.22	119.78
29	X	1153	A	C2'-C3'-O3'	6.25	123.08	113.70
29	X	1865	C	O4'-C4'-C3'	-6.25	97.75	104.00
29	X	2015	G	N9-C1'-C2'	6.25	123.37	114.00
8	C	17	LEU	CA-C-N	6.25	127.65	119.84
8	C	17	LEU	C-N-CA	6.25	127.65	119.84
8	C	169	VAL	N-CA-C	6.24	117.26	110.21
18	M	29	PRO	CA-N-CD	-6.24	103.27	112.00
29	X	118	U	N1-C1'-C2'	6.24	123.36	114.00
30	Y	26	THR	N-CA-C	-6.24	101.25	110.48
9	D	126	GLY	N-CA-C	-6.23	106.64	115.30
29	X	1810	U	N1-C1'-C2'	6.23	121.35	112.00
24	S	32	PHE	N-CA-C	6.22	118.64	109.24
29	X	59	G	C4'-C3'-O3'	-6.22	103.67	113.00
11	F	134	MET	N-CA-C	-6.21	103.83	111.40
25	T	58	THR	N-CA-C	-6.20	102.33	110.33
12	G	103	TYR	N-CA-C	6.20	119.82	107.62
29	X	1855	G	P-O3'-C3'	-6.18	110.92	120.20
29	X	2494	C	C4'-C3'-O3'	-6.18	103.73	113.00
7	B	16	LYS	N-CA-C	-6.18	97.11	107.80
24	S	2	GLU	N-CA-C	6.18	119.55	112.57
29	X	1561	A	C2'-C3'-O3'	6.17	122.96	113.70
29	X	730	C	P-O3'-C3'	6.16	129.44	120.20
29	X	1036	G	C2'-C3'-O3'	6.16	118.74	109.50
29	X	1716	G	N9-C1'-C2'	6.16	123.24	114.00
29	X	1058	G	N9-C1'-C2'	6.15	121.23	112.00
21	P	123	HIS	N-CA-C	-6.15	99.18	108.96
29	X	2693	U	C1'-C2'-O2'	-6.14	102.59	111.80
29	X	1167	A	C4'-C3'-O3'	-6.14	103.79	113.00
20	O	90	PHE	N-CA-C	6.14	116.38	108.34
12	G	90	LEU	N-CA-C	-6.13	100.28	108.74
29	X	541	C	C2'-C3'-O3'	6.12	118.69	109.50
7	B	179	GLU	N-CA-C	-6.12	97.77	110.80
11	F	45	THR	N-CA-C	-6.11	105.67	113.01
27	V	9	LEU	N-CA-C	6.11	119.51	110.46

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	A	136	VAL	CA-C-N	6.11	126.06	119.76
6	A	136	VAL	C-N-CA	6.11	126.06	119.76
29	X	1056	U	N1-C1'-C2'	-6.11	102.83	112.00
29	X	1288	A	O4'-C4'-C3'	-6.11	97.89	104.00
29	X	1749	G	O4'-C4'-C3'	-6.10	100.00	106.10
29	X	571	U	C4'-C3'-O3'	-6.09	100.26	109.40
29	X	447	U	N1-C1'-C2'	6.09	121.13	112.00
23	R	101	GLY	N-CA-C	-6.08	105.18	113.27
29	X	757	U	C4'-C3'-O3'	-6.08	103.89	113.00
29	X	1923	U	C2'-C3'-O3'	6.07	118.61	109.50
29	X	2075	U	C2'-C3'-O3'	6.07	118.60	109.50
29	X	59	G	N9-C1'-C2'	6.07	121.10	112.00
29	X	1865	C	P-O3'-C3'	-6.06	111.10	120.20
29	X	34	U	N1-C1'-C2'	6.06	121.09	112.00
29	X	818	G	N9-C1'-C2'	6.06	123.08	114.00
11	F	79	ARG	N-CA-C	-6.06	103.84	111.11
18	M	43	ASN	N-CA-C	-6.06	104.97	112.90
6	A	188	GLU	N-CA-C	-6.05	105.89	113.28
29	X	1407	G	N9-C1'-C2'	6.05	121.08	112.00
29	X	73	A	C2'-C3'-O3'	6.04	118.57	109.50
29	X	1949	A	C4'-C3'-O3'	-6.04	103.94	113.00
6	A	34	THR	N-CA-C	6.04	119.35	108.48
26	U	25	ARG	N-CA-C	-6.04	105.17	113.56
29	X	2075	U	N1-C1'-C2'	6.04	123.06	114.00
29	X	2476	A	C4'-C3'-O3'	-6.03	100.36	109.40
29	X	555	U	C3'-C2'-C1'	-6.02	95.28	101.30
29	X	797	A	N9-C1'-C2'	6.02	121.03	112.00
29	X	1055	A	C3'-C2'-C1'	-6.02	95.28	101.30
6	A	243	GLY	N-CA-C	6.01	127.43	113.18
29	X	1800	A	N9-C1'-C2'	6.01	121.02	112.00
29	X	2560	G	C2'-C3'-O3'	6.01	118.52	109.50
15	J	39	GLU	CA-C-N	6.01	127.35	119.84
15	J	39	GLU	C-N-CA	6.01	127.35	119.84
29	X	1633	C	C4'-C3'-O3'	-6.01	100.39	109.40
29	X	468	A	C4'-C3'-O3'	-6.00	100.39	109.40
29	X	1807	A	N9-C1'-C2'	6.00	123.00	114.00
21	P	51	GLN	N-CA-C	-6.00	104.37	111.03
29	X	1261	G	C2'-C3'-O3'	6.00	118.49	109.50
29	X	2589	C	N1-C1'-C2'	5.99	122.98	114.00
29	X	2795	A	N9-C1'-C2'	5.99	120.98	112.00
10	E	145	ALA	N-CA-C	-5.98	104.56	112.34
7	B	137	ARG	N-CA-C	-5.97	96.61	109.81

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	1921	A	N9-C1'-C2'	5.97	122.96	114.00
29	X	1860	A	C4'-C3'-C2'	5.97	108.57	102.60
29	X	469	G	C1'-C2'-O2'	-5.97	102.85	111.80
29	X	321	A	C4'-C3'-O3'	-5.96	104.05	113.00
16	K	111	ALA	N-CA-C	5.96	117.83	108.96
15	J	97	VAL	N-CA-C	5.95	116.09	108.12
29	X	1285	A	N9-C1'-C2'	5.95	122.93	114.00
14	I	130	ILE	N-CA-C	-5.95	104.05	110.23
29	X	1854	G	C5'-C4'-C3'	5.95	124.92	116.00
29	X	1052	C	P-O5'-C5'	-5.94	111.99	120.90
29	X	538	A	C2'-C3'-O3'	5.94	122.61	113.70
21	P	48	LYS	N-CA-C	5.94	117.81	108.96
6	A	212	SER	N-CA-C	-5.93	104.95	111.82
29	X	840	U	C2'-C3'-O3'	-5.93	104.81	113.70
29	X	1864	G	P-O3'-C3'	-5.92	111.31	120.20
28	W	33	GLU	N-CA-C	-5.92	101.72	110.48
29	X	727	U	C3'-C2'-C1'	5.92	107.22	101.30
29	X	2189	A	C2'-C3'-O3'	5.92	122.58	113.70
29	X	1771	A	C2'-C3'-O3'	5.92	118.37	109.50
29	X	1141	U	C2'-C3'-O3'	5.91	118.36	109.50
29	X	2848	A	N9-C1'-C2'	5.91	122.86	114.00
15	J	128	ILE	N-CA-C	5.90	115.73	108.53
29	X	2588	U	N1-C1'-C2'	5.90	120.85	112.00
24	S	93	GLU	N-CA-C	-5.89	100.12	109.07
29	X	2668	U	C5'-C4'-C3'	-5.88	106.38	115.20
29	X	1749	G	C2'-C3'-O3'	5.88	118.33	109.50
29	X	2196	U	P-O3'-C3'	5.88	129.02	120.20
22	Q	80	VAL	N-CA-C	5.87	117.88	108.85
29	X	2299	A	C2'-C3'-O3'	-5.87	104.90	113.70
29	X	2807	U	C2'-C3'-O3'	5.87	122.50	113.70
13	H	52	VAL	N-CA-C	-5.86	99.98	108.89
29	X	1583	A	N9-C1'-C2'	5.86	122.79	114.00
22	Q	85	GLY	N-CA-C	-5.84	99.34	113.18
29	X	2480	C	N1-C1'-C2'	5.84	120.76	112.00
29	X	2370	G	N9-C1'-C2'	5.83	122.75	114.00
29	X	1613	G	C4'-C3'-O3'	-5.83	104.25	113.00
29	X	742	G	N9-C1'-C2'	5.83	120.74	112.00
29	X	1862	C	C2'-C3'-O3'	-5.83	104.96	113.70
29	X	1468	A	O4'-C1'-C2'	-5.82	101.78	107.60
29	X	2824	C	C1'-C2'-O2'	-5.82	103.07	111.80
12	G	67	ARG	CA-C-N	5.81	127.11	119.84
12	G	67	ARG	C-N-CA	5.81	127.11	119.84

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	1240	G	C4'-C3'-O3'	-5.81	104.28	113.00
29	X	1337	G	C3'-C2'-O2'	-5.81	105.88	114.60
8	C	97	ARG	N-CA-C	5.80	117.28	111.07
12	G	60	SER	N-CA-C	5.80	117.29	110.97
29	X	730	C	C4'-C3'-O3'	5.80	121.70	113.00
29	X	1314	A	C4'-C3'-O3'	-5.80	100.70	109.40
29	X	814	G	C1'-C2'-O2'	-5.79	103.11	111.80
29	X	1344	C	C4'-C3'-O3'	-5.79	104.32	113.00
7	B	133	LYS	N-CA-C	-5.79	105.41	112.88
7	B	49	ILE	N-CA-CB	-5.78	105.75	112.34
19	N	6	THR	N-CA-C	-5.78	105.88	113.17
22	Q	19	ALA	N-CA-C	-5.78	106.57	113.97
29	X	2320	G	C5'-C4'-C3'	5.78	124.67	116.00
12	G	32	TYR	N-CA-C	5.78	123.11	110.80
29	X	729	A	C3'-C2'-C1'	-5.78	95.52	101.30
29	X	983	G	C4'-C3'-O3'	-5.78	104.33	113.00
29	X	1333	G	N9-C1'-C2'	5.78	122.67	114.00
29	X	1861	G	P-O5'-C5'	-5.78	112.23	120.90
29	X	1810	U	C4'-C3'-O3'	-5.77	104.34	113.00
29	X	2014	A	C2'-C3'-O3'	5.76	118.15	109.50
29	X	2191	A	N9-C1'-C2'	5.76	120.65	112.00
29	X	939	C	C4'-C3'-O3'	5.76	118.04	109.40
7	B	109	LYS	N-CA-C	-5.76	102.93	110.53
18	M	81	PHE	CA-C-N	5.76	128.28	120.79
18	M	81	PHE	C-N-CA	5.76	128.28	120.79
29	X	2469	G	N9-C1'-C2'	5.76	122.63	114.00
17	L	101	LYS	N-CA-C	-5.75	104.38	111.75
24	S	49	THR	N-CA-C	-5.75	98.54	110.80
29	X	408	U	C4'-C3'-O3'	-5.75	104.37	113.00
12	G	131	VAL	N-CA-C	-5.75	106.21	111.67
7	B	101	LYS	N-CA-C	-5.74	100.34	109.76
29	X	698	A	C2'-C3'-O3'	-5.74	100.89	109.50
29	X	1474	A	C2'-C3'-O3'	5.74	118.11	109.50
29	X	458	G	N9-C1'-C2'	5.74	122.61	114.00
29	X	584	A	C2'-C3'-O3'	-5.73	105.10	113.70
29	X	2470	U	N1-C1'-C2'	5.73	120.60	112.00
29	X	400	U	N1-C1'-C2'	5.73	122.59	114.00
29	X	1849	G	N9-C1'-C2'	5.73	120.59	112.00
22	Q	66	GLY	N-CA-C	-5.73	99.61	113.18
11	F	133	SER	N-CA-C	5.72	120.13	113.20
29	X	1921	A	C2'-C3'-O3'	5.72	118.09	109.50
22	Q	46	PHE	N-CA-C	-5.72	104.15	113.19

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
14	I	110	ALA	N-CA-C	5.72	118.06	107.99
29	X	1618	U	N1-C1'-C2'	5.72	122.58	114.00
17	L	89	PHE	CA-C-N	-5.71	115.13	122.79
17	L	89	PHE	C-N-CA	-5.71	115.13	122.79
29	X	312	G	C4'-C3'-O3'	-5.71	100.84	109.40
29	X	466	A	C2'-C3'-O3'	5.71	118.06	109.50
29	X	1288	A	C1'-C2'-O2'	-5.71	99.84	108.40
29	X	2795	A	C4'-C3'-O3'	-5.70	104.45	113.00
29	X	1081	A	N9-C1'-C2'	5.70	120.55	112.00
29	X	69	G	N9-C1'-C2'	5.69	122.53	114.00
29	X	1212	U	C2'-C3'-O3'	5.69	122.23	113.70
29	X	1496	G	C2'-C3'-O3'	5.69	122.23	113.70
9	D	17	MET	N-CA-C	-5.68	105.17	111.71
29	X	557	U	O4'-C1'-C2'	-5.68	100.12	105.80
24	S	96	VAL	N-CA-C	5.68	114.36	107.61
29	X	1852	G	C4'-C3'-C2'	5.68	108.28	102.60
29	X	490	A	C1'-C2'-O2'	-5.67	103.29	111.80
29	X	2867	G	C2'-C3'-O3'	5.67	118.01	109.50
29	X	2043	A	C2'-C3'-O3'	-5.66	105.20	113.70
29	X	2559	U	C4'-C3'-O3'	-5.66	104.51	113.00
9	D	99	PHE	N-CA-C	-5.65	104.50	111.40
29	X	2016	A	N9-C1'-C2'	5.65	122.48	114.00
29	X	1853	C	O4'-C4'-C3'	-5.64	98.36	104.00
29	X	2402	U	N1-C1'-C2'	5.64	120.46	112.00
29	X	320	A	N9-C1'-C2'	5.64	120.46	112.00
29	X	1664	G	C1'-C2'-O2'	-5.63	103.35	111.80
9	D	4	LEU	N-CA-C	5.63	122.79	110.80
6	A	65	ILE	N-CA-C	5.62	115.96	107.75
24	S	154	LEU	CA-C-N	5.62	126.87	119.84
24	S	154	LEU	C-N-CA	5.62	126.87	119.84
29	X	1475	U	N1-C1'-C2'	5.62	120.43	112.00
7	B	147	PRO	N-CA-C	-5.62	100.90	112.47
9	D	144	ASP	N-CA-C	-5.62	106.22	112.57
22	Q	57	ASN	N-CA-C	5.62	118.13	110.55
29	X	2190	A	N9-C1'-C2'	-5.62	103.58	112.00
29	X	1299	A	C2'-C3'-O3'	5.61	122.12	113.70
4	4	24	LEU	N-CA-C	5.61	117.14	109.18
29	X	1056	U	C5'-C4'-C3'	5.61	124.41	116.00
29	X	2481	G	C2'-C3'-O3'	-5.60	105.30	113.70
29	X	968	C	N1-C1'-C2'	5.60	122.40	114.00
15	J	134	LYS	N-CA-C	5.60	122.72	110.80
29	X	2326	C	P-O3'-C3'	-5.60	111.80	120.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	2549	G	C2'-C3'-O3'	-5.59	105.31	113.70
18	M	53	VAL	N-CA-C	5.59	120.97	109.34
29	X	2188	A	C4'-C3'-C2'	5.59	108.19	102.60
29	X	1136	G	N9-C1'-C2'	5.59	120.39	112.00
29	X	1398	G	N9-C1'-C2'	5.59	120.38	112.00
29	X	2800	C	C4'-C3'-O3'	-5.58	104.62	113.00
27	V	60	LEU	N-CA-C	-5.58	105.28	111.36
29	X	1315	A	C4'-C3'-O3'	5.58	117.77	109.40
29	X	2303	C	N1-C1'-C2'	5.58	120.36	112.00
22	Q	45	ALA	N-CA-C	-5.57	106.17	114.64
29	X	801	A	C4'-C3'-O3'	-5.57	101.04	109.40
29	X	688	A	C5'-C4'-C3'	5.57	124.35	116.00
15	J	14	PHE	N-CA-C	5.56	118.94	108.65
29	X	1249	G	N9-C1'-C2'	5.56	120.34	112.00
29	X	2323	U	O5'-C5'-C4'	-5.56	103.16	111.50
29	X	2815	C	C4'-C3'-O3'	-5.56	104.66	113.00
29	X	556	A	C3'-C2'-C1'	5.56	107.06	101.50
29	X	1847	G	P-O5'-C5'	-5.56	112.57	120.90
6	A	35	GLU	N-CA-C	5.55	118.78	111.28
19	N	84	LYS	N-CA-C	-5.55	104.87	111.03
22	Q	22	ARG	N-CA-C	-5.55	106.83	113.21
29	X	752	G	C3'-C2'-O2'	-5.55	106.28	114.60
29	X	1625	A	C2'-C3'-O3'	-5.55	105.38	113.70
29	X	1410	U	N1-C1'-C2'	5.53	122.30	114.00
18	M	102	ALA	N-CA-C	5.53	122.58	110.80
30	Y	35	GLN	CB-CA-C	-5.53	100.97	111.97
7	B	202	ALA	N-CA-C	-5.52	105.34	111.36
29	X	1266	G	C1'-C2'-O2'	-5.52	103.52	111.80
18	M	11	GLU	N-CA-C	5.51	117.37	111.36
29	X	415	A	O4'-C4'-C3'	5.51	109.51	104.00
29	X	859	U	N1-C1'-C2'	5.51	120.27	112.00
29	X	564	U	C3'-C2'-O2'	5.51	118.96	110.70
29	X	89	A	N9-C1'-C2'	5.50	120.25	112.00
29	X	2434	G	C4'-C3'-O3'	-5.50	104.76	113.00
7	B	21	ILE	CA-C-N	-5.49	114.27	119.76
7	B	21	ILE	C-N-CA	-5.49	114.27	119.76
19	N	42	ALA	N-CA-C	-5.49	105.40	111.71
29	X	684	C	C5'-C4'-C3'	-5.48	107.77	116.00
29	X	2841	U	N1-C1'-C2'	5.48	122.22	114.00
29	X	2192	U	N1-C1'-C2'	5.47	120.21	112.00
29	X	2760	G	N9-C1'-C2'	5.47	122.21	114.00
29	X	1194	U	C2'-C3'-O3'	5.47	121.90	113.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	1632	A	C4'-C3'-O3'	-5.47	101.20	109.40
29	X	1342	U	N1-C1'-C2'	5.46	122.20	114.00
29	X	1935	A	N9-C1'-C2'	5.46	120.20	112.00
11	F	63	ARG	N-CA-C	-5.46	104.39	111.71
18	M	18	GLN	N-CA-C	-5.46	106.12	112.89
29	X	1858	C	C4'-C3'-C2'	5.45	108.05	102.60
29	X	2322	U	O3'-P-O5'	5.45	112.18	104.00
29	X	2199	C	C2'-C3'-O3'	5.45	121.88	113.70
29	X	123	A	N9-C1'-C2'	5.45	120.17	112.00
22	Q	60	GLY	N-CA-C	5.45	126.09	113.18
29	X	1772	C	N1-C1'-C2'	5.44	122.17	114.00
29	X	1644	G	C4'-C3'-O3'	-5.44	104.84	113.00
29	X	1249	G	C2'-C3'-O3'	5.43	121.85	113.70
8	C	13	ARG	N-CA-C	5.43	122.37	110.80
12	G	33	ILE	N-CA-C	5.43	120.61	108.88
29	X	1260	A	C2'-C3'-O3'	-5.43	101.35	109.50
29	X	1276	U	N1-C1'-C2'	5.43	120.15	112.00
15	J	89	GLY	N-CA-C	5.43	126.05	113.18
13	H	26	ASN	N-CA-C	-5.43	102.06	109.71
29	X	33	C	C2'-C3'-O3'	5.43	117.64	109.50
29	X	3	U	C2'-C3'-O3'	5.42	121.84	113.70
29	X	596	C	C4'-C3'-O3'	-5.42	101.26	109.40
29	X	1333	G	C1'-C2'-O2'	-5.42	103.66	111.80
29	X	1459	U	N1-C1'-C2'	5.42	122.14	114.00
29	X	2525	U	C4'-C3'-O3'	-5.42	104.86	113.00
29	X	682	G	C2'-C3'-O3'	-5.42	101.37	109.50
29	X	1701	C	C5'-C4'-C3'	-5.42	107.87	116.00
29	X	1249	G	C4'-C3'-O3'	-5.42	104.87	113.00
29	X	2854	G	C1'-O4'-C4'	-5.42	104.28	109.70
29	X	1799	A	N9-C1'-C2'	5.42	122.12	114.00
29	X	1698	C	C1'-C2'-O2'	-5.41	103.68	111.80
29	X	118	U	C2'-C3'-O3'	5.41	117.62	109.50
29	X	424	G	C4'-C3'-O3'	5.41	117.52	109.40
29	X	2200	G	P-O5'-C5'	-5.41	112.78	120.90
18	M	63	ARG	N-CA-C	5.41	119.59	112.89
29	X	1634	A	C2'-C3'-O3'	5.40	117.60	109.50
20	O	93	ILE	N-CA-C	5.40	116.31	107.24
15	J	13	GLN	N-CA-C	5.40	122.30	110.80
29	X	1666	G	O4'-C4'-C3'	-5.40	98.60	104.00
7	B	52	ALA	CA-C-N	-5.39	115.02	120.31
7	B	52	ALA	C-N-CA	-5.39	115.02	120.31
12	G	122	HIS	N-CA-C	5.39	117.34	109.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	596	C	N1-C1'-C2'	5.39	122.08	114.00
29	X	2580	C	N1-C1'-C2'	5.39	122.08	114.00
29	X	1710	U	N1-C1'-C2'	5.38	122.08	114.00
26	U	57	VAL	N-CA-C	5.38	117.38	109.63
29	X	994	A	C2'-C3'-O3'	5.38	121.77	113.70
29	X	118	U	C4'-C3'-O3'	-5.38	101.34	109.40
29	X	2488	G	C4'-C3'-O3'	-5.37	104.95	113.00
7	B	31	CYS	CA-C-N	5.37	125.27	119.85
7	B	31	CYS	C-N-CA	5.37	125.27	119.85
11	F	110	THR	N-CA-C	-5.36	106.67	113.43
29	X	557	U	C2'-C3'-O3'	5.36	117.54	109.50
29	X	2674	C	C4'-C3'-O3'	-5.36	104.96	113.00
8	C	3	GLN	N-CA-C	5.36	117.13	108.34
15	J	49	GLU	N-CA-C	-5.36	104.85	111.33
29	X	192	G	C2'-C3'-O3'	5.36	117.53	109.50
29	X	1623	C	C2'-C3'-O3'	5.36	117.53	109.50
7	B	196	VAL	N-CA-C	-5.35	101.28	108.35
9	D	43	SER	N-CA-C	-5.35	106.59	113.01
29	X	2719	U	C3'-C2'-O2'	5.35	118.72	110.70
10	E	68	THR	N-CA-C	5.34	117.52	111.11
29	X	763	A	C1'-C2'-O2'	-5.34	100.39	108.40
29	X	1771	A	N9-C1'-C2'	5.34	122.01	114.00
9	D	171	GLN	N-CA-C	5.33	116.90	111.14
29	X	2689	C	C4'-C3'-O3'	-5.33	105.00	113.00
29	X	1867	A	C2'-C3'-O3'	5.33	121.70	113.70
11	F	75	SER	N-CA-C	-5.33	105.92	112.90
29	X	82	G	N9-C1'-C2'	5.33	121.99	114.00
9	D	104	ILE	CB-CA-C	-5.33	103.91	112.16
10	E	41	LEU	N-CA-C	-5.32	101.55	109.11
19	N	69	ALA	N-CA-C	-5.32	104.53	111.02
29	X	2189	A	C4'-C3'-C2'	-5.32	97.28	102.60
29	X	2660	C	C2'-C3'-O3'	-5.32	101.52	109.50
29	X	727	U	N1-C1'-C2'	5.32	119.98	112.00
29	X	801	A	C3'-C2'-O2'	-5.32	106.62	114.60
29	X	475	U	C3'-C2'-O2'	5.31	118.67	110.70
29	X	1291	G	C3'-C2'-O2'	5.31	118.66	110.70
29	X	751	G	C2'-C3'-O3'	5.31	121.66	113.70
29	X	2230	G	C3'-C2'-O2'	5.30	118.66	110.70
14	I	24	GLY	N-CA-C	5.30	118.98	112.14
30	Y	36	CYS	N-CA-C	-5.30	99.51	110.80
6	A	162	SER	N-CA-C	5.29	116.82	107.61
29	X	490	A	C4'-C3'-O3'	-5.29	101.46	109.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	1632	A	C3'-C2'-O2'	-5.29	106.66	114.60
29	X	760	U	N1-C1'-C2'	5.29	119.93	112.00
29	X	717	G	N9-C1'-C2'	5.29	119.93	112.00
29	X	1475	U	C4'-C3'-O3'	-5.29	105.07	113.00
29	X	805	G	N9-C1'-C2'	5.28	121.92	114.00
29	X	13	A	C1'-C2'-O2'	-5.28	103.89	111.80
8	C	107	ALA	N-CA-C	-5.28	104.97	111.40
29	X	801	A	N9-C1'-C2'	5.27	121.91	114.00
23	R	80	LYS	N-CA-C	-5.27	101.57	109.95
29	X	2015	G	O4'-C1'-C2'	5.27	111.07	105.80
29	X	1266	G	C2'-C3'-O3'	-5.27	101.60	109.50
29	X	2760	G	C1'-C2'-O2'	-5.27	103.90	111.80
12	G	75	ILE	CB-CA-C	-5.25	104.38	111.63
26	U	43	ARG	N-CA-C	5.25	116.27	108.86
19	N	62	ILE	N-CA-C	5.25	115.40	110.30
13	H	28	GLY	N-CA-C	5.25	125.63	113.18
29	X	969	U	C2'-C3'-O3'	5.25	117.38	109.50
29	X	1871	G	O4'-C4'-C3'	-5.25	98.75	104.00
29	X	731	A	C3'-C2'-C1'	5.25	106.55	101.30
29	X	2324	G	C1'-O4'-C4'	5.25	114.95	109.70
29	X	2690	A	C2'-C3'-O3'	-5.25	105.83	113.70
29	X	13	A	N9-C1'-C2'	5.24	121.86	114.00
10	E	71	LEU	N-CA-C	5.24	117.39	111.11
16	K	93	GLY	CA-C-N	-5.24	115.62	123.00
16	K	93	GLY	C-N-CA	-5.24	115.62	123.00
7	B	132	LYS	N-CA-C	-5.24	99.65	110.80
29	X	1849	G	C4'-C3'-C2'	-5.23	97.37	102.60
29	X	684	C	C4'-C3'-O3'	-5.23	105.16	113.00
21	P	97	VAL	N-CA-C	5.22	115.56	107.78
29	X	1439	G	C2'-C3'-O3'	5.22	121.53	113.70
13	H	129	LEU	N-CA-C	-5.22	106.31	113.30
28	W	13	PRO	N-CA-C	5.21	119.50	111.21
6	A	182	LEU	N-CA-C	5.21	117.14	108.02
13	H	65	LYS	N-CA-C	5.21	117.11	109.24
21	P	71	VAL	N-CA-C	-5.21	105.77	110.82
29	X	748	A	C5'-C4'-C3'	-5.21	108.18	116.00
29	X	2617	G	N9-C1'-C2'	5.21	119.82	112.00
29	X	2363	G	C4'-C3'-O3'	-5.21	105.19	113.00
26	U	46	LEU	N-CA-C	5.20	117.38	109.63
29	X	1685	A	C5'-C4'-C3'	-5.20	107.40	115.20
29	X	699	G	C1'-C2'-O2'	-5.20	104.00	111.80
29	X	1285	A	O4'-C1'-C2'	5.20	111.00	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	1624	A	N9-C1'-C2'	5.20	121.80	114.00
25	T	42	GLY	N-CA-C	-5.20	100.87	113.18
22	Q	84	GLU	N-CA-C	-5.19	106.21	112.54
23	R	77	HIS	CB-CA-C	-5.19	108.90	116.53
13	H	126	ILE	CB-CA-C	-5.19	105.06	111.70
29	X	2190	A	C3'-C2'-C1'	-5.18	96.12	101.30
18	M	3	THR	CA-C-N	-5.18	114.36	122.95
18	M	3	THR	C-N-CA	-5.18	114.36	122.95
29	X	209	G	C4'-C3'-O3'	-5.18	105.23	113.00
29	X	1672	A	C2'-C3'-O3'	-5.17	105.94	113.70
29	X	2057	U	C5'-C4'-C3'	-5.17	108.24	116.00
29	X	2405	A	C2'-C3'-O3'	-5.17	101.74	109.50
29	X	463	C	C2'-C3'-O3'	-5.17	105.95	113.70
15	J	91	VAL	N-CA-C	5.16	120.07	109.34
29	X	797	A	C2'-C3'-O3'	5.16	121.44	113.70
29	X	1056	U	O4'-C1'-N1	5.16	116.24	108.50
29	X	1250	A	N9-C1'-C2'	5.15	119.73	112.00
29	X	1863	U	P-O3'-C3'	-5.15	112.47	120.20
28	W	3	ILE	N-CA-C	5.15	115.66	110.05
29	X	1342	U	C4'-C3'-O3'	-5.15	101.68	109.40
29	X	2005	U	C2'-C3'-O3'	-5.15	101.78	109.50
29	X	983	G	C2'-C3'-O3'	5.14	121.41	113.70
29	X	2033	C	C4'-C3'-O3'	-5.14	105.29	113.00
29	X	1749	G	C1'-C2'-O2'	-5.14	104.09	111.80
9	D	35	VAL	N-CA-C	5.13	116.25	108.96
29	X	2196	U	C4'-C3'-O3'	5.13	120.70	113.00
29	X	1333	G	O4'-C1'-C2'	5.12	110.92	105.80
29	X	2015	G	C5'-C4'-C3'	-5.12	107.52	115.20
23	R	57	ASN	N-CA-C	5.12	117.96	109.46
29	X	1812	U	N1-C1'-C2'	5.12	119.68	112.00
22	Q	74	ASP	N-CA-C	5.12	121.70	110.80
29	X	1867	A	P-O3'-C3'	5.11	127.87	120.20
9	D	7	LYS	N-CA-C	-5.11	106.15	112.38
29	X	460	U	C2'-C3'-O3'	5.11	117.16	109.50
21	P	122	SER	N-CA-C	5.11	117.77	109.24
15	J	47	GLN	N-CA-C	-5.10	106.75	113.17
29	X	2033	C	N1-C1'-C2'	5.09	119.64	112.00
18	M	19	ASP	N-CA-C	-5.09	107.09	113.15
29	X	808	C	C4'-C3'-O3'	-5.09	105.36	113.00
29	X	1684	G	C4'-C3'-O3'	-5.09	101.77	109.40
17	L	95	LYS	N-CA-C	5.08	121.63	110.80
29	X	1471	G	C2'-C3'-O3'	-5.08	106.07	113.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	943	U	N1-C1'-C2'	5.08	119.62	112.00
29	X	956	A	C2'-C3'-O3'	-5.08	101.88	109.50
7	B	28	ALA	N-CA-C	-5.08	98.77	108.17
14	I	120	VAL	N-CA-C	5.08	116.28	108.71
29	X	417	C	O4'-C4'-C3'	5.08	111.18	106.10
22	Q	20	MET	N-CA-C	-5.08	105.93	111.82
29	X	813	A	O4'-C1'-C2'	5.08	110.88	105.80
29	X	539	A	N9-C1'-C2'	5.08	121.61	114.00
29	X	176	A	N9-C1'-C2'	5.07	121.61	114.00
29	X	1263	G	O4'-C1'-C2'	5.07	110.87	105.80
12	G	121	LYS	N-CA-C	-5.07	105.94	112.68
29	X	2663	U	C5'-C4'-C3'	-5.07	108.39	116.00
29	X	1223	G	C2'-C3'-O3'	5.07	117.10	109.50
6	A	268	ARG	N-CA-C	5.06	117.03	108.02
26	U	30	VAL	N-CA-C	-5.06	98.81	109.34
12	G	168	THR	CB-CA-C	-5.06	104.94	111.22
7	B	127	ALA	N-CA-C	-5.06	106.02	113.61
29	X	1942	G	C4'-C3'-O3'	-5.06	105.42	113.00
24	S	96	VAL	CA-C-N	5.05	124.81	119.76
24	S	96	VAL	C-N-CA	5.05	124.81	119.76
29	X	984	A	O4'-C1'-C2'	5.05	110.85	105.80
29	X	1005	U	C5'-C4'-C3'	-5.05	108.43	116.00
29	X	1689	U	C4'-C3'-O3'	-5.04	105.43	113.00
29	X	2328	G	O5'-C5'-C4'	5.04	119.07	111.50
29	X	1966	C	C2'-C3'-O3'	-5.04	106.14	113.70
9	D	61	THR	N-CA-C	-5.04	106.28	114.09
29	X	1685	A	C4'-C3'-C2'	5.04	107.64	102.60
13	H	32	LYS	N-CA-C	-5.03	100.08	110.80
21	P	18	VAL	N-CA-C	5.03	117.25	108.95
29	X	824	U	N1-C1'-C2'	5.03	121.55	114.00
29	X	1459	U	C2'-C3'-O3'	5.03	117.05	109.50
7	B	50	GLY	N-CA-C	5.03	118.48	111.14
29	X	991	A	N9-C1'-C2'	5.03	119.55	112.00
29	X	791	G	C2'-C3'-O3'	-5.03	106.16	113.70
29	X	198	A	C2'-C3'-O3'	5.03	117.04	109.50
23	R	81	VAL	N-CA-C	5.02	115.54	108.36
29	X	1248	G	C4'-C3'-O3'	-5.02	105.47	113.00
29	X	1288	A	C5'-C4'-C3'	5.02	123.53	116.00
13	H	29	ILE	N-CA-C	5.02	114.84	108.12
29	X	971	A	N9-C1'-C2'	5.02	119.53	112.00
29	X	1086	C	N1-C1'-C2'	5.02	119.53	112.00
29	X	2437	G	O4'-C4'-C3'	5.02	109.02	104.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
8	C	58	MET	N-CA-C	5.01	121.48	110.80
29	X	732	G	P-O5'-C5'	-5.01	113.38	120.90
29	X	816	U	C4'-C3'-O3'	-5.01	105.48	113.00
29	X	1617	G	C4'-C3'-O3'	-5.01	105.48	113.00
30	Y	38	GLY	CA-C-N	-5.01	115.80	122.72
30	Y	38	GLY	C-N-CA	-5.01	115.80	122.72
8	C	4	ILE	N-CA-C	5.01	115.86	109.30
8	C	167	VAL	N-CA-C	5.01	116.88	109.17
10	E	171	LEU	N-CA-C	5.00	116.54	108.34

All (2) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
29	X	1278	A	C1'
29	X	2592	U	C1'

All (266) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
6	A	104	TYR	Sidechain
19	N	32	TYR	Sidechain
19	N	76	TYR	Sidechain
22	Q	25	TYR	Sidechain
29	X	1000	G	Sidechain
29	X	1023	U	Sidechain
29	X	1030	U	Sidechain
29	X	1037	U	Sidechain
29	X	1044	U	Sidechain
29	X	1054	C	Sidechain
29	X	1056	U	Sidechain
29	X	112	U	Sidechain
29	X	1124	U	Sidechain
29	X	1136	G	Sidechain
29	X	1141	U	Sidechain
29	X	1142	G	Sidechain
29	X	1143	A	Sidechain
29	X	1152	C	Sidechain
29	X	1153	A	Sidechain
29	X	1156	U	Sidechain
29	X	1165	G	Sidechain
29	X	1167	A	Sidechain
29	X	118	U	Sidechain

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Mol	Chain	Res	Type	Group
29	X	1184	G	Sidechain
29	X	12	U	Sidechain
29	X	1200	G	Sidechain
29	X	1202	U	Sidechain
29	X	1206	G	Sidechain
29	X	1213	U	Sidechain
29	X	1236	G	Sidechain
29	X	124	A	Sidechain
29	X	1240	G	Sidechain
29	X	1250	A	Sidechain
29	X	1251	G	Sidechain
29	X	1253	C	Sidechain
29	X	1261	G	Sidechain
29	X	1265	G	Sidechain
29	X	1269	G	Sidechain
29	X	1281	A	Sidechain
29	X	1282	A	Sidechain
29	X	1284	G	Sidechain
29	X	1287	A	Sidechain
29	X	1290	A	Sidechain
29	X	1294	G	Sidechain
29	X	13	A	Sidechain
29	X	1314	A	Sidechain
29	X	1322	G	Sidechain
29	X	1332	G	Sidechain
29	X	1342	U	Sidechain
29	X	1357	U	Sidechain
29	X	1370	U	Sidechain
29	X	1373	G	Sidechain
29	X	1377	G	Sidechain
29	X	1452	U	Sidechain
29	X	1467	U	Sidechain
29	X	15	G	Sidechain
29	X	1573	G	Sidechain
29	X	1574	A	Sidechain
29	X	1581	C	Sidechain
29	X	1583	A	Sidechain
29	X	1623	C	Sidechain
29	X	1629	G	Sidechain
29	X	1631	C	Sidechain
29	X	1632	A	Sidechain
29	X	165	G	Sidechain

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Mol	Chain	Res	Type	Group
29	X	1651	U	Sidechain
29	X	1664	G	Sidechain
29	X	1666	G	Sidechain
29	X	1671	A	Sidechain
29	X	1672	A	Sidechain
29	X	1673	C	Sidechain
29	X	1690	U	Sidechain
29	X	1692	C	Sidechain
29	X	1698	C	Sidechain
29	X	1705	U	Sidechain
29	X	1710	U	Sidechain
29	X	1711	C	Sidechain
29	X	1716	G	Sidechain
29	X	172	A	Sidechain
29	X	1749	G	Sidechain
29	X	1752	U	Sidechain
29	X	1763	G	Sidechain
29	X	177	U	Sidechain
29	X	1772	C	Sidechain
29	X	1774	A	Sidechain
29	X	1777	A	Sidechain
29	X	178	C	Sidechain
29	X	1789	U	Sidechain
29	X	1792	C	Sidechain
29	X	1807	A	Sidechain
29	X	1810	U	Sidechain
29	X	1815	G	Sidechain
29	X	1819	U	Sidechain
29	X	1820	G	Sidechain
29	X	1849	G	Sidechain
29	X	1851	A	Sidechain
29	X	1922	U	Sidechain
29	X	1938	U	Sidechain
29	X	1945	C	Sidechain
29	X	1947	G	Sidechain
29	X	1961	A	Sidechain
29	X	1974	U	Sidechain
29	X	1975	G	Sidechain
29	X	1976	U	Sidechain
29	X	1994	U	Sidechain
29	X	1996	A	Sidechain
29	X	1998	A	Sidechain

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Mol	Chain	Res	Type	Group
29	X	2009	U	Sidechain
29	X	2015	G	Sidechain
29	X	2016	A	Sidechain
29	X	2022	C	Sidechain
29	X	2028	C	Sidechain
29	X	2034	A	Sidechain
29	X	2037	A	Sidechain
29	X	2042	A	Sidechain
29	X	2045	A	Sidechain
29	X	214	C	Sidechain
29	X	218	A	Sidechain
29	X	2189	A	Sidechain
29	X	219	G	Sidechain
29	X	2192	U	Sidechain
29	X	2195	C	Sidechain
29	X	2196	U	Sidechain
29	X	2199	C	Sidechain
29	X	2211	U	Sidechain
29	X	2223	U	Sidechain
29	X	224	G	Sidechain
29	X	2243	C	Sidechain
29	X	2258	G	Sidechain
29	X	228	A	Sidechain
29	X	2284	U	Sidechain
29	X	2310	G	Sidechain
29	X	2313	G	Sidechain
29	X	2315	A	Sidechain
29	X	2323	U	Sidechain
29	X	2324	G	Sidechain
29	X	2342	U	Sidechain
29	X	2355	A	Sidechain
29	X	2361	G	Sidechain
29	X	2363	G	Sidechain
29	X	2369	U	Sidechain
29	X	2371	A	Sidechain
29	X	2392	G	Sidechain
29	X	2402	U	Sidechain
29	X	2416	U	Sidechain
29	X	2427	A	Sidechain
29	X	2428	U	Sidechain
29	X	2430	A	Sidechain
29	X	2460	G	Sidechain

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Mol	Chain	Res	Type	Group
29	X	2482	A	Sidechain
29	X	2486	C	Sidechain
29	X	2487	G	Sidechain
29	X	2492	G	Sidechain
29	X	2496	C	Sidechain
29	X	2501	U	Sidechain
29	X	2504	G	Sidechain
29	X	2508	G	Sidechain
29	X	2513	A	Sidechain
29	X	2525	U	Sidechain
29	X	2528	G	Sidechain
29	X	2534	U	Sidechain
29	X	2540	A	Sidechain
29	X	2541	U	Sidechain
29	X	2548	G	Sidechain
29	X	2549	G	Sidechain
29	X	2557	G	Sidechain
29	X	2559	U	Sidechain
29	X	2560	G	Sidechain
29	X	2580	C	Sidechain
29	X	2588	U	Sidechain
29	X	2590	U	Sidechain
29	X	2592	U	Sidechain
29	X	2595	C	Sidechain
29	X	2596	C	Sidechain
29	X	2613	A	Sidechain
29	X	2626	U	Sidechain
29	X	2663	U	Sidechain
29	X	2693	U	Sidechain
29	X	2694	G	Sidechain
29	X	2698	G	Sidechain
29	X	2702	G	Sidechain
29	X	2706	U	Sidechain
29	X	2711	G	Sidechain
29	X	2730	A	Sidechain
29	X	2734	U	Sidechain
29	X	2736	U	Sidechain
29	X	2805	G	Sidechain
29	X	2813	G	Sidechain
29	X	2817	A	Sidechain
29	X	2819	G	Sidechain
29	X	2821	G	Sidechain

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Mol	Chain	Res	Type	Group
29	X	2824	C	Sidechain
29	X	2837	G	Sidechain
29	X	2844	G	Sidechain
29	X	2847	G	Sidechain
29	X	2855	C	Sidechain
29	X	2858	A	Sidechain
29	X	318	G	Sidechain
29	X	320	A	Sidechain
29	X	333	A	Sidechain
29	X	335	A	Sidechain
29	X	342	G	Sidechain
29	X	39	C	Sidechain
29	X	396	U	Sidechain
29	X	400	U	Sidechain
29	X	404	A	Sidechain
29	X	415	A	Sidechain
29	X	424	G	Sidechain
29	X	447	U	Sidechain
29	X	456	C	Sidechain
29	X	467	U	Sidechain
29	X	474	G	Sidechain
29	X	482	A	Sidechain
29	X	490	A	Sidechain
29	X	505	G	Sidechain
29	X	518	A	Sidechain
29	X	520	C	Sidechain
29	X	539	A	Sidechain
29	X	557	U	Sidechain
29	X	570	G	Sidechain
29	X	571	U	Sidechain
29	X	577	U	Sidechain
29	X	59	G	Sidechain
29	X	594	G	Sidechain
29	X	617	U	Sidechain
29	X	62	U	Sidechain
29	X	631	G	Sidechain
29	X	671	A	Sidechain
29	X	681	A	Sidechain
29	X	683	A	Sidechain
29	X	685	U	Sidechain
29	X	69	G	Sidechain
29	X	701	U	Sidechain

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Mol	Chain	Res	Type	Group
29	X	713	G	Sidechain
29	X	731	A	Sidechain
29	X	752	G	Sidechain
29	X	756	C	Sidechain
29	X	774	A	Sidechain
29	X	780	U	Sidechain
29	X	794	A	Sidechain
29	X	804	C	Sidechain
29	X	805	G	Sidechain
29	X	814	G	Sidechain
29	X	816	U	Sidechain
29	X	824	U	Sidechain
29	X	831	G	Sidechain
29	X	833	A	Sidechain
29	X	835	U	Sidechain
29	X	836	G	Sidechain
29	X	840	U	Sidechain
29	X	859	U	Sidechain
29	X	873	U	Sidechain
29	X	919	U	Sidechain
29	X	920	G	Sidechain
29	X	943	U	Sidechain
29	X	951	G	Sidechain
29	X	956	A	Sidechain
29	X	969	U	Sidechain
29	X	985	G	Sidechain
29	X	991	A	Sidechain
29	X	993	C	Sidechain
30	Y	52	TYR	Sidechain
31	Z	101	A	Sidechain
31	Z	17	A	Sidechain
31	Z	25	G	Sidechain
31	Z	68	A	Sidechain

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	1	53	0	0	0	0
2	2	46	0	0	0	0
3	3	63	0	0	1	0
4	4	297	0	330	67	0
5	5	114	0	79	5	0
6	A	1826	0	1885	468	0
7	B	1539	0	1600	314	0
8	C	1506	0	1525	393	0
9	D	1400	0	1481	385	0
10	E	1286	0	1336	276	0
11	F	1044	0	1088	182	0
12	G	1114	0	1144	333	0
13	H	997	0	1046	200	0
14	I	1067	0	1103	313	0
15	J	1090	0	1125	283	0
16	K	878	0	930	147	0
17	L	779	0	820	237	0
18	M	871	0	894	214	0
19	N	978	0	1020	250	0
20	O	741	0	756	194	0
21	P	1014	0	1096	184	0
22	Q	726	0	753	157	0
23	R	825	0	881	273	0
24	S	1345	0	1372	315	0
25	T	625	0	655	113	0
26	U	552	0	604	213	0
27	V	533	0	558	115	0
28	W	424	0	470	84	0
29	X	57651	0	29049	4310	0
30	Y	457	0	462	87	0
31	Z	2598	0	1328	185	0
32	M	1	0	0	0	0
32	X	30	0	0	0	0
32	Z	5	0	0	0	0
All	All	84475	0	55390	9436	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 68.

All (9436) 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)
7:B:116:VAL:N	7:B:136:ARG:HE	1.23	1.30
29:X:1053:G:H2'	29:X:1054:C:C6	1.70	1.26
29:X:2196:U:H2'	29:X:2197:U:O4'	1.31	1.23
29:X:2736:U:O2'	29:X:2737:A:H5''	1.36	1.21
29:X:2496:C:O2'	29:X:2497:A:H3'	1.40	1.19
6:A:252:LYS:N	6:A:252:LYS:HE3	1.58	1.18
7:B:116:VAL:H	7:B:136:ARG:NE	1.39	1.18
8:C:3:GLN:HG2	8:C:116:LYS:HD2	1.27	1.17
18:M:108:ARG:O	18:M:109:GLU:HG3	1.03	1.17
4:4:19:ARG:HA	29:X:2736:U:H5''	1.25	1.17
17:L:40:ALA:HB2	17:L:103:LEU:HD11	1.25	1.16
18:M:28:ARG:HB2	18:M:29:PRO:HD3	1.27	1.16
29:X:1128:G:H3'	29:X:1129:A:H5''	1.28	1.15
26:U:27:ASP:HA	26:U:32:ARG:NH2	1.58	1.15
28:W:23:LEU:HD21	28:W:43:MET:HB3	1.25	1.14
31:Z:43:G:H5'	31:Z:44:C:H5'	1.28	1.14
8:C:162:ARG:CZ	29:X:333:A:H3'	1.77	1.14
18:M:108:ARG:O	18:M:109:GLU:CG	1.95	1.13
19:N:47:TYR:HE1	20:O:73:LYS:HE2	1.13	1.13
17:L:15:ARG:HD2	17:L:91:ARG:HH11	1.11	1.13
14:I:30:ALA:HB3	14:I:34:HIS:CE1	1.83	1.13
29:X:517:A:H5''	29:X:518:A:H5'	1.26	1.12
29:X:1854:G:H2'	29:X:1855:G:OP2	1.39	1.12
15:J:34:GLY:HA2	15:J:106:GLU:HA	1.27	1.12
28:W:4:LYS:HG3	28:W:52:GLU:HB3	1.18	1.12
18:M:33:VAL:HG22	18:M:51:GLU:HB2	1.18	1.11
24:S:19:ILE:HG12	24:S:36:ARG:HA	1.30	1.11
7:B:38:THR:HG22	7:B:40:GLN:H	1.07	1.11
7:B:183:LEU:HD21	18:M:16:ILE:HD13	1.32	1.11
14:I:108:LEU:HB2	14:I:122:VAL:HG11	1.27	1.11
17:L:97:HIS:O	17:L:101:LYS:HB2	1.50	1.11
26:U:49:LYS:HB2	26:U:61:TRP:HA	1.33	1.11
29:X:1052:C:C3'	29:X:1053:G:H5''	1.79	1.11
18:M:34:ARG:NH1	18:M:88:VAL:HG21	1.65	1.11
29:X:2323:U:H6	29:X:2323:U:H5''	1.09	1.11
13:H:116:ARG:HD2	18:M:38:LYS:HE2	1.11	1.11
7:B:150:VAL:HG21	7:B:154:LYS:HE2	1.31	1.10
6:A:208:LYS:HE3	29:X:1782:A:H1'	1.33	1.10
24:S:127:PRO:HA	24:S:130:ILE:HD11	1.28	1.10
11:F:51:ALA:HB1	11:F:73:PRO:HD2	1.20	1.10
29:X:558:G:H3'	29:X:558:G:N3	1.67	1.10
10:E:11:VAL:HG12	10:E:15:VAL:HG21	1.28	1.10

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1468:A:H5''	29:X:1472:C:N4	1.66	1.10
9:D:13:ARG:NH1	9:D:14:PRO:HG3	1.67	1.09
26:U:51:ILE:HG23	26:U:59:THR:HA	1.18	1.09
29:X:304:A:H2'	29:X:305:A:H5''	1.32	1.09
6:A:43:ARG:H	6:A:43:ARG:HD2	0.97	1.09
29:X:729:A:H2'	29:X:730:C:O4'	1.50	1.09
6:A:43:ARG:HD2	6:A:43:ARG:N	1.63	1.09
13:H:47:VAL:HG23	13:H:77:THR:HG23	1.17	1.09
26:U:32:ARG:H	26:U:32:ARG:NE	1.50	1.09
11:F:19:PRO:HG2	11:F:21:PRO:HD2	1.12	1.08
12:G:103:TYR:HB3	12:G:107:GLN:HE21	1.12	1.08
29:X:1550:C:H2'	29:X:1553:G:N2	1.67	1.08
14:I:18:ARG:HB2	14:I:21:ARG:HD3	1.28	1.08
26:U:48:LYS:HG2	26:U:49:LYS:H	0.95	1.08
29:X:542:A:C2	29:X:2004:U:H2'	1.87	1.08
11:F:126:THR:HA	29:X:1091:C:H1'	1.34	1.08
18:M:6:LYS:H	18:M:6:LYS:HD2	1.08	1.08
26:U:48:LYS:HE3	29:X:2074:U:H1'	1.31	1.08
6:A:183:ARG:HB3	6:A:183:ARG:HH11	1.05	1.08
23:R:84:VAL:HA	23:R:90:LYS:HD3	1.33	1.08
29:X:1058:G:H2'	29:X:1121:G:H1	1.10	1.08
29:X:2194:A:C3'	29:X:2195:C:H5''	1.84	1.08
15:J:37:ALA:HA	15:J:130:THR:HG22	1.33	1.07
16:K:100:VAL:HG12	16:K:101:GLY:H	0.92	1.07
20:O:40:VAL:HG12	20:O:45:THR:HA	1.33	1.07
8:C:148:VAL:HB	8:C:167:VAL:HG12	1.13	1.07
25:T:71:ASN:HD22	25:T:77:ARG:HD3	1.06	1.07
29:X:663:G:H3'	29:X:664:C:H5''	1.36	1.07
29:X:752:G:H4'	29:X:753:U:OP1	1.53	1.07
29:X:2170:C:H3'	29:X:2171:U:H5''	1.35	1.07
30:Y:4:HIS:HB3	30:Y:5:PRO:HD3	1.37	1.07
29:X:1056:U:O2	29:X:1056:U:C2'	1.98	1.06
16:K:5:LYS:HE2	29:X:2795:A:H4'	1.27	1.06
9:D:27:ALA:HB2	31:Z:59:A:H1'	1.36	1.06
13:H:23:ARG:HH12	13:H:25:LEU:HD23	1.18	1.06
16:K:3:HIS:ND1	16:K:5:LYS:HD2	1.68	1.06
24:S:104:SER:HA	24:S:139:THR:HA	1.36	1.06
29:X:2194:A:H3'	29:X:2195:C:H5''	1.33	1.06
6:A:77:ALA:HB2	6:A:97:TYR:HD1	1.20	1.05
13:H:23:ARG:NH1	13:H:25:LEU:HD23	1.71	1.05
29:X:109:A:H2'	29:X:110:U:H5''	1.38	1.05

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1052:C:C2'	29:X:1053:G:H5''	1.86	1.05
29:X:1058:G:H2'	29:X:1121:G:N1	1.72	1.05
8:C:5:ASN:HA	8:C:118:VAL:HG21	1.33	1.05
12:G:33:ILE:HB	12:G:34:PRO:CD	1.87	1.05
15:J:64:LYS:H	15:J:64:LYS:HD2	1.15	1.05
8:C:95:LEU:HD23	8:C:96:PRO:HD2	1.36	1.05
24:S:120:LEU:HD21	24:S:162:ALA:HB2	1.38	1.05
28:W:8:SER:HB2	29:X:999:A:H5''	1.36	1.05
29:X:2195:C:O2'	29:X:2196:U:H5'	1.56	1.05
9:D:66:ILE:HD11	31:Z:43:G:H5''	1.35	1.05
29:X:1508:G:H5'	29:X:1509:A:H5''	1.33	1.05
11:F:112:MET:HG3	11:F:113:PRO:HD3	1.09	1.04
14:I:94:GLU:HA	14:I:97:ARG:NE	1.70	1.04
29:X:317:U:H2'	29:X:318:G:H5''	1.38	1.04
9:D:150:ARG:HG2	9:D:151:GLY:H	1.19	1.04
8:C:68:ARG:NH1	29:X:2043:A:H62	1.53	1.04
12:G:67:ARG:HB3	12:G:70:PHE:HA	1.39	1.04
16:K:100:VAL:HG12	16:K:101:GLY:N	1.67	1.04
17:L:60:LYS:HG2	17:L:62:GLY:H	1.20	1.04
29:X:2195:C:H2'	29:X:2196:U:C6	1.93	1.04
29:X:2196:U:C2'	29:X:2197:U:O4'	2.04	1.04
23:R:22:VAL:HG11	23:R:80:LYS:HD2	1.40	1.04
27:V:41:HIS:CD2	27:V:42:ARG:H	1.76	1.04
17:L:15:ARG:HA	17:L:15:ARG:HH11	1.22	1.03
6:A:72:LYS:HE2	6:A:97:TYR:CD2	1.94	1.03
10:E:105:MET:HE1	10:E:131:ILE:HD11	1.40	1.03
14:I:94:GLU:HA	14:I:97:ARG:HE	0.88	1.03
17:L:54:ALA:HB3	17:L:75:LEU:HB2	1.36	1.03
29:X:2563:U:H2'	29:X:2564:U:H5''	1.35	1.03
29:X:2769:C:H2'	29:X:2770:A:H8	1.24	1.03
8:C:68:ARG:HH12	29:X:2043:A:N6	1.55	1.03
29:X:871:U:O2'	29:X:2247:A:H2'	1.57	1.03
19:N:66:ASN:HB2	19:N:70:ARG:HH12	1.18	1.03
29:X:1053:G:H2'	29:X:1054:C:H6	1.00	1.03
9:D:81:GLN:HG2	9:D:82:GLY:H	1.24	1.03
9:D:122:PHE:HB3	9:D:129:ASN:HD22	1.19	1.03
16:K:87:TYR:HE1	16:K:94:TYR:HD2	1.07	1.03
29:X:1118:G:H2'	29:X:1119:U:H5''	1.39	1.03
14:I:11:GLY:H	14:I:14:LYS:HB3	1.21	1.02
20:O:22:VAL:HG22	29:X:1173:G:H4'	1.41	1.02
29:X:2516:U:H2'	29:X:2517:C:C6	1.94	1.02

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2482:A:H4'	29:X:2483:U:OP1	1.56	1.02
6:A:252:LYS:HE3	6:A:252:LYS:H	0.88	1.02
19:N:82:GLY:HA3	19:N:113:SER:OG	1.59	1.02
12:G:61:ARG:HE	12:G:65:LYS:HD2	1.22	1.02
13:H:47:VAL:HA	13:H:74:VAL:HG12	1.42	1.01
14:I:93:LEU:O	14:I:97:ARG:HG3	1.61	1.01
25:T:39:ARG:HH21	29:X:2334:C:H1'	1.17	1.01
9:D:69:LYS:HE2	9:D:84:PRO:HG3	1.42	1.01
13:H:116:ARG:CD	18:M:38:LYS:HE2	1.90	1.01
19:N:47:TYR:CE1	20:O:73:LYS:HE2	1.95	1.01
8:C:2:ALA:HA	8:C:13:ARG:HA	1.40	1.01
9:D:40:LEU:HB3	9:D:150:ARG:HE	1.23	1.01
17:L:33:ARG:HH11	17:L:100:VAL:HA	1.17	1.01
9:D:38:GLU:HB3	9:D:87:ILE:HB	1.39	1.00
29:X:2672:U:H2'	29:X:2673:G:H8	1.24	1.00
26:U:41:VAL:HG23	26:U:42:GLN:H	1.22	1.00
28:W:2:LYS:HB3	28:W:54:GLN:CB	1.91	1.00
29:X:2222:U:H2'	29:X:2223:U:C6	1.95	1.00
10:E:44:ARG:HH22	10:E:46:ASP:HB2	1.21	1.00
22:Q:29:VAL:HG11	22:Q:38:ILE:HD12	1.43	1.00
26:U:27:ASP:HA	26:U:32:ARG:HH21	1.25	1.00
29:X:219:G:N2	29:X:231:G:H2'	1.76	1.00
24:S:123:VAL:N	24:S:161:ALA:HB2	1.77	1.00
29:X:542:A:H2	29:X:2004:U:H2'	1.19	1.00
20:O:11:GLN:HE22	20:O:38:LEU:HB3	1.23	0.99
29:X:2286:G:H21	29:X:2290:A:H61	1.07	0.99
23:R:97:GLN:HB2	23:R:101:GLY:HA2	1.44	0.99
7:B:116:VAL:HG22	7:B:136:ARG:CZ	1.91	0.99
7:B:152:LYS:HB2	12:G:106:TYR:HB3	1.42	0.99
11:F:53:ILE:HG12	11:F:72:PRO:HB3	1.44	0.99
26:U:29:GLY:C	26:U:31:GLY:H	1.49	0.99
8:C:48:ARG:HB2	8:C:51:VAL:HG22	1.44	0.99
18:M:27:PHE:C	18:M:28:ARG:HG2	1.87	0.99
29:X:1978:U:H3'	29:X:1979:C:H5''	1.41	0.99
24:S:113:VAL:HG22	24:S:171:VAL:HG22	1.45	0.99
29:X:1710:U:H5'	29:X:1711:C:H5	1.23	0.99
6:A:206:LEU:C	6:A:211:ARG:HD3	1.87	0.99
29:X:653:G:H2'	29:X:654:A:H5''	1.43	0.99
29:X:1850:G:N2	29:X:1867:A:N7	2.08	0.99
29:X:2781:G:H2'	29:X:2782:G:H5''	1.43	0.99
13:H:116:ARG:HG2	18:M:40:ARG:HH21	1.20	0.98

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1052:C:H3'	29:X:1053:G:H5''	1.40	0.98
29:X:1542:G:N2	29:X:1562:G:H1	1.61	0.98
10:E:58:ALA:H	10:E:62:ARG:HG3	1.28	0.98
26:U:49:LYS:HB3	26:U:61:TRP:CE3	1.97	0.98
27:V:50:VAL:HA	27:V:53:LEU:HD12	1.45	0.98
29:X:623:G:H3'	29:X:624:A:H5''	1.45	0.98
29:X:1448:A:H61	29:X:1574:A:H61	1.11	0.98
7:B:2:LYS:HA	7:B:84:PHE:CE1	1.98	0.98
7:B:117:MET:H	7:B:136:ARG:HD2	1.21	0.98
19:N:24:PHE:HB2	19:N:29:SER:HB3	1.43	0.98
29:X:88:G:H3'	29:X:89:A:H5''	1.41	0.98
29:X:2581:A:H3'	29:X:2582:G:H5''	1.43	0.98
13:H:23:ARG:HH11	29:X:2541:U:H4'	1.26	0.98
29:X:1314:A:O2'	29:X:1315:A:H3'	1.64	0.98
6:A:226:MET:HE2	6:A:230:ASP:HB3	1.42	0.98
26:U:48:LYS:HG2	26:U:49:LYS:N	1.74	0.98
7:B:9:ILE:HD11	7:B:27:LEU:HB2	1.43	0.98
29:X:1850:G:O2'	29:X:1851:A:H8	1.46	0.98
15:J:21:ASP:HA	15:J:99:LYS:HG3	1.46	0.97
19:N:66:ASN:HB2	19:N:70:ARG:NH1	1.78	0.97
29:X:1128:G:C3'	29:X:1129:A:H5''	1.93	0.97
29:X:1281:A:H1'	29:X:2592:U:C5	1.98	0.97
29:X:1542:G:H22	29:X:1562:G:H1	1.02	0.97
29:X:2306:A:H2'	29:X:2307:A:C8	1.99	0.97
29:X:2447:G:O2'	29:X:2448:A:H5'	1.64	0.97
7:B:116:VAL:HG13	7:B:136:ARG:HH21	1.30	0.97
15:J:12:LYS:O	15:J:13:GLN:HB2	1.65	0.97
8:C:66:ASN:HB3	29:X:1268:U:H2'	1.45	0.97
18:M:6:LYS:HD2	18:M:6:LYS:N	1.80	0.97
29:X:1252:C:O2'	29:X:1253:C:H5''	1.64	0.97
17:L:38:ILE:HD12	17:L:39:TYR:H	1.25	0.97
23:R:15:HIS:CD2	29:X:347:C:H4'	1.99	0.97
29:X:717:G:H2'	29:X:739:G:H22	1.24	0.97
9:D:12:VAL:HG12	9:D:16:LEU:HD11	1.46	0.97
23:R:105:ARG:HH22	23:R:112:LYS:HA	1.26	0.97
29:X:1223:G:H4'	29:X:1224:A:H5''	1.46	0.97
7:B:154:LYS:HE3	7:B:156:MET:SD	2.05	0.97
19:N:81:ASN:O	19:N:84:LYS:HB3	1.64	0.97
6:A:247:VAL:HG23	6:A:248:THR:HG23	1.43	0.97
23:R:107:ALA:HB1	23:R:111:GLY:HA2	1.45	0.97
27:V:2:LYS:HA	27:V:6:MET:HE2	1.45	0.97

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:D:122:PHE:HB3	9:D:129:ASN:ND2	1.79	0.96
13:H:13:ASN:HD21	13:H:109:ARG:HG2	1.30	0.96
14:I:90:ARG:HD2	14:I:93:LEU:HD12	1.47	0.96
22:Q:7:LEU:HD21	27:V:30:PHE:HE2	1.28	0.96
29:X:143:A:H2'	29:X:144:U:C6	2.01	0.96
29:X:2196:U:H2'	29:X:2197:U:C1'	1.94	0.96
12:G:100:TYR:HB2	12:G:116:ARG:NH1	1.79	0.96
17:L:55:SER:O	17:L:71:VAL:HB	1.64	0.96
6:A:211:ARG:HG2	6:A:211:ARG:HH11	1.28	0.96
6:A:246:PRO:HG2	6:A:248:THR:O	1.66	0.96
12:G:110:LEU:N	12:G:110:LEU:HD23	1.80	0.96
17:L:20:THR:HG21	17:L:23:ALA:HB3	1.45	0.96
29:X:758:G:H2'	29:X:759:C:H5''	1.44	0.96
8:C:98:GLN:HE22	29:X:611:C:C4'	1.78	0.96
9:D:75:SER:H	9:D:79:LEU:HD22	1.29	0.96
14:I:10:PRO:HA	14:I:14:LYS:HB2	1.47	0.96
29:X:1052:C:H3'	29:X:1053:G:C5'	1.95	0.96
29:X:862:A:H2'	29:X:863:C:H6	1.31	0.96
29:X:1854:G:O2'	29:X:1855:G:H5'	1.66	0.96
29:X:2323:U:H5''	29:X:2323:U:C6	2.00	0.95
18:M:99:VAL:HG21	18:M:104:LEU:HD21	1.45	0.95
26:U:32:ARG:H	26:U:32:ARG:HE	0.97	0.95
29:X:2498:U:H4'	29:X:2499:C:OP1	1.65	0.95
29:X:1057:A:H2'	29:X:1057:A:N3	1.79	0.95
18:M:79:ARG:HH11	18:M:79:ARG:HG3	1.29	0.95
17:L:16:LYS:HE2	17:L:28:ARG:HH12	1.31	0.95
18:M:101:ARG:HH22	29:X:1745:C:P	1.89	0.95
22:Q:75:ARG:HH11	22:Q:75:ARG:HG3	1.30	0.95
24:S:1:MET:HE2	24:S:52:PHE:HB3	1.46	0.95
24:S:138:VAL:HA	24:S:141:MET:HE2	1.47	0.95
29:X:788:G:H5'	29:X:790:A:H1'	1.47	0.95
8:C:162:ARG:NH1	29:X:333:A:H5''	1.81	0.95
8:C:162:ARG:HH11	29:X:333:A:H5''	1.31	0.95
9:D:148:LYS:HG3	9:D:149:THR:H	1.32	0.95
9:D:143:TYR:HA	9:D:146:VAL:HG22	1.47	0.95
17:L:33:ARG:HG3	17:L:38:ILE:HB	1.44	0.95
21:P:108:PRO:HG2	29:X:1631:C:H1'	1.49	0.95
15:J:37:ALA:HB2	15:J:104:MET:HE2	1.46	0.95
29:X:1113:C:H2'	29:X:1114:A:H8	1.28	0.95
16:K:79:VAL:HA	16:K:83:VAL:HG13	1.48	0.94
29:X:1854:G:C2'	29:X:1855:G:OP2	2.10	0.94

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:B:9:ILE:HD13	18:M:12:LEU:HD13	1.48	0.94
14:I:94:GLU:HB3	14:I:97:ARG:HH11	1.32	0.94
29:X:516:G:HO2'	29:X:517:A:H8	1.07	0.94
8:C:162:ARG:HD2	29:X:333:A:C5'	1.98	0.94
16:K:11:ASN:ND2	16:K:12:ARG:HE	1.63	0.94
29:X:2811:G:H2'	29:X:2812:A:C8	2.03	0.94
27:V:2:LYS:HG3	27:V:3:PRO:HD3	1.46	0.94
26:U:70:LEU:HB3	26:U:79:GLU:OE2	1.67	0.94
29:X:2661:G:O6	29:X:2708:U:H1'	1.66	0.94
13:H:13:ASN:ND2	13:H:109:ARG:HG2	1.82	0.94
13:H:23:ARG:HH12	13:H:25:LEU:CD2	1.81	0.94
12:G:61:ARG:NE	12:G:65:LYS:HD2	1.82	0.94
18:M:34:ARG:CZ	18:M:88:VAL:HG11	1.96	0.94
18:M:39:VAL:HG12	18:M:45:THR:HG23	1.49	0.94
29:X:76:C:H5'	29:X:76:C:H6	1.31	0.94
14:I:104:ARG:HB3	14:I:105:PRO:HD2	1.48	0.93
19:N:24:PHE:CE1	29:X:543:G:H5'	2.02	0.93
19:N:101:ARG:O	19:N:103:PRO:HD3	1.68	0.93
26:U:27:ASP:C	26:U:32:ARG:HD3	1.93	0.93
28:W:2:LYS:HB3	28:W:54:GLN:HB3	1.47	0.93
29:X:1052:C:H2'	29:X:1053:G:H5''	1.47	0.93
29:X:2404:A:H4'	29:X:2405:A:C5'	1.99	0.93
31:Z:53:G:H21	31:Z:54:U:H5	1.11	0.93
6:A:36:ALA:HB1	6:A:62:TYR:O	1.66	0.93
29:X:636:G:H5'	29:X:636:G:H8	1.34	0.93
17:L:15:ARG:CD	17:L:91:ARG:HH11	1.82	0.93
18:M:33:VAL:HG22	18:M:51:GLU:CB	1.99	0.93
19:N:61:TRP:HZ3	19:N:94:VAL:H	1.11	0.93
21:P:114:ALA:HB2	29:X:1630:A:N1	1.83	0.93
29:X:1067:G:H21	29:X:1114:A:H62	1.16	0.93
11:F:112:MET:CG	11:F:113:PRO:HD3	1.97	0.93
29:X:1386:A:H5''	29:X:2191:A:N6	1.84	0.93
11:F:20:ALA:H	11:F:21:PRO:HD2	1.30	0.93
11:F:54:PRO:HG2	11:F:70:LYS:HB2	1.48	0.93
29:X:2662:C:H2'	29:X:2663:U:H6	1.34	0.93
29:X:1128:G:H3'	29:X:1129:A:C5'	1.98	0.93
9:D:13:ARG:CZ	9:D:14:PRO:HG3	1.99	0.93
25:T:40:GLN:NE2	25:T:43:THR:HA	1.84	0.93
29:X:558:G:H3'	29:X:558:G:C4	1.98	0.93
10:E:30:LYS:HG2	10:E:79:VAL:O	1.69	0.93
17:L:10:LYS:HB2	17:L:14:ARG:HH21	1.33	0.93

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:224:G:H4'	29:X:399:G:C6	2.04	0.93
14:I:28:LYS:HZ2	14:I:36:GLY:CA	1.80	0.92
29:X:317:U:C2'	29:X:318:G:H5''	1.99	0.92
29:X:2691:C:HO2'	29:X:2692:A:H8	0.93	0.92
30:Y:45:ILE:HG21	30:Y:57:VAL:HG23	1.46	0.92
4:4:9:LYS:H	4:4:9:LYS:HD2	1.32	0.92
24:S:113:VAL:HA	24:S:171:VAL:HA	1.51	0.92
29:X:1056:U:O2	29:X:1056:U:H2'	1.13	0.92
29:X:1539:U:H2'	29:X:1540:C:H6	1.34	0.92
10:E:139:GLN:HB3	10:E:143:GLN:CD	1.94	0.92
28:W:4:LYS:CG	28:W:52:GLU:HB3	1.97	0.92
13:H:116:ARG:HH21	18:M:40:ARG:HB2	1.33	0.92
25:T:3:HIS:HD2	25:T:5:LYS:HD3	1.32	0.92
29:X:109:A:C2'	29:X:110:U:H5''	1.98	0.92
29:X:2083:G:H1	29:X:2172:U:H3	1.17	0.92
13:H:16:ALA:HB2	13:H:64:VAL:HG11	1.51	0.92
29:X:558:G:N3	29:X:558:G:C5'	2.33	0.92
29:X:1473:U:OP2	29:X:1473:U:H6	1.51	0.92
29:X:1670:G:H4'	29:X:1671:A:OP1	1.68	0.92
22:Q:90:ALA:C	22:Q:92:ALA:H	1.75	0.92
28:W:40:VAL:HA	28:W:43:MET:HG2	1.51	0.92
29:X:2023:C:H2'	29:X:2024:U:H6	1.35	0.92
24:S:154:LEU:HD11	24:S:160:LEU:HG	1.50	0.92
6:A:44:ASN:HB3	6:A:49:ILE:HA	1.50	0.92
17:L:33:ARG:CZ	17:L:103:LEU:HB2	2.00	0.92
29:X:1118:G:C2'	29:X:1119:U:H5''	1.99	0.92
10:E:18:ASN:HB2	10:E:25:LYS:HB3	1.51	0.91
29:X:1053:G:C2'	29:X:1054:C:H6	1.83	0.91
23:R:15:HIS:HD1	23:R:16:PHE:HD2	1.10	0.91
29:X:2212:U:H2'	29:X:2213:G:C8	2.05	0.91
6:A:270:ILE:HG13	6:A:271:VAL:H	1.32	0.91
9:D:150:ARG:CG	9:D:151:GLY:H	1.83	0.91
19:N:88:ILE:HA	20:O:49:GLU:HG3	1.53	0.91
29:X:1467:U:H3'	29:X:1467:U:H6	1.32	0.91
31:Z:36:A:HO2'	31:Z:37:C:H5	1.14	0.91
8:C:110:SER:HA	8:C:113:GLU:OE1	1.71	0.91
29:X:176:A:H3'	29:X:177:U:H5	1.35	0.91
29:X:1849:G:N3	29:X:1868:A:N6	2.19	0.91
11:F:79:ARG:HB3	11:F:84:ILE:O	1.71	0.91
28:W:23:LEU:HD21	28:W:43:MET:CB	1.99	0.91
23:R:9:HIS:HD1	29:X:337:G:HO2'	1.18	0.91

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:O:57:GLN:H	20:O:97:GLY:CA	1.84	0.91
26:U:29:GLY:C	26:U:31:GLY:N	2.26	0.91
6:A:182:LEU:HD12	6:A:269:PHE:CD2	2.06	0.91
7:B:75:THR:O	7:B:76:ARG:HB3	1.68	0.91
9:D:29:PRO:HG2	9:D:165:GLU:HB3	1.52	0.91
17:L:97:HIS:CD2	17:L:98:GLY:H	1.89	0.91
19:N:88:ILE:HG12	20:O:49:GLU:OE1	1.70	0.91
29:X:537:C:H1'	29:X:538:A:C6	2.05	0.91
6:A:211:ARG:HH11	6:A:211:ARG:CG	1.84	0.91
20:O:26:GLN:HG2	20:O:27:GLY:H	1.35	0.91
29:X:652:C:H42	29:X:657:A:H61	1.18	0.91
6:A:72:LYS:HE2	6:A:97:TYR:HD2	1.32	0.90
20:O:28:GLU:O	20:O:30:GLY:N	2.04	0.90
19:N:88:ILE:HG23	20:O:49:GLU:HB2	1.50	0.90
21:P:50:VAL:HB	21:P:90:LEU:O	1.70	0.90
27:V:42:ARG:NH1	27:V:45:GLN:HE22	1.69	0.90
29:X:1919:A:H2	29:X:1926:U:N3	1.67	0.90
29:X:497:C:H5'	29:X:497:C:H6	1.35	0.90
6:A:132:PRO:HA	6:A:190:TYR:HA	1.53	0.90
10:E:89:LEU:HB2	10:E:129:THR:HA	1.53	0.90
9:D:60:ILE:HG22	9:D:140:GLU:HB2	1.51	0.90
17:L:38:ILE:CD1	17:L:40:ALA:H	1.85	0.90
29:X:2490:U:H2'	29:X:2491:C:C6	2.06	0.90
6:A:88:ARG:HG2	6:A:90:ALA:HB3	1.53	0.90
8:C:47:THR:HG23	8:C:85:GLY:H	1.36	0.90
14:I:94:GLU:CA	14:I:97:ARG:HE	1.80	0.90
29:X:482:A:H2'	29:X:483:A:O4'	1.71	0.90
29:X:2189:A:H61	29:X:2195:C:H41	1.20	0.90
12:G:36:ASN:C	12:G:38:GLU:H	1.78	0.90
14:I:11:GLY:H	14:I:14:LYS:CB	1.84	0.90
17:L:38:ILE:HD11	17:L:40:ALA:H	1.35	0.90
29:X:1095:A:C3'	29:X:1096:A:H5''	2.02	0.90
6:A:50:THR:HG21	29:X:1805:G:N3	1.86	0.90
18:M:28:ARG:CB	18:M:29:PRO:HD3	1.88	0.90
29:X:1281:A:H1'	29:X:2592:U:C4	2.06	0.90
6:A:209:ALA:HB2	29:X:1781:C:O2'	1.71	0.89
16:K:60:LEU:HD11	16:K:64:ARG:HE	1.38	0.89
22:Q:7:LEU:HD22	22:Q:7:LEU:C	1.96	0.89
11:F:71:THR:HG22	11:F:110:THR:HG22	1.52	0.89
13:H:7:ARG:NH1	13:H:20:MET:HE3	1.86	0.89
21:P:8:PHE:O	21:P:9:ARG:HB2	1.71	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1086:C:H3'	29:X:1087:C:H5''	1.54	0.89
24:S:133:GLU:OE2	24:S:135:VAL:HG23	1.73	0.89
29:X:538:A:H3'	29:X:538:A:N3	1.87	0.89
29:X:2195:C:C6	29:X:2196:U:C5	2.60	0.89
10:E:109:TYR:HE1	10:E:152:ARG:CZ	1.85	0.89
19:N:3:ARG:HG2	19:N:3:ARG:HH11	1.35	0.89
7:B:120:TRP:CD2	7:B:155:ARG:HD2	2.07	0.89
9:D:40:LEU:HB3	9:D:150:ARG:NE	1.86	0.89
17:L:33:ARG:NH1	17:L:103:LEU:HB2	1.87	0.89
29:X:1859:A:H2'	29:X:1860:A:C8	2.06	0.89
9:D:12:VAL:O	9:D:16:LEU:HG	1.72	0.89
10:E:126:PRO:HG2	10:E:127:GLU:H	1.37	0.89
13:H:76:ARG:O	13:H:94:ASN:HA	1.71	0.89
20:O:57:GLN:H	20:O:97:GLY:HA2	1.35	0.89
24:S:64:ALA:HB2	24:S:85:MET:HE2	1.53	0.89
29:X:1734:C:C5	29:X:1735:G:H1'	2.08	0.89
14:I:122:VAL:HG21	14:I:125:ALA:HB2	1.55	0.89
15:J:15:ARG:HH11	15:J:15:ARG:HG3	1.38	0.89
20:O:36:LYS:HE3	20:O:56:VAL:HG13	1.52	0.89
8:C:112:GLN:O	8:C:116:LYS:HE2	1.72	0.89
20:O:22:VAL:CG2	29:X:1173:G:H4'	2.02	0.89
26:U:70:LEU:HD21	26:U:77:GLY:O	1.72	0.89
29:X:98:U:H5'	29:X:99:U:H5''	1.55	0.89
15:J:62:GLY:HA3	15:J:64:LYS:HE3	1.55	0.89
29:X:169:C:H2'	29:X:170:U:H5'	1.54	0.89
29:X:1299:A:H2'	29:X:1301:U:OP2	1.73	0.89
23:R:95:ARG:CZ	23:R:106:VAL:HG12	2.03	0.88
29:X:635:C:H2'	29:X:636:G:H5''	1.54	0.88
13:H:2:ILE:HB	13:H:45:ALA:HB3	1.53	0.88
20:O:5:ILE:HD11	20:O:8:GLY:O	1.72	0.88
29:X:729:A:H3'	29:X:729:A:N3	1.86	0.88
29:X:2075:U:O2'	29:X:2076:G:H5''	1.71	0.88
29:X:2195:C:H2'	29:X:2196:U:H6	1.31	0.88
10:E:44:ARG:NH2	10:E:46:ASP:HB2	1.88	0.88
11:F:13:PRO:HA	11:F:52:ILE:HA	1.54	0.88
12:G:34:PRO:HA	12:G:69:ASP:CG	1.98	0.88
12:G:61:ARG:HE	12:G:65:LYS:CD	1.84	0.88
20:O:11:GLN:NE2	20:O:38:LEU:HB3	1.88	0.88
22:Q:51:ILE:HD11	22:Q:83:ALA:HA	1.54	0.88
26:U:32:ARG:HE	26:U:32:ARG:N	1.72	0.88
12:G:36:ASN:O	12:G:38:GLU:N	2.06	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:I:101:ARG:HD3	29:X:637:G:H1	1.39	0.88
29:X:857:U:H2'	29:X:858:G:O4'	1.73	0.88
29:X:914:C:H2'	29:X:915:C:H6	1.35	0.88
6:A:77:ALA:HB2	6:A:97:TYR:CD1	2.09	0.88
6:A:125:PRO:HG3	6:A:131:LEU:HD13	1.53	0.88
6:A:246:PRO:HD3	6:A:251:GLY:H	1.38	0.88
11:F:19:PRO:HG2	11:F:21:PRO:CD	2.02	0.88
19:N:70:ARG:HG3	19:N:70:ARG:HH11	1.38	0.88
26:U:67:LEU:HD23	26:U:67:LEU:O	1.73	0.88
27:V:7:ARG:HD2	27:V:8:ASN:N	1.87	0.88
30:Y:16:ARG:HD3	30:Y:20:ARG:CZ	2.03	0.88
29:X:2871:U:H2'	29:X:2872:U:C6	2.09	0.88
6:A:70:ARG:HG2	6:A:190:TYR:CE1	2.09	0.88
26:U:13:LEU:HD12	26:U:14:VAL:H	1.37	0.87
29:X:116:A:H5'	29:X:117:A:H8	1.36	0.87
6:A:68:LYS:HD3	6:A:68:LYS:H	1.39	0.87
6:A:231:HIS:HD2	6:A:233:HIS:H	1.21	0.87
20:O:36:LYS:HZ2	20:O:54:TYR:HB3	1.36	0.87
24:S:95:SER:HB3	24:S:119:ASN:HD21	1.39	0.87
29:X:862:A:H2'	29:X:863:C:C6	2.08	0.87
29:X:1354:A:H3'	29:X:1410:U:O2	1.73	0.87
15:J:27:TYR:HB3	15:J:137:VAL:HG21	1.55	0.87
25:T:71:ASN:ND2	25:T:77:ARG:HD3	1.89	0.87
29:X:1181:C:H2'	29:X:1182:U:H5''	1.54	0.87
12:G:52:GLY:O	12:G:55:ALA:HB3	1.74	0.87
21:P:14:ARG:HA	21:P:17:GLN:HG2	1.56	0.87
7:B:194:GLY:HA2	18:M:2:GLN:HB3	1.55	0.87
29:X:314:G:H2'	29:X:315:G:H8	1.36	0.87
29:X:1018:C:H3'	29:X:1019:U:C5'	2.04	0.87
29:X:1223:G:H4'	29:X:1224:A:C5'	2.04	0.87
29:X:1313:U:H4'	29:X:1314:A:O5'	1.75	0.87
29:X:2170:C:H3'	29:X:2171:U:C5'	2.04	0.87
11:F:12:LEU:HD13	11:F:18:THR:HG21	1.54	0.87
29:X:2326:C:C2	29:X:2327:U:C5	2.63	0.87
10:E:37:TYR:CD2	10:E:68:THR:HG23	2.09	0.87
10:E:43:VAL:HB	10:E:52:VAL:HA	1.55	0.87
29:X:497:C:H5'	29:X:497:C:C6	2.09	0.87
29:X:689:A:C8	29:X:2422:C:H1'	2.09	0.87
29:X:2058:U:H3'	29:X:2217:G:N2	1.89	0.87
29:X:389:G:H2'	29:X:390:U:C6	2.10	0.87
29:X:788:G:H5'	29:X:790:A:C1'	2.04	0.87

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2796:A:H2'	29:X:2797:G:C8	2.09	0.87
25:T:40:GLN:HE22	25:T:43:THR:HA	1.35	0.87
29:X:1275:A:C2	30:Y:10:LYS:HE2	2.10	0.87
30:Y:4:HIS:HB3	30:Y:5:PRO:CD	2.03	0.87
7:B:2:LYS:HA	7:B:84:PHE:HE1	1.36	0.86
10:E:43:VAL:HG21	10:E:52:VAL:HG22	1.57	0.86
27:V:14:PHE:HD2	27:V:57:LYS:HB2	1.40	0.86
29:X:176:A:H3'	29:X:177:U:C5	2.09	0.86
29:X:516:G:O2'	29:X:517:A:H8	1.58	0.86
29:X:2691:C:H2'	29:X:2692:A:H5''	1.55	0.86
21:P:45:ILE:HD11	21:P:57:LEU:HG	1.57	0.86
29:X:460:U:O4	29:X:592:G:H1'	1.75	0.86
29:X:1052:C:C3'	29:X:1053:G:C5'	2.53	0.86
6:A:183:ARG:HB3	6:A:183:ARG:NH1	1.90	0.86
29:X:731:A:H2'	29:X:732:G:O4'	1.75	0.86
29:X:1573:G:H3'	29:X:1574:A:H5''	1.56	0.86
12:G:158:HIS:HA	12:G:161:GLN:CD	2.01	0.86
14:I:13:ARG:HH11	29:X:1218:C:C4'	1.87	0.86
17:L:63:ASN:HB3	17:L:66:ASP:HB2	1.55	0.86
18:M:101:ARG:NH2	29:X:1745:C:OP1	2.09	0.86
22:Q:66:GLY:O	22:Q:68:PHE:N	2.07	0.86
29:X:2198:U:H2'	29:X:2199:C:O4'	1.75	0.86
26:U:13:LEU:CD1	26:U:14:VAL:H	1.87	0.86
26:U:53:GLU:O	26:U:78:ILE:HG22	1.74	0.86
29:X:789:G:H4'	29:X:790:A:O5'	1.76	0.86
29:X:1512:A:H2'	29:X:1514:C:C5	2.09	0.86
29:X:1775:A:H4'	29:X:1776:A:O5'	1.72	0.86
8:C:22:VAL:HA	8:C:106:MET:HG3	1.56	0.86
13:H:110:VAL:HG23	13:H:129:LEU:HB2	1.55	0.86
23:R:93:ARG:HH12	23:R:108:VAL:HA	1.38	0.86
9:D:13:ARG:HB3	9:D:14:PRO:HD3	1.58	0.86
20:O:13:ARG:HG2	20:O:14:VAL:H	1.39	0.86
24:S:36:ARG:HG2	24:S:40:ASP:OD1	1.73	0.86
26:U:51:ILE:HA	26:U:59:THR:O	1.76	0.86
6:A:258:LYS:NZ	6:A:261:ARG:HE	1.74	0.86
22:Q:25:TYR:OH	22:Q:87:SER:HA	1.74	0.86
23:R:38:LEU:HD12	23:R:47:VAL:HG21	1.58	0.86
25:T:3:HIS:CD2	25:T:5:LYS:HD3	2.10	0.86
25:T:71:ASN:HD22	25:T:77:ARG:CD	1.89	0.86
29:X:1468:A:H5''	29:X:1472:C:H41	1.36	0.86
29:X:1856:U:C2'	29:X:1857:G:O5'	2.24	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:G:115:ALA:O	12:G:118:ALA:HB3	1.76	0.86
13:H:10:VAL:HG21	13:H:16:ALA:O	1.76	0.86
19:N:66:ASN:CB	19:N:70:ARG:HH12	1.88	0.86
15:J:78:LYS:HA	15:J:88:LYS:HZ3	1.41	0.85
17:L:33:ARG:NH2	17:L:103:LEU:HB2	1.90	0.85
18:M:34:ARG:NH1	18:M:81:PHE:HB3	1.91	0.85
19:N:13:ARG:NE	29:X:1264:C:H5''	1.91	0.85
19:N:50:ARG:C	19:N:52:ASN:H	1.83	0.85
29:X:476:G:H2'	29:X:477:A:C8	2.10	0.85
29:X:824:U:H1'	29:X:1264:C:H1'	1.58	0.85
8:C:186:LEU:HG	8:C:188:ILE:HG12	1.56	0.85
9:D:33:LYS:HG3	9:D:157:VAL:HG21	1.57	0.85
10:E:88:GLU:OE2	10:E:90:ARG:HD2	1.76	0.85
23:R:18:LYS:N	23:R:18:LYS:HE2	1.91	0.85
23:R:90:LYS:HD2	23:R:108:VAL:HG21	1.55	0.85
19:N:8:ILE:O	19:N:12:ARG:HG3	1.75	0.85
24:S:105:GLN:OE1	24:S:140:LYS:HA	1.76	0.85
30:Y:51:TYR:CE1	30:Y:55:ARG:HB2	2.11	0.85
8:C:28:HIS:CE1	14:I:21:ARG:HH11	1.93	0.85
9:D:171:GLN:HA	9:D:175:LEU:HB3	1.58	0.85
12:G:98:LYS:HB3	12:G:116:ARG:HB2	1.58	0.85
15:J:44:LYS:HB2	15:J:47:GLN:CD	2.02	0.85
16:K:100:VAL:CG1	16:K:101:GLY:H	1.78	0.85
29:X:958:G:H2'	29:X:959:C:H6	1.40	0.85
29:X:1119:U:H5'	29:X:1119:U:H6	1.40	0.85
30:Y:19:ARG:HB3	30:Y:19:ARG:HH11	1.39	0.85
7:B:37:LYS:HD2	7:B:42:ASP:OD1	1.75	0.85
22:Q:69:ILE:HD13	22:Q:70:GLY:O	1.77	0.85
29:X:1281:A:C1'	29:X:2592:U:H5	1.89	0.85
7:B:53:PRO:HD2	18:M:6:LYS:HZ2	1.39	0.85
8:C:162:ARG:HD2	29:X:333:A:H5'	1.59	0.85
9:D:74:ILE:HG23	9:D:80:ARG:HA	1.59	0.85
14:I:11:GLY:N	14:I:14:LYS:HB3	1.90	0.85
21:P:66:GLU:HB3	21:P:67:PRO:HD3	1.58	0.85
24:S:51:LEU:HD23	24:S:51:LEU:H	1.39	0.85
29:X:1031:C:H41	29:X:1153:A:N6	1.74	0.85
8:C:93:TYR:CD1	29:X:673:G:H5'	2.11	0.85
18:M:99:VAL:HG22	18:M:100:ARG:N	1.90	0.85
23:R:40:LEU:HB2	23:R:45:LYS:HB2	1.57	0.85
24:S:19:ILE:CG1	24:S:36:ARG:HA	2.06	0.85
29:X:623:G:C3'	29:X:624:A:H5''	2.07	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1813:A:H2'	29:X:1814:G:H8	1.41	0.85
6:A:231:HIS:CD2	6:A:233:HIS:H	1.94	0.85
29:X:149:A:H2'	29:X:150:A:C8	2.11	0.85
10:E:103:LEU:HD21	10:E:131:ILE:HD13	1.59	0.85
22:Q:68:PHE:O	22:Q:69:ILE:HD12	1.76	0.85
29:X:2023:C:H2'	29:X:2024:U:C6	2.10	0.85
12:G:56:THR:N	12:G:134:MET:HE1	1.91	0.84
12:G:132:PHE:CZ	12:G:145:HIS:HB2	2.10	0.84
29:X:833:A:H1'	29:X:954:U:O2'	1.77	0.84
29:X:1185:C:H2'	29:X:1186:G:H3'	1.59	0.84
29:X:1710:U:H5'	29:X:1711:C:C5	2.11	0.84
29:X:2706:U:H2'	29:X:2706:U:O2	1.76	0.84
4:4:1:MET:HE2	4:4:1:MET:HA	1.59	0.84
7:B:116:VAL:N	7:B:136:ARG:NE	2.09	0.84
9:D:142:THR:O	9:D:146:VAL:HG13	1.75	0.84
21:P:46:ARG:HH11	21:P:46:ARG:HG2	1.42	0.84
24:S:3:LEU:HD12	24:S:4:THR:N	1.91	0.84
29:X:1018:C:H3'	29:X:1019:U:H5''	1.59	0.84
29:X:2177:U:H2'	29:X:2178:U:C6	2.12	0.84
19:N:31:GLN:NE2	29:X:589:C:H4'	1.92	0.84
29:X:2490:U:H2'	29:X:2491:C:H6	1.38	0.84
29:X:2850:U:H5'	29:X:2850:U:H6	1.41	0.84
8:C:148:VAL:CB	8:C:167:VAL:HG12	2.03	0.84
26:U:50:ALA:HB3	26:U:52:ARG:HH22	1.42	0.84
29:X:555:U:H3'	29:X:555:U:H6	1.42	0.84
29:X:1385:C:H1'	29:X:2192:U:C5	2.12	0.84
29:X:1526:U:H2'	29:X:1527:G:O4'	1.75	0.84
6:A:244:ARG:HB3	6:A:252:LYS:NZ	1.91	0.84
7:B:188:ILE:CG2	7:B:189:PRO:HD2	2.07	0.84
8:C:27:LEU:O	8:C:31:VAL:HG22	1.76	0.84
25:T:60:PHE:CE1	29:X:2344:G:H4'	2.12	0.84
26:U:51:ILE:CG2	26:U:59:THR:HA	2.05	0.84
29:X:553:C:H5'	29:X:554:U:OP1	1.76	0.84
14:I:53:ARG:HD2	14:I:53:ARG:O	1.76	0.84
18:M:33:VAL:CG2	18:M:51:GLU:HB2	2.07	0.84
23:R:25:LEU:HD11	23:R:81:VAL:HG23	1.60	0.84
23:R:38:LEU:HB2	23:R:47:VAL:HB	1.58	0.84
26:U:22:GLY:H	26:U:39:LYS:HB2	1.41	0.84
26:U:54:ASN:C	26:U:56:GLN:H	1.86	0.84
29:X:2240:C:O2'	29:X:2241:U:H5'	1.78	0.84
29:X:759:C:H6	29:X:759:C:H5'	1.40	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:A:99:ASP:HB3	29:X:1507:A:O4'	1.78	0.84
7:B:116:VAL:HG22	7:B:136:ARG:NE	1.90	0.84
23:R:20:ASP:OD1	23:R:83:LEU:HD23	1.76	0.84
23:R:56:LYS:HA	23:R:69:GLN:HA	1.60	0.84
29:X:1194:U:H2'	29:X:1195:U:C6	2.12	0.84
8:C:93:TYR:HD2	8:C:93:TYR:H	1.24	0.84
9:D:115:ARG:HB2	9:D:178:ARG:HD2	1.60	0.84
18:M:37:THR:HG22	18:M:39:VAL:HG13	1.59	0.84
19:N:114:ARG:NH1	19:N:115:ASN:HD21	1.74	0.84
26:U:31:GLY:HA2	26:U:32:ARG:NH1	1.92	0.84
29:X:2811:G:H2'	29:X:2812:A:H8	1.40	0.84
29:X:1231:A:H2'	29:X:1232:U:H6	1.42	0.84
29:X:2040:A:H2'	29:X:2041:A:H8	1.43	0.84
10:E:50:LEU:HD23	10:E:51:LEU:H	1.41	0.83
13:H:116:ARG:HD2	18:M:38:LYS:CE	2.04	0.83
16:K:73:LYS:O	16:K:76:VAL:HG12	1.78	0.83
24:S:117:VAL:HG22	24:S:168:VAL:HA	1.59	0.83
29:X:2712:G:H3'	29:X:2713:A:H5'	1.59	0.83
6:A:183:ARG:HH11	6:A:183:ARG:CB	1.90	0.83
7:B:117:MET:H	7:B:136:ARG:CD	1.91	0.83
11:F:10:LEU:HD21	11:F:57:ILE:HG13	1.60	0.83
14:I:81:GLN:HE22	14:I:115:SER:HA	1.42	0.83
16:K:10:LEU:CD2	16:K:17:ARG:HB2	2.08	0.83
24:S:120:LEU:HD23	24:S:121:GLN:N	1.93	0.83
29:X:173:A:H61	29:X:844:G:H21	1.26	0.83
29:X:777:A:H62	29:X:1766:U:H3	1.20	0.83
6:A:160:GLY:HA2	6:A:196:VAL:O	1.78	0.83
13:H:16:ALA:HB3	13:H:98:ILE:HD11	1.60	0.83
29:X:318:G:H5'	29:X:318:G:H8	1.40	0.83
29:X:1574:A:H2'	29:X:1575:C:H5''	1.60	0.83
7:B:142:GLY:C	7:B:143:GLN:HE21	1.84	0.83
8:C:22:VAL:HG13	8:C:106:MET:HG2	1.58	0.83
9:D:119:PRO:HG2	9:D:120:ASN:H	1.40	0.83
14:I:13:ARG:HG2	14:I:13:ARG:HH21	1.42	0.83
17:L:66:ASP:C	17:L:68:ALA:H	1.86	0.83
18:M:99:VAL:HG22	18:M:100:ARG:H	1.43	0.83
23:R:85:ASP:H	23:R:86:PRO:HD3	1.41	0.83
29:X:751:G:H2'	29:X:752:G:C8	2.14	0.83
29:X:1698:C:O2'	29:X:1753:A:H2'	1.78	0.83
16:K:87:TYR:HE1	16:K:94:TYR:CD2	1.95	0.83
19:N:61:TRP:HZ3	19:N:94:VAL:N	1.76	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:U:13:LEU:O	26:U:14:VAL:HG13	1.78	0.83
29:X:1513:U:H5''	29:X:1514:C:OP2	1.77	0.83
4:4:24:LEU:HG	4:4:35:ARG:HG3	1.60	0.83
6:A:54:ILE:HG23	6:A:54:ILE:O	1.78	0.83
14:I:18:ARG:CB	14:I:21:ARG:HD3	2.09	0.83
18:M:34:ARG:NH2	18:M:88:VAL:HG11	1.92	0.83
20:O:38:LEU:HD13	20:O:39:PHE:N	1.93	0.83
23:R:112:LYS:O	23:R:113:THR:HG23	1.78	0.83
29:X:558:G:C8	29:X:559:C:C5	2.66	0.83
31:Z:64:C:H2'	31:Z:65:A:H8	1.42	0.83
9:D:123:ASP:C	9:D:125:ARG:H	1.84	0.83
15:J:44:LYS:HB2	15:J:47:GLN:HG3	1.59	0.83
21:P:29:LYS:HG2	21:P:123:HIS:CE1	2.12	0.83
29:X:2484:G:O2'	29:X:2485:U:H5'	1.76	0.83
9:D:4:LEU:CG	9:D:5:LYS:H	1.90	0.83
10:E:43:VAL:HG23	10:E:51:LEU:O	1.77	0.83
14:I:86:THR:OG1	14:I:118:VAL:HG12	1.77	0.83
19:N:13:ARG:HH21	19:N:13:ARG:HG3	1.43	0.83
23:R:105:ARG:NH2	23:R:112:LYS:HA	1.92	0.83
29:X:760:U:C5	30:Y:3:LYS:HG3	2.14	0.83
29:X:2581:A:H5'	29:X:2582:G:OP2	1.78	0.83
9:D:111:ILE:HB	9:D:114:PHE:HB2	1.59	0.83
10:E:29:PRO:HG2	10:E:79:VAL:O	1.76	0.83
29:X:704:G:H2'	29:X:705:C:H6	1.42	0.83
29:X:760:U:C4	30:Y:3:LYS:HG3	2.13	0.83
29:X:2440:C:H2'	29:X:2441:U:H6	1.44	0.83
23:R:93:ARG:HG2	23:R:93:ARG:HH11	1.43	0.82
29:X:2672:U:H2'	29:X:2673:G:C8	2.14	0.82
6:A:244:ARG:HD2	29:X:1885:C:H5'	1.60	0.82
16:K:87:TYR:CE1	16:K:94:TYR:HD2	1.96	0.82
17:L:33:ARG:NH1	17:L:100:VAL:HA	1.93	0.82
17:L:40:ALA:HB1	17:L:75:LEU:HD22	1.61	0.82
6:A:250:TRP:O	6:A:255:LYS:NZ	2.13	0.82
9:D:12:VAL:HG11	9:D:169:LEU:HD12	1.59	0.82
13:H:41:ASN:H	13:H:41:ASN:ND2	1.78	0.82
15:J:22:ALA:HB2	15:J:100:PRO:O	1.79	0.82
15:J:69:ILE:HG23	15:J:104:MET:HA	1.61	0.82
6:A:149:PRO:HG2	29:X:2200:G:O2'	1.79	0.82
12:G:67:ARG:HH21	12:G:70:PHE:C	1.86	0.82
12:G:103:TYR:CZ	12:G:111:LYS:HB2	2.14	0.82
15:J:17:ARG:NH1	29:X:969:U:H5''	1.93	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:S:67:LYS:HZ3	31:Z:106:U:H4'	1.43	0.82
29:X:940:G:OP1	29:X:940:G:H4'	1.79	0.82
4:4:30:VAL:HG12	4:4:33:LYS:HE3	1.61	0.82
7:B:38:THR:HG22	7:B:40:GLN:N	1.92	0.82
18:M:105:TYR:O	18:M:108:ARG:HG3	1.78	0.82
23:R:4:PRO:N	29:X:34:U:HO2'	1.78	0.82
24:S:123:VAL:HG23	24:S:161:ALA:HA	1.62	0.82
27:V:21:ARG:HH11	27:V:53:LEU:HD11	1.44	0.82
29:X:2029:G:H5'	30:Y:19:ARG:HB2	1.62	0.82
8:C:3:GLN:HE22	8:C:4:ILE:HG12	1.44	0.82
18:M:46:ARG:CG	18:M:47:SER:H	1.92	0.82
22:Q:70:GLY:HA2	29:X:63:A:O2'	1.80	0.82
24:S:10:PRO:O	24:S:13:LYS:HG3	1.77	0.82
29:X:757:U:O2'	29:X:758:G:H5'	1.79	0.82
30:Y:35:GLN:O	30:Y:36:CYS:HB3	1.79	0.82
7:B:198:LEU:HD12	7:B:198:LEU:N	1.95	0.82
17:L:20:THR:CG2	17:L:23:ALA:HB3	2.08	0.82
23:R:54:ILE:HD13	23:R:71:GLN:HA	1.60	0.82
23:R:56:LYS:HE3	29:X:493:A:H4'	1.60	0.82
29:X:501:G:H2'	29:X:502:A:H8	1.44	0.82
29:X:2634:G:H2'	29:X:2643:G:O6	1.80	0.82
6:A:85:ASP:OD2	6:A:92:ILE:HD12	1.79	0.82
6:A:95:LEU:HD12	6:A:105:ILE:HD12	1.59	0.82
8:C:179:ASP:O	8:C:182:ARG:HB3	1.80	0.82
15:J:64:LYS:HD2	15:J:64:LYS:N	1.95	0.82
15:J:125:LYS:H	15:J:125:LYS:HD2	1.43	0.82
16:K:3:HIS:CE1	29:X:2796:A:OP2	2.33	0.82
19:N:13:ARG:HE	29:X:1264:C:H5''	1.43	0.82
26:U:14:VAL:HB	26:U:47:HIS:CE1	2.15	0.82
29:X:501:G:H2'	29:X:502:A:C8	2.15	0.82
29:X:1711:C:H4'	29:X:1712:G:H5''	1.59	0.82
29:X:2195:C:C4	29:X:2196:U:C4	2.68	0.82
7:B:176:ARG:HE	18:M:16:ILE:HG12	1.45	0.82
9:D:4:LEU:HG	9:D:5:LYS:H	1.43	0.82
13:H:70:VAL:HG21	13:H:98:ILE:CG2	2.10	0.82
23:R:90:LYS:HB2	23:R:108:VAL:HG11	1.62	0.82
29:X:663:G:C3'	29:X:664:C:H5''	2.10	0.82
29:X:2787:A:H2'	29:X:2788:C:H6	1.43	0.82
29:X:2275:U:H4'	29:X:2276:C:OP1	1.78	0.82
29:X:2405:A:H4'	29:X:2406:C:OP2	1.80	0.82
29:X:2516:U:H2'	29:X:2517:C:H6	1.42	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2769:C:H2'	29:X:2770:A:C8	2.14	0.81
19:N:93:LYS:HD3	20:O:5:ILE:HG22	1.62	0.81
29:X:1919:A:C2	29:X:1926:U:N3	2.46	0.81
29:X:2222:U:H2'	29:X:2223:U:H6	1.40	0.81
10:E:43:VAL:HB	10:E:52:VAL:HG13	1.63	0.81
13:H:116:ARG:CG	18:M:40:ARG:HH21	1.93	0.81
21:P:25:PHE:HD1	21:P:127:ILE:HD11	1.46	0.81
29:X:3:U:H2'	29:X:4:C:C6	2.15	0.81
29:X:427:C:H1'	29:X:1856:U:H1'	1.60	0.81
29:X:555:U:H3'	29:X:555:U:C6	2.16	0.81
29:X:1429:A:H1'	29:X:1603:A:C6	2.15	0.81
7:B:31:CYS:HB3	7:B:49:ILE:HG12	1.60	0.81
15:J:66:TYR:HB2	15:J:106:GLU:CD	2.05	0.81
18:M:5:ILE:HD13	18:M:7:ILE:HB	1.62	0.81
21:P:102:THR:O	21:P:102:THR:HG22	1.81	0.81
29:X:37:C:H2'	29:X:38:G:H8	1.45	0.81
29:X:143:A:H2'	29:X:144:U:H6	1.43	0.81
8:C:176:ASN:HD21	8:C:178:TYR:HB3	1.45	0.81
9:D:74:ILE:HG12	9:D:80:ARG:O	1.80	0.81
15:J:78:LYS:HE2	15:J:81:GLU:HA	1.62	0.81
21:P:71:VAL:HG12	21:P:126:ILE:HG23	1.61	0.81
29:X:813:A:H4'	29:X:814:G:O5'	1.78	0.81
29:X:857:U:H3'	29:X:858:G:C8	2.16	0.81
29:X:1118:G:H2'	29:X:1119:U:C5'	2.10	0.81
29:X:2326:C:H2'	29:X:2327:U:H6	1.44	0.81
11:F:27:LEU:HD22	11:F:57:ILE:HD12	1.60	0.81
16:K:60:LEU:HD11	16:K:64:ARG:NE	1.94	0.81
17:L:36:LYS:HA	17:L:36:LYS:HE3	1.61	0.81
29:X:559:C:H2'	29:X:560:G:O4'	1.80	0.81
29:X:759:C:H5'	29:X:759:C:C6	2.16	0.81
29:X:1051:U:H2'	29:X:1052:C:C6	2.15	0.81
29:X:1787:U:H2'	29:X:1788:C:H6	1.43	0.81
12:G:72:PRO:O	12:G:73:ASN:C	2.24	0.81
16:K:91:PRO:O	16:K:92:GLY:O	1.98	0.81
17:L:101:LYS:HG2	17:L:105:ASP:OD2	1.79	0.81
26:U:20:ARG:HB3	26:U:43:ARG:HH21	1.46	0.81
29:X:1194:U:H5'	29:X:1194:U:H6	1.43	0.81
29:X:1385:C:H1'	29:X:2192:U:C6	2.15	0.81
26:U:40:ARG:NE	29:X:178:C:OP1	2.14	0.81
29:X:187:U:H2'	29:X:188:G:H8	1.46	0.81
29:X:689:A:H8	29:X:2422:C:H1'	1.44	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1849:G:H1'	29:X:1868:A:H61	1.46	0.81
6:A:263:ARG:HG3	29:X:1791:C:OP1	1.81	0.81
10:E:136:ILE:H	10:E:136:ILE:HD12	1.46	0.81
13:H:70:VAL:HG21	13:H:98:ILE:HG23	1.61	0.81
14:I:18:ARG:HB2	14:I:21:ARG:CD	2.09	0.81
26:U:27:ASP:CA	26:U:32:ARG:HH21	1.93	0.81
6:A:172:TYR:CE1	6:A:186:HIS:HB3	2.16	0.81
6:A:246:PRO:CD	6:A:251:GLY:H	1.93	0.81
14:I:108:LEU:O	14:I:109:LEU:HD23	1.80	0.81
29:X:404:A:H1'	29:X:424:G:H1'	1.63	0.81
29:X:2177:U:H2'	29:X:2178:U:H6	1.43	0.81
6:A:252:LYS:H	6:A:252:LYS:CE	1.84	0.80
7:B:189:PRO:HA	29:X:2659:C:H5'	1.61	0.80
8:C:44:SER:OG	29:X:37:C:H1'	1.79	0.80
10:E:89:LEU:HD13	10:E:95:ARG:HA	1.63	0.80
12:G:154:GLU:OE1	12:G:154:GLU:N	2.14	0.80
13:H:47:VAL:HG23	13:H:77:THR:CG2	2.06	0.80
14:I:77:LEU:HB2	14:I:111:SER:H	1.45	0.80
15:J:106:GLU:CD	15:J:106:GLU:N	2.38	0.80
16:K:13:ASN:ND2	16:K:16:ALA:H	1.79	0.80
22:Q:6:ILE:HG22	22:Q:7:LEU:N	1.96	0.80
29:X:2225:G:H2'	29:X:2226:A:H8	1.46	0.80
10:E:30:LYS:HB2	10:E:79:VAL:HA	1.60	0.80
10:E:98:LEU:HD12	10:E:99:THR:H	1.45	0.80
13:H:27:SER:HB3	13:H:50:ILE:H	1.45	0.80
29:X:914:C:H2'	29:X:915:C:C6	2.16	0.80
10:E:139:GLN:HE21	29:X:2726:U:H1'	1.46	0.80
16:K:103:ARG:NH2	16:K:106:ASP:OD2	2.14	0.80
17:L:36:LYS:HB3	17:L:64:LYS:HB2	1.62	0.80
29:X:1107:A:H3'	29:X:1108:U:H5''	1.60	0.80
29:X:1231:A:H2'	29:X:1232:U:C6	2.16	0.80
8:C:39:ARG:HH21	8:C:91:TYR:HD2	1.27	0.80
19:N:72:HIS:CD2	19:N:110:VAL:HG21	2.17	0.80
24:S:10:PRO:O	24:S:14:LEU:HG	1.81	0.80
24:S:46:GLN:HB3	24:S:50:GLY:HA3	1.62	0.80
24:S:120:LEU:HD23	24:S:121:GLN:H	1.46	0.80
24:S:127:PRO:CA	24:S:130:ILE:HD11	2.12	0.80
24:S:154:LEU:HD21	24:S:160:LEU:HD21	1.64	0.80
29:X:402:A:C8	29:X:2392:G:H4'	2.16	0.80
7:B:134:TRP:CD1	7:B:134:TRP:H	1.98	0.80
7:B:188:ILE:HG23	7:B:189:PRO:HD2	1.62	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:D:4:LEU:HG	9:D:5:LYS:N	1.96	0.80
12:G:116:ARG:HD2	12:G:119:LEU:HD12	1.64	0.80
29:X:1439:G:H2'	29:X:1440:G:C8	2.17	0.80
19:N:55:ARG:HD3	29:X:1166:A:H5''	1.63	0.80
29:X:1452:U:O2'	29:X:1453:A:H5'	1.81	0.80
9:D:122:PHE:HA	29:X:2282:G:H4'	1.64	0.80
14:I:86:THR:H	14:I:116:ARG:NH1	1.79	0.80
26:U:22:GLY:N	26:U:39:LYS:HB2	1.96	0.80
26:U:49:LYS:HB2	26:U:61:TRP:CA	2.10	0.80
29:X:693:A:H2'	29:X:694:G:H8	1.45	0.80
29:X:1811:A:H4'	29:X:1812:U:H5''	1.62	0.80
29:X:2324:G:N3	29:X:2360:C:H2'	1.97	0.80
29:X:2326:C:H2'	29:X:2327:U:C6	2.16	0.80
13:H:132:GLU:HB2	18:M:73:PHE:HE1	1.45	0.80
29:X:2266:A:N6	29:X:2323:U:N3	2.29	0.80
29:X:2311:U:H5'	29:X:2315:A:N6	1.95	0.80
29:X:2563:U:C2'	29:X:2564:U:H5''	2.11	0.80
31:Z:53:G:N2	31:Z:54:U:H5	1.80	0.80
27:V:14:PHE:CD2	27:V:57:LYS:HB2	2.16	0.80
28:W:40:VAL:HA	28:W:43:MET:CG	2.10	0.80
28:W:46:THR:HG22	28:W:47:VAL:HG13	1.63	0.80
28:W:47:VAL:HB	28:W:50:LEU:HD12	1.63	0.80
29:X:685:U:O2'	29:X:686:C:H5'	1.82	0.80
29:X:2426:G:H3'	29:X:2479:U:OP2	1.82	0.80
7:B:136:ARG:HD3	29:X:1673:C:OP1	1.81	0.79
13:H:35:THR:HG21	29:X:2629:U:H5'	1.64	0.79
17:L:32:TYR:CE2	31:Z:9:G:H5'	2.16	0.79
26:U:51:ILE:HG12	26:U:59:THR:HB	1.63	0.79
11:F:104:VAL:HA	11:F:107:ILE:HD12	1.64	0.79
12:G:103:TYR:CD2	29:X:1142:G:H1'	2.17	0.79
12:G:104:THR:OG1	12:G:110:LEU:HB3	1.82	0.79
13:H:9:ASP:OD1	13:H:93:ARG:NH2	2.16	0.79
17:L:89:PHE:CE2	29:X:2356:A:H1'	2.17	0.79
18:M:79:ARG:HG3	18:M:79:ARG:NH1	1.93	0.79
26:U:13:LEU:CG	26:U:14:VAL:H	1.95	0.79
29:X:2189:A:H61	29:X:2195:C:N4	1.79	0.79
8:C:95:LEU:HD23	8:C:96:PRO:CD	2.13	0.79
12:G:35:LYS:O	12:G:36:ASN:HB3	1.82	0.79
12:G:117:GLU:C	12:G:119:LEU:H	1.89	0.79
12:G:155:THR:HG23	12:G:156:HIS:H	1.46	0.79
23:R:15:HIS:HD2	29:X:347:C:H4'	1.46	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:631:G:H4'	29:X:632:A:H5''	1.65	0.79
29:X:1468:A:H8	29:X:1468:A:O5'	1.64	0.79
29:X:2781:G:C2'	29:X:2782:G:H5''	2.11	0.79
31:Z:108:G:O2'	31:Z:109:G:H5'	1.83	0.79
9:D:8:TYR:HD1	9:D:173:MET:SD	2.05	0.79
9:D:65:PRO:HB3	9:D:89:VAL:HG22	1.63	0.79
26:U:48:LYS:CG	26:U:49:LYS:H	1.86	0.79
29:X:1281:A:C1'	29:X:2592:U:C5	2.62	0.79
29:X:1432:G:H2'	29:X:1594:U:O4	1.81	0.79
8:C:5:ASN:HA	8:C:118:VAL:CG2	2.12	0.79
14:I:30:ALA:CB	14:I:34:HIS:CE1	2.66	0.79
15:J:125:LYS:HZ2	15:J:125:LYS:HB3	1.44	0.79
23:R:83:LEU:O	23:R:84:VAL:HG23	1.83	0.79
23:R:111:GLY:C	23:R:112:LYS:HD2	2.07	0.79
29:X:104:C:H2'	29:X:105:G:H5'	1.62	0.79
16:K:98:LEU:HD22	30:Y:56:GLN:HG2	1.64	0.79
23:R:22:VAL:HG13	23:R:81:VAL:O	1.83	0.79
29:X:1473:U:OP2	29:X:1473:U:C6	2.36	0.79
29:X:1882:G:H21	29:X:1885:C:H41	1.29	0.79
8:C:194:GLU:O	8:C:195:ILE:HG12	1.83	0.79
9:D:38:GLU:CB	9:D:87:ILE:HB	2.11	0.79
12:G:162:LYS:H	12:G:163:PRO:CD	1.95	0.79
24:S:141:MET:SD	24:S:147:ILE:HG12	2.21	0.79
27:V:42:ARG:O	27:V:46:LEU:HG	1.83	0.79
29:X:693:A:H2'	29:X:694:G:C8	2.17	0.79
29:X:1909:U:H5	29:X:1911:A:H62	1.29	0.79
17:L:21:THR:HG22	17:L:22:ALA:N	1.97	0.79
20:O:10:LYS:HG3	20:O:11:GLN:HG2	1.64	0.79
29:X:958:G:H2'	29:X:959:C:C6	2.18	0.79
29:X:2628:C:H2'	29:X:2629:U:H6	1.48	0.79
9:D:80:ARG:HD3	9:D:83:MET:HB3	1.62	0.79
15:J:20:GLY:C	15:J:99:LYS:HE2	2.06	0.79
15:J:44:LYS:HB2	15:J:47:GLN:CG	2.13	0.79
15:J:125:LYS:HB3	15:J:125:LYS:NZ	1.96	0.79
18:M:108:ARG:C	18:M:109:GLU:HG3	2.06	0.79
21:P:71:VAL:CG1	21:P:126:ILE:HG23	2.13	0.79
21:P:85:MET:HE3	21:P:130:GLU:HG3	1.65	0.79
29:X:37:C:H2'	29:X:38:G:C8	2.16	0.79
29:X:1625:A:H4'	29:X:1626:A:OP1	1.81	0.79
29:X:2263:C:H1'	29:X:2304:G:N2	1.98	0.79
29:X:2821:G:H2'	29:X:2822:U:C6	2.17	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:C:23:ASN:HB3	8:C:26:VAL:HG23	1.64	0.79
12:G:61:ARG:HB3	12:G:61:ARG:HH21	1.47	0.79
25:T:41:ARG:NH1	29:X:2366:U:H1'	1.98	0.79
29:X:555:U:OP2	29:X:556:A:H2'	1.82	0.79
29:X:857:U:H3'	29:X:858:G:H8	1.46	0.79
29:X:1467:U:H3'	29:X:1467:U:C6	2.18	0.79
8:C:162:ARG:HG2	8:C:162:ARG:O	1.83	0.78
10:E:68:THR:O	10:E:72:VAL:HG23	1.83	0.78
10:E:124:ALA:HB3	10:E:132:ASP:HB3	1.65	0.78
13:H:23:ARG:NH2	13:H:23:ARG:HB3	1.98	0.78
13:H:28:GLY:O	13:H:35:THR:N	2.16	0.78
23:R:112:LYS:HD2	23:R:112:LYS:N	1.97	0.78
29:X:314:G:H2'	29:X:315:G:C8	2.17	0.78
29:X:865:A:H2'	29:X:866:U:C6	2.18	0.78
29:X:2189:A:H2	29:X:2196:U:H3	1.31	0.78
6:A:48:ARG:NH2	29:X:787:A:H5''	1.99	0.78
8:C:148:VAL:HB	8:C:167:VAL:CG1	2.07	0.78
8:C:162:ARG:HH22	29:X:310:A:H61	1.30	0.78
11:F:122:ALA:HA	29:X:1092:U:H4'	1.65	0.78
12:G:67:ARG:HE	12:G:70:PHE:HA	1.48	0.78
15:J:44:LYS:HD3	15:J:47:GLN:NE2	1.98	0.78
15:J:79:PRO:HD3	15:J:88:LYS:HZ2	1.46	0.78
6:A:124:GLU:O	6:A:126:LYS:HG3	1.83	0.78
11:F:112:MET:HG3	11:F:113:PRO:CD	2.04	0.78
12:G:150:VAL:HG12	12:G:151:TYR:N	1.98	0.78
15:J:21:ASP:HA	15:J:99:LYS:CG	2.14	0.78
18:M:100:ARG:HD2	29:X:1744:G:OP1	1.83	0.78
19:N:13:ARG:NH1	29:X:825:C:OP1	2.16	0.78
23:R:84:VAL:HG13	23:R:86:PRO:HD2	1.65	0.78
27:V:18:ILE:C	27:V:20:ALA:H	1.91	0.78
29:X:558:G:N3	29:X:558:G:C3'	2.45	0.78
29:X:1051:U:H2'	29:X:1052:C:H6	1.47	0.78
29:X:2040:A:H2'	29:X:2041:A:C8	2.17	0.78
29:X:2259:G:H4'	29:X:2306:A:H5'	1.64	0.78
7:B:134:TRP:H	7:B:134:TRP:HD1	1.27	0.78
12:G:33:ILE:HB	12:G:34:PRO:HD2	1.64	0.78
12:G:100:TYR:HB2	12:G:116:ARG:HH12	1.48	0.78
12:G:103:TYR:HD2	29:X:1142:G:C1'	1.97	0.78
13:H:41:ASN:O	13:H:42:LYS:O	2.01	0.78
14:I:53:ARG:HG3	14:I:53:ARG:HH21	1.49	0.78
29:X:1281:A:H1'	29:X:2592:U:O4	1.83	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2440:C:H2'	29:X:2441:U:C6	2.17	0.78
29:X:2475:C:C2'	29:X:2476:A:H5'	2.13	0.78
29:X:2569:A:H2'	29:X:2570:C:H6	1.49	0.78
6:A:69:ARG:HD3	6:A:105:ILE:HD11	1.64	0.78
6:A:231:HIS:ND1	6:A:247:VAL:HA	1.97	0.78
8:C:162:ARG:NH1	29:X:333:A:H3'	1.97	0.78
9:D:4:LEU:HD11	9:D:173:MET:HE1	1.65	0.78
10:E:71:LEU:O	10:E:74:ASN:HB2	1.82	0.78
13:H:27:SER:HB3	13:H:50:ILE:N	1.97	0.78
19:N:76:TYR:CZ	19:N:80:ILE:HG13	2.17	0.78
29:X:2170:C:H2'	29:X:2171:U:H4'	1.66	0.78
6:A:132:PRO:O	6:A:136:VAL:HG23	1.84	0.78
7:B:131:SER:O	7:B:132:LYS:HG2	1.83	0.78
12:G:105:GLY:O	12:G:106:TYR:C	2.27	0.78
14:I:76:LYS:HE3	14:I:111:SER:HB3	1.66	0.78
15:J:55:MET:HG2	15:J:118:ALA:O	1.83	0.78
23:R:105:ARG:HH22	23:R:112:LYS:CA	1.96	0.78
25:T:51:VAL:HG21	25:T:79:ILE:O	1.82	0.78
26:U:50:ALA:CB	26:U:52:ARG:HH22	1.97	0.78
6:A:163:VAL:HG22	6:A:177:LEU:HA	1.63	0.78
8:C:66:ASN:HB3	29:X:1268:U:C2'	2.12	0.78
10:E:149:ARG:HG2	10:E:149:ARG:HH21	1.49	0.78
10:E:154:PRO:HA	10:E:160:LYS:O	1.83	0.78
11:F:41:PHE:O	11:F:45:THR:HG23	1.83	0.78
14:I:66:ASN:HD21	14:I:68:VAL:HG23	1.48	0.78
15:J:116:LYS:HE2	15:J:132:MET:HE2	1.65	0.78
20:O:12:TYR:O	20:O:13:ARG:HB2	1.84	0.78
23:R:84:VAL:HG21	23:R:89:GLY:HA2	1.63	0.78
26:U:49:LYS:CB	26:U:61:TRP:HA	2.11	0.78
29:X:104:C:H2'	29:X:105:G:C5'	2.13	0.78
29:X:687:G:O2'	29:X:688:A:H5'	1.84	0.78
29:X:1474:A:H4'	29:X:1475:U:O5'	1.83	0.78
12:G:62:ILE:O	12:G:77:GLY:HA3	1.84	0.78
12:G:154:GLU:C	12:G:157:PRO:HD2	2.08	0.78
19:N:3:ARG:HD3	29:X:457:C:O3'	1.81	0.78
24:S:13:LYS:HB2	24:S:13:LYS:NZ	1.98	0.78
24:S:127:PRO:O	24:S:128:ARG:HG2	1.82	0.78
31:Z:17:A:H1'	31:Z:112:A:C8	2.19	0.78
8:C:30:VAL:HG12	8:C:31:VAL:H	1.48	0.78
12:G:162:LYS:NZ	29:X:5:A:H1'	1.99	0.78
13:H:41:ASN:ND2	29:X:2653:A:O2'	2.16	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:P:40:LEU:HD22	30:Y:25:LEU:CD1	2.14	0.78
29:X:704:G:H2'	29:X:705:C:C6	2.19	0.78
6:A:226:MET:HE3	29:X:795:A:N1	1.98	0.78
10:E:44:ARG:HH21	10:E:44:ARG:HG3	1.49	0.78
11:F:54:PRO:HG2	11:F:70:LYS:HD2	1.66	0.78
12:G:103:TYR:CB	12:G:107:GLN:HE21	1.96	0.78
26:U:33:LYS:NZ	29:X:2400:G:H21	1.80	0.78
29:X:2796:A:H2'	29:X:2797:G:H8	1.49	0.78
14:I:4:HIS:HA	14:I:7:LYS:NZ	1.98	0.77
19:N:93:LYS:HE2	20:O:10:LYS:HZ3	1.49	0.77
27:V:38:ALA:C	27:V:40:PRO:HD3	2.09	0.77
29:X:652:C:H42	29:X:657:A:N6	1.83	0.77
29:X:925:U:H4'	29:X:926:C:OP1	1.84	0.77
29:X:1337:G:H1'	29:X:1632:A:N6	1.98	0.77
29:X:1539:U:H2'	29:X:1540:C:C6	2.18	0.77
30:Y:58:LEU:H	30:Y:58:LEU:HD12	1.48	0.77
9:D:71:LYS:HB2	29:X:2291:U:OP1	1.84	0.77
11:F:23:VAL:HA	11:F:26:ALA:HB3	1.65	0.77
18:M:103:LYS:O	18:M:104:LEU:HB2	1.82	0.77
22:Q:54:SER:HB2	29:X:1354:A:O2'	1.85	0.77
26:U:23:LYS:HD2	26:U:35:THR:OG1	1.84	0.77
29:X:2228:U:H5''	29:X:2229:G:OP2	1.83	0.77
31:Z:34:C:H2'	31:Z:35:C:C6	2.19	0.77
6:A:43:ARG:N	6:A:43:ARG:CD	2.43	0.77
8:C:84:PHE:HE1	29:X:596:C:H5'	1.48	0.77
9:D:70:ALA:C	9:D:72:LYS:H	1.92	0.77
13:H:116:ARG:HG2	18:M:40:ARG:NH2	1.97	0.77
14:I:63:ARG:O	14:I:64:GLY:C	2.27	0.77
29:X:172:A:C5	29:X:175:C:H5	2.01	0.77
29:X:987:G:H4'	29:X:1167:A:N7	1.98	0.77
29:X:1117:G:H2'	29:X:1118:G:C8	2.19	0.77
29:X:1597:A:H2'	29:X:1598:C:C6	2.20	0.77
12:G:107:GLN:HA	12:G:110:LEU:HG	1.65	0.77
16:K:11:ASN:HD21	16:K:12:ARG:HE	1.30	0.77
18:M:28:ARG:HB2	18:M:29:PRO:CD	2.11	0.77
23:R:54:ILE:HA	23:R:70:GLU:O	1.84	0.77
23:R:82:ALA:O	23:R:83:LEU:HD12	1.85	0.77
24:S:6:LYS:H	24:S:7:PRO:CD	1.97	0.77
29:X:1061:A:O2'	29:X:1062:G:H5'	1.85	0.77
29:X:1095:A:C2'	29:X:1096:A:H5''	2.14	0.77
8:C:148:VAL:O	8:C:167:VAL:HA	1.84	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:G:132:PHE:CE1	12:G:145:HIS:HB2	2.18	0.77
13:H:27:SER:HB3	13:H:50:ILE:HG13	1.67	0.77
18:M:104:LEU:HA	18:M:106:TYR:CE2	2.19	0.77
19:N:24:PHE:CD1	29:X:543:G:H5'	2.19	0.77
20:O:20:ILE:HD12	20:O:21:ARG:N	1.99	0.77
21:P:37:LYS:HG3	29:X:1279:G:N1	1.99	0.77
23:R:18:LYS:HE3	23:R:19:GLY:N	1.99	0.77
23:R:82:ALA:O	23:R:83:LEU:O	2.03	0.77
24:S:141:MET:HA	24:S:145:ASP:OD1	1.84	0.77
26:U:10:LYS:HG2	26:U:11:LYS:N	2.00	0.77
27:V:21:ARG:NH1	27:V:53:LEU:HD11	1.99	0.77
29:X:2:G:H2'	29:X:3:U:C6	2.18	0.77
29:X:172:A:N1	29:X:178:C:N3	2.33	0.77
17:L:16:LYS:HD3	31:Z:11:G:OP1	1.84	0.77
29:X:215:G:H21	29:X:632:A:H8	1.31	0.77
29:X:1095:A:H2'	29:X:1096:A:H5''	1.65	0.77
10:E:98:LEU:HD12	10:E:99:THR:N	1.98	0.77
12:G:67:ARG:HB3	12:G:70:PHE:CA	2.14	0.77
29:X:1072:U:H1'	29:X:1081:A:H1'	1.65	0.77
29:X:2074:U:H3'	29:X:2075:U:H5''	1.65	0.77
7:B:131:SER:C	7:B:132:LYS:HG2	2.08	0.77
9:D:66:ILE:HD11	31:Z:43:G:C5'	2.14	0.77
9:D:92:ARG:HH12	31:Z:46:G:C4'	1.97	0.77
19:N:48:ARG:O	19:N:52:ASN:HB2	1.84	0.77
29:X:427:C:H2'	29:X:428:A:C8	2.20	0.77
29:X:445:A:H2'	29:X:446:C:C6	2.20	0.77
29:X:746:G:N7	29:X:774:A:C5	2.53	0.77
29:X:2189:A:N6	29:X:2195:C:N4	2.33	0.77
29:X:2871:U:H2'	29:X:2872:U:H6	1.49	0.77
31:Z:16:U:H1'	31:Z:109:G:H21	1.50	0.77
11:F:21:PRO:HG2	11:F:22:PRO:HD3	1.67	0.77
20:O:20:ILE:HD12	20:O:21:ARG:H	1.50	0.77
27:V:41:HIS:CD2	27:V:42:ARG:N	2.52	0.77
28:W:12:ARG:HG2	28:W:12:ARG:HH11	1.48	0.77
29:X:861:G:H2'	29:X:862:A:H5'	1.66	0.77
29:X:1053:G:C2'	29:X:1054:C:C6	2.61	0.77
29:X:1448:A:N6	29:X:1574:A:H61	1.83	0.77
8:C:48:ARG:H	8:C:48:ARG:HD2	1.48	0.77
8:C:75:PRO:CG	8:C:83:ALA:HB2	2.14	0.77
8:C:147:LYS:HA	8:C:165:SER:O	1.85	0.77
18:M:79:ARG:HH11	18:M:79:ARG:CG	1.96	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:Q:7:LEU:O	22:Q:7:LEU:HD13	1.85	0.77
23:R:93:ARG:HH12	23:R:108:VAL:CA	1.97	0.77
24:S:67:LYS:NZ	31:Z:106:U:H4'	1.99	0.77
24:S:91:PRO:O	24:S:92:VAL:HG13	1.85	0.77
29:X:208:C:C2'	29:X:209:G:H5'	2.15	0.77
8:C:117:LEU:HD23	8:C:117:LEU:C	2.09	0.76
17:L:28:ARG:HD2	17:L:90:ASP:CG	2.10	0.76
23:R:93:ARG:HH22	23:R:108:VAL:HA	1.49	0.76
29:X:1505:U:H2'	29:X:1506:C:H5''	1.66	0.76
6:A:42:GLY:C	6:A:43:ARG:NH1	2.43	0.76
7:B:33:ILE:HD13	7:B:36:ARG:HH12	1.50	0.76
8:C:162:ARG:HD2	29:X:333:A:H5''	1.65	0.76
14:I:126:SER:O	14:I:129:ALA:HB3	1.85	0.76
17:L:33:ARG:CG	17:L:38:ILE:HB	2.14	0.76
19:N:66:ASN:HD22	19:N:70:ARG:NH1	1.84	0.76
24:S:13:LYS:HB2	24:S:13:LYS:HZ2	1.50	0.76
25:T:24:LYS:HD2	29:X:2334:C:H4'	1.67	0.76
26:U:28:GLY:O	26:U:30:VAL:N	2.18	0.76
7:B:82:ARG:HH22	29:X:2617:G:P	2.09	0.76
10:E:54:ARG:HH11	10:E:57:ASP:HB3	1.48	0.76
19:N:66:ASN:HD22	19:N:70:ARG:HH12	1.33	0.76
22:Q:62:ARG:O	22:Q:63:LYS:HB3	1.85	0.76
29:X:847:C:C2	29:X:848:A:C8	2.73	0.76
6:A:134:ARG:N	6:A:187:SER:HB2	2.00	0.76
8:C:30:VAL:O	8:C:32:THR:N	2.18	0.76
18:M:100:ARG:NH1	29:X:2824:C:OP1	2.19	0.76
19:N:66:ASN:CB	19:N:76:TYR:H	1.99	0.76
24:S:103:ARG:HH21	24:S:108:VAL:HG23	1.48	0.76
29:X:482:A:O2'	29:X:483:A:H5'	1.84	0.76
29:X:490:A:O2'	29:X:491:A:H5'	1.85	0.76
29:X:517:A:C5'	29:X:518:A:H5'	2.12	0.76
29:X:1561:A:H2'	29:X:1562:G:O4'	1.85	0.76
29:X:2769:C:C2'	29:X:2770:A:H8	1.97	0.76
11:F:20:ALA:H	11:F:21:PRO:CD	1.99	0.76
14:I:28:LYS:HZ2	14:I:37:GLN:N	1.83	0.76
14:I:89:ASP:OD2	14:I:120:VAL:HA	1.85	0.76
24:S:120:LEU:HD21	24:S:162:ALA:CB	2.14	0.76
29:X:1229:C:H2'	29:X:1230:C:H6	1.50	0.76
29:X:1964:A:H5''	29:X:1965:U:OP2	1.85	0.76
6:A:67:PHE:HB3	6:A:153:ALA:H	1.49	0.76
8:C:22:VAL:HG11	8:C:110:SER:OG	1.85	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:D:10:ASP:O	9:D:14:PRO:HD2	1.85	0.76
10:E:87:LEU:HB2	10:E:131:ILE:HB	1.65	0.76
10:E:157:TYR:C	10:E:171:LEU:HD23	2.11	0.76
20:O:71:ILE:HD13	29:X:1003:C:O3'	1.85	0.76
21:P:106:LEU:HD23	21:P:107:ILE:H	1.51	0.76
29:X:652:C:N4	29:X:657:A:H61	1.83	0.76
29:X:2265:A:H4'	29:X:2266:A:O5'	1.86	0.76
6:A:43:ARG:N	6:A:43:ARG:HH11	1.84	0.76
8:C:180:ILE:HG23	8:C:181:LEU:H	1.49	0.76
10:E:95:ARG:CZ	10:E:97:LYS:HE2	2.15	0.76
13:H:70:VAL:HG22	13:H:71:LYS:H	1.50	0.76
13:H:132:GLU:HG3	13:H:133:VAL:N	2.01	0.76
24:S:3:LEU:HB2	24:S:34:LEU:HB3	1.67	0.76
24:S:23:ALA:HB2	24:S:83:PHE:HB2	1.67	0.76
27:V:41:HIS:HA	27:V:44:ARG:HE	1.50	0.76
29:X:487:G:H4'	29:X:512:A:N1	2.00	0.76
29:X:627:A:H2'	29:X:628:A:C8	2.21	0.76
29:X:717:G:H2'	29:X:739:G:N2	1.99	0.76
29:X:1834:G:H2'	29:X:1835:C:C6	2.21	0.76
29:X:1953:A:H5'	29:X:1954:A:OP1	1.84	0.76
29:X:2286:G:N2	29:X:2290:A:H61	1.82	0.76
6:A:43:ARG:HH11	6:A:43:ARG:CB	1.99	0.76
6:A:249:PRO:HG3	29:X:2218:G:O4'	1.84	0.76
14:I:13:ARG:HB3	14:I:13:ARG:CZ	2.14	0.76
14:I:94:GLU:HB3	14:I:97:ARG:NH1	2.00	0.76
14:I:133:VAL:HG21	14:I:140:VAL:CG2	2.16	0.76
17:L:68:ALA:O	17:L:71:VAL:HG13	1.86	0.76
26:U:51:ILE:HG23	26:U:59:THR:CA	2.10	0.76
12:G:67:ARG:HE	12:G:70:PHE:CA	1.99	0.76
13:H:116:ARG:NH2	18:M:40:ARG:HB2	2.01	0.76
23:R:18:LYS:HA	23:R:36:VAL:CG1	2.16	0.76
29:X:1729:C:H2'	29:X:1730:G:C8	2.21	0.76
29:X:2329:C:H2'	29:X:2330:G:O4'	1.86	0.76
29:X:2660:C:C2	29:X:2704:U:O4	2.39	0.76
7:B:142:GLY:CA	7:B:143:GLN:HE21	1.98	0.76
9:D:30:ARG:HE	9:D:159:THR:HG21	1.51	0.76
26:U:41:VAL:HG23	26:U:42:GLN:N	1.97	0.76
29:X:1468:A:O5'	29:X:1468:A:C8	2.39	0.76
6:A:250:TRP:CD1	6:A:255:LYS:HD2	2.21	0.75
29:X:1448:A:H61	29:X:1574:A:N6	1.84	0.75
29:X:1778:U:H2'	29:X:1779:C:C6	2.20	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:D:74:ILE:HG12	9:D:80:ARG:C	2.11	0.75
14:I:13:ARG:HE	29:X:1218:C:H1'	1.51	0.75
29:X:318:G:N2	29:X:320:A:H3'	2.01	0.75
6:A:89:SER:OG	6:A:159:ALA:HB2	1.86	0.75
8:C:84:PHE:CE1	29:X:596:C:H5'	2.21	0.75
14:I:13:ARG:HE	29:X:1218:C:C1'	2.00	0.75
23:R:10:HIS:O	23:R:11:ASN:HB3	1.85	0.75
23:R:38:LEU:HB2	23:R:47:VAL:CG2	2.16	0.75
27:V:6:MET:HE1	27:V:52:GLN:HB3	1.69	0.75
29:X:1426:U:H2'	29:X:1427:G:O4'	1.86	0.75
29:X:1503:G:H2'	29:X:1504:G:C8	2.21	0.75
29:X:2175:A:H2'	29:X:2176:U:H6	1.51	0.75
30:Y:35:GLN:O	30:Y:36:CYS:CB	2.34	0.75
6:A:229:VAL:HG21	29:X:797:A:C5	2.21	0.75
29:X:917:U:H2'	29:X:918:A:H5'	1.68	0.75
9:D:108:LEU:HA	9:D:111:ILE:CD1	2.17	0.75
14:I:53:ARG:HB3	29:X:228:A:OP1	1.86	0.75
17:L:15:ARG:HD2	17:L:91:ARG:NH1	1.95	0.75
17:L:64:LYS:HD3	17:L:64:LYS:N	2.02	0.75
29:X:1279:G:O2'	29:X:1995:G:N1	2.20	0.75
29:X:1374:G:O2'	29:X:1375:C:H5'	1.87	0.75
29:X:1737:G:H2'	29:X:1738:U:H6	1.50	0.75
6:A:245:VAL:HA	6:A:252:LYS:HE2	1.68	0.75
10:E:139:GLN:C	10:E:143:GLN:HG3	2.11	0.75
13:H:79:HIS:CD2	13:H:80:ALA:H	2.05	0.75
17:L:76:ALA:HB1	17:L:111:GLY:N	2.01	0.75
23:R:93:ARG:NH1	23:R:108:VAL:HA	2.01	0.75
29:X:1508:G:H5'	29:X:1509:A:C5'	2.16	0.75
29:X:2548:G:O2'	29:X:2549:G:H5'	1.87	0.75
6:A:210:GLY:HA2	6:A:213:ARG:HG2	1.69	0.75
15:J:17:ARG:HH11	29:X:969:U:H5''	1.48	0.75
15:J:27:TYR:HB3	15:J:137:VAL:CG2	2.17	0.75
16:K:3:HIS:ND1	16:K:5:LYS:CD	2.49	0.75
17:L:91:ARG:HH22	29:X:2356:A:H2	1.35	0.75
24:S:3:LEU:HD21	24:S:32:PHE:HB3	1.67	0.75
25:T:74:LYS:O	25:T:76:ALA:N	2.19	0.75
29:X:304:A:C2'	29:X:305:A:H5''	2.13	0.75
29:X:617:U:H3'	29:X:617:U:O2	1.86	0.75
29:X:1851:A:H62	29:X:1866:G:H21	1.35	0.75
4:4:9:LYS:H	4:4:9:LYS:CD	1.98	0.75
15:J:69:ILE:CG2	15:J:104:MET:HA	2.17	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:R:11:ASN:C	23:R:11:ASN:HD22	1.93	0.75
23:R:93:ARG:HG2	23:R:94:VAL:H	1.52	0.75
29:X:1283:C:H5''	29:X:1284:G:H5'	1.68	0.75
6:A:96:HIS:CD2	29:X:1517:C:H4'	2.22	0.75
8:C:7:ILE:O	8:C:120:VAL:HB	1.86	0.75
10:E:56:SER:HB2	10:E:61:HIS:CD2	2.21	0.75
12:G:61:ARG:HB3	12:G:61:ARG:NH2	2.02	0.75
17:L:10:LYS:O	17:L:14:ARG:HG3	1.87	0.75
24:S:91:PRO:HD3	24:S:127:PRO:HD3	1.68	0.75
29:X:1811:A:H1'	29:X:1813:A:C6	2.22	0.75
14:I:63:ARG:HH11	29:X:2394:G:H3'	1.51	0.74
15:J:38:MET:HE3	15:J:131:LYS:NZ	2.02	0.74
23:R:60:PRO:O	23:R:62:MET:N	2.19	0.74
24:S:10:PRO:HG2	24:S:14:LEU:HD11	1.69	0.74
6:A:149:PRO:HD3	6:A:186:HIS:NE2	2.02	0.74
7:B:75:THR:O	7:B:76:ARG:CB	2.35	0.74
8:C:68:ARG:HH12	29:X:2043:A:H62	0.79	0.74
10:E:126:PRO:HD2	10:E:130:ARG:O	1.86	0.74
12:G:39:GLN:HG3	12:G:39:GLN:O	1.87	0.74
13:H:70:VAL:HG22	13:H:71:LYS:N	2.02	0.74
14:I:76:LYS:HG3	14:I:111:SER:HB2	1.69	0.74
20:O:29:ALA:O	20:O:31:ASP:N	2.20	0.74
29:X:1051:U:H2'	29:X:1052:C:O4'	1.86	0.74
29:X:1416:A:H2'	29:X:1417:C:H6	1.52	0.74
29:X:1830:C:H41	29:X:1881:U:H3'	1.51	0.74
29:X:2640:G:H2'	29:X:2641:A:C8	2.22	0.74
29:X:2867:G:H4'	29:X:2868:G:O5'	1.87	0.74
8:C:31:VAL:HG23	8:C:32:THR:H	1.52	0.74
18:M:43:ASN:ND2	18:M:43:ASN:C	2.45	0.74
18:M:46:ARG:HG3	18:M:47:SER:H	1.49	0.74
18:M:99:VAL:CG2	18:M:100:ARG:H	1.99	0.74
19:N:66:ASN:ND2	19:N:70:ARG:HH12	1.85	0.74
19:N:93:LYS:CE	20:O:10:LYS:HZ3	2.00	0.74
21:P:27:VAL:HB	21:P:125:THR:HG22	1.68	0.74
23:R:85:ASP:OD1	23:R:86:PRO:HD3	1.87	0.74
25:T:44:LYS:HG2	25:T:45:PHE:CD1	2.22	0.74
29:X:306:G:N2	29:X:355:G:H1'	2.02	0.74
29:X:689:A:H1'	29:X:2422:C:O4'	1.87	0.74
29:X:1850:G:N2	29:X:1867:A:C8	2.54	0.74
29:X:2641:A:H2'	29:X:2642:G:O4'	1.87	0.74
29:X:1312:G:H5''	29:X:1313:U:OP1	1.87	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2706:U:O2'	29:X:2707:G:OP1	2.05	0.74
31:Z:42:U:H1'	31:Z:47:A:N6	2.02	0.74
8:C:112:GLN:CD	8:C:116:LYS:HD3	2.12	0.74
9:D:66:ILE:CD1	31:Z:43:G:H5''	2.15	0.74
25:T:26:PHE:HE2	29:X:870:C:H1'	1.52	0.74
26:U:15:VAL:HG12	26:U:46:LEU:HD22	1.67	0.74
29:X:651:C:H2'	29:X:652:C:H5''	1.69	0.74
29:X:1193:G:C2'	29:X:1194:U:H5''	2.17	0.74
29:X:1913:G:H5''	29:X:1914:U:OP1	1.87	0.74
29:X:1979:C:HO2'	29:X:1980:A:C4'	2.01	0.74
29:X:2856:U:O2'	29:X:2857:C:H5'	1.88	0.74
6:A:95:LEU:CD1	6:A:105:ILE:HD12	2.17	0.74
7:B:120:TRP:O	7:B:121:ASN:HB2	1.88	0.74
21:P:11:LYS:O	21:P:14:ARG:N	2.19	0.74
15:J:113:GLU:C	15:J:115:ALA:H	1.92	0.74
22:Q:4:TYR:CD2	27:V:23:LYS:HB2	2.22	0.74
22:Q:11:VAL:HG23	22:Q:27:PHE:HA	1.70	0.74
29:X:242:A:H61	29:X:440:U:H2'	1.53	0.74
29:X:1416:A:H2'	29:X:1417:C:C6	2.23	0.74
29:X:1525:A:H3'	29:X:1526:U:H6	1.51	0.74
8:C:139:GLN:HA	8:C:139:GLN:HE21	1.53	0.74
11:F:122:ALA:CA	29:X:1092:U:H4'	2.18	0.74
12:G:34:PRO:HA	12:G:69:ASP:OD2	1.86	0.74
14:I:28:LYS:CD	14:I:36:GLY:HA3	2.17	0.74
14:I:45:LYS:HG2	14:I:46:GLY:H	1.53	0.74
20:O:44:GLN:O	20:O:46:VAL:HG23	1.87	0.74
23:R:95:ARG:NH1	23:R:106:VAL:HA	2.01	0.74
24:S:4:THR:HB	24:S:57:GLU:HB2	1.70	0.74
29:X:1007:A:C2	29:X:1008:G:C8	2.76	0.74
29:X:1071:U:H1'	29:X:1073:G:H5'	1.70	0.74
29:X:1466:C:H2'	29:X:1467:U:O4'	1.87	0.74
29:X:1775:A:OP1	29:X:1775:A:H3'	1.88	0.74
29:X:2266:A:N6	29:X:2323:U:H3	1.83	0.74
29:X:2286:G:C6	29:X:2287:G:H1'	2.23	0.74
29:X:2320:G:H2'	29:X:2321:C:H6	1.52	0.74
12:G:110:LEU:N	12:G:110:LEU:CD2	2.51	0.74
14:I:13:ARG:HH21	14:I:13:ARG:CG	2.01	0.74
14:I:42:GLY:O	14:I:43:ALA:HB2	1.87	0.74
15:J:17:ARG:NH2	29:X:967:G:O6	2.20	0.74
19:N:66:ASN:HB3	19:N:76:TYR:H	1.53	0.74
21:P:66:GLU:O	21:P:69:ALA:HB3	1.87	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:U:70:LEU:HD23	26:U:74:PRO:HA	1.70	0.74
29:X:847:C:H2'	29:X:848:A:H8	1.53	0.74
4:4:9:LYS:HD2	4:4:9:LYS:N	2.03	0.73
8:C:23:ASN:O	8:C:27:LEU:HD12	1.87	0.73
9:D:123:ASP:C	9:D:125:ARG:N	2.45	0.73
14:I:28:LYS:NZ	14:I:36:GLY:CA	2.51	0.73
29:X:1058:G:C2'	29:X:1121:G:H1	1.96	0.73
29:X:1482:U:H2'	29:X:1483:G:C8	2.22	0.73
29:X:2639:A:H2'	29:X:2640:G:O4'	1.88	0.73
29:X:2677:U:H2'	29:X:2678:C:C6	2.23	0.73
9:D:13:ARG:O	9:D:16:LEU:HB2	1.89	0.73
10:E:50:LEU:HD23	10:E:51:LEU:N	2.02	0.73
15:J:100:PRO:HG2	24:S:74:ARG:HH11	1.53	0.73
24:S:71:MET:CB	24:S:78:PRO:HA	2.19	0.73
29:X:871:U:O2'	29:X:2247:A:C2'	2.36	0.73
29:X:2764:U:H2'	29:X:2765:C:C6	2.22	0.73
29:X:2852:G:O2'	29:X:2853:U:H5'	1.88	0.73
6:A:43:ARG:NH1	6:A:43:ARG:HB3	2.04	0.73
6:A:131:LEU:HD21	6:A:193:ILE:HG12	1.70	0.73
11:F:88:SER:O	29:X:1075:C:H4'	1.89	0.73
12:G:162:LYS:H	12:G:163:PRO:HD2	1.51	0.73
13:H:14:SER:OG	13:H:98:ILE:HD12	1.87	0.73
18:M:27:PHE:O	18:M:28:ARG:HG2	1.86	0.73
26:U:78:ILE:HD13	26:U:79:GLU:N	2.03	0.73
29:X:469:G:O2'	29:X:470:U:OP2	2.06	0.73
29:X:954:U:H2'	29:X:955:G:H5''	1.70	0.73
29:X:1086:C:C3'	29:X:1087:C:H5''	2.18	0.73
29:X:1475:U:OP2	29:X:1475:U:H4'	1.87	0.73
29:X:2252:A:O2'	29:X:2253:A:H5'	1.88	0.73
6:A:257:LEU:HD22	29:X:1795:C:OP1	1.88	0.73
8:C:62:LYS:HD3	8:C:62:LYS:C	2.12	0.73
12:G:33:ILE:HB	12:G:34:PRO:HD3	1.71	0.73
14:I:108:LEU:HB3	14:I:125:ALA:CB	2.19	0.73
24:S:97:PRO:HA	24:S:119:ASN:HA	1.70	0.73
24:S:147:ILE:HB	24:S:169:VAL:HG22	1.69	0.73
26:U:49:LYS:HB3	26:U:61:TRP:HE3	1.52	0.73
28:W:8:SER:CB	29:X:999:A:H5''	2.15	0.73
29:X:1574:A:O2'	29:X:1575:C:H3'	1.87	0.73
29:X:1787:U:H2'	29:X:1788:C:C6	2.23	0.73
29:X:2404:A:H4'	29:X:2405:A:H5'	1.68	0.73
8:C:3:GLN:HE22	8:C:4:ILE:CG1	2.00	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:D:35:VAL:HG12	9:D:36:VAL:H	1.54	0.73
9:D:138:PHE:HB2	9:D:141:ILE:HB	1.69	0.73
14:I:90:ARG:HA	14:I:121:HIS:ND1	2.03	0.73
22:Q:22:ARG:NH1	22:Q:24:VAL:HG21	2.03	0.73
22:Q:32:LYS:O	22:Q:33:ALA:HB2	1.87	0.73
22:Q:53:ILE:HG13	22:Q:54:SER:H	1.54	0.73
29:X:98:U:C5'	29:X:99:U:H5''	2.18	0.73
29:X:939:C:H5''	29:X:940:G:O5'	1.87	0.73
29:X:1055:A:C4	29:X:1055:A:H3'	2.20	0.73
29:X:2451:G:O6	29:X:2455:A:H4'	1.88	0.73
6:A:211:ARG:HG2	6:A:211:ARG:NH1	2.02	0.73
10:E:109:TYR:O	10:E:111:HIS:N	2.21	0.73
13:H:99:ILE:HD12	13:H:103:GLY:HA2	1.71	0.73
22:Q:65:VAL:HG12	22:Q:66:GLY:H	1.53	0.73
24:S:51:LEU:HD23	24:S:51:LEU:N	2.04	0.73
28:W:34:VAL:HG22	28:W:40:VAL:HG11	1.71	0.73
6:A:43:ARG:HH11	6:A:43:ARG:HB3	1.53	0.73
8:C:48:ARG:CB	8:C:51:VAL:HG22	2.18	0.73
9:D:143:TYR:HA	9:D:146:VAL:CG2	2.17	0.73
14:I:85:ASP:O	14:I:87:THR:N	2.21	0.73
17:L:67:THR:O	17:L:70:ALA:HB3	1.89	0.73
19:N:13:ARG:HG3	19:N:13:ARG:NH2	2.02	0.73
24:S:44:ARG:HD3	24:S:45:GLN:HE22	1.54	0.73
26:U:10:LYS:HZ3	26:U:70:LEU:HG	1.52	0.73
27:V:37:LEU:HD11	29:X:60:A:H4'	1.70	0.73
29:X:116:A:H5'	29:X:117:A:C8	2.22	0.73
29:X:554:U:O2	29:X:554:U:H2'	1.87	0.73
8:C:43:ALA:HB1	8:C:86:PRO:O	1.89	0.73
9:D:28:VAL:O	9:D:30:ARG:HG3	1.87	0.73
12:G:103:TYR:O	12:G:107:GLN:NE2	2.22	0.73
19:N:11:ARG:HH22	29:X:29:U:C4'	2.01	0.73
25:T:32:LYS:N	25:T:35:ASN:HD22	1.87	0.73
29:X:76:C:H5'	29:X:76:C:C6	2.20	0.73
29:X:610:G:H1	29:X:670:U:H3	1.37	0.73
14:I:18:ARG:HB2	14:I:21:ARG:HB2	1.71	0.73
17:L:38:ILE:HD12	17:L:39:TYR:N	2.02	0.73
22:Q:59:PRO:O	22:Q:75:ARG:NH2	2.20	0.73
25:T:37:LEU:O	25:T:38:VAL:HG23	1.87	0.73
27:V:6:MET:HE3	27:V:56:VAL:HG21	1.71	0.73
29:X:2194:A:C2'	29:X:2195:C:H5''	2.17	0.73
29:X:2225:G:H2'	29:X:2226:A:C8	2.23	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:C:62:LYS:HD3	8:C:63:GLY:N	2.03	0.73
12:G:153:GLY:C	12:G:157:PRO:HG2	2.14	0.73
15:J:125:LYS:HZ2	15:J:125:LYS:CB	2.02	0.73
17:L:8:ARG:CB	17:L:8:ARG:HH11	2.02	0.73
21:P:37:LYS:HG3	29:X:1279:G:N2	2.04	0.73
22:Q:9:ALA:HB1	22:Q:10:PRO:HD2	1.69	0.73
26:U:32:ARG:HG2	26:U:34:THR:H	1.54	0.73
29:X:465:C:O2'	29:X:467:U:H1'	1.89	0.73
29:X:1149:G:N3	29:X:1154:A:H2	1.86	0.73
29:X:1524:C:H5''	29:X:1525:A:H8	1.54	0.73
29:X:1644:G:H2'	29:X:1645:U:C6	2.24	0.73
30:Y:33:CYS:SG	30:Y:34:PRO:HD2	2.29	0.73
6:A:153:ALA:O	6:A:154:GLN:HG3	1.88	0.72
7:B:116:VAL:HG13	7:B:136:ARG:NH2	2.03	0.72
8:C:162:ARG:NH2	29:X:333:A:H3'	2.02	0.72
9:D:111:ILE:CB	9:D:114:PHE:HB2	2.17	0.72
12:G:124:GLU:OE1	12:G:124:GLU:N	2.21	0.72
12:G:142:ARG:HH12	29:X:538:A:H5''	1.54	0.72
26:U:11:LYS:NZ	26:U:75:TYR:HB2	2.03	0.72
29:X:2197:U:C4	29:X:2198:U:C4	2.77	0.72
29:X:2569:A:H2'	29:X:2570:C:C6	2.23	0.72
31:Z:19:C:H2'	31:Z:20:A:O4'	1.88	0.72
6:A:63:ARG:O	6:A:65:ILE:HG13	1.88	0.72
6:A:208:LYS:CE	29:X:1782:A:H1'	2.17	0.72
14:I:82:ASP:H	14:I:114:ILE:HG21	1.54	0.72
21:P:37:LYS:HE2	21:P:64:ALA:HB2	1.68	0.72
23:R:38:LEU:HB2	23:R:47:VAL:CB	2.18	0.72
24:S:122:ILE:HG21	24:S:160:LEU:HD23	1.71	0.72
29:X:558:G:N3	29:X:558:G:H5''	2.03	0.72
29:X:564:U:H2'	29:X:565:A:C8	2.25	0.72
29:X:617:U:C5	29:X:632:A:C2	2.77	0.72
29:X:1058:G:C2'	29:X:1121:G:N1	2.52	0.72
7:B:137:ARG:NH2	29:X:2034:A:OP1	2.22	0.72
8:C:164:VAL:O	8:C:166:TRP:N	2.23	0.72
11:F:87:GLY:HA3	29:X:1075:C:H5''	1.69	0.72
14:I:128:ALA:HA	14:I:131:LYS:HB2	1.70	0.72
17:L:16:LYS:HE2	17:L:28:ARG:NH1	2.03	0.72
23:R:105:ARG:HH12	23:R:112:LYS:HA	1.53	0.72
29:X:356:A:H2'	29:X:357:A:C8	2.23	0.72
29:X:793:G:H21	29:X:796:A:H62	1.35	0.72
29:X:1778:U:H2'	29:X:1779:C:H6	1.52	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2058:U:H3'	29:X:2217:G:H21	1.53	0.72
29:X:2195:C:C5	29:X:2196:U:C5	2.76	0.72
6:A:261:ARG:HH22	29:X:1790:G:H5''	1.53	0.72
10:E:6:LYS:HB3	10:E:69:ARG:HD2	1.72	0.72
12:G:150:VAL:HG12	12:G:151:TYR:H	1.52	0.72
13:H:16:ALA:HB2	13:H:64:VAL:CG1	2.17	0.72
17:L:28:ARG:HA	17:L:88:VAL:O	1.89	0.72
29:X:1283:C:H5''	29:X:1284:G:C5'	2.19	0.72
29:X:1314:A:H2	29:X:1642:G:N3	1.87	0.72
9:D:108:LEU:CD1	9:D:117:ILE:HD11	2.19	0.72
12:G:58:ILE:HG23	12:G:80:VAL:HG11	1.71	0.72
12:G:70:PHE:HB2	19:N:64:ARG:HG2	1.71	0.72
28:W:5:LEU:HB2	28:W:25:LEU:HD13	1.70	0.72
29:X:653:G:C2'	29:X:654:A:H5''	2.20	0.72
9:D:5:LYS:O	9:D:8:TYR:HB3	1.89	0.72
9:D:33:LYS:HG3	9:D:157:VAL:CG2	2.18	0.72
16:K:3:HIS:HE1	29:X:2796:A:P	2.13	0.72
16:K:20:LEU:O	16:K:21:ALA:C	2.31	0.72
18:M:5:ILE:CD1	18:M:7:ILE:HB	2.19	0.72
19:N:50:ARG:O	19:N:52:ASN:N	2.22	0.72
21:P:126:ILE:HD12	21:P:127:ILE:N	2.04	0.72
29:X:1061:A:C2'	29:X:1062:G:H5'	2.19	0.72
29:X:1231:A:C4	29:X:1232:U:C5	2.78	0.72
29:X:1329:U:O2'	29:X:1330:G:H5'	1.90	0.72
7:B:140:SER:HB2	29:X:2557:G:N7	2.05	0.72
12:G:69:ASP:C	12:G:70:PHE:HD2	1.96	0.72
14:I:30:ALA:H	14:I:34:HIS:CG	2.06	0.72
20:O:40:VAL:HG12	20:O:45:THR:CA	2.15	0.72
23:R:18:LYS:HA	23:R:36:VAL:HG11	1.70	0.72
24:S:13:LYS:O	24:S:16:GLU:O	2.07	0.72
24:S:18:MET:HA	24:S:36:ARG:H	1.55	0.72
29:X:428:A:H2'	29:X:429:C:C6	2.23	0.72
29:X:746:G:N7	29:X:774:A:C6	2.57	0.72
29:X:1233:A:O2'	29:X:1234:C:OP1	2.07	0.72
29:X:1255:A:H2'	29:X:1256:C:C6	2.25	0.72
29:X:2662:C:H2'	29:X:2663:U:C6	2.23	0.72
6:A:252:LYS:N	6:A:252:LYS:CE	2.48	0.72
12:G:84:ASN:O	12:G:152:ALA:HA	1.89	0.72
14:I:28:LYS:NZ	14:I:36:GLY:HA3	2.04	0.72
14:I:86:THR:C	14:I:88:PHE:H	1.95	0.72
15:J:34:GLY:HA2	15:J:106:GLU:CA	2.14	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:150:A:H2'	29:X:151:G:O4'	1.90	0.72
29:X:317:U:C3'	29:X:318:G:H5''	2.20	0.72
29:X:925:U:O2'	29:X:926:C:H5'	1.89	0.72
29:X:1060:C:H2'	29:X:1061:A:H8	1.54	0.72
29:X:2197:U:O4	29:X:2198:U:O4	2.08	0.72
29:X:2225:G:C2	29:X:2405:A:H1'	2.24	0.72
29:X:2441:U:H2'	29:X:2442:C:H6	1.54	0.72
6:A:243:GLY:CA	6:A:244:ARG:NH1	2.53	0.72
6:A:244:ARG:N	6:A:244:ARG:HD3	2.04	0.72
7:B:117:MET:N	7:B:136:ARG:HD2	2.00	0.72
9:D:74:ILE:HA	9:D:79:LEU:HB3	1.71	0.72
16:K:84:ALA:HB3	16:K:85:PRO:HD3	1.71	0.72
21:P:27:VAL:CG2	21:P:125:THR:HG22	2.20	0.72
21:P:37:LYS:HG3	29:X:1279:G:C2	2.24	0.72
23:R:4:PRO:N	29:X:34:U:H1'	2.05	0.72
23:R:84:VAL:HA	23:R:90:LYS:CD	2.18	0.72
29:X:777:A:O2'	29:X:778:G:OP1	2.08	0.72
29:X:1057:A:N3	29:X:1057:A:C2'	2.52	0.72
29:X:1113:C:H2'	29:X:1114:A:C8	2.19	0.72
29:X:1857:G:N2	29:X:1860:A:OP2	2.22	0.72
6:A:134:ARG:H	6:A:187:SER:HB2	1.53	0.72
8:C:48:ARG:HB2	8:C:51:VAL:CG2	2.19	0.72
8:C:95:LEU:CD2	8:C:96:PRO:HD2	2.16	0.72
17:L:97:HIS:O	17:L:101:LYS:CB	2.35	0.72
17:L:101:LYS:O	17:L:104:ALA:HB3	1.90	0.72
26:U:33:LYS:O	26:U:34:THR:HB	1.89	0.72
28:W:36:ASP:CG	28:W:41:ARG:HH12	1.98	0.72
29:X:521:U:H5''	29:X:522:G:OP2	1.89	0.72
8:C:45:THR:HG21	8:C:85:GLY:HA3	1.72	0.71
16:K:11:ASN:OD1	16:K:17:ARG:CZ	2.37	0.71
17:L:37:HIS:CB	31:Z:30:C:OP1	2.38	0.71
21:P:66:GLU:HB3	21:P:67:PRO:CD	2.19	0.71
23:R:22:VAL:CG1	23:R:80:LYS:HD2	2.18	0.71
27:V:42:ARG:NH1	27:V:45:GLN:NE2	2.38	0.71
29:X:172:A:N7	29:X:175:C:H5	1.88	0.71
6:A:182:LEU:HD12	6:A:269:PHE:HD2	1.52	0.71
14:I:101:ARG:HD3	29:X:637:G:N1	2.04	0.71
17:L:97:HIS:CG	17:L:98:GLY:H	2.05	0.71
25:T:56:ASP:OD1	29:X:2343:C:H4'	1.89	0.71
29:X:417:C:N1	29:X:419:G:C8	2.58	0.71
4:4:25:VAL:HB	4:4:34:GLN:HB2	1.72	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:C:135:SER:O	8:C:138:LYS:HB2	1.90	0.71
12:G:116:ARG:NE	12:G:126:VAL:HG13	2.06	0.71
27:V:1:MET:HG3	27:V:2:LYS:HG3	1.70	0.71
29:X:1122:A:C2	29:X:1123:G:H1'	2.25	0.71
29:X:1850:G:HO2'	29:X:1851:A:H8	0.72	0.71
31:Z:4:C:O2'	31:Z:5:C:H5'	1.91	0.71
10:E:45:GLN:HG3	10:E:49:GLN:O	1.90	0.71
12:G:105:GLY:C	12:G:110:LEU:HD12	2.15	0.71
23:R:27:GLY:N	29:X:321:A:OP1	2.23	0.71
29:X:173:A:H5'	29:X:174:A:OP2	1.90	0.71
29:X:1072:U:C1'	29:X:1081:A:H1'	2.21	0.71
29:X:1554:G:H2'	29:X:1555:A:C8	2.26	0.71
6:A:246:PRO:HD2	6:A:250:TRP:H	1.55	0.71
7:B:152:LYS:HD2	12:G:106:TYR:H	1.55	0.71
8:C:128:ALA:O	8:C:130:THR:N	2.24	0.71
10:E:107:ILE:HD13	10:E:107:ILE:N	2.06	0.71
13:H:10:VAL:HG23	13:H:17:ARG:O	1.91	0.71
19:N:52:ASN:OD1	19:N:55:ARG:NH2	2.23	0.71
22:Q:29:VAL:CG1	22:Q:38:ILE:HD12	2.20	0.71
23:R:24:VAL:O	23:R:30:LYS:HA	1.90	0.71
24:S:3:LEU:HD21	24:S:32:PHE:CD2	2.25	0.71
29:X:27:G:H1'	29:X:523:A:H62	1.54	0.71
29:X:1193:G:H2'	29:X:1194:U:H5''	1.71	0.71
29:X:1391:A:O2'	29:X:1392:U:C6	2.43	0.71
29:X:1468:A:H5''	29:X:1472:C:H42	1.52	0.71
9:D:123:ASP:O	9:D:125:ARG:N	2.24	0.71
17:L:28:ARG:NH1	17:L:90:ASP:OD2	2.24	0.71
17:L:54:ALA:CB	17:L:75:LEU:HB2	2.19	0.71
22:Q:20:MET:HA	22:Q:24:VAL:O	1.91	0.71
26:U:32:ARG:O	29:X:2375:G:H4'	1.90	0.71
27:V:55:THR:O	27:V:59:GLU:HG3	1.90	0.71
29:X:48:A:H4'	29:X:49:U:H5'	1.71	0.71
29:X:429:C:H2'	29:X:430:C:H6	1.56	0.71
29:X:1682:A:O2'	29:X:1683:G:H5'	1.91	0.71
29:X:1724:C:O2'	29:X:1725:C:H5'	1.90	0.71
29:X:2306:A:H2'	29:X:2307:A:H8	1.56	0.71
6:A:250:TRP:HD1	6:A:255:LYS:HD2	1.55	0.71
9:D:10:ASP:HA	9:D:14:PRO:HG2	1.71	0.71
10:E:84:THR:HA	10:E:134:SER:HA	1.72	0.71
13:H:109:ARG:HA	13:H:129:LEU:HD13	1.73	0.71
20:O:5:ILE:HG21	20:O:10:LYS:HE2	1.71	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:O:64:GLY:HA3	20:O:90:PHE:CZ	2.25	0.71
24:S:100:THR:HG23	24:S:138:VAL:HG11	1.71	0.71
24:S:105:GLN:O	24:S:142:ASN:HA	1.91	0.71
29:X:1095:A:H3'	29:X:1096:A:H5''	1.70	0.71
29:X:1979:C:O2'	29:X:1980:A:O4'	2.07	0.71
6:A:43:ARG:HH11	6:A:43:ARG:CA	2.04	0.71
8:C:91:TYR:HE2	29:X:1259:A:H4'	1.54	0.71
10:E:143:GLN:HG2	29:X:2725:C:O2'	1.91	0.71
14:I:61:PRO:HB3	29:X:2372:A:H5''	1.72	0.71
17:L:60:LYS:HG2	17:L:62:GLY:N	2.02	0.71
17:L:87:VAL:HG12	17:L:88:VAL:N	2.05	0.71
19:N:44:THR:O	19:N:48:ARG:HG3	1.91	0.71
23:R:80:LYS:HE3	23:R:80:LYS:O	1.91	0.71
23:R:107:ALA:CB	23:R:111:GLY:HA2	2.21	0.71
26:U:41:VAL:O	26:U:42:GLN:HB2	1.90	0.71
29:X:594:G:H2'	29:X:1264:C:H42	1.56	0.71
29:X:1317:G:O2'	29:X:1318:A:H5'	1.91	0.71
29:X:2323:U:H6	29:X:2323:U:C5'	1.97	0.71
29:X:2713:A:O2'	29:X:2714:A:H5'	1.90	0.71
7:B:25:VAL:HG13	7:B:183:LEU:CD2	2.20	0.71
9:D:4:LEU:CG	9:D:5:LYS:N	2.53	0.71
9:D:38:GLU:HB3	9:D:87:ILE:CB	2.19	0.71
9:D:125:ARG:HG3	29:X:2294:U:O2'	1.91	0.71
9:D:166:ALA:O	9:D:170:LEU:HG	1.90	0.71
12:G:105:GLY:O	12:G:110:LEU:HD12	1.91	0.71
14:I:107:LYS:HE3	29:X:647:G:O6	1.91	0.71
16:K:30:ARG:HG3	16:K:30:ARG:O	1.91	0.71
20:O:36:LYS:NZ	20:O:54:TYR:HB3	2.05	0.71
29:X:547:U:H2'	29:X:548:G:C8	2.26	0.71
29:X:2323:U:O2'	29:X:2324:G:H5'	1.90	0.71
29:X:2555:G:OP1	29:X:2555:G:H3'	1.91	0.71
30:Y:45:ILE:HG21	30:Y:57:VAL:CG2	2.21	0.71
6:A:244:ARG:HD2	29:X:1885:C:C5'	2.20	0.71
7:B:33:ILE:HG21	7:B:36:ARG:NH1	2.05	0.71
9:D:92:ARG:HH12	31:Z:46:G:H5'	1.55	0.71
10:E:95:ARG:NH2	10:E:97:LYS:HE2	2.05	0.71
17:L:30:SER:C	17:L:31:VAL:HG12	2.16	0.71
29:X:1655:C:H4'	29:X:2689:C:O2	1.91	0.71
29:X:1730:G:O2'	29:X:1731:C:H5'	1.91	0.71
4:4:10:MET:HE3	4:4:32:HIS:HA	1.70	0.70
12:G:103:TYR:CD2	29:X:1142:G:C1'	2.73	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:I:103:ASN:OD1	14:I:104:ARG:HG3	1.90	0.70
14:I:107:LYS:HG2	14:I:109:LEU:HD21	1.73	0.70
19:N:70:ARG:NH1	19:N:70:ARG:HG3	2.02	0.70
23:R:25:LEU:CD1	23:R:81:VAL:HG23	2.21	0.70
29:X:540:G:O2'	29:X:542:A:C2	2.44	0.70
29:X:659:G:H2'	29:X:660:G:H8	1.56	0.70
29:X:666:U:H2'	29:X:667:U:H4'	1.73	0.70
29:X:2198:U:C2	29:X:2199:C:C6	2.79	0.70
12:G:104:THR:O	12:G:105:GLY:O	2.08	0.70
29:X:460:U:C4	29:X:592:G:H1'	2.26	0.70
29:X:617:U:H5	29:X:632:A:C2	2.09	0.70
29:X:689:A:H2'	29:X:690:A:H5'	1.73	0.70
7:B:134:TRP:CE2	29:X:1675:C:OP1	2.44	0.70
9:D:8:TYR:O	9:D:12:VAL:HB	1.91	0.70
24:S:142:ASN:H	24:S:145:ASP:CG	1.98	0.70
29:X:537:C:O2'	29:X:538:A:C2	2.44	0.70
31:Z:64:C:H2'	31:Z:65:A:C8	2.24	0.70
9:D:4:LEU:CD1	9:D:5:LYS:H	2.04	0.70
12:G:154:GLU:N	12:G:157:PRO:HG2	2.05	0.70
21:P:38:VAL:HG22	21:P:64:ALA:HB1	1.73	0.70
23:R:85:ASP:H	23:R:86:PRO:CD	2.05	0.70
24:S:64:ALA:N	24:S:86:VAL:HG23	2.05	0.70
29:X:554:U:O2	29:X:554:U:C2'	2.38	0.70
29:X:636:G:H2'	29:X:637:G:H5'	1.71	0.70
29:X:1373:G:O6	29:X:1385:C:C4	2.43	0.70
29:X:1978:U:C3'	29:X:1979:C:H5''	2.18	0.70
29:X:2594:U:O2'	29:X:2595:C:H5'	1.91	0.70
8:C:112:GLN:HB3	8:C:116:LYS:NZ	2.06	0.70
12:G:106:TYR:O	12:G:110:LEU:HG	1.91	0.70
14:I:32:ARG:CZ	20:O:81:ARG:NE	2.54	0.70
29:X:709:A:O2'	29:X:710:C:H5'	1.92	0.70
29:X:1429:A:O2'	29:X:1430:G:H4'	1.91	0.70
7:B:154:LYS:CE	7:B:156:MET:SD	2.80	0.70
9:D:38:GLU:N	9:D:87:ILE:O	2.24	0.70
18:M:39:VAL:HG12	18:M:45:THR:CG2	2.22	0.70
18:M:99:VAL:CG2	18:M:100:ARG:N	2.54	0.70
21:P:14:ARG:HA	21:P:17:GLN:CG	2.20	0.70
25:T:44:LYS:HG2	25:T:45:PHE:HD1	1.57	0.70
25:T:52:GLY:HA3	25:T:60:PHE:CE2	2.26	0.70
29:X:400:U:O2'	29:X:401:G:H5''	1.92	0.70
29:X:651:C:C2'	29:X:652:C:H5''	2.22	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:826:U:H2'	29:X:827:C:C6	2.27	0.70
29:X:1656:U:O2'	29:X:1657:A:H5''	1.92	0.70
29:X:2189:A:C6	29:X:2195:C:N4	2.60	0.70
29:X:2560:G:H4'	29:X:2561:G:C8	2.27	0.70
7:B:150:VAL:CG2	7:B:154:LYS:HE2	2.18	0.70
8:C:115:GLY:O	8:C:185:ARG:HD2	1.91	0.70
8:C:122:GLY:HA2	8:C:124:ASP:OD1	1.92	0.70
9:D:58:ALA:O	9:D:62:LEU:HA	1.91	0.70
10:E:71:LEU:HA	10:E:74:ASN:HD22	1.56	0.70
24:S:6:LYS:H	24:S:7:PRO:HD3	1.57	0.70
29:X:503:G:H2'	29:X:504:G:O4'	1.92	0.70
29:X:1354:A:H2'	29:X:1410:U:O2'	1.90	0.70
29:X:1467:U:H6	29:X:1467:U:C3'	2.05	0.70
29:X:1490:U:H2'	29:X:1491:C:H6	1.57	0.70
29:X:2691:C:C2'	29:X:2692:A:H5''	2.21	0.70
6:A:68:LYS:HA	6:A:152:GLY:HA2	1.71	0.70
7:B:9:ILE:HD13	18:M:12:LEU:CD1	2.21	0.70
8:C:139:GLN:HE21	8:C:139:GLN:CA	2.05	0.70
12:G:141:GLY:O	12:G:144:MET:HB2	1.92	0.70
13:H:23:ARG:HH21	13:H:23:ARG:CG	2.04	0.70
15:J:84:MET:HG2	29:X:2229:G:H5'	1.74	0.70
21:P:133:ASN:HD22	21:P:133:ASN:N	1.90	0.70
26:U:70:LEU:HD22	26:U:79:GLU:HG2	1.74	0.70
29:X:490:A:O2'	29:X:491:A:H3'	1.91	0.70
29:X:687:G:C2'	29:X:688:A:H5'	2.22	0.70
29:X:796:A:H8	29:X:797:A:H4'	1.57	0.70
29:X:1071:U:H1'	29:X:1073:G:C5'	2.21	0.70
29:X:1177:U:H2'	29:X:1178:C:C6	2.27	0.70
29:X:1644:G:H2'	29:X:1645:U:H6	1.56	0.70
29:X:1741:G:O2'	29:X:1742:G:H5'	1.91	0.70
6:A:77:ALA:CB	6:A:97:TYR:HD1	2.03	0.70
6:A:91:ARG:HB2	6:A:107:ALA:HB3	1.72	0.70
7:B:146:THR:HB	7:B:147:PRO:HD2	1.73	0.70
10:E:29:PRO:HD2	10:E:79:VAL:HB	1.73	0.70
20:O:13:ARG:HG2	20:O:14:VAL:N	2.07	0.70
20:O:13:ARG:HD3	20:O:16:GLU:OE1	1.92	0.70
25:T:73:GLY:O	25:T:74:LYS:HB2	1.91	0.70
29:X:1911:A:H2'	29:X:1912:G:H1'	1.72	0.70
29:X:2387:U:H2'	29:X:2388:G:H8	1.56	0.70
6:A:188:GLU:OE2	29:X:2201:G:H5''	1.90	0.70
25:T:4:LYS:C	25:T:5:LYS:HD2	2.17	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1255:A:H2'	29:X:1256:C:H6	1.56	0.70
31:Z:15:A:C6	31:Z:72:C:H5'	2.26	0.70
6:A:206:LEU:O	6:A:211:ARG:HD3	1.91	0.69
6:A:218:LYS:HD2	6:A:218:LYS:C	2.17	0.69
11:F:10:LEU:HD12	11:F:12:LEU:HG	1.72	0.69
19:N:31:GLN:HE22	29:X:589:C:H4'	1.55	0.69
21:P:40:LEU:HD13	21:P:62:ARG:HH12	1.57	0.69
25:T:40:GLN:HE21	25:T:57:HIS:HB3	1.54	0.69
26:U:33:LYS:CE	29:X:2400:G:H21	2.05	0.69
26:U:69:THR:HG22	26:U:70:LEU:N	2.06	0.69
29:X:683:A:H4'	29:X:684:C:H5'	1.74	0.69
29:X:1467:U:C6	29:X:1467:U:C3'	2.74	0.69
7:B:20:ALA:HB2	13:H:85:ASP:O	1.92	0.69
9:D:153:ASP:C	9:D:154:ILE:HD12	2.16	0.69
12:G:138:GLY:O	12:G:141:GLY:N	2.24	0.69
14:I:43:ALA:HB1	29:X:684:C:C5	2.26	0.69
26:U:23:LYS:HB2	26:U:35:THR:HG23	1.74	0.69
29:X:1840:A:H2'	29:X:1841:G:O4'	1.91	0.69
29:X:1845:A:N1	29:X:2070:G:H1'	2.06	0.69
6:A:68:LYS:CA	6:A:152:GLY:HA2	2.22	0.69
6:A:108:PRO:HB3	6:A:143:HIS:HE2	1.57	0.69
6:A:158:SER:O	6:A:196:VAL:HG21	1.92	0.69
7:B:49:ILE:HD11	7:B:90:SER:HB3	1.73	0.69
12:G:103:TYR:CD1	12:G:111:LYS:HA	2.26	0.69
14:I:39:SER:O	14:I:40:ARG:HB2	1.92	0.69
29:X:70:A:H4'	29:X:71:A:H3'	1.73	0.69
29:X:2585:C:H2'	29:X:2586:G:H5'	1.74	0.69
6:A:200:GLU:HG3	6:A:202:LYS:HB2	1.74	0.69
8:C:98:GLN:HE22	29:X:611:C:H4'	1.56	0.69
10:E:38:ASN:HB2	10:E:41:LEU:HB2	1.73	0.69
13:H:1:MET:HB3	13:H:44:TYR:HB3	1.73	0.69
17:L:41:GLN:HG2	17:L:43:ILE:HD11	1.74	0.69
20:O:35:LEU:HD21	20:O:52:GLY:HA2	1.73	0.69
21:P:37:LYS:HG3	29:X:1279:G:H1	1.57	0.69
29:X:5:A:H2'	29:X:6:A:H8	1.57	0.69
29:X:417:C:C2	29:X:419:G:C5	2.80	0.69
29:X:520:C:O2	29:X:520:C:H2'	1.92	0.69
29:X:651:C:C3'	29:X:652:C:H5''	2.22	0.69
29:X:717:G:H1'	29:X:740:A:N6	2.08	0.69
29:X:931:G:H4'	31:Z:83:C:H4'	1.74	0.69
29:X:1478:U:H2'	29:X:1479:G:H8	1.56	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2211:U:O2'	29:X:2212:U:H5'	1.93	0.69
29:X:2307:A:H2'	29:X:2308:A:C8	2.28	0.69
29:X:2441:U:H2'	29:X:2442:C:C6	2.27	0.69
29:X:2628:C:H2'	29:X:2629:U:C6	2.27	0.69
29:X:2671:C:O2'	29:X:2672:U:H5'	1.92	0.69
11:F:12:LEU:HD22	11:F:22:PRO:HB3	1.75	0.69
13:H:132:GLU:HB2	18:M:73:PHE:CE1	2.26	0.69
18:M:37:THR:CG2	18:M:39:VAL:HG13	2.22	0.69
19:N:28:ARG:HH21	29:X:542:A:H8	1.39	0.69
20:O:6:GLN:HG2	29:X:1007:A:H1'	1.74	0.69
23:R:59:LYS:O	23:R:60:PRO:O	2.10	0.69
29:X:469:G:N2	29:X:480:G:H2'	2.07	0.69
29:X:757:U:C2'	29:X:758:G:H5'	2.22	0.69
7:B:117:MET:HB2	7:B:136:ARG:HD2	1.75	0.69
8:C:83:ALA:O	8:C:84:PHE:HB2	1.92	0.69
10:E:96:ALA:HA	10:E:104:GLU:O	1.92	0.69
19:N:50:ARG:C	19:N:52:ASN:N	2.44	0.69
29:X:732:G:P	29:X:732:G:H8	2.15	0.69
29:X:2596:C:O2'	29:X:2597:G:H5'	1.93	0.69
30:Y:58:LEU:HD12	30:Y:58:LEU:N	2.06	0.69
9:D:11:GLN:O	9:D:15:ALA:HB3	1.93	0.69
11:F:5:ALA:HB2	11:F:60:TYR:O	1.92	0.69
11:F:21:PRO:CG	11:F:22:PRO:HD3	2.23	0.69
12:G:84:ASN:O	12:G:85:ALA:HB3	1.91	0.69
24:S:3:LEU:CD2	24:S:32:PHE:HB3	2.21	0.69
29:X:445:A:H2'	29:X:446:C:H6	1.56	0.69
29:X:1107:A:C3'	29:X:1108:U:H5''	2.22	0.69
29:X:1437:A:H2'	29:X:1438:G:H8	1.55	0.69
6:A:245:VAL:CA	6:A:252:LYS:HE2	2.22	0.69
9:D:75:SER:N	9:D:79:LEU:HD22	2.06	0.69
11:F:21:PRO:CD	11:F:22:PRO:HD3	2.23	0.69
13:H:23:ARG:NH2	13:H:23:ARG:CB	2.56	0.69
14:I:28:LYS:HZ2	14:I:36:GLY:C	2.00	0.69
14:I:56:LEU:O	14:I:58:ALA:O	2.11	0.69
21:P:35:PRO:HG2	21:P:99:ALA:HB2	1.75	0.69
25:T:41:ARG:HH12	29:X:2366:U:H1'	1.58	0.69
26:U:67:LEU:O	26:U:71:SER:HB3	1.93	0.69
27:V:42:ARG:HH12	27:V:45:GLN:HE22	1.39	0.69
28:W:22:ALA:HA	29:X:942:U:O2'	1.93	0.69
29:X:48:A:H1'	29:X:50:G:N3	2.08	0.69
29:X:104:C:C2'	29:X:105:G:H5''	2.22	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:731:A:C2'	29:X:732:G:O4'	2.40	0.69
29:X:871:U:H2'	29:X:2247:A:N3	2.08	0.69
29:X:1672:A:H3'	29:X:1673:C:C6	2.27	0.69
29:X:2194:A:H2'	29:X:2195:C:O4'	1.93	0.69
29:X:2198:U:C4	29:X:2199:C:C5	2.81	0.69
29:X:2633:A:H61	29:X:2644:A:H3'	1.58	0.69
31:Z:58:G:H4'	31:Z:59:A:H5''	1.74	0.69
12:G:108:GLY:C	12:G:110:LEU:HD23	2.18	0.69
13:H:13:ASN:ND2	13:H:109:ARG:CG	2.56	0.69
15:J:65:ILE:HG12	15:J:107:VAL:HG12	1.74	0.69
21:P:29:LYS:HG2	21:P:123:HIS:ND1	2.07	0.69
29:X:188:G:O2'	29:X:189:A:H5'	1.93	0.69
29:X:1072:U:H4'	29:X:1073:G:OP2	1.92	0.69
29:X:1301:U:H5''	29:X:1302:C:OP2	1.93	0.69
29:X:1813:A:H2'	29:X:1814:G:C8	2.26	0.69
29:X:1850:G:O2'	29:X:1851:A:O4'	2.11	0.69
29:X:2736:U:H4'	29:X:2737:A:OP1	1.92	0.69
8:C:58:MET:HB2	8:C:70:GLY:O	1.93	0.69
24:S:24:TYR:HB3	24:S:29:ASN:HA	1.75	0.69
29:X:5:A:O2'	29:X:6:A:H5'	1.92	0.69
29:X:451:A:H2'	29:X:452:G:C8	2.28	0.69
29:X:765:C:O2'	29:X:766:A:OP2	2.10	0.69
29:X:1681:A:N1	29:X:2706:U:C6	2.61	0.69
29:X:1737:G:H2'	29:X:1738:U:C6	2.27	0.69
29:X:2266:A:H62	29:X:2323:U:H3	1.35	0.69
29:X:2581:A:H3'	29:X:2582:G:C5'	2.22	0.69
4:4:3:VAL:HA	4:4:35:ARG:O	1.93	0.68
6:A:181:GLU:HG2	6:A:182:LEU:N	2.08	0.68
6:A:243:GLY:O	6:A:244:ARG:CZ	2.41	0.68
8:C:93:TYR:CD2	8:C:93:TYR:N	2.61	0.68
9:D:79:LEU:HA	9:D:80:ARG:CZ	2.22	0.68
9:D:126:GLY:O	9:D:160:ALA:HB3	1.93	0.68
11:F:98:LYS:HB2	11:F:137:THR:OG1	1.93	0.68
12:G:162:LYS:HZ1	29:X:5:A:H1'	1.57	0.68
14:I:28:LYS:HZ2	14:I:36:GLY:HA3	1.54	0.68
26:U:51:ILE:HG12	26:U:59:THR:CB	2.22	0.68
29:X:173:A:H61	29:X:844:G:N2	1.91	0.68
29:X:635:C:C2'	29:X:636:G:H5''	2.22	0.68
29:X:738:G:H8	29:X:738:G:O5'	1.76	0.68
29:X:2708:U:H2'	29:X:2709:C:C6	2.28	0.68
29:X:2756:A:O2'	29:X:2757:G:OP2	2.10	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2873:G:H2'	29:X:2874:A:C8	2.28	0.68
6:A:181:GLU:HG3	6:A:269:PHE:O	1.93	0.68
9:D:106:ILE:HG21	9:D:139:PRO:HB3	1.75	0.68
9:D:123:ASP:OD1	29:X:2294:U:H1'	1.93	0.68
29:X:2169:A:H2'	29:X:2170:C:C6	2.28	0.68
31:Z:25:G:H2'	31:Z:26:G:N7	2.08	0.68
14:I:107:LYS:HG3	14:I:108:LEU:N	2.06	0.68
15:J:102:ARG:HG3	15:J:103:VAL:H	1.58	0.68
17:L:66:ASP:C	17:L:68:ALA:N	2.49	0.68
20:O:61:VAL:HG23	20:O:94:LYS:H	1.58	0.68
22:Q:90:ALA:C	22:Q:92:ALA:N	2.49	0.68
29:X:946:U:H2'	29:X:947:C:H6	1.57	0.68
29:X:1729:C:H2'	29:X:1730:G:H8	1.55	0.68
31:Z:112:A:H2'	31:Z:113:G:C8	2.29	0.68
12:G:42:VAL:HG13	12:G:166:LEU:O	1.94	0.68
13:H:23:ARG:HH21	13:H:23:ARG:CB	2.07	0.68
17:L:87:VAL:HG12	17:L:88:VAL:H	1.59	0.68
24:S:92:VAL:HG23	24:S:93:GLU:H	1.57	0.68
24:S:103:ARG:NH2	24:S:108:VAL:HG23	2.09	0.68
29:X:617:U:H5	29:X:632:A:H2	1.40	0.68
29:X:1275:A:H2	30:Y:10:LYS:HE2	1.57	0.68
29:X:1522:C:H2'	29:X:1523:A:C4'	2.23	0.68
12:G:102:ARG:NH2	12:G:112:THR:HG21	2.08	0.68
15:J:116:LYS:NZ	15:J:132:MET:HB3	2.09	0.68
19:N:11:ARG:HH22	29:X:29:U:H4'	1.56	0.68
22:Q:7:LEU:HD21	27:V:30:PHE:CE2	2.19	0.68
22:Q:62:ARG:O	22:Q:70:GLY:HA3	1.93	0.68
24:S:123:VAL:HG23	24:S:161:ALA:CA	2.23	0.68
26:U:53:GLU:CD	26:U:57:VAL:HA	2.18	0.68
29:X:649:G:N2	29:X:661:C:H1'	2.08	0.68
29:X:1441:A:H1'	29:X:1442:C:C5	2.28	0.68
29:X:2586:G:N1	29:X:2587:G:C2	2.62	0.68
7:B:37:LYS:HD2	7:B:42:ASP:CG	2.18	0.68
8:C:5:ASN:HB2	8:C:10:ASN:HA	1.74	0.68
9:D:83:MET:O	9:D:85:VAL:HG13	1.94	0.68
12:G:162:LYS:N	12:G:163:PRO:CD	2.56	0.68
15:J:17:ARG:HG3	15:J:17:ARG:O	1.92	0.68
23:R:93:ARG:NH2	23:R:108:VAL:HA	2.09	0.68
24:S:71:MET:HB2	24:S:78:PRO:HA	1.75	0.68
29:X:172:A:C5	29:X:175:C:C5	2.80	0.68
29:X:416:U:O2'	29:X:417:C:H5	1.77	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:922:A:H2'	29:X:923:A:C8	2.28	0.68
29:X:1478:U:O2'	29:X:1479:G:H5'	1.93	0.68
29:X:2448:A:H2'	29:X:2449:G:O4'	1.92	0.68
30:Y:19:ARG:O	30:Y:21:SER:N	2.27	0.68
31:Z:12:C:H2'	31:Z:13:C:O4'	1.93	0.68
6:A:227:ASN:O	6:A:228:PRO:C	2.34	0.68
9:D:92:ARG:NH1	31:Z:46:G:H4'	2.08	0.68
10:E:43:VAL:CG2	10:E:52:VAL:HG22	2.24	0.68
10:E:105:MET:HB3	10:E:107:ILE:CD1	2.23	0.68
18:M:26:ASP:OD1	18:M:27:PHE:N	2.26	0.68
19:N:24:PHE:HB3	19:N:28:ARG:O	1.92	0.68
21:P:85:MET:CE	21:P:130:GLU:HG3	2.24	0.68
23:R:60:PRO:O	23:R:65:PRO:HG3	1.93	0.68
24:S:3:LEU:HD13	24:S:33:ALA:H	1.57	0.68
24:S:133:GLU:HG3	24:S:134:LEU:N	2.06	0.68
28:W:38:PRO:N	28:W:41:ARG:HE	1.92	0.68
29:X:431:G:H2'	29:X:432:C:C6	2.28	0.68
29:X:539:A:H5'	29:X:540:G:OP1	1.93	0.68
29:X:558:G:N3	29:X:558:G:O5'	2.27	0.68
29:X:739:G:O2'	29:X:740:A:P	2.51	0.68
29:X:1672:A:H3'	29:X:1673:C:H6	1.58	0.68
29:X:1681:A:H61	29:X:1979:C:H42	1.42	0.68
29:X:2057:U:H6	29:X:2057:U:H5''	1.58	0.68
29:X:2197:U:C4	29:X:2198:U:C5	2.81	0.68
29:X:2699:G:O2'	29:X:2700:U:H5'	1.93	0.68
6:A:33:LEU:HD12	6:A:63:ARG:HH22	1.59	0.68
7:B:147:PRO:HD3	29:X:1141:U:C4	2.29	0.68
14:I:104:ARG:HB3	14:I:105:PRO:CD	2.23	0.68
15:J:102:ARG:HG3	15:J:103:VAL:N	2.07	0.68
19:N:10:ARG:HH11	29:X:592:G:P	2.16	0.68
21:P:87:GLU:HA	21:P:90:LEU:CD1	2.24	0.68
24:S:103:ARG:HH21	24:S:108:VAL:CG2	2.05	0.68
29:X:1323:G:H3'	29:X:1324:G:H21	1.57	0.68
29:X:1430:G:H2'	29:X:1431:U:C6	2.29	0.68
29:X:2644:A:O2'	29:X:2645:C:H5'	1.93	0.68
6:A:79:VAL:O	6:A:113:VAL:HG13	1.94	0.68
9:D:46:ASP:C	9:D:48:LYS:H	1.99	0.68
14:I:28:LYS:CE	14:I:36:GLY:HA3	2.24	0.68
18:M:34:ARG:CZ	18:M:88:VAL:HG21	2.23	0.68
18:M:38:LYS:HB3	18:M:46:ARG:HB3	1.76	0.68
20:O:13:ARG:CG	20:O:14:VAL:H	2.04	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:S:122:ILE:HG22	24:S:160:LEU:HA	1.75	0.68
26:U:34:THR:HG23	26:U:35:THR:N	2.08	0.68
26:U:48:LYS:CE	29:X:2074:U:H1'	2.19	0.68
29:X:1459:U:C2	29:X:1475:U:H1'	2.29	0.68
29:X:1514:C:O4'	29:X:1593:C:H4'	1.93	0.68
29:X:2787:A:H2'	29:X:2788:C:C6	2.28	0.68
6:A:48:ARG:HH22	29:X:787:A:H5''	1.58	0.68
7:B:20:ALA:C	7:B:21:ILE:HG13	2.19	0.68
7:B:28:ALA:O	7:B:180:ASN:HB3	1.94	0.68
11:F:52:ILE:H	11:F:73:PRO:CD	2.07	0.68
13:H:23:ARG:NH2	13:H:23:ARG:C	2.51	0.68
22:Q:92:ALA:O	22:Q:94:GLN:N	2.27	0.68
7:B:151:TYR:HB3	12:G:106:TYR:CD2	2.29	0.67
9:D:104:ILE:HG21	9:D:174:GLY:HA3	1.74	0.67
11:F:48:LYS:HD3	11:F:72:PRO:HD3	1.75	0.67
14:I:38:LYS:HZ3	29:X:954:U:P	2.15	0.67
17:L:68:ALA:HB1	17:L:102:ALA:CB	2.24	0.67
29:X:417:C:C2	29:X:419:G:N7	2.62	0.67
29:X:837:U:H2'	29:X:838:A:H8	1.60	0.67
29:X:1031:C:H41	29:X:1153:A:H61	1.39	0.67
29:X:1851:A:H62	29:X:1866:G:N2	1.91	0.67
29:X:2665:G:C2	29:X:2704:U:O2	2.48	0.67
6:A:81:ALA:HA	6:A:113:VAL:HG22	1.76	0.67
7:B:134:TRP:NE1	29:X:1675:C:OP1	2.27	0.67
9:D:92:ARG:HH12	31:Z:46:G:C5'	2.06	0.67
10:E:126:PRO:HG2	10:E:127:GLU:N	2.09	0.67
13:H:97:VAL:O	13:H:99:ILE:HG23	1.93	0.67
13:H:102:GLN:HB2	13:H:104:GLU:HG3	1.74	0.67
14:I:63:ARG:CZ	29:X:2394:G:OP1	2.42	0.67
24:S:3:LEU:HD13	24:S:33:ALA:C	2.19	0.67
29:X:313:U:H2'	29:X:314:G:H8	1.58	0.67
29:X:1399:C:H2'	29:X:1400:A:H8	1.59	0.67
29:X:1922:U:H4'	29:X:1923:U:OP2	1.94	0.67
29:X:2700:U:H5'	29:X:2700:U:H6	1.59	0.67
29:X:2845:C:C4	29:X:2846:G:N7	2.62	0.67
6:A:54:ILE:O	6:A:54:ILE:CG2	2.42	0.67
7:B:76:ARG:HG2	7:B:77:ILE:HG13	1.75	0.67
8:C:8:GLY:O	8:C:9:GLN:HB3	1.93	0.67
8:C:28:HIS:ND1	14:I:21:ARG:NH1	2.42	0.67
14:I:32:ARG:NH2	20:O:81:ARG:NE	2.42	0.67
15:J:99:LYS:HE3	15:J:100:PRO:HD2	1.74	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:N:27:SER:C	19:N:29:SER:H	2.00	0.67
21:P:62:ARG:HG3	21:P:62:ARG:NH1	2.07	0.67
23:R:80:LYS:HE3	23:R:80:LYS:C	2.19	0.67
29:X:421:G:H2'	29:X:422:C:H6	1.57	0.67
29:X:777:A:N6	29:X:1766:U:H3	1.92	0.67
29:X:1837:G:O2'	29:X:1838:G:H5'	1.94	0.67
29:X:2837:G:O2'	29:X:2838:U:H5'	1.94	0.67
5:5:5:SER:H	5:5:13:BB9:HN1	1.41	0.67
7:B:116:VAL:H	7:B:136:ARG:CZ	2.07	0.67
9:D:46:ASP:HB2	9:D:49:ALA:CB	2.25	0.67
9:D:81:GLN:HG2	9:D:82:GLY:N	2.05	0.67
10:E:41:LEU:HD21	10:E:68:THR:OG1	1.93	0.67
11:F:84:ILE:HD12	11:F:96:VAL:HG13	1.76	0.67
12:G:103:TYR:HB3	12:G:107:GLN:NE2	1.98	0.67
18:M:43:ASN:C	18:M:43:ASN:HD22	2.03	0.67
19:N:10:ARG:HD2	29:X:592:G:OP2	1.95	0.67
20:O:39:PHE:CE2	20:O:51:ALA:HB1	2.30	0.67
22:Q:63:LYS:HB3	22:Q:69:ILE:O	1.94	0.67
24:S:87:THR:O	24:S:88:TYR:HB2	1.94	0.67
24:S:94:VAL:HG12	24:S:95:SER:H	1.58	0.67
24:S:137:ASP:OD2	24:S:138:VAL:N	2.26	0.67
29:X:529:U:H2'	29:X:530:G:H8	1.56	0.67
29:X:558:G:C4	29:X:558:G:C3'	2.74	0.67
29:X:890:U:H2'	29:X:891:A:H8	1.59	0.67
29:X:1329:U:H2'	29:X:1330:G:H8	1.59	0.67
29:X:2057:U:H5''	29:X:2057:U:C6	2.30	0.67
29:X:2594:U:H2'	29:X:2595:C:C6	2.29	0.67
7:B:60:ASN:HB3	7:B:62:PRO:HD2	1.77	0.67
7:B:91:VAL:HB	7:B:93:VAL:HG12	1.77	0.67
7:B:143:GLN:O	29:X:2035:G:H4'	1.93	0.67
8:C:2:ALA:CA	8:C:13:ARG:HA	2.21	0.67
17:L:27:LEU:O	17:L:88:VAL:N	2.28	0.67
17:L:35:SER:C	17:L:36:LYS:HD2	2.19	0.67
19:N:24:PHE:O	19:N:29:SER:OG	2.12	0.67
26:U:31:GLY:HA2	26:U:32:ARG:HH11	1.60	0.67
29:X:76:C:H6	29:X:76:C:C5'	2.07	0.67
29:X:421:G:H2'	29:X:422:C:C6	2.29	0.67
29:X:659:G:H2'	29:X:660:G:C8	2.28	0.67
29:X:1468:A:H8	29:X:1468:A:P	2.18	0.67
31:Z:5:C:H2'	31:Z:6:C:O4'	1.94	0.67
6:A:243:GLY:HA2	6:A:244:ARG:NH1	2.10	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:B:72:VAL:O	7:B:73:ALA:CB	2.41	0.67
11:F:50:ASP:O	11:F:51:ALA:HB2	1.95	0.67
12:G:64:GLY:C	12:G:67:ARG:HG3	2.20	0.67
14:I:109:LEU:HB3	29:X:648:A:OP2	1.94	0.67
15:J:64:LYS:CB	15:J:108:ALA:O	2.43	0.67
17:L:85:LYS:HG2	17:L:86:GLN:HG2	1.74	0.67
22:Q:68:PHE:O	22:Q:69:ILE:C	2.38	0.67
23:R:71:GLN:O	23:R:72:ARG:HG3	1.94	0.67
25:T:47:ALA:HB2	25:T:53:MET:HE3	1.76	0.67
25:T:71:ASN:HB2	25:T:77:ARG:HD2	1.76	0.67
26:U:28:GLY:N	26:U:32:ARG:HD3	2.09	0.67
29:X:732:G:C8	29:X:732:G:OP2	2.48	0.67
29:X:1064:C:O5'	29:X:1064:C:H6	1.77	0.67
29:X:1973:C:H2'	29:X:1974:U:C6	2.29	0.67
29:X:2501:U:H5'	29:X:2502:G:OP2	1.95	0.67
30:Y:43:HIS:C	30:Y:44:HIS:HD2	2.02	0.67
6:A:44:ASN:N	6:A:44:ASN:ND2	2.41	0.67
8:C:166:TRP:H	8:C:166:TRP:HE3	1.40	0.67
10:E:30:LYS:HG2	10:E:79:VAL:C	2.20	0.67
15:J:19:THR:HB	31:Z:93:G:OP1	1.95	0.67
21:P:93:LYS:HD2	21:P:129:ALA:HB2	1.77	0.67
24:S:113:VAL:CG2	24:S:171:VAL:HG22	2.23	0.67
24:S:122:ILE:HA	24:S:161:ALA:H	1.59	0.67
29:X:33:C:O2'	29:X:34:U:H5''	1.94	0.67
29:X:136:A:H2'	29:X:137:A:O4'	1.94	0.67
29:X:2178:U:O2'	29:X:2179:C:H5'	1.93	0.67
9:D:16:LEU:O	9:D:20:PHE:N	2.27	0.67
10:E:103:LEU:HB2	10:E:123:PHE:CD2	2.29	0.67
12:G:55:ALA:C	12:G:134:MET:HE1	2.19	0.67
12:G:116:ARG:HE	12:G:126:VAL:HG13	1.59	0.67
13:H:29:ILE:HG21	13:H:123:PHE:CE1	2.29	0.67
14:I:45:LYS:NZ	29:X:818:G:OP1	2.27	0.67
15:J:20:GLY:O	15:J:99:LYS:HG2	1.95	0.67
17:L:32:TYR:CD2	31:Z:9:G:H5'	2.30	0.67
23:R:5:SER:O	23:R:6:ALA:HB3	1.94	0.67
29:X:192:G:H4'	29:X:193:A:O5'	1.94	0.67
29:X:416:U:O2'	29:X:417:C:C5	2.48	0.67
29:X:422:C:O2'	29:X:423:G:H5'	1.95	0.67
29:X:841:G:H2'	29:X:842:A:C8	2.30	0.67
29:X:1522:C:H2'	29:X:1523:A:C5'	2.24	0.67
29:X:2352:A:H2'	29:X:2353:G:C8	2.28	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2828:C:H2'	29:X:2829:A:H8	1.59	0.67
4:4:10:MET:N	4:4:14:CYS:SG	2.65	0.67
9:D:16:LEU:O	9:D:20:PHE:HD1	1.77	0.67
14:I:54:SER:OG	14:I:59:ARG:CZ	2.43	0.67
17:L:37:HIS:HB3	31:Z:30:C:OP1	1.95	0.67
19:N:7:GLY:O	19:N:8:ILE:HG12	1.94	0.67
19:N:58:ARG:NH2	29:X:1007:A:H3'	2.09	0.67
20:O:48:GLY:O	20:O:50:ASP:N	2.27	0.67
21:P:79:ALA:O	21:P:85:MET:HB2	1.95	0.67
22:Q:59:PRO:HA	22:Q:74:ASP:OD1	1.95	0.67
23:R:22:VAL:HG11	23:R:80:LYS:CD	2.20	0.67
27:V:56:VAL:O	27:V:59:GLU:N	2.25	0.67
29:X:455:A:C2	29:X:1258:G:N3	2.62	0.67
29:X:1770:U:C2	29:X:1774:A:N7	2.63	0.67
29:X:1937:G:O2'	29:X:1939:U:C5	2.47	0.67
29:X:2165:A:H2'	29:X:2166:G:H8	1.59	0.67
29:X:2319:G:O2'	29:X:2320:G:H5'	1.95	0.67
6:A:67:PHE:HB3	6:A:153:ALA:N	2.10	0.67
10:E:105:MET:CE	10:E:131:ILE:HD11	2.22	0.67
13:H:90:ARG:HH22	18:M:78:GLU:CD	2.03	0.67
14:I:47:ALA:HA	14:I:49:PHE:CE2	2.30	0.67
16:K:10:LEU:HD22	16:K:17:ARG:HB2	1.75	0.67
19:N:66:ASN:ND2	19:N:70:ARG:NH1	2.43	0.67
23:R:25:LEU:HD22	23:R:26:SER:HB3	1.77	0.67
29:X:758:G:C2'	29:X:759:C:H5''	2.22	0.67
29:X:1391:A:O2'	29:X:1392:U:P	2.53	0.67
29:X:2395:C:H2'	29:X:2396:C:H5'	1.77	0.67
4:4:26:ILE:O	4:4:26:ILE:HG13	1.93	0.66
8:C:63:GLY:N	29:X:2043:A:OP1	2.26	0.66
11:F:62:ASP:C	11:F:63:ARG:HD3	2.20	0.66
22:Q:53:ILE:HG13	22:Q:54:SER:N	2.10	0.66
23:R:93:ARG:HG2	23:R:94:VAL:N	2.09	0.66
24:S:64:ALA:HA	24:S:86:VAL:H	1.60	0.66
25:T:31:VAL:HG11	25:T:37:LEU:HD21	1.77	0.66
25:T:43:THR:H	29:X:2310:G:H4'	1.60	0.66
28:W:38:PRO:HA	28:W:41:ARG:HD2	1.77	0.66
29:X:1031:C:O2	29:X:1031:C:H2'	1.94	0.66
29:X:1053:G:H1	29:X:1124:U:H3	1.39	0.66
29:X:1171:A:H2'	29:X:1172:U:C6	2.31	0.66
29:X:1246:G:H2'	29:X:1247:U:H6	1.60	0.66
29:X:1347:C:O2'	29:X:1348:C:H5'	1.94	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1467:U:H3'	29:X:1468:A:H5'	1.76	0.66
7:B:178:GLY:O	7:B:179:GLU:HG3	1.94	0.66
9:D:92:ARG:NH1	31:Z:46:G:H5'	2.10	0.66
13:H:7:ARG:HD3	13:H:18:GLU:CD	2.21	0.66
14:I:101:ARG:CD	29:X:637:G:H1	2.06	0.66
16:K:28:LEU:HD21	16:K:115:LEU:HG	1.77	0.66
19:N:75:ASN:O	19:N:76:TYR:C	2.38	0.66
24:S:123:VAL:HG23	24:S:161:ALA:CB	2.25	0.66
26:U:27:ASP:CA	26:U:32:ARG:HD3	2.25	0.66
29:X:1069:G:H2'	29:X:1070:G:H5''	1.77	0.66
29:X:1071:U:H4'	29:X:1072:U:O5'	1.94	0.66
29:X:1442:C:O2'	29:X:1443:G:OP1	2.09	0.66
29:X:1648:C:H6	29:X:1648:C:H5'	1.60	0.66
29:X:2470:U:H2'	29:X:2470:U:O2	1.93	0.66
29:X:2691:C:O2'	29:X:2692:A:O5'	2.13	0.66
6:A:251:GLY:HA3	6:A:255:LYS:NZ	2.10	0.66
11:F:121:GLU:CD	11:F:121:GLU:H	2.04	0.66
12:G:117:GLU:O	12:G:119:LEU:N	2.27	0.66
17:L:26:ARG:NH1	29:X:2357:A:H4'	2.09	0.66
20:O:36:LYS:HD2	20:O:54:TYR:C	2.20	0.66
23:R:11:ASN:O	23:R:13:LYS:N	2.28	0.66
24:S:145:ASP:O	24:S:170:SER:HA	1.95	0.66
28:W:2:LYS:HB3	28:W:54:GLN:HB2	1.76	0.66
29:X:173:A:N6	29:X:844:G:H21	1.93	0.66
29:X:666:U:H2'	29:X:667:U:C4'	2.24	0.66
29:X:939:C:H5''	29:X:940:G:C5'	2.25	0.66
29:X:1332:G:C5	29:X:1333:G:C6	2.83	0.66
29:X:1856:U:H2'	29:X:1857:G:O5'	1.94	0.66
29:X:2387:U:H2'	29:X:2388:G:C8	2.29	0.66
11:F:111:LYS:O	11:F:115:LEU:HG	1.95	0.66
15:J:103:VAL:O	15:J:103:VAL:HG12	1.94	0.66
18:M:31:ASP:OD2	18:M:31:ASP:N	2.25	0.66
22:Q:61:LYS:H	22:Q:72:ARG:HA	1.60	0.66
23:R:102:LYS:HE2	29:X:100:G:O6	1.95	0.66
26:U:10:LYS:HG2	26:U:11:LYS:HG3	1.76	0.66
29:X:417:C:C5	29:X:419:G:C4	2.84	0.66
29:X:417:C:C6	29:X:419:G:N9	2.64	0.66
29:X:1234:C:H2'	29:X:1235:C:H6	1.58	0.66
29:X:1348:C:H2'	29:X:1349:A:H8	1.59	0.66
29:X:2302:G:H1	29:X:2311:U:H5	1.41	0.66
29:X:2482:A:C4'	29:X:2483:U:OP1	2.40	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2634:G:HO2'	29:X:2643:G:H1	1.44	0.66
7:B:153:GLY:O	7:B:154:LYS:C	2.39	0.66
8:C:129:LYS:C	8:C:131:LYS:H	2.03	0.66
16:K:25:ALA:HB2	16:K:47:PHE:HE2	1.61	0.66
17:L:54:ALA:O	17:L:71:VAL:HG23	1.96	0.66
20:O:18:ASP:C	20:O:18:ASP:OD1	2.39	0.66
23:R:9:HIS:CE1	29:X:338:G:H5'	2.30	0.66
6:A:252:LYS:HB2	6:A:253:PRO:CD	2.26	0.66
7:B:26:VAL:HB	7:B:182:ILE:HG23	1.78	0.66
11:F:75:SER:O	11:F:79:ARG:HG3	1.96	0.66
17:L:9:ARG:O	17:L:10:LYS:C	2.39	0.66
18:M:16:ILE:O	18:M:16:ILE:HG22	1.95	0.66
18:M:102:ALA:O	18:M:103:LYS:HD2	1.95	0.66
23:R:96:LYS:HG3	23:R:97:GLN:N	2.10	0.66
29:X:1247:U:O2'	29:X:1248:G:H5'	1.96	0.66
29:X:2426:G:O2'	29:X:2427:A:OP2	2.14	0.66
6:A:161:THR:O	6:A:195:ALA:HB1	1.95	0.66
7:B:14:ILE:HD11	7:B:183:LEU:CD1	2.26	0.66
8:C:3:GLN:NE2	8:C:4:ILE:HG12	2.11	0.66
9:D:9:ASN:O	9:D:13:ARG:N	2.28	0.66
10:E:58:ALA:N	10:E:62:ARG:HG3	2.07	0.66
16:K:6:ALA:HB1	29:X:2848:A:H2	1.61	0.66
24:S:73:LYS:C	24:S:75:LYS:H	2.03	0.66
26:U:45:ASN:HA	29:X:2210:C:OP1	1.94	0.66
29:X:104:C:O2'	29:X:105:G:H5''	1.95	0.66
29:X:965:G:N3	29:X:2253:A:C2	2.64	0.66
29:X:1151:U:C5'	29:X:1153:A:H5''	2.26	0.66
29:X:1437:A:H2'	29:X:1438:G:C8	2.31	0.66
29:X:1745:C:O2'	29:X:1746:A:H5'	1.94	0.66
31:Z:4:C:C2'	31:Z:5:C:H5'	2.25	0.66
4:4:31:LYS:H	4:4:31:LYS:CD	2.09	0.66
8:C:162:ARG:CZ	29:X:333:A:C3'	2.66	0.66
11:F:25:PRO:HG2	11:F:26:ALA:H	1.61	0.66
12:G:162:LYS:N	12:G:163:PRO:HD2	2.09	0.66
19:N:84:LYS:HB2	19:N:92:ARG:NH2	2.11	0.66
24:S:19:ILE:HG22	24:S:20:ALA:H	1.61	0.66
24:S:69:VAL:HG22	24:S:81:VAL:HG13	1.78	0.66
29:X:946:U:H2'	29:X:947:C:C6	2.30	0.66
29:X:2407:G:H5''	29:X:2408:G:OP1	1.94	0.66
29:X:2594:U:H2'	29:X:2595:C:H6	1.59	0.66
9:D:108:LEU:HD11	9:D:117:ILE:HD11	1.78	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:L:76:ALA:HB2	17:L:107:ALA:HA	1.78	0.66
18:M:101:ARG:HG2	18:M:101:ARG:HH21	1.61	0.66
21:P:27:VAL:CB	21:P:125:THR:HG22	2.25	0.66
23:R:84:VAL:HG21	23:R:89:GLY:CA	2.26	0.66
28:W:23:LEU:HD23	28:W:43:MET:HE3	1.77	0.66
29:X:197:G:N3	29:X:210:A:H2	1.93	0.66
29:X:357:A:N7	29:X:358:C:H1'	2.11	0.66
29:X:914:C:O2'	29:X:915:C:H5'	1.96	0.66
29:X:1517:C:H2'	29:X:1518:C:H6	1.61	0.66
29:X:2266:A:O2'	29:X:2267:A:H3'	1.94	0.66
29:X:2506:C:O2'	29:X:2507:U:H5'	1.96	0.66
8:C:28:HIS:CE1	14:I:21:ARG:NH1	2.63	0.66
15:J:79:PRO:CD	15:J:88:LYS:HD2	2.25	0.66
16:K:79:VAL:HA	16:K:83:VAL:CG1	2.25	0.66
23:R:105:ARG:NH1	23:R:112:LYS:HA	2.10	0.66
25:T:39:ARG:NH2	29:X:2334:C:H1'	2.01	0.66
28:W:4:LYS:HG2	28:W:52:GLU:O	1.96	0.66
29:X:568:G:H2'	29:X:569:C:O4'	1.96	0.66
29:X:591:G:H2'	29:X:592:G:C8	2.31	0.66
29:X:1135:C:H2'	29:X:1136:G:H8	1.59	0.66
29:X:1554:G:H2'	29:X:1555:A:H8	1.61	0.66
4:4:10:MET:CE	4:4:32:HIS:HA	2.27	0.65
6:A:244:ARG:HD2	29:X:1885:C:C4'	2.26	0.65
6:A:258:LYS:HZ2	6:A:261:ARG:HE	1.44	0.65
7:B:143:GLN:HE21	7:B:143:GLN:N	1.94	0.65
8:C:125:ILE:O	8:C:126:ALA:HB3	1.94	0.65
9:D:46:ASP:C	9:D:48:LYS:N	2.50	0.65
12:G:92:GLY:HA3	12:G:93:LYS:HE2	1.77	0.65
14:I:86:THR:C	14:I:88:PHE:N	2.53	0.65
16:K:44:LEU:O	16:K:44:LEU:HD12	1.95	0.65
17:L:33:ARG:HH12	17:L:103:LEU:HB2	1.60	0.65
20:O:93:ILE:O	20:O:93:ILE:HG13	1.96	0.65
21:P:108:PRO:HG2	29:X:1631:C:C1'	2.25	0.65
22:Q:42:ILE:HG23	22:Q:43:GLN:H	1.59	0.65
24:S:68:ALA:H	24:S:82:ASP:HB2	1.60	0.65
29:X:796:A:C8	29:X:797:A:H4'	2.30	0.65
29:X:1086:C:H3'	29:X:1087:C:C5'	2.25	0.65
29:X:1850:G:C2'	29:X:1851:A:H8	2.07	0.65
29:X:2700:U:H5'	29:X:2700:U:C6	2.30	0.65
29:X:2712:G:H3'	29:X:2713:A:C5'	2.26	0.65
9:D:72:LYS:HA	9:D:81:GLN:C	2.21	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:D:122:PHE:CB	9:D:129:ASN:HD22	2.04	0.65
11:F:39:LYS:O	11:F:43:ALA:HB2	1.96	0.65
14:I:32:ARG:HD2	20:O:81:ARG:HD2	1.77	0.65
14:I:141:VAL:C	14:I:142:LEU:HD23	2.20	0.65
29:X:168:A:O2'	29:X:169:C:H5'	1.96	0.65
29:X:322:A:O2'	29:X:343:A:H4'	1.96	0.65
29:X:350:U:H6	29:X:350:U:O5'	1.78	0.65
29:X:801:A:O2'	29:X:802:A:P	2.53	0.65
29:X:820:U:H2'	29:X:821:A:H8	1.60	0.65
29:X:1830:C:N4	29:X:1881:U:H3'	2.11	0.65
29:X:2368:G:H5''	29:X:2369:U:O5'	1.96	0.65
29:X:2405:A:H2'	29:X:2405:A:N3	2.11	0.65
31:Z:43:G:C5'	31:Z:44:C:H5'	2.18	0.65
4:4:6:SER:HB2	29:X:2445:C:H5''	1.78	0.65
7:B:121:ASN:O	7:B:122:PHE:C	2.38	0.65
9:D:150:ARG:CG	9:D:151:GLY:N	2.53	0.65
14:I:53:ARG:NH2	29:X:173:A:OP2	2.29	0.65
22:Q:40:ASP:O	22:Q:41:ALA:C	2.38	0.65
23:R:108:VAL:C	23:R:110:SER:H	2.03	0.65
26:U:52:ARG:C	26:U:53:GLU:HG2	2.20	0.65
28:W:38:PRO:CD	28:W:41:ARG:HE	2.10	0.65
29:X:71:A:C6	29:X:110:U:H4'	2.32	0.65
29:X:1059:A:N6	29:X:1122:A:C2	2.65	0.65
29:X:1386:A:H5''	29:X:2191:A:C6	2.31	0.65
6:A:206:LEU:CA	6:A:211:ARG:HD3	2.26	0.65
8:C:30:VAL:HG12	8:C:31:VAL:N	2.11	0.65
12:G:148:LEU:HD12	12:G:149:LYS:N	2.11	0.65
15:J:66:TYR:O	15:J:106:GLU:OE2	2.14	0.65
17:L:81:GLU:O	17:L:82:LYS:HG2	1.96	0.65
19:N:22:LYS:HG3	19:N:23:GLY:H	1.60	0.65
22:Q:71:GLN:HG2	22:Q:72:ARG:O	1.97	0.65
23:R:93:ARG:NH1	23:R:107:ALA:O	2.29	0.65
25:T:18:PRO:HD2	29:X:2240:C:OP2	1.97	0.65
26:U:15:VAL:O	26:U:16:ASN:O	2.15	0.65
27:V:18:ILE:O	27:V:20:ALA:N	2.28	0.65
29:X:70:A:OP1	29:X:110:U:H2'	1.96	0.65
29:X:645:G:H2'	29:X:646:C:C6	2.32	0.65
29:X:1482:U:H2'	29:X:1483:G:H8	1.60	0.65
29:X:1501:C:H2'	29:X:1502:G:O4'	1.96	0.65
29:X:1681:A:N1	29:X:2706:U:C5	2.65	0.65
29:X:2195:C:C6	29:X:2196:U:H5	2.15	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2796:A:O2'	29:X:2797:G:H5'	1.96	0.65
15:J:23:LYS:HD3	29:X:876:A:P	2.37	0.65
19:N:24:PHE:CB	19:N:29:SER:HB3	2.22	0.65
19:N:88:ILE:HA	20:O:49:GLU:CG	2.25	0.65
24:S:84:TYR:HE1	31:Z:107:C:H4'	1.61	0.65
27:V:41:HIS:HB3	27:V:44:ARG:HH21	1.61	0.65
29:X:5:A:H2'	29:X:6:A:C8	2.31	0.65
29:X:865:A:H2'	29:X:866:U:H6	1.60	0.65
29:X:1914:U:H6	29:X:1914:U:H5'	1.61	0.65
6:A:213:ARG:O	6:A:215:LEU:N	2.30	0.65
12:G:103:TYR:CZ	12:G:111:LYS:CB	2.79	0.65
12:G:157:PRO:O	12:G:161:GLN:NE2	2.28	0.65
14:I:81:GLN:NE2	14:I:115:SER:HA	2.09	0.65
22:Q:62:ARG:HH12	22:Q:73:ASN:ND2	1.95	0.65
29:X:104:C:C2'	29:X:105:G:C5'	2.75	0.65
29:X:930:A:N6	29:X:2247:A:C8	2.63	0.65
29:X:1212:U:H2'	29:X:1213:U:C6	2.32	0.65
29:X:1446:U:H2'	29:X:1447:U:C6	2.32	0.65
29:X:2320:G:H2'	29:X:2321:C:C6	2.32	0.65
9:D:134:GLU:HG2	9:D:136:LEU:H	1.61	0.65
11:F:13:PRO:HG3	11:F:52:ILE:HG12	1.77	0.65
11:F:93:LYS:NZ	29:X:1087:C:OP2	2.29	0.65
11:F:101:TRP:O	11:F:104:VAL:HB	1.97	0.65
15:J:37:ALA:HB2	15:J:104:MET:CE	2.25	0.65
16:K:5:LYS:HE2	29:X:2795:A:C4'	2.17	0.65
18:M:6:LYS:H	18:M:6:LYS:CD	1.97	0.65
18:M:34:ARG:CZ	18:M:88:VAL:CG1	2.73	0.65
19:N:66:ASN:HB3	19:N:76:TYR:HB2	1.78	0.65
23:R:15:HIS:ND1	23:R:16:PHE:HD2	1.90	0.65
26:U:23:LYS:HD2	26:U:35:THR:CG2	2.27	0.65
26:U:33:LYS:NZ	29:X:2400:G:N2	2.45	0.65
29:X:433:G:N2	29:X:434:C:H1'	2.11	0.65
29:X:1486:A:H2'	29:X:1487:C:C6	2.32	0.65
29:X:2775:U:H5'	29:X:2776:U:H5''	1.79	0.65
10:E:44:ARG:NH2	10:E:44:ARG:HG3	2.12	0.65
20:O:18:ASP:OD1	20:O:20:ILE:HG22	1.97	0.65
22:Q:28:TRP:CE3	22:Q:75:ARG:HB3	2.32	0.65
23:R:35:LYS:HE3	23:R:37:LEU:HD21	1.78	0.65
23:R:105:ARG:NH1	23:R:113:THR:N	2.44	0.65
24:S:62:PHE:HB3	24:S:85:MET:SD	2.36	0.65
29:X:691:C:H2'	29:X:692:C:H6	1.62	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1314:A:C2'	29:X:1315:A:H3'	2.26	0.65
29:X:1503:G:H2'	29:X:1504:G:H8	1.59	0.65
29:X:1711:C:C4'	29:X:1712:G:H5''	2.27	0.65
31:Z:39:C:H5'	31:Z:40:C:OP2	1.97	0.65
7:B:70:ALA:O	7:B:72:VAL:HG23	1.96	0.65
13:H:3:MET:HE1	29:X:1978:U:O2	1.97	0.65
14:I:127:ALA:C	14:I:129:ALA:H	2.05	0.65
19:N:3:ARG:HG2	19:N:3:ARG:NH1	2.06	0.65
19:N:88:ILE:HG22	20:O:48:GLY:O	1.96	0.65
28:W:54:GLN:HG2	28:W:55:GLU:N	2.11	0.65
29:X:219:G:H22	29:X:231:G:H2'	1.59	0.65
29:X:415:A:C2'	29:X:416:U:H5'	2.26	0.65
29:X:1514:C:H4'	29:X:1593:C:H5'	1.79	0.65
29:X:2030:U:O2'	29:X:2031:A:H5'	1.96	0.65
29:X:2226:A:H2'	29:X:2227:C:H6	1.60	0.65
29:X:2475:C:H2'	29:X:2476:A:H5'	1.77	0.65
29:X:2484:G:O2'	29:X:2485:U:C5'	2.44	0.65
29:X:2706:U:O2	29:X:2706:U:C2'	2.45	0.65
6:A:108:PRO:HB3	6:A:143:HIS:NE2	2.12	0.65
11:F:55:VAL:HG22	11:F:69:THR:HA	1.79	0.65
13:H:102:GLN:HB2	13:H:104:GLU:CG	2.26	0.65
13:H:110:VAL:HG12	13:H:111:PHE:N	2.12	0.65
14:I:29:THR:HA	14:I:34:HIS:HB2	1.78	0.65
14:I:88:PHE:HB3	14:I:93:LEU:HD12	1.79	0.65
18:M:34:ARG:HH21	18:M:91:VAL:CG2	2.09	0.65
24:S:122:ILE:CG2	24:S:160:LEU:HD23	2.26	0.65
26:U:33:LYS:HZ2	29:X:2400:G:N2	1.94	0.65
26:U:41:VAL:HG21	26:U:43:ARG:NH2	2.12	0.65
29:X:174:A:C2	29:X:175:C:O2	2.49	0.65
29:X:687:G:H2'	29:X:817:A:H61	1.61	0.65
29:X:1050:G:H2'	29:X:1051:U:H5'	1.78	0.65
29:X:1151:U:H5''	29:X:1153:A:H5''	1.79	0.65
29:X:1332:G:C6	29:X:1333:G:N1	2.65	0.65
29:X:1975:G:O2'	29:X:1976:U:OP2	2.13	0.65
6:A:258:LYS:HE3	6:A:264:LYS:HD3	1.78	0.64
11:F:104:VAL:HA	11:F:107:ILE:CD1	2.26	0.64
12:G:84:ASN:N	12:G:153:GLY:O	2.29	0.64
12:G:127:ILE:HG22	12:G:128:GLU:N	2.12	0.64
12:G:140:GLN:HG2	12:G:144:MET:HE2	1.78	0.64
16:K:91:PRO:C	16:K:92:GLY:O	2.40	0.64
19:N:107:LYS:O	19:N:110:VAL:HB	1.97	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:P:89:ARG:CZ	21:P:132:GLY:HA2	2.27	0.64
22:Q:4:TYR:HE1	22:Q:45:ALA:HA	1.60	0.64
22:Q:63:LYS:CB	22:Q:69:ILE:O	2.44	0.64
22:Q:81:ARG:HG3	22:Q:81:ARG:HH11	1.63	0.64
23:R:15:HIS:ND1	23:R:16:PHE:CD2	2.66	0.64
26:U:13:LEU:HD12	26:U:14:VAL:N	2.12	0.64
29:X:169:C:C2'	29:X:170:U:H5'	2.27	0.64
29:X:357:A:H3'	29:X:358:C:C6	2.32	0.64
29:X:408:U:O2'	29:X:409:G:H8	1.80	0.64
6:A:173:VAL:HG21	6:A:187:SER:HB3	1.79	0.64
6:A:257:LEU:HD13	29:X:1794:A:O3'	1.96	0.64
7:B:1:MET:HG3	7:B:83:GLY:O	1.97	0.64
7:B:146:THR:O	7:B:147:PRO:C	2.40	0.64
7:B:168:GLN:O	29:X:2710:C:H4'	1.97	0.64
15:J:51:CYS:O	15:J:52:ARG:C	2.39	0.64
15:J:71:PRO:HA	15:J:96:SER:HB2	1.80	0.64
17:L:33:ARG:NH2	17:L:103:LEU:HD12	2.12	0.64
18:M:11:GLU:O	18:M:12:LEU:C	2.40	0.64
18:M:105:TYR:CE1	18:M:108:ARG:NH2	2.66	0.64
19:N:60:LEU:HD11	19:N:64:ARG:NE	2.12	0.64
29:X:75:C:H2'	29:X:76:C:H5''	1.78	0.64
29:X:187:U:O2'	29:X:188:G:H5'	1.97	0.64
29:X:1242:A:O2'	29:X:1243:G:H5'	1.96	0.64
29:X:1553:G:H2'	29:X:1554:G:C8	2.32	0.64
29:X:2345:A:H2'	29:X:2346:G:O4'	1.97	0.64
29:X:2663:U:N3	29:X:2664:G:C8	2.66	0.64
29:X:2807:U:H4'	29:X:2808:U:H5''	1.79	0.64
9:D:135:GLN:HG3	9:D:151:GLY:HA2	1.80	0.64
21:P:79:ALA:HB1	21:P:85:MET:SD	2.37	0.64
21:P:134:LYS:HB2	29:X:2777:A:C5	2.31	0.64
24:S:3:LEU:HD21	24:S:32:PHE:CB	2.27	0.64
29:X:701:U:O2	29:X:800:U:H4'	1.97	0.64
29:X:1536:G:H2'	29:X:1537:U:C6	2.33	0.64
29:X:1629:G:H2'	29:X:1633:C:N4	2.12	0.64
29:X:1856:U:O2'	29:X:1857:G:O5'	2.15	0.64
29:X:2838:U:O2'	29:X:2839:G:H5'	1.97	0.64
6:A:229:VAL:HG21	29:X:797:A:C6	2.33	0.64
7:B:92:ASN:HA	7:B:95:ILE:HB	1.80	0.64
7:B:127:ALA:HB2	7:B:135:HIS:CE1	2.32	0.64
14:I:32:ARG:NH2	20:O:81:ARG:HE	1.95	0.64
15:J:35:LEU:N	15:J:105:PHE:O	2.26	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:M:103:LYS:O	18:M:104:LEU:CB	2.44	0.64
24:S:43:PHE:CE1	24:S:66:VAL:HG11	2.32	0.64
26:U:29:GLY:O	26:U:31:GLY:N	2.27	0.64
26:U:78:ILE:HD13	26:U:79:GLU:O	1.96	0.64
27:V:31:GLN:HA	27:V:34:ALA:HB3	1.80	0.64
6:A:186:HIS:HD1	6:A:186:HIS:H	1.45	0.64
6:A:214:TRP:HH2	29:X:777:A:OP2	1.80	0.64
7:B:51:TYR:N	7:B:75:THR:OG1	2.29	0.64
9:D:74:ILE:HG23	9:D:79:LEU:O	1.98	0.64
11:F:27:LEU:HA	11:F:30:TYR:CD2	2.32	0.64
11:F:42:ASN:HA	11:F:45:THR:CG2	2.27	0.64
13:H:41:ASN:H	13:H:41:ASN:HD22	1.43	0.64
14:I:38:LYS:NZ	29:X:954:U:OP2	2.29	0.64
14:I:102:LYS:O	14:I:104:ARG:N	2.29	0.64
15:J:30:PHE:CE1	29:X:886:A:H1'	2.33	0.64
17:L:75:LEU:O	17:L:78:ALA:HB3	1.97	0.64
23:R:33:THR:OG1	23:R:34:GLY:N	2.29	0.64
24:S:71:MET:HE2	24:S:71:MET:O	1.97	0.64
29:X:583:C:H4'	29:X:584:A:O5'	1.96	0.64
29:X:824:U:H1'	29:X:1264:C:C1'	2.27	0.64
29:X:889:C:H2'	29:X:890:U:O4'	1.97	0.64
29:X:1065:A:O2'	29:X:1066:G:H5'	1.97	0.64
29:X:1218:C:O2'	29:X:1219:C:H5'	1.96	0.64
29:X:2074:U:H3'	29:X:2075:U:C5'	2.27	0.64
6:A:55:GLY:O	6:A:56:GLY:O	2.14	0.64
8:C:158:ARG:O	8:C:160:ALA:N	2.31	0.64
13:H:23:ARG:NH1	13:H:25:LEU:CD2	2.48	0.64
13:H:23:ARG:HH21	13:H:23:ARG:C	2.06	0.64
13:H:26:ASN:HB3	13:H:38:GLY:H	1.61	0.64
14:I:32:ARG:CZ	20:O:79:GLN:HA	2.28	0.64
25:T:72:LYS:HD3	31:Z:14:C:H5''	1.80	0.64
26:U:20:ARG:HB3	26:U:43:ARG:NH2	2.12	0.64
29:X:392:G:N2	29:X:409:G:C4	2.66	0.64
29:X:712:A:H2'	29:X:713:G:O4'	1.98	0.64
29:X:839:U:OP1	29:X:2408:G:OP2	2.15	0.64
29:X:995:A:OP2	29:X:996:C:N4	2.22	0.64
29:X:1128:G:C2'	29:X:1129:A:H5''	2.27	0.64
29:X:2030:U:H2'	29:X:2031:A:C8	2.32	0.64
29:X:2261:G:H21	29:X:2369:U:H3	1.44	0.64
29:X:2373:C:H2'	29:X:2374:C:C6	2.32	0.64
7:B:14:ILE:HD11	7:B:183:LEU:HD13	1.80	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:B:72:VAL:O	7:B:73:ALA:HB2	1.98	0.64
8:C:75:PRO:HG3	8:C:83:ALA:HB2	1.79	0.64
9:D:111:ILE:CG2	9:D:114:PHE:HB2	2.28	0.64
10:E:16:THR:HG22	10:E:16:THR:O	1.97	0.64
10:E:139:GLN:O	10:E:142:GLY:N	2.31	0.64
20:O:38:LEU:HA	20:O:46:VAL:O	1.98	0.64
24:S:3:LEU:CD1	24:S:33:ALA:H	2.11	0.64
29:X:648:A:H5'	29:X:649:G:H4'	1.80	0.64
29:X:752:G:C4'	29:X:753:U:OP1	2.40	0.64
29:X:1069:G:C3'	29:X:1070:G:H5''	2.27	0.64
29:X:1440:G:H3'	29:X:1441:A:H5''	1.78	0.64
6:A:169:GLU:HG2	6:A:170:SER:H	1.63	0.64
6:A:219:PRO:O	6:A:220:HIS:O	2.16	0.64
6:A:270:ILE:HG13	6:A:271:VAL:N	2.11	0.64
7:B:39:ALA:HA	7:B:43:GLY:C	2.23	0.64
8:C:176:ASN:O	8:C:180:ILE:HG22	1.98	0.64
14:I:76:LYS:CG	14:I:111:SER:HB2	2.28	0.64
15:J:9:LYS:HG3	29:X:884:C:OP1	1.98	0.64
15:J:35:LEU:HB2	15:J:119:PHE:CE1	2.32	0.64
18:M:82:PRO:HB2	18:M:85:SER:HB2	1.80	0.64
26:U:22:GLY:HA3	26:U:39:LYS:CD	2.27	0.64
26:U:27:ASP:HA	26:U:32:ARG:CZ	2.26	0.64
29:X:742:G:O2'	29:X:776:G:H4'	1.97	0.64
29:X:879:A:H2'	29:X:879:A:N3	2.13	0.64
29:X:1016:C:H4'	29:X:1023:U:H5''	1.79	0.64
29:X:1471:G:O2'	29:X:1472:C:H5'	1.97	0.64
29:X:1882:G:H21	29:X:1885:C:N4	1.95	0.64
29:X:2226:A:H2'	29:X:2227:C:C6	2.32	0.64
29:X:2437:G:O2'	29:X:2438:A:N7	2.30	0.64
8:C:50:GLN:CD	29:X:814:G:OP1	2.40	0.64
14:I:130:ILE:O	14:I:132:ALA:N	2.26	0.64
15:J:116:LYS:HD3	15:J:132:MET:SD	2.37	0.64
17:L:33:ARG:HH22	17:L:103:LEU:HB2	1.63	0.64
29:X:48:A:C8	29:X:50:G:N2	2.66	0.64
29:X:163:A:H2'	29:X:164:G:H8	1.61	0.64
29:X:456:C:O2'	29:X:457:C:H5'	1.97	0.64
29:X:553:C:C5'	29:X:554:U:OP1	2.45	0.64
29:X:699:G:H4'	29:X:700:C:OP2	1.98	0.64
29:X:760:U:O2	29:X:1997:A:H1'	1.98	0.64
29:X:1095:A:H2'	29:X:1096:A:O4'	1.97	0.64
29:X:1215:A:H2'	29:X:1216:G:C8	2.33	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1281:A:O4'	29:X:2592:U:H5	1.80	0.64
29:X:1563:U:H2'	29:X:1564:U:C6	2.32	0.64
29:X:2195:C:C5	29:X:2196:U:C4	2.85	0.64
29:X:2494:C:O2	29:X:2549:G:C2	2.51	0.64
29:X:2736:U:O2'	29:X:2737:A:C5'	2.31	0.64
29:X:2824:C:H1'	29:X:2843:A:C4	2.33	0.64
29:X:2825:A:C2	29:X:2826:C:C2	2.86	0.64
6:A:244:ARG:HB3	6:A:252:LYS:HZ1	1.63	0.64
7:B:67:PHE:CZ	7:B:75:THR:HG22	2.33	0.64
8:C:24:SER:HA	8:C:27:LEU:HD13	1.80	0.64
12:G:51:LEU:HD12	12:G:88:VAL:HG21	1.79	0.64
17:L:8:ARG:NH1	17:L:8:ARG:HB2	2.13	0.64
29:X:490:A:O2'	29:X:491:A:C5'	2.46	0.64
29:X:763:A:OP1	29:X:1631:C:N4	2.30	0.64
29:X:1188:A:H8	29:X:1188:A:O5'	1.79	0.64
29:X:1782:A:N6	29:X:1820:G:O2'	2.31	0.64
29:X:1997:A:H2'	29:X:1998:A:C8	2.33	0.64
29:X:2030:U:H2'	29:X:2031:A:H8	1.62	0.64
29:X:2196:U:O2'	29:X:2197:U:O4'	2.15	0.64
6:A:252:LYS:HG2	29:X:1816:G:O2'	1.98	0.63
9:D:35:VAL:O	9:D:154:ILE:HG13	1.98	0.63
11:F:11:GLN:HG2	11:F:52:ILE:CG2	2.29	0.63
16:K:100:VAL:CG1	16:K:101:GLY:N	2.43	0.63
17:L:63:ASN:CB	17:L:66:ASP:HB2	2.28	0.63
23:R:93:ARG:NH1	23:R:108:VAL:CA	2.61	0.63
24:S:18:MET:SD	24:S:35:ASP:HA	2.37	0.63
29:X:1002:C:C4	29:X:1003:C:H5	2.15	0.63
30:Y:12:SER:HB2	30:Y:15:LYS:H	1.61	0.63
9:D:13:ARG:NH1	9:D:14:PRO:CG	2.55	0.63
9:D:75:SER:O	9:D:79:LEU:HD13	1.99	0.63
12:G:141:GLY:HA2	12:G:144:MET:HE3	1.80	0.63
27:V:41:HIS:HD2	27:V:42:ARG:H	1.43	0.63
29:X:191:G:O2'	29:X:192:G:H5'	1.98	0.63
29:X:311:A:N7	29:X:345:U:H4'	2.13	0.63
29:X:455:A:H2	29:X:1258:G:N3	1.95	0.63
29:X:1773:C:H2'	29:X:2587:G:O2'	1.98	0.63
8:C:39:ARG:NH2	8:C:91:TYR:HD2	1.95	0.63
8:C:162:ARG:CD	29:X:333:A:H5'	2.27	0.63
10:E:39:THR:C	10:E:41:LEU:H	2.07	0.63
10:E:136:ILE:HD12	10:E:136:ILE:N	2.13	0.63
12:G:107:GLN:HG2	29:X:1142:G:O4'	1.99	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:O:35:LEU:CD2	20:O:52:GLY:HA2	2.28	0.63
21:P:13:GLN:O	21:P:16:GLN:HG3	1.97	0.63
21:P:37:LYS:CE	21:P:64:ALA:HB2	2.28	0.63
29:X:648:A:H4'	29:X:649:G:O4'	1.98	0.63
29:X:717:G:HO2'	29:X:718:A:P	2.21	0.63
29:X:1793:A:H2'	29:X:1794:A:C8	2.33	0.63
29:X:2473:G:H2'	29:X:2474:G:H8	1.63	0.63
4:4:1:MET:SD	4:4:35:ARG:HB2	2.39	0.63
6:A:71:ASP:CG	6:A:103:ARG:HH12	2.06	0.63
14:I:38:LYS:HG2	29:X:954:U:OP2	1.98	0.63
14:I:77:LEU:HD22	14:I:110:ALA:HA	1.81	0.63
15:J:113:GLU:C	15:J:115:ALA:N	2.56	0.63
20:O:15:SER:C	20:O:16:GLU:HG3	2.22	0.63
22:Q:35:LYS:HE3	29:X:1615:C:OP2	1.98	0.63
24:S:48:THR:O	24:S:49:THR:HG23	1.98	0.63
25:T:42:GLY:HA3	29:X:2310:G:O4'	1.99	0.63
26:U:13:LEU:CG	26:U:14:VAL:N	2.59	0.63
27:V:24:GLU:O	27:V:28:LEU:HD23	1.97	0.63
29:X:2633:A:N1	29:X:2644:A:H5''	2.14	0.63
8:C:197:GLU:HG2	8:C:198:GLU:HG3	1.80	0.63
10:E:76:VAL:C	10:E:78:GLY:H	2.05	0.63
12:G:73:ASN:O	12:G:140:GLN:OE1	2.16	0.63
14:I:58:ALA:O	14:I:59:ARG:HB2	1.99	0.63
15:J:78:LYS:HA	15:J:88:LYS:NZ	2.13	0.63
19:N:19:LYS:HG3	19:N:19:LYS:O	1.97	0.63
22:Q:75:ARG:HG3	22:Q:75:ARG:NH1	2.04	0.63
25:T:21:LEU:HD11	25:T:41:ARG:NE	2.13	0.63
26:U:27:ASP:CA	26:U:32:ARG:NH2	2.47	0.63
26:U:45:ASN:HB3	29:X:409:G:O2'	1.99	0.63
27:V:7:ARG:O	27:V:9:LEU:N	2.32	0.63
27:V:37:LEU:HD13	29:X:60:A:O2'	1.99	0.63
29:X:1001:A:H5'	29:X:1168:G:OP1	1.98	0.63
29:X:1061:A:H2'	29:X:1062:G:H5'	1.79	0.63
29:X:1922:U:O2	29:X:2570:C:O2'	2.16	0.63
29:X:2477:C:O2'	29:X:2478:C:H5'	1.98	0.63
29:X:2556:A:H5''	29:X:2557:G:H5'	1.80	0.63
6:A:181:GLU:HG2	6:A:182:LEU:H	1.62	0.63
8:C:48:ARG:O	8:C:51:VAL:HG22	1.99	0.63
12:G:155:THR:HA	12:G:158:HIS:HD2	1.64	0.63
13:H:23:ARG:HH12	13:H:25:LEU:CG	2.10	0.63
13:H:46:HIS:N	13:H:49:ASP:OD2	2.27	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:H:132:GLU:HG2	13:H:134:LEU:HG	1.79	0.63
14:I:73:GLU:OE1	14:I:73:GLU:N	2.32	0.63
15:J:15:ARG:HG3	15:J:15:ARG:NH1	2.09	0.63
18:M:11:GLU:O	18:M:14:ARG:N	2.31	0.63
20:O:36:LYS:HD3	20:O:39:PHE:CE2	2.34	0.63
22:Q:21:GLU:C	22:Q:23:GLY:H	2.05	0.63
24:S:100:THR:O	24:S:101:THR:HG23	1.98	0.63
26:U:13:LEU:HG	26:U:14:VAL:N	2.14	0.63
29:X:490:A:HO2'	29:X:491:A:H5'	1.63	0.63
29:X:532:A:H2'	29:X:533:C:C6	2.33	0.63
29:X:546:A:H2'	29:X:547:U:H6	1.64	0.63
29:X:719:A:H2'	29:X:720:A:O4'	1.98	0.63
29:X:1073:G:OP2	29:X:1081:A:H4'	1.98	0.63
29:X:1122:A:H2	29:X:1123:G:H1'	1.63	0.63
29:X:1965:U:OP1	29:X:1965:U:H3'	1.98	0.63
7:B:52:ALA:O	7:B:75:THR:O	2.17	0.63
9:D:75:SER:H	9:D:79:LEU:CD2	2.10	0.63
9:D:79:LEU:HD21	29:X:2289:A:H2	1.64	0.63
9:D:133:LYS:O	9:D:151:GLY:HA2	1.99	0.63
15:J:125:LYS:HD2	15:J:125:LYS:N	2.14	0.63
18:M:104:LEU:O	18:M:105:TYR:C	2.40	0.63
22:Q:90:ALA:O	22:Q:92:ALA:N	2.29	0.63
29:X:13:A:C2	29:X:15:G:O6	2.52	0.63
29:X:48:A:H1'	29:X:50:G:C2	2.33	0.63
29:X:198:A:H4'	29:X:199:A:OP2	1.98	0.63
29:X:766:A:O2'	29:X:767:G:H5'	1.99	0.63
29:X:1072:U:H1'	29:X:1081:A:C1'	2.28	0.63
29:X:1372:A:C5	29:X:1373:G:N7	2.67	0.63
29:X:1493:A:H2'	29:X:1494:G:O4'	1.99	0.63
29:X:1909:U:C5	29:X:1911:A:N6	2.67	0.63
29:X:2383:C:H2'	29:X:2384:G:O4'	1.99	0.63
29:X:2737:A:N3	29:X:2737:A:H2'	2.13	0.63
9:D:26:MET:HE2	31:Z:56:G:N2	2.14	0.63
23:R:28:LYS:O	23:R:29:HIS:HB2	1.97	0.63
24:S:89:GLY:O	24:S:90:GLU:HG2	1.98	0.63
24:S:95:SER:HB3	24:S:119:ASN:ND2	2.11	0.63
24:S:100:THR:HG23	24:S:138:VAL:HG21	1.80	0.63
26:U:19:ILE:HA	26:U:42:GLN:HA	1.81	0.63
29:X:542:A:N6	29:X:2003:A:N3	2.47	0.63
29:X:663:G:H2'	29:X:664:C:C4'	2.29	0.63
29:X:801:A:O2'	29:X:802:A:OP2	2.17	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1175:A:C2	29:X:1176:U:C2	2.87	0.63
29:X:1764:A:H2'	29:X:1765:C:H5'	1.79	0.63
8:C:112:GLN:HA	8:C:116:LYS:CG	2.29	0.63
9:D:101:GLU:HA	9:D:104:ILE:HD12	1.79	0.63
10:E:56:SER:HB2	10:E:61:HIS:HD2	1.63	0.63
10:E:92:VAL:O	10:E:94:PHE:N	2.31	0.63
17:L:33:ARG:NH2	17:L:103:LEU:CB	2.61	0.63
17:L:34:SER:HB2	17:L:94:TYR:CE2	2.34	0.63
19:N:93:LYS:HB3	29:X:1007:A:O3'	1.99	0.63
20:O:19:VAL:HG13	20:O:90:PHE:CD1	2.34	0.63
20:O:65:ARG:HG3	20:O:89:ASN:OD1	1.99	0.63
20:O:65:ARG:HG3	20:O:65:ARG:HH11	1.64	0.63
21:P:10:ASN:O	21:P:10:ASN:OD1	2.17	0.63
21:P:105:ARG:NH1	21:P:119:LYS:NZ	2.47	0.63
23:R:102:LYS:HE2	29:X:100:G:C6	2.34	0.63
29:X:469:G:HO2'	29:X:480:G:H1	1.47	0.63
29:X:1141:U:O2'	29:X:1142:G:O5'	2.17	0.63
29:X:1705:U:O2	29:X:1717:A:H5''	1.99	0.63
29:X:1791:C:H5'	29:X:1792:C:OP1	1.99	0.63
29:X:2286:G:H21	29:X:2290:A:N6	1.87	0.63
29:X:2691:C:O2'	29:X:2692:A:P	2.57	0.63
29:X:2850:U:H5'	29:X:2850:U:C6	2.28	0.63
6:A:93:ALA:HB1	6:A:95:LEU:HD21	1.81	0.62
8:C:148:VAL:N	8:C:166:TRP:O	2.25	0.62
8:C:194:GLU:O	8:C:195:ILE:HG23	1.99	0.62
12:G:65:LYS:HE3	12:G:66:HIS:CE1	2.33	0.62
19:N:79:PHE:O	19:N:83:LEU:HD12	1.98	0.62
25:T:43:THR:N	29:X:2310:G:H4'	2.13	0.62
27:V:46:LEU:O	27:V:50:VAL:HG23	1.98	0.62
29:X:38:G:H1	29:X:453:U:H3	1.47	0.62
29:X:1250:A:O2'	29:X:1251:G:O4'	2.15	0.62
29:X:2239:C:H2'	29:X:2240:C:H6	1.63	0.62
31:Z:36:A:O2'	31:Z:37:C:H5	1.80	0.62
9:D:63:GLN:HG3	9:D:95:ARG:HH21	1.64	0.62
12:G:65:LYS:HE3	12:G:66:HIS:NE2	2.13	0.62
12:G:132:PHE:HB2	12:G:145:HIS:CE1	2.33	0.62
14:I:38:LYS:NZ	14:I:38:LYS:HB3	2.14	0.62
14:I:97:ARG:O	14:I:98:LEU:HB3	1.98	0.62
16:K:31:GLU:O	16:K:33:ARG:N	2.32	0.62
24:S:98:VAL:HG21	24:S:168:VAL:HG13	1.80	0.62
29:X:417:C:H4'	29:X:418:C:H5'	1.79	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:492:G:H1'	29:X:516:G:H21	1.63	0.62
29:X:654:A:H2'	29:X:654:A:N3	2.14	0.62
29:X:2195:C:C4	29:X:2196:U:O4	2.51	0.62
29:X:2222:U:C2	29:X:2223:U:C5	2.86	0.62
9:D:136:LEU:O	9:D:137:ILE:HG23	1.99	0.62
12:G:66:HIS:O	19:N:67:ALA:HB1	1.99	0.62
14:I:43:ALA:HB1	29:X:684:C:H5	1.65	0.62
14:I:76:LYS:O	14:I:79:GLN:HG2	1.99	0.62
29:X:717:G:C2'	29:X:739:G:N2	2.61	0.62
29:X:1536:G:H2'	29:X:1537:U:H6	1.65	0.62
29:X:1610:A:H2'	29:X:1611:U:C6	2.33	0.62
29:X:2850:U:H6	29:X:2850:U:C5'	2.12	0.62
6:A:142:VAL:HG12	6:A:193:ILE:HD13	1.80	0.62
8:C:172:VAL:O	8:C:172:VAL:HG12	1.97	0.62
14:I:40:ARG:NH2	29:X:577:U:OP1	2.32	0.62
14:I:130:ILE:HA	14:I:140:VAL:HG21	1.82	0.62
15:J:66:TYR:HB2	15:J:106:GLU:OE1	1.99	0.62
18:M:93:ILE:HD12	18:M:93:ILE:N	2.14	0.62
21:P:37:LYS:HG3	29:X:1279:G:H22	1.64	0.62
21:P:93:LYS:HD2	21:P:129:ALA:CB	2.29	0.62
23:R:8:SER:O	23:R:11:ASN:N	2.31	0.62
23:R:23:ILE:HD12	23:R:23:ILE:H	1.62	0.62
23:R:37:LEU:HD11	23:R:49:GLU:HG2	1.82	0.62
23:R:84:VAL:CG2	23:R:89:GLY:HA2	2.29	0.62
24:S:3:LEU:HB2	24:S:34:LEU:CA	2.30	0.62
29:X:417:C:H1'	29:X:419:G:C8	2.35	0.62
29:X:748:A:H3'	29:X:749:C:C6	2.35	0.62
29:X:2212:U:H2'	29:X:2213:G:H8	1.62	0.62
6:A:219:PRO:HB2	29:X:1781:C:OP1	1.99	0.62
7:B:1:MET:HG2	7:B:2:LYS:N	2.14	0.62
8:C:134:ILE:O	8:C:137:ALA:HB3	1.98	0.62
8:C:176:ASN:HB2	29:X:626:A:O2'	2.00	0.62
14:I:14:LYS:HG3	14:I:14:LYS:O	1.98	0.62
17:L:89:PHE:CE1	29:X:2356:A:N3	2.68	0.62
19:N:76:TYR:CE2	19:N:80:ILE:HG13	2.34	0.62
19:N:88:ILE:HG22	20:O:48:GLY:C	2.25	0.62
23:R:56:LYS:HB3	23:R:69:GLN:HG2	1.82	0.62
23:R:93:ARG:HH22	23:R:108:VAL:CA	2.13	0.62
24:S:6:LYS:HB2	24:S:31:SER:HB3	1.82	0.62
24:S:106:GLY:HA2	24:S:109:GLN:OE1	1.98	0.62
29:X:27:G:H1'	29:X:523:A:N6	2.14	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:343:A:H1'	29:X:346:C:N4	2.15	0.62
29:X:433:G:H21	29:X:434:C:H1'	1.63	0.62
29:X:481:A:C6	29:X:482:A:C6	2.88	0.62
29:X:1040:A:C8	29:X:1041:G:C8	2.88	0.62
29:X:1053:G:C4	29:X:1054:C:C5	2.88	0.62
29:X:1963:G:C4	29:X:1965:U:C5	2.88	0.62
29:X:2081:U:H2'	29:X:2082:C:C6	2.33	0.62
29:X:2310:G:N2	29:X:2364:C:C4	2.68	0.62
6:A:217:ARG:O	6:A:218:LYS:C	2.42	0.62
6:A:243:GLY:C	6:A:244:ARG:CZ	2.73	0.62
9:D:122:PHE:HD2	9:D:129:ASN:H	1.46	0.62
10:E:41:LEU:HD13	10:E:64:LEU:HB3	1.81	0.62
12:G:42:VAL:HG11	12:G:168:THR:OG1	2.00	0.62
16:K:3:HIS:HE1	29:X:2795:A:O3'	1.81	0.62
22:Q:35:LYS:HD3	22:Q:53:ILE:HG23	1.80	0.62
23:R:29:HIS:CE1	23:R:51:VAL:HG22	2.35	0.62
26:U:46:LEU:C	26:U:47:HIS:CG	2.77	0.62
27:V:45:GLN:O	27:V:46:LEU:C	2.42	0.62
29:X:403:A:H5''	29:X:404:A:OP1	2.00	0.62
29:X:451:A:H2'	29:X:452:G:H8	1.61	0.62
29:X:580:A:C8	29:X:584:A:N6	2.67	0.62
29:X:754:G:H2'	29:X:755:C:H6	1.63	0.62
29:X:774:A:C8	29:X:774:A:O5'	2.53	0.62
29:X:1193:G:H2'	29:X:1194:U:C5'	2.30	0.62
29:X:1223:G:C4'	29:X:1224:A:H5''	2.28	0.62
29:X:2194:A:H3'	29:X:2195:C:C5'	2.21	0.62
29:X:2240:C:C2'	29:X:2241:U:H5'	2.29	0.62
29:X:2311:U:O2	29:X:2311:U:H3'	1.99	0.62
29:X:2691:C:H2'	29:X:2692:A:C5'	2.28	0.62
8:C:104:LEU:N	8:C:104:LEU:HD23	2.14	0.62
8:C:122:GLY:C	8:C:124:ASP:N	2.56	0.62
9:D:138:PHE:HB2	9:D:141:ILE:CB	2.28	0.62
12:G:93:LYS:HB3	12:G:96:ASP:O	2.00	0.62
12:G:103:TYR:OH	12:G:111:LYS:HB2	1.99	0.62
14:I:32:ARG:CZ	20:O:81:ARG:CZ	2.77	0.62
14:I:32:ARG:HD2	20:O:81:ARG:CD	2.29	0.62
14:I:32:ARG:HH21	20:O:81:ARG:HG3	1.63	0.62
16:K:49:GLU:O	16:K:52:ILE:HG12	2.00	0.62
16:K:74:ASP:OD1	16:K:77:ARG:NH2	2.32	0.62
23:R:90:LYS:HD2	23:R:108:VAL:CG2	2.26	0.62
24:S:75:LYS:C	24:S:77:ALA:H	2.05	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:396:U:O4	29:X:398:C:C2	2.52	0.62
29:X:417:C:C1'	29:X:419:G:C8	2.82	0.62
29:X:1066:G:H2'	29:X:1067:G:C8	2.35	0.62
29:X:1356:G:H1'	29:X:1613:G:C2	2.35	0.62
29:X:1919:A:H1'	29:X:1923:U:C2	2.35	0.62
29:X:1923:U:H4'	29:X:1924:C:O5'	1.99	0.62
29:X:1991:C:H2'	29:X:1992:G:H8	1.64	0.62
29:X:2471:U:O2'	29:X:2472:U:H5'	2.00	0.62
29:X:2663:U:C2	29:X:2664:G:C8	2.87	0.62
31:Z:67:C:O2'	31:Z:68:A:H5'	1.99	0.62
19:N:42:ALA:O	19:N:46:GLU:HG3	1.99	0.62
20:O:88:GLN:NE2	29:X:1004:A:N3	2.45	0.62
22:Q:29:VAL:HG23	22:Q:30:SER:O	1.99	0.62
29:X:566:U:H2'	29:X:567:G:H8	1.65	0.62
29:X:748:A:H5'	29:X:749:C:OP2	2.00	0.62
29:X:972:C:H4'	29:X:973:U:OP2	1.98	0.62
29:X:1838:G:H2'	29:X:1839:A:O4'	1.99	0.62
29:X:2220:A:H2'	29:X:2221:G:C8	2.35	0.62
29:X:2876:C:H2'	29:X:2877:A:C4	2.34	0.62
7:B:183:LEU:CD2	18:M:16:ILE:HD13	2.21	0.62
9:D:135:GLN:HG3	9:D:151:GLY:CA	2.30	0.62
10:E:37:TYR:CZ	10:E:72:VAL:HG22	2.34	0.62
14:I:120:VAL:CG1	14:I:122:VAL:HG13	2.30	0.62
14:I:127:ALA:O	14:I:129:ALA:N	2.33	0.62
16:K:6:ALA:HB1	29:X:2848:A:C2	2.35	0.62
18:M:22:ARG:HD3	18:M:24:LEU:HD23	1.81	0.62
18:M:46:ARG:HG3	18:M:47:SER:N	2.14	0.62
19:N:28:ARG:CD	29:X:542:A:H3'	2.29	0.62
19:N:86:ALA:C	19:N:88:ILE:N	2.53	0.62
23:R:85:ASP:N	23:R:86:PRO:CD	2.63	0.62
29:X:416:U:O2'	29:X:419:G:H1'	1.99	0.62
29:X:530:G:O2'	29:X:531:G:H5'	1.99	0.62
29:X:1060:C:H2'	29:X:1061:A:C8	2.34	0.62
29:X:1919:A:H2	29:X:1926:U:H3	1.28	0.62
29:X:2053:G:C2	29:X:2054:A:C4	2.88	0.62
7:B:12:THR:OG1	18:M:17:GLU:OE1	2.15	0.62
8:C:112:GLN:HA	8:C:116:LYS:CD	2.30	0.62
8:C:112:GLN:HA	8:C:116:LYS:HD3	1.82	0.62
11:F:54:PRO:CG	11:F:70:LYS:HD2	2.30	0.62
15:J:75:VAL:HG12	15:J:76:THR:H	1.65	0.62
17:L:15:ARG:HD2	17:L:91:ARG:CD	2.30	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:N:74:MET:CE	19:N:79:PHE:HA	2.30	0.62
20:O:9:GLY:O	20:O:10:LYS:HB3	2.00	0.62
20:O:14:VAL:O	20:O:15:SER:CB	2.47	0.62
21:P:62:ARG:HG3	21:P:62:ARG:HH11	1.65	0.62
22:Q:33:ALA:O	22:Q:34:THR:C	2.43	0.62
24:S:44:ARG:HD3	24:S:45:GLN:NE2	2.15	0.62
25:T:41:ARG:HH11	25:T:41:ARG:HG3	1.64	0.62
27:V:13:ASP:O	27:V:17:GLU:HG2	2.00	0.62
29:X:194:G:H3'	29:X:195:A:H8	1.65	0.62
29:X:341:A:H2	29:X:1223:G:H2'	1.65	0.62
29:X:922:A:N1	29:X:2256:G:H1'	2.14	0.62
29:X:1466:C:H2'	29:X:1467:U:C1'	2.30	0.62
29:X:2355:A:H2'	29:X:2356:A:O4'	1.99	0.62
29:X:2642:G:H2'	29:X:2643:G:C5'	2.30	0.62
6:A:208:LYS:HE3	6:A:208:LYS:HA	1.82	0.61
6:A:265:THR:C	6:A:267:ASP:H	2.06	0.61
7:B:136:ARG:CG	7:B:136:ARG:HH11	2.14	0.61
9:D:75:SER:CB	9:D:79:LEU:HD22	2.30	0.61
13:H:116:ARG:HG3	13:H:116:ARG:HH11	1.65	0.61
14:I:18:ARG:CB	14:I:21:ARG:HB2	2.30	0.61
14:I:112:GLY:O	14:I:113:GLU:HG3	2.00	0.61
17:L:57:ALA:HB1	31:Z:119:G:H4'	1.82	0.61
24:S:64:ALA:CB	24:S:85:MET:HE2	2.29	0.61
24:S:168:VAL:HG12	24:S:169:VAL:HG13	1.82	0.61
29:X:179:U:H2'	29:X:180:C:C6	2.35	0.61
29:X:415:A:C3'	29:X:416:U:H5'	2.30	0.61
29:X:429:C:H2'	29:X:430:C:C6	2.35	0.61
29:X:585:U:H2'	29:X:586:G:C8	2.35	0.61
29:X:732:G:H8	29:X:732:G:OP2	1.81	0.61
29:X:748:A:H3'	29:X:749:C:H6	1.65	0.61
29:X:872:G:H2'	29:X:928:G:C6	2.35	0.61
29:X:999:A:O2'	29:X:1166:A:H2	1.82	0.61
29:X:2426:G:H4'	29:X:2427:A:O5'	2.00	0.61
11:F:26:ALA:C	11:F:27:LEU:HD12	2.25	0.61
14:I:82:ASP:H	14:I:114:ILE:CG2	2.12	0.61
14:I:86:THR:HG22	14:I:86:THR:O	2.00	0.61
15:J:79:PRO:HD3	15:J:88:LYS:NZ	2.13	0.61
24:S:6:LYS:N	24:S:7:PRO:CD	2.63	0.61
28:W:27:LYS:O	28:W:28:ILE:C	2.38	0.61
29:X:65:C:H2'	29:X:66:U:H6	1.65	0.61
29:X:497:C:H6	29:X:497:C:C5'	2.09	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:583:C:H1'	29:X:2038:C:C6	2.35	0.61
29:X:1121:G:H2'	29:X:1122:A:C8	2.35	0.61
31:Z:35:C:H2'	31:Z:36:A:O4'	2.00	0.61
9:D:150:ARG:HH11	9:D:150:ARG:HG3	1.65	0.61
10:E:84:THR:HA	10:E:133:VAL:O	2.01	0.61
10:E:143:GLN:HG2	29:X:2725:C:H1'	1.81	0.61
11:F:100:ASN:OD1	11:F:101:TRP:N	2.33	0.61
14:I:54:SER:OG	14:I:59:ARG:NH1	2.34	0.61
14:I:73:GLU:HG2	14:I:101:ARG:CB	2.31	0.61
15:J:64:LYS:H	15:J:64:LYS:CD	1.87	0.61
18:M:24:LEU:O	18:M:25:PRO:O	2.18	0.61
23:R:39:ALA:O	23:R:41:PRO:HD3	2.01	0.61
29:X:320:A:N3	29:X:340:G:O2'	2.30	0.61
29:X:590:C:H2'	29:X:591:G:H8	1.64	0.61
29:X:731:A:C3'	29:X:732:G:O4'	2.47	0.61
29:X:2245:A:H4'	29:X:2246:A:OP2	1.98	0.61
8:C:102:LEU:HD21	8:C:106:MET:HE3	1.83	0.61
8:C:197:GLU:HG2	8:C:198:GLU:N	2.14	0.61
12:G:103:TYR:CE1	12:G:111:LYS:HA	2.35	0.61
14:I:10:PRO:CA	14:I:14:LYS:HB2	2.28	0.61
14:I:53:ARG:O	14:I:53:ARG:CD	2.47	0.61
14:I:117:ALA:HA	14:I:137:GLY:O	1.98	0.61
15:J:77:LYS:HG3	15:J:78:LYS:H	1.64	0.61
17:L:30:SER:O	17:L:31:VAL:HG12	1.99	0.61
21:P:39:ARG:NH2	29:X:527:C:O2'	2.32	0.61
23:R:63:THR:HG22	23:R:64:ASN:HD22	1.65	0.61
29:X:26:G:N1	29:X:27:G:N2	2.47	0.61
29:X:471:A:H2'	29:X:472:C:O4'	2.00	0.61
29:X:917:U:C2'	29:X:918:A:H5'	2.30	0.61
29:X:1355:A:O2'	29:X:1357:U:OP2	2.15	0.61
29:X:1383:C:C2	29:X:1384:G:C8	2.87	0.61
29:X:2585:C:C2'	29:X:2586:G:H5'	2.30	0.61
6:A:37:LEU:HD12	29:X:1808:C:H41	1.65	0.61
6:A:39:LYS:HE2	29:X:1808:C:O5'	2.00	0.61
9:D:36:VAL:HG11	9:D:57:LEU:HD22	1.83	0.61
9:D:63:GLN:NE2	9:D:91:LEU:HD23	2.15	0.61
15:J:49:GLU:O	15:J:53:ILE:HG13	1.99	0.61
18:M:105:TYR:CD1	18:M:108:ARG:NH2	2.68	0.61
19:N:47:TYR:C	19:N:47:TYR:CD2	2.79	0.61
26:U:11:LYS:NZ	26:U:75:TYR:CD1	2.68	0.61
29:X:731:A:H3'	29:X:732:G:O4'	1.99	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:774:A:C8	29:X:774:A:H3'	2.35	0.61
29:X:774:A:H3'	29:X:774:A:H8	1.62	0.61
29:X:988:G:N3	29:X:1012:A:H2	1.97	0.61
29:X:1974:U:H2'	29:X:1975:G:H5'	1.82	0.61
31:Z:95:U:H2'	31:Z:96:C:C6	2.35	0.61
6:A:69:ARG:CZ	6:A:105:ILE:HD13	2.29	0.61
6:A:76:ASN:OD1	6:A:118:ASN:HB2	2.01	0.61
10:E:17:VAL:HG12	10:E:18:ASN:N	2.15	0.61
10:E:38:ASN:H	10:E:41:LEU:HD23	1.64	0.61
10:E:89:LEU:HD11	10:E:96:ALA:CB	2.31	0.61
16:K:11:ASN:OD1	16:K:17:ARG:NH2	2.34	0.61
16:K:45:ARG:HB3	16:K:46:PRO:HD3	1.82	0.61
19:N:84:LYS:HB2	19:N:92:ARG:HH22	1.62	0.61
23:R:92:THR:C	23:R:95:ARG:HH22	2.09	0.61
26:U:20:ARG:HB2	26:U:43:ARG:HD2	1.82	0.61
29:X:208:C:O2'	29:X:209:G:H5'	2.00	0.61
29:X:224:G:H4'	29:X:399:G:C5	2.34	0.61
29:X:649:G:H22	29:X:661:C:H1'	1.66	0.61
29:X:822:G:C2'	29:X:823:U:H5'	2.31	0.61
29:X:2301:A:H2'	29:X:2302:G:H8	1.66	0.61
29:X:2543:A:C2	29:X:2626:U:H4'	2.36	0.61
6:A:244:ARG:C	6:A:252:LYS:NZ	2.58	0.61
6:A:245:VAL:HA	6:A:251:GLY:HA2	1.82	0.61
8:C:3:GLN:CG	8:C:116:LYS:HD2	2.18	0.61
12:G:54:LEU:O	12:G:58:ILE:HG13	2.01	0.61
15:J:99:LYS:HD2	15:J:100:PRO:HD3	1.82	0.61
17:L:54:ALA:HB3	17:L:75:LEU:CB	2.22	0.61
18:M:13:LEU:HD12	18:M:13:LEU:N	2.15	0.61
24:S:13:LYS:NZ	24:S:18:MET:HB2	2.15	0.61
25:T:71:ASN:HD21	25:T:74:LYS:HD3	1.64	0.61
29:X:38:G:H2'	29:X:39:C:C6	2.35	0.61
29:X:333:A:H2'	29:X:350:U:O2	2.00	0.61
29:X:716:U:H2'	29:X:717:G:O4'	2.01	0.61
29:X:1324:G:H1'	29:X:1326:U:O4	2.00	0.61
29:X:1431:U:H4'	29:X:1604:A:H4'	1.82	0.61
29:X:1909:U:H5	29:X:1911:A:N6	1.96	0.61
29:X:2195:C:C2'	29:X:2196:U:H5'	2.30	0.61
29:X:2500:C:H2'	29:X:2501:U:C6	2.36	0.61
4:4:2:LYS:HG2	4:4:4:ARG:CD	2.31	0.61
8:C:46:ARG:O	8:C:47:THR:C	2.43	0.61
8:C:93:TYR:HD2	8:C:93:TYR:N	1.98	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:I:53:ARG:NE	29:X:227:G:O2'	2.33	0.61
16:K:20:LEU:O	16:K:23:ALA:N	2.34	0.61
22:Q:38:ILE:O	22:Q:42:ILE:HG22	2.01	0.61
23:R:8:SER:C	23:R:10:HIS:N	2.54	0.61
23:R:17:LYS:C	23:R:19:GLY:H	2.09	0.61
23:R:24:VAL:HB	23:R:29:HIS:O	2.01	0.61
23:R:25:LEU:CD1	23:R:25:LEU:H	2.12	0.61
24:S:69:VAL:HG13	24:S:81:VAL:HG22	1.81	0.61
28:W:11:GLY:HA2	29:X:980:G:O3'	2.00	0.61
29:X:408:U:O2'	29:X:409:G:C8	2.53	0.61
29:X:1122:A:O2'	29:X:1123:G:H4'	2.01	0.61
29:X:1142:G:C8	29:X:2008:C:H4'	2.36	0.61
29:X:1339:U:OP2	29:X:1339:U:C6	2.53	0.61
29:X:1468:A:C5'	29:X:1472:C:N4	2.55	0.61
29:X:1982:C:OP1	29:X:2704:U:H5'	2.00	0.61
29:X:2312:A:H4'	29:X:2313:G:O5'	2.00	0.61
29:X:2389:G:N2	29:X:2390:A:H1'	2.16	0.61
29:X:2594:U:C2	29:X:2595:C:C5	2.88	0.61
31:Z:14:C:H4'	31:Z:17:A:N6	2.16	0.61
4:4:19:ARG:NH1	4:4:24:LEU:HD22	2.15	0.61
7:B:78:LEU:O	7:B:79:ARG:NE	2.34	0.61
8:C:47:THR:CG2	8:C:85:GLY:H	2.13	0.61
9:D:35:VAL:HG12	9:D:36:VAL:N	2.15	0.61
10:E:105:MET:HB2	10:E:113:VAL:HB	1.83	0.61
14:I:76:LYS:HG3	14:I:111:SER:CB	2.31	0.61
19:N:91:ASN:O	19:N:93:LYS:N	2.34	0.61
20:O:12:TYR:O	20:O:13:ARG:CB	2.48	0.61
22:Q:66:GLY:C	22:Q:68:PHE:H	2.06	0.61
23:R:93:ARG:CG	23:R:94:VAL:N	2.63	0.61
24:S:1:MET:HG3	24:S:52:PHE:CD2	2.36	0.61
24:S:123:VAL:O	24:S:124:ALA:O	2.19	0.61
24:S:154:LEU:HD21	24:S:160:LEU:CD2	2.30	0.61
29:X:174:A:H2'	29:X:174:A:N3	2.16	0.61
29:X:638:A:O2'	29:X:639:G:C8	2.51	0.61
29:X:936:A:O2'	29:X:937:C:H5'	2.01	0.61
29:X:987:G:H5'	29:X:1167:A:N6	2.16	0.61
29:X:1171:A:H2'	29:X:1172:U:H6	1.64	0.61
29:X:1624:A:O2'	29:X:1625:A:H5'	2.00	0.61
29:X:2080:U:H2'	29:X:2081:U:C6	2.35	0.61
29:X:2220:A:H2'	29:X:2221:G:H8	1.66	0.61
6:A:38:PRO:HA	6:A:61:LEU:HD22	1.83	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:A:132:PRO:HD3	6:A:190:TYR:CD2	2.35	0.61
7:B:183:LEU:N	7:B:183:LEU:HD23	2.16	0.61
8:C:66:ASN:HA	29:X:1268:U:C6	2.36	0.61
9:D:12:VAL:HG12	9:D:16:LEU:CD1	2.27	0.61
9:D:85:VAL:HG23	9:D:86:GLY:H	1.65	0.61
9:D:92:ARG:HH12	31:Z:46:G:H4'	1.64	0.61
11:F:71:THR:CG2	11:F:110:THR:HG22	2.28	0.61
14:I:8:PRO:O	29:X:1218:C:H1'	2.01	0.61
18:M:32:THR:HG22	18:M:33:VAL:N	2.16	0.61
18:M:39:VAL:CG1	18:M:45:THR:HG23	2.29	0.61
22:Q:35:LYS:HA	22:Q:38:ILE:HG23	1.83	0.61
23:R:105:ARG:HH12	23:R:112:LYS:CA	2.12	0.61
24:S:109:GLN:NE2	24:S:142:ASN:OD1	2.33	0.61
25:T:24:LYS:HZ2	29:X:2335:U:P	2.23	0.61
27:V:16:LYS:HG2	27:V:17:GLU:OE2	2.01	0.61
27:V:21:ARG:HD2	27:V:21:ARG:N	2.15	0.61
31:Z:17:A:HO2'	31:Z:112:A:H8	1.47	0.61
4:4:1:MET:HE3	4:4:35:ARG:NH2	2.15	0.60
8:C:34:GLN:HG2	29:X:627:A:OP1	2.01	0.60
9:D:108:LEU:HD22	9:D:114:PHE:CE1	2.36	0.60
10:E:137:ASP:OD2	10:E:139:GLN:HB2	2.01	0.60
13:H:75:VAL:HG12	13:H:118:LEU:HD21	1.81	0.60
13:H:113:PRO:HB2	13:H:134:LEU:HD12	1.82	0.60
14:I:120:VAL:HG12	14:I:122:VAL:HG13	1.83	0.60
18:M:44:ARG:HD2	18:M:46:ARG:HH21	1.66	0.60
19:N:79:PHE:CE2	19:N:83:LEU:HD11	2.36	0.60
20:O:24:SER:O	20:O:26:GLN:N	2.34	0.60
23:R:110:SER:OG	23:R:111:GLY:N	2.34	0.60
24:S:64:ALA:HA	24:S:86:VAL:N	2.16	0.60
29:X:172:A:N7	29:X:175:C:C5	2.69	0.60
29:X:580:A:N7	29:X:584:A:C5	2.68	0.60
29:X:754:G:H2'	29:X:755:C:C6	2.36	0.60
29:X:1578:U:H2'	29:X:1579:G:H8	1.64	0.60
29:X:1629:G:H2'	29:X:1633:C:H42	1.65	0.60
29:X:2238:G:H1'	29:X:2406:C:C2	2.36	0.60
29:X:2352:A:H2'	29:X:2353:G:H8	1.65	0.60
29:X:2498:U:C4'	29:X:2499:C:OP1	2.44	0.60
6:A:172:TYR:HA	6:A:186:HIS:HA	1.82	0.60
6:A:213:ARG:C	6:A:215:LEU:H	2.10	0.60
6:A:227:ASN:ND2	29:X:797:A:H5''	2.16	0.60
7:B:195:LEU:H	18:M:2:GLN:HG2	1.65	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:D:122:PHE:CD2	9:D:129:ASN:HB2	2.36	0.60
12:G:158:HIS:HA	12:G:161:GLN:OE1	2.01	0.60
13:H:43:ARG:HD3	13:H:44:TYR:CE2	2.35	0.60
15:J:84:MET:HE3	29:X:2228:U:O2'	2.01	0.60
20:O:66:GLY:O	20:O:87:ARG:NH1	2.33	0.60
21:P:67:PRO:C	21:P:69:ALA:H	2.09	0.60
21:P:68:VAL:O	21:P:68:VAL:HG12	2.01	0.60
24:S:130:ILE:N	24:S:130:ILE:HD12	2.16	0.60
26:U:13:LEU:HG	26:U:14:VAL:H	1.65	0.60
26:U:64:ALA:C	26:U:66:ALA:H	2.08	0.60
29:X:48:A:H4'	29:X:49:U:C5'	2.31	0.60
29:X:107:G:N2	29:X:108:G:H1'	2.15	0.60
29:X:187:U:H2'	29:X:188:G:C8	2.34	0.60
29:X:837:U:H3	29:X:846:A:H61	1.49	0.60
29:X:1373:G:N2	29:X:1374:G:H1'	2.17	0.60
29:X:2422:C:O2'	29:X:2423:G:H5'	2.00	0.60
29:X:2431:C:H42	29:X:2483:U:H3	1.48	0.60
29:X:2495:G:O2'	29:X:2496:C:H5'	2.01	0.60
29:X:2857:C:H2'	29:X:2858:A:O5'	2.02	0.60
7:B:116:VAL:H	7:B:136:ARG:HE	0.64	0.60
7:B:176:ARG:HH21	18:M:16:ILE:HA	1.66	0.60
8:C:147:LYS:N	8:C:184:ASP:OD2	2.27	0.60
8:C:153:ASP:C	8:C:154:ASP:OD1	2.44	0.60
9:D:46:ASP:HB2	9:D:49:ALA:HB3	1.81	0.60
9:D:103:LEU:HA	9:D:107:GLY:HA3	1.83	0.60
9:D:122:PHE:O	9:D:124:GLY:N	2.35	0.60
11:F:60:TYR:O	11:F:61:ALA:HB2	2.00	0.60
14:I:13:ARG:CG	14:I:13:ARG:NH2	2.61	0.60
14:I:100:ARG:O	14:I:100:ARG:HG3	2.02	0.60
17:L:8:ARG:HH11	17:L:8:ARG:HB2	1.65	0.60
17:L:38:ILE:CD1	17:L:39:TYR:H	2.06	0.60
29:X:538:A:C2	29:X:2025:A:C6	2.89	0.60
29:X:760:U:C4	29:X:2592:U:O2	2.54	0.60
29:X:1339:U:H5''	29:X:1994:U:H1'	1.83	0.60
29:X:1467:U:C6	29:X:1467:U:H5''	2.36	0.60
29:X:1690:U:H2'	29:X:1691:G:H5'	1.82	0.60
29:X:2327:U:O4	29:X:2361:G:C2	2.53	0.60
29:X:2725:C:H2'	29:X:2726:U:H6	1.65	0.60
30:Y:19:ARG:HH11	30:Y:19:ARG:CB	2.13	0.60
30:Y:19:ARG:C	30:Y:21:SER:H	2.09	0.60
6:A:105:ILE:HG22	6:A:106:LEU:O	2.01	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:B:53:PRO:CD	18:M:6:LYS:HZ2	2.11	0.60
7:B:120:TRP:CD1	7:B:155:ARG:HB3	2.36	0.60
8:C:136:TRP:C	8:C:140:ASN:HD22	2.10	0.60
9:D:151:GLY:O	9:D:152:MET:HB3	2.01	0.60
12:G:92:GLY:C	12:G:93:LYS:HE2	2.25	0.60
13:H:23:ARG:HB3	13:H:23:ARG:CZ	2.32	0.60
13:H:79:HIS:CG	13:H:80:ALA:H	2.17	0.60
15:J:37:ALA:CA	15:J:130:THR:HG22	2.21	0.60
17:L:37:HIS:O	17:L:38:ILE:O	2.19	0.60
19:N:13:ARG:HH21	19:N:13:ARG:CG	2.13	0.60
21:P:106:LEU:HD23	21:P:107:ILE:N	2.16	0.60
22:Q:76:LYS:HG2	22:Q:76:LYS:O	2.00	0.60
23:R:98:ILE:HB	23:R:100:ASP:H	1.67	0.60
29:X:162:C:H2'	29:X:163:A:H8	1.66	0.60
29:X:1090:C:O2'	29:X:1091:C:H5'	2.01	0.60
29:X:1181:C:H2'	29:X:1182:U:C5'	2.27	0.60
29:X:1373:G:H2'	29:X:1374:G:H5'	1.84	0.60
29:X:1841:G:H2'	29:X:1842:G:H5'	1.82	0.60
29:X:2812:A:H2'	29:X:2813:G:H8	1.66	0.60
6:A:68:LYS:H	6:A:68:LYS:CD	2.12	0.60
6:A:231:HIS:CD2	6:A:231:HIS:C	2.79	0.60
7:B:40:GLN:O	7:B:40:GLN:HG2	2.01	0.60
12:G:154:GLU:H	12:G:157:PRO:HD2	1.66	0.60
17:L:102:ALA:O	17:L:103:LEU:C	2.44	0.60
17:L:107:ALA:C	17:L:109:GLU:H	2.10	0.60
18:M:57:ILE:HG13	18:M:57:ILE:O	2.00	0.60
18:M:95:GLU:HG3	18:M:95:GLU:O	2.00	0.60
21:P:46:ARG:HH11	21:P:46:ARG:CG	2.10	0.60
22:Q:91:LEU:HD22	22:Q:91:LEU:N	2.15	0.60
28:W:19:THR:O	28:W:23:LEU:HG	2.01	0.60
29:X:965:G:O2'	29:X:2253:A:N1	2.35	0.60
29:X:1473:U:O2'	29:X:1474:A:OP2	2.19	0.60
29:X:1734:C:H5''	29:X:1735:G:C8	2.36	0.60
8:C:33:TRP:CD1	8:C:95:LEU:HB2	2.37	0.60
8:C:90:SER:O	8:C:91:TYR:C	2.44	0.60
9:D:136:LEU:HD11	9:D:149:THR:HG21	1.83	0.60
10:E:65:HIS:C	10:E:67:LEU:H	2.08	0.60
12:G:140:GLN:O	12:G:143:ALA:HB3	2.02	0.60
13:H:116:ARG:HH21	18:M:40:ARG:CB	2.11	0.60
16:K:103:ARG:NH1	16:K:110:MET:HE2	2.17	0.60
20:O:12:TYR:HB2	20:O:39:PHE:HA	1.83	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:O:65:ARG:NE	20:O:87:ARG:HD2	2.17	0.60
22:Q:34:THR:O	22:Q:38:ILE:HG22	2.02	0.60
29:X:527:C:O2'	29:X:528:G:H5'	2.01	0.60
29:X:736:G:H2'	29:X:737:C:O4'	2.01	0.60
29:X:1134:C:H2'	29:X:1135:C:H6	1.67	0.60
29:X:1698:C:C2'	29:X:1753:A:H2'	2.32	0.60
29:X:1919:A:H2	29:X:1926:U:C2	2.20	0.60
29:X:2170:C:H2'	29:X:2171:U:C4'	2.30	0.60
29:X:2252:A:C2	29:X:2253:A:C5	2.90	0.60
29:X:2298:U:H4'	29:X:2299:A:C8	2.37	0.60
29:X:2501:U:O2'	29:X:2626:U:H5''	2.02	0.60
29:X:2522:G:H2'	29:X:2523:G:C8	2.37	0.60
29:X:2553:G:H2'	29:X:2554:C:C6	2.37	0.60
30:Y:45:ILE:HD13	30:Y:57:VAL:CG2	2.31	0.60
6:A:149:PRO:HG2	29:X:2200:G:HO2'	1.66	0.60
6:A:184:ARG:NH2	6:A:268:ARG:NH1	2.50	0.60
9:D:75:SER:HB2	29:X:2289:A:C2	2.36	0.60
10:E:84:THR:CA	10:E:134:SER:HA	2.30	0.60
10:E:109:TYR:HE1	10:E:152:ARG:NH1	1.99	0.60
12:G:159:SER:C	12:G:161:GLN:H	2.10	0.60
13:H:17:ARG:N	13:H:57:ASP:O	2.35	0.60
13:H:47:VAL:CG2	13:H:77:THR:HG23	2.12	0.60
15:J:80:ALA:CB	15:J:81:GLU:OE1	2.49	0.60
17:L:33:ARG:HH22	17:L:103:LEU:CB	2.14	0.60
22:Q:56:MET:SD	29:X:1355:A:OP2	2.60	0.60
24:S:91:PRO:HD3	24:S:127:PRO:CD	2.31	0.60
24:S:94:VAL:HG12	24:S:95:SER:N	2.16	0.60
25:T:71:ASN:HD21	25:T:74:LYS:HA	1.66	0.60
29:X:510:G:N2	29:X:512:A:H3'	2.17	0.60
29:X:663:G:H2'	29:X:664:C:H4'	1.83	0.60
29:X:1166:A:C2'	29:X:1167:A:H5''	2.32	0.60
29:X:1508:G:C5'	29:X:1509:A:H5''	2.21	0.60
29:X:2370:G:O2'	29:X:2403:C:N4	2.35	0.60
29:X:2824:C:H4'	29:X:2825:A:H5'	1.83	0.60
31:Z:39:C:H3'	31:Z:40:C:C6	2.37	0.60
7:B:73:ALA:O	7:B:74:PRO:C	2.45	0.60
12:G:106:TYR:CE2	12:G:108:GLY:CA	2.84	0.60
12:G:155:THR:HG23	12:G:156:HIS:ND1	2.17	0.60
21:P:40:LEU:HD22	30:Y:25:LEU:HD11	1.83	0.60
21:P:114:ALA:HB2	29:X:1630:A:C2	2.36	0.60
23:R:25:LEU:HD12	23:R:81:VAL:N	2.17	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:T:17:ASN:ND2	29:X:2241:U:C5	2.70	0.60
29:X:93:A:O2'	29:X:94:C:H5'	2.02	0.60
29:X:840:U:O2	29:X:2225:G:H4'	2.02	0.60
29:X:871:U:C2'	29:X:2247:A:H2'	2.31	0.60
29:X:1050:G:H2'	29:X:1051:U:C5'	2.32	0.60
29:X:1053:G:O2'	29:X:1054:C:O4'	2.19	0.60
29:X:1454:U:H2'	29:X:1455:C:H6	1.65	0.60
31:Z:58:G:H4'	31:Z:59:A:C5'	2.31	0.60
8:C:173:ALA:HB1	8:C:193:LEU:HD13	1.83	0.60
9:D:108:LEU:HB2	9:D:109:PRO:HD3	1.84	0.60
10:E:35:VAL:HB	10:E:37:TYR:CE1	2.36	0.60
11:F:52:ILE:O	11:F:73:PRO:HD3	2.02	0.60
14:I:62:LYS:HG3	14:I:63:ARG:H	1.67	0.60
14:I:62:LYS:CG	14:I:63:ARG:N	2.64	0.60
17:L:63:ASN:C	17:L:64:LYS:HD3	2.27	0.60
17:L:97:HIS:CG	17:L:98:GLY:N	2.70	0.60
18:M:27:PHE:C	18:M:28:ARG:CG	2.72	0.60
20:O:78:VAL:O	20:O:79:GLN:HB2	2.01	0.60
21:P:117:ILE:HD13	29:X:1996:A:H4'	1.83	0.60
23:R:11:ASN:C	23:R:11:ASN:ND2	2.58	0.60
23:R:11:ASN:O	23:R:12:ASP:C	2.44	0.60
23:R:15:HIS:O	23:R:16:PHE:HB3	2.01	0.60
24:S:64:ALA:CB	24:S:85:MET:HA	2.32	0.60
25:T:26:PHE:CE2	29:X:870:C:H1'	2.36	0.60
29:X:449:C:H2'	29:X:450:C:H6	1.66	0.60
29:X:664:C:H5'	29:X:664:C:H6	1.66	0.60
29:X:913:A:H2'	29:X:914:C:O5'	2.02	0.60
29:X:957:G:O2'	29:X:958:G:H5'	2.01	0.60
29:X:1448:A:H2'	29:X:1449:C:H6	1.67	0.60
29:X:1551:U:H5'	29:X:1552:C:C6	2.36	0.60
29:X:2194:A:C3'	29:X:2195:C:C5'	2.71	0.60
29:X:2279:G:H2'	29:X:2280:A:C8	2.37	0.60
29:X:2292:C:O2'	29:X:2293:G:H5'	2.02	0.60
29:X:2475:C:O2'	29:X:2476:A:H5'	2.02	0.60
29:X:2860:C:H2'	29:X:2861:A:O4'	2.02	0.60
31:Z:37:C:H2'	31:Z:38:C:O4'	2.01	0.60
6:A:53:PHE:O	6:A:54:ILE:HG22	2.01	0.60
7:B:8:LYS:HG2	7:B:192:ASN:HA	1.83	0.60
7:B:53:PRO:HD2	18:M:6:LYS:NZ	2.14	0.60
7:B:119:ARG:HA	7:B:160:MET:CE	2.31	0.60
8:C:54:THR:HG21	8:C:72:ARG:H	1.66	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:D:13:ARG:HB3	9:D:14:PRO:CD	2.31	0.60
10:E:121:VAL:HG12	10:E:122:THR:N	2.17	0.60
10:E:170:ALA:C	10:E:171:LEU:HD12	2.27	0.60
12:G:107:GLN:O	29:X:1142:G:OP1	2.20	0.60
15:J:21:ASP:HA	15:J:99:LYS:CE	2.32	0.60
15:J:61:ARG:HD3	24:S:174:PRO:HB2	1.83	0.60
18:M:34:ARG:HH21	18:M:91:VAL:HG23	1.65	0.60
21:P:34:SER:O	21:P:35:PRO:C	2.45	0.60
22:Q:61:LYS:HB2	22:Q:72:ARG:HD3	1.84	0.60
27:V:2:LYS:CG	27:V:3:PRO:HD3	2.26	0.60
29:X:176:A:C3'	29:X:177:U:H5	2.09	0.60
29:X:648:A:H4'	29:X:649:G:O5'	2.01	0.60
29:X:1004:A:C5	29:X:1005:U:C5	2.90	0.60
29:X:1685:A:H2'	29:X:1691:G:N7	2.16	0.60
29:X:2011:U:O2'	29:X:2012:A:H5'	2.02	0.60
29:X:2500:C:H2'	29:X:2501:U:H6	1.66	0.60
29:X:2699:G:O2'	29:X:2700:U:C5'	2.49	0.60
6:A:246:PRO:HD3	6:A:251:GLY:N	2.15	0.59
7:B:121:ASN:O	7:B:122:PHE:O	2.20	0.59
9:D:168:ALA:O	9:D:169:LEU:C	2.45	0.59
12:G:64:GLY:CA	12:G:67:ARG:HG3	2.32	0.59
12:G:103:TYR:CE2	29:X:1142:G:H4'	2.37	0.59
14:I:98:LEU:O	14:I:99:VAL:HG13	2.02	0.59
15:J:40:PRO:HB3	15:J:99:LYS:HZ3	1.65	0.59
18:M:55:ILE:O	18:M:56:ALA:HB2	2.01	0.59
19:N:31:GLN:O	19:N:32:TYR:C	2.45	0.59
29:X:148:C:H6	29:X:148:C:OP1	1.85	0.59
29:X:1069:G:C2'	29:X:1070:G:H5''	2.32	0.59
29:X:1685:A:C8	29:X:1691:G:C5	2.89	0.59
29:X:1921:A:O2'	29:X:1922:U:OP1	2.20	0.59
29:X:2677:U:H2'	29:X:2678:C:H6	1.65	0.59
6:A:96:HIS:HE1	6:A:100:GLY:C	2.10	0.59
6:A:244:ARG:N	6:A:244:ARG:CD	2.64	0.59
7:B:48:GLN:NE2	29:X:2614:A:O2'	2.35	0.59
7:B:80:GLU:OE2	29:X:2615:U:H4'	2.02	0.59
8:C:67:ALA:N	29:X:1268:U:C5	2.60	0.59
8:C:173:ALA:C	8:C:175:VAL:H	2.10	0.59
8:C:187:VAL:HG12	8:C:189:ASP:HB2	1.84	0.59
11:F:18:THR:HB	11:F:22:PRO:HB2	1.84	0.59
12:G:107:GLN:CA	12:G:110:LEU:HG	2.32	0.59
16:K:72:ASP:HB3	16:K:75:VAL:HG23	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:N:10:ARG:O	19:N:13:ARG:HB3	2.03	0.59
22:Q:11:VAL:HG22	22:Q:28:TRP:NE1	2.18	0.59
24:S:3:LEU:HB2	24:S:34:LEU:CB	2.32	0.59
25:T:45:PHE:CZ	25:T:77:ARG:NH2	2.70	0.59
28:W:38:PRO:N	28:W:41:ARG:NE	2.50	0.59
29:X:464:G:H2'	29:X:465:C:C6	2.37	0.59
29:X:633:G:O2'	29:X:634:G:H5'	2.01	0.59
29:X:715:U:O2'	29:X:716:U:H5'	2.00	0.59
29:X:784:U:H2'	29:X:785:U:C6	2.37	0.59
29:X:1058:G:H2'	29:X:1121:G:C6	2.36	0.59
29:X:1135:C:N4	29:X:1136:G:O6	2.34	0.59
29:X:1524:C:H3'	29:X:1525:A:O4'	2.02	0.59
4:4:23:VAL:C	4:4:24:LEU:HD12	2.27	0.59
17:L:37:HIS:CE1	17:L:39:TYR:CZ	2.91	0.59
18:M:55:ILE:CG1	18:M:67:THR:HG22	2.33	0.59
22:Q:91:LEU:N	22:Q:91:LEU:CD2	2.64	0.59
24:S:97:PRO:HB2	24:S:99:HIS:HE1	1.67	0.59
27:V:41:HIS:ND1	29:X:95:G:H4'	2.18	0.59
29:X:1033:G:O2'	29:X:1034:U:H5'	2.02	0.59
29:X:1129:A:H5'	29:X:1129:A:H8	1.68	0.59
29:X:1323:G:H3'	29:X:1324:G:N2	2.17	0.59
29:X:1953:A:H1'	29:X:1955:G:C8	2.37	0.59
29:X:2451:G:H2'	29:X:2454:C:H42	1.68	0.59
29:X:2496:C:C5	29:X:2521:A:C5	2.90	0.59
9:D:70:ALA:O	9:D:72:LYS:N	2.35	0.59
12:G:79:PHE:CE2	12:G:147:ARG:HG2	2.37	0.59
14:I:56:LEU:O	14:I:57:ILE:C	2.44	0.59
15:J:64:LYS:HB2	15:J:108:ALA:O	2.02	0.59
17:L:38:ILE:HD11	17:L:40:ALA:N	2.10	0.59
19:N:17:VAL:HG13	19:N:39:LEU:HD12	1.85	0.59
19:N:66:ASN:HB3	19:N:76:TYR:N	2.17	0.59
20:O:14:VAL:O	20:O:15:SER:HB2	2.01	0.59
24:S:10:PRO:HB2	24:S:14:LEU:HD21	1.85	0.59
24:S:123:VAL:H	24:S:161:ALA:HB2	1.66	0.59
25:T:20:TYR:O	25:T:21:LEU:HG	2.03	0.59
26:U:14:VAL:HB	26:U:47:HIS:NE2	2.18	0.59
29:X:1786:C:H2'	29:X:1787:U:O4'	2.01	0.59
29:X:1854:G:C6	29:X:1864:G:C6	2.90	0.59
29:X:1994:U:H2'	29:X:1995:G:H5'	1.84	0.59
6:A:184:ARG:NH2	6:A:268:ARG:HH11	2.01	0.59
7:B:155:ARG:HG3	7:B:155:ARG:NH1	2.16	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:D:15:ALA:HA	9:D:18:GLN:HB2	1.83	0.59
14:I:22:GLY:CA	29:X:674:U:H1'	2.32	0.59
14:I:37:GLN:O	14:I:38:LYS:C	2.44	0.59
15:J:40:PRO:HG3	15:J:99:LYS:HZ2	1.66	0.59
15:J:69:ILE:HD13	15:J:104:MET:CG	2.33	0.59
19:N:79:PHE:CE2	19:N:95:LEU:HD21	2.36	0.59
23:R:85:ASP:N	23:R:86:PRO:HD3	2.16	0.59
24:S:11:LYS:O	24:S:13:LYS:N	2.31	0.59
28:W:38:PRO:HD3	28:W:41:ARG:HE	1.67	0.59
29:X:88:G:C3'	29:X:89:A:H5''	2.25	0.59
29:X:98:U:H5''	29:X:99:U:OP1	2.03	0.59
29:X:531:G:H2'	29:X:532:A:H8	1.67	0.59
29:X:837:U:H2'	29:X:838:A:C8	2.37	0.59
29:X:1081:A:C6	29:X:1108:U:H4'	2.38	0.59
29:X:1705:U:O4'	29:X:1718:A:N6	2.35	0.59
29:X:1710:U:H4'	29:X:1711:C:OP2	2.03	0.59
29:X:2046:C:O2	29:X:2430:A:C2	2.55	0.59
29:X:2075:U:HO2'	29:X:2076:G:H5''	1.67	0.59
29:X:2210:C:H2'	29:X:2211:U:H6	1.67	0.59
29:X:2264:C:H42	29:X:2325:A:H2	1.51	0.59
29:X:2598:C:O2'	29:X:2599:U:H5'	2.03	0.59
29:X:2857:C:C2'	29:X:2858:A:O5'	2.51	0.59
6:A:52:ARG:NH2	6:A:53:PHE:HZ	2.00	0.59
7:B:31:CYS:HB3	7:B:49:ILE:CG1	2.32	0.59
8:C:62:LYS:CD	8:C:63:GLY:N	2.66	0.59
9:D:13:ARG:HH12	9:D:14:PRO:HG3	1.63	0.59
9:D:97:TYR:HD2	9:D:100:LEU:HD23	1.67	0.59
9:D:138:PHE:HB2	9:D:141:ILE:CG1	2.32	0.59
10:E:87:LEU:O	10:E:131:ILE:N	2.36	0.59
12:G:100:TYR:HB2	12:G:116:ARG:HH11	1.64	0.59
14:I:17:LYS:HA	14:I:21:ARG:HE	1.67	0.59
15:J:14:PHE:O	15:J:15:ARG:HG3	2.03	0.59
16:K:25:ALA:HB2	16:K:47:PHE:CE2	2.37	0.59
16:K:28:LEU:CD2	16:K:115:LEU:HG	2.31	0.59
19:N:25:TRP:CE3	19:N:26:GLY:N	2.70	0.59
22:Q:14:GLU:HG3	22:Q:15:LYS:N	2.16	0.59
22:Q:29:VAL:HG11	22:Q:38:ILE:CD1	2.24	0.59
29:X:181:A:H4'	29:X:182:G:OP1	2.03	0.59
29:X:717:G:C2'	29:X:739:G:H22	2.04	0.59
29:X:872:G:OP2	29:X:872:G:C8	2.56	0.59
29:X:890:U:H2'	29:X:891:A:C8	2.37	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2429:A:C2	29:X:2430:A:C4	2.90	0.59
6:A:182:LEU:HB2	6:A:268:ARG:O	2.03	0.59
6:A:197:GLY:O	6:A:198:ASN:C	2.46	0.59
8:C:22:VAL:HA	8:C:106:MET:CG	2.31	0.59
9:D:103:LEU:CD1	9:D:108:LEU:HG	2.32	0.59
10:E:37:TYR:HE2	10:E:71:LEU:HB2	1.67	0.59
12:G:125:ARG:HD3	12:G:128:GLU:OE1	2.01	0.59
14:I:53:ARG:HH21	14:I:53:ARG:CG	2.14	0.59
19:N:61:TRP:CZ3	19:N:94:VAL:N	2.58	0.59
21:P:78:ASN:O	21:P:80:LEU:N	2.35	0.59
26:U:17:SER:HB2	26:U:44:ALA:HA	1.85	0.59
28:W:22:ALA:C	28:W:24:GLY:H	2.11	0.59
29:X:562:G:H2'	29:X:563:U:O4'	2.01	0.59
29:X:784:U:H2'	29:X:785:U:H6	1.67	0.59
29:X:872:G:H2'	29:X:928:G:N1	2.18	0.59
29:X:1573:G:H3'	29:X:1574:A:C5'	2.31	0.59
29:X:1578:U:H2'	29:X:1579:G:C8	2.37	0.59
29:X:2194:A:H2'	29:X:2195:C:H5''	1.84	0.59
29:X:2236:U:H2'	29:X:2237:C:C6	2.38	0.59
29:X:2391:A:H2'	29:X:2392:G:O4'	2.03	0.59
31:Z:15:A:C2	31:Z:71:G:H2'	2.38	0.59
31:Z:75:A:C2	31:Z:76:U:H1'	2.37	0.59
6:A:134:ARG:NE	6:A:135:PHE:CE2	2.70	0.59
6:A:222:ARG:NH1	29:X:1779:C:H5''	2.18	0.59
8:C:112:GLN:CB	8:C:116:LYS:HD3	2.33	0.59
10:E:87:LEU:N	10:E:131:ILE:O	2.31	0.59
10:E:128:PRO:O	10:E:129:THR:HG23	2.02	0.59
11:F:20:ALA:N	11:F:21:PRO:HD2	2.09	0.59
12:G:45:ASP:OD1	12:G:47:SER:HB2	2.03	0.59
13:H:63:ALA:O	13:H:65:LYS:HD2	2.02	0.59
15:J:27:TYR:CB	15:J:137:VAL:HG11	2.32	0.59
15:J:69:ILE:HD13	15:J:104:MET:HB3	1.85	0.59
15:J:125:LYS:HZ2	15:J:125:LYS:N	2.00	0.59
17:L:28:ARG:NH2	31:Z:10:U:O3'	2.30	0.59
18:M:34:ARG:HH12	18:M:81:PHE:HB3	1.66	0.59
21:P:33:MET:SD	21:P:64:ALA:HA	2.43	0.59
24:S:23:ALA:HA	24:S:83:PHE:O	2.03	0.59
27:V:41:HIS:O	27:V:42:ARG:C	2.46	0.59
29:X:224:G:OP2	29:X:226:C:N4	2.36	0.59
29:X:236:C:O2'	29:X:632:A:O2'	2.19	0.59
29:X:492:G:HO2'	29:X:517:A:N6	2.00	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:542:A:N6	29:X:2003:A:H1'	2.17	0.59
29:X:1252:C:C2'	29:X:1253:C:H5''	2.33	0.59
29:X:1656:U:C2'	29:X:1657:A:H5''	2.33	0.59
29:X:1686:A:C2	29:X:1977:C:H1'	2.37	0.59
29:X:1699:A:H2'	29:X:1700:C:C6	2.37	0.59
29:X:1973:C:H2'	29:X:1974:U:H6	1.67	0.59
29:X:2685:A:C2	29:X:2686:C:C2	2.91	0.59
30:Y:55:ARG:NH1	30:Y:59:ALA:HB2	2.17	0.59
7:B:67:PHE:CE2	7:B:74:PRO:HA	2.37	0.59
9:D:74:ILE:HA	9:D:79:LEU:CB	2.32	0.59
10:E:103:LEU:CD2	10:E:131:ILE:HD13	2.30	0.59
11:F:117:ALA:HB1	11:F:122:ALA:HB1	1.84	0.59
12:G:61:ARG:HH22	12:G:78:ASP:CG	2.11	0.59
12:G:157:PRO:C	12:G:161:GLN:NE2	2.60	0.59
15:J:34:GLY:CA	15:J:106:GLU:HA	2.19	0.59
15:J:44:LYS:HD3	15:J:47:GLN:HE22	1.68	0.59
15:J:80:ALA:O	15:J:81:GLU:HB3	2.03	0.59
20:O:26:GLN:HG2	20:O:27:GLY:N	2.11	0.59
20:O:68:LYS:HD2	20:O:86:HIS:O	2.03	0.59
24:S:19:ILE:HD11	24:S:36:ARG:HG3	1.85	0.59
29:X:487:G:H4'	29:X:512:A:H61	1.68	0.59
29:X:542:A:N1	29:X:2004:U:H2'	2.16	0.59
29:X:631:G:H4'	29:X:632:A:C5'	2.31	0.59
29:X:941:U:H2'	29:X:942:U:O4'	2.02	0.59
29:X:1053:G:C5	29:X:1054:C:C5	2.90	0.59
29:X:2175:A:H2'	29:X:2176:U:C6	2.34	0.59
29:X:2280:A:H2'	29:X:2281:C:C6	2.38	0.59
29:X:2624:G:H4'	29:X:2712:G:O2'	2.02	0.59
29:X:2764:U:H2'	29:X:2765:C:H6	1.63	0.59
29:X:2779:C:H2'	29:X:2780:A:O4'	2.03	0.59
31:Z:20:A:H2'	31:Z:21:C:C6	2.37	0.59
31:Z:81:C:O5'	31:Z:81:C:H6	1.86	0.59
6:A:73:SER:HB2	6:A:120:GLY:CA	2.33	0.59
7:B:70:ALA:O	7:B:71:GLY:C	2.46	0.59
7:B:82:ARG:NH2	29:X:2617:G:P	2.76	0.59
7:B:85:ALA:HB3	7:B:86:PRO:CD	2.33	0.59
7:B:141:ILE:HG21	7:B:150:VAL:HG11	1.85	0.59
8:C:43:ALA:HB3	8:C:87:LYS:C	2.27	0.59
8:C:151:VAL:O	8:C:152:THR:HB	2.02	0.59
9:D:13:ARG:HA	9:D:16:LEU:HD12	1.82	0.59
10:E:148:VAL:C	10:E:150:LYS:H	2.10	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:G:84:ASN:HA	12:G:152:ALA:O	2.02	0.59
12:G:85:ALA:O	12:G:88:VAL:N	2.33	0.59
12:G:96:ASP:O	12:G:98:LYS:N	2.27	0.59
13:H:7:ARG:HH12	13:H:20:MET:HE3	1.67	0.59
15:J:6:LYS:HG2	15:J:7:ARG:HG3	1.83	0.59
15:J:35:LEU:HB2	15:J:119:PHE:CD1	2.38	0.59
15:J:73:LYS:HB3	15:J:95:VAL:O	2.03	0.59
24:S:1:MET:HG3	24:S:52:PHE:HD2	1.66	0.59
24:S:22:VAL:HG21	31:Z:77:G:H1'	1.84	0.59
24:S:75:LYS:C	24:S:77:ALA:N	2.58	0.59
25:T:42:GLY:O	25:T:57:HIS:CD2	2.56	0.59
26:U:28:GLY:HA3	26:U:32:ARG:HB3	1.85	0.59
26:U:54:ASN:C	26:U:54:ASN:OD1	2.45	0.59
29:X:322:A:O2'	29:X:343:A:C4'	2.51	0.59
29:X:1238:A:C6	29:X:1239:A:N1	2.71	0.59
29:X:2058:U:H1'	29:X:2576:G:H21	1.67	0.59
29:X:2194:A:H2'	29:X:2195:C:C4'	2.32	0.59
29:X:2448:A:N6	29:X:2460:G:H1'	2.18	0.59
29:X:2492:G:N2	29:X:2493:U:C2	2.70	0.59
29:X:2690:A:OP1	29:X:2692:A:P	2.61	0.59
6:A:48:ARG:NH1	6:A:48:ARG:HB3	2.18	0.58
9:D:46:ASP:HB2	9:D:49:ALA:H	1.67	0.58
11:F:52:ILE:C	11:F:73:PRO:HD3	2.27	0.58
13:H:132:GLU:HG3	13:H:133:VAL:H	1.66	0.58
14:I:85:ASP:O	14:I:86:THR:C	2.46	0.58
14:I:108:LEU:HB3	14:I:125:ALA:HB1	1.84	0.58
16:K:69:ASP:O	16:K:70:ILE:HD13	2.03	0.58
19:N:93:LYS:O	19:N:94:VAL:HB	2.03	0.58
20:O:71:ILE:CD1	29:X:1003:C:O3'	2.50	0.58
22:Q:10:PRO:HA	22:Q:27:PHE:HB3	1.85	0.58
22:Q:32:LYS:O	22:Q:33:ALA:CB	2.51	0.58
23:R:105:ARG:CZ	23:R:112:LYS:HA	2.31	0.58
28:W:15:ASN:H	28:W:15:ASN:ND2	2.01	0.58
29:X:1011:A:O2'	29:X:1012:A:H5'	2.02	0.58
29:X:1419:G:H2'	29:X:1420:A:C8	2.38	0.58
29:X:2286:G:C5	29:X:2287:G:H1'	2.37	0.58
30:Y:45:ILE:HD13	30:Y:57:VAL:HG22	1.84	0.58
6:A:52:ARG:HD3	29:X:1816:G:OP1	2.02	0.58
6:A:160:GLY:O	29:X:1812:U:C4	2.56	0.58
6:A:213:ARG:C	6:A:215:LEU:N	2.61	0.58
8:C:12:GLY:O	8:C:14:THR:N	2.36	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:C:147:LYS:HA	8:C:166:TRP:O	2.03	0.58
9:D:60:ILE:HG22	9:D:140:GLU:CB	2.30	0.58
12:G:158:HIS:HA	12:G:161:GLN:NE2	2.18	0.58
13:H:70:VAL:CG2	13:H:98:ILE:HG23	2.31	0.58
15:J:69:ILE:HD13	15:J:104:MET:HG2	1.84	0.58
15:J:82:THR:O	15:J:83:ARG:CB	2.52	0.58
15:J:136:GLU:HA	15:J:138:TYR:HE2	1.67	0.58
16:K:3:HIS:CG	16:K:5:LYS:HD2	2.36	0.58
17:L:13:THR:O	17:L:17:VAL:HG12	2.02	0.58
19:N:82:GLY:O	19:N:85:ARG:N	2.36	0.58
20:O:46:VAL:HG12	20:O:51:ALA:HB2	1.86	0.58
22:Q:71:GLN:HG2	22:Q:72:ARG:N	2.17	0.58
23:R:101:GLY:C	23:R:103:LYS:H	2.10	0.58
27:V:1:MET:HG3	27:V:2:LYS:N	2.17	0.58
27:V:25:LEU:HD21	27:V:47:ARG:HD2	1.85	0.58
27:V:43:VAL:HA	27:V:46:LEU:HD12	1.85	0.58
28:W:8:SER:HB2	29:X:999:A:C5'	2.23	0.58
29:X:189:A:O2'	29:X:190:A:H5'	2.03	0.58
29:X:318:G:H5'	29:X:318:G:C8	2.30	0.58
29:X:636:G:H5'	29:X:636:G:C8	2.25	0.58
29:X:874:A:H2	31:Z:80:A:C2	2.21	0.58
29:X:1253:C:H5'	29:X:1253:C:H6	1.67	0.58
29:X:1426:U:C2'	29:X:1427:G:H5'	2.33	0.58
29:X:1450:G:O2'	29:X:1451:C:H5'	2.03	0.58
29:X:1541:G:H2'	29:X:1542:G:C8	2.38	0.58
29:X:2181:A:O2'	29:X:2182:A:H5'	2.02	0.58
6:A:92:ILE:CG2	6:A:104:TYR:HD2	2.15	0.58
6:A:173:VAL:CG2	6:A:187:SER:HB3	2.34	0.58
8:C:74:VAL:O	8:C:77:PHE:N	2.32	0.58
8:C:107:ALA:HB1	8:C:180:ILE:HD13	1.85	0.58
9:D:60:ILE:HD12	9:D:138:PHE:CE2	2.38	0.58
14:I:105:PRO:O	14:I:106:VAL:CG2	2.52	0.58
15:J:30:PHE:HE1	29:X:886:A:HI'	1.69	0.58
16:K:16:ALA:O	16:K:17:ARG:C	2.45	0.58
16:K:36:THR:OG1	16:K:37:THR:N	2.33	0.58
17:L:17:VAL:HG13	17:L:18:ARG:N	2.18	0.58
17:L:99:ARG:HG3	17:L:100:VAL:N	2.17	0.58
18:M:101:ARG:O	18:M:103:LYS:N	2.37	0.58
21:P:87:GLU:HG3	21:P:88:ASP:OD2	2.04	0.58
23:R:92:THR:C	23:R:95:ARG:NH2	2.61	0.58
24:S:149:ALA:C	24:S:151:ASP:H	2.11	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:428:A:H2'	29:X:429:C:H6	1.67	0.58
29:X:838:A:O2'	29:X:839:U:H5'	2.02	0.58
29:X:1283:C:H5''	29:X:1284:G:O5'	2.02	0.58
29:X:2002:A:N7	30:Y:9:LYS:HE2	2.17	0.58
29:X:2190:A:C8	29:X:2190:A:H3'	2.39	0.58
29:X:2335:U:H2'	29:X:2336:G:H8	1.69	0.58
29:X:2560:G:H4'	29:X:2561:G:N7	2.18	0.58
8:C:109:ALA:O	8:C:112:GLN:N	2.34	0.58
9:D:74:ILE:CG2	9:D:80:ARG:HA	2.31	0.58
9:D:102:LYS:O	9:D:106:ILE:N	2.32	0.58
12:G:66:HIS:O	12:G:70:PHE:CD1	2.56	0.58
12:G:101:THR:HG23	12:G:103:TYR:CE1	2.38	0.58
12:G:160:ALA:C	12:G:161:GLN:HG3	2.28	0.58
13:H:1:MET:HE2	13:H:44:TYR:CZ	2.38	0.58
14:I:29:THR:O	14:I:29:THR:HG22	2.03	0.58
14:I:107:LYS:HG3	14:I:108:LEU:H	1.66	0.58
17:L:33:ARG:O	17:L:99:ARG:CZ	2.50	0.58
21:P:9:ARG:O	21:P:10:ASN:HB3	2.03	0.58
22:Q:7:LEU:C	22:Q:7:LEU:CD2	2.71	0.58
24:S:64:ALA:HB2	24:S:85:MET:HA	1.85	0.58
26:U:75:TYR:O	26:U:76:LYS:HB2	2.03	0.58
28:W:32:ARG:HG3	28:W:32:ARG:O	2.02	0.58
29:X:417:C:O3'	29:X:418:C:H4'	2.02	0.58
29:X:640:C:C4'	29:X:660:G:H21	2.16	0.58
29:X:1068:A:C8	29:X:1097:A:H2'	2.38	0.58
29:X:1074:G:H2'	29:X:1075:C:O4'	2.03	0.58
29:X:1522:C:H2'	29:X:1523:A:H4'	1.84	0.58
29:X:2029:G:H5'	30:Y:19:ARG:CB	2.31	0.58
29:X:2217:G:H5''	29:X:2218:G:OP1	2.02	0.58
29:X:2628:C:C2	29:X:2629:U:C5	2.92	0.58
6:A:42:GLY:C	6:A:43:ARG:HH11	2.08	0.58
6:A:160:GLY:HA2	6:A:196:VAL:C	2.26	0.58
7:B:2:LYS:HA	7:B:84:PHE:CD1	2.38	0.58
7:B:49:ILE:HG21	7:B:81:PHE:HE2	1.68	0.58
7:B:103:ASP:OD2	7:B:202:ALA:N	2.33	0.58
7:B:144:ARG:HD3	29:X:2551:A:C8	2.38	0.58
9:D:52:LYS:HZ2	9:D:149:THR:CA	2.17	0.58
9:D:92:ARG:HE	31:Z:47:A:H8	1.51	0.58
10:E:172:LYS:HD3	29:X:2508:G:OP2	2.03	0.58
11:F:34:ILE:O	11:F:37:PHE:HB3	2.04	0.58
12:G:42:VAL:HG13	12:G:168:THR:HG23	1.84	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:H:23:ARG:HH21	13:H:23:ARG:HG2	1.66	0.58
13:H:47:VAL:HG11	13:H:115:ALA:CB	2.34	0.58
13:H:116:ARG:HG3	13:H:116:ARG:NH1	2.19	0.58
14:I:80:LEU:HD21	14:I:97:ARG:NH2	2.18	0.58
23:R:27:GLY:O	23:R:30:LYS:HG2	2.03	0.58
24:S:25:ASN:OD1	24:S:27:GLU:N	2.37	0.58
25:T:36:ILE:HD11	29:X:2343:C:O2	2.04	0.58
27:V:42:ARG:NE	27:V:46:LEU:HD21	2.18	0.58
29:X:826:U:C2	29:X:827:C:C5	2.90	0.58
29:X:861:G:C2'	29:X:862:A:H5'	2.32	0.58
29:X:930:A:H8	29:X:930:A:O5'	1.86	0.58
29:X:1108:U:H2'	29:X:1109:A:O4'	2.02	0.58
29:X:1322:G:O2'	29:X:1323:G:H5'	2.03	0.58
29:X:1409:U:H5''	29:X:1410:U:OP2	2.03	0.58
29:X:1524:C:H5''	29:X:1525:A:C8	2.36	0.58
7:B:4:ILE:HG21	7:B:28:ALA:HB1	1.86	0.58
9:D:54:ALA:O	9:D:55:LYS:C	2.46	0.58
11:F:101:TRP:HA	11:F:104:VAL:CG2	2.33	0.58
13:H:29:ILE:HA	13:H:34:LEU:HD23	1.85	0.58
15:J:19:THR:HG21	15:J:99:LYS:HZ3	1.68	0.58
17:L:52:ALA:O	17:L:53:ALA:CB	2.52	0.58
29:X:163:A:H2'	29:X:164:G:C8	2.38	0.58
29:X:175:C:C6	29:X:175:C:H3'	2.39	0.58
29:X:175:C:H3'	29:X:175:C:H6	1.67	0.58
29:X:204:A:N6	29:X:2386:G:C8	2.72	0.58
29:X:341:A:HO2'	29:X:342:G:H8	1.49	0.58
29:X:476:G:C6	29:X:477:A:N6	2.72	0.58
29:X:810:U:H2'	29:X:811:G:O4'	2.03	0.58
29:X:1002:C:N4	29:X:1003:C:H41	2.02	0.58
29:X:1105:U:N3	29:X:1107:A:H5''	2.18	0.58
29:X:1631:C:H2'	29:X:1631:C:O2	2.02	0.58
29:X:2301:A:C4	29:X:2302:G:C8	2.91	0.58
29:X:2609:G:H1'	29:X:2868:G:C4	2.38	0.58
30:Y:32:GLU:HG3	30:Y:37:HIS:O	2.03	0.58
6:A:200:GLU:OE2	6:A:201:HIS:N	2.36	0.58
6:A:244:ARG:CB	6:A:252:LYS:NZ	2.66	0.58
7:B:154:LYS:HZ1	7:B:156:MET:HE1	1.68	0.58
8:C:130:THR:OG1	8:C:160:ALA:HA	2.04	0.58
12:G:51:LEU:CD1	12:G:88:VAL:HG21	2.33	0.58
14:I:28:LYS:HZ2	14:I:37:GLN:H	1.48	0.58
17:L:29:LEU:HD13	17:L:75:LEU:HD21	1.85	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:M:102:ALA:C	18:M:103:LYS:HD2	2.28	0.58
23:R:44:GLN:O	23:R:77:HIS:HA	2.04	0.58
29:X:196:A:O2'	29:X:197:G:H5'	2.04	0.58
29:X:542:A:H2	29:X:2004:U:C2'	2.05	0.58
29:X:1067:G:H21	29:X:1114:A:N6	1.94	0.58
29:X:1112:U:O2'	29:X:1113:C:H5'	2.03	0.58
29:X:2284:U:H2'	29:X:2285:U:H5''	1.85	0.58
29:X:2550:C:N4	29:X:2553:G:C8	2.72	0.58
31:Z:25:G:H2'	31:Z:26:G:C5	2.38	0.58
6:A:79:VAL:O	6:A:79:VAL:HG12	2.02	0.58
6:A:249:PRO:HD3	29:X:2218:G:H5'	1.85	0.58
8:C:40:ARG:NH2	29:X:39:C:O2	2.36	0.58
8:C:48:ARG:C	8:C:50:GLN:N	2.57	0.58
9:D:22:TYR:CD2	9:D:27:ALA:O	2.57	0.58
9:D:75:SER:C	9:D:79:LEU:HD13	2.28	0.58
10:E:172:LYS:HE2	29:X:2508:G:OP2	2.02	0.58
12:G:66:HIS:CD2	19:N:71:LEU:HD12	2.38	0.58
12:G:67:ARG:O	12:G:70:PHE:CG	2.57	0.58
12:G:69:ASP:C	12:G:70:PHE:CD2	2.81	0.58
17:L:15:ARG:HD2	17:L:91:ARG:HD3	1.84	0.58
23:R:93:ARG:C	23:R:95:ARG:CZ	2.76	0.58
25:T:21:LEU:CD1	25:T:41:ARG:HG2	2.34	0.58
29:X:222:G:O2'	29:X:223:C:H5'	2.04	0.58
29:X:357:A:H3'	29:X:358:C:H6	1.67	0.58
29:X:542:A:H5'	29:X:543:G:O4'	2.04	0.58
29:X:639:G:H8	29:X:639:G:O5'	1.87	0.58
29:X:649:G:N1	29:X:660:G:N1	2.52	0.58
29:X:1525:A:H3'	29:X:1526:U:C6	2.37	0.58
29:X:1698:C:O2'	29:X:1753:A:C2'	2.51	0.58
29:X:2266:A:C2	29:X:2325:A:N7	2.71	0.58
29:X:2358:C:H2'	29:X:2359:U:H6	1.69	0.58
29:X:2448:A:H61	29:X:2460:G:H1'	1.68	0.58
29:X:2836:U:O2'	29:X:2837:G:H5'	2.03	0.58
31:Z:31:A:H2'	31:Z:32:C:C6	2.39	0.58
7:B:42:ASP:OD2	29:X:2764:U:H4'	2.04	0.58
7:B:47:VAL:O	7:B:80:GLU:HA	2.04	0.58
8:C:61:GLN:NE2	8:C:61:GLN:HA	2.18	0.58
8:C:138:LYS:C	8:C:140:ASN:H	2.11	0.58
9:D:13:ARG:CB	9:D:14:PRO:HD3	2.32	0.58
13:H:5:GLN:HG3	29:X:1685:A:OP1	2.03	0.58
15:J:44:LYS:HD3	15:J:47:GLN:CD	2.29	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:S:21:ALA:HB2	24:S:81:VAL:HB	1.86	0.58
27:V:38:ALA:O	27:V:40:PRO:HD3	2.02	0.58
27:V:50:VAL:O	27:V:53:LEU:HB2	2.03	0.58
29:X:530:G:H2'	29:X:531:G:H8	1.68	0.58
29:X:540:G:N2	29:X:2005:U:OP1	2.37	0.58
29:X:977:G:O4'	29:X:2246:A:N6	2.37	0.58
29:X:2511:G:H2'	29:X:2512:A:H8	1.68	0.58
29:X:2725:C:H2'	29:X:2726:U:C6	2.39	0.58
29:X:2819:G:H2'	29:X:2820:C:H6	1.68	0.58
6:A:46:ARG:HD3	6:A:47:GLY:N	2.19	0.58
6:A:247:VAL:CG2	6:A:248:THR:N	2.67	0.58
7:B:134:TRP:O	7:B:135:HIS:C	2.45	0.58
8:C:45:THR:HG22	8:C:47:THR:OG1	2.03	0.58
9:D:4:LEU:HD11	9:D:173:MET:CE	2.32	0.58
10:E:171:LEU:HD12	10:E:171:LEU:N	2.19	0.58
12:G:36:ASN:CG	12:G:37:ASP:N	2.61	0.58
12:G:82:VAL:HB	12:G:150:VAL:HG13	1.86	0.58
15:J:128:ILE:HD12	15:J:128:ILE:C	2.29	0.58
20:O:54:TYR:CD1	20:O:54:TYR:N	2.71	0.58
21:P:78:ASN:C	21:P:80:LEU:N	2.60	0.58
24:S:100:THR:CG2	24:S:138:VAL:HG11	2.34	0.58
26:U:31:GLY:CA	26:U:32:ARG:HH11	2.17	0.58
29:X:689:A:C2'	29:X:690:A:H5'	2.34	0.58
29:X:1868:A:H2'	29:X:1869:A:O4'	2.03	0.58
29:X:2039:G:O2'	30:Y:8:LYS:HE2	2.04	0.58
29:X:2081:U:H2'	29:X:2082:C:H6	1.69	0.58
29:X:2265:A:H4'	29:X:2266:A:C5'	2.33	0.58
29:X:2829:A:H2'	29:X:2830:U:C6	2.39	0.58
6:A:247:VAL:HG23	6:A:248:THR:N	2.19	0.57
7:B:1:MET:O	7:B:2:LYS:C	2.47	0.57
8:C:180:ILE:HG23	8:C:181:LEU:N	2.16	0.57
9:D:39:GLY:HA2	9:D:86:GLY:HA2	1.86	0.57
13:H:41:ASN:ND2	13:H:41:ASN:N	2.45	0.57
13:H:114:VAL:HG22	13:H:133:VAL:HG22	1.86	0.57
14:I:28:LYS:HD2	14:I:36:GLY:HA3	1.86	0.57
16:K:43:GLU:OE1	16:K:44:LEU:HA	2.03	0.57
18:M:94:VAL:O	18:M:95:GLU:HB3	2.03	0.57
20:O:11:GLN:HA	20:O:38:LEU:O	2.04	0.57
23:R:90:LYS:HB2	23:R:108:VAL:CG1	2.33	0.57
26:U:54:ASN:C	26:U:56:GLN:N	2.58	0.57
26:U:67:LEU:HD23	26:U:67:LEU:C	2.29	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:205:A:H2'	29:X:206:U:H5'	1.86	0.57
29:X:538:A:H2'	29:X:2025:A:C2	2.39	0.57
29:X:1071:U:H5''	29:X:1072:U:OP1	2.04	0.57
29:X:1174:G:C2	29:X:1175:A:C5	2.92	0.57
29:X:1294:G:H2'	29:X:1295:U:H6	1.69	0.57
29:X:1425:G:O2'	29:X:1426:U:H5'	2.04	0.57
29:X:2691:C:C2'	29:X:2692:A:C5'	2.82	0.57
6:A:96:HIS:HE1	6:A:100:GLY:CA	2.17	0.57
6:A:257:LEU:HB3	29:X:1794:A:O3'	2.04	0.57
6:A:267:ASP:O	6:A:268:ARG:HD2	2.04	0.57
7:B:62:PRO:HG3	29:X:2767:C:H1'	1.84	0.57
8:C:129:LYS:O	8:C:130:THR:HB	2.03	0.57
9:D:103:LEU:HD11	9:D:108:LEU:HG	1.86	0.57
10:E:76:VAL:C	10:E:78:GLY:N	2.62	0.57
11:F:9:LYS:C	11:F:10:LEU:HD23	2.29	0.57
13:H:110:VAL:C	13:H:111:PHE:HD1	2.12	0.57
14:I:68:VAL:O	14:I:68:VAL:HG12	2.04	0.57
17:L:74:ALA:O	17:L:78:ALA:HB2	2.04	0.57
20:O:79:GLN:HA	20:O:79:GLN:OE1	2.02	0.57
29:X:833:A:C1'	29:X:954:U:O2'	2.50	0.57
29:X:994:A:O2'	29:X:995:A:OP1	2.21	0.57
29:X:1598:C:O5'	29:X:1598:C:H6	1.87	0.57
6:A:99:ASP:OD1	29:X:1506:C:H2'	2.05	0.57
6:A:164:GLN:HE22	6:A:166:GLN:NE2	2.01	0.57
7:B:162:MET:HE3	29:X:2796:A:H5''	1.85	0.57
7:B:203:LYS:HG2	29:X:2713:A:C6	2.39	0.57
8:C:109:ALA:O	8:C:113:GLU:HG3	2.04	0.57
8:C:173:ALA:CB	8:C:193:LEU:HB2	2.35	0.57
9:D:36:VAL:HG13	9:D:152:MET:HE3	1.84	0.57
9:D:75:SER:HB2	29:X:2289:A:H2	1.68	0.57
9:D:85:VAL:HG23	9:D:86:GLY:N	2.19	0.57
10:E:43:VAL:CB	10:E:52:VAL:HA	2.30	0.57
12:G:150:VAL:CG1	12:G:151:TYR:N	2.68	0.57
13:H:22:ILE:HD11	29:X:1935:A:N3	2.18	0.57
15:J:25:GLY:O	15:J:26:ASP:O	2.23	0.57
15:J:35:LEU:HD11	15:J:130:THR:HB	1.86	0.57
15:J:113:GLU:HA	15:J:113:GLU:OE2	2.05	0.57
16:K:72:ASP:HB3	16:K:75:VAL:CG2	2.33	0.57
20:O:65:ARG:HG2	20:O:87:ARG:HD3	1.86	0.57
21:P:50:VAL:HG23	21:P:72:LEU:HD11	1.86	0.57
29:X:174:A:H8	29:X:2051:U:N3	2.02	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:558:G:N3	29:X:558:G:C4'	2.65	0.57
29:X:1310:C:H2'	29:X:1311:C:H6	1.67	0.57
29:X:1979:C:C2'	29:X:1980:A:O4'	2.52	0.57
29:X:2237:C:H4'	29:X:2238:G:OP2	2.05	0.57
9:D:115:ARG:HD2	9:D:178:ARG:NH2	2.18	0.57
10:E:30:LYS:CB	10:E:79:VAL:HA	2.33	0.57
12:G:84:ASN:O	12:G:86:ALA:N	2.30	0.57
13:H:23:ARG:HH21	13:H:24:VAL:N	2.02	0.57
13:H:133:VAL:HG12	13:H:133:VAL:O	2.03	0.57
14:I:38:LYS:HZ3	14:I:38:LYS:HB3	1.69	0.57
16:K:106:ASP:CG	16:K:108:VAL:HG23	2.30	0.57
17:L:42:ILE:HD11	17:L:87:VAL:CG1	2.34	0.57
18:M:44:ARG:HD2	18:M:46:ARG:NH2	2.19	0.57
19:N:66:ASN:C	19:N:68:GLY:H	2.10	0.57
23:R:8:SER:O	23:R:10:HIS:N	2.37	0.57
29:X:16:G:C2	29:X:17:G:C8	2.92	0.57
29:X:417:C:C6	29:X:419:G:C8	2.93	0.57
29:X:596:C:C2	29:X:684:C:C1'	2.87	0.57
29:X:888:G:O2'	29:X:889:C:H5'	2.04	0.57
29:X:1611:U:H2'	29:X:1612:U:O4'	2.03	0.57
29:X:1919:A:H1'	29:X:1923:U:N3	2.19	0.57
29:X:2197:U:C4	29:X:2198:U:O4	2.57	0.57
29:X:2372:A:H2'	29:X:2373:C:H6	1.69	0.57
29:X:2474:G:N2	29:X:2475:C:O2	2.37	0.57
31:Z:15:A:H2	31:Z:71:G:N3	2.02	0.57
7:B:39:ALA:HA	7:B:44:TYR:N	2.18	0.57
9:D:122:PHE:HE2	9:D:129:ASN:O	1.88	0.57
13:H:3:MET:O	13:H:6:SER:CB	2.52	0.57
13:H:27:SER:CB	13:H:50:ILE:HG13	2.35	0.57
15:J:27:TYR:HB3	15:J:137:VAL:HG11	1.85	0.57
17:L:14:ARG:O	17:L:17:VAL:HG12	2.04	0.57
18:M:43:ASN:ND2	18:M:43:ASN:O	2.34	0.57
22:Q:63:LYS:HE3	22:Q:65:VAL:HA	1.86	0.57
27:V:13:ASP:HA	27:V:16:LYS:HB3	1.86	0.57
29:X:236:C:HO2'	29:X:632:A:HO2'	1.52	0.57
29:X:590:C:H2'	29:X:591:G:C8	2.38	0.57
29:X:1354:A:C2'	29:X:1410:U:O2'	2.53	0.57
29:X:1463:A:H2'	29:X:1464:A:C8	2.39	0.57
29:X:1545:G:O2'	29:X:1546:C:H5'	2.04	0.57
29:X:1775:A:H4'	29:X:1776:A:C5'	2.34	0.57
29:X:2009:U:H6	29:X:2009:U:H5''	1.70	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2071:G:O2'	29:X:2072:C:H5'	2.04	0.57
29:X:2702:G:C6	29:X:2703:C:N3	2.72	0.57
30:Y:19:ARG:HG3	30:Y:20:ARG:N	2.20	0.57
9:D:92:ARG:NH2	31:Z:47:A:OP1	2.37	0.57
14:I:22:GLY:HA2	29:X:674:U:H1'	1.84	0.57
14:I:30:ALA:H	14:I:34:HIS:CD2	2.22	0.57
14:I:76:LYS:HE3	14:I:111:SER:CB	2.35	0.57
14:I:82:ASP:N	14:I:114:ILE:HG21	2.20	0.57
24:S:103:ARG:HD3	24:S:108:VAL:HG23	1.87	0.57
26:U:49:LYS:HD3	26:U:61:TRP:CG	2.39	0.57
29:X:937:C:H2'	29:X:938:G:O4'	2.04	0.57
29:X:1343:C:H2'	29:X:1344:C:H6	1.69	0.57
29:X:2081:U:H3	29:X:2174:G:H1	1.52	0.57
29:X:2265:A:C2	29:X:2325:A:N7	2.73	0.57
29:X:2483:U:O5'	29:X:2483:U:H6	1.87	0.57
7:B:154:LYS:CE	29:X:2598:C:H1'	2.34	0.57
9:D:79:LEU:HD21	29:X:2289:A:C2	2.40	0.57
10:E:9:ILE:HD12	10:E:51:LEU:N	2.20	0.57
12:G:55:ALA:HB1	12:G:134:MET:CE	2.34	0.57
14:I:130:ILE:O	14:I:133:VAL:HG23	2.04	0.57
15:J:77:LYS:O	15:J:88:LYS:NZ	2.36	0.57
18:M:5:ILE:HD12	18:M:5:ILE:O	2.04	0.57
19:N:66:ASN:HD22	19:N:70:ARG:CZ	2.17	0.57
20:O:88:GLN:NE2	29:X:1173:G:N3	2.53	0.57
23:R:45:LYS:HA	23:R:76:LEU:O	2.04	0.57
28:W:5:LEU:HD12	28:W:50:LEU:O	2.03	0.57
29:X:208:C:H2'	29:X:209:G:H5'	1.86	0.57
29:X:303:C:O5'	29:X:303:C:H6	1.88	0.57
29:X:692:C:O2'	29:X:693:A:H5'	2.05	0.57
29:X:729:A:N3	29:X:730:C:OP2	2.38	0.57
29:X:1153:A:H5'	29:X:1153:A:C8	2.39	0.57
29:X:1886:G:H2'	29:X:1887:G:H8	1.70	0.57
29:X:2441:U:C2	29:X:2442:C:C5	2.93	0.57
31:Z:63:A:O2'	31:Z:64:C:H5'	2.04	0.57
6:A:214:TRP:CD1	29:X:1582:A:O4'	2.57	0.57
7:B:179:GLU:O	7:B:180:ASN:C	2.47	0.57
8:C:42:THR:HB	29:X:454:G:H21	1.69	0.57
10:E:77:LYS:HA	10:E:80:SER:HB3	1.86	0.57
18:M:91:VAL:HG12	18:M:92:THR:N	2.18	0.57
19:N:66:ASN:HB2	19:N:76:TYR:H	1.70	0.57
20:O:5:ILE:CG2	20:O:10:LYS:HE2	2.35	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:T:24:LYS:HE3	29:X:2334:C:O2'	2.05	0.57
26:U:31:GLY:HA2	26:U:32:ARG:CZ	2.35	0.57
29:X:538:A:H4'	29:X:539:A:OP1	2.04	0.57
29:X:813:A:C4'	29:X:814:G:O5'	2.53	0.57
29:X:1194:U:H2'	29:X:1195:U:H6	1.68	0.57
29:X:1573:G:C3'	29:X:1574:A:H5''	2.31	0.57
8:C:108:ILE:O	8:C:111:ARG:HB2	2.04	0.57
8:C:129:LYS:C	8:C:131:LYS:N	2.62	0.57
9:D:119:PRO:CG	9:D:120:ASN:H	2.15	0.57
15:J:111:THR:HG23	15:J:114:GLN:HB2	1.86	0.57
18:M:93:ILE:HG22	18:M:94:VAL:N	2.18	0.57
24:S:148:THR:HB	24:S:164:PRO:O	2.04	0.57
25:T:32:LYS:N	25:T:35:ASN:ND2	2.51	0.57
26:U:27:ASP:N	26:U:32:ARG:HH21	2.03	0.57
28:W:12:ARG:HH11	28:W:12:ARG:CG	2.17	0.57
28:W:42:GLY:HA3	29:X:864:C:O2'	2.05	0.57
29:X:13:A:O2'	29:X:15:G:N7	2.36	0.57
29:X:124:A:H2'	29:X:125:A:C8	2.40	0.57
29:X:547:U:H2'	29:X:548:G:H8	1.68	0.57
31:Z:53:G:N2	31:Z:54:U:C5	2.67	0.57
6:A:211:ARG:NH1	29:X:1582:A:OP1	2.37	0.57
7:B:188:ILE:HG22	7:B:189:PRO:HD2	1.83	0.57
8:C:47:THR:HG23	8:C:84:PHE:N	2.20	0.57
8:C:56:ARG:HA	8:C:71:ASP:OD2	2.05	0.57
9:D:4:LEU:HD12	9:D:5:LYS:H	1.69	0.57
10:E:144:VAL:C	10:E:146:ALA:N	2.61	0.57
12:G:61:ARG:NH2	12:G:78:ASP:OD2	2.33	0.57
14:I:134:GLU:C	14:I:136:ALA:H	2.13	0.57
15:J:21:ASP:HA	15:J:99:LYS:HE3	1.86	0.57
15:J:116:LYS:HZ3	15:J:132:MET:HB3	1.70	0.57
16:K:28:LEU:C	16:K:28:LEU:HD23	2.29	0.57
17:L:95:LYS:HD2	29:X:2273:C:H5'	1.86	0.57
29:X:324:C:H2'	29:X:325:U:O4'	2.04	0.57
29:X:1552:C:H1'	29:X:1553:G:N3	2.20	0.57
29:X:2434:G:H2'	29:X:2435:C:C6	2.40	0.57
6:A:214:TRP:CH2	29:X:777:A:OP2	2.58	0.56
6:A:251:GLY:HA3	6:A:255:LYS:HZ1	1.70	0.56
6:A:258:LYS:NZ	6:A:261:ARG:HH21	2.03	0.56
7:B:108:SER:OG	7:B:163:GLU:N	2.38	0.56
7:B:146:THR:HG23	29:X:2015:G:H21	1.70	0.56
9:D:40:LEU:HA	9:D:150:ARG:NH2	2.20	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:E:18:ASN:HB2	10:E:25:LYS:CB	2.32	0.56
11:F:100:ASN:HB3	11:F:103:GLN:OE1	2.05	0.56
12:G:36:ASN:C	12:G:38:GLU:N	2.52	0.56
12:G:117:GLU:C	12:G:119:LEU:N	2.57	0.56
13:H:16:ALA:HA	13:H:58:ALA:HA	1.87	0.56
14:I:7:LYS:O	14:I:7:LYS:HG2	2.05	0.56
14:I:8:PRO:C	29:X:1218:C:HO2'	2.13	0.56
14:I:72:TYR:CD2	14:I:107:LYS:HB2	2.40	0.56
14:I:76:LYS:HB3	14:I:79:GLN:HG2	1.86	0.56
14:I:126:SER:OG	14:I:129:ALA:HB2	2.05	0.56
15:J:19:THR:CG2	15:J:99:LYS:NZ	2.68	0.56
15:J:123:GLY:HA2	15:J:126:LEU:HD12	1.86	0.56
16:K:24:GLN:O	16:K:25:ALA:C	2.48	0.56
16:K:45:ARG:HB3	16:K:46:PRO:CD	2.35	0.56
18:M:104:LEU:O	18:M:106:TYR:N	2.38	0.56
24:S:13:LYS:NZ	24:S:18:MET:O	2.38	0.56
29:X:328:A:H2'	29:X:329:C:H6	1.70	0.56
29:X:580:A:O2'	29:X:582:G:OP2	2.23	0.56
29:X:1004:A:C5	29:X:1005:U:H5	2.22	0.56
29:X:1770:U:O2	29:X:1774:A:C5	2.58	0.56
29:X:1997:A:C2	29:X:1998:A:C2	2.93	0.56
29:X:2081:U:H2'	29:X:2082:C:O4'	2.04	0.56
29:X:2210:C:C2	29:X:2211:U:C6	2.92	0.56
29:X:2271:C:H2'	29:X:2272:A:H8	1.70	0.56
4:4:24:LEU:HD12	4:4:24:LEU:N	2.20	0.56
6:A:252:LYS:CE	6:A:253:PRO:HD2	2.35	0.56
8:C:158:ARG:C	8:C:160:ALA:N	2.62	0.56
9:D:52:LYS:NZ	9:D:149:THR:HA	2.20	0.56
9:D:92:ARG:HH21	9:D:92:ARG:HG3	1.70	0.56
9:D:108:LEU:HB3	9:D:114:PHE:CZ	2.39	0.56
10:E:6:LYS:HB3	10:E:69:ARG:CD	2.35	0.56
10:E:18:ASN:C	10:E:20:GLN:H	2.12	0.56
10:E:105:MET:HE2	10:E:105:MET:HA	1.87	0.56
15:J:75:VAL:HG21	15:J:93:TYR:HE2	1.69	0.56
17:L:28:ARG:HH22	31:Z:10:U:C3'	2.18	0.56
17:L:37:HIS:O	17:L:37:HIS:ND1	2.38	0.56
19:N:45:TYR:O	19:N:46:GLU:C	2.48	0.56
21:P:134:LYS:OXT	21:P:134:LYS:HG2	2.05	0.56
23:R:96:LYS:HG3	23:R:97:GLN:H	1.70	0.56
23:R:96:LYS:O	23:R:104:VAL:HA	2.05	0.56
26:U:11:LYS:HZ1	26:U:75:TYR:HD1	1.49	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1:G:H2'	29:X:2:G:C8	2.39	0.56
29:X:242:A:H61	29:X:440:U:C2'	2.18	0.56
29:X:305:A:H2'	29:X:306:G:H5'	1.86	0.56
29:X:341:A:C2	29:X:1223:G:H2'	2.39	0.56
29:X:529:U:C2	29:X:530:G:C8	2.94	0.56
29:X:603:C:O2	29:X:603:C:H2'	2.05	0.56
29:X:614:G:O2'	29:X:615:C:H5'	2.05	0.56
29:X:754:G:C6	29:X:755:C:N4	2.73	0.56
29:X:1153:A:HO2'	29:X:1154:A:H3'	1.70	0.56
29:X:1276:U:H1'	30:Y:10:LYS:HG3	1.86	0.56
29:X:1466:C:C2'	29:X:1467:U:O4'	2.53	0.56
29:X:1734:C:C4	29:X:1735:G:H1'	2.41	0.56
29:X:1770:U:H5	29:X:1775:A:N7	2.03	0.56
29:X:2526:U:H2'	29:X:2527:G:H8	1.68	0.56
29:X:2691:C:OP1	29:X:2694:G:H4'	2.05	0.56
29:X:2792:C:C2	29:X:2805:G:N2	2.73	0.56
29:X:2819:G:H2'	29:X:2820:C:C6	2.40	0.56
6:A:44:ASN:N	6:A:44:ASN:HD22	2.00	0.56
6:A:186:HIS:C	6:A:188:GLU:H	2.14	0.56
6:A:243:GLY:C	6:A:244:ARG:HD3	2.30	0.56
8:C:130:THR:O	8:C:134:ILE:HG13	2.03	0.56
8:C:162:ARG:NH1	29:X:333:A:C8	2.73	0.56
9:D:12:VAL:HG22	9:D:172:SER:OG	2.05	0.56
9:D:66:ILE:HG13	31:Z:44:C:O4'	2.05	0.56
10:E:143:GLN:CG	29:X:2725:C:O2'	2.53	0.56
11:F:10:LEU:HD23	11:F:10:LEU:N	2.19	0.56
11:F:19:PRO:HG2	11:F:20:ALA:H	1.70	0.56
11:F:83:GLY:O	11:F:84:ILE:HG13	2.05	0.56
12:G:84:ASN:C	12:G:86:ALA:N	2.63	0.56
12:G:119:LEU:HD13	12:G:126:VAL:HG22	1.87	0.56
12:G:148:LEU:HD12	12:G:148:LEU:C	2.31	0.56
13:H:2:ILE:HD12	13:H:8:LEU:HD21	1.87	0.56
15:J:21:ASP:CA	15:J:99:LYS:HG3	2.30	0.56
15:J:80:ALA:HB1	15:J:81:GLU:OE1	2.05	0.56
15:J:117:GLU:O	15:J:121:LEU:HG	2.05	0.56
16:K:7:GLY:O	16:K:8:ARG:HG2	2.04	0.56
16:K:96:ARG:HD2	16:K:114:GLU:OE2	2.05	0.56
18:M:13:LEU:N	18:M:13:LEU:CD1	2.69	0.56
19:N:93:LYS:O	19:N:93:LYS:HD2	2.05	0.56
19:N:93:LYS:O	19:N:94:VAL:CB	2.52	0.56
19:N:96:ALA:O	19:N:99:ALA:HB3	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:O:42:GLY:O	20:O:43:GLU:HB2	2.04	0.56
21:P:67:PRO:C	21:P:69:ALA:N	2.62	0.56
22:Q:61:LYS:HD3	22:Q:72:ARG:NH2	2.20	0.56
22:Q:88:ILE:HD12	22:Q:88:ILE:O	2.05	0.56
23:R:16:PHE:HZ	23:R:46:VAL:HG22	1.71	0.56
23:R:80:LYS:O	23:R:80:LYS:CE	2.52	0.56
24:S:30:VAL:HB	24:S:32:PHE:CZ	2.41	0.56
25:T:23:VAL:HG13	25:T:38:VAL:CG2	2.35	0.56
25:T:44:LYS:HE3	25:T:45:PHE:CE1	2.40	0.56
27:V:7:ARG:C	27:V:9:LEU:N	2.62	0.56
28:W:49:HIS:CE1	28:W:50:LEU:HG	2.39	0.56
29:X:2:G:H2'	29:X:3:U:H6	1.70	0.56
29:X:242:A:O2'	29:X:243:G:H4'	2.05	0.56
29:X:313:U:O2'	29:X:314:G:H5'	2.06	0.56
29:X:340:G:OP2	29:X:340:G:H8	1.87	0.56
29:X:431:G:H2'	29:X:432:C:H6	1.70	0.56
29:X:531:G:H2'	29:X:532:A:C8	2.41	0.56
29:X:648:A:H5''	29:X:649:G:OP1	2.05	0.56
29:X:874:A:H2'	29:X:875:G:O4'	2.05	0.56
29:X:1002:C:N3	29:X:1003:C:C5	2.73	0.56
29:X:1465:G:H2'	29:X:1466:C:C6	2.41	0.56
29:X:1509:A:H2'	29:X:1510:A:H5'	1.87	0.56
29:X:1514:C:C4'	29:X:1593:C:H5'	2.35	0.56
29:X:1926:U:C1'	29:X:1928:G:H5'	2.35	0.56
29:X:2203:G:H4'	29:X:2205:C:C2	2.39	0.56
29:X:2264:C:N4	29:X:2325:A:H2	2.02	0.56
29:X:2463:G:O2'	29:X:2464:G:H5'	2.04	0.56
29:X:2553:G:H2'	29:X:2554:C:H6	1.70	0.56
29:X:2564:U:H5'	29:X:2565:C:OP1	2.06	0.56
29:X:2627:G:O2'	29:X:2628:C:H5'	2.05	0.56
31:Z:16:U:C1'	31:Z:109:G:H21	2.15	0.56
6:A:254:THR:O	29:X:1836:C:H5'	2.06	0.56
7:B:152:LYS:H	12:G:106:TYR:CB	2.18	0.56
8:C:47:THR:HB	8:C:48:ARG:HD2	1.87	0.56
10:E:95:ARG:NH1	10:E:97:LYS:NZ	2.54	0.56
10:E:149:ARG:HG2	10:E:149:ARG:NH2	2.17	0.56
13:H:100:ASN:C	13:H:100:ASN:OD1	2.49	0.56
14:I:73:GLU:OE2	14:I:105:PRO:O	2.23	0.56
14:I:127:ALA:C	14:I:129:ALA:N	2.61	0.56
15:J:15:ARG:CD	15:J:73:LYS:HG3	2.36	0.56
19:N:66:ASN:CG	19:N:70:ARG:HH12	2.12	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:P:25:PHE:HA	21:P:127:ILE:HG12	1.88	0.56
21:P:50:VAL:O	21:P:54:GLU:HG3	2.06	0.56
23:R:9:HIS:CG	29:X:338:G:H4'	2.41	0.56
24:S:125:PRO:HA	24:S:158:CYS:SG	2.45	0.56
25:T:45:PHE:HZ	25:T:77:ARG:NH2	2.04	0.56
29:X:21:A:C6	29:X:530:G:C6	2.94	0.56
29:X:553:C:H2'	29:X:557:U:C5	2.41	0.56
29:X:782:U:O2'	29:X:783:G:H5'	2.06	0.56
29:X:1933:G:C8	29:X:1934:U:C5	2.93	0.56
6:A:226:MET:HE3	29:X:795:A:C2	2.40	0.56
7:B:68:ALA:C	7:B:70:ALA:H	2.12	0.56
7:B:154:LYS:NZ	7:B:156:MET:CE	2.68	0.56
9:D:124:GLY:HA2	9:D:163:ASP:OD2	2.05	0.56
10:E:64:LEU:HA	10:E:67:LEU:HB2	1.88	0.56
10:E:84:THR:CB	10:E:134:SER:HA	2.36	0.56
11:F:27:LEU:CD2	11:F:57:ILE:HD12	2.34	0.56
11:F:133:SER:HB3	29:X:1073:G:H21	1.70	0.56
17:L:38:ILE:CD1	17:L:39:TYR:N	2.67	0.56
17:L:53:ALA:C	17:L:75:LEU:HD13	2.30	0.56
23:R:8:SER:C	23:R:10:HIS:H	2.13	0.56
23:R:25:LEU:O	23:R:25:LEU:HD13	2.05	0.56
29:X:47:G:N3	29:X:48:A:H2	2.03	0.56
29:X:1001:A:H1'	29:X:1167:A:C2	2.39	0.56
29:X:1162:A:H2'	29:X:1163:C:H6	1.70	0.56
29:X:1802:A:O2'	29:X:1803:G:H5'	2.05	0.56
29:X:2299:A:H2'	29:X:2299:A:N3	2.20	0.56
9:D:8:TYR:HA	9:D:173:MET:SD	2.45	0.56
11:F:103:GLN:O	11:F:107:ILE:HG13	2.05	0.56
12:G:61:ARG:NE	12:G:65:LYS:CD	2.57	0.56
18:M:55:ILE:HD11	18:M:67:THR:HG22	1.88	0.56
21:P:108:PRO:CG	29:X:1631:C:H1'	2.30	0.56
23:R:23:ILE:HD12	23:R:81:VAL:O	2.05	0.56
23:R:93:ARG:HH22	23:R:108:VAL:CG1	2.19	0.56
24:S:72:ASP:OD1	24:S:75:LYS:HD2	2.06	0.56
26:U:11:LYS:HZ3	26:U:75:TYR:HB2	1.69	0.56
27:V:37:LEU:HD23	27:V:37:LEU:C	2.30	0.56
29:X:203:G:C2	29:X:204:A:C2	2.93	0.56
29:X:796:A:H4'	29:X:2567:G:H4'	1.86	0.56
29:X:824:U:O2	29:X:1263:G:H3'	2.05	0.56
29:X:876:A:H2'	29:X:877:G:C8	2.41	0.56
29:X:1053:G:C4	29:X:1054:C:C6	2.93	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1856:U:H3	29:X:1861:G:H1	1.54	0.56
29:X:1938:U:O3'	29:X:1939:U:H6	1.89	0.56
29:X:1949:A:O2'	29:X:2572:U:H5'	2.06	0.56
29:X:2672:U:O2'	29:X:2673:G:H5'	2.06	0.56
4:4:1:MET:CE	4:4:33:LYS:HB3	2.36	0.56
8:C:112:GLN:HA	8:C:116:LYS:HB3	1.87	0.56
9:D:13:ARG:CZ	9:D:14:PRO:CG	2.79	0.56
10:E:54:ARG:HE	10:E:57:ASP:CB	2.18	0.56
10:E:97:LYS:O	10:E:98:LEU:CB	2.53	0.56
12:G:33:ILE:CD1	12:G:34:PRO:N	2.69	0.56
12:G:35:LYS:N	12:G:69:ASP:OD2	2.39	0.56
13:H:25:LEU:HD11	13:H:52:VAL:HG23	1.88	0.56
14:I:116:ARG:HG2	14:I:117:ALA:N	2.20	0.56
15:J:19:THR:HG23	15:J:20:GLY:N	2.20	0.56
15:J:79:PRO:O	15:J:80:ALA:HB2	2.05	0.56
24:S:94:VAL:O	24:S:121:GLN:HG3	2.05	0.56
29:X:109:A:C3'	29:X:110:U:H5''	2.36	0.56
29:X:1815:G:O2'	29:X:1816:G:H5'	2.05	0.56
29:X:1835:C:H6	29:X:1835:C:O5'	1.89	0.56
29:X:1965:U:H2'	29:X:1966:C:C6	2.40	0.56
29:X:2395:C:O2'	29:X:2396:C:H5''	2.05	0.56
29:X:2493:U:N3	29:X:2494:C:C4	2.74	0.56
30:Y:43:HIS:C	30:Y:44:HIS:CD2	2.84	0.56
6:A:131:LEU:HD23	6:A:131:LEU:H	1.70	0.56
6:A:142:VAL:CG1	6:A:193:ILE:HD13	2.36	0.56
6:A:261:ARG:HH22	29:X:1790:G:C5'	2.19	0.56
7:B:136:ARG:NH1	7:B:136:ARG:HG2	2.19	0.56
8:C:40:ARG:HH22	29:X:452:G:N2	2.04	0.56
8:C:136:TRP:O	8:C:137:ALA:C	2.48	0.56
9:D:69:LYS:HE2	9:D:84:PRO:CG	2.25	0.56
9:D:166:ALA:C	9:D:170:LEU:HG	2.31	0.56
10:E:30:LYS:HG3	10:E:78:GLY:O	2.06	0.56
10:E:54:ARG:NE	10:E:57:ASP:OD2	2.38	0.56
11:F:83:GLY:C	11:F:84:ILE:HG13	2.31	0.56
11:F:103:GLN:O	11:F:106:GLU:HG2	2.05	0.56
12:G:141:GLY:O	12:G:142:ARG:C	2.49	0.56
15:J:77:LYS:O	15:J:79:PRO:HD3	2.06	0.56
15:J:119:PHE:O	15:J:120:ARG:C	2.49	0.56
17:L:29:LEU:HA	17:L:41:GLN:O	2.06	0.56
19:N:66:ASN:HD22	19:N:70:ARG:NH2	2.03	0.56
22:Q:62:ARG:NH1	22:Q:73:ASN:ND2	2.54	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:S:36:ARG:O	24:S:40:ASP:OD2	2.23	0.56
24:S:71:MET:HE2	24:S:71:MET:N	2.21	0.56
25:T:34:GLY:HA3	29:X:2332:G:H1'	1.88	0.56
29:X:537:C:O2'	29:X:538:A:N3	2.39	0.56
29:X:621:U:H2'	29:X:622:U:C6	2.41	0.56
29:X:1107:A:H3'	29:X:1108:U:C5'	2.35	0.56
29:X:1339:U:OP2	29:X:1339:U:H6	1.88	0.56
29:X:1368:G:C4	29:X:1369:G:C8	2.94	0.56
29:X:1675:C:H2'	29:X:1676:U:C6	2.41	0.56
29:X:2047:C:H2'	29:X:2048:C:C6	2.41	0.56
6:A:141:VAL:HG22	6:A:164:GLN:HB3	1.87	0.56
6:A:184:ARG:HH21	6:A:268:ARG:HH11	1.53	0.56
8:C:161:ALA:HB3	8:C:169:VAL:CG2	2.36	0.56
8:C:162:ARG:CD	29:X:333:A:C5'	2.80	0.56
10:E:45:GLN:HA	10:E:50:LEU:HG	1.88	0.56
10:E:84:THR:HB	10:E:134:SER:HA	1.87	0.56
11:F:129:GLY:HA3	29:X:1090:C:O2	2.05	0.56
12:G:64:GLY:HA3	12:G:67:ARG:CG	2.36	0.56
12:G:64:GLY:HA3	12:G:67:ARG:HG3	1.87	0.56
13:H:47:VAL:O	13:H:117:GLU:OE2	2.23	0.56
14:I:28:LYS:NZ	14:I:37:GLN:H	2.03	0.56
19:N:40:LEU:O	19:N:43:ALA:HB3	2.06	0.56
23:R:25:LEU:HD22	23:R:26:SER:N	2.21	0.56
23:R:105:ARG:NH1	23:R:113:THR:H	2.04	0.56
24:S:13:LYS:HA	24:S:16:GLU:HB2	1.87	0.56
24:S:19:ILE:HG12	24:S:36:ARG:CA	2.20	0.56
28:W:27:LYS:C	28:W:28:ILE:O	2.46	0.56
29:X:10:A:H2'	29:X:11:G:C8	2.41	0.56
29:X:75:C:C2'	29:X:76:C:H5''	2.35	0.56
29:X:401:G:H5'	29:X:402:A:OP2	2.05	0.56
29:X:409:G:O2'	29:X:410:A:H5'	2.05	0.56
29:X:765:C:N4	29:X:1772:C:O2	2.39	0.56
29:X:830:C:H2'	29:X:831:G:C8	2.41	0.56
29:X:874:A:H2	31:Z:80:A:H2	1.53	0.56
29:X:1058:G:C4	29:X:1121:G:C6	2.94	0.56
29:X:1275:A:N3	30:Y:10:LYS:HE2	2.21	0.56
29:X:1623:C:H4'	29:X:1624:A:O5'	2.05	0.56
29:X:1979:C:O2'	29:X:1980:A:P	2.64	0.56
29:X:2190:A:H8	29:X:2191:A:OP2	1.89	0.56
29:X:2379:G:C2'	29:X:2380:U:H5'	2.35	0.56
31:Z:4:C:H3'	31:Z:4:C:C6	2.41	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:B:88:GLY:O	7:B:89:ASP:OD1	2.23	0.56
8:C:58:MET:SD	8:C:69:HIS:HB2	2.46	0.56
8:C:116:LYS:O	8:C:117:LEU:HB2	2.05	0.56
10:E:137:ASP:O	10:E:141:VAL:HG23	2.06	0.56
12:G:67:ARG:O	12:G:70:PHE:CD1	2.59	0.56
12:G:128:GLU:O	12:G:145:HIS:CE1	2.58	0.56
13:H:60:PRO:O	13:H:61:ARG:HB2	2.05	0.56
13:H:75:VAL:HA	13:H:118:LEU:HD11	1.87	0.56
14:I:71:THR:O	14:I:104:ARG:HD3	2.05	0.56
14:I:89:ASP:C	14:I:90:ARG:HG3	2.31	0.56
15:J:56:SER:O	15:J:57:ARG:C	2.49	0.56
15:J:136:GLU:HA	15:J:138:TYR:CE2	2.41	0.56
18:M:55:ILE:O	18:M:103:LYS:O	2.23	0.56
21:P:27:VAL:HB	21:P:125:THR:CG2	2.36	0.56
21:P:108:PRO:HG2	29:X:1631:C:N1	2.20	0.56
24:S:75:LYS:O	24:S:77:ALA:N	2.39	0.56
25:T:40:GLN:NE2	25:T:42:GLY:O	2.39	0.56
26:U:46:LEU:C	26:U:47:HIS:ND1	2.63	0.56
26:U:46:LEU:HB2	29:X:2209:G:H5''	1.88	0.56
29:X:233:A:O2'	29:X:234:C:H5'	2.06	0.56
29:X:759:C:H6	29:X:759:C:C5'	2.17	0.56
29:X:829:C:C2	29:X:1206:G:N2	2.74	0.56
29:X:931:G:H4'	31:Z:83:C:C4'	2.35	0.56
29:X:1320:A:H2'	29:X:1321:A:O4'	2.06	0.56
29:X:1921:A:HO2'	29:X:1922:U:P	2.27	0.56
29:X:2074:U:OP2	29:X:2075:U:H3'	2.05	0.56
31:Z:112:A:H2'	31:Z:113:G:H8	1.69	0.56
6:A:227:ASN:HD21	29:X:797:A:H5''	1.71	0.55
8:C:30:VAL:O	8:C:31:VAL:C	2.47	0.55
9:D:46:ASP:HB3	9:D:48:LYS:HG3	1.87	0.55
9:D:135:GLN:O	9:D:141:ILE:HG13	2.05	0.55
9:D:163:ASP:O	9:D:166:ALA:HB3	2.05	0.55
14:I:33:GLY:HA2	20:O:79:GLN:HG3	1.88	0.55
14:I:83:LEU:O	14:I:84:GLU:HB2	2.05	0.55
19:N:28:ARG:HD2	29:X:543:G:OP1	2.06	0.55
19:N:40:LEU:HB3	20:O:74:TYR:CE2	2.41	0.55
20:O:82:ARG:HA	29:X:827:C:OP1	2.05	0.55
29:X:333:A:C2'	29:X:350:U:O2	2.54	0.55
29:X:558:G:P	29:X:558:G:O4'	2.64	0.55
29:X:1662:G:H5''	29:X:1663:C:H5'	1.88	0.55
5:5:14:MH6:N	11:F:25:PRO:HG3	2.21	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:A:58:HIS:O	6:A:59:LYS:CB	2.55	0.55
8:C:136:TRP:CD1	8:C:137:ALA:N	2.74	0.55
8:C:166:TRP:N	8:C:166:TRP:HE3	2.01	0.55
9:D:80:ARG:HG2	9:D:81:GLN:N	2.21	0.55
12:G:109:GLY:C	12:G:110:LEU:HD23	2.31	0.55
14:I:76:LYS:C	14:I:79:GLN:HG2	2.31	0.55
14:I:81:GLN:HB3	14:I:114:ILE:HG22	1.88	0.55
14:I:108:LEU:CB	14:I:122:VAL:HG11	2.19	0.55
15:J:78:LYS:HG2	15:J:78:LYS:O	2.04	0.55
17:L:89:PHE:CZ	29:X:2356:A:N3	2.74	0.55
18:M:6:LYS:N	18:M:6:LYS:CD	2.59	0.55
18:M:104:LEU:HB3	18:M:107:LEU:HD12	1.88	0.55
19:N:36:PHE:O	19:N:39:LEU:HB2	2.06	0.55
20:O:40:VAL:CG1	20:O:45:THR:HA	2.22	0.55
20:O:86:HIS:CG	20:O:87:ARG:N	2.74	0.55
21:P:44:VAL:HG21	21:P:60:ILE:CD1	2.36	0.55
21:P:91:PHE:CD1	21:P:131:LYS:HB2	2.41	0.55
23:R:93:ARG:CZ	23:R:108:VAL:HA	2.37	0.55
27:V:42:ARG:HE	27:V:46:LEU:HD21	1.71	0.55
29:X:387:A:H2'	29:X:387:A:N3	2.22	0.55
29:X:558:G:H8	29:X:559:C:C5	2.21	0.55
29:X:560:G:O2'	29:X:1233:A:N3	2.33	0.55
29:X:632:A:C2	29:X:633:G:C4	2.94	0.55
29:X:749:C:H2'	29:X:750:C:H6	1.71	0.55
29:X:765:C:C4	29:X:1772:C:H1'	2.42	0.55
29:X:1073:G:H2'	29:X:1074:G:C8	2.41	0.55
29:X:1648:C:H5'	29:X:1648:C:C6	2.40	0.55
29:X:1979:C:O2'	29:X:1980:A:C4'	2.54	0.55
29:X:2065:A:H2'	29:X:2066:G:O4'	2.06	0.55
29:X:2082:C:H2'	29:X:2083:G:C5'	2.36	0.55
29:X:2323:U:O2'	29:X:2324:G:C5'	2.53	0.55
29:X:2617:G:O2'	29:X:2618:A:H8	1.88	0.55
29:X:2812:A:H2'	29:X:2813:G:C8	2.42	0.55
6:A:218:LYS:HD2	6:A:219:PRO:O	2.06	0.55
7:B:179:GLU:O	7:B:181:LEU:N	2.39	0.55
8:C:149:LEU:HD12	8:C:168:SER:O	2.07	0.55
9:D:148:LYS:HG3	9:D:149:THR:N	2.11	0.55
11:F:35:MET:C	11:F:37:PHE:H	2.15	0.55
11:F:53:ILE:HG12	11:F:72:PRO:CB	2.29	0.55
13:H:116:ARG:HA	13:H:133:VAL:HG13	1.88	0.55
17:L:38:ILE:HG12	17:L:71:VAL:HG21	1.87	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:P:14:ARG:CA	21:P:17:GLN:HG2	2.32	0.55
23:R:95:ARG:HG3	23:R:105:ARG:O	2.05	0.55
24:S:42:ALA:O	24:S:44:ARG:N	2.40	0.55
24:S:120:LEU:CD2	24:S:121:GLN:N	2.67	0.55
27:V:13:ASP:O	27:V:17:GLU:N	2.38	0.55
29:X:127:C:O2'	29:X:128:C:H5'	2.07	0.55
29:X:169:C:H2'	29:X:170:U:C5'	2.32	0.55
29:X:638:A:C6	29:X:648:A:C8	2.94	0.55
29:X:810:U:H3'	29:X:810:U:C6	2.41	0.55
29:X:957:G:H2'	29:X:958:G:H8	1.72	0.55
29:X:976:C:O2'	29:X:977:G:H5'	2.06	0.55
29:X:1391:A:N7	29:X:1393:G:C5	2.74	0.55
29:X:1770:U:C5	29:X:1775:A:N7	2.74	0.55
29:X:2203:G:H4'	29:X:2205:C:O2	2.07	0.55
29:X:2229:G:O2'	29:X:2230:G:OP2	2.25	0.55
29:X:2397:A:H2'	29:X:2398:U:O4'	2.06	0.55
6:A:126:LYS:O	6:A:193:ILE:HB	2.07	0.55
6:A:131:LEU:HG	6:A:131:LEU:O	2.05	0.55
8:C:122:GLY:C	8:C:124:ASP:H	2.14	0.55
9:D:112:ARG:O	9:D:113:ASP:HB2	2.06	0.55
12:G:67:ARG:NH2	12:G:70:PHE:C	2.59	0.55
12:G:105:GLY:CA	12:G:110:LEU:HD12	2.37	0.55
12:G:156:HIS:HB2	12:G:157:PRO:HD3	1.89	0.55
14:I:18:ARG:HD3	29:X:608:G:O2'	2.05	0.55
16:K:30:ARG:HG2	16:K:31:GLU:HG2	1.88	0.55
17:L:10:LYS:C	17:L:14:ARG:HE	2.14	0.55
17:L:43:ILE:HG23	17:L:49:GLN:O	2.06	0.55
17:L:83:GLY:C	17:L:84:ILE:HD12	2.31	0.55
22:Q:9:ALA:HB1	22:Q:10:PRO:CD	2.34	0.55
23:R:18:LYS:HA	23:R:36:VAL:HG12	1.88	0.55
24:S:62:PHE:HB3	24:S:85:MET:HE1	1.89	0.55
24:S:96:VAL:O	24:S:120:LEU:N	2.28	0.55
24:S:116:VAL:HG12	24:S:117:VAL:HG13	1.88	0.55
24:S:123:VAL:N	24:S:161:ALA:CB	2.61	0.55
27:V:6:MET:HE1	27:V:52:GLN:CB	2.36	0.55
29:X:573:C:H2'	29:X:574:C:O4'	2.06	0.55
29:X:1182:U:C2'	29:X:1183:C:O5'	2.54	0.55
29:X:1391:A:O2'	29:X:1392:U:O5'	2.23	0.55
29:X:1442:C:N4	29:X:1586:A:OP2	2.39	0.55
29:X:1522:C:H2'	29:X:1523:A:H5''	1.88	0.55
29:X:1746:A:C2'	29:X:1747:G:O5'	2.55	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1966:C:H4'	29:X:2585:C:H4'	1.87	0.55
29:X:2695:C:O2'	29:X:2696:A:H5'	2.07	0.55
31:Z:4:C:H2'	31:Z:5:C:H5'	1.89	0.55
7:B:127:ALA:CB	7:B:135:HIS:CE1	2.90	0.55
10:E:109:TYR:CE1	10:E:152:ARG:CZ	2.77	0.55
11:F:57:ILE:HG22	11:F:58:THR:N	2.20	0.55
15:J:35:LEU:HB3	15:J:105:PHE:HB2	1.89	0.55
15:J:38:MET:HE3	15:J:131:LYS:HZ2	1.71	0.55
21:P:36:ARG:NH2	30:Y:20:ARG:CZ	2.70	0.55
22:Q:2:SER:O	22:Q:3:HIS:CG	2.60	0.55
22:Q:51:ILE:CD1	22:Q:82:LEU:O	2.55	0.55
24:S:54:ILE:HG22	24:S:54:ILE:O	2.06	0.55
27:V:7:ARG:C	27:V:9:LEU:H	2.13	0.55
29:X:554:U:H5''	29:X:556:A:C2	2.41	0.55
29:X:555:U:C6	29:X:555:U:C3'	2.85	0.55
29:X:1189:G:H2'	29:X:1190:C:O4'	2.07	0.55
29:X:1301:U:H2'	29:X:1340:C:O2	2.07	0.55
29:X:1337:G:O2'	29:X:1632:A:C6	2.51	0.55
29:X:1869:A:H2'	29:X:1870:U:O4'	2.06	0.55
8:C:43:ALA:HB1	8:C:86:PRO:C	2.31	0.55
9:D:33:LYS:CG	9:D:157:VAL:HG21	2.34	0.55
9:D:74:ILE:HG23	9:D:79:LEU:C	2.31	0.55
12:G:150:VAL:CG1	12:G:151:TYR:H	2.20	0.55
14:I:42:GLY:O	14:I:43:ALA:CB	2.53	0.55
18:M:34:ARG:NH1	18:M:81:PHE:CB	2.66	0.55
22:Q:72:ARG:O	22:Q:73:ASN:OD1	2.25	0.55
23:R:9:HIS:CD2	29:X:338:G:H4'	2.42	0.55
23:R:23:ILE:CD1	23:R:81:VAL:O	2.54	0.55
23:R:103:LYS:HG3	23:R:104:VAL:H	1.72	0.55
29:X:171:G:H2'	29:X:172:A:O4'	2.06	0.55
29:X:563:U:H2'	29:X:564:U:O4'	2.07	0.55
29:X:746:G:C8	29:X:774:A:C6	2.95	0.55
29:X:1229:C:O2'	29:X:1230:C:H5'	2.07	0.55
29:X:1242:A:H2'	29:X:1243:G:H8	1.71	0.55
29:X:1427:G:H2'	29:X:1428:G:H1'	1.89	0.55
29:X:1586:A:H2'	29:X:1587:A:H8	1.72	0.55
29:X:1681:A:C2	29:X:2706:U:C6	2.95	0.55
29:X:1918:G:H2'	29:X:1945:C:H42	1.71	0.55
29:X:1919:A:C6	29:X:1928:G:C4	2.94	0.55
29:X:2198:U:H2'	29:X:2199:C:C1'	2.36	0.55
29:X:2210:C:H2'	29:X:2211:U:C6	2.41	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2217:G:H5'	29:X:2218:G:N7	2.21	0.55
29:X:2270:U:O2'	29:X:2271:C:H5'	2.06	0.55
29:X:2585:C:H2'	29:X:2586:G:C5'	2.35	0.55
4:4:2:LYS:HG2	4:4:4:ARG:HD3	1.87	0.55
6:A:126:LYS:HB2	6:A:129:ASN:HD22	1.72	0.55
6:A:252:LYS:O	6:A:253:PRO:C	2.50	0.55
8:C:98:GLN:NE2	29:X:611:C:H4'	2.22	0.55
8:C:104:LEU:N	8:C:177:VAL:HG22	2.22	0.55
8:C:108:ILE:HG22	8:C:109:ALA:N	2.22	0.55
12:G:92:GLY:CA	12:G:93:LYS:HE2	2.36	0.55
18:M:101:ARG:NH2	29:X:1745:C:P	2.71	0.55
19:N:22:LYS:C	19:N:24:PHE:H	2.14	0.55
19:N:25:TRP:O	19:N:28:ARG:HB2	2.07	0.55
20:O:71:ILE:HD11	29:X:1004:A:H5'	1.89	0.55
23:R:5:SER:O	23:R:6:ALA:CB	2.55	0.55
23:R:29:HIS:ND1	23:R:51:VAL:HG22	2.21	0.55
24:S:113:VAL:HG13	24:S:171:VAL:CG2	2.36	0.55
26:U:60:VAL:HG23	26:U:61:TRP:O	2.06	0.55
29:X:706:A:O2'	29:X:707:U:H5'	2.07	0.55
29:X:788:G:C5'	29:X:790:A:H1'	2.30	0.55
29:X:981:C:O2'	29:X:995:A:H4'	2.07	0.55
29:X:1174:G:C2	29:X:1175:A:N7	2.75	0.55
29:X:1300:A:H5''	29:X:1301:U:OP2	2.06	0.55
29:X:1474:A:O2'	29:X:1475:U:H5'	2.07	0.55
29:X:1641:C:H2'	29:X:1641:C:O2	2.06	0.55
29:X:1910:A:H8	29:X:1910:A:O5'	1.90	0.55
29:X:2083:G:H2'	29:X:2084:G:C8	2.42	0.55
29:X:2326:C:C4	29:X:2327:U:O4	2.60	0.55
29:X:2474:G:C2	29:X:2475:C:C2	2.94	0.55
29:X:2586:G:C2	29:X:2587:G:N3	2.75	0.55
29:X:2849:C:H2'	29:X:2850:U:C5'	2.37	0.55
6:A:46:ARG:HD3	6:A:46:ARG:C	2.32	0.55
9:D:99:PHE:O	9:D:102:LYS:HB2	2.06	0.55
11:F:54:PRO:HG2	11:F:70:LYS:CB	2.30	0.55
12:G:32:TYR:OH	12:G:35:LYS:HE3	2.06	0.55
12:G:85:ALA:O	12:G:87:GLN:N	2.39	0.55
12:G:100:TYR:CB	12:G:116:ARG:NH1	2.63	0.55
12:G:131:VAL:C	12:G:133:GLY:N	2.63	0.55
12:G:162:LYS:NZ	29:X:5:A:N3	2.49	0.55
13:H:116:ARG:HE	18:M:40:ARG:HE	1.54	0.55
14:I:13:ARG:NH1	29:X:1218:C:O4'	2.32	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:I:61:PRO:O	14:I:62:LYS:HB2	2.07	0.55
14:I:72:TYR:HD2	14:I:107:LYS:HB2	1.72	0.55
15:J:75:VAL:HG12	15:J:76:THR:N	2.21	0.55
15:J:97:VAL:O	15:J:97:VAL:HG23	2.06	0.55
20:O:15:SER:OG	20:O:96:LEU:HA	2.06	0.55
20:O:57:GLN:H	20:O:97:GLY:HA3	1.66	0.55
21:P:25:PHE:CD1	21:P:127:ILE:HD11	2.34	0.55
22:Q:69:ILE:CD1	22:Q:70:GLY:N	2.70	0.55
23:R:93:ARG:O	23:R:95:ARG:CZ	2.54	0.55
28:W:16:GLN:OE1	28:W:49:HIS:CE1	2.60	0.55
29:X:76:C:O2'	29:X:77:C:H5'	2.07	0.55
29:X:105:G:H5'	29:X:105:G:H8	1.72	0.55
29:X:1102:G:O2'	29:X:1103:C:H5'	2.06	0.55
29:X:1996:A:N6	29:X:2592:U:C4	2.75	0.55
29:X:2057:U:H3'	29:X:2058:U:C6	2.42	0.55
29:X:2187:A:H2'	29:X:2188:A:C8	2.42	0.55
29:X:2492:G:C2	29:X:2493:U:C2	2.95	0.55
29:X:2604:G:H2'	29:X:2605:C:C6	2.41	0.55
29:X:2873:G:H2'	29:X:2874:A:H8	1.71	0.55
30:Y:20:ARG:C	30:Y:22:HIS:H	2.15	0.55
7:B:117:MET:CG	7:B:136:ARG:HG3	2.37	0.55
7:B:181:LEU:HD21	18:M:12:LEU:HD22	1.89	0.55
8:C:122:GLY:O	8:C:124:ASP:N	2.39	0.55
9:D:56:GLU:O	9:D:57:LEU:C	2.49	0.55
9:D:65:PRO:HB2	9:D:87:ILE:HG22	1.87	0.55
10:E:146:ALA:O	10:E:149:ARG:N	2.39	0.55
15:J:38:MET:HE3	15:J:131:LYS:HZ3	1.72	0.55
15:J:100:PRO:HB2	24:S:74:ARG:HG2	1.89	0.55
16:K:99:ARG:HG2	16:K:99:ARG:HH11	1.71	0.55
19:N:12:ARG:O	19:N:13:ARG:C	2.50	0.55
20:O:40:VAL:O	20:O:40:VAL:HG23	2.06	0.55
21:P:32:ARG:NH2	21:P:120:ARG:O	2.37	0.55
22:Q:14:GLU:CG	22:Q:15:LYS:N	2.70	0.55
23:R:29:HIS:CE1	23:R:51:VAL:HA	2.42	0.55
23:R:96:LYS:O	23:R:104:VAL:HG12	2.06	0.55
26:U:25:ARG:O	26:U:32:ARG:HG3	2.06	0.55
26:U:69:THR:HG23	26:U:75:TYR:CE1	2.41	0.55
27:V:41:HIS:CB	27:V:44:ARG:HH21	2.20	0.55
29:X:20:C:H2'	29:X:21:A:H8	1.72	0.55
29:X:71:A:N6	29:X:110:U:H4'	2.22	0.55
29:X:481:A:H2'	29:X:481:A:N3	2.22	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1373:G:N2	29:X:1374:G:C1'	2.70	0.55
29:X:1953:A:C5'	29:X:1954:A:OP1	2.54	0.55
29:X:2198:U:C6	29:X:2198:U:OP2	2.59	0.55
29:X:2674:C:H2'	29:X:2675:U:H6	1.72	0.55
29:X:2823:G:O2'	29:X:2824:C:OP2	2.25	0.55
31:Z:27:A:H61	31:Z:55:C:C5'	2.19	0.55
6:A:101:GLU:CD	6:A:103:ARG:HE	2.14	0.55
6:A:144:ALA:O	6:A:153:ALA:HB1	2.07	0.55
6:A:207:GLY:O	29:X:1782:A:H4'	2.07	0.55
7:B:133:LYS:O	7:B:134:TRP:C	2.49	0.55
7:B:155:ARG:HG3	7:B:155:ARG:HH11	1.70	0.55
8:C:104:LEU:HA	8:C:107:ALA:CB	2.37	0.55
9:D:108:LEU:HD13	9:D:117:ILE:HD11	1.87	0.55
14:I:36:GLY:O	14:I:37:GLN:CB	2.55	0.55
17:L:11:LEU:HD21	29:X:2273:C:H5''	1.89	0.55
25:T:72:LYS:HD3	31:Z:14:C:C5'	2.37	0.55
26:U:51:ILE:O	26:U:52:ARG:HD3	2.07	0.55
28:W:9:VAL:HG12	28:W:17:VAL:HG22	1.89	0.55
29:X:172:A:C2	29:X:178:C:C2	2.95	0.55
29:X:1128:G:C3'	29:X:1129:A:C5'	2.71	0.55
29:X:1153:A:O2'	29:X:1154:A:H3'	2.08	0.55
29:X:1294:G:C5	29:X:1295:U:C5	2.95	0.55
29:X:1467:U:C6	29:X:1468:A:H5'	2.42	0.55
29:X:1711:C:H4'	29:X:1712:G:OP1	2.06	0.55
29:X:1750:A:C8	29:X:2675:U:H1'	2.42	0.55
29:X:2432:A:O2'	29:X:2433:G:H5'	2.07	0.55
29:X:2616:U:H2'	29:X:2617:G:O4'	2.06	0.55
29:X:2642:G:H2'	29:X:2643:G:H5'	1.88	0.55
29:X:2665:G:C6	29:X:2666:U:N3	2.75	0.55
4:4:9:LYS:HZ2	4:4:16:VAL:HG21	1.71	0.54
6:A:173:VAL:N	6:A:185:VAL:O	2.40	0.54
7:B:203:LYS:HG2	29:X:2713:A:N1	2.22	0.54
8:C:117:LEU:C	8:C:117:LEU:CD2	2.80	0.54
9:D:13:ARG:HG2	9:D:17:MET:HE1	1.89	0.54
9:D:46:ASP:O	9:D:48:LYS:N	2.39	0.54
10:E:43:VAL:HB	10:E:52:VAL:CG1	2.35	0.54
12:G:106:TYR:O	12:G:110:LEU:CG	2.54	0.54
13:H:23:ARG:NH2	13:H:24:VAL:C	2.65	0.54
17:L:52:ALA:O	17:L:53:ALA:HB3	2.07	0.54
21:P:28:ALA:HB2	21:P:71:VAL:CG2	2.37	0.54
22:Q:3:HIS:C	22:Q:5:ASP:H	2.12	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:Q:12:ILE:H	22:Q:12:ILE:HD13	1.71	0.54
23:R:18:LYS:CE	23:R:19:GLY:N	2.68	0.54
24:S:91:PRO:CD	24:S:92:VAL:H	2.19	0.54
25:T:44:LYS:CE	29:X:871:U:OP1	2.55	0.54
27:V:52:GLN:O	27:V:53:LEU:C	2.50	0.54
29:X:175:C:C6	29:X:175:C:C3'	2.90	0.54
29:X:457:C:O2'	29:X:458:G:H5'	2.07	0.54
29:X:827:C:O2'	29:X:828:C:H5'	2.07	0.54
29:X:939:C:H5''	29:X:940:G:H5''	1.89	0.54
29:X:956:A:C4	29:X:2427:A:C2	2.95	0.54
29:X:1038:U:O2'	29:X:1039:A:H5'	2.07	0.54
29:X:1141:U:HO2'	29:X:1142:G:P	2.29	0.54
29:X:1302:C:H2'	29:X:1303:U:C6	2.41	0.54
29:X:1499:A:H2'	29:X:1500:U:O4'	2.07	0.54
29:X:1512:A:H2'	29:X:1514:C:H5	1.71	0.54
31:Z:46:G:C2	31:Z:50:U:O2	2.60	0.54
4:4:7:VAL:HG13	4:4:34:GLN:HE21	1.73	0.54
4:4:10:MET:HE2	4:4:34:GLN:OE1	2.07	0.54
11:F:25:PRO:HA	11:F:29:GLN:HG3	1.89	0.54
12:G:150:VAL:O	12:G:151:TYR:CG	2.60	0.54
13:H:10:VAL:CG2	13:H:16:ALA:O	2.53	0.54
14:I:85:ASP:HA	14:I:116:ARG:NH1	2.21	0.54
20:O:36:LYS:HZ2	20:O:54:TYR:CB	2.13	0.54
24:S:3:LEU:CB	24:S:34:LEU:HB3	2.36	0.54
24:S:13:LYS:NZ	24:S:18:MET:CB	2.70	0.54
25:T:31:VAL:HG13	25:T:67:VAL:CG2	2.37	0.54
27:V:31:GLN:O	27:V:35:GLY:N	2.40	0.54
29:X:16:G:O2'	29:X:17:G:H5'	2.07	0.54
29:X:81:C:C5	29:X:82:G:C6	2.95	0.54
29:X:490:A:HO2'	29:X:491:A:H3'	1.72	0.54
29:X:796:A:H5''	29:X:2567:G:O3'	2.07	0.54
29:X:1324:G:H2'	29:X:1325:U:C6	2.42	0.54
29:X:1456:C:H4'	29:X:1645:U:OP1	2.06	0.54
4:4:15:LYS:HB2	4:4:26:ILE:HG13	1.89	0.54
6:A:126:LYS:HB2	6:A:129:ASN:ND2	2.22	0.54
6:A:160:GLY:H	6:A:196:VAL:HG23	1.72	0.54
7:B:26:VAL:HB	7:B:182:ILE:CG2	2.37	0.54
7:B:70:ALA:O	7:B:72:VAL:N	2.40	0.54
8:C:24:SER:HB2	14:I:15:ASP:OD1	2.07	0.54
8:C:44:SER:HA	29:X:37:C:O2'	2.07	0.54
8:C:154:ASP:HB2	8:C:157:THR:HG23	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:D:12:VAL:C	9:D:16:LEU:HG	2.33	0.54
10:E:76:VAL:O	10:E:80:SER:HB2	2.06	0.54
10:E:121:VAL:CG1	10:E:122:THR:N	2.71	0.54
12:G:84:ASN:C	12:G:86:ALA:H	2.15	0.54
13:H:46:HIS:O	13:H:47:VAL:C	2.50	0.54
15:J:42:TRP:HB3	15:J:95:VAL:HG11	1.89	0.54
17:L:42:ILE:HD11	17:L:87:VAL:HG11	1.88	0.54
17:L:68:ALA:HB1	17:L:102:ALA:HB1	1.89	0.54
17:L:84:ILE:HD12	17:L:84:ILE:N	2.23	0.54
18:M:34:ARG:NH1	18:M:88:VAL:CG2	2.55	0.54
20:O:72:ARG:HA	20:O:82:ARG:O	2.07	0.54
21:P:67:PRO:O	21:P:69:ALA:N	2.40	0.54
23:R:9:HIS:ND1	29:X:338:G:H5'	2.22	0.54
25:T:31:VAL:C	25:T:35:ASN:HD22	2.15	0.54
29:X:145:C:C2	29:X:153:A:C2	2.95	0.54
29:X:1467:U:C4	29:X:1473:U:N3	2.66	0.54
29:X:1574:A:C2'	29:X:1575:C:H5''	2.36	0.54
29:X:1608:U:H2'	29:X:1609:G:H8	1.72	0.54
29:X:1629:G:C2	29:X:1633:C:C2	2.96	0.54
29:X:1695:U:H2'	29:X:1696:C:O4'	2.07	0.54
29:X:2058:U:C4	29:X:2217:G:C6	2.95	0.54
29:X:2358:C:H2'	29:X:2359:U:C6	2.41	0.54
29:X:2526:U:C5	29:X:2545:A:C5	2.96	0.54
29:X:2542:U:O2	29:X:2544:A:H8	1.90	0.54
29:X:2779:C:H2'	29:X:2780:A:C1'	2.37	0.54
29:X:2863:U:H2'	29:X:2864:C:O4'	2.07	0.54
31:Z:108:G:C2'	31:Z:109:G:H5'	2.37	0.54
6:A:69:ARG:NH1	6:A:105:ILE:HD13	2.22	0.54
6:A:108:PRO:HA	6:A:196:VAL:HA	1.90	0.54
7:B:116:VAL:HG22	7:B:136:ARG:NH2	2.23	0.54
8:C:20:PRO:HG2	8:C:21:GLU:H	1.71	0.54
9:D:10:ASP:C	9:D:14:PRO:HD2	2.32	0.54
10:E:54:ARG:HE	10:E:57:ASP:HA	1.73	0.54
10:E:92:VAL:O	10:E:94:PHE:HD1	1.91	0.54
10:E:102:ALA:HA	10:E:117:PRO:HD3	1.90	0.54
13:H:23:ARG:NH2	13:H:24:VAL:N	2.55	0.54
13:H:26:ASN:O	13:H:26:ASN:ND2	2.39	0.54
14:I:101:ARG:NH1	14:I:104:ARG:NH2	2.55	0.54
19:N:37:GLN:HE22	29:X:572:G:H21	1.55	0.54
20:O:14:VAL:O	20:O:14:VAL:HG12	2.08	0.54
20:O:49:GLU:C	20:O:51:ALA:H	2.15	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:S:21:ALA:O	24:S:22:VAL:HG13	2.06	0.54
29:X:26:G:C2	29:X:27:G:N2	2.76	0.54
29:X:313:U:H2'	29:X:314:G:C8	2.42	0.54
29:X:471:A:C8	29:X:472:C:C6	2.96	0.54
29:X:640:C:H4'	29:X:660:G:N3	2.23	0.54
29:X:1026:U:O2'	29:X:1027:C:H5'	2.07	0.54
29:X:1053:G:H2'	29:X:1054:C:O4'	2.08	0.54
29:X:1145:C:C6	29:X:1147:G:OP2	2.60	0.54
29:X:2058:U:C3'	29:X:2217:G:N2	2.67	0.54
29:X:2209:G:C5	29:X:2210:C:H5	2.26	0.54
29:X:2501:U:C5'	29:X:2502:G:OP2	2.55	0.54
7:B:72:VAL:HG12	7:B:73:ALA:N	2.23	0.54
8:C:7:ILE:HG21	8:C:121:ASP:O	2.08	0.54
8:C:19:LEU:HA	8:C:20:PRO:C	2.33	0.54
9:D:17:MET:N	9:D:17:MET:SD	2.80	0.54
14:I:63:ARG:NH1	29:X:2395:C:OP2	2.41	0.54
14:I:119:THR:HG23	14:I:139:ARG:O	2.08	0.54
16:K:30:ARG:O	16:K:30:ARG:CG	2.56	0.54
19:N:88:ILE:CG2	20:O:48:GLY:O	2.55	0.54
21:P:76:LYS:C	21:P:78:ASN:H	2.16	0.54
23:R:93:ARG:O	23:R:95:ARG:HD2	2.07	0.54
29:X:525:A:H2	29:X:1273:G:N3	2.06	0.54
29:X:588:G:O2'	29:X:2002:A:OP1	2.19	0.54
29:X:930:A:H5''	31:Z:100:G:O2'	2.07	0.54
29:X:1115:C:O5'	29:X:1115:C:H6	1.89	0.54
29:X:2247:A:H8	29:X:2247:A:H5''	1.72	0.54
6:A:117:VAL:HG22	6:A:128:GLY:HA3	1.89	0.54
10:E:140:LEU:HA	10:E:143:GLN:HB2	1.88	0.54
13:H:1:MET:HB2	13:H:44:TYR:CD1	2.43	0.54
15:J:21:ASP:O	15:J:22:ALA:O	2.25	0.54
15:J:34:GLY:O	15:J:133:VAL:HG22	2.08	0.54
19:N:10:ARG:HA	19:N:13:ARG:HD2	1.88	0.54
23:R:40:LEU:CB	23:R:45:LYS:HB2	2.34	0.54
23:R:103:LYS:HG3	23:R:104:VAL:N	2.23	0.54
26:U:24:ALA:C	26:U:26:ALA:H	2.14	0.54
26:U:53:GLU:HB2	26:U:56:GLN:O	2.07	0.54
29:X:1431:U:H4'	29:X:1604:A:C4'	2.37	0.54
29:X:2070:G:H8	29:X:2070:G:O5'	1.90	0.54
29:X:2204:A:H4'	29:X:2205:C:O5'	2.08	0.54
29:X:2268:G:C2	29:X:2269:G:C8	2.96	0.54
29:X:2469:G:H8	29:X:2469:G:OP2	1.91	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:Z:34:C:H2'	31:Z:35:C:H6	1.72	0.54
6:A:145:LEU:HD12	6:A:146:GLU:N	2.23	0.54
6:A:166:GLN:HE22	6:A:176:ARG:NH2	2.06	0.54
7:B:105:THR:HG21	7:B:199:ARG:HH21	1.73	0.54
8:C:158:ARG:C	8:C:160:ALA:H	2.16	0.54
8:C:158:ARG:HH11	8:C:158:ARG:HB2	1.73	0.54
10:E:6:LYS:HD2	10:E:66:GLY:HA2	1.90	0.54
10:E:9:ILE:CG2	10:E:50:LEU:HB3	2.37	0.54
11:F:58:THR:HB	11:F:66:THR:OG1	2.08	0.54
13:H:60:PRO:O	13:H:61:ARG:CB	2.55	0.54
13:H:97:VAL:HG11	13:H:126:ILE:CD1	2.38	0.54
14:I:62:LYS:HG3	14:I:63:ARG:N	2.21	0.54
16:K:59:ASP:OD1	16:K:59:ASP:N	2.41	0.54
17:L:94:TYR:CD2	17:L:94:TYR:N	2.72	0.54
18:M:22:ARG:HD3	18:M:24:LEU:CD2	2.38	0.54
19:N:89:ASP:OD1	20:O:47:PHE:HB2	2.08	0.54
23:R:18:LYS:HE2	23:R:18:LYS:H	1.69	0.54
25:T:39:ARG:HD3	25:T:58:THR:HG23	1.89	0.54
29:X:139:A:O2'	29:X:140:G:H5'	2.08	0.54
29:X:304:A:N7	29:X:356:A:N6	2.53	0.54
29:X:402:A:H8	29:X:2392:G:H4'	1.72	0.54
29:X:649:G:O2'	29:X:650:U:H5'	2.07	0.54
29:X:677:G:O2'	29:X:678:G:H5'	2.07	0.54
29:X:872:G:H1'	29:X:2247:A:H1'	1.90	0.54
29:X:1336:G:C2'	29:X:1337:G:H5'	2.37	0.54
29:X:1588:A:H2'	29:X:1589:G:O4'	2.07	0.54
29:X:1745:C:N3	29:X:1746:A:C5	2.75	0.54
29:X:2034:A:C5	29:X:2593:A:N7	2.76	0.54
29:X:2084:G:H2'	29:X:2085:G:H8	1.72	0.54
29:X:2263:C:H1'	29:X:2304:G:C2	2.42	0.54
29:X:2494:C:O2'	29:X:2495:G:H5'	2.08	0.54
6:A:206:LEU:HA	6:A:211:ARG:HD3	1.89	0.54
7:B:82:ARG:NH2	29:X:2616:U:H5''	2.22	0.54
8:C:24:SER:O	8:C:25:GLY:C	2.51	0.54
12:G:135:LEU:O	12:G:136:PRO:C	2.51	0.54
12:G:154:GLU:H	12:G:157:PRO:CD	2.21	0.54
14:I:32:ARG:HD2	20:O:81:ARG:HG3	1.90	0.54
14:I:76:LYS:O	14:I:79:GLN:CG	2.56	0.54
14:I:108:LEU:HB3	14:I:125:ALA:HB2	1.88	0.54
15:J:56:SER:O	15:J:59:PHE:N	2.35	0.54
16:K:10:LEU:CD2	16:K:17:ARG:CB	2.85	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:N:13:ARG:O	19:N:16:LYS:HB2	2.08	0.54
19:N:72:HIS:HD2	19:N:110:VAL:HG21	1.71	0.54
20:O:74:TYR:OH	20:O:76:SER:HB3	2.08	0.54
21:P:27:VAL:HG23	21:P:125:THR:HG22	1.89	0.54
23:R:25:LEU:HD22	23:R:25:LEU:C	2.33	0.54
23:R:93:ARG:NH1	23:R:108:VAL:O	2.41	0.54
26:U:10:LYS:NZ	26:U:70:LEU:HG	2.20	0.54
29:X:573:C:O2'	29:X:574:C:H5'	2.08	0.54
29:X:695:G:O2'	29:X:696:U:H5'	2.08	0.54
29:X:888:G:H2'	29:X:889:C:O4'	2.08	0.54
29:X:954:U:C2'	29:X:955:G:H5''	2.38	0.54
29:X:1074:G:C2'	29:X:1075:C:H5'	2.37	0.54
29:X:1096:A:H4'	29:X:1097:A:OP1	2.06	0.54
29:X:1544:A:C2	29:X:1560:A:C5	2.96	0.54
29:X:1812:U:O2	29:X:1812:U:H2'	2.08	0.54
29:X:2174:G:H2'	29:X:2175:A:C8	2.43	0.54
4:4:1:MET:N	29:X:2505:G:O2'	2.35	0.54
7:B:37:LYS:CD	7:B:42:ASP:OD1	2.51	0.54
9:D:5:LYS:C	9:D:8:TYR:HB3	2.32	0.54
9:D:7:LYS:HA	9:D:10:ASP:HB2	1.89	0.54
9:D:52:LYS:HE2	9:D:56:GLU:OE2	2.08	0.54
9:D:143:TYR:CA	9:D:146:VAL:HG22	2.32	0.54
10:E:149:ARG:HG2	10:E:149:ARG:O	2.08	0.54
12:G:49:VAL:HG21	12:G:170:PRO:HG2	1.90	0.54
15:J:69:ILE:HG21	15:J:104:MET:HG2	1.90	0.54
17:L:8:ARG:O	17:L:9:ARG:C	2.49	0.54
17:L:15:ARG:HH11	17:L:15:ARG:CA	2.08	0.54
18:M:24:LEU:HB3	18:M:25:PRO:HD2	1.89	0.54
19:N:31:GLN:CD	29:X:589:C:H4'	2.33	0.54
22:Q:56:MET:HA	22:Q:56:MET:HE3	1.88	0.54
26:U:22:GLY:HA3	26:U:39:LYS:HD2	1.89	0.54
26:U:54:ASN:O	26:U:56:GLN:N	2.38	0.54
27:V:30:PHE:O	27:V:31:GLN:C	2.50	0.54
29:X:418:C:OP2	29:X:418:C:O4'	2.26	0.54
29:X:482:A:C2'	29:X:483:A:H5'	2.37	0.54
29:X:528:G:H2'	29:X:529:U:C6	2.43	0.54
29:X:594:G:H2'	29:X:1264:C:N4	2.20	0.54
29:X:660:G:C2'	29:X:661:C:H5'	2.37	0.54
29:X:699:G:C4'	29:X:700:C:OP2	2.55	0.54
29:X:829:C:H2'	29:X:830:C:H6	1.72	0.54
29:X:938:G:O2'	29:X:939:C:O5'	2.26	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1053:G:N2	29:X:1124:U:O2	2.38	0.54
29:X:1752:U:H5''	29:X:1753:A:OP2	2.07	0.54
29:X:1804:U:H2'	29:X:1805:G:H8	1.73	0.54
29:X:1979:C:H6	29:X:1979:C:OP1	1.91	0.54
29:X:2202:G:C2	29:X:2203:G:H1'	2.43	0.54
4:4:25:VAL:O	4:4:33:LYS:HA	2.07	0.54
5:5:15:BB9:HN1	11:F:29:GLN:NE2	2.05	0.54
6:A:80:ALA:O	6:A:81:ALA:HB2	2.08	0.54
7:B:68:ALA:O	7:B:70:ALA:N	2.40	0.54
9:D:5:LYS:HA	9:D:8:TYR:HB3	1.90	0.54
9:D:26:MET:HB3	31:Z:59:A:C2	2.42	0.54
9:D:100:LEU:HG	9:D:104:ILE:HD11	1.89	0.54
11:F:53:ILE:CG1	11:F:72:PRO:HB3	2.29	0.54
12:G:72:PRO:O	12:G:74:MET:N	2.41	0.54
15:J:35:LEU:HD11	15:J:130:THR:CB	2.38	0.54
16:K:13:ASN:HD22	16:K:14:SER:N	2.05	0.54
17:L:76:ALA:HB1	17:L:110:GLY:C	2.33	0.54
17:L:91:ARG:NH2	29:X:2356:A:H2	2.03	0.54
21:P:133:ASN:N	21:P:133:ASN:ND2	2.54	0.54
26:U:39:LYS:O	26:U:40:ARG:CB	2.56	0.54
29:X:471:A:C8	29:X:472:C:C5	2.96	0.54
29:X:1402:G:H2'	29:X:1403:U:O4'	2.07	0.54
29:X:2824:C:O2'	29:X:2825:A:O5'	2.24	0.54
6:A:43:ARG:HB3	6:A:54:ILE:HG23	1.90	0.53
6:A:55:GLY:H	6:A:217:ARG:H	1.56	0.53
7:B:111:LYS:NZ	29:X:2704:U:OP1	2.41	0.53
8:C:60:GLY:O	8:C:61:GLN:C	2.52	0.53
8:C:104:LEU:HA	8:C:107:ALA:HB3	1.91	0.53
9:D:92:ARG:NH1	31:Z:46:G:O3'	2.40	0.53
10:E:43:VAL:HB	10:E:52:VAL:CA	2.32	0.53
15:J:79:PRO:HD2	15:J:88:LYS:HD2	1.88	0.53
15:J:83:ARG:HH22	29:X:971:A:H61	1.54	0.53
17:L:39:TYR:O	17:L:40:ALA:C	2.51	0.53
18:M:66:PHE:CE2	18:M:81:PHE:HB2	2.43	0.53
19:N:7:GLY:O	19:N:9:VAL:N	2.38	0.53
19:N:93:LYS:O	19:N:94:VAL:HG23	2.08	0.53
24:S:18:MET:HA	24:S:36:ARG:N	2.23	0.53
26:U:28:GLY:HA3	26:U:32:ARG:CA	2.38	0.53
29:X:130:C:H2'	29:X:131:C:C6	2.43	0.53
29:X:176:A:H2'	29:X:177:U:C5	2.43	0.53
29:X:493:A:OP2	29:X:517:A:N6	2.40	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:544:U:H2'	29:X:545:C:C6	2.43	0.53
29:X:660:G:O2'	29:X:661:C:H5'	2.07	0.53
29:X:739:G:O2'	29:X:740:A:OP2	2.26	0.53
29:X:759:C:C6	29:X:759:C:C5'	2.90	0.53
29:X:1359:G:O2'	29:X:1360:G:H5'	2.08	0.53
29:X:1419:G:H2'	29:X:1420:A:H8	1.72	0.53
29:X:1673:C:N3	29:X:1674:C:C5	2.76	0.53
29:X:2178:U:H2'	29:X:2179:C:C6	2.43	0.53
29:X:2286:G:N2	29:X:2290:A:N6	2.52	0.53
29:X:2323:U:C6	29:X:2323:U:C5'	2.81	0.53
29:X:2570:C:H2'	29:X:2571:G:C8	2.43	0.53
29:X:2820:C:O2'	29:X:2821:G:H5'	2.08	0.53
4:4:1:MET:HE1	4:4:33:LYS:HB3	1.89	0.53
7:B:105:THR:HG23	7:B:197:VAL:HB	1.89	0.53
8:C:9:GLN:HG2	8:C:120:VAL:HG21	1.89	0.53
9:D:122:PHE:O	9:D:123:ASP:C	2.51	0.53
12:G:66:HIS:O	12:G:70:PHE:CE1	2.61	0.53
12:G:154:GLU:O	12:G:157:PRO:HD2	2.08	0.53
14:I:45:LYS:CG	14:I:46:GLY:N	2.70	0.53
19:N:74:MET:HE2	19:N:79:PHE:HA	1.90	0.53
22:Q:61:LYS:HD3	22:Q:72:ARG:CZ	2.38	0.53
23:R:25:LEU:HD22	23:R:26:SER:CB	2.37	0.53
23:R:25:LEU:H	23:R:25:LEU:HD12	1.74	0.53
23:R:41:PRO:HG2	23:R:42:ARG:H	1.73	0.53
25:T:24:LYS:NZ	29:X:2335:U:OP1	2.40	0.53
26:U:66:ALA:O	26:U:70:LEU:HB2	2.09	0.53
29:X:88:G:H3'	29:X:89:A:C5'	2.28	0.53
29:X:219:G:C2'	29:X:220:U:OP2	2.56	0.53
29:X:665:A:H3'	29:X:665:A:N3	2.23	0.53
29:X:690:A:O2'	29:X:691:C:H5'	2.08	0.53
29:X:801:A:C2'	29:X:802:A:OP2	2.57	0.53
29:X:828:C:H2'	29:X:829:C:H6	1.74	0.53
29:X:988:G:N3	29:X:1012:A:C2	2.76	0.53
29:X:1965:U:H2'	29:X:1966:C:H6	1.74	0.53
29:X:2184:C:C4	29:X:2185:U:C4	2.97	0.53
29:X:2288:A:H2'	29:X:2289:A:H8	1.72	0.53
29:X:2766:U:O2'	29:X:2767:C:H5'	2.07	0.53
4:4:22:ARG:HG2	4:4:22:ARG:HH11	1.74	0.53
6:A:131:LEU:HD11	6:A:136:VAL:HG22	1.90	0.53
7:B:141:ILE:HG21	7:B:154:LYS:HZ3	1.73	0.53
8:C:120:VAL:O	8:C:121:ASP:O	2.27	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:C:125:ILE:HD12	8:C:133:PHE:HA	1.89	0.53
8:C:169:VAL:O	8:C:170:LEU:HD13	2.08	0.53
9:D:156:ILE:HG23	9:D:158:THR:HG23	1.90	0.53
10:E:33:LEU:HG	10:E:34:THR:H	1.73	0.53
14:I:123:ASP:OD1	14:I:123:ASP:O	2.25	0.53
18:M:24:LEU:C	18:M:25:PRO:O	2.51	0.53
19:N:79:PHE:CD2	19:N:80:ILE:HD13	2.43	0.53
23:R:93:ARG:HH12	23:R:107:ALA:C	2.16	0.53
23:R:98:ILE:HG22	23:R:99:VAL:H	1.72	0.53
23:R:98:ILE:C	23:R:100:ASP:H	2.14	0.53
24:S:19:ILE:CD1	24:S:36:ARG:HA	2.38	0.53
24:S:64:ALA:CA	24:S:86:VAL:HG23	2.39	0.53
29:X:116:A:H1'	29:X:155:G:O4'	2.08	0.53
29:X:393:U:O2'	29:X:394:U:H5'	2.08	0.53
29:X:460:U:O2'	29:X:461:A:OP1	2.22	0.53
29:X:732:G:H8	29:X:732:G:O5'	1.91	0.53
29:X:872:G:OP2	29:X:872:G:H8	1.91	0.53
29:X:1067:G:N2	29:X:1114:A:H62	1.98	0.53
29:X:1416:A:C2	29:X:1417:C:C2	2.96	0.53
29:X:1509:A:C8	29:X:1510:A:C8	2.97	0.53
29:X:1515:U:H2'	29:X:1516:A:H8	1.71	0.53
29:X:2404:A:H1'	29:X:2406:C:C5	2.43	0.53
29:X:2546:G:H2'	29:X:2547:C:H6	1.73	0.53
29:X:2757:G:OP2	29:X:2761:A:O2'	2.25	0.53
6:A:169:GLU:CG	6:A:170:SER:H	2.19	0.53
7:B:159:HIS:NE2	7:B:162:MET:HB2	2.23	0.53
8:C:53:LYS:O	8:C:54:THR:OG1	2.19	0.53
8:C:125:ILE:O	8:C:126:ALA:CB	2.56	0.53
9:D:22:TYR:CG	9:D:28:VAL:HG22	2.44	0.53
9:D:106:ILE:O	9:D:107:GLY:C	2.51	0.53
11:F:2:LYS:HD3	11:F:2:LYS:N	2.23	0.53
11:F:101:TRP:HZ3	11:F:140:GLY:HA3	1.74	0.53
12:G:84:ASN:O	12:G:85:ALA:CB	2.57	0.53
15:J:19:THR:CG2	15:J:20:GLY:N	2.71	0.53
19:N:10:ARG:NH1	29:X:592:G:OP2	2.29	0.53
19:N:27:SER:C	19:N:29:SER:N	2.66	0.53
19:N:47:TYR:C	19:N:47:TYR:HD2	2.16	0.53
20:O:38:LEU:O	20:O:39:PHE:HB3	2.08	0.53
21:P:24:GLY:O	21:P:127:ILE:HA	2.08	0.53
21:P:110:ALA:HB3	29:X:760:U:O3'	2.09	0.53
23:R:46:VAL:O	23:R:75:ALA:HA	2.08	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:R:59:LYS:NZ	23:R:62:MET:HE3	2.23	0.53
23:R:98:ILE:C	23:R:100:ASP:N	2.64	0.53
28:W:22:ALA:C	28:W:24:GLY:N	2.65	0.53
29:X:1032:A:H8	29:X:1032:A:H3'	1.73	0.53
29:X:1166:A:H2'	29:X:1167:A:H5''	1.91	0.53
29:X:1278:A:H61	29:X:1996:A:H5''	1.74	0.53
29:X:1724:C:N3	29:X:1747:G:C6	2.77	0.53
29:X:1835:C:H2'	29:X:1836:C:H6	1.72	0.53
29:X:1982:C:H4'	29:X:2703:C:O2	2.08	0.53
29:X:2080:U:H2'	29:X:2081:U:H6	1.74	0.53
6:A:151:LYS:HD3	29:X:2186:G:O3'	2.09	0.53
6:A:224:SER:HA	6:A:233:HIS:O	2.08	0.53
7:B:149:ARG:HA	29:X:2035:G:N3	2.23	0.53
7:B:150:VAL:CG2	29:X:2598:C:O4'	2.56	0.53
8:C:43:ALA:HB3	8:C:88:PRO:N	2.23	0.53
14:I:32:ARG:NH1	20:O:81:ARG:NH2	2.56	0.53
14:I:45:LYS:HA	29:X:683:A:H5''	1.89	0.53
14:I:117:ALA:HB2	14:I:137:GLY:HA3	1.91	0.53
15:J:15:ARG:HD2	15:J:73:LYS:HG3	1.91	0.53
23:R:17:LYS:HB3	23:R:18:LYS:HE2	1.89	0.53
24:S:99:HIS:O	24:S:136:VAL:N	2.42	0.53
25:T:72:LYS:O	25:T:74:LYS:N	2.41	0.53
26:U:10:LYS:HG2	26:U:11:LYS:CG	2.38	0.53
26:U:10:LYS:CD	26:U:11:LYS:HG3	2.38	0.53
26:U:33:LYS:NZ	29:X:2375:G:H1'	2.24	0.53
29:X:462:G:N1	29:X:466:A:OP2	2.40	0.53
29:X:537:C:O2'	29:X:538:A:C4	2.61	0.53
29:X:1356:G:H1'	29:X:1613:G:N3	2.23	0.53
29:X:1802:A:H2'	29:X:1803:G:O4'	2.08	0.53
29:X:2200:G:H2'	29:X:2201:G:H8	1.73	0.53
4:4:22:ARG:HD2	4:4:37:GLY:HA3	1.91	0.53
6:A:154:GLN:O	6:A:155:LEU:HD23	2.07	0.53
7:B:152:LYS:CB	12:G:106:TYR:HB3	2.28	0.53
8:C:112:GLN:HB3	8:C:116:LYS:HZ2	1.74	0.53
9:D:92:ARG:NE	31:Z:47:A:H8	2.05	0.53
9:D:148:LYS:O	9:D:149:THR:OG1	2.21	0.53
10:E:109:TYR:C	10:E:111:HIS:N	2.64	0.53
12:G:168:THR:O	12:G:169:GLN:O	2.26	0.53
13:H:23:ARG:NH1	29:X:2541:U:H4'	2.10	0.53
13:H:133:VAL:O	18:M:38:LYS:NZ	2.41	0.53
14:I:101:ARG:HD3	29:X:637:G:C6	2.43	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:L:15:ARG:HA	17:L:15:ARG:NH1	2.07	0.53
17:L:21:THR:CG2	17:L:22:ALA:N	2.68	0.53
17:L:99:ARG:O	17:L:102:ALA:HB3	2.08	0.53
21:P:65:SER:O	21:P:66:GLU:C	2.51	0.53
24:S:3:LEU:HD21	24:S:32:PHE:CG	2.44	0.53
24:S:11:LYS:C	24:S:13:LYS:H	2.17	0.53
26:U:10:LYS:CG	26:U:11:LYS:HG3	2.39	0.53
26:U:15:VAL:H	26:U:47:HIS:CE1	2.27	0.53
26:U:64:ALA:O	26:U:66:ALA:N	2.42	0.53
29:X:3:U:H2'	29:X:4:C:H6	1.73	0.53
29:X:717:G:O2'	29:X:718:A:P	2.65	0.53
29:X:737:C:H2'	29:X:738:G:C8	2.44	0.53
29:X:1478:U:H2'	29:X:1479:G:C8	2.41	0.53
29:X:1685:A:C8	29:X:1691:G:C6	2.96	0.53
29:X:1731:C:H3'	29:X:1732:U:C5'	2.38	0.53
29:X:2396:C:H5'	29:X:2396:C:H6	1.74	0.53
29:X:2800:C:H3'	29:X:2801:A:H8	1.74	0.53
6:A:69:ARG:NH2	6:A:192:THR:OG1	2.42	0.53
6:A:70:ARG:NH2	6:A:189:CYS:HA	2.24	0.53
8:C:153:ASP:OD1	8:C:172:VAL:HA	2.08	0.53
9:D:15:ALA:O	9:D:19:GLN:HB2	2.09	0.53
9:D:79:LEU:HA	9:D:80:ARG:NH2	2.24	0.53
9:D:92:ARG:NH2	9:D:92:ARG:HG3	2.22	0.53
9:D:135:GLN:OE1	9:D:150:ARG:HB3	2.08	0.53
10:E:13:SER:O	10:E:15:VAL:N	2.42	0.53
12:G:155:THR:O	12:G:158:HIS:HB2	2.08	0.53
13:H:88:THR:HB	18:M:80:VAL:HB	1.91	0.53
13:H:90:ARG:NH1	18:M:78:GLU:OE1	2.42	0.53
14:I:80:LEU:HG	14:I:97:ARG:HH22	1.74	0.53
14:I:84:GLU:O	14:I:116:ARG:NH2	2.38	0.53
18:M:55:ILE:HD11	18:M:67:THR:CG2	2.38	0.53
19:N:3:ARG:HD3	29:X:458:G:P	2.47	0.53
20:O:32:LYS:N	20:O:58:ALA:O	2.19	0.53
23:R:51:VAL:HG21	23:R:76:LEU:HD11	1.89	0.53
23:R:84:VAL:HG11	23:R:88:THR:N	2.24	0.53
24:S:3:LEU:HD12	24:S:3:LEU:C	2.33	0.53
24:S:125:PRO:HG2	24:S:126:GLY:H	1.74	0.53
29:X:617:U:O2	29:X:617:U:C3'	2.56	0.53
29:X:872:G:O2'	29:X:873:U:H6	1.92	0.53
29:X:1148:G:H5''	29:X:1149:G:OP2	2.08	0.53
29:X:1610:A:H2'	29:X:1611:U:H6	1.74	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1690:U:C2'	29:X:1691:G:H5'	2.38	0.53
29:X:2546:G:H2'	29:X:2547:C:C6	2.44	0.53
29:X:2849:C:C2	29:X:2850:U:C5	2.96	0.53
31:Z:15:A:O2'	31:Z:17:A:H5''	2.08	0.53
6:A:49:ILE:HD11	6:A:52:ARG:HA	1.91	0.53
6:A:59:LYS:O	29:X:1584:G:H5'	2.09	0.53
8:C:14:THR:O	8:C:15:ILE:HB	2.09	0.53
8:C:43:ALA:CB	8:C:87:LYS:C	2.81	0.53
8:C:98:GLN:NE2	29:X:611:C:O5'	2.42	0.53
8:C:102:LEU:O	8:C:102:LEU:HD23	2.09	0.53
9:D:35:VAL:O	9:D:154:ILE:HA	2.08	0.53
9:D:52:LYS:HG2	9:D:56:GLU:OE2	2.09	0.53
10:E:54:ARG:CZ	10:E:57:ASP:OD2	2.57	0.53
10:E:105:MET:HE1	10:E:131:ILE:CD1	2.26	0.53
15:J:23:LYS:HA	24:S:73:LYS:NZ	2.23	0.53
19:N:11:ARG:NH2	29:X:29:U:H4'	2.22	0.53
19:N:66:ASN:HB3	19:N:76:TYR:CA	2.39	0.53
20:O:54:TYR:H	20:O:54:TYR:HD1	1.57	0.53
22:Q:14:GLU:HG3	22:Q:15:LYS:HD2	1.91	0.53
23:R:22:VAL:HG12	23:R:23:ILE:N	2.24	0.53
23:R:82:ALA:C	23:R:83:LEU:HD12	2.34	0.53
29:X:172:A:C2	29:X:178:C:O2	2.62	0.53
29:X:202:A:H2'	29:X:203:G:O4'	2.09	0.53
29:X:312:G:O2'	29:X:313:U:O4'	2.27	0.53
29:X:537:C:H1'	29:X:538:A:N6	2.23	0.53
29:X:538:A:H2'	29:X:2025:A:H2	1.73	0.53
29:X:580:A:C8	29:X:584:A:C6	2.96	0.53
29:X:836:G:H2'	29:X:837:U:H6	1.73	0.53
29:X:1058:G:C4	29:X:1121:G:O6	2.62	0.53
29:X:1469:U:O5'	29:X:1470:G:OP2	2.26	0.53
29:X:1474:A:H1'	29:X:1475:U:H5'	1.91	0.53
29:X:1685:A:N6	29:X:1693:A:H61	2.07	0.53
29:X:2234:G:H2'	29:X:2235:G:O4'	2.09	0.53
31:Z:4:C:H2'	31:Z:5:C:C5'	2.38	0.53
6:A:169:GLU:CG	6:A:170:SER:N	2.71	0.53
7:B:38:THR:HB	7:B:41:THR:HG23	1.90	0.53
9:D:33:LYS:HD2	9:D:90:THR:CG2	2.39	0.53
10:E:92:VAL:O	10:E:94:PHE:CD1	2.62	0.53
10:E:139:GLN:HB3	10:E:143:GLN:OE1	2.07	0.53
12:G:101:THR:HG23	12:G:103:TYR:CD1	2.44	0.53
13:H:27:SER:CB	13:H:50:ILE:H	2.20	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:H:90:ARG:NH2	18:M:78:GLU:OE1	2.41	0.53
14:I:38:LYS:HA	29:X:953:G:O3'	2.09	0.53
15:J:116:LYS:O	15:J:117:GLU:HB2	2.09	0.53
16:K:83:VAL:HG23	16:K:87:TYR:HE2	1.73	0.53
21:P:37:LYS:HZ1	21:P:64:ALA:N	2.07	0.53
22:Q:35:LYS:HG2	22:Q:53:ILE:HG12	1.91	0.53
23:R:77:HIS:C	23:R:79:SER:H	2.16	0.53
23:R:90:LYS:C	23:R:91:ALA:O	2.49	0.53
24:S:63:PRO:C	24:S:86:VAL:HG23	2.34	0.53
29:X:446:C:H2'	29:X:447:U:O4'	2.09	0.53
29:X:454:G:H4'	29:X:455:A:OP1	2.09	0.53
29:X:731:A:H2'	29:X:732:G:C4'	2.39	0.53
29:X:913:A:C2'	29:X:914:C:O5'	2.57	0.53
29:X:984:A:C4	29:X:1202:U:O4	2.62	0.53
29:X:1006:C:H4'	29:X:1007:A:OP1	2.09	0.53
29:X:1092:U:H2'	29:X:1093:U:C6	2.44	0.53
29:X:1233:A:HO2'	29:X:1234:C:P	2.31	0.53
29:X:1505:U:H3'	29:X:1505:U:H6	1.74	0.53
29:X:1958:G:H2'	29:X:1959:U:C6	2.43	0.53
29:X:2037:A:N7	29:X:2039:G:H1'	2.24	0.53
29:X:2391:A:C8	29:X:2392:G:C8	2.96	0.53
29:X:2675:U:H2'	29:X:2676:G:C8	2.44	0.53
31:Z:5:C:H2'	31:Z:6:C:H6	1.74	0.53
4:4:30:VAL:O	4:4:33:LYS:N	2.32	0.53
6:A:142:VAL:HA	6:A:194:GLY:O	2.09	0.53
6:A:252:LYS:NZ	6:A:253:PRO:HD2	2.24	0.53
6:A:270:ILE:O	6:A:271:VAL:C	2.51	0.53
7:B:19:ARG:HG3	7:B:21:ILE:HD11	1.91	0.53
8:C:45:THR:CG2	8:C:47:THR:OG1	2.57	0.53
9:D:152:MET:HE2	9:D:154:ILE:HD11	1.90	0.53
10:E:33:LEU:O	10:E:34:THR:HG23	2.09	0.53
10:E:154:PRO:HG3	10:E:162:VAL:O	2.08	0.53
12:G:56:THR:HG21	29:X:1016:C:O2'	2.09	0.53
12:G:106:TYR:CE2	12:G:108:GLY:HA3	2.44	0.53
13:H:25:LEU:HD21	13:H:52:VAL:CG2	2.39	0.53
14:I:45:LYS:CG	14:I:46:GLY:H	2.22	0.53
17:L:89:PHE:CD2	29:X:2355:A:H2	2.26	0.53
21:P:87:GLU:HA	21:P:90:LEU:HG	1.90	0.53
22:Q:55:THR:O	22:Q:56:MET:HG2	2.07	0.53
22:Q:89:GLU:CB	22:Q:91:LEU:HD23	2.38	0.53
23:R:48:VAL:C	23:R:50:GLY:H	2.17	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:S:81:VAL:HG12	24:S:82:ASP:N	2.23	0.53
24:S:113:VAL:HG13	24:S:171:VAL:HG22	1.90	0.53
24:S:131:PRO:HG2	24:S:155:PRO:HG3	1.91	0.53
25:T:50:GLY:O	25:T:81:ILE:HD12	2.09	0.53
29:X:73:A:H5''	29:X:74:G:O4'	2.08	0.53
29:X:211:U:O2'	29:X:212:U:H5'	2.09	0.53
29:X:417:C:C4	29:X:419:G:C4	2.97	0.53
29:X:581:A:C2	29:X:2016:A:C2	2.97	0.53
29:X:663:G:C3'	29:X:664:C:C5'	2.86	0.53
29:X:692:C:H2'	29:X:693:A:H8	1.73	0.53
29:X:1288:A:H2'	29:X:1289:A:O4'	2.09	0.53
29:X:1648:C:H6	29:X:1648:C:C5'	2.22	0.53
29:X:1685:A:C5	29:X:1691:G:C4	2.97	0.53
29:X:1769:U:O4	29:X:1775:A:H1'	2.09	0.53
29:X:2187:A:C6	29:X:2188:A:C6	2.97	0.53
29:X:2200:G:H2'	29:X:2201:G:C8	2.43	0.53
30:Y:3:LYS:O	30:Y:4:HIS:C	2.52	0.53
6:A:132:PRO:HB3	6:A:190:TYR:HD2	1.74	0.52
7:B:25:VAL:HG13	7:B:183:LEU:HD22	1.89	0.52
7:B:118:LYS:CG	7:B:118:LYS:O	2.57	0.52
8:C:29:GLU:OE1	14:I:18:ARG:NH1	2.27	0.52
12:G:33:ILE:CB	12:G:34:PRO:CD	2.70	0.52
12:G:66:HIS:HA	19:N:67:ALA:HB1	1.90	0.52
14:I:107:LYS:HA	14:I:124:ALA:O	2.10	0.52
14:I:141:VAL:O	14:I:142:LEU:HD23	2.09	0.52
21:P:39:ARG:HH12	29:X:528:G:C5'	2.22	0.52
24:S:13:LYS:HB2	24:S:18:MET:HB2	1.91	0.52
24:S:120:LEU:CD2	24:S:162:ALA:HB2	2.24	0.52
26:U:32:ARG:H	26:U:32:ARG:CD	2.18	0.52
29:X:332:C:H5''	29:X:333:A:OP2	2.09	0.52
29:X:661:C:C2	29:X:662:G:C8	2.96	0.52
29:X:1094:C:H2'	29:X:1096:A:C5'	2.38	0.52
29:X:1339:U:H5	29:X:1664:G:O2'	1.92	0.52
29:X:1399:C:O2'	29:X:1400:A:H5'	2.09	0.52
29:X:1473:U:O2'	29:X:1474:A:P	2.67	0.52
29:X:1552:C:O2'	29:X:1553:G:O5'	2.25	0.52
29:X:1703:C:H2'	29:X:1704:G:O4'	2.09	0.52
29:X:2063:A:H2'	29:X:2064:U:C6	2.44	0.52
29:X:2171:U:H4'	29:X:2171:U:OP1	2.09	0.52
6:A:181:GLU:O	6:A:182:LEU:HD23	2.09	0.52
7:B:53:PRO:CD	18:M:5:ILE:HG22	2.38	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:D:74:ILE:HG23	9:D:80:ARG:CA	2.33	0.52
9:D:152:MET:CE	9:D:154:ILE:HD11	2.39	0.52
10:E:103:LEU:HD21	10:E:131:ILE:CD1	2.37	0.52
11:F:25:PRO:HG2	11:F:26:ALA:N	2.24	0.52
13:H:29:ILE:HG23	13:H:29:ILE:O	2.09	0.52
16:K:94:TYR:CE1	16:K:115:LEU:O	2.62	0.52
16:K:95:THR:HG22	16:K:95:THR:O	2.08	0.52
19:N:79:PHE:HE2	19:N:95:LEU:HD21	1.73	0.52
21:P:91:PHE:CE1	21:P:131:LYS:HA	2.44	0.52
26:U:22:GLY:HA3	26:U:39:LYS:HG3	1.91	0.52
26:U:23:LYS:HE3	26:U:26:ALA:HA	1.90	0.52
26:U:71:SER:HA	26:U:79:GLU:HG3	1.92	0.52
27:V:62:ARG:HG2	27:V:62:ARG:HH11	1.75	0.52
29:X:404:A:C4	29:X:424:G:C2	2.97	0.52
29:X:810:U:H3'	29:X:810:U:H6	1.73	0.52
29:X:1300:A:C2	29:X:1301:U:C2	2.97	0.52
29:X:1474:A:C2	29:X:1476:G:C6	2.97	0.52
29:X:1541:G:H2'	29:X:1542:G:H8	1.72	0.52
29:X:1713:G:C6	29:X:1714:A:C4	2.97	0.52
29:X:1785:A:H2'	29:X:1786:C:H6	1.73	0.52
29:X:2261:G:H5'	29:X:2262:C:O4'	2.09	0.52
29:X:2507:U:O2'	29:X:2508:G:H3'	2.09	0.52
29:X:2824:C:O2'	29:X:2825:A:P	2.67	0.52
31:Z:3:A:H2'	31:Z:4:C:H5'	1.91	0.52
6:A:149:PRO:CG	29:X:2200:G:O2'	2.53	0.52
6:A:261:ARG:NH2	29:X:1790:G:O3'	2.42	0.52
8:C:23:ASN:HB3	8:C:26:VAL:CG2	2.36	0.52
8:C:29:GLU:CD	14:I:18:ARG:HH12	2.16	0.52
11:F:12:LEU:HD12	11:F:37:PHE:CE2	2.44	0.52
11:F:23:VAL:O	11:F:26:ALA:N	2.42	0.52
11:F:78:ILE:C	11:F:81:ALA:H	2.17	0.52
15:J:18:MET:HG2	15:J:19:THR:H	1.74	0.52
20:O:33:VAL:HG23	20:O:33:VAL:O	2.09	0.52
20:O:90:PHE:CD1	20:O:90:PHE:C	2.88	0.52
22:Q:42:ILE:HG23	22:Q:43:GLN:N	2.24	0.52
23:R:11:ASN:O	23:R:11:ASN:ND2	2.42	0.52
25:T:3:HIS:C	25:T:4:LYS:HG2	2.35	0.52
29:X:971:A:C4'	29:X:2436:U:H4'	2.40	0.52
29:X:1558:C:O2'	29:X:1559:G:H5'	2.09	0.52
31:Z:54:U:O2'	31:Z:55:C:H5'	2.08	0.52
6:A:206:LEU:O	6:A:207:GLY:C	2.51	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:C:48:ARG:C	8:C:50:GLN:H	2.15	0.52
8:C:104:LEU:N	8:C:104:LEU:CD2	2.72	0.52
8:C:138:LYS:O	8:C:140:ASN:N	2.37	0.52
9:D:111:ILE:HA	9:D:137:ILE:CG2	2.39	0.52
10:E:9:ILE:HG21	10:E:50:LEU:HB3	1.90	0.52
12:G:106:TYR:CZ	12:G:108:GLY:HA2	2.45	0.52
16:K:3:HIS:NE2	29:X:2797:G:OP2	2.42	0.52
16:K:44:LEU:O	16:K:45:ARG:C	2.53	0.52
16:K:76:VAL:HG13	16:K:77:ARG:N	2.24	0.52
19:N:34:ASN:O	19:N:35:ALA:C	2.52	0.52
20:O:13:ARG:HB2	20:O:13:ARG:NH2	2.23	0.52
21:P:11:LYS:O	21:P:12:LYS:C	2.53	0.52
26:U:49:LYS:HD3	26:U:61:TRP:CD2	2.45	0.52
26:U:63:SER:O	26:U:64:ALA:C	2.52	0.52
29:X:17:G:N2	29:X:18:U:C2	2.78	0.52
29:X:203:G:N2	29:X:204:A:C2	2.77	0.52
29:X:219:G:O2'	29:X:220:U:P	2.67	0.52
29:X:649:G:H22	29:X:661:C:C1'	2.22	0.52
29:X:1145:C:C6	29:X:1147:G:P	3.03	0.52
29:X:1318:A:C2	29:X:1319:C:C2	2.97	0.52
29:X:1555:A:H2'	29:X:1556:A:O4'	2.09	0.52
6:A:108:PRO:HD2	6:A:111:LEU:HD12	1.91	0.52
6:A:143:HIS:ND1	6:A:143:HIS:N	2.57	0.52
6:A:182:LEU:O	6:A:268:ARG:N	2.39	0.52
6:A:210:GLY:HA2	6:A:213:ARG:CG	2.39	0.52
7:B:136:ARG:O	29:X:1674:C:OP1	2.27	0.52
8:C:35:LEU:HD23	8:C:38:ARG:HD2	1.91	0.52
8:C:128:ALA:HB1	29:X:332:C:H5'	1.91	0.52
8:C:175:VAL:HG23	8:C:176:ASN:N	2.24	0.52
10:E:155:ASP:C	10:E:157:TYR:H	2.18	0.52
12:G:70:PHE:CD2	12:G:70:PHE:N	2.78	0.52
13:H:116:ARG:CD	18:M:40:ARG:HH21	2.22	0.52
14:I:26:THR:OG1	29:X:676:G:OP1	2.28	0.52
15:J:21:ASP:N	15:J:99:LYS:HE2	2.23	0.52
15:J:76:THR:CG2	15:J:88:LYS:O	2.57	0.52
16:K:76:VAL:O	16:K:79:VAL:CG1	2.57	0.52
17:L:60:LYS:HG3	17:L:63:ASN:O	2.08	0.52
18:M:72:SER:O	18:M:73:PHE:C	2.51	0.52
19:N:76:TYR:O	19:N:77:SER:C	2.53	0.52
20:O:20:ILE:CD1	20:O:21:ARG:N	2.72	0.52
20:O:35:LEU:HD22	20:O:36:LYS:O	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:O:64:GLY:HA3	20:O:90:PHE:CE1	2.44	0.52
23:R:10:HIS:CB	23:R:44:GLN:NE2	2.72	0.52
24:S:84:TYR:CE1	31:Z:107:C:H4'	2.42	0.52
29:X:4:C:O2'	29:X:5:A:H5'	2.09	0.52
29:X:8:A:H2'	29:X:9:U:O4'	2.10	0.52
29:X:122:G:C2'	29:X:123:A:H5''	2.40	0.52
29:X:223:C:H2'	29:X:224:G:H5'	1.92	0.52
29:X:829:C:O2'	29:X:830:C:H5'	2.10	0.52
29:X:836:G:H2'	29:X:837:U:C6	2.43	0.52
29:X:1002:C:C4	29:X:1003:C:C5	2.97	0.52
29:X:1313:U:O2'	29:X:1314:A:P	2.67	0.52
29:X:1398:G:OP1	29:X:1398:G:H4'	2.10	0.52
29:X:1504:G:H2'	29:X:1505:U:C2	2.45	0.52
29:X:1603:A:H8	29:X:1603:A:OP2	1.93	0.52
29:X:1657:A:H5'	29:X:1657:A:H8	1.74	0.52
29:X:1793:A:C6	29:X:1809:G:N2	2.77	0.52
29:X:2576:G:C5	29:X:2577:A:C6	2.98	0.52
29:X:2837:G:C6	29:X:2838:U:C4	2.98	0.52
29:X:2856:U:C2	29:X:2857:C:C5	2.98	0.52
31:Z:36:A:C2	31:Z:51:G:C6	2.98	0.52
6:A:244:ARG:CB	6:A:252:LYS:HZ1	2.21	0.52
8:C:102:LEU:HD21	8:C:106:MET:CE	2.39	0.52
8:C:136:TRP:CD2	8:C:140:ASN:ND2	2.78	0.52
8:C:176:ASN:CB	29:X:626:A:O2'	2.58	0.52
8:C:186:LEU:HG	8:C:188:ILE:CG1	2.34	0.52
10:E:57:ASP:O	10:E:58:ALA:HB2	2.09	0.52
11:F:1:MET:HE2	11:F:2:LYS:HD2	1.91	0.52
15:J:47:GLN:NE2	29:X:2464:G:OP1	2.40	0.52
16:K:3:HIS:CE1	29:X:2796:A:P	2.97	0.52
17:L:33:ARG:HH12	17:L:103:LEU:H	1.58	0.52
17:L:89:PHE:CZ	29:X:2356:A:H1'	2.44	0.52
22:Q:24:VAL:HG13	22:Q:80:VAL:O	2.09	0.52
23:R:4:PRO:CA	29:X:34:U:H1'	2.40	0.52
24:S:64:ALA:HA	24:S:85:MET:HA	1.91	0.52
27:V:37:LEU:CD1	29:X:60:A:H4'	2.37	0.52
28:W:1:MET:O	28:W:34:VAL:HG12	2.09	0.52
29:X:77:C:C2	29:X:78:C:C5	2.97	0.52
29:X:208:C:N4	29:X:209:G:N2	2.57	0.52
29:X:682:G:H2'	29:X:682:G:N3	2.23	0.52
29:X:756:C:C2'	29:X:757:U:H5'	2.40	0.52
29:X:1135:C:C4	29:X:1136:G:N7	2.77	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1240:G:O2'	29:X:1241:G:H5'	2.09	0.52
29:X:1249:G:O2'	29:X:1250:A:O5'	2.25	0.52
29:X:1372:A:C4	29:X:1373:G:C8	2.98	0.52
29:X:1569:A:N1	29:X:1571:G:H1'	2.24	0.52
29:X:1602:G:H5'	29:X:1603:A:OP2	2.10	0.52
29:X:1923:U:O2'	29:X:1924:C:OP2	2.28	0.52
29:X:2204:A:O2'	29:X:2205:C:OP2	2.20	0.52
29:X:2705:A:O2'	29:X:2706:U:C6	2.63	0.52
31:Z:123:U:OP1	31:Z:123:U:H3'	2.09	0.52
6:A:123:ALA:O	6:A:125:PRO:HD3	2.10	0.52
6:A:205:VAL:O	6:A:206:LEU:HB2	2.09	0.52
7:B:115:GLY:HA2	7:B:157:ALA:HB2	1.91	0.52
7:B:198:LEU:N	7:B:198:LEU:CD1	2.68	0.52
8:C:108:ILE:O	8:C:111:ARG:N	2.43	0.52
10:E:160:LYS:HZ1	29:X:2637:C:P	2.32	0.52
11:F:52:ILE:H	11:F:73:PRO:HD2	1.75	0.52
13:H:16:ALA:HB3	13:H:98:ILE:CD1	2.36	0.52
15:J:55:MET:HE1	15:J:105:PHE:CD1	2.44	0.52
15:J:82:THR:O	15:J:83:ARG:HB2	2.10	0.52
17:L:56:SER:HG	17:L:71:VAL:HB	1.75	0.52
21:P:18:VAL:HG12	21:P:19:LYS:N	2.23	0.52
26:U:22:GLY:CA	26:U:39:LYS:HD2	2.39	0.52
29:X:356:A:C2'	29:X:357:A:C8	2.92	0.52
29:X:1052:C:H3'	29:X:1053:G:H5'	1.89	0.52
29:X:1179:A:H2'	29:X:1180:A:C8	2.45	0.52
29:X:1242:A:C2	29:X:1243:G:C4	2.98	0.52
29:X:1350:G:C4	29:X:1351:G:C8	2.97	0.52
29:X:1505:U:H2'	29:X:1506:C:C5'	2.37	0.52
29:X:1817:U:H2'	29:X:1818:G:O4'	2.10	0.52
29:X:1920:A:C2	29:X:1922:U:H5	2.28	0.52
29:X:2175:A:O2'	29:X:2176:U:H5'	2.09	0.52
29:X:2660:C:C4	29:X:2704:U:C5	2.98	0.52
29:X:2674:C:H2'	29:X:2675:U:C6	2.44	0.52
29:X:2805:G:H2'	29:X:2806:G:O4'	2.10	0.52
6:A:211:ARG:CG	6:A:211:ARG:NH1	2.55	0.52
6:A:254:THR:H	29:X:1787:U:H4'	1.75	0.52
7:B:127:ALA:CB	7:B:135:HIS:HE1	2.23	0.52
8:C:42:THR:HG22	29:X:38:G:N3	2.25	0.52
9:D:65:PRO:CB	9:D:89:VAL:HG22	2.36	0.52
9:D:155:THR:HG21	29:X:2293:G:H4'	1.92	0.52
10:E:9:ILE:HB	10:E:50:LEU:C	2.34	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:I:32:ARG:CD	20:O:81:ARG:HD2	2.39	0.52
16:K:87:TYR:CE1	16:K:94:TYR:CD2	2.82	0.52
17:L:42:ILE:C	17:L:43:ILE:HD12	2.35	0.52
23:R:25:LEU:CD1	23:R:25:LEU:N	2.72	0.52
29:X:565:A:H2'	29:X:566:U:C6	2.45	0.52
29:X:566:U:H2'	29:X:567:G:C8	2.44	0.52
29:X:571:U:O2	29:X:581:A:C4	2.63	0.52
29:X:636:G:H8	29:X:636:G:C5'	2.14	0.52
29:X:847:C:N3	29:X:848:A:N7	2.58	0.52
29:X:929:A:H2	31:Z:81:C:O2	1.93	0.52
29:X:1068:A:H2'	29:X:1068:A:N3	2.24	0.52
29:X:1128:G:H2'	29:X:1129:A:H5''	1.91	0.52
29:X:1242:A:H2'	29:X:1243:G:C8	2.44	0.52
6:A:134:ARG:HG3	6:A:135:PHE:CD2	2.45	0.52
6:A:184:ARG:HH21	6:A:268:ARG:NH1	2.06	0.52
6:A:246:PRO:O	6:A:247:VAL:C	2.51	0.52
7:B:95:ILE:HG22	7:B:96:PHE:N	2.25	0.52
7:B:120:TRP:CE3	7:B:155:ARG:HD2	2.45	0.52
8:C:66:ASN:HA	29:X:1268:U:C5	2.45	0.52
9:D:27:ALA:HB2	31:Z:59:A:C1'	2.23	0.52
12:G:33:ILE:HD12	12:G:34:PRO:N	2.25	0.52
12:G:70:PHE:CB	19:N:64:ARG:HG2	2.39	0.52
13:H:3:MET:O	13:H:6:SER:HB3	2.10	0.52
13:H:27:SER:OG	13:H:49:ASP:HA	2.09	0.52
13:H:70:VAL:CG2	13:H:71:LYS:H	2.22	0.52
15:J:15:ARG:NH1	15:J:15:ARG:CG	2.72	0.52
15:J:27:TYR:HB3	15:J:137:VAL:CG1	2.40	0.52
17:L:11:LEU:HD21	29:X:2273:C:C5'	2.40	0.52
17:L:89:PHE:O	17:L:89:PHE:HD1	1.93	0.52
18:M:101:ARG:NH2	18:M:101:ARG:HG2	2.23	0.52
22:Q:66:GLY:C	22:Q:68:PHE:N	2.68	0.52
26:U:10:LYS:HD3	26:U:11:LYS:HG3	1.92	0.52
26:U:20:ARG:HD3	26:U:43:ARG:CZ	2.40	0.52
28:W:9:VAL:O	28:W:12:ARG:HB2	2.10	0.52
29:X:229:G:H2'	29:X:230:C:H6	1.75	0.52
29:X:457:C:N4	29:X:458:G:C6	2.78	0.52
29:X:694:G:H2'	29:X:695:G:O4'	2.09	0.52
29:X:777:A:HO2'	29:X:778:G:P	2.31	0.52
29:X:872:G:N2	29:X:928:G:H2'	2.25	0.52
29:X:1074:G:O2'	29:X:1075:C:H5'	2.10	0.52
29:X:1425:G:C2'	29:X:1426:U:H5'	2.39	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1448:A:H2'	29:X:1449:C:C6	2.45	0.52
29:X:1753:A:H8	29:X:1753:A:O5'	1.93	0.52
29:X:1939:U:H1'	29:X:2531:U:OP1	2.10	0.52
29:X:2039:G:N2	30:Y:4:HIS:O	2.43	0.52
29:X:2431:C:O2'	29:X:2432:A:H5'	2.10	0.52
6:A:132:PRO:HD3	6:A:190:TYR:CE2	2.45	0.52
6:A:132:PRO:CA	6:A:190:TYR:HA	2.34	0.52
7:B:93:VAL:O	7:B:94:ASP:HB2	2.08	0.52
7:B:188:ILE:CG2	7:B:189:PRO:CD	2.84	0.52
11:F:78:ILE:O	11:F:81:ALA:N	2.40	0.52
13:H:7:ARG:NH1	13:H:20:MET:CE	2.68	0.52
15:J:69:ILE:HD13	15:J:104:MET:CB	2.40	0.52
17:L:67:THR:O	17:L:71:VAL:HG12	2.10	0.52
21:P:10:ASN:O	21:P:11:LYS:C	2.53	0.52
21:P:30:TYR:CD1	21:P:123:HIS:HE1	2.28	0.52
22:Q:42:ILE:O	22:Q:43:GLN:C	2.52	0.52
24:S:67:LYS:NZ	31:Z:106:U:O3'	2.43	0.52
26:U:59:THR:O	26:U:60:VAL:O	2.28	0.52
29:X:219:G:H2'	29:X:231:G:O6	2.10	0.52
29:X:222:G:H1'	29:X:397:U:O2	2.10	0.52
29:X:654:A:O4'	29:X:654:A:OP1	2.28	0.52
29:X:930:A:C8	29:X:931:G:C8	2.98	0.52
29:X:1336:G:O2'	29:X:1337:G:H5'	2.10	0.52
29:X:1918:G:C4	29:X:1945:C:N4	2.77	0.52
29:X:1918:G:H1'	29:X:1947:G:N2	2.25	0.52
29:X:1987:G:C5	29:X:1988:A:C8	2.98	0.52
29:X:2178:U:H2'	29:X:2179:C:H6	1.73	0.52
29:X:2662:C:O2'	29:X:2663:U:H5'	2.10	0.52
6:A:121:PRO:HB2	6:A:135:PHE:CE1	2.45	0.51
6:A:142:VAL:HB	6:A:192:THR:O	2.10	0.51
7:B:141:ILE:HG23	7:B:154:LYS:HD3	1.90	0.51
8:C:151:VAL:HG11	8:C:175:VAL:HG12	1.92	0.51
8:C:171:PRO:O	8:C:173:ALA:N	2.42	0.51
8:C:172:VAL:C	8:C:174:GLY:N	2.68	0.51
8:C:186:LEU:CG	8:C:188:ILE:HG12	2.35	0.51
9:D:34:ILE:HD11	9:D:156:ILE:HG12	1.92	0.51
9:D:71:LYS:C	9:D:73:SER:H	2.17	0.51
12:G:33:ILE:O	12:G:69:ASP:CG	2.53	0.51
12:G:68:PRO:O	12:G:70:PHE:CE2	2.63	0.51
12:G:103:TYR:CG	12:G:111:LYS:HA	2.45	0.51
13:H:22:ILE:HG22	13:H:52:VAL:C	2.35	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:I:39:SER:O	14:I:40:ARG:CB	2.58	0.51
16:K:79:VAL:CA	16:K:83:VAL:HG13	2.31	0.51
17:L:21:THR:HG22	17:L:22:ALA:H	1.70	0.51
17:L:89:PHE:HZ	29:X:2356:A:HO2'	1.50	0.51
17:L:104:ALA:O	17:L:105:ASP:C	2.52	0.51
19:N:114:ARG:NH1	19:N:115:ASN:ND2	2.54	0.51
20:O:13:ARG:HB2	20:O:13:ARG:CZ	2.40	0.51
23:R:101:GLY:C	23:R:103:LYS:N	2.66	0.51
24:S:13:LYS:HZ2	24:S:18:MET:HB2	1.75	0.51
25:T:60:PHE:CZ	29:X:2344:G:H4'	2.45	0.51
27:V:64:GLY:O	27:V:65:GLU:CB	2.57	0.51
29:X:102:C:C4	29:X:103:U:C4	2.98	0.51
29:X:172:A:C2	29:X:227:G:N2	2.60	0.51
29:X:197:G:N3	29:X:210:A:C2	2.76	0.51
29:X:497:C:C6	29:X:497:C:C3'	2.93	0.51
29:X:945:G:C5	29:X:946:U:C5	2.97	0.51
29:X:946:U:C2	29:X:947:C:C5	2.98	0.51
29:X:1216:G:C6	29:X:1217:U:C4	2.98	0.51
29:X:1329:U:C2	29:X:1330:G:C8	2.98	0.51
29:X:1430:G:H2'	29:X:1431:U:H6	1.71	0.51
29:X:1494:G:N2	29:X:1495:G:H1'	2.25	0.51
29:X:1911:A:H2'	29:X:1912:G:C1'	2.39	0.51
29:X:2228:U:N3	29:X:2232:G:OP2	2.42	0.51
6:A:244:ARG:HG2	29:X:1884:A:O2'	2.09	0.51
8:C:112:GLN:CA	8:C:116:LYS:HD3	2.40	0.51
10:E:9:ILE:O	10:E:11:VAL:HG23	2.09	0.51
12:G:124:GLU:H	12:G:124:GLU:CD	2.11	0.51
17:L:66:ASP:O	17:L:68:ALA:N	2.42	0.51
24:S:3:LEU:HD13	24:S:33:ALA:O	2.09	0.51
25:T:42:GLY:C	25:T:57:HIS:CD2	2.89	0.51
28:W:49:HIS:CD2	31:Z:85:G:H5'	2.46	0.51
29:X:171:G:C2	29:X:179:U:H1'	2.45	0.51
29:X:341:A:O2'	29:X:342:G:C8	2.64	0.51
29:X:492:G:H1'	29:X:516:G:N2	2.25	0.51
29:X:549:G:H2'	29:X:550:C:H6	1.75	0.51
29:X:584:A:C2	29:X:585:U:C5	2.97	0.51
29:X:664:C:H3'	29:X:665:A:C2	2.45	0.51
29:X:762:A:C6	29:X:1634:A:C2	2.98	0.51
29:X:889:C:H2'	29:X:890:U:C6	2.46	0.51
29:X:1154:A:H4'	29:X:1155:G:OP2	2.08	0.51
29:X:1236:G:H2'	29:X:1238:A:OP2	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1432:G:H21	29:X:1596:A:H62	1.58	0.51
29:X:1544:A:C2	29:X:1560:A:C4	2.98	0.51
29:X:2210:C:C2	29:X:2211:U:C5	2.97	0.51
29:X:2264:C:H5'	29:X:2267:A:N6	2.25	0.51
29:X:2309:G:C2'	29:X:2310:G:H5'	2.39	0.51
29:X:2379:G:O2'	29:X:2380:U:H5'	2.09	0.51
7:B:9:ILE:HG22	7:B:9:ILE:O	2.08	0.51
8:C:195:ILE:O	8:C:195:ILE:HG13	2.11	0.51
9:D:60:ILE:HD12	9:D:138:PHE:CD2	2.45	0.51
10:E:103:LEU:HB2	10:E:123:PHE:CE2	2.45	0.51
12:G:116:ARG:CZ	12:G:126:VAL:HG13	2.39	0.51
14:I:11:GLY:N	14:I:14:LYS:CB	2.61	0.51
14:I:18:ARG:HD2	14:I:21:ARG:HG3	1.92	0.51
15:J:30:PHE:HB3	15:J:66:TYR:CE2	2.46	0.51
15:J:119:PHE:O	15:J:123:GLY:N	2.43	0.51
16:K:11:ASN:HD21	16:K:12:ARG:NE	2.06	0.51
17:L:32:TYR:CZ	31:Z:9:G:H5'	2.45	0.51
22:Q:35:LYS:HA	22:Q:38:ILE:CG2	2.39	0.51
23:R:111:GLY:H	23:R:112:LYS:HD2	1.75	0.51
24:S:127:PRO:O	24:S:128:ARG:CG	2.56	0.51
25:T:23:VAL:HG13	25:T:38:VAL:HG22	1.91	0.51
26:U:22:GLY:HA3	26:U:39:LYS:CG	2.40	0.51
28:W:18:LYS:O	28:W:21:GLN:N	2.43	0.51
29:X:105:G:O2'	29:X:106:G:H5'	2.10	0.51
29:X:220:U:O2	29:X:220:U:H2'	2.10	0.51
29:X:994:A:N7	29:X:995:A:C6	2.79	0.51
29:X:1016:C:C2	29:X:1154:A:C5	2.99	0.51
29:X:1194:U:H5'	29:X:1194:U:C6	2.33	0.51
29:X:1246:G:C5	29:X:1247:U:C5	2.99	0.51
29:X:1970:G:O2'	29:X:1971:C:H5'	2.10	0.51
29:X:2018:G:H4'	29:X:2019:C:OP2	2.09	0.51
29:X:2060:A:H1'	29:X:2414:A:O4'	2.09	0.51
31:Z:62:C:H2'	31:Z:63:A:C8	2.45	0.51
4:4:30:VAL:C	4:4:32:HIS:N	2.65	0.51
7:B:152:LYS:H	12:G:106:TYR:HB3	1.74	0.51
8:C:108:ILE:O	8:C:109:ALA:C	2.50	0.51
8:C:162:ARG:NH1	29:X:310:A:N1	2.59	0.51
11:F:10:LEU:HD21	11:F:57:ILE:CG1	2.38	0.51
11:F:52:ILE:H	11:F:73:PRO:CG	2.24	0.51
12:G:74:MET:SD	29:X:566:U:H4'	2.50	0.51
13:H:73:VAL:O	13:H:73:VAL:HG13	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:I:86:THR:H	14:I:116:ARG:HH11	1.58	0.51
15:J:17:ARG:NH1	29:X:967:G:O6	2.43	0.51
15:J:36:ILE:HG23	15:J:102:ARG:O	2.10	0.51
16:K:45:ARG:O	16:K:48:VAL:HG12	2.10	0.51
20:O:47:PHE:O	20:O:48:GLY:O	2.28	0.51
21:P:62:ARG:O	21:P:65:SER:HB2	2.10	0.51
23:R:93:ARG:NH2	23:R:108:VAL:CA	2.73	0.51
24:S:39:PHE:HA	24:S:42:ALA:HB3	1.93	0.51
24:S:91:PRO:CD	24:S:127:PRO:HG3	2.39	0.51
26:U:13:LEU:C	26:U:14:VAL:HG22	2.36	0.51
28:W:37:THR:C	28:W:41:ARG:HG3	2.34	0.51
29:X:20:C:H2'	29:X:21:A:C8	2.46	0.51
29:X:182:G:O2'	29:X:183:U:P	2.69	0.51
29:X:357:A:H2'	29:X:358:C:H5'	1.93	0.51
29:X:498:C:C5	29:X:499:G:N7	2.79	0.51
29:X:646:C:O2'	29:X:650:U:OP1	2.20	0.51
29:X:822:G:H2'	29:X:823:U:H5'	1.92	0.51
29:X:1139:A:O2'	29:X:1140:A:P	2.68	0.51
29:X:1302:C:H2'	29:X:1303:U:H6	1.75	0.51
29:X:1404:C:H5'	29:X:1405:A:OP2	2.10	0.51
29:X:1525:A:C5	29:X:1526:U:H1'	2.46	0.51
29:X:1705:U:O2	29:X:1717:A:C5'	2.58	0.51
29:X:1750:A:N7	29:X:2675:U:H1'	2.25	0.51
29:X:2236:U:H2'	29:X:2237:C:H6	1.75	0.51
29:X:2619:G:C6	29:X:2755:A:C2	2.98	0.51
6:A:149:PRO:HA	6:A:189:CYS:SG	2.50	0.51
8:C:129:LYS:O	8:C:131:LYS:N	2.35	0.51
9:D:13:ARG:HG2	9:D:13:ARG:HH21	1.74	0.51
9:D:16:LEU:HD13	9:D:28:VAL:CG1	2.41	0.51
10:E:66:GLY:HA3	29:X:2728:A:O2'	2.10	0.51
12:G:104:THR:OG1	12:G:110:LEU:CD1	2.59	0.51
12:G:131:VAL:C	12:G:133:GLY:H	2.18	0.51
12:G:168:THR:O	12:G:169:GLN:C	2.52	0.51
13:H:116:ARG:NE	18:M:40:ARG:HE	2.09	0.51
19:N:79:PHE:CZ	19:N:83:LEU:HD11	2.46	0.51
21:P:56:LEU:O	21:P:57:LEU:C	2.53	0.51
22:Q:27:PHE:CZ	22:Q:42:ILE:HD13	2.45	0.51
24:S:19:ILE:CD1	24:S:36:ARG:HG3	2.41	0.51
25:T:44:LYS:NZ	29:X:871:U:OP1	2.42	0.51
25:T:52:GLY:N	25:T:62:LEU:HD21	2.25	0.51
29:X:24:G:H2'	29:X:25:U:H6	1.75	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:24:G:N2	29:X:25:U:H1'	2.25	0.51
29:X:165:G:H1'	29:X:1378:A:C6	2.45	0.51
29:X:341:A:O2'	29:X:342:G:H8	1.92	0.51
29:X:361:G:H8	29:X:361:G:O5'	1.93	0.51
29:X:549:G:H2'	29:X:550:C:C6	2.46	0.51
29:X:748:A:C5'	29:X:749:C:OP2	2.58	0.51
29:X:765:C:C4	29:X:1772:C:C2	2.98	0.51
29:X:939:C:C5'	29:X:940:G:O5'	2.57	0.51
29:X:1069:G:H3'	29:X:1070:G:H5''	1.93	0.51
29:X:1234:C:N3	29:X:1242:A:C6	2.78	0.51
29:X:1629:G:C6	29:X:1633:C:C6	2.97	0.51
29:X:1871:G:H3'	29:X:1871:G:N3	2.25	0.51
29:X:2275:U:C4'	29:X:2276:C:OP1	2.56	0.51
29:X:2334:C:O5'	29:X:2334:C:H6	1.93	0.51
29:X:2345:A:O2'	29:X:2346:G:H5'	2.11	0.51
29:X:2376:G:C2	29:X:2399:C:C2	2.99	0.51
29:X:2816:C:C2	29:X:2852:G:N2	2.78	0.51
7:B:37:LYS:HB3	7:B:42:ASP:HB2	1.91	0.51
8:C:158:ARG:HB3	8:C:169:VAL:HG11	1.92	0.51
9:D:122:PHE:HD2	9:D:129:ASN:N	2.09	0.51
9:D:175:LEU:CD2	9:D:177:PHE:HE1	2.23	0.51
11:F:21:PRO:N	11:F:22:PRO:HD3	2.25	0.51
12:G:122:HIS:C	12:G:124:GLU:OE1	2.54	0.51
12:G:155:THR:O	12:G:158:HIS:N	2.39	0.51
14:I:9:THR:O	14:I:13:ARG:HD2	2.11	0.51
17:L:34:SER:HB2	17:L:94:TYR:HE2	1.75	0.51
17:L:87:VAL:CG1	17:L:88:VAL:N	2.73	0.51
19:N:66:ASN:C	19:N:68:GLY:N	2.65	0.51
21:P:49:SER:OG	21:P:51:GLN:HB2	2.10	0.51
21:P:52:ASP:O	21:P:53:ALA:C	2.53	0.51
23:R:100:ASP:C	23:R:102:LYS:N	2.66	0.51
24:S:10:PRO:O	24:S:13:LYS:CG	2.56	0.51
24:S:92:VAL:HG23	24:S:93:GLU:N	2.25	0.51
25:T:56:ASP:OD2	25:T:58:THR:OG1	2.24	0.51
29:X:1031:C:O2'	29:X:1032:A:H5''	2.11	0.51
29:X:1102:G:H2'	29:X:1103:C:H6	1.75	0.51
29:X:1125:G:H2'	29:X:1126:A:H8	1.76	0.51
29:X:1646:G:C6	29:X:1647:U:N3	2.79	0.51
29:X:1999:U:O2'	30:Y:7:PRO:O	2.25	0.51
29:X:2016:A:N1	29:X:2019:C:C6	2.78	0.51
29:X:2417:U:O2'	29:X:2419:C:OP1	2.23	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2607:C:O2'	29:X:2761:A:H2'	2.10	0.51
30:Y:17:ASP:O	30:Y:18:MET:C	2.53	0.51
30:Y:51:TYR:HE1	30:Y:55:ARG:HD3	1.75	0.51
31:Z:112:A:H2'	31:Z:113:G:O4'	2.10	0.51
6:A:258:LYS:HZ3	6:A:261:ARG:HH21	1.59	0.51
7:B:61:LYS:N	7:B:62:PRO:CD	2.73	0.51
7:B:144:ARG:O	7:B:146:THR:N	2.44	0.51
8:C:169:VAL:CG1	8:C:170:LEU:N	2.74	0.51
9:D:11:GLN:O	9:D:15:ALA:CB	2.59	0.51
9:D:16:LEU:O	9:D:20:PHE:CD1	2.63	0.51
9:D:138:PHE:HB2	9:D:141:ILE:HG12	1.91	0.51
11:F:21:PRO:N	11:F:22:PRO:CD	2.74	0.51
11:F:27:LEU:HD12	11:F:27:LEU:N	2.26	0.51
12:G:142:ARG:O	12:G:143:ALA:C	2.53	0.51
18:M:38:LYS:HD3	18:M:41:GLU:OE2	2.11	0.51
21:P:25:PHE:C	21:P:25:PHE:CD2	2.89	0.51
21:P:106:LEU:HD23	21:P:115:ASN:O	2.10	0.51
22:Q:21:GLU:C	22:Q:23:GLY:N	2.69	0.51
24:S:100:THR:HG23	24:S:138:VAL:CG1	2.39	0.51
24:S:105:GLN:OE1	24:S:140:LYS:CA	2.53	0.51
24:S:138:VAL:O	24:S:141:MET:HB2	2.10	0.51
28:W:39:ALA:O	28:W:43:MET:HG2	2.10	0.51
29:X:357:A:C5	29:X:358:C:H1'	2.45	0.51
29:X:437:G:O2'	29:X:438:G:H5'	2.10	0.51
29:X:1031:C:O2	29:X:1031:C:C2'	2.57	0.51
29:X:1186:G:H2'	29:X:1188:A:N6	2.25	0.51
29:X:1820:G:O2'	29:X:1821:A:H5'	2.11	0.51
29:X:2404:A:H4'	29:X:2405:A:H5''	1.85	0.51
29:X:2852:G:C2'	29:X:2853:U:H5'	2.41	0.51
31:Z:42:U:N3	31:Z:45:C:H5''	2.25	0.51
6:A:92:ILE:HG21	6:A:104:TYR:CD2	2.46	0.51
7:B:188:ILE:HG22	7:B:189:PRO:CD	2.41	0.51
8:C:42:THR:HG21	29:X:454:G:N3	2.24	0.51
8:C:48:ARG:O	8:C:51:VAL:CG2	2.59	0.51
9:D:159:THR:O	9:D:160:ALA:C	2.54	0.51
10:E:11:VAL:HG21	10:E:50:LEU:HB2	1.91	0.51
10:E:43:VAL:CB	10:E:52:VAL:HG13	2.37	0.51
10:E:89:LEU:HD11	10:E:96:ALA:N	2.26	0.51
14:I:13:ARG:HG2	14:I:14:LYS:N	2.24	0.51
15:J:28:VAL:O	15:J:29:ALA:HB2	2.11	0.51
17:L:77:ALA:O	17:L:80:ALA:HB3	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:M:5:ILE:HD12	18:M:5:ILE:C	2.35	0.51
18:M:93:ILE:N	18:M:93:ILE:CD1	2.74	0.51
20:O:49:GLU:C	20:O:51:ALA:N	2.68	0.51
22:Q:19:ALA:O	22:Q:22:ARG:HG2	2.11	0.51
23:R:93:ARG:O	23:R:95:ARG:NE	2.44	0.51
24:S:105:GLN:O	24:S:141:MET:O	2.29	0.51
24:S:117:VAL:CG2	24:S:168:VAL:HA	2.35	0.51
26:U:46:LEU:O	26:U:47:HIS:ND1	2.44	0.51
27:V:6:MET:HE3	27:V:56:VAL:CG2	2.39	0.51
27:V:26:MET:HA	27:V:29:ARG:NH2	2.25	0.51
29:X:162:C:O2'	29:X:163:A:H5'	2.11	0.51
29:X:223:C:O2'	29:X:398:C:H5'	2.11	0.51
29:X:417:C:N3	29:X:419:G:C5	2.79	0.51
29:X:539:A:N3	29:X:540:G:O6	2.43	0.51
29:X:813:A:C2	29:X:815:A:C8	2.98	0.51
29:X:1511:A:C6	29:X:1512:A:C6	2.99	0.51
29:X:1570:C:H5'	29:X:1571:G:OP2	2.11	0.51
29:X:1681:A:H8	29:X:1681:A:O5'	1.93	0.51
29:X:1838:G:H3'	29:X:1839:A:H8	1.75	0.51
29:X:1949:A:H1'	29:X:2572:U:C5'	2.40	0.51
29:X:2266:A:N6	29:X:2323:U:C4	2.77	0.51
29:X:2426:G:HO2'	29:X:2427:A:P	2.33	0.51
29:X:2826:C:O5'	29:X:2826:C:H6	1.92	0.51
30:Y:12:SER:C	30:Y:14:SER:N	2.64	0.51
6:A:69:ARG:CD	6:A:105:ILE:HD11	2.35	0.51
6:A:92:ILE:HG22	6:A:104:TYR:HD2	1.75	0.51
7:B:133:LYS:HG2	7:B:137:ARG:HB3	1.93	0.51
9:D:14:PRO:O	9:D:17:MET:N	2.44	0.51
9:D:111:ILE:HB	9:D:114:PHE:CB	2.34	0.51
9:D:117:ILE:HD12	9:D:175:LEU:HD12	1.93	0.51
10:E:43:VAL:CG2	10:E:44:ARG:N	2.74	0.51
10:E:65:HIS:C	10:E:67:LEU:N	2.67	0.51
10:E:89:LEU:HD12	10:E:129:THR:HA	1.93	0.51
10:E:126:PRO:CG	10:E:127:GLU:H	2.10	0.51
12:G:103:TYR:CE2	29:X:1142:G:H1'	2.45	0.51
13:H:79:HIS:CG	13:H:80:ALA:N	2.79	0.51
14:I:11:GLY:C	14:I:13:ARG:N	2.66	0.51
14:I:53:ARG:HH22	29:X:173:A:P	2.33	0.51
14:I:94:GLU:O	14:I:99:VAL:HG22	2.10	0.51
24:S:72:ASP:O	24:S:75:LYS:O	2.29	0.51
25:T:52:GLY:N	25:T:62:LEU:CD2	2.74	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:U:68:ARG:NH1	29:X:412:U:C5	2.79	0.51
29:X:389:G:H2'	29:X:390:U:C5	2.44	0.51
29:X:546:A:H2'	29:X:547:U:C6	2.44	0.51
29:X:575:U:H2'	29:X:576:A:H8	1.76	0.51
29:X:750:C:H2'	29:X:751:G:H5'	1.93	0.51
29:X:972:C:C4'	29:X:973:U:OP2	2.57	0.51
29:X:1779:C:H2'	29:X:1780:A:C8	2.46	0.51
29:X:2048:C:O2'	29:X:2049:C:H5'	2.11	0.51
29:X:2216:G:H8	29:X:2216:G:O5'	1.94	0.51
29:X:2247:A:C8	29:X:2247:A:H5''	2.46	0.51
29:X:2379:G:H2'	29:X:2380:U:H5'	1.91	0.51
29:X:2510:A:C6	29:X:2511:G:C5	2.99	0.51
29:X:2597:G:C2	29:X:2598:C:C2	2.99	0.51
29:X:2645:C:H3'	29:X:2646:C:C6	2.45	0.51
31:Z:106:U:O5'	31:Z:106:U:H6	1.94	0.51
7:B:129:HIS:CE1	29:X:1692:C:N3	2.79	0.51
8:C:109:ALA:O	8:C:110:SER:C	2.52	0.51
9:D:88:LYS:NZ	29:X:2293:G:OP1	2.42	0.51
9:D:119:PRO:HG2	9:D:120:ASN:N	2.20	0.51
11:F:52:ILE:H	11:F:73:PRO:HG2	1.75	0.51
12:G:67:ARG:HB3	12:G:70:PHE:CB	2.40	0.51
12:G:73:ASN:HD21	29:X:547:U:H1'	1.76	0.51
13:H:25:LEU:HD11	13:H:52:VAL:CG2	2.40	0.51
13:H:78:SER:HA	13:H:91:PHE:O	2.11	0.51
13:H:125:LYS:O	13:H:128:SER:HB2	2.10	0.51
14:I:36:GLY:O	14:I:37:GLN:HB2	2.11	0.51
14:I:63:ARG:CZ	29:X:2394:G:P	2.99	0.51
14:I:92:THR:C	14:I:94:GLU:N	2.68	0.51
15:J:31:GLY:CA	15:J:108:ALA:HB2	2.40	0.51
15:J:128:ILE:CD1	15:J:130:THR:HG23	2.42	0.51
17:L:106:ALA:O	17:L:109:GLU:HG2	2.11	0.51
21:P:38:VAL:HG22	21:P:64:ALA:CB	2.41	0.51
21:P:80:LEU:HD21	21:P:87:GLU:CB	2.41	0.51
24:S:1:MET:CE	24:S:52:PHE:HB3	2.31	0.51
24:S:2:GLU:O	24:S:3:LEU:C	2.53	0.51
25:T:44:LYS:HE3	25:T:45:PHE:HE1	1.75	0.51
26:U:41:VAL:O	26:U:42:GLN:CB	2.59	0.51
28:W:14:GLY:O	28:W:18:LYS:HG2	2.10	0.51
29:X:79:G:H2'	29:X:80:A:O4'	2.11	0.51
29:X:194:G:H2'	29:X:195:A:O4'	2.10	0.51
29:X:242:A:H2'	29:X:243:G:O4'	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:462:G:O6	29:X:465:C:OP1	2.28	0.51
29:X:490:A:O2'	29:X:492:G:H5''	2.11	0.51
29:X:774:A:C8	29:X:774:A:C3'	2.94	0.51
29:X:1053:G:C2'	29:X:1054:C:O4'	2.59	0.51
29:X:1332:G:C2	29:X:1333:G:N2	2.79	0.51
29:X:1361:G:C6	29:X:1615:C:N4	2.78	0.51
29:X:1495:G:H5'	29:X:1574:A:C2	2.46	0.51
29:X:1757:C:O2	29:X:1970:G:C2	2.64	0.51
29:X:1782:A:N1	29:X:1821:A:H5'	2.26	0.51
29:X:2228:U:C5'	29:X:2229:G:OP2	2.57	0.51
29:X:2284:U:C2'	29:X:2285:U:H5''	2.41	0.51
29:X:2322:U:H4'	29:X:2323:U:OP1	2.11	0.51
29:X:2429:A:OP1	29:X:2476:A:C8	2.64	0.51
29:X:2635:U:OP2	29:X:2643:G:N1	2.31	0.51
29:X:2778:U:H5'	29:X:2779:C:H1'	1.93	0.51
31:Z:29:C:C5	31:Z:30:C:C5	2.99	0.51
31:Z:49:C:H5'	31:Z:50:U:OP2	2.10	0.51
6:A:55:GLY:C	6:A:56:GLY:O	2.54	0.50
6:A:77:ALA:CB	6:A:97:TYR:CD1	2.87	0.50
6:A:126:LYS:C	6:A:193:ILE:HG21	2.36	0.50
7:B:52:ALA:HB3	7:B:76:ARG:HD2	1.92	0.50
9:D:65:PRO:HB3	9:D:89:VAL:CG2	2.39	0.50
9:D:110:ARG:HG2	9:D:110:ARG:HH21	1.75	0.50
12:G:106:TYR:O	12:G:108:GLY:N	2.38	0.50
14:I:36:GLY:O	14:I:37:GLN:HG3	2.11	0.50
14:I:76:LYS:HB3	14:I:79:GLN:NE2	2.26	0.50
14:I:80:LEU:CD2	14:I:97:ARG:NH2	2.74	0.50
15:J:8:THR:HA	15:J:70:PHE:HZ	1.77	0.50
17:L:44:ASP:C	17:L:44:ASP:OD1	2.53	0.50
18:M:28:ARG:CB	18:M:29:PRO:CD	2.73	0.50
19:N:11:ARG:O	19:N:15:LYS:HG3	2.11	0.50
21:P:36:ARG:NH2	29:X:1279:G:H5''	2.26	0.50
21:P:36:ARG:CZ	30:Y:20:ARG:CZ	2.89	0.50
23:R:95:ARG:NH1	23:R:106:VAL:HG12	2.25	0.50
24:S:13:LYS:HZ2	24:S:13:LYS:CB	2.23	0.50
27:V:62:ARG:O	27:V:66:GLN:HA	2.11	0.50
28:W:14:GLY:O	28:W:17:VAL:HB	2.11	0.50
29:X:469:G:O2'	29:X:470:U:P	2.68	0.50
29:X:591:G:H2'	29:X:592:G:H8	1.74	0.50
29:X:1542:G:N2	29:X:1562:G:N1	2.42	0.50
29:X:1563:U:H2'	29:X:1564:U:H6	1.72	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1652:G:C4	29:X:1653:C:C5	2.99	0.50
29:X:1731:C:C3'	29:X:1732:U:C5'	2.89	0.50
29:X:2288:A:H2'	29:X:2289:A:C8	2.45	0.50
6:A:70:ARG:C	6:A:72:LYS:H	2.18	0.50
6:A:111:LEU:HD21	6:A:127:LEU:O	2.11	0.50
6:A:163:VAL:O	6:A:163:VAL:HG12	2.11	0.50
6:A:257:LEU:HD13	29:X:1795:C:P	2.51	0.50
7:B:120:TRP:CE2	7:B:155:ARG:HD2	2.47	0.50
7:B:136:ARG:HH11	7:B:136:ARG:HG2	1.76	0.50
9:D:29:PRO:HA	9:D:159:THR:OG1	2.09	0.50
15:J:79:PRO:CD	15:J:88:LYS:NZ	2.74	0.50
17:L:42:ILE:HG22	17:L:51:LEU:HB2	1.93	0.50
18:M:39:VAL:HA	18:M:45:THR:HA	1.93	0.50
19:N:66:ASN:HD22	19:N:70:ARG:HH22	1.59	0.50
23:R:52:ASN:HD21	23:R:71:GLN:CG	2.23	0.50
23:R:95:ARG:CG	23:R:105:ARG:O	2.58	0.50
24:S:97:PRO:HB2	24:S:99:HIS:CE1	2.45	0.50
24:S:138:VAL:HA	24:S:141:MET:CE	2.29	0.50
27:V:62:ARG:HG2	27:V:62:ARG:NH1	2.27	0.50
29:X:165:G:H1'	29:X:1378:A:N6	2.26	0.50
29:X:176:A:C3'	29:X:177:U:C5	2.88	0.50
29:X:182:G:C2'	29:X:183:U:OP2	2.59	0.50
29:X:754:G:C6	29:X:770:U:O2	2.64	0.50
29:X:1032:A:H3'	29:X:1032:A:C8	2.46	0.50
29:X:1042:G:H2'	29:X:1043:A:C8	2.47	0.50
29:X:1139:A:O2'	29:X:1140:A:O4'	2.28	0.50
29:X:1261:G:O2'	29:X:1262:U:P	2.69	0.50
29:X:1391:A:H1'	29:X:1392:U:C4	2.46	0.50
29:X:1762:C:H2'	29:X:1763:G:O4'	2.11	0.50
29:X:1949:A:H1'	29:X:2572:U:H5'	1.92	0.50
29:X:1996:A:C2'	29:X:1997:A:H5'	2.41	0.50
29:X:2016:A:N6	29:X:2019:C:C2	2.80	0.50
29:X:2382:C:O2	29:X:2382:C:H2'	2.10	0.50
29:X:2707:G:H8	29:X:2707:G:H5'	1.76	0.50
29:X:2756:A:H4'	29:X:2757:G:H5''	1.93	0.50
4:4:29:ASN:OD1	4:4:31:LYS:HD3	2.11	0.50
7:B:1:MET:CG	7:B:2:LYS:N	2.73	0.50
7:B:53:PRO:HD3	18:M:5:ILE:HG22	1.93	0.50
8:C:3:GLN:NE2	8:C:4:ILE:CG1	2.71	0.50
9:D:108:LEU:HA	9:D:111:ILE:HD12	1.92	0.50
11:F:103:GLN:CD	11:F:103:GLN:H	2.19	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:G:66:HIS:C	19:N:67:ALA:HB1	2.37	0.50
13:H:8:LEU:HD22	13:H:94:ASN:HB3	1.93	0.50
13:H:119:ARG:HG3	13:H:119:ARG:HH11	1.77	0.50
14:I:102:LYS:C	14:I:104:ARG:H	2.17	0.50
17:L:42:ILE:CG2	17:L:51:LEU:HB2	2.42	0.50
21:P:53:ALA:HB3	21:P:72:LEU:HD21	1.92	0.50
23:R:13:LYS:NZ	29:X:349:G:OP1	2.29	0.50
23:R:24:VAL:HG11	23:R:29:HIS:HB2	1.92	0.50
26:U:32:ARG:HG2	26:U:34:THR:N	2.25	0.50
26:U:49:LYS:CD	26:U:61:TRP:HA	2.41	0.50
27:V:14:PHE:HE2	27:V:57:LYS:N	2.09	0.50
28:W:22:ALA:O	28:W:24:GLY:N	2.44	0.50
29:X:171:G:C6	29:X:179:U:C2	2.98	0.50
29:X:172:A:C6	29:X:175:C:C5	3.00	0.50
29:X:861:G:H1'	29:X:944:A:N3	2.26	0.50
29:X:1034:U:H2'	29:X:1035:G:H5'	1.92	0.50
29:X:1194:U:H6	29:X:1194:U:C5'	2.18	0.50
29:X:1284:G:OP2	29:X:1285:A:OP1	2.30	0.50
29:X:1332:G:C2	29:X:1333:G:C2	2.98	0.50
29:X:1357:U:C2'	29:X:1358:C:OP1	2.60	0.50
29:X:1363:C:O2'	29:X:1364:C:H5'	2.11	0.50
29:X:1366:A:C6	29:X:1367:A:C6	2.99	0.50
29:X:1517:C:H2'	29:X:1518:C:C6	2.43	0.50
29:X:2031:A:H2'	29:X:2032:G:O4'	2.11	0.50
29:X:2038:C:H2'	29:X:2483:U:C4'	2.42	0.50
29:X:2590:U:O2	30:Y:2:ALA:N	2.44	0.50
29:X:2651:U:O2	29:X:2652:G:C8	2.64	0.50
29:X:2829:A:C6	29:X:2839:G:C6	2.99	0.50
30:Y:52:TYR:O	30:Y:53:ASP:HB2	2.11	0.50
6:A:62:TYR:CE2	29:X:1808:C:C4	3.00	0.50
6:A:252:LYS:HE3	6:A:253:PRO:HD2	1.93	0.50
7:B:67:PHE:CE1	7:B:75:THR:HG22	2.47	0.50
8:C:47:THR:CG2	8:C:84:PHE:H	2.24	0.50
8:C:191:ALA:O	8:C:194:GLU:O	2.29	0.50
9:D:136:LEU:C	9:D:137:ILE:HG12	2.37	0.50
10:E:109:TYR:O	10:E:110:SER:C	2.55	0.50
14:I:4:HIS:HA	14:I:7:LYS:HZ1	1.74	0.50
15:J:64:LYS:HG2	15:J:108:ALA:O	2.11	0.50
23:R:88:THR:O	23:R:89:GLY:C	2.54	0.50
24:S:3:LEU:HD13	24:S:33:ALA:N	2.25	0.50
24:S:56:VAL:O	24:S:57:GLU:C	2.54	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:S:73:LYS:O	24:S:75:LYS:N	2.44	0.50
25:T:65:GLY:HA3	25:T:83:ALA:HA	1.92	0.50
26:U:15:VAL:O	26:U:16:ASN:C	2.54	0.50
27:V:1:MET:HG3	27:V:2:LYS:H	1.75	0.50
29:X:75:C:H2'	29:X:76:C:C5'	2.42	0.50
29:X:176:A:H2'	29:X:2412:A:H61	1.77	0.50
29:X:218:A:N6	29:X:232:A:H5''	2.26	0.50
29:X:342:G:H4'	29:X:343:A:OP1	2.10	0.50
29:X:670:U:H2'	29:X:671:A:C8	2.46	0.50
29:X:874:A:C2	31:Z:80:A:H2	2.29	0.50
29:X:956:A:H5'	29:X:957:G:OP2	2.11	0.50
29:X:994:A:H2'	29:X:995:A:C8	2.47	0.50
29:X:1307:U:H2'	29:X:1308:C:O4'	2.11	0.50
29:X:1411:C:H2'	29:X:1412:C:H6	1.76	0.50
29:X:1629:G:C6	29:X:1633:C:C5	3.00	0.50
29:X:2055:G:O2'	29:X:2056:C:H5'	2.11	0.50
29:X:2279:G:H2'	29:X:2280:A:H8	1.74	0.50
29:X:2299:A:C2	29:X:2312:A:C5	2.99	0.50
29:X:2471:U:N3	29:X:2472:U:C4	2.79	0.50
29:X:2660:C:C2	29:X:2704:U:C4	2.99	0.50
29:X:2701:A:H2'	29:X:2702:G:O4'	2.11	0.50
31:Z:4:C:C6	31:Z:4:C:C3'	2.95	0.50
6:A:70:ARG:HG2	6:A:190:TYR:CD1	2.44	0.50
6:A:79:VAL:HG12	6:A:113:VAL:HA	1.94	0.50
8:C:147:LYS:HB2	8:C:184:ASP:OD2	2.11	0.50
9:D:52:LYS:O	9:D:56:GLU:HB2	2.11	0.50
10:E:94:PHE:CD2	10:E:107:ILE:HG22	2.47	0.50
11:F:101:TRP:HA	11:F:104:VAL:HG21	1.93	0.50
14:I:4:HIS:HA	14:I:7:LYS:HZ2	1.76	0.50
14:I:118:VAL:O	14:I:138:GLY:HA3	2.12	0.50
19:N:13:ARG:CZ	29:X:1264:C:H5''	2.41	0.50
20:O:79:GLN:OE1	20:O:79:GLN:CA	2.58	0.50
21:P:27:VAL:HG13	29:X:504:G:H4'	1.93	0.50
22:Q:75:ARG:NH1	22:Q:75:ARG:CG	2.71	0.50
23:R:96:LYS:CG	23:R:97:GLN:N	2.70	0.50
24:S:90:GLU:OE1	24:S:90:GLU:HA	2.12	0.50
26:U:19:ILE:HG22	26:U:41:VAL:O	2.12	0.50
27:V:21:ARG:O	27:V:25:LEU:N	2.37	0.50
29:X:413:G:H8	29:X:413:G:O5'	1.94	0.50
29:X:581:A:N1	29:X:2012:A:H2	2.10	0.50
29:X:917:U:H2'	29:X:918:A:C5'	2.40	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1102:G:H2'	29:X:1103:C:C6	2.46	0.50
29:X:1479:G:C2	29:X:1480:G:C4	2.99	0.50
29:X:1681:A:C6	29:X:2706:U:C5	3.00	0.50
29:X:1926:U:H5''	29:X:1927:U:OP1	2.12	0.50
29:X:1938:U:O2'	29:X:1939:U:OP1	2.24	0.50
29:X:2165:A:H2'	29:X:2166:G:C8	2.45	0.50
29:X:2299:A:H2'	29:X:2312:A:N6	2.27	0.50
29:X:2551:A:O2'	29:X:2552:C:OP2	2.28	0.50
30:Y:19:ARG:CG	30:Y:20:ARG:N	2.74	0.50
6:A:43:ARG:N	6:A:43:ARG:NH1	2.51	0.50
6:A:166:GLN:HB2	6:A:174:ILE:HB	1.93	0.50
6:A:200:GLU:CG	6:A:202:LYS:HB2	2.40	0.50
8:C:19:LEU:HA	8:C:20:PRO:O	2.10	0.50
8:C:166:TRP:N	8:C:166:TRP:CE3	2.79	0.50
9:D:40:LEU:HD12	9:D:85:VAL:O	2.11	0.50
9:D:130:LEU:HD23	9:D:131:GLY:N	2.27	0.50
10:E:107:ILE:HD13	10:E:107:ILE:H	1.76	0.50
11:F:50:ASP:O	11:F:51:ALA:CB	2.60	0.50
12:G:33:ILE:O	12:G:69:ASP:HB3	2.12	0.50
12:G:154:GLU:O	12:G:157:PRO:HB2	2.10	0.50
13:H:1:MET:CE	29:X:2706:U:H1'	2.41	0.50
13:H:92:ASP:OD1	18:M:69:ARG:NH1	2.45	0.50
15:J:95:VAL:HG12	15:J:96:SER:N	2.25	0.50
16:K:10:LEU:HD23	16:K:17:ARG:HG2	1.94	0.50
16:K:24:GLN:CB	16:K:44:LEU:HD22	2.42	0.50
17:L:38:ILE:CG1	17:L:39:TYR:N	2.74	0.50
19:N:74:MET:HE2	19:N:78:THR:HG22	1.93	0.50
20:O:22:VAL:HA	20:O:91:THR:OG1	2.10	0.50
23:R:55:THR:HG23	23:R:55:THR:O	2.11	0.50
23:R:93:ARG:NH1	23:R:108:VAL:C	2.70	0.50
24:S:19:ILE:HG22	24:S:20:ALA:N	2.26	0.50
27:V:35:GLY:O	27:V:36:GLN:HB2	2.10	0.50
29:X:165:G:H2'	29:X:166:G:C5'	2.42	0.50
29:X:186:C:O2'	29:X:187:U:H5'	2.10	0.50
29:X:417:C:C6	29:X:419:G:C4	2.99	0.50
29:X:555:U:C5	29:X:1233:A:H3'	2.47	0.50
29:X:641:G:N2	29:X:643:A:H3'	2.26	0.50
29:X:733:G:O2'	29:X:734:G:H5'	2.12	0.50
29:X:859:U:H1'	29:X:860:U:N3	2.27	0.50
29:X:1219:C:H2'	29:X:1220:G:O4'	2.11	0.50
29:X:1468:A:C8	29:X:1468:A:P	3.02	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1490:U:P	29:X:1490:U:H3'	2.52	0.50
29:X:2198:U:N3	29:X:2199:C:C5	2.79	0.50
31:Z:78:A:H2'	31:Z:79:U:O4'	2.11	0.50
6:A:50:THR:HG22	6:A:51:SER:N	2.26	0.50
6:A:96:HIS:HE1	6:A:100:GLY:HA2	1.77	0.50
7:B:68:ALA:C	7:B:70:ALA:N	2.68	0.50
7:B:136:ARG:CG	7:B:136:ARG:NH1	2.73	0.50
7:B:183:LEU:HD11	18:M:16:ILE:HG23	1.94	0.50
9:D:111:ILE:HG22	9:D:114:PHE:HB2	1.92	0.50
11:F:100:ASN:HA	11:F:139:GLU:OE1	2.12	0.50
14:I:13:ARG:NH1	29:X:1218:C:C4'	2.67	0.50
19:N:13:ARG:NH1	29:X:1264:C:H5'	2.27	0.50
26:U:48:LYS:CG	26:U:49:LYS:N	2.54	0.50
26:U:64:ALA:C	26:U:66:ALA:N	2.70	0.50
28:W:34:VAL:HG22	28:W:40:VAL:CG1	2.39	0.50
29:X:141:G:H2'	29:X:142:U:O4'	2.11	0.50
29:X:793:G:H21	29:X:796:A:N6	2.07	0.50
29:X:860:U:O2	29:X:860:U:C2'	2.60	0.50
29:X:873:U:O2	29:X:873:U:H2'	2.12	0.50
29:X:996:C:H3'	29:X:996:C:OP2	2.11	0.50
29:X:1223:G:C5'	29:X:1224:A:H5''	2.41	0.50
29:X:1336:G:H2'	29:X:1337:G:H5'	1.92	0.50
29:X:1419:G:H2'	29:X:1420:A:O4'	2.11	0.50
29:X:1624:A:C5	29:X:1627:C:C4	2.98	0.50
29:X:1731:C:H2'	29:X:1732:U:H5''	1.94	0.50
29:X:1794:A:H2	29:X:1814:G:N3	2.10	0.50
29:X:1845:A:H2'	29:X:1846:A:C8	2.47	0.50
29:X:1995:G:O5'	29:X:1995:G:H8	1.94	0.50
29:X:2314:A:O2'	29:X:2315:A:H8	1.95	0.50
29:X:2642:G:C2'	29:X:2643:G:H5'	2.41	0.50
29:X:2701:A:H2'	29:X:2702:G:C5'	2.41	0.50
31:Z:42:U:H1'	31:Z:47:A:H61	1.75	0.50
9:D:68:THR:O	9:D:68:THR:OG1	2.29	0.50
10:E:54:ARG:NH1	10:E:57:ASP:HB3	2.22	0.50
10:E:76:VAL:O	10:E:78:GLY:N	2.45	0.50
10:E:83:TYR:OH	10:E:138:LYS:HD2	2.10	0.50
14:I:73:GLU:HG2	14:I:101:ARG:HB2	1.93	0.50
15:J:86:LYS:HB2	29:X:2256:G:P	2.52	0.50
15:J:100:PRO:CB	24:S:74:ARG:HE	2.25	0.50
16:K:98:LEU:CD2	30:Y:56:GLN:HG2	2.38	0.50
17:L:27:LEU:HD23	17:L:44:ASP:HA	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:N:66:ASN:CB	19:N:76:TYR:HB2	2.42	0.50
20:O:15:SER:HB3	20:O:95:ILE:O	2.12	0.50
21:P:105:ARG:NH1	21:P:119:LYS:HZ1	2.09	0.50
24:S:71:MET:HA	24:S:78:PRO:HA	1.93	0.50
24:S:73:LYS:O	24:S:74:ARG:HB2	2.12	0.50
24:S:98:VAL:HG23	24:S:118:HIS:O	2.12	0.50
25:T:20:TYR:O	25:T:21:LEU:CB	2.59	0.50
27:V:38:ALA:O	27:V:40:PRO:CD	2.59	0.50
29:X:330:C:C2	29:X:331:U:C6	3.00	0.50
29:X:391:C:O2'	29:X:392:G:H5'	2.11	0.50
29:X:455:A:H5''	29:X:456:C:OP1	2.12	0.50
29:X:463:C:C2	29:X:465:C:C5	3.00	0.50
29:X:1135:C:C2	29:X:1136:G:C8	2.99	0.50
29:X:1361:G:C6	29:X:1362:A:C6	3.00	0.50
29:X:1450:G:C2'	29:X:1451:C:H5'	2.41	0.50
29:X:1484:G:H2'	29:X:1485:U:O4'	2.12	0.50
29:X:1524:C:O2	29:X:1524:C:H2'	2.10	0.50
29:X:1685:A:N7	29:X:1691:G:C6	2.79	0.50
29:X:1770:U:O2	29:X:1774:A:C6	2.65	0.50
29:X:1818:G:C5	29:X:1819:U:C5	2.99	0.50
29:X:2243:C:H2'	29:X:2244:C:O4'	2.12	0.50
29:X:2738:A:OP2	29:X:2739:G:OP2	2.30	0.50
29:X:2779:C:H3'	29:X:2779:C:H6	1.77	0.50
30:Y:42:SER:O	30:Y:43:HIS:HB2	2.11	0.50
31:Z:5:C:H2'	31:Z:6:C:C6	2.46	0.50
6:A:257:LEU:O	6:A:258:LYS:C	2.55	0.50
7:B:1:MET:CG	7:B:2:LYS:H	2.24	0.50
7:B:150:VAL:CG2	29:X:2598:C:C4'	2.90	0.50
9:D:14:PRO:O	9:D:15:ALA:C	2.55	0.50
9:D:108:LEU:HA	9:D:111:ILE:HG13	1.94	0.50
10:E:7:GLN:H	10:E:8:PRO:CD	2.25	0.50
10:E:71:LEU:HA	10:E:74:ASN:ND2	2.26	0.50
13:H:47:VAL:HG12	13:H:117:GLU:CD	2.36	0.50
14:I:107:LYS:HE3	29:X:647:G:C6	2.47	0.50
17:L:8:ARG:CB	17:L:8:ARG:NH1	2.71	0.50
19:N:10:ARG:NH1	29:X:592:G:P	2.83	0.50
19:N:50:ARG:HA	19:N:53:LYS:HG2	1.94	0.50
22:Q:25:TYR:CE2	22:Q:82:LEU:HD11	2.47	0.50
22:Q:68:PHE:C	22:Q:69:ILE:HD12	2.35	0.50
22:Q:81:ARG:HG3	22:Q:81:ARG:NH1	2.26	0.50
23:R:4:PRO:HA	29:X:34:U:H1'	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:U:14:VAL:O	26:U:15:VAL:CG2	2.60	0.50
29:X:204:A:O2'	29:X:205:A:C8	2.61	0.50
29:X:533:C:H1'	29:X:563:U:O2'	2.11	0.50
29:X:695:G:H2'	29:X:696:U:H6	1.75	0.50
29:X:731:A:N3	29:X:731:A:H5''	2.26	0.50
29:X:751:G:H2'	29:X:752:G:H8	1.68	0.50
29:X:810:U:C6	29:X:810:U:C3'	2.95	0.50
29:X:1035:G:C8	29:X:1036:G:C8	2.99	0.50
29:X:1053:G:C5	29:X:1054:C:C4	3.00	0.50
29:X:1256:C:H2'	29:X:1257:U:O4'	2.12	0.50
29:X:1304:U:O2'	29:X:1305:C:H5'	2.12	0.50
29:X:1430:G:H2'	29:X:1431:U:O4'	2.11	0.50
29:X:1442:C:C4	29:X:1585:A:H5''	2.46	0.50
29:X:1475:U:O2	29:X:1475:U:H2'	2.12	0.50
29:X:1557:G:O2'	29:X:1558:C:H5'	2.12	0.50
29:X:2082:C:H2'	29:X:2083:G:H5'	1.93	0.50
29:X:2214:G:H2'	29:X:2215:C:O4'	2.12	0.50
29:X:2396:C:H2'	29:X:2397:A:O4'	2.11	0.50
29:X:2662:C:C2	29:X:2663:U:C5	3.00	0.50
29:X:2782:G:O6	29:X:2867:G:O6	2.30	0.50
30:Y:16:ARG:HD3	30:Y:20:ARG:NH1	2.24	0.50
6:A:182:LEU:HB2	6:A:268:ARG:HB2	1.93	0.49
6:A:197:GLY:O	6:A:199:ALA:O	2.30	0.49
7:B:117:MET:HB2	7:B:136:ARG:CD	2.42	0.49
9:D:63:GLN:HG3	9:D:95:ARG:NH2	2.27	0.49
11:F:23:VAL:HA	11:F:26:ALA:CB	2.40	0.49
12:G:35:LYS:O	12:G:36:ASN:CB	2.55	0.49
12:G:44:VAL:HG12	12:G:45:ASP:N	2.27	0.49
12:G:59:ALA:HB2	12:G:134:MET:HE3	1.94	0.49
12:G:115:ALA:O	12:G:118:ALA:CB	2.56	0.49
13:H:119:ARG:HG3	13:H:119:ARG:NH1	2.27	0.49
14:I:13:ARG:NH2	14:I:13:ARG:CB	2.75	0.49
14:I:45:LYS:HG2	14:I:46:GLY:N	2.22	0.49
17:L:37:HIS:HD2	31:Z:29:C:O3'	1.94	0.49
17:L:41:GLN:HG2	17:L:43:ILE:CD1	2.42	0.49
17:L:89:PHE:CD1	17:L:91:ARG:NH2	2.80	0.49
18:M:104:LEU:HB3	18:M:107:LEU:CD1	2.42	0.49
19:N:13:ARG:NH1	29:X:1264:C:C5'	2.75	0.49
21:P:45:ILE:CD1	21:P:57:LEU:HG	2.35	0.49
24:S:64:ALA:CA	24:S:85:MET:HA	2.42	0.49
27:V:4:SER:HA	27:V:7:ARG:HG3	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:531:G:C2	29:X:532:A:C5	3.00	0.49
29:X:805:G:N7	29:X:2419:C:H1'	2.27	0.49
29:X:919:U:O2'	29:X:920:G:H5'	2.12	0.49
29:X:1051:U:C2'	29:X:1052:C:O4'	2.59	0.49
29:X:1179:A:C2	29:X:1196:G:C2	3.00	0.49
29:X:1182:U:H2'	29:X:1183:C:O5'	2.12	0.49
29:X:1467:U:H3'	29:X:1468:A:C5'	2.42	0.49
29:X:1776:A:C8	29:X:1778:U:C5	3.00	0.49
29:X:1780:A:H2'	29:X:1781:C:O4'	2.12	0.49
29:X:1804:U:H2'	29:X:1805:G:C8	2.47	0.49
29:X:1842:G:H2'	29:X:1843:U:H6	1.77	0.49
29:X:2209:G:C5	29:X:2210:C:C5	3.00	0.49
29:X:2550:C:C4	29:X:2553:G:C8	3.00	0.49
7:B:141:ILE:CD1	29:X:2034:A:H4'	2.42	0.49
7:B:183:LEU:HD21	18:M:16:ILE:CD1	2.24	0.49
9:D:133:LYS:O	9:D:134:GLU:C	2.54	0.49
10:E:12:PRO:O	10:E:15:VAL:HG13	2.13	0.49
10:E:105:MET:HB3	10:E:107:ILE:HD11	1.94	0.49
11:F:7:ILE:HG22	11:F:8:VAL:N	2.27	0.49
15:J:100:PRO:CB	24:S:74:ARG:HG2	2.43	0.49
19:N:66:ASN:HB3	19:N:76:TYR:CB	2.42	0.49
20:O:30:GLY:O	20:O:31:ASP:C	2.55	0.49
23:R:17:LYS:C	23:R:19:GLY:N	2.65	0.49
24:S:117:VAL:HG22	24:S:168:VAL:CA	2.36	0.49
29:X:78:C:O2'	29:X:79:G:H5'	2.11	0.49
29:X:141:G:O2'	29:X:142:U:H5'	2.12	0.49
29:X:154:U:H5'	29:X:155:G:OP2	2.11	0.49
29:X:212:U:C2	29:X:443:A:C2	3.00	0.49
29:X:350:U:O5'	29:X:350:U:C6	2.61	0.49
29:X:571:U:O2'	29:X:581:A:O4'	2.20	0.49
29:X:768:U:H2'	29:X:769:C:O4'	2.11	0.49
29:X:777:A:O2'	29:X:778:G:P	2.70	0.49
29:X:884:C:H2'	29:X:885:A:H8	1.77	0.49
29:X:1348:C:H2'	29:X:1349:A:C8	2.44	0.49
29:X:1385:C:H2'	29:X:1386:A:O4'	2.11	0.49
29:X:1695:U:O2'	29:X:1696:C:H5'	2.12	0.49
29:X:1771:A:O2'	29:X:1772:C:OP1	2.29	0.49
29:X:1974:U:O2'	29:X:1975:G:H5''	2.12	0.49
29:X:1994:U:C2'	29:X:1995:G:H5'	2.41	0.49
29:X:2057:U:H6	29:X:2057:U:C5'	2.24	0.49
29:X:2293:G:H2'	29:X:2294:U:C6	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2742:G:O2'	29:X:2743:G:H5'	2.11	0.49
29:X:2753:C:O2'	29:X:2754:C:H5'	2.12	0.49
7:B:75:THR:HG23	7:B:76:ARG:H	1.76	0.49
7:B:127:ALA:HB2	7:B:135:HIS:HE1	1.76	0.49
7:B:159:HIS:CE1	7:B:162:MET:HB2	2.47	0.49
9:D:6:THR:HG22	9:D:7:LYS:N	2.26	0.49
9:D:125:ARG:HB2	9:D:127:ASN:HD22	1.78	0.49
10:E:95:ARG:HG3	10:E:106:ASN:HB3	1.94	0.49
10:E:139:GLN:O	10:E:140:LEU:C	2.55	0.49
12:G:85:ALA:C	12:G:87:GLN:N	2.70	0.49
14:I:105:PRO:O	14:I:106:VAL:HG23	2.11	0.49
15:J:60:ARG:HG2	15:J:60:ARG:HH11	1.77	0.49
15:J:81:GLU:HG2	15:J:82:THR:N	2.28	0.49
16:K:72:ASP:CG	16:K:75:VAL:HG23	2.37	0.49
19:N:66:ASN:CB	19:N:70:ARG:NH1	2.59	0.49
19:N:99:ALA:HB2	19:N:106:PHE:CE1	2.47	0.49
20:O:36:LYS:HD2	20:O:55:THR:N	2.27	0.49
23:R:24:VAL:O	23:R:31:GLY:N	2.45	0.49
24:S:123:VAL:H	24:S:161:ALA:N	2.09	0.49
29:X:240:U:H2'	29:X:241:C:O4'	2.12	0.49
29:X:333:A:O4'	29:X:351:A:H1'	2.11	0.49
29:X:564:U:H2'	29:X:565:A:H8	1.76	0.49
29:X:847:C:H2'	29:X:848:A:C8	2.40	0.49
29:X:863:C:H2'	29:X:864:C:C6	2.47	0.49
29:X:1441:A:H4'	29:X:1442:C:O5'	2.12	0.49
29:X:1459:U:H4'	29:X:1460:G:OP1	2.10	0.49
29:X:2197:U:N3	29:X:2198:U:C5	2.81	0.49
29:X:2522:G:H2'	29:X:2523:G:H8	1.75	0.49
29:X:2797:G:H2'	29:X:2798:A:H5''	1.94	0.49
8:C:104:LEU:HD23	8:C:105:ALA:H	1.77	0.49
9:D:6:THR:O	9:D:10:ASP:HB2	2.12	0.49
10:E:17:VAL:CG1	10:E:18:ASN:N	2.74	0.49
13:H:76:ARG:NH2	18:M:75:GLU:OE2	2.46	0.49
15:J:30:PHE:CD1	15:J:66:TYR:CE2	3.00	0.49
15:J:76:THR:HG21	15:J:88:LYS:O	2.13	0.49
20:O:26:GLN:O	20:O:27:GLY:C	2.55	0.49
21:P:112:GLY:O	21:P:113:SER:O	2.31	0.49
24:S:17:SER:O	24:S:18:MET:HG2	2.13	0.49
24:S:113:VAL:HG11	24:S:141:MET:HE3	1.95	0.49
26:U:27:ASP:H	26:U:32:ARG:HH21	1.60	0.49
28:W:36:ASP:CG	28:W:41:ARG:NH1	2.68	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:47:G:N3	29:X:48:A:C2	2.80	0.49
29:X:65:C:O2'	29:X:66:U:H5'	2.11	0.49
29:X:542:A:C2	29:X:2004:U:C2'	2.77	0.49
29:X:553:C:C4	29:X:557:U:C2	3.01	0.49
29:X:789:G:O6	29:X:2055:G:OP1	2.31	0.49
29:X:872:G:H2'	29:X:928:G:O6	2.11	0.49
29:X:1278:A:O2'	29:X:1279:G:P	2.70	0.49
29:X:1287:A:H2	29:X:1661:C:O2	1.95	0.49
29:X:1372:A:N7	29:X:1373:G:N7	2.61	0.49
29:X:1386:A:N6	29:X:1387:G:C2	2.80	0.49
29:X:1560:A:N1	29:X:1561:A:C2	2.80	0.49
29:X:1578:U:C2	29:X:1579:G:C8	3.00	0.49
29:X:2522:G:H21	29:X:2625:U:H5''	1.76	0.49
29:X:2526:U:H2'	29:X:2527:G:C8	2.45	0.49
29:X:2532:G:C2	29:X:2562:G:H1'	2.47	0.49
29:X:2851:G:H5''	29:X:2851:G:H8	1.77	0.49
31:Z:26:G:N3	31:Z:29:C:N4	2.60	0.49
6:A:60:ARG:NH2	29:X:1583:A:OP1	2.46	0.49
6:A:131:LEU:HD21	6:A:193:ILE:CG1	2.41	0.49
7:B:38:THR:HG22	7:B:39:ALA:N	2.28	0.49
8:C:28:HIS:O	8:C:29:GLU:C	2.56	0.49
8:C:48:ARG:HD2	8:C:48:ARG:N	2.24	0.49
8:C:104:LEU:HD12	8:C:175:VAL:HG21	1.93	0.49
9:D:71:LYS:HE2	29:X:2277:A:OP1	2.13	0.49
11:F:54:PRO:HD2	11:F:71:THR:O	2.11	0.49
12:G:84:ASN:CA	12:G:153:GLY:O	2.61	0.49
16:K:60:LEU:CD1	16:K:64:ARG:NE	2.72	0.49
17:L:102:ALA:O	17:L:104:ALA:N	2.46	0.49
21:P:78:ASN:O	21:P:79:ALA:C	2.54	0.49
23:R:48:VAL:HG12	23:R:50:GLY:H	1.76	0.49
24:S:105:GLN:O	24:S:109:GLN:CD	2.56	0.49
25:T:56:ASP:CG	25:T:58:THR:OG1	2.56	0.49
26:U:15:VAL:HG12	26:U:46:LEU:CD2	2.40	0.49
26:U:32:ARG:NE	26:U:32:ARG:N	2.35	0.49
27:V:43:VAL:O	27:V:46:LEU:HB2	2.12	0.49
28:W:45:LYS:HA	28:W:45:LYS:HE3	1.94	0.49
29:X:55:A:H2'	29:X:56:C:C6	2.48	0.49
29:X:118:U:O2'	29:X:119:G:OP2	2.23	0.49
29:X:119:G:H2'	29:X:120:G:H8	1.76	0.49
29:X:353:G:H2'	29:X:354:C:H6	1.78	0.49
29:X:580:A:N7	29:X:584:A:C6	2.81	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:815:A:H2'	29:X:816:U:H6	1.77	0.49
29:X:1246:G:O2'	29:X:1247:U:H5'	2.13	0.49
29:X:1352:G:H2'	29:X:1353:A:C8	2.48	0.49
29:X:1427:G:H21	29:X:1604:A:H62	1.60	0.49
29:X:1468:A:C5'	29:X:1472:C:H42	2.23	0.49
29:X:1569:A:C6	29:X:1571:G:C4	3.00	0.49
29:X:1594:U:H2'	29:X:1595:A:H8	1.77	0.49
29:X:1673:C:H2'	29:X:1674:C:H6	1.77	0.49
29:X:1842:G:O2'	29:X:1843:U:H5'	2.12	0.49
29:X:2201:G:H2'	29:X:2202:G:H8	1.77	0.49
29:X:2522:G:H2'	29:X:2523:G:O4'	2.12	0.49
30:Y:52:TYR:O	30:Y:53:ASP:CB	2.60	0.49
6:A:169:GLU:HB3	6:A:172:TYR:O	2.12	0.49
7:B:19:ARG:NH1	7:B:185:LYS:NZ	2.61	0.49
7:B:172:VAL:O	7:B:172:VAL:HG12	2.10	0.49
7:B:203:LYS:HE3	29:X:2713:A:N1	2.28	0.49
9:D:34:ILE:HA	9:D:155:THR:O	2.13	0.49
9:D:81:GLN:CG	9:D:82:GLY:H	2.06	0.49
9:D:122:PHE:CE2	9:D:129:ASN:O	2.65	0.49
11:F:54:PRO:CG	11:F:70:LYS:HB2	2.30	0.49
17:L:15:ARG:HH21	29:X:2272:A:P	2.35	0.49
20:O:11:GLN:OE1	20:O:38:LEU:HD12	2.13	0.49
22:Q:15:LYS:HD3	29:X:1406:A:H62	1.77	0.49
22:Q:53:ILE:CG1	22:Q:54:SER:H	2.23	0.49
24:S:62:PHE:HB3	24:S:85:MET:CE	2.43	0.49
26:U:33:LYS:HZ2	29:X:2375:G:H1'	1.78	0.49
26:U:75:TYR:O	26:U:76:LYS:CB	2.60	0.49
29:X:192:G:C4'	29:X:193:A:H4'	2.42	0.49
29:X:403:A:H3'	29:X:403:A:OP2	2.13	0.49
29:X:438:G:O2'	29:X:439:C:H5'	2.13	0.49
29:X:455:A:H1'	29:X:1215:A:O4'	2.13	0.49
29:X:632:A:C2	29:X:633:G:C5	3.01	0.49
29:X:663:G:H3'	29:X:664:C:C5'	2.25	0.49
29:X:692:C:O2	29:X:693:A:C8	2.65	0.49
29:X:929:A:C2	31:Z:81:C:O2	2.66	0.49
29:X:937:C:C4	29:X:938:G:N7	2.81	0.49
29:X:1324:G:H4'	29:X:1325:U:OP1	2.12	0.49
29:X:1373:G:H2'	29:X:1374:G:C5'	2.43	0.49
29:X:1476:G:C6	29:X:1477:C:C4	3.01	0.49
29:X:1684:G:O2'	29:X:1974:U:O4	2.30	0.49
29:X:1687:C:P	29:X:1688:U:H5	2.36	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1695:U:O2	29:X:1974:U:O4'	2.30	0.49
29:X:1699:A:C2	29:X:1700:C:C2	3.01	0.49
29:X:1782:A:C6	29:X:1821:A:H5'	2.47	0.49
29:X:2026:C:H1'	29:X:2759:U:O4	2.13	0.49
29:X:2239:C:C2	29:X:2240:C:C5	3.00	0.49
6:A:147:LEU:O	6:A:148:VAL:HG23	2.12	0.49
6:A:250:TRP:O	6:A:255:LYS:CD	2.60	0.49
7:B:141:ILE:HG23	7:B:154:LYS:CD	2.43	0.49
9:D:29:PRO:O	9:D:169:LEU:HD13	2.13	0.49
10:E:101:LYS:HB2	10:E:117:PRO:HG3	1.95	0.49
12:G:107:GLN:C	12:G:109:GLY:N	2.69	0.49
12:G:108:GLY:C	12:G:110:LEU:CD2	2.83	0.49
12:G:140:GLN:O	12:G:141:GLY:C	2.54	0.49
12:G:154:GLU:N	12:G:157:PRO:HD2	2.26	0.49
12:G:155:THR:HG23	12:G:156:HIS:N	2.21	0.49
12:G:155:THR:O	12:G:156:HIS:C	2.56	0.49
13:H:7:ARG:HH12	13:H:20:MET:CE	2.25	0.49
15:J:18:MET:HG2	15:J:19:THR:N	2.27	0.49
15:J:28:VAL:HG21	15:J:135:ARG:HA	1.94	0.49
15:J:71:PRO:CA	15:J:96:SER:HB2	2.43	0.49
15:J:113:GLU:O	15:J:115:ALA:N	2.45	0.49
19:N:7:GLY:O	19:N:8:ILE:CG1	2.59	0.49
23:R:58:VAL:C	23:R:60:PRO:HD3	2.38	0.49
23:R:93:ARG:C	23:R:95:ARG:NH1	2.70	0.49
24:S:3:LEU:HB2	24:S:34:LEU:HA	1.94	0.49
24:S:106:GLY:N	24:S:109:GLN:HG3	2.28	0.49
26:U:49:LYS:CB	26:U:61:TRP:CE3	2.84	0.49
26:U:53:GLU:OE1	26:U:58:LYS:N	2.37	0.49
29:X:11:G:H8	29:X:11:G:O5'	1.96	0.49
29:X:165:G:H2'	29:X:166:G:H5'	1.94	0.49
29:X:182:G:H1'	29:X:183:U:H5	1.77	0.49
29:X:242:A:N6	29:X:440:U:H2'	2.24	0.49
29:X:683:A:H4'	29:X:684:C:C5'	2.39	0.49
29:X:1095:A:H2'	29:X:1096:A:C5'	2.41	0.49
29:X:1177:U:C2	29:X:1198:C:O2	2.66	0.49
29:X:1673:C:C2	29:X:1674:C:C5	3.01	0.49
29:X:1858:C:H2'	29:X:1859:A:O4'	2.13	0.49
29:X:1965:U:C2	29:X:1966:C:C5	3.01	0.49
29:X:2189:A:H2	29:X:2196:U:N3	2.06	0.49
29:X:2261:G:H5'	29:X:2262:C:C4'	2.42	0.49
30:Y:25:LEU:N	30:Y:25:LEU:HD12	2.27	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:Z:75:A:H2'	31:Z:75:A:N3	2.28	0.49
6:A:82:ILE:CG2	6:A:91:ARG:HB3	2.42	0.49
8:C:46:ARG:HA	8:C:51:VAL:HG21	1.93	0.49
8:C:145:THR:O	8:C:146:GLU:OE2	2.30	0.49
9:D:10:ASP:HA	9:D:14:PRO:CG	2.42	0.49
10:E:18:ASN:O	10:E:20:GLN:N	2.46	0.49
10:E:27:LYS:HG2	10:E:32:GLU:HB2	1.95	0.49
11:F:83:GLY:O	11:F:84:ILE:CG1	2.61	0.49
12:G:46:ALA:HB3	12:G:85:ALA:H	1.77	0.49
12:G:90:LEU:HD23	12:G:93:LYS:O	2.13	0.49
14:I:54:SER:HA	14:I:58:ALA:HB3	1.95	0.49
14:I:77:LEU:HB3	14:I:112:GLY:N	2.28	0.49
16:K:10:LEU:O	16:K:11:ASN:OD1	2.31	0.49
24:S:112:LEU:O	24:S:172:LEU:HB2	2.12	0.49
29:X:545:C:O2'	29:X:546:A:H5'	2.13	0.49
29:X:921:A:C6	29:X:924:C:C2	3.01	0.49
29:X:1025:A:O2'	29:X:1026:U:H5'	2.13	0.49
29:X:1482:U:OP2	29:X:1562:G:O2'	2.30	0.49
29:X:1679:U:H2'	29:X:1680:U:O4'	2.12	0.49
29:X:1920:A:C5	29:X:1922:U:C5	3.01	0.49
29:X:1927:U:O2'	29:X:1928:G:OP1	2.29	0.49
29:X:2195:C:N1	29:X:2196:U:C5	2.81	0.49
29:X:2284:U:C3'	29:X:2285:U:H5''	2.42	0.49
29:X:2395:C:C2'	29:X:2396:C:H5'	2.42	0.49
30:Y:31:THR:HG22	30:Y:32:GLU:N	2.27	0.49
7:B:33:ILE:HG21	7:B:36:ARG:HH12	1.77	0.49
7:B:42:ASP:OD2	29:X:2764:U:C4'	2.61	0.49
7:B:75:THR:HG21	7:B:78:LEU:HD21	1.94	0.49
9:D:119:PRO:O	9:D:167:ARG:NH2	2.46	0.49
10:E:41:LEU:CD1	10:E:64:LEU:HB3	2.43	0.49
10:E:54:ARG:HD2	10:E:56:SER:O	2.13	0.49
12:G:44:VAL:CG1	12:G:45:ASP:N	2.75	0.49
13:H:81:ILE:HD12	13:H:117:GLU:OE1	2.13	0.49
15:J:119:PHE:CD1	15:J:132:MET:HG3	2.48	0.49
16:K:99:ARG:HG2	16:K:99:ARG:NH1	2.28	0.49
19:N:47:TYR:O	19:N:51:ARG:HG2	2.13	0.49
20:O:71:ILE:CD1	29:X:1003:C:O2'	2.61	0.49
21:P:8:PHE:O	21:P:9:ARG:CB	2.52	0.49
21:P:71:VAL:HG11	21:P:126:ILE:HG23	1.91	0.49
22:Q:15:LYS:HG2	29:X:1404:C:O2	2.13	0.49
23:R:59:LYS:CD	23:R:62:MET:HG3	2.42	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:R:97:GLN:CB	23:R:101:GLY:HA2	2.28	0.49
26:U:17:SER:OG	26:U:45:ASN:N	2.46	0.49
26:U:78:ILE:HD13	26:U:78:ILE:C	2.38	0.49
29:X:328:A:H2'	29:X:329:C:C6	2.47	0.49
29:X:1022:A:C6	29:X:1162:A:C6	3.00	0.49
29:X:1142:G:H8	29:X:2008:C:H4'	1.76	0.49
29:X:1241:G:O2'	29:X:1242:A:H5'	2.13	0.49
29:X:1249:G:HO2'	29:X:1250:A:P	2.34	0.49
29:X:1606:C:O2'	29:X:1607:A:H5'	2.13	0.49
29:X:2044:G:O2'	29:X:2046:C:H5	1.96	0.49
29:X:2236:U:C4	29:X:2237:C:N4	2.81	0.49
29:X:2271:C:N4	29:X:2272:A:H62	2.09	0.49
29:X:2827:G:C6	29:X:2828:C:N3	2.81	0.49
29:X:2844:G:O2'	29:X:2845:C:H5'	2.13	0.49
31:Z:69:G:O2'	31:Z:70:C:H5'	2.13	0.49
4:4:9:LYS:NZ	4:4:16:VAL:HG21	2.27	0.49
6:A:68:LYS:HG2	6:A:69:ARG:H	1.78	0.49
6:A:131:LEU:HD23	6:A:131:LEU:N	2.28	0.49
6:A:153:ALA:O	6:A:154:GLN:CG	2.59	0.49
6:A:219:PRO:O	6:A:220:HIS:C	2.55	0.49
6:A:243:GLY:C	6:A:244:ARG:NE	2.71	0.49
8:C:7:ILE:HB	8:C:120:VAL:H	1.78	0.49
8:C:24:SER:O	8:C:28:HIS:N	2.41	0.49
8:C:40:ARG:NH1	29:X:453:U:O2'	2.46	0.49
8:C:98:GLN:NE2	29:X:611:C:C4'	2.61	0.49
8:C:154:ASP:HB2	8:C:157:THR:CG2	2.43	0.49
9:D:7:LYS:O	9:D:11:GLN:HB2	2.12	0.49
9:D:9:ASN:O	9:D:14:PRO:HD2	2.13	0.49
9:D:102:LYS:NZ	9:D:140:GLU:OE2	2.42	0.49
11:F:25:PRO:O	11:F:26:ALA:C	2.54	0.49
11:F:116:ASN:OD1	29:X:1069:G:H1'	2.13	0.49
12:G:33:ILE:HD12	12:G:33:ILE:C	2.38	0.49
12:G:103:TYR:CE1	12:G:111:LYS:CA	2.96	0.49
14:I:67:ASN:HB2	29:X:643:A:H4'	1.95	0.49
16:K:60:LEU:HD13	29:X:1469:U:H2'	1.95	0.49
16:K:76:VAL:O	16:K:79:VAL:HG13	2.13	0.49
19:N:117:ARG:HG2	19:N:118:GLN:HG3	1.95	0.49
20:O:26:GLN:HA	20:O:63:HIS:NE2	2.27	0.49
21:P:105:ARG:NH1	29:X:1337:G:OP2	2.46	0.49
21:P:112:GLY:O	21:P:113:SER:C	2.54	0.49
22:Q:17:TYR:O	22:Q:20:MET:HB3	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:Q:35:LYS:O	22:Q:38:ILE:HG23	2.12	0.49
25:T:6:GLY:O	25:T:7:VAL:C	2.56	0.49
27:V:41:HIS:CG	27:V:42:ARG:N	2.81	0.49
29:X:177:U:H3'	29:X:178:C:H6	1.78	0.49
29:X:572:G:C4	29:X:2001:G:C2	3.00	0.49
29:X:922:A:C2	29:X:923:A:C2	3.01	0.49
29:X:1235:C:H2'	29:X:1236:G:C8	2.48	0.49
29:X:1371:G:O5'	29:X:1371:G:H8	1.95	0.49
29:X:1411:C:C2	29:X:1412:C:C5	3.01	0.49
29:X:2304:G:H8	29:X:2304:G:OP2	1.95	0.49
29:X:2417:U:O2'	29:X:2418:A:H5''	2.13	0.49
29:X:2440:C:C2	29:X:2441:U:C5	3.01	0.49
29:X:2629:U:O2'	29:X:2630:C:H5'	2.13	0.49
29:X:2826:C:H2'	29:X:2827:G:C5'	2.43	0.49
31:Z:35:C:H2'	31:Z:36:A:C8	2.47	0.49
4:4:19:ARG:HH11	4:4:24:LEU:HD22	1.76	0.48
8:C:46:ARG:HB3	8:C:51:VAL:HG23	1.94	0.48
8:C:48:ARG:CZ	8:C:87:LYS:HE2	2.43	0.48
10:E:97:LYS:O	10:E:98:LEU:HB3	2.11	0.48
11:F:57:ILE:CG2	11:F:58:THR:N	2.76	0.48
11:F:90:THR:OG1	11:F:93:LYS:HB2	2.13	0.48
12:G:107:GLN:HG2	29:X:1142:G:C8	2.48	0.48
12:G:116:ARG:NH2	12:G:126:VAL:HG13	2.28	0.48
14:I:97:ARG:O	14:I:98:LEU:CB	2.61	0.48
19:N:24:PHE:CB	19:N:28:ARG:O	2.61	0.48
19:N:108:ALA:O	19:N:109:LEU:C	2.56	0.48
21:P:48:LYS:O	21:P:49:SER:C	2.56	0.48
21:P:109:ARG:HH11	21:P:115:ASN:ND2	2.10	0.48
23:R:27:GLY:HA2	29:X:320:A:O3'	2.13	0.48
24:S:4:THR:CB	24:S:57:GLU:HB2	2.39	0.48
24:S:152:ILE:HG22	24:S:153:LYS:O	2.13	0.48
29:X:116:A:C5'	29:X:117:A:H8	2.18	0.48
29:X:136:A:H8	29:X:136:A:O5'	1.95	0.48
29:X:242:A:C2'	29:X:243:G:H4'	2.43	0.48
29:X:317:U:C3'	29:X:318:G:C5'	2.91	0.48
29:X:338:G:O6	29:X:343:A:C8	2.65	0.48
29:X:683:A:O2'	29:X:684:C:P	2.71	0.48
29:X:753:U:C2	29:X:754:G:N7	2.81	0.48
29:X:930:A:H61	29:X:2247:A:H8	1.56	0.48
29:X:952:A:O2'	29:X:1204:G:H4'	2.13	0.48
29:X:1089:C:H5''	29:X:1090:C:OP1	2.12	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1312:G:C5'	29:X:1313:U:OP1	2.60	0.48
29:X:1514:C:O4'	29:X:1593:C:C4'	2.61	0.48
29:X:1734:C:H3'	29:X:1735:G:O4'	2.13	0.48
29:X:1734:C:C6	29:X:1735:G:H1'	2.48	0.48
29:X:1735:G:C6	29:X:1736:C:C4	3.02	0.48
29:X:1770:U:C2	29:X:1774:A:C5	3.01	0.48
29:X:1935:A:H2	29:X:2539:C:O2	1.95	0.48
29:X:2057:U:H3'	29:X:2058:U:H6	1.77	0.48
29:X:2240:C:HO2'	29:X:2241:U:H5'	1.75	0.48
29:X:2382:C:N4	29:X:2394:G:C6	2.80	0.48
29:X:2578:G:N2	29:X:2579:A:H1'	2.28	0.48
31:Z:73:C:H2'	31:Z:74:A:O4'	2.13	0.48
7:B:4:ILE:HG23	7:B:5:LEU:N	2.28	0.48
7:B:179:GLU:C	7:B:181:LEU:N	2.70	0.48
8:C:48:ARG:CA	8:C:51:VAL:HG22	2.44	0.48
8:C:179:ASP:C	8:C:182:ARG:HB3	2.37	0.48
9:D:138:PHE:CZ	9:D:152:MET:SD	3.06	0.48
10:E:108:GLY:O	29:X:2645:C:N4	2.42	0.48
10:E:109:TYR:CE1	10:E:152:ARG:NH1	2.80	0.48
11:F:41:PHE:C	11:F:43:ALA:H	2.21	0.48
11:F:89:SER:HA	29:X:1075:C:O2'	2.13	0.48
12:G:47:SER:O	12:G:49:VAL:HG23	2.13	0.48
12:G:103:TYR:CE2	12:G:111:LYS:CB	2.96	0.48
12:G:162:LYS:HZ2	29:X:5:A:H1'	1.74	0.48
15:J:44:LYS:O	15:J:45:SER:C	2.55	0.48
15:J:70:PHE:O	15:J:96:SER:OG	2.29	0.48
16:K:16:ALA:O	16:K:18:VAL:N	2.45	0.48
17:L:10:LYS:CB	17:L:14:ARG:HH21	2.15	0.48
17:L:81:GLU:C	17:L:82:LYS:HG2	2.38	0.48
17:L:107:ALA:C	17:L:109:GLU:N	2.71	0.48
19:N:84:LYS:CA	19:N:92:ARG:NH2	2.76	0.48
21:P:40:LEU:CD1	21:P:62:ARG:HH12	2.26	0.48
22:Q:51:ILE:HD12	22:Q:81:ARG:HG2	1.94	0.48
23:R:28:LYS:O	23:R:29:HIS:CB	2.60	0.48
23:R:59:LYS:HZ2	23:R:62:MET:HE3	1.78	0.48
23:R:85:ASP:C	23:R:87:GLU:H	2.21	0.48
23:R:96:LYS:HG3	23:R:97:GLN:O	2.12	0.48
26:U:15:VAL:HA	26:U:45:ASN:O	2.13	0.48
27:V:56:VAL:HA	27:V:59:GLU:OE1	2.13	0.48
29:X:43:A:H8	29:X:43:A:O5'	1.96	0.48
29:X:395:G:C4	29:X:406:G:N2	2.81	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:428:A:C5	29:X:429:C:C4	3.01	0.48
29:X:477:A:C2	29:X:809:C:O4'	2.66	0.48
29:X:490:A:H1'	29:X:491:A:C8	2.47	0.48
29:X:872:G:H2'	29:X:928:G:H1	1.78	0.48
29:X:958:G:C4	29:X:959:C:C5	3.01	0.48
29:X:1002:C:O2	29:X:1175:A:C2	2.66	0.48
29:X:1236:G:N2	29:X:1239:A:OP2	2.40	0.48
29:X:1504:G:H21	29:X:1506:C:H41	1.61	0.48
29:X:1536:G:C2	29:X:1537:U:C2	3.00	0.48
29:X:1587:A:C2	29:X:1588:A:C4	3.01	0.48
29:X:1685:A:H4'	29:X:1686:A:O5'	2.12	0.48
29:X:1774:A:H5'	29:X:2587:G:H4'	1.95	0.48
29:X:1873:A:H2	29:X:2213:G:N3	2.10	0.48
29:X:2067:U:H2'	29:X:2068:C:C6	2.47	0.48
29:X:2681:A:O2'	29:X:2682:C:H5'	2.13	0.48
6:A:143:HIS:CE1	6:A:192:THR:HG22	2.48	0.48
7:B:67:PHE:CD2	7:B:74:PRO:HA	2.48	0.48
7:B:120:TRP:O	7:B:121:ASN:CB	2.58	0.48
8:C:31:VAL:O	8:C:32:THR:C	2.57	0.48
8:C:176:ASN:ND2	8:C:178:TYR:HB3	2.22	0.48
10:E:37:TYR:CE2	10:E:68:THR:HG23	2.47	0.48
10:E:83:TYR:O	10:E:135:GLY:N	2.46	0.48
11:F:27:LEU:HA	11:F:30:TYR:CE2	2.48	0.48
14:I:8:PRO:C	29:X:1218:C:O2'	2.55	0.48
14:I:49:PHE:O	14:I:50:GLU:HG2	2.14	0.48
14:I:90:ARG:HA	14:I:121:HIS:HD1	1.77	0.48
15:J:27:TYR:CB	15:J:137:VAL:CG1	2.91	0.48
15:J:28:VAL:HG22	15:J:134:LYS:O	2.13	0.48
16:K:99:ARG:NH2	29:X:2792:C:OP1	2.39	0.48
17:L:8:ARG:HH11	17:L:8:ARG:HB3	1.77	0.48
17:L:46:SER:OG	17:L:47:ARG:N	2.46	0.48
17:L:64:LYS:HZ3	31:Z:53:G:P	2.36	0.48
21:P:44:VAL:HG21	21:P:60:ILE:HD11	1.95	0.48
23:R:6:ALA:O	23:R:8:SER:N	2.46	0.48
24:S:141:MET:SD	24:S:147:ILE:CG1	2.99	0.48
29:X:222:G:H2'	29:X:223:C:H6	1.77	0.48
29:X:640:C:C4	29:X:641:G:N7	2.82	0.48
29:X:971:A:H4'	29:X:2436:U:H4'	1.96	0.48
29:X:1002:C:C2	29:X:1003:C:C5	3.01	0.48
29:X:1145:C:C5	29:X:1147:G:P	3.06	0.48
29:X:1174:G:H2'	29:X:1175:A:H8	1.76	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1269:G:N3	29:X:1269:G:H2'	2.27	0.48
29:X:1331:G:N2	29:X:1332:G:H1'	2.29	0.48
29:X:1711:C:H4'	29:X:1712:G:C5'	2.36	0.48
29:X:1920:A:C6	29:X:1922:U:H5	2.31	0.48
29:X:2007:G:C2	29:X:2023:C:C2	3.01	0.48
29:X:2190:A:C8	29:X:2190:A:C3'	2.87	0.48
29:X:2404:A:H1'	29:X:2406:C:C4	2.48	0.48
29:X:2559:U:C2'	29:X:2560:G:H5'	2.44	0.48
29:X:2673:G:C6	29:X:2696:A:C6	3.01	0.48
30:Y:44:HIS:CD2	30:Y:44:HIS:N	2.79	0.48
31:Z:96:C:H2'	31:Z:97:C:C6	2.48	0.48
6:A:93:ALA:HB3	6:A:105:ILE:O	2.13	0.48
6:A:138:VAL:HG22	6:A:167:GLY:HA2	1.95	0.48
7:B:27:LEU:O	7:B:27:LEU:HD23	2.14	0.48
7:B:131:SER:O	7:B:132:LYS:CG	2.59	0.48
7:B:159:HIS:CE1	7:B:162:MET:CB	2.97	0.48
9:D:60:ILE:HG13	9:D:61:THR:HG23	1.96	0.48
10:E:94:PHE:CG	10:E:107:ILE:HG22	2.48	0.48
12:G:142:ARG:NH1	29:X:538:A:H5''	2.25	0.48
14:I:38:LYS:CG	29:X:954:U:OP2	2.61	0.48
18:M:100:ARG:HD3	29:X:1744:G:H5''	1.96	0.48
19:N:47:TYR:CD1	20:O:73:LYS:HG2	2.49	0.48
22:Q:68:PHE:O	22:Q:69:ILE:O	2.31	0.48
24:S:91:PRO:HD3	24:S:127:PRO:CG	2.43	0.48
24:S:117:VAL:HG23	24:S:117:VAL:O	2.12	0.48
27:V:65:GLU:O	27:V:66:GLN:HB2	2.12	0.48
29:X:170:U:O2'	29:X:171:G:H5'	2.13	0.48
29:X:311:A:C5	29:X:345:U:H4'	2.48	0.48
29:X:340:G:OP2	29:X:340:G:C8	2.65	0.48
29:X:427:C:O2	29:X:1856:U:H4'	2.13	0.48
29:X:1153:A:C4	29:X:1155:G:N7	2.82	0.48
29:X:1368:G:H2'	29:X:1369:G:O4'	2.12	0.48
29:X:1428:G:H2'	29:X:1428:G:N3	2.29	0.48
29:X:1631:C:O2	29:X:1631:C:C2'	2.62	0.48
29:X:1730:G:C2'	29:X:1731:C:H5'	2.43	0.48
29:X:1835:C:H2'	29:X:1836:C:C6	2.47	0.48
29:X:1920:A:C6	29:X:1922:U:C5	3.02	0.48
30:Y:16:ARG:O	30:Y:20:ARG:HG3	2.14	0.48
6:A:68:LYS:HG2	6:A:69:ARG:N	2.28	0.48
7:B:182:ILE:HG23	7:B:182:ILE:O	2.13	0.48
8:C:33:TRP:CG	8:C:95:LEU:HD12	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:C:107:ALA:CB	8:C:180:ILE:HD13	2.44	0.48
8:C:173:ALA:HB1	8:C:193:LEU:HB2	1.95	0.48
9:D:60:ILE:HA	9:D:140:GLU:HG3	1.95	0.48
12:G:57:LEU:HD22	12:G:170:PRO:HA	1.95	0.48
12:G:70:PHE:CG	19:N:64:ARG:HG2	2.48	0.48
16:K:16:ALA:O	16:K:19:ALA:N	2.45	0.48
16:K:24:GLN:HB3	16:K:44:LEU:HD22	1.95	0.48
16:K:30:ARG:C	16:K:31:GLU:HG2	2.38	0.48
17:L:18:ARG:HH12	29:X:2272:A:P	2.36	0.48
23:R:84:VAL:HG11	23:R:88:THR:C	2.38	0.48
24:S:125:PRO:HG2	24:S:126:GLY:N	2.29	0.48
25:T:31:VAL:HG11	25:T:37:LEU:CD2	2.43	0.48
26:U:23:LYS:HB2	26:U:36:GLY:O	2.12	0.48
28:W:40:VAL:CG1	28:W:40:VAL:O	2.60	0.48
29:X:596:C:C2	29:X:684:C:H1'	2.47	0.48
29:X:600:G:C6	29:X:602:C:C4	3.02	0.48
29:X:873:U:O4	29:X:929:A:N7	2.46	0.48
29:X:1228:G:C6	29:X:1229:C:C4	3.02	0.48
29:X:1229:C:H2'	29:X:1230:C:C6	2.40	0.48
29:X:1687:C:H3'	29:X:1688:U:C6	2.47	0.48
29:X:1929:U:H2'	29:X:1930:C:C6	2.48	0.48
29:X:1994:U:H2'	29:X:1995:G:C5'	2.43	0.48
29:X:2170:C:C2'	29:X:2171:U:H4'	2.41	0.48
29:X:2266:A:C2	29:X:2268:G:H1'	2.49	0.48
29:X:2297:G:O2'	29:X:2300:G:O6	2.27	0.48
29:X:2634:G:C2'	29:X:2643:G:O6	2.58	0.48
29:X:2756:A:HO2'	29:X:2757:G:P	2.36	0.48
29:X:2769:C:O2	29:X:2866:A:H2	1.97	0.48
6:A:209:ALA:CB	29:X:1781:C:H4'	2.43	0.48
6:A:258:LYS:HZ1	6:A:261:ARG:HE	1.57	0.48
7:B:141:ILE:HG21	7:B:150:VAL:CG1	2.43	0.48
8:C:112:GLN:HA	8:C:116:LYS:CB	2.44	0.48
8:C:189:ASP:O	8:C:190:ALA:C	2.57	0.48
9:D:132:ILE:HG22	9:D:133:LYS:N	2.28	0.48
11:F:112:MET:C	11:F:114:ASP:H	2.21	0.48
12:G:53:ARG:O	12:G:54:LEU:C	2.56	0.48
14:I:38:LYS:CE	29:X:954:U:OP2	2.61	0.48
15:J:36:ILE:HG12	15:J:103:VAL:HG23	1.95	0.48
16:K:13:ASN:HD21	16:K:16:ALA:H	1.60	0.48
17:L:18:ARG:HH21	29:X:2271:C:P	2.36	0.48
17:L:42:ILE:HG22	17:L:42:ILE:O	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:N:79:PHE:CE2	19:N:80:ILE:HD13	2.48	0.48
19:N:108:ALA:O	19:N:112:ALA:N	2.39	0.48
20:O:13:ARG:CG	20:O:14:VAL:N	2.72	0.48
20:O:23:GLU:HB2	20:O:91:THR:HG21	1.95	0.48
22:Q:41:ALA:O	22:Q:42:ILE:C	2.56	0.48
24:S:36:ARG:C	24:S:40:ASP:CG	2.82	0.48
26:U:24:ALA:O	26:U:25:ARG:HB2	2.13	0.48
27:V:26:MET:O	27:V:27:GLU:C	2.56	0.48
29:X:17:G:C2	29:X:18:U:C2	3.01	0.48
29:X:82:G:N2	29:X:100:G:H2'	2.28	0.48
29:X:435:A:C2	29:X:436:A:C2	3.01	0.48
29:X:1094:C:H2'	29:X:1096:A:H5'	1.95	0.48
29:X:1657:A:H2'	29:X:1658:A:O4'	2.14	0.48
29:X:1836:C:H2'	29:X:1837:G:H8	1.77	0.48
29:X:1856:U:O3'	29:X:2388:G:N2	2.46	0.48
29:X:2084:G:O2'	29:X:2085:G:H5'	2.13	0.48
29:X:2511:G:C6	29:X:2512:A:C5	3.02	0.48
29:X:2651:U:C2'	29:X:2652:G:O5'	2.61	0.48
29:X:2784:A:C6	29:X:2866:A:C8	3.02	0.48
29:X:2799:C:H2'	29:X:2800:C:O4'	2.14	0.48
4:4:10:MET:HE3	4:4:32:HIS:CA	2.40	0.48
6:A:68:LYS:N	6:A:152:GLY:HA2	2.27	0.48
6:A:258:LYS:NZ	6:A:261:ARG:NE	2.53	0.48
7:B:85:ALA:CB	7:B:86:PRO:CD	2.88	0.48
7:B:109:LYS:NZ	29:X:2703:C:P	2.86	0.48
8:C:33:TRP:HB2	8:C:93:TYR:OH	2.13	0.48
9:D:151:GLY:O	9:D:152:MET:CB	2.62	0.48
12:G:108:GLY:O	12:G:110:LEU:CD2	2.61	0.48
12:G:125:ARG:HA	12:G:128:GLU:HB3	1.96	0.48
13:H:24:VAL:HA	13:H:51:ILE:HG22	1.96	0.48
13:H:109:ARG:HG3	13:H:111:PHE:HE1	1.78	0.48
15:J:22:ALA:CB	15:J:100:PRO:O	2.55	0.48
15:J:30:PHE:HD1	15:J:66:TYR:CE2	2.32	0.48
17:L:37:HIS:O	17:L:38:ILE:C	2.56	0.48
17:L:37:HIS:C	17:L:38:ILE:O	2.55	0.48
18:M:17:GLU:OE2	18:M:63:ARG:NH2	2.47	0.48
23:R:25:LEU:HD13	23:R:25:LEU:C	2.38	0.48
23:R:48:VAL:O	23:R:50:GLY:N	2.45	0.48
24:S:6:LYS:HB2	24:S:31:SER:C	2.39	0.48
24:S:71:MET:CA	24:S:78:PRO:HA	2.42	0.48
26:U:11:LYS:HZ3	26:U:75:TYR:CB	2.26	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:U:19:ILE:O	29:X:393:U:H4'	2.13	0.48
29:X:353:G:O2'	29:X:354:C:H5'	2.13	0.48
29:X:396:U:N3	29:X:398:C:C4	2.82	0.48
29:X:497:C:C6	29:X:497:C:H3'	2.48	0.48
29:X:558:G:H8	29:X:559:C:C4	2.31	0.48
29:X:624:A:H5'	29:X:624:A:N3	2.29	0.48
29:X:875:G:C2'	29:X:876:A:H5'	2.44	0.48
29:X:1168:G:C2	29:X:1169:C:C2	3.02	0.48
29:X:1273:G:H2'	29:X:1274:C:O4'	2.14	0.48
29:X:1538:A:H2'	29:X:1539:U:O4'	2.13	0.48
29:X:1827:G:H1'	29:X:1914:U:C2	2.49	0.48
29:X:1830:C:N4	29:X:1881:U:C3'	2.77	0.48
29:X:2301:A:C6	29:X:2312:A:N6	2.77	0.48
29:X:2345:A:H2'	29:X:2346:G:C8	2.49	0.48
29:X:2779:C:H2'	29:X:2780:A:C8	2.49	0.48
6:A:91:ARG:HG2	6:A:198:ASN:OD1	2.14	0.48
6:A:239:ARG:HD3	29:X:2570:C:OP1	2.14	0.48
6:A:243:GLY:C	6:A:244:ARG:CD	2.87	0.48
6:A:271:VAL:O	6:A:272:THR:OG1	2.29	0.48
10:E:59:GLN:O	10:E:60:LYS:C	2.57	0.48
16:K:102:THR:HA	16:K:109:THR:HA	1.96	0.48
17:L:54:ALA:HB2	17:L:75:LEU:HA	1.96	0.48
19:N:86:ALA:O	19:N:87:ASN:C	2.56	0.48
21:P:71:VAL:CG1	21:P:126:ILE:CG2	2.87	0.48
22:Q:36:THR:O	22:Q:37:GLU:C	2.57	0.48
23:R:93:ARG:HG2	23:R:93:ARG:NH1	2.21	0.48
29:X:395:G:C2	29:X:406:G:C2	3.01	0.48
29:X:576:A:C2	29:X:577:U:H1'	2.49	0.48
29:X:697:G:C2	29:X:807:A:C2	3.02	0.48
29:X:765:C:C5	29:X:1772:C:C2	3.02	0.48
29:X:825:C:H2'	29:X:826:U:H6	1.78	0.48
29:X:1002:C:N3	29:X:1003:C:H5	2.09	0.48
29:X:1121:G:C2'	29:X:1122:A:C8	2.97	0.48
29:X:1332:G:C5	29:X:1333:G:N1	2.82	0.48
29:X:1504:G:H2'	29:X:1505:U:O2	2.14	0.48
29:X:1547:U:H2'	29:X:1548:U:C6	2.48	0.48
29:X:1626:A:H5''	29:X:1627:C:OP2	2.12	0.48
29:X:1736:C:H2'	29:X:1737:G:C8	2.48	0.48
29:X:2040:A:O2'	29:X:2041:A:H5'	2.14	0.48
29:X:2692:A:H5'	29:X:2693:U:OP2	2.14	0.48
31:Z:30:C:H42	31:Z:58:G:H1	1.62	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:4:9:LYS:NZ	29:X:1043:A:H5''	2.29	0.48
6:A:207:GLY:C	6:A:208:LYS:HZ2	2.22	0.48
7:B:27:LEU:O	7:B:29:GLY:N	2.47	0.48
7:B:61:LYS:HB3	7:B:62:PRO:HD3	1.96	0.48
10:E:6:LYS:O	10:E:7:GLN:HG3	2.14	0.48
11:F:121:GLU:O	11:F:122:ALA:C	2.56	0.48
13:H:23:ARG:HH22	13:H:24:VAL:C	2.20	0.48
14:I:18:ARG:HB2	14:I:21:ARG:CB	2.41	0.48
14:I:85:ASP:HA	14:I:116:ARG:HH12	1.78	0.48
14:I:108:LEU:H	14:I:125:ALA:HA	1.78	0.48
14:I:116:ARG:CG	14:I:117:ALA:N	2.77	0.48
15:J:116:LYS:HZ2	15:J:132:MET:HB3	1.79	0.48
15:J:125:LYS:HZ2	15:J:125:LYS:CA	2.27	0.48
17:L:11:LEU:HD21	29:X:2273:C:O5'	2.13	0.48
19:N:86:ALA:C	19:N:88:ILE:H	2.22	0.48
21:P:46:ARG:CG	21:P:46:ARG:NH1	2.72	0.48
21:P:82:ASN:OD1	29:X:506:G:H1'	2.13	0.48
28:W:21:GLN:O	28:W:24:GLY:N	2.37	0.48
29:X:140:G:H2'	29:X:141:G:C8	2.49	0.48
29:X:309:G:N2	29:X:352:G:O6	2.47	0.48
29:X:487:G:H4'	29:X:512:A:C6	2.48	0.48
29:X:581:A:N1	29:X:2012:A:C2	2.82	0.48
29:X:632:A:H3'	29:X:633:G:H8	1.78	0.48
29:X:649:G:N2	29:X:660:G:N2	2.62	0.48
29:X:694:G:C2	29:X:695:G:C4	3.02	0.48
29:X:833:A:N3	29:X:954:U:O2'	2.43	0.48
29:X:865:A:H61	29:X:937:C:H42	1.60	0.48
29:X:982:C:OP2	29:X:985:G:N7	2.46	0.48
29:X:1329:U:H2'	29:X:1330:G:C8	2.44	0.48
29:X:1343:C:H2'	29:X:1344:C:C6	2.49	0.48
29:X:1399:C:C2	29:X:1400:A:C8	3.02	0.48
29:X:1440:G:H3'	29:X:1441:A:C5'	2.40	0.48
29:X:2335:U:H2'	29:X:2336:G:C8	2.49	0.48
29:X:2511:G:H2'	29:X:2512:A:C8	2.48	0.48
4:4:17:VAL:HG12	4:4:18:ARG:N	2.28	0.48
7:B:203:LYS:CG	29:X:2713:A:N1	2.77	0.48
8:C:67:ALA:H	29:X:1268:U:H5	1.53	0.48
9:D:111:ILE:HA	9:D:137:ILE:HG21	1.95	0.48
10:E:9:ILE:HB	10:E:50:LEU:O	2.13	0.48
14:I:86:THR:N	14:I:116:ARG:NH1	2.57	0.48
15:J:106:GLU:N	15:J:106:GLU:OE1	2.47	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:L:54:ALA:N	17:L:75:LEU:HD13	2.29	0.48
19:N:106:PHE:O	19:N:107:LYS:C	2.56	0.48
20:O:19:VAL:CG1	20:O:90:PHE:CG	2.97	0.48
21:P:117:ILE:CD1	29:X:1996:A:H4'	2.43	0.48
24:S:3:LEU:HD11	24:S:5:ALA:O	2.14	0.48
24:S:91:PRO:HD3	24:S:127:PRO:HG3	1.95	0.48
25:T:17:ASN:ND2	29:X:2241:U:H5	2.10	0.48
26:U:24:ALA:C	26:U:26:ALA:N	2.69	0.48
26:U:46:LEU:HB2	29:X:2209:G:C5'	2.44	0.48
26:U:78:ILE:CD1	26:U:79:GLU:O	2.61	0.48
28:W:36:ASP:O	28:W:36:ASP:OD1	2.32	0.48
29:X:155:G:O2'	29:X:156:G:H5'	2.14	0.48
29:X:227:G:H2'	29:X:228:A:C8	2.49	0.48
29:X:947:C:H2'	29:X:948:C:C6	2.49	0.48
29:X:947:C:C2	29:X:948:C:C5	3.01	0.48
29:X:971:A:H4'	29:X:2436:U:H5'	1.95	0.48
29:X:982:C:H2'	29:X:983:G:O5'	2.14	0.48
29:X:1313:U:H1'	29:X:1642:G:N2	2.28	0.48
29:X:1513:U:C5'	29:X:1514:C:OP2	2.56	0.48
29:X:2306:A:C5	29:X:2367:A:N1	2.82	0.48
29:X:2651:U:H2'	29:X:2652:G:O5'	2.14	0.48
29:X:2705:A:O2'	29:X:2706:U:C5	2.66	0.48
6:A:93:ALA:HB1	6:A:95:LEU:CD2	2.44	0.47
8:C:24:SER:HA	8:C:27:LEU:CD1	2.43	0.47
8:C:47:THR:HG23	8:C:85:GLY:N	2.18	0.47
8:C:62:LYS:HE3	29:X:2042:A:O3'	2.14	0.47
10:E:108:GLY:C	10:E:109:TYR:HD1	2.22	0.47
11:F:121:GLU:HA	11:F:124:ALA:HB3	1.96	0.47
13:H:21:CYS:SG	13:H:22:ILE:N	2.87	0.47
14:I:32:ARG:HD2	20:O:81:ARG:CG	2.44	0.47
14:I:92:THR:C	14:I:94:GLU:H	2.22	0.47
15:J:29:ALA:C	15:J:30:PHE:CD2	2.92	0.47
15:J:92:GLU:OE1	15:J:92:GLU:HA	2.13	0.47
18:M:91:VAL:CG1	18:M:92:THR:N	2.76	0.47
19:N:52:ASN:C	19:N:54:LYS:N	2.70	0.47
19:N:88:ILE:HG23	20:O:49:GLU:CB	2.34	0.47
22:Q:7:LEU:HD22	22:Q:8:GLN:N	2.28	0.47
24:S:103:ARG:NH2	24:S:108:VAL:CG2	2.73	0.47
29:X:30:G:H2'	29:X:31:C:C6	2.49	0.47
29:X:566:U:O2'	29:X:567:G:H5'	2.15	0.47
29:X:1050:G:C2'	29:X:1051:U:C5'	2.92	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1212:U:H2'	29:X:1213:U:H6	1.77	0.47
29:X:1238:A:C2	29:X:1239:A:C2	3.02	0.47
29:X:1286:U:H4'	29:X:1288:A:OP2	2.13	0.47
29:X:1301:U:O2'	29:X:1664:G:N2	2.38	0.47
29:X:1339:U:H5	29:X:1664:G:HO2'	1.59	0.47
29:X:1550:C:C2'	29:X:1553:G:N2	2.58	0.47
29:X:1855:G:C2	29:X:1863:U:O2	2.67	0.47
29:X:2289:A:H3'	29:X:2290:A:H8	1.78	0.47
29:X:2321:C:O2'	29:X:2353:G:OP1	2.31	0.47
29:X:2824:C:O2	29:X:2824:C:H2'	2.14	0.47
30:Y:19:ARG:C	30:Y:21:SER:N	2.70	0.47
30:Y:37:HIS:C	30:Y:38:GLY:O	2.55	0.47
9:D:67:ILE:O	9:D:69:LYS:N	2.47	0.47
9:D:80:ARG:HD2	9:D:80:ARG:N	2.29	0.47
12:G:66:HIS:CG	19:N:71:LEU:HD12	2.49	0.47
12:G:106:TYR:CZ	12:G:108:GLY:CA	2.97	0.47
12:G:162:LYS:HZ3	29:X:2873:G:H21	1.62	0.47
13:H:116:ARG:HA	13:H:133:VAL:CG1	2.45	0.47
15:J:37:ALA:CB	15:J:98:VAL:HG11	2.43	0.47
15:J:53:ILE:O	15:J:54:VAL:C	2.54	0.47
16:K:13:ASN:HD22	16:K:16:ALA:H	1.60	0.47
19:N:86:ALA:O	19:N:88:ILE:N	2.47	0.47
19:N:93:LYS:HD2	20:O:10:LYS:NZ	2.29	0.47
19:N:107:LYS:O	19:N:108:ALA:C	2.56	0.47
20:O:13:ARG:O	20:O:14:VAL:CG2	2.62	0.47
21:P:53:ALA:CB	21:P:72:LEU:HD21	2.44	0.47
21:P:126:ILE:HD12	21:P:126:ILE:C	2.39	0.47
22:Q:63:LYS:HG3	22:Q:64:ARG:N	2.25	0.47
23:R:84:VAL:CG1	23:R:88:THR:O	2.61	0.47
28:W:18:LYS:HB2	29:X:863:C:H4'	1.96	0.47
29:X:815:A:H2'	29:X:816:U:C6	2.49	0.47
29:X:828:C:C2	29:X:1207:G:C2	3.02	0.47
29:X:929:A:N6	29:X:930:A:C2	2.82	0.47
29:X:1091:C:O2'	29:X:1092:U:H5'	2.14	0.47
29:X:1253:C:H5'	29:X:1253:C:C6	2.47	0.47
29:X:1256:C:H2'	29:X:1257:U:C6	2.49	0.47
29:X:1391:A:N3	29:X:1392:U:C2	2.83	0.47
29:X:1920:A:C4	29:X:1922:U:C5	3.02	0.47
29:X:2046:C:O2	29:X:2429:A:N1	2.47	0.47
29:X:2058:U:H1'	29:X:2576:G:N2	2.29	0.47
29:X:2613:A:H2'	29:X:2614:A:H8	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2710:C:O2'	29:X:2711:G:H5'	2.14	0.47
6:A:244:ARG:C	6:A:252:LYS:HZ3	2.22	0.47
8:C:28:HIS:C	8:C:30:VAL:N	2.69	0.47
8:C:62:LYS:CG	8:C:63:GLY:N	2.77	0.47
8:C:98:GLN:HE22	29:X:611:C:C5'	2.25	0.47
8:C:178:TYR:O	8:C:179:ASP:C	2.56	0.47
8:C:194:GLU:O	8:C:195:ILE:CG1	2.58	0.47
9:D:43:SER:C	9:D:44:LYS:HG3	2.38	0.47
9:D:78:LYS:C	9:D:79:LEU:HD12	2.39	0.47
10:E:10:ALA:O	10:E:12:PRO:CD	2.62	0.47
12:G:31:THR:OG1	29:X:1006:C:N3	2.45	0.47
12:G:42:VAL:CG1	12:G:168:THR:HG23	2.43	0.47
13:H:113:PRO:CB	13:H:134:LEU:HD12	2.43	0.47
16:K:98:LEU:O	16:K:112:LEU:N	2.36	0.47
16:K:105:GLY:HA2	29:X:1301:U:O4	2.14	0.47
17:L:37:HIS:O	17:L:37:HIS:CG	2.67	0.47
19:N:37:GLN:HE22	29:X:572:G:N2	2.12	0.47
19:N:109:LEU:O	19:N:112:ALA:HB3	2.14	0.47
20:O:78:VAL:O	20:O:78:VAL:HG22	2.14	0.47
23:R:93:ARG:CZ	23:R:108:VAL:C	2.87	0.47
24:S:123:VAL:HG23	24:S:161:ALA:HB2	1.96	0.47
24:S:146:HIS:O	24:S:147:ILE:HD13	2.14	0.47
26:U:68:ARG:NH1	29:X:412:U:H5	2.12	0.47
29:X:343:A:C4	29:X:343:A:OP2	2.67	0.47
29:X:358:C:H6	29:X:358:C:O5'	1.98	0.47
29:X:485:G:C4	29:X:520:C:C5	3.01	0.47
29:X:613:A:C4	29:X:668:A:C2	3.02	0.47
29:X:614:G:C2'	29:X:615:C:H5'	2.45	0.47
29:X:826:U:O2	29:X:827:C:C6	2.68	0.47
29:X:873:U:O4	29:X:929:A:C8	2.66	0.47
29:X:1142:G:O2'	29:X:1143:A:P	2.72	0.47
29:X:1724:C:C4	29:X:1747:G:C6	3.02	0.47
29:X:1744:G:O6	29:X:1747:G:C6	2.66	0.47
29:X:1818:G:C6	29:X:1819:U:C4	3.02	0.47
29:X:1933:G:H2'	29:X:1934:U:H6	1.79	0.47
29:X:2393:G:C6	29:X:2394:G:N7	2.82	0.47
29:X:2494:C:N3	29:X:2549:G:C6	2.82	0.47
29:X:2604:G:H2'	29:X:2605:C:O4'	2.15	0.47
31:Z:16:U:HO2'	31:Z:110:U:C2'	2.27	0.47
7:B:59:VAL:HG12	7:B:64:GLN:HG3	1.95	0.47
7:B:136:ARG:HG2	7:B:137:ARG:H	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:B:154:LYS:HZ1	7:B:156:MET:CE	2.27	0.47
8:C:44:SER:CB	29:X:37:C:H1'	2.44	0.47
8:C:162:ARG:CZ	29:X:333:A:H5''	2.44	0.47
9:D:14:PRO:C	9:D:16:LEU:N	2.68	0.47
9:D:22:TYR:HD2	9:D:27:ALA:O	1.97	0.47
9:D:156:ILE:HG22	9:D:156:ILE:O	2.13	0.47
10:E:72:VAL:C	10:E:74:ASN:N	2.72	0.47
12:G:55:ALA:HB1	12:G:134:MET:HE1	1.97	0.47
13:H:76:ARG:NH1	13:H:113:PRO:O	2.43	0.47
14:I:43:ALA:CB	29:X:684:C:H41	2.27	0.47
14:I:65:PHE:HB3	29:X:642:A:O2'	2.14	0.47
15:J:11:ARG:NH2	15:J:15:ARG:HH22	2.12	0.47
15:J:34:GLY:C	15:J:119:PHE:HE1	2.23	0.47
16:K:41:ALA:O	16:K:44:LEU:N	2.47	0.47
17:L:89:PHE:CD2	29:X:2355:A:C2	3.03	0.47
18:M:69:ARG:HG3	18:M:70:LYS:N	2.30	0.47
19:N:21:ALA:CB	19:N:24:PHE:CD2	2.97	0.47
19:N:76:TYR:CE1	19:N:80:ILE:HG13	2.49	0.47
20:O:34:GLU:O	20:O:35:LEU:O	2.33	0.47
21:P:17:GLN:HG3	21:P:18:VAL:HG23	1.96	0.47
22:Q:53:ILE:CG1	22:Q:54:SER:N	2.77	0.47
24:S:43:PHE:O	24:S:44:ARG:C	2.57	0.47
28:W:49:HIS:CD2	31:Z:85:G:C5'	2.98	0.47
29:X:6:A:C4	29:X:7:G:C8	3.01	0.47
29:X:322:A:O2'	29:X:343:A:H5'	2.14	0.47
29:X:487:G:H4'	29:X:512:A:N6	2.28	0.47
29:X:540:G:C2	29:X:2005:U:OP1	2.67	0.47
29:X:597:U:H2'	29:X:598:U:C6	2.49	0.47
29:X:666:U:H3'	29:X:667:U:H5''	1.95	0.47
29:X:826:U:N3	29:X:827:C:C4	2.82	0.47
29:X:1061:A:H2'	29:X:1062:G:C5'	2.44	0.47
29:X:1301:U:C5'	29:X:1302:C:OP2	2.63	0.47
29:X:1339:U:H5''	29:X:1994:U:C1'	2.44	0.47
29:X:1494:G:O2'	29:X:1574:A:H2	1.97	0.47
29:X:1601:U:H4'	29:X:1602:G:OP2	2.14	0.47
29:X:1909:U:H5'	29:X:1911:A:OP2	2.14	0.47
29:X:2028:C:O2'	30:Y:18:MET:O	2.32	0.47
29:X:2029:G:O5'	30:Y:19:ARG:HA	2.13	0.47
29:X:2249:U:H2'	29:X:2250:G:O4'	2.13	0.47
29:X:2311:U:C5'	29:X:2315:A:N6	2.72	0.47
29:X:2327:U:C4	29:X:2361:G:N2	2.82	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2386:G:H2'	29:X:2387:U:C6	2.49	0.47
29:X:2426:G:C4	29:X:2480:C:C4	3.02	0.47
29:X:2528:G:O2'	29:X:2529:G:H5'	2.14	0.47
29:X:2587:G:H8	29:X:2587:G:O5'	1.98	0.47
29:X:2685:A:C2	29:X:2686:C:N1	2.82	0.47
29:X:2760:G:C2'	29:X:2761:A:OP1	2.61	0.47
31:Z:110:U:O2	31:Z:110:U:H2'	2.13	0.47
7:B:15:TRP:CE2	18:M:86:PRO:HD3	2.50	0.47
7:B:181:LEU:CD1	18:M:16:ILE:HD11	2.45	0.47
8:C:82:VAL:O	8:C:83:ALA:C	2.57	0.47
8:C:130:THR:C	8:C:132:ASN:N	2.71	0.47
9:D:70:ALA:C	9:D:72:LYS:N	2.61	0.47
9:D:108:LEU:O	9:D:109:PRO:C	2.56	0.47
9:D:135:GLN:O	9:D:138:PHE:CD1	2.67	0.47
10:E:43:VAL:HG22	10:E:44:ARG:N	2.30	0.47
10:E:158:HIS:N	10:E:171:LEU:HD23	2.28	0.47
11:F:1:MET:HB3	11:F:2:LYS:HD3	1.95	0.47
11:F:27:LEU:C	11:F:30:TYR:HD2	2.23	0.47
11:F:129:GLY:O	11:F:132:ARG:HB3	2.13	0.47
12:G:142:ARG:O	12:G:144:MET:N	2.48	0.47
13:H:12:ASP:C	13:H:12:ASP:OD1	2.58	0.47
14:I:53:ARG:NH2	14:I:53:ARG:CG	2.78	0.47
15:J:111:THR:O	15:J:112:GLU:C	2.57	0.47
16:K:44:LEU:HD11	16:K:48:VAL:HB	1.95	0.47
17:L:79:ALA:O	17:L:82:LYS:HB2	2.14	0.47
18:M:50:PHE:CZ	18:M:70:LYS:HB3	2.48	0.47
19:N:17:VAL:O	19:N:18:LEU:C	2.55	0.47
19:N:81:ASN:HD21	19:N:85:ARG:NE	2.12	0.47
21:P:93:LYS:HB2	21:P:129:ALA:HB3	1.96	0.47
23:R:8:SER:O	23:R:9:HIS:C	2.57	0.47
25:T:40:GLN:O	25:T:41:ARG:HD3	2.14	0.47
26:U:14:VAL:C	26:U:15:VAL:HG22	2.39	0.47
26:U:20:ARG:CB	26:U:43:ARG:HD2	2.43	0.47
26:U:28:GLY:O	26:U:31:GLY:N	2.47	0.47
29:X:105:G:H5'	29:X:105:G:C8	2.48	0.47
29:X:623:G:H3'	29:X:624:A:C5'	2.29	0.47
29:X:766:A:H8	29:X:766:A:O5'	1.97	0.47
29:X:982:C:OP2	29:X:985:G:C8	2.67	0.47
29:X:1135:C:H2'	29:X:1136:G:C8	2.46	0.47
29:X:1337:G:H4'	29:X:1632:A:N7	2.29	0.47
29:X:1544:A:N7	29:X:1545:G:C4	2.83	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2625:U:H6	29:X:2625:U:OP2	1.97	0.47
29:X:2859:U:OP2	30:Y:43:HIS:CE1	2.68	0.47
4:4:19:ARG:HE	29:X:2735:C:H3'	1.79	0.47
6:A:131:LEU:CD1	6:A:136:VAL:HG22	2.45	0.47
7:B:5:LEU:CD1	7:B:81:PHE:CZ	2.97	0.47
7:B:117:MET:O	7:B:121:ASN:HA	2.15	0.47
7:B:118:LYS:O	7:B:118:LYS:HG3	2.14	0.47
7:B:189:PRO:HA	29:X:2659:C:C5'	2.40	0.47
8:C:153:ASP:C	8:C:154:ASP:CG	2.83	0.47
10:E:9:ILE:HD12	10:E:51:LEU:CA	2.45	0.47
10:E:127:GLU:O	10:E:129:THR:N	2.44	0.47
10:E:155:ASP:OD1	10:E:160:LYS:N	2.47	0.47
11:F:12:LEU:HD22	11:F:22:PRO:CB	2.44	0.47
11:F:25:PRO:CG	11:F:26:ALA:H	2.27	0.47
13:H:83:ARG:HH11	18:M:40:ARG:CD	2.28	0.47
15:J:35:LEU:CD1	15:J:130:THR:HB	2.43	0.47
15:J:76:THR:HG22	15:J:89:GLY:C	2.40	0.47
15:J:89:GLY:O	15:J:91:VAL:N	2.48	0.47
16:K:76:VAL:HA	16:K:79:VAL:HG12	1.97	0.47
16:K:83:VAL:HG23	16:K:87:TYR:CE2	2.50	0.47
19:N:66:ASN:HA	19:N:69:ALA:CB	2.45	0.47
19:N:84:LYS:CB	19:N:92:ARG:HH22	2.26	0.47
19:N:94:VAL:O	19:N:95:LEU:C	2.57	0.47
20:O:13:ARG:C	20:O:14:VAL:HG23	2.38	0.47
20:O:53:LYS:HB2	20:O:54:TYR:CD1	2.50	0.47
20:O:65:ARG:HH11	20:O:65:ARG:CG	2.27	0.47
21:P:66:GLU:O	21:P:69:ALA:CB	2.60	0.47
27:V:22:LYS:HA	27:V:25:LEU:HB3	1.97	0.47
28:W:45:LYS:HE3	28:W:45:LYS:CA	2.44	0.47
29:X:63:A:H2'	29:X:63:A:N3	2.29	0.47
29:X:165:G:C2'	29:X:166:G:H5'	2.43	0.47
29:X:426:C:H4'	29:X:1863:U:O2'	2.14	0.47
29:X:540:G:N3	29:X:2004:U:O2'	2.48	0.47
29:X:601:A:H2'	29:X:602:C:OP1	2.14	0.47
29:X:632:A:H3'	29:X:633:G:C8	2.50	0.47
29:X:682:G:N3	29:X:682:G:C2'	2.77	0.47
29:X:780:U:H4'	29:X:781:G:OP1	2.14	0.47
29:X:1207:G:O2'	29:X:1208:A:H5'	2.14	0.47
29:X:1350:G:H2'	29:X:1351:G:H8	1.79	0.47
29:X:1359:G:H5'	29:X:1359:G:H8	1.79	0.47
29:X:1656:U:H2'	29:X:1657:A:H5''	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2084:G:H2'	29:X:2085:G:C8	2.49	0.47
29:X:2321:C:O2'	29:X:2353:G:H5''	2.15	0.47
29:X:2594:U:O2	29:X:2595:C:C6	2.67	0.47
29:X:2659:C:H2'	29:X:2660:C:C6	2.50	0.47
29:X:2659:C:N4	29:X:2660:C:H41	2.12	0.47
30:Y:8:LYS:O	30:Y:9:LYS:HD3	2.14	0.47
30:Y:58:LEU:H	30:Y:58:LEU:CD1	2.22	0.47
31:Z:71:G:C5	31:Z:72:C:C5	3.03	0.47
6:A:143:HIS:O	6:A:144:ALA:HB3	2.15	0.47
7:B:14:ILE:CD1	7:B:183:LEU:CD1	2.91	0.47
7:B:120:TRP:CG	7:B:155:ARG:HB3	2.50	0.47
7:B:136:ARG:O	7:B:137:ARG:HB2	2.14	0.47
8:C:15:ILE:HG22	8:C:17:LEU:HD13	1.95	0.47
8:C:47:THR:HA	8:C:82:VAL:HB	1.95	0.47
8:C:173:ALA:HB1	8:C:193:LEU:CD1	2.44	0.47
9:D:12:VAL:CG1	9:D:16:LEU:HD11	2.32	0.47
9:D:33:LYS:HD2	9:D:90:THR:HG23	1.96	0.47
10:E:12:PRO:O	10:E:15:VAL:HG22	2.15	0.47
10:E:89:LEU:HB2	10:E:129:THR:CA	2.33	0.47
11:F:38:THR:O	11:F:42:ASN:HB2	2.14	0.47
12:G:104:THR:OG1	12:G:110:LEU:HD13	2.15	0.47
13:H:1:MET:HE3	29:X:2706:U:H1'	1.97	0.47
14:I:78:SER:CA	14:I:112:GLY:HA3	2.45	0.47
15:J:71:PRO:HA	15:J:96:SER:CB	2.43	0.47
15:J:99:LYS:HD2	15:J:100:PRO:CD	2.44	0.47
16:K:65:LEU:HD11	29:X:2845:C:H5''	1.96	0.47
17:L:89:PHE:O	17:L:91:ARG:NH2	2.47	0.47
19:N:13:ARG:CZ	29:X:1264:C:C5'	2.93	0.47
20:O:28:GLU:C	20:O:30:GLY:N	2.71	0.47
20:O:78:VAL:HG22	29:X:1202:U:H5'	1.97	0.47
20:O:87:ARG:O	20:O:87:ARG:HG3	2.14	0.47
21:P:45:ILE:HD12	21:P:57:LEU:HD21	1.96	0.47
21:P:81:HIS:CD2	21:P:82:ASN:N	2.83	0.47
22:Q:63:LYS:HB2	22:Q:69:ILE:O	2.13	0.47
22:Q:72:ARG:NH2	29:X:1324:G:O3'	2.44	0.47
22:Q:92:ALA:C	22:Q:94:GLN:N	2.72	0.47
23:R:95:ARG:NH2	23:R:106:VAL:HG12	2.30	0.47
23:R:112:LYS:O	23:R:113:THR:CG2	2.57	0.47
24:S:43:PHE:HD1	24:S:66:VAL:HG21	1.79	0.47
24:S:87:THR:O	24:S:88:TYR:CB	2.62	0.47
24:S:90:GLU:HA	24:S:127:PRO:HD3	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:T:17:ASN:OD1	29:X:2240:C:C6	2.68	0.47
28:W:40:VAL:HA	28:W:43:MET:HG3	1.93	0.47
29:X:63:A:C2	29:X:64:C:C6	3.03	0.47
29:X:347:C:O2'	29:X:348:U:H5'	2.13	0.47
29:X:416:U:H4'	29:X:419:G:O2'	2.14	0.47
29:X:529:U:C2	29:X:530:G:N7	2.83	0.47
29:X:538:A:C4	29:X:2025:A:C2	3.02	0.47
29:X:540:G:O2'	29:X:542:A:H2	1.95	0.47
29:X:658:G:H2'	29:X:659:G:H8	1.79	0.47
29:X:689:A:C2	29:X:815:A:N6	2.83	0.47
29:X:736:G:C2	29:X:737:C:H1'	2.50	0.47
29:X:746:G:O6	29:X:774:A:C8	2.67	0.47
29:X:797:A:OP2	29:X:2568:A:OP1	2.32	0.47
29:X:982:C:O2'	29:X:983:G:H5'	2.14	0.47
29:X:1053:G:C6	29:X:1054:C:C4	3.03	0.47
29:X:1304:U:H2'	29:X:1305:C:C6	2.50	0.47
29:X:1332:G:N2	29:X:1347:C:C2	2.83	0.47
29:X:1395:A:H2'	29:X:1396:C:C6	2.50	0.47
29:X:1550:C:H2'	29:X:1553:G:H21	1.71	0.47
29:X:1575:C:H4'	29:X:1576:G:OP2	2.14	0.47
29:X:1746:A:H2'	29:X:1747:G:O5'	2.15	0.47
29:X:1771:A:HO2'	29:X:1772:C:P	2.37	0.47
29:X:1841:G:C2'	29:X:1842:G:H5'	2.44	0.47
29:X:1872:A:N1	29:X:2213:G:H1'	2.29	0.47
29:X:2021:G:O2'	29:X:2022:C:H5'	2.15	0.47
29:X:2058:U:N3	29:X:2414:A:C2	2.83	0.47
29:X:2071:G:H2'	29:X:2072:C:H6	1.80	0.47
29:X:2189:A:C2	29:X:2196:U:N3	2.79	0.47
29:X:2395:C:C2'	29:X:2396:C:C5'	2.93	0.47
29:X:2436:U:H2'	29:X:2437:G:O4'	2.15	0.47
30:Y:51:TYR:CZ	30:Y:55:ARG:HB2	2.49	0.47
31:Z:47:A:N3	31:Z:47:A:H2'	2.28	0.47
6:A:44:ASN:CB	6:A:49:ILE:HA	2.34	0.47
7:B:128:SER:OG	29:X:1692:C:N3	2.47	0.47
9:D:13:ARG:CB	9:D:14:PRO:CD	2.92	0.47
9:D:22:TYR:CD2	9:D:28:VAL:HG22	2.49	0.47
9:D:175:LEU:HG	9:D:177:PHE:HE1	1.80	0.47
12:G:157:PRO:C	12:G:159:SER:H	2.23	0.47
14:I:47:ALA:C	14:I:49:PHE:N	2.71	0.47
15:J:42:TRP:CB	15:J:95:VAL:HG11	2.45	0.47
16:K:72:ASP:CB	16:K:75:VAL:HG23	2.45	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:L:9:ARG:O	17:L:12:ARG:N	2.44	0.47
17:L:50:THR:N	31:Z:116:C:O2'	2.44	0.47
19:N:82:GLY:HA2	19:N:85:ARG:HB2	1.96	0.47
21:P:105:ARG:HH12	21:P:119:LYS:HZ1	1.63	0.47
22:Q:92:ALA:O	22:Q:93:GLY:C	2.57	0.47
23:R:35:LYS:HE3	23:R:37:LEU:CD2	2.44	0.47
23:R:48:VAL:C	23:R:50:GLY:N	2.73	0.47
24:S:48:THR:HG22	24:S:66:VAL:HB	1.96	0.47
24:S:98:VAL:HG11	24:S:168:VAL:CG1	2.44	0.47
28:W:49:HIS:ND1	28:W:50:LEU:HG	2.29	0.47
29:X:428:A:H2'	29:X:429:C:O4'	2.15	0.47
29:X:708:G:OP1	29:X:1393:G:O2'	2.32	0.47
29:X:774:A:O5'	29:X:774:A:H8	1.97	0.47
29:X:830:C:H2'	29:X:831:G:H8	1.80	0.47
29:X:860:U:O2	29:X:860:U:H2'	2.15	0.47
29:X:1038:U:H2'	29:X:1039:A:H8	1.79	0.47
29:X:1162:A:H2'	29:X:1163:C:C6	2.49	0.47
29:X:1552:C:H1'	29:X:1553:G:C4	2.50	0.47
29:X:1629:G:C2'	29:X:1633:C:H42	2.28	0.47
29:X:2015:G:O6	29:X:2551:A:C4	2.67	0.47
29:X:2262:C:C5	29:X:2368:G:C4	3.03	0.47
29:X:2286:G:N7	29:X:2287:G:C8	2.83	0.47
29:X:2488:G:H2'	29:X:2489:C:H6	1.80	0.47
29:X:2779:C:C2'	29:X:2780:A:O4'	2.63	0.47
29:X:2823:G:O2'	29:X:2824:C:P	2.73	0.47
4:4:2:LYS:HE3	29:X:2457:A:OP2	2.15	0.47
4:4:30:VAL:C	4:4:32:HIS:H	2.23	0.47
6:A:160:GLY:CA	6:A:197:GLY:HA2	2.44	0.47
6:A:214:TRP:HD1	29:X:1582:A:O4'	1.97	0.47
6:A:227:ASN:H	6:A:230:ASP:HB2	1.78	0.47
6:A:258:LYS:HZ2	6:A:261:ARG:NE	2.10	0.47
6:A:263:ARG:O	6:A:264:LYS:C	2.58	0.47
7:B:14:ILE:HD12	7:B:23:VAL:HG21	1.97	0.47
7:B:192:ASN:HD22	18:M:9:ARG:NH1	2.12	0.47
9:D:15:ALA:O	9:D:18:GLN:C	2.58	0.47
9:D:44:LYS:HB3	9:D:46:ASP:OD2	2.15	0.47
10:E:57:ASP:HB3	10:E:62:ARG:HE	1.79	0.47
12:G:104:THR:HB	29:X:2620:G:H5''	1.97	0.47
13:H:133:VAL:HG12	18:M:38:LYS:HZ3	1.80	0.47
14:I:13:ARG:HB3	14:I:13:ARG:NH2	2.29	0.47
15:J:100:PRO:HG2	24:S:74:ARG:NH1	2.27	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:L:107:ALA:O	17:L:109:GLU:N	2.47	0.47
20:O:65:ARG:CZ	20:O:87:ARG:HD2	2.44	0.47
23:R:36:VAL:O	23:R:37:LEU:HD23	2.15	0.47
23:R:60:PRO:C	23:R:62:MET:N	2.73	0.47
24:S:128:ARG:N	24:S:130:ILE:HD11	2.29	0.47
24:S:148:THR:CB	24:S:164:PRO:O	2.62	0.47
26:U:48:LYS:NZ	29:X:2208:U:O2	2.47	0.47
27:V:21:ARG:N	27:V:21:ARG:CD	2.78	0.47
27:V:37:LEU:C	27:V:37:LEU:CD2	2.88	0.47
29:X:162:C:H2'	29:X:163:A:C8	2.49	0.47
29:X:428:A:N1	29:X:2388:G:C6	2.83	0.47
29:X:520:C:O2	29:X:520:C:C2'	2.59	0.47
29:X:790:A:C2	29:X:791:G:C8	3.03	0.47
29:X:1448:A:H2'	29:X:1449:C:O4'	2.14	0.47
29:X:1452:U:HO2'	29:X:1453:A:H5'	1.79	0.47
29:X:1725:C:O2'	29:X:1726:C:H5'	2.15	0.47
29:X:2082:C:H2'	29:X:2083:G:H5''	1.97	0.47
29:X:2196:U:H2'	29:X:2197:U:C6	2.50	0.47
29:X:2220:A:O2'	29:X:2221:G:H5'	2.15	0.47
29:X:2242:C:N4	29:X:2243:C:N4	2.62	0.47
29:X:2411:A:H2'	29:X:2412:A:O4'	2.15	0.47
29:X:2708:U:H2'	29:X:2709:C:H6	1.79	0.47
31:Z:20:A:C2	31:Z:69:G:C6	3.03	0.47
31:Z:80:A:H2'	31:Z:81:C:O4'	2.15	0.47
6:A:208:LYS:HZ2	6:A:208:LYS:N	2.13	0.47
7:B:16:LYS:HB2	7:B:21:ILE:CD1	2.45	0.47
8:C:61:GLN:CD	29:X:688:A:H4'	2.40	0.47
8:C:169:VAL:HG12	8:C:170:LEU:N	2.29	0.47
8:C:173:ALA:C	8:C:175:VAL:N	2.72	0.47
10:E:150:LYS:NZ	29:X:2724:G:H1'	2.29	0.47
11:F:23:VAL:HG11	11:F:34:ILE:HG12	1.96	0.47
13:H:1:MET:CB	13:H:44:TYR:HB3	2.41	0.47
14:I:22:GLY:HA3	29:X:674:U:H1'	1.97	0.47
15:J:36:ILE:HD12	15:J:133:VAL:HG11	1.96	0.47
17:L:38:ILE:HD12	17:L:40:ALA:H	1.74	0.47
17:L:90:ASP:CG	17:L:90:ASP:O	2.57	0.47
17:L:91:ARG:NH2	29:X:2356:A:C2	2.82	0.47
19:N:32:TYR:O	19:N:33:ARG:C	2.58	0.47
20:O:90:PHE:HD1	20:O:91:THR:N	2.13	0.47
21:P:60:ILE:HA	21:P:61:PRO:HD3	1.61	0.47
21:P:63:SER:C	21:P:65:SER:N	2.69	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:Q:7:LEU:HD22	22:Q:7:LEU:O	2.13	0.47
23:R:16:PHE:CD2	23:R:80:LYS:NZ	2.83	0.47
23:R:46:VAL:HG12	23:R:48:VAL:HG23	1.96	0.47
29:X:26:G:C6	29:X:27:G:N2	2.83	0.47
29:X:403:A:H4'	29:X:404:A:O5'	2.14	0.47
29:X:991:A:C5	29:X:992:A:C6	3.03	0.47
29:X:1249:G:O2'	29:X:1250:A:P	2.73	0.47
29:X:1685:A:N7	29:X:1691:G:C5	2.83	0.47
29:X:1693:A:C2	29:X:1976:U:H5'	2.50	0.47
29:X:1879:G:O2'	29:X:1880:G:H5'	2.14	0.47
29:X:1920:A:H62	29:X:1923:U:H5	1.62	0.47
29:X:2348:A:H2'	29:X:2349:G:C8	2.50	0.47
29:X:2498:U:H2'	29:X:2520:A:H61	1.79	0.47
29:X:2654:A:C2	29:X:2655:C:C2	3.03	0.47
4:4:8:LYS:N	4:4:34:GLN:HE22	2.13	0.46
6:A:62:TYR:CE2	29:X:1808:C:C5	3.03	0.46
6:A:227:ASN:O	6:A:230:ASP:N	2.49	0.46
7:B:183:LEU:HD11	18:M:16:ILE:CG2	2.46	0.46
8:C:65:GLY:O	8:C:66:ASN:O	2.33	0.46
9:D:12:VAL:HG11	9:D:169:LEU:CD1	2.36	0.46
9:D:14:PRO:O	9:D:16:LEU:N	2.48	0.46
10:E:66:GLY:O	29:X:2728:A:H4'	2.15	0.46
10:E:83:TYR:CE2	10:E:138:LYS:HG3	2.50	0.46
10:E:150:LYS:HZ2	29:X:2724:G:H1'	1.81	0.46
12:G:103:TYR:HD2	29:X:1142:G:O4'	1.98	0.46
13:H:22:ILE:HG22	13:H:52:VAL:O	2.15	0.46
14:I:90:ARG:HD2	14:I:93:LEU:CD1	2.32	0.46
15:J:64:LYS:CG	15:J:108:ALA:O	2.63	0.46
17:L:81:GLU:O	17:L:82:LYS:CG	2.64	0.46
17:L:87:VAL:CG1	17:L:88:VAL:H	2.25	0.46
19:N:81:ASN:HD21	19:N:85:ARG:HE	1.63	0.46
20:O:23:GLU:O	20:O:24:SER:HB3	2.15	0.46
20:O:55:THR:OG1	20:O:98:ILE:HD12	2.15	0.46
23:R:18:LYS:C	23:R:36:VAL:HB	2.40	0.46
24:S:13:LYS:HE2	24:S:20:ALA:HB2	1.97	0.46
24:S:139:THR:O	24:S:140:LYS:C	2.57	0.46
26:U:23:LYS:HE3	26:U:26:ALA:CB	2.45	0.46
27:V:39:GLN:HB3	27:V:42:ARG:CB	2.45	0.46
28:W:8:SER:HB2	29:X:999:A:P	2.55	0.46
29:X:89:A:O4'	29:X:89:A:OP1	2.33	0.46
29:X:332:C:HO2'	29:X:351:A:HO2'	1.63	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:541:C:O2'	29:X:542:A:OP2	2.31	0.46
29:X:886:A:C2	29:X:917:U:O2	2.68	0.46
29:X:921:A:N1	29:X:924:C:H1'	2.30	0.46
29:X:971:A:H4'	29:X:2436:U:C5'	2.45	0.46
29:X:1134:C:H2'	29:X:1135:C:C6	2.48	0.46
29:X:1200:G:N7	29:X:1201:G:N7	2.62	0.46
29:X:1296:G:H22	29:X:1299:A:H5''	1.79	0.46
29:X:1474:A:C1'	29:X:1475:U:H5'	2.44	0.46
29:X:1594:U:H2'	29:X:1595:A:C8	2.49	0.46
29:X:1681:A:N6	29:X:1979:C:H42	2.10	0.46
29:X:1773:C:H2'	29:X:2587:G:HO2'	1.79	0.46
29:X:1883:A:C2	29:X:1953:A:C2	3.03	0.46
29:X:1919:A:C2	29:X:1928:G:C8	3.03	0.46
29:X:1933:G:C8	29:X:1934:U:H5	2.31	0.46
29:X:2379:G:H2'	29:X:2380:U:C5'	2.45	0.46
29:X:2468:G:H2'	29:X:2469:G:O4'	2.14	0.46
29:X:2496:C:O2'	29:X:2497:A:O5'	2.31	0.46
29:X:2681:A:N7	29:X:2682:C:C5	2.83	0.46
29:X:2729:A:N1	29:X:2730:A:N6	2.64	0.46
29:X:2780:A:H2'	29:X:2781:G:H8	1.80	0.46
31:Z:39:C:N4	31:Z:51:G:O4'	2.48	0.46
31:Z:72:C:O2'	31:Z:73:C:H5'	2.15	0.46
6:A:218:LYS:NZ	29:X:794:A:H5'	2.31	0.46
6:A:231:HIS:CG	6:A:232:PRO:HD2	2.50	0.46
7:B:9:ILE:CD1	18:M:12:LEU:HD13	2.32	0.46
8:C:122:GLY:O	8:C:123:PHE:C	2.58	0.46
9:D:36:VAL:O	9:D:89:VAL:HG23	2.15	0.46
9:D:53:ALA:O	9:D:57:LEU:N	2.45	0.46
9:D:128:TYR:H	9:D:156:ILE:HG22	1.81	0.46
10:E:24:PHE:CD1	10:E:37:TYR:HD1	2.32	0.46
10:E:107:ILE:N	10:E:107:ILE:CD1	2.74	0.46
12:G:155:THR:HG23	12:G:156:HIS:CE1	2.50	0.46
15:J:61:ARG:HD3	24:S:174:PRO:CB	2.44	0.46
15:J:106:GLU:OE1	15:J:106:GLU:O	2.34	0.46
18:M:34:ARG:NE	18:M:88:VAL:CG1	2.78	0.46
20:O:56:VAL:HA	20:O:97:GLY:HA3	1.98	0.46
21:P:100:GLY:C	21:P:101:PRO:O	2.57	0.46
24:S:92:VAL:CG2	24:S:93:GLU:H	2.20	0.46
25:T:3:HIS:CG	25:T:4:LYS:H	2.32	0.46
26:U:58:LYS:O	26:U:59:THR:HG23	2.16	0.46
29:X:112:U:C2	29:X:113:C:C5	3.04	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:215:G:N2	29:X:632:A:H8	2.06	0.46
29:X:343:A:H1'	29:X:346:C:H42	1.79	0.46
29:X:559:C:C2	29:X:560:G:H1'	2.50	0.46
29:X:792:U:O2'	29:X:793:G:H5'	2.15	0.46
29:X:1108:U:C2	29:X:1109:A:H1'	2.50	0.46
29:X:1129:A:OP1	29:X:1129:A:H4'	2.14	0.46
29:X:1206:G:O2'	29:X:1207:G:H5'	2.14	0.46
29:X:1224:A:HO2'	29:X:1225:G:P	2.39	0.46
29:X:1281:A:OP1	29:X:1989:C:OP1	2.33	0.46
29:X:1313:U:H1'	29:X:1642:G:C2	2.50	0.46
29:X:1629:G:N1	29:X:1633:C:C6	2.83	0.46
29:X:1722:G:C6	29:X:1723:U:N3	2.83	0.46
29:X:1887:G:N3	29:X:1911:A:H2	2.13	0.46
29:X:2017:U:OP1	29:X:2017:U:H6	1.97	0.46
29:X:2075:U:O2	29:X:2075:U:H2'	2.14	0.46
29:X:2185:U:H2'	29:X:2186:G:C8	2.50	0.46
29:X:2379:G:N2	29:X:2380:U:H1'	2.30	0.46
29:X:2388:G:C4	29:X:2389:G:C8	3.03	0.46
29:X:2448:A:H5'	29:X:2448:A:H8	1.80	0.46
29:X:2652:G:N3	29:X:2653:A:C8	2.83	0.46
30:Y:51:TYR:CE1	30:Y:55:ARG:CB	2.94	0.46
6:A:61:LEU:CD1	29:X:1584:G:H5''	2.45	0.46
6:A:92:ILE:CG2	6:A:104:TYR:CD2	2.98	0.46
6:A:246:PRO:HD2	6:A:251:GLY:H	1.76	0.46
6:A:265:THR:C	6:A:267:ASP:N	2.71	0.46
8:C:136:TRP:O	8:C:140:ASN:ND2	2.42	0.46
8:C:144:GLY:CA	8:C:166:TRP:NE1	2.78	0.46
12:G:131:VAL:O	12:G:133:GLY:N	2.48	0.46
14:I:7:LYS:O	29:X:1219:C:H5'	2.15	0.46
14:I:105:PRO:C	14:I:106:VAL:HG23	2.40	0.46
15:J:23:LYS:HA	24:S:73:LYS:HZ2	1.80	0.46
17:L:98:GLY:O	17:L:99:ARG:C	2.58	0.46
18:M:34:ARG:CZ	18:M:88:VAL:CG2	2.93	0.46
18:M:34:ARG:NE	18:M:88:VAL:HG11	2.30	0.46
20:O:25:LEU:HG	20:O:32:LYS:NZ	2.30	0.46
23:R:14:LEU:CD1	23:R:39:ALA:HB1	2.45	0.46
25:T:44:LYS:HG2	25:T:45:PHE:CE1	2.50	0.46
25:T:51:VAL:CG2	25:T:79:ILE:O	2.58	0.46
26:U:33:LYS:HE3	29:X:2400:G:H21	1.80	0.46
26:U:35:THR:HB	29:X:401:G:OP1	2.15	0.46
27:V:14:PHE:HZ	27:V:56:VAL:HG11	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:138:G:H2'	29:X:139:A:H8	1.80	0.46
29:X:596:C:N1	29:X:684:C:H1'	2.30	0.46
29:X:613:A:C2	29:X:636:G:N3	2.83	0.46
29:X:1193:G:C6	29:X:1194:U:C4	3.02	0.46
29:X:1401:G:O2'	29:X:1402:G:H5'	2.15	0.46
29:X:1924:C:C4	29:X:1925:C:C4	3.03	0.46
29:X:2046:C:C5	29:X:2047:C:N4	2.83	0.46
29:X:2264:C:N4	29:X:2325:A:C2	2.82	0.46
30:Y:25:LEU:HD12	30:Y:25:LEU:H	1.80	0.46
6:A:50:THR:HG21	29:X:1805:G:C2	2.49	0.46
6:A:124:GLU:O	6:A:126:LYS:N	2.49	0.46
7:B:145:LYS:HB2	29:X:2551:A:N7	2.30	0.46
8:C:32:THR:O	8:C:33:TRP:C	2.59	0.46
8:C:112:GLN:HE22	8:C:188:ILE:HD11	1.79	0.46
8:C:144:GLY:HA2	8:C:166:TRP:CD1	2.51	0.46
9:D:22:TYR:CE2	9:D:28:VAL:HA	2.50	0.46
9:D:75:SER:HB2	9:D:79:LEU:HD22	1.97	0.46
9:D:108:LEU:HA	9:D:111:ILE:CG1	2.45	0.46
10:E:18:ASN:C	10:E:20:GLN:N	2.73	0.46
10:E:110:SER:HB2	29:X:2646:C:O2	2.16	0.46
10:E:131:ILE:HG22	10:E:132:ASP:N	2.29	0.46
11:F:5:ALA:HB1	11:F:59:ILE:O	2.14	0.46
11:F:23:VAL:O	11:F:25:PRO:N	2.49	0.46
13:H:30:GLY:O	13:H:33:GLY:O	2.33	0.46
15:J:28:VAL:HG23	15:J:137:VAL:CG2	2.45	0.46
16:K:31:GLU:C	16:K:33:ARG:H	2.22	0.46
17:L:28:ARG:O	17:L:42:ILE:HD13	2.16	0.46
17:L:99:ARG:HD3	31:Z:51:G:OP2	2.15	0.46
18:M:18:GLN:C	18:M:20:HIS:H	2.23	0.46
18:M:26:ASP:O	18:M:27:PHE:CG	2.68	0.46
18:M:94:VAL:HG12	18:M:95:GLU:HG2	1.98	0.46
20:O:71:ILE:HD11	29:X:1003:C:O2'	2.15	0.46
23:R:106:VAL:O	23:R:107:ALA:HB2	2.15	0.46
24:S:22:VAL:HG11	31:Z:77:G:C1'	2.45	0.46
24:S:142:ASN:O	24:S:171:VAL:HG11	2.15	0.46
24:S:148:THR:HA	24:S:166:LEU:O	2.14	0.46
29:X:144:U:O2'	29:X:145:C:H5'	2.16	0.46
29:X:230:C:H2'	29:X:231:G:H5'	1.97	0.46
29:X:393:U:H2'	29:X:394:U:H6	1.80	0.46
29:X:497:C:C6	29:X:497:C:C5'	2.89	0.46
29:X:633:G:H2'	29:X:634:G:H8	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:644:A:H2'	29:X:645:G:O4'	2.15	0.46
29:X:740:A:OP1	29:X:1445:A:O2'	2.31	0.46
29:X:771:C:O2'	29:X:772:G:H5'	2.15	0.46
29:X:837:U:H3	29:X:846:A:N6	2.13	0.46
29:X:889:C:H6	29:X:889:C:O5'	1.99	0.46
29:X:972:C:C5'	29:X:973:U:OP2	2.63	0.46
29:X:1096:A:H2'	29:X:1097:A:O4'	2.16	0.46
29:X:1336:G:C2	29:X:1346:C:H1'	2.50	0.46
29:X:1467:U:H2'	29:X:1468:A:OP1	2.15	0.46
29:X:1569:A:C5	29:X:1571:G:C5	3.04	0.46
29:X:1934:U:C2	29:X:1936:A:OP2	2.68	0.46
29:X:2526:U:C6	29:X:2545:A:C6	3.03	0.46
29:X:2762:G:C2	29:X:2763:U:C6	3.02	0.46
29:X:2763:U:O2'	29:X:2764:U:H5'	2.15	0.46
31:Z:18:G:O2'	31:Z:19:C:H5'	2.16	0.46
6:A:55:GLY:N	6:A:217:ARG:HB2	2.31	0.46
7:B:56:GLU:C	7:B:58:LYS:H	2.23	0.46
10:E:37:TYR:HE2	10:E:71:LEU:CB	2.27	0.46
10:E:164:PHE:O	10:E:165:VAL:C	2.58	0.46
11:F:49:GLY:O	11:F:50:ASP:CB	2.63	0.46
12:G:98:LYS:CB	12:G:116:ARG:HB2	2.37	0.46
13:H:41:ASN:O	13:H:42:LYS:C	2.58	0.46
13:H:47:VAL:HG11	13:H:115:ALA:HB1	1.96	0.46
13:H:100:ASN:C	13:H:102:GLN:H	2.23	0.46
15:J:22:ALA:N	15:J:99:LYS:HG3	2.31	0.46
16:K:103:ARG:HD2	29:X:1300:A:OP2	2.16	0.46
17:L:69:ALA:HA	17:L:106:ALA:HB2	1.98	0.46
19:N:13:ARG:NE	29:X:1264:C:C5'	2.74	0.46
20:O:35:LEU:HD21	20:O:52:GLY:CA	2.41	0.46
26:U:47:HIS:HB2	26:U:48:LYS:H	1.54	0.46
29:X:55:A:C2	29:X:56:C:C2	3.02	0.46
29:X:172:A:N1	29:X:178:C:C2	2.84	0.46
29:X:224:G:C4'	29:X:399:G:C6	2.87	0.46
29:X:353:G:H2'	29:X:354:C:O4'	2.15	0.46
29:X:501:G:H2'	29:X:502:A:O4'	2.15	0.46
29:X:641:G:H4'	29:X:651:C:O2'	2.15	0.46
29:X:754:G:C4	29:X:755:C:C5	3.03	0.46
29:X:760:U:C6	30:Y:3:LYS:HG3	2.50	0.46
29:X:801:A:HO2'	29:X:802:A:P	2.35	0.46
29:X:868:U:H2'	29:X:869:C:C6	2.50	0.46
29:X:931:G:C4	29:X:932:G:C8	3.04	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:934:G:H2'	29:X:935:C:O4'	2.16	0.46
29:X:1010:U:O2'	29:X:1011:A:H5'	2.16	0.46
29:X:1018:C:C3'	29:X:1019:U:C5'	2.87	0.46
29:X:1044:U:H4'	29:X:1045:G:OP1	2.15	0.46
29:X:1175:A:H2'	29:X:1176:U:O4'	2.16	0.46
29:X:1274:C:H2'	29:X:1275:A:O5'	2.16	0.46
29:X:1357:U:O2'	29:X:1358:C:OP1	2.33	0.46
29:X:1391:A:C8	29:X:1393:G:N7	2.83	0.46
29:X:1514:C:H4'	29:X:1592:U:O2'	2.16	0.46
29:X:1557:G:H2'	29:X:1558:C:H6	1.79	0.46
29:X:1587:A:C2	29:X:1588:A:C5	3.04	0.46
29:X:1918:G:C2'	29:X:1945:C:H42	2.28	0.46
29:X:1941:C:O2'	29:X:1942:G:H5'	2.16	0.46
29:X:1996:A:N6	29:X:2592:U:C5	2.83	0.46
29:X:2170:C:C3'	29:X:2171:U:C5'	2.87	0.46
29:X:2280:A:H2'	29:X:2281:C:H6	1.80	0.46
29:X:2324:G:N7	29:X:2351:G:C2	2.83	0.46
29:X:2508:G:O5'	29:X:2509:A:H5''	2.15	0.46
29:X:2618:A:N7	29:X:2755:A:H2	2.13	0.46
29:X:2821:G:H2'	29:X:2822:U:H6	1.73	0.46
6:A:94:LEU:O	6:A:94:LEU:HG	2.16	0.46
6:A:148:VAL:C	6:A:189:CYS:SG	2.99	0.46
6:A:208:LYS:CE	6:A:208:LYS:HA	2.46	0.46
6:A:262:LYS:HE3	29:X:2206:C:H1'	1.98	0.46
7:B:119:ARG:HA	7:B:160:MET:HE1	1.95	0.46
9:D:71:LYS:C	9:D:73:SER:N	2.74	0.46
10:E:22:GLY:O	10:E:24:PHE:CE1	2.68	0.46
10:E:89:LEU:CD1	10:E:96:ALA:N	2.78	0.46
10:E:162:VAL:HG12	10:E:163:ARG:N	2.29	0.46
11:F:54:PRO:HG2	11:F:70:LYS:CD	2.40	0.46
11:F:122:ALA:HA	29:X:1092:U:C4'	2.42	0.46
15:J:8:THR:CA	15:J:70:PHE:HZ	2.29	0.46
15:J:17:ARG:HB2	29:X:969:U:C4	2.51	0.46
15:J:28:VAL:N	15:J:137:VAL:HG11	2.30	0.46
15:J:121:LEU:O	15:J:125:LYS:HE2	2.16	0.46
19:N:3:ARG:HB2	29:X:457:C:H5''	1.97	0.46
19:N:28:ARG:HG2	19:N:38:THR:OG1	2.15	0.46
20:O:35:LEU:HD22	20:O:36:LYS:N	2.31	0.46
21:P:76:LYS:O	21:P:78:ASN:N	2.49	0.46
21:P:93:LYS:HB2	21:P:129:ALA:CB	2.46	0.46
25:T:24:LYS:CD	29:X:2334:C:H4'	2.42	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:T:37:LEU:N	25:T:37:LEU:HD12	2.31	0.46
27:V:2:LYS:H	27:V:3:PRO:CD	2.28	0.46
28:W:18:LYS:O	28:W:22:ALA:N	2.43	0.46
29:X:192:G:H4'	29:X:193:A:H4'	1.97	0.46
29:X:494:A:C8	29:X:495:C:C5	3.04	0.46
29:X:516:G:O2'	29:X:517:A:P	2.74	0.46
29:X:529:U:O2'	29:X:530:G:H5'	2.15	0.46
29:X:875:G:H2'	29:X:876:A:H5'	1.97	0.46
29:X:969:U:O2'	29:X:970:A:P	2.74	0.46
29:X:1119:U:H6	29:X:1119:U:C5'	2.21	0.46
29:X:1215:A:H2'	29:X:1216:G:H8	1.78	0.46
29:X:1313:U:HO2'	29:X:1314:A:P	2.39	0.46
29:X:1463:A:H2'	29:X:1464:A:H8	1.79	0.46
29:X:1741:G:C2'	29:X:1742:G:H5'	2.46	0.46
29:X:1744:G:N2	29:X:1746:A:H3'	2.31	0.46
29:X:1807:A:H1'	29:X:1809:G:C8	2.51	0.46
29:X:1952:A:H1'	29:X:1956:G:O4'	2.15	0.46
29:X:1986:G:C6	29:X:1987:G:C5	3.03	0.46
29:X:2083:G:C8	29:X:2083:G:H3'	2.50	0.46
29:X:2194:A:H2'	29:X:2195:C:C5'	2.44	0.46
29:X:2433:G:C4	29:X:2434:G:C8	3.03	0.46
29:X:2792:C:C2	29:X:2805:G:C2	3.04	0.46
7:B:109:LYS:HZ3	29:X:2703:C:P	2.38	0.46
8:C:31:VAL:O	8:C:34:GLN:HB2	2.16	0.46
8:C:195:ILE:O	8:C:196:VAL:HB	2.14	0.46
9:D:130:LEU:HD22	9:D:132:ILE:CD1	2.46	0.46
10:E:15:VAL:O	10:E:16:THR:OG1	2.23	0.46
10:E:37:TYR:HB3	10:E:41:LEU:HD23	1.97	0.46
10:E:172:LYS:CE	29:X:2508:G:OP2	2.63	0.46
11:F:38:THR:C	11:F:42:ASN:HD22	2.23	0.46
12:G:32:TYR:OH	12:G:35:LYS:CE	2.64	0.46
12:G:69:ASP:O	19:N:64:ARG:NE	2.48	0.46
12:G:154:GLU:N	12:G:157:PRO:CD	2.79	0.46
13:H:8:LEU:HD22	13:H:94:ASN:CB	2.45	0.46
13:H:27:SER:HA	13:H:50:ILE:HD12	1.97	0.46
13:H:115:ALA:C	13:H:117:GLU:N	2.71	0.46
15:J:33:TYR:CE2	15:J:112:GLU:HA	2.51	0.46
15:J:125:LYS:N	15:J:125:LYS:CD	2.79	0.46
17:L:75:LEU:HA	17:L:78:ALA:HB3	1.97	0.46
19:N:91:ASN:HA	20:O:10:LYS:HZ2	1.80	0.46
21:P:68:VAL:O	21:P:68:VAL:CG1	2.63	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:Q:89:GLU:HB2	22:Q:91:LEU:HD23	1.98	0.46
23:R:16:PHE:CZ	23:R:46:VAL:HG22	2.49	0.46
25:T:45:PHE:CZ	25:T:77:ARG:CZ	2.98	0.46
27:V:7:ARG:HD2	27:V:7:ARG:C	2.41	0.46
29:X:78:C:O2	29:X:357:A:H2	1.99	0.46
29:X:319:G:H1'	29:X:511:A:O4'	2.16	0.46
29:X:412:U:H2'	29:X:413:G:O4'	2.15	0.46
29:X:417:C:H4'	29:X:418:C:C5'	2.45	0.46
29:X:649:G:C5	29:X:650:U:C5	3.04	0.46
29:X:796:A:C8	29:X:796:A:H3'	2.51	0.46
29:X:805:G:N7	29:X:2419:C:C1'	2.79	0.46
29:X:972:C:H5'	29:X:973:U:OP2	2.16	0.46
29:X:1117:G:H2'	29:X:1118:G:H8	1.72	0.46
29:X:1289:A:C2	29:X:1290:A:C5	3.04	0.46
29:X:1292:A:H2'	29:X:1293:A:O4'	2.16	0.46
29:X:1479:G:H2'	29:X:1480:G:C8	2.50	0.46
29:X:1486:A:H2'	29:X:1487:C:H6	1.78	0.46
29:X:1947:G:O2'	29:X:1950:C:OP2	2.27	0.46
29:X:2838:U:C2'	29:X:2839:G:H5'	2.46	0.46
31:Z:93:G:H2'	31:Z:94:G:O4'	2.16	0.46
6:A:72:LYS:HE3	6:A:99:ASP:OD2	2.16	0.46
6:A:169:GLU:OE1	6:A:184:ARG:NH1	2.48	0.46
6:A:257:LEU:HD12	29:X:1794:A:O2'	2.15	0.46
7:B:142:GLY:CA	7:B:143:GLN:NE2	2.74	0.46
8:C:2:ALA:HA	8:C:13:ARG:CA	2.29	0.46
8:C:158:ARG:HB3	8:C:169:VAL:CG1	2.46	0.46
8:C:191:ALA:O	8:C:192:ALA:C	2.57	0.46
9:D:53:ALA:O	9:D:54:ALA:C	2.58	0.46
9:D:77:PHE:N	9:D:77:PHE:CD1	2.84	0.46
9:D:175:LEU:HG	9:D:177:PHE:CE1	2.51	0.46
12:G:108:GLY:O	12:G:110:LEU:HD23	2.16	0.46
13:H:85:ASP:OD2	13:H:87:SER:HB3	2.16	0.46
14:I:101:ARG:HH11	14:I:104:ARG:NH2	2.14	0.46
15:J:59:PHE:CD1	15:J:65:ILE:HD11	2.50	0.46
19:N:65:ILE:HG21	19:N:80:ILE:HD11	1.96	0.46
19:N:75:ASN:O	19:N:75:ASN:ND2	2.48	0.46
21:P:49:SER:C	21:P:51:GLN:N	2.73	0.46
21:P:105:ARG:NH1	21:P:119:LYS:HZ2	2.13	0.46
22:Q:27:PHE:HZ	22:Q:42:ILE:HD13	1.81	0.46
23:R:15:HIS:O	23:R:82:ALA:HB1	2.16	0.46
23:R:56:LYS:H	23:R:56:LYS:HG2	1.46	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:R:94:VAL:C	23:R:95:ARG:HH11	2.24	0.46
27:V:4:SER:HB3	27:V:7:ARG:HE	1.81	0.46
29:X:66:U:H1'	29:X:87:G:N2	2.31	0.46
29:X:402:A:N7	29:X:2392:G:O2'	2.42	0.46
29:X:664:C:H6	29:X:664:C:C5'	2.29	0.46
29:X:1302:C:O2'	29:X:1303:U:H5'	2.15	0.46
29:X:1502:G:O2'	29:X:1503:G:H5'	2.15	0.46
29:X:1510:A:H2'	29:X:1511:A:C8	2.51	0.46
29:X:1750:A:H4'	29:X:2695:C:O4'	2.16	0.46
29:X:2034:A:C4	29:X:2593:A:N6	2.83	0.46
29:X:2195:C:C5	29:X:2196:U:O4	2.68	0.46
29:X:2222:U:H2'	29:X:2223:U:C5	2.45	0.46
29:X:2687:G:O2'	29:X:2688:G:H5'	2.15	0.46
30:Y:25:LEU:CD1	30:Y:25:LEU:H	2.28	0.46
31:Z:42:U:H1'	31:Z:47:A:H62	1.78	0.46
6:A:72:LYS:NZ	6:A:99:ASP:OD2	2.49	0.46
6:A:133:LEU:O	6:A:136:VAL:N	2.44	0.46
6:A:202:LYS:C	6:A:204:ILE:H	2.24	0.46
6:A:215:LEU:N	6:A:215:LEU:HD12	2.31	0.46
7:B:19:ARG:HG3	7:B:19:ARG:O	2.15	0.46
12:G:86:ALA:HA	12:G:123:PRO:HB3	1.96	0.46
15:J:44:LYS:CB	15:J:47:GLN:HG3	2.39	0.46
15:J:80:ALA:C	15:J:81:GLU:OE1	2.59	0.46
17:L:18:ARG:NH2	29:X:2271:C:O5'	2.49	0.46
17:L:64:LYS:HG2	17:L:65:THR:HG23	1.97	0.46
18:M:108:ARG:O	18:M:109:GLU:CB	2.62	0.46
19:N:59:ARG:O	19:N:63:GLN:HG3	2.16	0.46
20:O:29:ALA:O	20:O:30:GLY:C	2.57	0.46
22:Q:7:LEU:HD11	27:V:26:MET:HG3	1.98	0.46
23:R:29:HIS:CG	23:R:51:VAL:HG22	2.51	0.46
24:S:46:GLN:O	24:S:47:SER:C	2.59	0.46
29:X:13:A:N3	29:X:15:G:O6	2.49	0.46
29:X:194:G:H3'	29:X:195:A:C8	2.49	0.46
29:X:340:G:H4'	29:X:341:A:OP1	2.14	0.46
29:X:459:A:H4'	29:X:461:A:N7	2.30	0.46
29:X:678:G:O2'	29:X:679:C:H5'	2.16	0.46
29:X:756:C:H2'	29:X:757:U:H5'	1.97	0.46
29:X:947:C:H2'	29:X:948:C:H6	1.81	0.46
29:X:1036:G:C4	29:X:1145:C:H1'	2.51	0.46
29:X:1208:A:H2'	29:X:1209:G:O4'	2.16	0.46
29:X:1209:G:C2	29:X:1210:C:C5	3.04	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1391:A:N7	29:X:1393:G:C6	2.83	0.46
29:X:1920:A:C2	29:X:1922:U:C5	3.04	0.46
29:X:2309:G:N2	29:X:2365:U:C2	2.84	0.46
29:X:2561:G:H8	29:X:2561:G:H5'	1.80	0.46
29:X:2718:A:C2	29:X:2719:U:H1'	2.51	0.46
29:X:2799:C:C4	29:X:2800:C:N3	2.83	0.46
29:X:2849:C:C2'	29:X:2850:U:H5''	2.46	0.46
6:A:75:VAL:HG11	6:A:97:TYR:HB3	1.98	0.46
6:A:186:HIS:O	6:A:188:GLU:N	2.45	0.46
7:B:151:TYR:HB3	12:G:106:TYR:CE2	2.51	0.46
7:B:159:HIS:HE2	7:B:162:MET:HB2	1.80	0.46
9:D:123:ASP:HB3	9:D:127:ASN:HB2	1.97	0.46
9:D:167:ARG:O	9:D:168:ALA:C	2.58	0.46
12:G:79:PHE:CZ	12:G:147:ARG:NE	2.84	0.46
13:H:133:VAL:HG12	18:M:38:LYS:NZ	2.31	0.46
14:I:45:LYS:NZ	29:X:817:A:OP1	2.47	0.46
18:M:33:VAL:HG23	18:M:94:VAL:HG21	1.97	0.46
19:N:93:LYS:O	19:N:94:VAL:CG2	2.64	0.46
23:R:105:ARG:NH2	23:R:112:LYS:CA	2.67	0.46
24:S:47:SER:OG	24:S:48:THR:N	2.49	0.46
24:S:137:ASP:O	24:S:138:VAL:HG13	2.16	0.46
29:X:185:C:H2'	29:X:186:C:H6	1.81	0.46
29:X:332:C:O2'	29:X:351:A:O2'	2.33	0.46
29:X:1074:G:C2	29:X:1075:C:H1'	2.50	0.46
29:X:1373:G:N2	29:X:2193:C:H1'	2.30	0.46
29:X:1455:C:O2'	29:X:1456:C:H5'	2.16	0.46
29:X:1819:U:O2'	29:X:1820:G:H5'	2.16	0.46
29:X:1920:A:N1	29:X:1922:U:H5	2.13	0.46
29:X:2043:A:C2	29:X:2481:G:C5	3.04	0.46
29:X:2068:C:H2'	29:X:2069:U:O4'	2.16	0.46
29:X:2359:U:N3	29:X:2360:C:C5	2.85	0.46
29:X:2585:C:O2'	29:X:2586:G:H5'	2.16	0.46
29:X:2849:C:O2'	29:X:2850:U:H5''	2.16	0.46
29:X:2870:C:H2'	29:X:2871:U:H6	1.81	0.46
4:4:7:VAL:HG22	4:4:34:GLN:HB3	1.97	0.45
6:A:157:ARG:HD2	29:X:1810:U:C6	2.51	0.45
6:A:218:LYS:C	6:A:218:LYS:CD	2.84	0.45
6:A:252:LYS:HZ2	6:A:253:PRO:HD2	1.81	0.45
6:A:268:ARG:HB3	6:A:269:PHE:CD2	2.51	0.45
7:B:14:ILE:CD1	7:B:183:LEU:HD12	2.46	0.45
8:C:23:ASN:C	8:C:27:LEU:HD12	2.41	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:C:164:VAL:HB	8:C:165:SER:H	1.41	0.45
9:D:10:ASP:CA	9:D:14:PRO:HD2	2.46	0.45
9:D:92:ARG:NH1	31:Z:46:G:C4'	2.67	0.45
10:E:18:ASN:CB	10:E:25:LYS:HB3	2.33	0.45
10:E:38:ASN:HB2	10:E:41:LEU:CB	2.42	0.45
11:F:42:ASN:HA	11:F:45:THR:HG23	1.98	0.45
13:H:90:ARG:NH2	18:M:78:GLU:CD	2.71	0.45
14:I:17:LYS:NZ	29:X:1258:G:OP2	2.46	0.45
14:I:116:ARG:HG2	14:I:117:ALA:H	1.80	0.45
15:J:17:ARG:HH11	29:X:969:U:C5'	2.21	0.45
15:J:19:THR:CG2	31:Z:93:G:H5'	2.45	0.45
15:J:75:VAL:HG21	15:J:93:TYR:CE2	2.51	0.45
19:N:61:TRP:CZ3	19:N:93:LYS:HA	2.51	0.45
23:R:52:ASN:HD21	23:R:71:GLN:NE2	2.14	0.45
23:R:83:LEU:O	23:R:84:VAL:CG2	2.59	0.45
25:T:3:HIS:HD2	25:T:5:LYS:CD	2.15	0.45
27:V:39:GLN:HB3	27:V:42:ARG:HB2	1.98	0.45
29:X:88:G:O5'	29:X:89:A:H5''	2.15	0.45
29:X:109:A:C2	29:X:110:U:C2	3.04	0.45
29:X:122:G:O2'	29:X:123:A:H5''	2.16	0.45
29:X:196:A:H2	29:X:211:U:O2	1.99	0.45
29:X:327:C:H2'	29:X:328:A:H5'	1.98	0.45
29:X:427:C:H2'	29:X:428:A:H8	1.79	0.45
29:X:438:G:H2'	29:X:439:C:C6	2.50	0.45
29:X:537:C:O2	29:X:537:C:H2'	2.17	0.45
29:X:649:G:N2	29:X:661:C:C2	2.84	0.45
29:X:1024:G:O2'	29:X:1025:A:H5'	2.16	0.45
29:X:1122:A:C2'	29:X:1123:G:O5'	2.64	0.45
29:X:1513:U:OP2	29:X:1514:C:H5	1.99	0.45
29:X:2055:G:C6	29:X:2056:C:C4	3.04	0.45
29:X:2289:A:H3'	29:X:2290:A:C8	2.51	0.45
29:X:2625:U:OP2	29:X:2625:U:C6	2.69	0.45
29:X:2642:G:O2'	29:X:2643:G:H5'	2.16	0.45
29:X:2698:G:H2'	29:X:2699:G:C8	2.51	0.45
31:Z:27:A:N6	31:Z:56:G:OP2	2.50	0.45
6:A:134:ARG:HH21	6:A:135:PHE:HZ	1.63	0.45
6:A:226:MET:HE2	6:A:230:ASP:CB	2.30	0.45
9:D:4:LEU:HD21	9:D:173:MET:HE2	1.98	0.45
10:E:7:GLN:HB3	10:E:51:LEU:HD13	1.98	0.45
11:F:13:PRO:CG	11:F:52:ILE:HG12	2.44	0.45
12:G:42:VAL:HG22	12:G:166:LEU:HB2	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:G:59:ALA:O	12:G:62:ILE:HB	2.16	0.45
12:G:94:LYS:O	12:G:117:GLU:N	2.49	0.45
12:G:106:TYR:O	12:G:110:LEU:CD1	2.64	0.45
12:G:154:GLU:N	12:G:157:PRO:CG	2.75	0.45
14:I:64:GLY:O	14:I:65:PHE:CB	2.63	0.45
15:J:28:VAL:H	15:J:137:VAL:HG21	1.80	0.45
15:J:77:LYS:HG3	15:J:78:LYS:N	2.30	0.45
15:J:81:GLU:HG2	15:J:82:THR:H	1.80	0.45
15:J:111:THR:HG23	15:J:114:GLN:CG	2.46	0.45
15:J:136:GLU:HA	15:J:136:GLU:OE1	2.16	0.45
19:N:37:GLN:NE2	29:X:572:G:H21	2.14	0.45
20:O:19:VAL:HG13	20:O:90:PHE:CG	2.51	0.45
21:P:12:LYS:O	21:P:16:GLN:HG2	2.16	0.45
22:Q:91:LEU:CD2	22:Q:91:LEU:H	2.29	0.45
23:R:90:LYS:HG3	23:R:91:ALA:O	2.16	0.45
24:S:89:GLY:C	24:S:127:PRO:HD2	2.41	0.45
27:V:17:GLU:O	27:V:21:ARG:HD3	2.16	0.45
27:V:47:ARG:O	27:V:48:ARG:C	2.57	0.45
29:X:192:G:O2'	29:X:193:A:OP2	2.32	0.45
29:X:404:A:C6	29:X:405:C:C4	3.05	0.45
29:X:638:A:H4'	29:X:639:G:H5'	1.98	0.45
29:X:695:G:H2'	29:X:696:U:C6	2.51	0.45
29:X:732:G:C2	29:X:733:G:C4	3.04	0.45
29:X:741:G:C4	29:X:743:A:C8	3.04	0.45
29:X:745:C:H2'	29:X:746:G:O4'	2.16	0.45
29:X:796:A:C8	29:X:796:A:C3'	3.00	0.45
29:X:862:A:H2'	29:X:863:C:O4'	2.16	0.45
29:X:1173:G:C4	29:X:1174:G:C8	3.04	0.45
29:X:1234:C:O2	29:X:1242:A:C2	2.70	0.45
29:X:1288:A:C2	29:X:1289:A:H1'	2.51	0.45
29:X:1376:C:C2	29:X:1377:G:C8	3.05	0.45
29:X:1724:C:C2'	29:X:1725:C:H5'	2.46	0.45
29:X:1802:A:C2'	29:X:1803:G:H5'	2.47	0.45
29:X:1847:G:H8	29:X:1847:G:O5'	1.99	0.45
29:X:1858:C:C2'	29:X:1859:A:O5'	2.64	0.45
29:X:2038:C:H2'	29:X:2483:U:H4'	1.98	0.45
29:X:2199:C:C2	29:X:2200:G:C8	3.04	0.45
29:X:2404:A:O2'	29:X:2405:A:OP2	2.32	0.45
29:X:2797:G:O2'	29:X:2798:A:O5'	2.34	0.45
29:X:2849:C:H2'	29:X:2850:U:H5'	1.97	0.45
30:Y:15:LYS:O	30:Y:16:ARG:C	2.57	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:A:72:LYS:HG3	6:A:97:TYR:HE2	1.82	0.45
6:A:121:PRO:HA	6:A:132:PRO:HD2	1.98	0.45
6:A:131:LEU:CD2	6:A:193:ILE:HG12	2.44	0.45
6:A:231:HIS:CE1	6:A:247:VAL:HA	2.52	0.45
8:C:45:THR:O	8:C:87:LYS:NZ	2.47	0.45
8:C:74:VAL:O	8:C:76:THR:N	2.49	0.45
8:C:144:GLY:CA	8:C:166:TRP:CE2	2.99	0.45
8:C:154:ASP:O	8:C:157:THR:OG1	2.34	0.45
8:C:173:ALA:HB1	8:C:193:LEU:CB	2.47	0.45
8:C:187:VAL:HG12	8:C:187:VAL:O	2.15	0.45
9:D:67:ILE:HG21	9:D:84:PRO:HB3	1.98	0.45
11:F:122:ALA:CB	29:X:1092:U:H4'	2.46	0.45
12:G:159:SER:C	12:G:161:GLN:N	2.74	0.45
14:I:54:SER:O	14:I:59:ARG:HD3	2.16	0.45
15:J:17:ARG:CZ	29:X:967:G:O6	2.64	0.45
20:O:12:TYR:CG	20:O:13:ARG:N	2.74	0.45
21:P:45:ILE:HD11	21:P:57:LEU:CG	2.39	0.45
23:R:93:ARG:O	23:R:95:ARG:CD	2.64	0.45
25:T:71:ASN:ND2	25:T:74:LYS:HA	2.28	0.45
27:V:56:VAL:O	27:V:57:LYS:C	2.59	0.45
29:X:20:C:N4	29:X:21:A:H62	2.14	0.45
29:X:404:A:C5	29:X:405:C:C4	3.03	0.45
29:X:558:G:H2'	29:X:559:C:O4'	2.15	0.45
29:X:815:A:C5	29:X:816:U:C4	3.04	0.45
29:X:1129:A:H2'	29:X:1130:U:O4'	2.16	0.45
29:X:1332:G:C2	29:X:1347:C:C2	3.05	0.45
29:X:1651:U:H4'	29:X:1652:G:OP2	2.10	0.45
29:X:1681:A:O5'	29:X:1681:A:C8	2.70	0.45
29:X:1710:U:C5'	29:X:1711:C:C5	2.93	0.45
29:X:2043:A:C2	29:X:2481:G:C6	3.04	0.45
29:X:2048:C:O2	29:X:2428:U:N3	2.44	0.45
29:X:2209:G:C4	29:X:2210:C:C5	3.04	0.45
29:X:2293:G:H2'	29:X:2294:U:H6	1.82	0.45
29:X:2315:A:C2	29:X:2364:C:H1'	2.51	0.45
7:B:38:THR:CG2	7:B:39:ALA:N	2.79	0.45
7:B:97:ALA:O	7:B:98:GLU:C	2.57	0.45
7:B:136:ARG:NH1	7:B:137:ARG:N	2.65	0.45
7:B:162:MET:HE2	7:B:162:MET:HA	1.98	0.45
8:C:54:THR:HB	8:C:73:SER:HB3	1.98	0.45
9:D:8:TYR:O	9:D:12:VAL:CB	2.61	0.45
10:E:69:ARG:O	10:E:70:THR:C	2.57	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:F:50:ASP:HB3	11:F:76:TYR:CE2	2.51	0.45
11:F:62:ASP:HB3	11:F:63:ARG:CZ	2.46	0.45
14:I:72:TYR:CE1	14:I:105:PRO:HG3	2.51	0.45
15:J:35:LEU:HD11	15:J:130:THR:OG1	2.16	0.45
15:J:64:LYS:O	15:J:107:VAL:HA	2.16	0.45
16:K:84:ALA:N	16:K:85:PRO:CD	2.80	0.45
16:K:94:TYR:CZ	16:K:115:LEU:O	2.70	0.45
17:L:37:HIS:HB2	31:Z:30:C:OP1	2.13	0.45
18:M:8:ASN:HA	29:X:2851:G:OP1	2.16	0.45
19:N:33:ARG:HH11	19:N:33:ARG:HG3	1.81	0.45
20:O:38:LEU:O	20:O:39:PHE:CB	2.64	0.45
22:Q:64:ARG:O	22:Q:65:VAL:HG22	2.17	0.45
22:Q:77:LYS:HG3	22:Q:78:ALA:N	2.30	0.45
23:R:10:HIS:CD2	23:R:44:GLN:HE21	2.35	0.45
24:S:36:ARG:C	24:S:40:ASP:OD2	2.59	0.45
24:S:133:GLU:O	24:S:134:LEU:HB2	2.16	0.45
29:X:181:A:H1'	29:X:183:U:C5	2.52	0.45
29:X:219:G:O2'	29:X:220:U:OP2	2.33	0.45
29:X:329:C:O2'	29:X:330:C:H5'	2.17	0.45
29:X:343:A:O2'	29:X:346:C:N4	2.48	0.45
29:X:531:G:O2'	29:X:532:A:H5'	2.17	0.45
29:X:618:A:N9	29:X:632:A:N6	2.65	0.45
29:X:654:A:N3	29:X:654:A:C2'	2.80	0.45
29:X:805:G:C8	29:X:2419:C:H1'	2.51	0.45
29:X:1033:G:N2	29:X:1035:G:N2	2.64	0.45
29:X:1173:G:C6	29:X:1174:G:N7	2.84	0.45
29:X:1174:G:N2	29:X:1175:A:C4	2.84	0.45
29:X:1373:G:N2	29:X:1374:G:O4'	2.50	0.45
29:X:1491:C:C2	29:X:1492:A:C8	3.04	0.45
29:X:1796:A:C2	29:X:1797:C:C5	3.04	0.45
29:X:1811:A:O2'	29:X:1812:U:P	2.75	0.45
29:X:2043:A:H1'	29:X:2481:G:O4'	2.16	0.45
29:X:2197:U:N3	29:X:2198:U:C4	2.84	0.45
29:X:2323:U:C6	29:X:2323:U:H3'	2.51	0.45
29:X:2576:G:C6	29:X:2577:A:C6	3.05	0.45
29:X:2721:A:H2'	29:X:2722:C:O4'	2.16	0.45
6:A:42:GLY:H	6:A:43:ARG:NH1	2.15	0.45
6:A:52:ARG:NH2	6:A:53:PHE:CZ	2.83	0.45
6:A:91:ARG:HE	6:A:198:ASN:HA	1.81	0.45
6:A:200:GLU:OE1	29:X:1812:U:C2	2.69	0.45
7:B:143:GLN:HB3	29:X:2553:G:O2'	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:C:50:GLN:HB2	29:X:814:G:OP1	2.17	0.45
9:D:108:LEU:HD22	9:D:114:PHE:HE1	1.80	0.45
10:E:9:ILE:HG22	10:E:11:VAL:CG2	2.46	0.45
10:E:126:PRO:HG3	10:E:130:ARG:HD3	1.99	0.45
10:E:160:LYS:NZ	29:X:2636:A:O3'	2.50	0.45
11:F:111:LYS:HE3	11:F:111:LYS:HB3	1.87	0.45
11:F:119:SER:O	11:F:121:GLU:N	2.50	0.45
14:I:56:LEU:C	14:I:58:ALA:O	2.59	0.45
15:J:91:VAL:O	15:J:92:GLU:C	2.58	0.45
17:L:47:ARG:O	17:L:49:GLN:N	2.45	0.45
18:M:11:GLU:C	18:M:13:LEU:N	2.70	0.45
19:N:81:ASN:ND2	19:N:85:ARG:HE	2.14	0.45
22:Q:58:VAL:O	22:Q:75:ARG:N	2.41	0.45
25:T:3:HIS:CD2	25:T:4:LYS:H	2.34	0.45
26:U:28:GLY:HA3	26:U:32:ARG:CB	2.45	0.45
26:U:41:VAL:CG2	26:U:42:GLN:N	2.66	0.45
28:W:46:THR:OG1	29:X:864:C:H5''	2.16	0.45
29:X:24:G:H2'	29:X:25:U:C6	2.51	0.45
29:X:620:G:O2'	29:X:621:U:H5'	2.17	0.45
29:X:832:A:H2'	29:X:833:A:O5'	2.17	0.45
29:X:862:A:C4	29:X:863:C:C5	3.04	0.45
29:X:872:G:O2'	29:X:873:U:C6	2.68	0.45
29:X:965:G:C2'	29:X:2253:A:N1	2.79	0.45
29:X:1086:C:C2'	29:X:1087:C:H5''	2.46	0.45
29:X:1086:C:H2'	29:X:1087:C:H5''	1.99	0.45
29:X:1324:G:O2'	29:X:1325:U:O5'	2.32	0.45
29:X:1385:C:C1'	29:X:2192:U:C6	2.94	0.45
29:X:1851:A:N6	29:X:1866:G:H21	2.09	0.45
29:X:2058:U:C2	29:X:2414:A:C2	3.05	0.45
29:X:2351:G:C2	29:X:2352:A:N7	2.84	0.45
29:X:2386:G:H2'	29:X:2387:U:H6	1.82	0.45
29:X:2438:A:C6	29:X:2473:G:C2	3.05	0.45
29:X:2511:G:C4	29:X:2512:A:C8	3.05	0.45
29:X:2602:G:H2'	29:X:2603:G:H8	1.82	0.45
29:X:2827:G:C2	29:X:2828:C:C2	3.05	0.45
31:Z:54:U:H2'	31:Z:55:C:O4'	2.17	0.45
6:A:226:MET:HB3	6:A:230:ASP:HB2	1.98	0.45
7:B:19:ARG:NH1	7:B:185:LYS:HZ1	2.14	0.45
7:B:35:GLN:HB3	7:B:48:GLN:HB3	1.99	0.45
7:B:131:SER:C	7:B:132:LYS:CG	2.80	0.45
8:C:8:GLY:O	8:C:9:GLN:CB	2.62	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:C:101:GLN:C	8:C:103:GLY:N	2.70	0.45
10:E:38:ASN:H	10:E:41:LEU:CD2	2.29	0.45
10:E:56:SER:C	10:E:57:ASP:OD1	2.59	0.45
10:E:113:VAL:HG11	10:E:151:VAL:HG13	1.98	0.45
12:G:43:VAL:HG23	12:G:165:VAL:HA	1.98	0.45
14:I:120:VAL:HG11	14:I:122:VAL:HG13	1.99	0.45
15:J:78:LYS:HG3	15:J:80:ALA:H	1.81	0.45
17:L:32:TYR:CE1	31:Z:9:G:H5''	2.51	0.45
18:M:9:ARG:O	18:M:13:LEU:HD13	2.16	0.45
18:M:100:ARG:O	18:M:101:ARG:HB3	2.15	0.45
19:N:24:PHE:CD1	29:X:543:G:C5'	2.97	0.45
20:O:6:GLN:O	20:O:7:THR:CB	2.64	0.45
22:Q:12:ILE:O	22:Q:16:ALA:HB3	2.17	0.45
22:Q:25:TYR:CD2	22:Q:25:TYR:N	2.84	0.45
23:R:25:LEU:HD13	23:R:25:LEU:N	2.32	0.45
29:X:492:G:O2'	29:X:517:A:N6	2.50	0.45
29:X:651:C:H42	29:X:658:G:H1	1.63	0.45
29:X:664:C:O2'	29:X:665:A:OP1	2.31	0.45
29:X:677:G:H4'	29:X:951:G:H5''	1.99	0.45
29:X:689:A:H8	29:X:2052:G:H21	1.58	0.45
29:X:1393:G:C2	29:X:1394:G:C8	3.05	0.45
29:X:1608:U:H2'	29:X:1609:G:C8	2.51	0.45
29:X:1773:C:C2'	29:X:2587:G:O2'	2.65	0.45
29:X:2282:G:C6	29:X:2293:G:C6	3.05	0.45
29:X:2290:A:C8	29:X:2290:A:O5'	2.70	0.45
29:X:2437:G:O2'	29:X:2439:U:C4	2.70	0.45
29:X:2779:C:H3'	29:X:2779:C:C6	2.51	0.45
29:X:2797:G:H8	29:X:2797:G:O5'	2.00	0.45
31:Z:35:C:H2'	31:Z:36:A:H8	1.80	0.45
31:Z:50:U:H2'	31:Z:51:G:H8	1.81	0.45
31:Z:54:U:H2'	31:Z:55:C:C6	2.51	0.45
31:Z:93:G:N2	31:Z:94:G:H1'	2.31	0.45
6:A:164:GLN:OE1	6:A:176:ARG:HB3	2.17	0.45
6:A:262:LYS:O	6:A:263:ARG:C	2.58	0.45
7:B:5:LEU:CD1	7:B:81:PHE:HZ	2.29	0.45
7:B:136:ARG:HH12	7:B:137:ARG:HA	1.82	0.45
8:C:122:GLY:CA	8:C:124:ASP:OD1	2.61	0.45
9:D:36:VAL:CG1	9:D:57:LEU:HD22	2.45	0.45
9:D:138:PHE:CD1	9:D:138:PHE:N	2.83	0.45
9:D:138:PHE:N	9:D:138:PHE:HD1	2.15	0.45
10:E:148:VAL:C	10:E:150:LYS:N	2.74	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:F:53:ILE:CG2	11:F:54:PRO:HD2	2.47	0.45
11:F:120:VAL:O	11:F:121:GLU:C	2.59	0.45
15:J:29:ALA:O	15:J:30:PHE:HB2	2.17	0.45
15:J:70:PHE:HA	15:J:71:PRO:HD3	1.61	0.45
16:K:115:LEU:HD23	16:K:115:LEU:HA	1.63	0.45
19:N:49:ASP:O	19:N:53:LYS:HG2	2.16	0.45
22:Q:17:TYR:C	22:Q:19:ALA:H	2.24	0.45
22:Q:27:PHE:N	22:Q:27:PHE:CD1	2.85	0.45
22:Q:51:ILE:HD12	22:Q:82:LEU:O	2.17	0.45
23:R:59:LYS:HD3	23:R:62:MET:HG3	1.97	0.45
23:R:108:VAL:C	23:R:110:SER:N	2.72	0.45
26:U:22:GLY:N	26:U:39:LYS:HD2	2.32	0.45
26:U:28:GLY:HA3	26:U:32:ARG:N	2.32	0.45
26:U:72:LYS:HB2	26:U:73:GLY:H	1.57	0.45
29:X:198:A:C8	29:X:243:G:C5	3.04	0.45
29:X:203:G:N2	29:X:204:A:H2	2.15	0.45
29:X:235:C:C5	29:X:236:C:C4	3.04	0.45
29:X:235:C:C5	29:X:236:C:C5	3.05	0.45
29:X:314:G:C6	29:X:326:A:C2	3.05	0.45
29:X:415:A:O2'	29:X:416:U:H5'	2.16	0.45
29:X:415:A:H2'	29:X:416:U:O4'	2.17	0.45
29:X:732:G:C8	29:X:732:G:O5'	2.70	0.45
29:X:1777:A:H1'	29:X:1921:A:N6	2.32	0.45
29:X:2036:G:O2'	29:X:2037:A:H5'	2.17	0.45
29:X:2324:G:C2	29:X:2360:C:H2'	2.52	0.45
29:X:2380:U:C4	29:X:2381:A:C2	3.05	0.45
29:X:2433:G:O2'	29:X:2434:G:H5'	2.17	0.45
29:X:2652:G:C2	29:X:2653:A:C8	3.05	0.45
29:X:2738:A:C2'	29:X:2739:G:H5'	2.46	0.45
29:X:2770:A:O2'	29:X:2771:C:P	2.75	0.45
29:X:2876:C:H2'	29:X:2877:A:C8	2.50	0.45
31:Z:38:C:OP2	31:Z:38:C:H6	1.98	0.45
6:A:143:HIS:HD2	6:A:196:VAL:HG12	1.82	0.45
6:A:144:ALA:O	6:A:153:ALA:CB	2.65	0.45
9:D:39:GLY:HA2	9:D:86:GLY:CA	2.46	0.45
9:D:70:ALA:O	9:D:82:GLY:HA2	2.17	0.45
10:E:156:ALA:C	10:E:157:TYR:CD1	2.95	0.45
12:G:45:ASP:O	12:G:54:LEU:HD11	2.16	0.45
12:G:162:LYS:NZ	29:X:2873:G:H21	2.15	0.45
13:H:17:ARG:HE	13:H:59:ALA:HB2	1.82	0.45
13:H:47:VAL:H	13:H:77:THR:HG21	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:H:110:VAL:HG12	13:H:111:PHE:H	1.82	0.45
15:J:15:ARG:HD3	15:J:73:LYS:NZ	2.31	0.45
15:J:27:TYR:O	15:J:28:VAL:C	2.59	0.45
15:J:29:ALA:C	15:J:30:PHE:HD2	2.25	0.45
19:N:82:GLY:O	19:N:83:LEU:C	2.59	0.45
23:R:93:ARG:HH11	23:R:93:ARG:CG	2.16	0.45
24:S:123:VAL:CA	24:S:161:ALA:HB2	2.45	0.45
29:X:13:A:C2	29:X:15:G:C6	3.04	0.45
29:X:33:C:N4	29:X:458:G:O2'	2.50	0.45
29:X:165:G:O2'	29:X:166:G:H5'	2.16	0.45
29:X:311:A:N3	29:X:330:C:H1'	2.32	0.45
29:X:496:C:C2'	29:X:497:C:H5''	2.47	0.45
29:X:529:U:H2'	29:X:530:G:C8	2.45	0.45
29:X:623:G:C6	29:X:627:A:N6	2.85	0.45
29:X:837:U:C2	29:X:838:A:C8	3.05	0.45
29:X:1072:U:O4'	29:X:1081:A:H1'	2.17	0.45
29:X:1147:G:C4	29:X:1148:G:C8	3.05	0.45
29:X:1376:C:H2'	29:X:1377:G:O4'	2.17	0.45
29:X:1586:A:C5	29:X:1587:A:N7	2.85	0.45
29:X:1730:G:C6	29:X:1737:G:N1	2.85	0.45
29:X:1773:C:O4'	29:X:2588:U:C2	2.70	0.45
29:X:2264:C:H4'	29:X:2267:A:C5	2.51	0.45
29:X:2646:C:H2'	29:X:2647:G:O4'	2.17	0.45
29:X:2756:A:O2'	29:X:2761:A:O2'	2.32	0.45
4:4:1:MET:HE3	4:4:35:ARG:CZ	2.47	0.45
6:A:61:LEU:HG	29:X:1584:G:H5''	1.99	0.45
7:B:147:PRO:HG3	29:X:1141:U:C2	2.51	0.45
8:C:165:SER:O	8:C:166:TRP:O	2.34	0.45
9:D:34:ILE:HD13	9:D:156:ILE:HA	1.99	0.45
9:D:94:GLU:O	9:D:98:VAL:HG23	2.17	0.45
11:F:26:ALA:O	11:F:30:TYR:HE2	2.00	0.45
12:G:98:LYS:HG3	12:G:116:ARG:HD3	1.99	0.45
13:H:4:PRO:O	13:H:5:GLN:HB2	2.17	0.45
15:J:12:LYS:O	15:J:13:GLN:CB	2.48	0.45
15:J:12:LYS:HD3	29:X:923:A:C6	2.52	0.45
18:M:100:ARG:HE	18:M:100:ARG:HB3	1.65	0.45
19:N:14:HIS:CD2	19:N:32:TYR:CE1	3.05	0.45
20:O:24:SER:O	20:O:25:LEU:C	2.60	0.45
21:P:11:LYS:O	21:P:13:GLN:N	2.50	0.45
22:Q:15:LYS:CG	29:X:1404:C:O2	2.64	0.45
23:R:17:LYS:HB3	23:R:18:LYS:CE	2.47	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:T:20:TYR:O	25:T:21:LEU:HB2	2.17	0.45
27:V:25:LEU:HD21	27:V:47:ARG:CD	2.47	0.45
28:W:40:VAL:O	28:W:40:VAL:HG12	2.17	0.45
29:X:24:G:C4	29:X:25:U:C6	3.05	0.45
29:X:330:C:C4	29:X:331:U:C4	3.05	0.45
29:X:677:G:H5'	29:X:951:G:H4'	1.98	0.45
29:X:764:A:C6	29:X:802:A:C6	3.05	0.45
29:X:849:G:C5	29:X:850:C:C4	3.04	0.45
29:X:876:A:C2	29:X:877:G:C4	3.05	0.45
29:X:1107:A:C2'	29:X:1108:U:H5''	2.47	0.45
29:X:1520:G:H2'	29:X:1521:U:O4'	2.17	0.45
29:X:1556:A:H2'	29:X:1557:G:H8	1.82	0.45
29:X:1558:C:C2'	29:X:1559:G:O5'	2.65	0.45
29:X:1714:A:OP2	29:X:1715:A:H3'	2.16	0.45
29:X:2030:U:O2'	29:X:2031:A:C5'	2.65	0.45
29:X:2229:G:N3	29:X:2229:G:O4'	2.46	0.45
29:X:2629:U:H2'	29:X:2630:C:H6	1.82	0.45
29:X:2847:G:C4	29:X:2848:A:N7	2.85	0.45
29:X:2849:C:H2'	29:X:2850:U:H5''	1.98	0.45
30:Y:6:VAL:HG13	30:Y:7:PRO:HD2	1.98	0.45
31:Z:2:C:HO5'	31:Z:2:C:H6	1.64	0.45
31:Z:15:A:N1	31:Z:72:C:H5'	2.31	0.45
31:Z:62:C:H2'	31:Z:63:A:H8	1.81	0.45
6:A:42:GLY:H	6:A:43:ARG:CZ	2.30	0.45
6:A:60:ARG:CZ	29:X:1583:A:OP1	2.64	0.45
6:A:101:GLU:CD	6:A:103:ARG:NE	2.75	0.45
7:B:154:LYS:HE3	29:X:2598:C:O2'	2.17	0.45
8:C:93:TYR:CE1	29:X:673:G:H5'	2.51	0.45
8:C:94:THR:HG21	29:X:618:A:OP1	2.17	0.45
8:C:119:ALA:HB3	8:C:189:ASP:CG	2.42	0.45
8:C:164:VAL:C	8:C:166:TRP:N	2.74	0.45
10:E:171:LEU:O	10:E:172:LYS:C	2.59	0.45
11:F:41:PHE:CE1	11:F:55:VAL:HG21	2.52	0.45
11:F:60:TYR:O	11:F:61:ALA:CB	2.65	0.45
12:G:93:LYS:HE3	29:X:1151:U:O4	2.17	0.45
12:G:125:ARG:O	12:G:126:VAL:C	2.59	0.45
13:H:3:MET:O	13:H:6:SER:HB2	2.16	0.45
17:L:76:ALA:HB1	17:L:111:GLY:CA	2.47	0.45
18:M:32:THR:HG22	18:M:33:VAL:H	1.82	0.45
19:N:79:PHE:CE2	19:N:83:LEU:CD1	2.99	0.45
20:O:97:GLY:C	20:O:98:ILE:O	2.60	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:Q:16:ALA:O	22:Q:19:ALA:HB3	2.16	0.45
22:Q:28:TRP:CZ3	22:Q:75:ARG:HB3	2.51	0.45
22:Q:84:GLU:HA	22:Q:84:GLU:OE2	2.17	0.45
23:R:23:ILE:HD12	23:R:23:ILE:O	2.17	0.45
23:R:68:GLY:C	23:R:69:GLN:HG3	2.42	0.45
24:S:8:ARG:O	24:S:10:PRO:HD3	2.17	0.45
24:S:173:PRO:HB2	24:S:174:PRO:HD2	1.98	0.45
26:U:12:ASN:O	26:U:13:LEU:O	2.35	0.45
28:W:9:VAL:CG1	28:W:17:VAL:HG22	2.47	0.45
28:W:15:ASN:O	28:W:18:LYS:N	2.49	0.45
29:X:194:G:O6	29:X:444:U:O2	2.35	0.45
29:X:522:G:HO2'	29:X:523:A:P	2.40	0.45
29:X:677:G:C4'	29:X:951:G:H5''	2.46	0.45
29:X:731:A:C2'	29:X:732:G:C4'	2.95	0.45
29:X:808:C:O2'	29:X:809:C:H5'	2.17	0.45
29:X:1008:G:C2	29:X:1170:U:C2	3.06	0.45
29:X:1073:G:H2'	29:X:1074:G:H8	1.81	0.45
29:X:1226:A:C2	29:X:1250:A:H1'	2.51	0.45
29:X:1399:C:O2'	29:X:1400:A:C5'	2.65	0.45
29:X:1778:U:C4	29:X:1779:C:N4	2.85	0.45
29:X:1793:A:H8	29:X:1793:A:O5'	1.99	0.45
29:X:1939:U:C4	29:X:1940:C:C4	3.05	0.45
29:X:2088:U:H2'	29:X:2089:C:C6	2.52	0.45
29:X:2179:C:H2'	29:X:2180:U:O4'	2.17	0.45
29:X:2487:G:C2	29:X:2561:G:C6	3.05	0.45
29:X:2870:C:H2'	29:X:2871:U:C6	2.52	0.45
6:A:82:ILE:HG21	6:A:91:ARG:HB3	1.98	0.44
7:B:85:ALA:N	7:B:86:PRO:HD2	2.30	0.44
8:C:191:ALA:O	8:C:194:GLU:C	2.59	0.44
9:D:123:ASP:CB	9:D:127:ASN:HB2	2.48	0.44
10:E:9:ILE:HG22	10:E:11:VAL:HG22	1.99	0.44
10:E:39:THR:C	10:E:41:LEU:N	2.74	0.44
11:F:53:ILE:HA	11:F:72:PRO:HA	1.99	0.44
12:G:53:ARG:C	12:G:55:ALA:N	2.73	0.44
15:J:59:PHE:HE2	15:J:114:GLN:O	2.00	0.44
15:J:99:LYS:O	15:J:100:PRO:C	2.59	0.44
16:K:66:VAL:CG1	16:K:70:ILE:HG13	2.48	0.44
17:L:15:ARG:CD	17:L:91:ARG:NH1	2.65	0.44
17:L:97:HIS:CD2	17:L:98:GLY:N	2.72	0.44
18:M:26:ASP:CG	18:M:27:PHE:N	2.74	0.44
19:N:31:GLN:NE2	29:X:589:C:C4'	2.73	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:N:93:LYS:HE3	20:O:5:ILE:HB	1.99	0.44
21:P:35:PRO:O	21:P:39:ARG:HD2	2.17	0.44
22:Q:25:TYR:CD2	22:Q:82:LEU:HD11	2.52	0.44
24:S:43:PHE:CE1	24:S:47:SER:HA	2.52	0.44
24:S:100:THR:HG23	24:S:138:VAL:CG2	2.46	0.44
26:U:21:ARG:NH1	29:X:394:U:OP2	2.50	0.44
29:X:82:G:C2	29:X:100:G:H2'	2.52	0.44
29:X:91:A:H2'	29:X:92:U:C6	2.52	0.44
29:X:474:G:N2	29:X:477:A:C8	2.85	0.44
29:X:757:U:H2'	29:X:758:G:C5'	2.47	0.44
29:X:1153:A:O2'	29:X:1154:A:C3'	2.65	0.44
29:X:1289:A:C2	29:X:1290:A:C8	3.05	0.44
29:X:1600:U:H5'	29:X:1601:U:OP1	2.16	0.44
29:X:1607:A:HO2'	29:X:1608:U:P	2.41	0.44
29:X:1715:A:H8	29:X:1715:A:OP1	1.99	0.44
29:X:1716:G:O3'	29:X:1717:A:H4'	2.17	0.44
29:X:1991:C:O2'	29:X:1992:G:H5'	2.17	0.44
29:X:2026:C:N3	29:X:2757:G:C2	2.85	0.44
29:X:2661:G:N2	29:X:2662:C:H1'	2.32	0.44
29:X:2707:G:H2'	29:X:2708:U:H6	1.82	0.44
29:X:2867:G:O2'	29:X:2868:G:OP2	2.35	0.44
6:A:37:LEU:CD1	29:X:1808:C:H41	2.29	0.44
6:A:39:LYS:HD2	6:A:39:LYS:HA	1.73	0.44
6:A:49:ILE:HG22	29:X:792:U:P	2.57	0.44
6:A:143:HIS:HE1	6:A:193:ILE:O	2.00	0.44
6:A:200:GLU:OE1	29:X:1812:U:N3	2.50	0.44
6:A:208:LYS:HD2	29:X:1764:A:N6	2.31	0.44
6:A:216:GLY:O	6:A:217:ARG:O	2.34	0.44
6:A:250:TRP:O	6:A:255:LYS:HD2	2.17	0.44
7:B:60:ASN:CB	7:B:62:PRO:HD2	2.46	0.44
8:C:83:ALA:O	8:C:84:PHE:CB	2.64	0.44
8:C:112:GLN:HB3	8:C:116:LYS:HD3	1.98	0.44
8:C:130:THR:O	8:C:131:LYS:C	2.60	0.44
8:C:144:GLY:HA2	8:C:166:TRP:NE1	2.32	0.44
9:D:108:LEU:O	9:D:111:ILE:HG13	2.16	0.44
10:E:83:TYR:CE1	10:E:138:LYS:HB2	2.52	0.44
12:G:66:HIS:CA	19:N:67:ALA:HB1	2.46	0.44
13:H:7:ARG:HA	13:H:20:MET:HA	1.99	0.44
13:H:13:ASN:C	13:H:15:GLY:N	2.74	0.44
15:J:99:LYS:CE	15:J:100:PRO:HD2	2.45	0.44
16:K:10:LEU:C	16:K:11:ASN:OD1	2.60	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:K:32:GLY:HA2	16:K:115:LEU:HD12	1.99	0.44
17:L:33:ARG:HH22	17:L:103:LEU:CA	2.31	0.44
18:M:38:LYS:O	18:M:40:ARG:N	2.50	0.44
19:N:40:LEU:HD13	20:O:74:TYR:CE1	2.53	0.44
19:N:91:ASN:HA	20:O:10:LYS:NZ	2.33	0.44
21:P:39:ARG:O	21:P:43:ASP:N	2.46	0.44
21:P:81:HIS:O	21:P:83:ASP:N	2.50	0.44
22:Q:51:ILE:CD1	22:Q:83:ALA:HA	2.37	0.44
22:Q:55:THR:O	22:Q:56:MET:CG	2.65	0.44
24:S:132:GLN:O	24:S:133:GLU:HB3	2.17	0.44
24:S:141:MET:HB3	24:S:145:ASP:HB2	2.00	0.44
25:T:32:LYS:HB2	25:T:35:ASN:ND2	2.32	0.44
26:U:63:SER:O	26:U:66:ALA:N	2.43	0.44
27:V:1:MET:HG3	27:V:3:PRO:CD	2.48	0.44
29:X:18:U:O2'	29:X:563:U:OP1	2.27	0.44
29:X:729:A:C2	29:X:730:C:OP2	2.70	0.44
29:X:939:C:C4'	29:X:940:G:O5'	2.65	0.44
29:X:984:A:C4	29:X:1202:U:C4	3.05	0.44
29:X:1003:C:O2	29:X:1003:C:H2'	2.16	0.44
29:X:1175:A:O2'	29:X:1176:U:H5'	2.17	0.44
29:X:1411:C:O2'	29:X:1412:C:H5'	2.17	0.44
29:X:1462:C:O2'	29:X:1463:A:H5'	2.18	0.44
29:X:1645:U:H2'	29:X:1646:G:O4'	2.17	0.44
29:X:1698:C:H4'	29:X:1699:A:OP2	2.13	0.44
29:X:1775:A:H3'	29:X:1775:A:P	2.55	0.44
29:X:1820:G:O2'	29:X:1821:A:C5'	2.65	0.44
29:X:2057:U:H1'	29:X:2577:A:N3	2.32	0.44
29:X:2634:G:O2'	29:X:2643:G:C6	2.71	0.44
29:X:2759:U:H4'	29:X:2760:G:H5''	1.99	0.44
31:Z:30:C:H2'	31:Z:31:A:C8	2.52	0.44
31:Z:120:G:C6	31:Z:121:G:N7	2.85	0.44
6:A:82:ILE:HA	6:A:92:ILE:O	2.17	0.44
6:A:88:ARG:HG2	6:A:90:ALA:CB	2.37	0.44
6:A:158:SER:O	6:A:196:VAL:CG2	2.63	0.44
6:A:179:SER:CB	29:X:1790:G:O6	2.65	0.44
6:A:205:VAL:HG23	6:A:207:GLY:H	1.81	0.44
6:A:218:LYS:HZ2	29:X:794:A:H5'	1.81	0.44
7:B:176:ARG:NE	18:M:16:ILE:HG12	2.24	0.44
8:C:98:GLN:NE2	29:X:611:C:O4'	2.48	0.44
8:C:112:GLN:NE2	8:C:116:LYS:HB2	2.33	0.44
9:D:115:ARG:CB	9:D:178:ARG:HD2	2.39	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:E:22:GLY:O	10:E:24:PHE:CD1	2.70	0.44
12:G:32:TYR:CD1	12:G:33:ILE:N	2.85	0.44
12:G:106:TYR:C	12:G:110:LEU:HG	2.42	0.44
12:G:107:GLN:HA	12:G:110:LEU:CG	2.43	0.44
13:H:22:ILE:HD11	29:X:1935:A:C4	2.52	0.44
14:I:18:ARG:HB2	14:I:21:ARG:CG	2.47	0.44
14:I:134:GLU:C	14:I:136:ALA:N	2.74	0.44
16:K:55:ALA:HA	16:K:80:MET:HE1	1.98	0.44
19:N:58:ARG:CZ	29:X:1008:G:OP2	2.65	0.44
19:N:74:MET:SD	19:N:110:VAL:HG13	2.57	0.44
20:O:36:LYS:NZ	20:O:55:THR:O	2.48	0.44
21:P:33:MET:HE1	21:P:64:ALA:HA	2.00	0.44
21:P:72:LEU:O	21:P:73:ASN:C	2.60	0.44
23:R:14:LEU:HD13	23:R:39:ALA:HB1	1.98	0.44
23:R:22:VAL:HG22	23:R:83:LEU:H	1.81	0.44
23:R:23:ILE:H	23:R:23:ILE:CD1	2.22	0.44
24:S:164:PRO:C	24:S:166:LEU:H	2.26	0.44
28:W:25:LEU:HA	28:W:25:LEU:HD23	1.60	0.44
29:X:467:U:O2	29:X:467:U:H3'	2.17	0.44
29:X:692:C:H2'	29:X:693:A:C8	2.52	0.44
29:X:1013:G:H8	29:X:1013:G:H5''	1.83	0.44
29:X:1135:C:C2	29:X:1136:G:N7	2.86	0.44
29:X:1182:U:H5'	29:X:1182:U:H6	1.81	0.44
29:X:1332:G:C2	29:X:1347:C:N3	2.86	0.44
29:X:1375:C:N3	29:X:1376:C:C6	2.85	0.44
29:X:1424:U:H2'	29:X:1425:G:H8	1.82	0.44
29:X:1569:A:C5	29:X:1571:G:C4	3.05	0.44
29:X:1629:G:H3'	29:X:1633:C:N4	2.33	0.44
29:X:1804:U:O2'	29:X:1805:G:H5'	2.16	0.44
29:X:1920:A:N6	29:X:1923:U:H5	2.16	0.44
29:X:1996:A:H2'	29:X:1997:A:H5'	1.97	0.44
29:X:2055:G:N1	29:X:2417:U:C2	2.85	0.44
29:X:2073:A:C6	29:X:2074:U:C4	3.06	0.44
29:X:2814:G:C4	29:X:2815:C:C6	3.05	0.44
31:Z:16:U:O2'	31:Z:110:U:O2'	2.35	0.44
6:A:255:LYS:O	29:X:1788:C:H4'	2.16	0.44
7:B:80:GLU:OE2	29:X:2615:U:C4'	2.64	0.44
9:D:40:LEU:HA	9:D:150:ARG:HH21	1.82	0.44
9:D:120:ASN:O	9:D:122:PHE:CE1	2.71	0.44
9:D:133:LYS:O	9:D:151:GLY:CA	2.64	0.44
12:G:39:GLN:O	12:G:40:ASN:C	2.60	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:G:58:ILE:O	12:G:59:ALA:C	2.60	0.44
12:G:122:HIS:O	12:G:123:PRO:C	2.60	0.44
13:H:121:ARG:HB3	13:H:123:PHE:CD1	2.52	0.44
14:I:41:SER:OG	29:X:845:U:OP1	2.32	0.44
15:J:112:GLU:O	15:J:115:ALA:HB3	2.17	0.44
16:K:56:LYS:O	16:K:56:LYS:HG2	2.16	0.44
21:P:39:ARG:HH12	29:X:528:G:H5'	1.83	0.44
21:P:87:GLU:HA	21:P:90:LEU:CG	2.47	0.44
23:R:108:VAL:HB	23:R:109:ALA:H	1.44	0.44
24:S:70:GLN:NE2	24:S:70:GLN:HA	2.33	0.44
24:S:137:ASP:C	24:S:138:VAL:HG13	2.43	0.44
28:W:37:THR:HA	28:W:41:ARG:NH2	2.32	0.44
29:X:59:G:N3	29:X:73:A:C2	2.85	0.44
29:X:208:C:N4	29:X:209:G:H21	2.15	0.44
29:X:309:G:C2	29:X:350:U:C4	3.05	0.44
29:X:580:A:C5	29:X:584:A:N7	2.86	0.44
29:X:632:A:H2'	29:X:633:G:C5'	2.47	0.44
29:X:757:U:C2'	29:X:758:G:C5'	2.92	0.44
29:X:936:A:H2'	29:X:937:C:C6	2.52	0.44
29:X:944:A:O2'	29:X:945:G:H5'	2.17	0.44
29:X:1038:U:O2	29:X:2466:G:O3'	2.35	0.44
29:X:1136:G:H3'	29:X:1137:A:H8	1.82	0.44
29:X:1248:G:C6	29:X:1249:G:N1	2.86	0.44
29:X:1372:A:C5	29:X:1373:G:C8	3.05	0.44
29:X:1816:G:C6	29:X:1817:U:C4	3.05	0.44
29:X:1947:G:N1	29:X:1950:C:C4	2.85	0.44
29:X:1963:G:N3	29:X:1965:U:C5	2.86	0.44
29:X:2036:G:C2'	29:X:2037:A:H5'	2.47	0.44
29:X:2311:U:O2	29:X:2311:U:C3'	2.65	0.44
29:X:2526:U:O2'	29:X:2527:G:H5'	2.17	0.44
29:X:2576:G:C6	29:X:2577:A:N6	2.86	0.44
29:X:2824:C:H1'	29:X:2843:A:C5	2.51	0.44
31:Z:3:A:C8	31:Z:3:A:O5'	2.71	0.44
31:Z:22:U:H2'	31:Z:23:G:C8	2.53	0.44
31:Z:25:G:H2'	31:Z:26:G:C8	2.52	0.44
31:Z:75:A:C6	31:Z:76:U:C2	3.05	0.44
6:A:149:PRO:CA	6:A:189:CYS:SG	3.06	0.44
6:A:249:PRO:CG	29:X:2218:G:H5'	2.47	0.44
7:B:59:VAL:HG21	7:B:74:PRO:HB3	1.99	0.44
8:C:138:LYS:C	8:C:140:ASN:N	2.75	0.44
8:C:161:ALA:HB3	8:C:169:VAL:HG21	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:D:93:GLY:N	9:D:96:MET:HE2	2.32	0.44
10:E:10:ALA:O	10:E:12:PRO:HD3	2.18	0.44
10:E:103:LEU:HG	10:E:105:MET:HE3	1.99	0.44
11:F:69:THR:HG22	11:F:70:LYS:N	2.32	0.44
14:I:116:ARG:CG	14:I:117:ALA:H	2.30	0.44
16:K:10:LEU:HD23	16:K:17:ARG:HB2	1.95	0.44
20:O:13:ARG:O	20:O:14:VAL:HG23	2.17	0.44
21:P:18:VAL:CG1	21:P:19:LYS:N	2.80	0.44
23:R:17:LYS:O	23:R:19:GLY:N	2.51	0.44
24:S:1:MET:N	24:S:52:PHE:HE2	2.15	0.44
24:S:127:PRO:O	24:S:128:ARG:CB	2.65	0.44
25:T:29:GLU:O	25:T:31:VAL:N	2.50	0.44
26:U:53:GLU:OE1	26:U:57:VAL:HG13	2.18	0.44
27:V:14:PHE:HE2	27:V:57:LYS:H	1.65	0.44
28:W:3:ILE:HD11	28:W:44:VAL:CG2	2.47	0.44
29:X:965:G:H2'	29:X:966:A:O4'	2.18	0.44
29:X:981:C:O2	29:X:995:A:O2'	2.35	0.44
29:X:1005:U:O2	29:X:1007:A:N7	2.51	0.44
29:X:1215:A:C2	29:X:1258:G:C4	3.05	0.44
29:X:1281:A:H2'	29:X:1282:A:H8	1.82	0.44
29:X:1351:G:C2	29:X:1352:G:C4	3.06	0.44
29:X:1375:C:N3	29:X:1376:C:C5	2.85	0.44
29:X:1842:G:H2'	29:X:1843:U:O4'	2.17	0.44
29:X:1922:U:O2'	29:X:2571:G:C1'	2.66	0.44
29:X:2212:U:C2'	29:X:2213:G:H8	2.29	0.44
29:X:2239:C:N3	29:X:2240:C:C5	2.86	0.44
29:X:2307:A:H2'	29:X:2308:A:H8	1.80	0.44
29:X:2493:U:N3	29:X:2494:C:N4	2.65	0.44
29:X:2618:A:H1'	29:X:2758:A:C2	2.52	0.44
29:X:2759:U:H5''	29:X:2760:G:H3'	1.98	0.44
29:X:2767:C:O2'	29:X:2768:C:H5'	2.17	0.44
31:Z:16:U:O2'	31:Z:110:U:H1'	2.18	0.44
4:4:8:LYS:H	4:4:34:GLN:HE22	1.66	0.44
4:4:15:LYS:HB2	4:4:26:ILE:CG1	2.47	0.44
6:A:50:THR:CG2	29:X:1805:G:H21	2.31	0.44
6:A:204:ILE:O	6:A:204:ILE:HG22	2.17	0.44
6:A:247:VAL:CG2	6:A:248:THR:H	2.31	0.44
6:A:249:PRO:CD	29:X:2218:G:H5'	2.48	0.44
6:A:257:LEU:HD23	6:A:257:LEU:HA	1.64	0.44
9:D:33:LYS:HE3	9:D:157:VAL:HG21	1.98	0.44
11:F:100:ASN:O	11:F:103:GLN:NE2	2.51	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:G:75:ILE:HD13	12:G:144:MET:HG2	1.99	0.44
12:G:123:PRO:N	12:G:124:GLU:OE1	2.50	0.44
13:H:22:ILE:HG21	13:H:52:VAL:HG12	1.99	0.44
14:I:7:LYS:HD3	14:I:7:LYS:N	2.32	0.44
14:I:117:ALA:HA	14:I:137:GLY:C	2.42	0.44
15:J:99:LYS:CD	15:J:100:PRO:CD	2.95	0.44
16:K:60:LEU:O	16:K:61:HIS:C	2.59	0.44
16:K:90:ARG:HA	16:K:91:PRO:HD3	1.62	0.44
17:L:39:TYR:O	17:L:41:GLN:N	2.51	0.44
21:P:41:VAL:O	21:P:44:VAL:HG22	2.18	0.44
21:P:78:ASN:C	21:P:80:LEU:H	2.26	0.44
23:R:41:PRO:O	23:R:44:GLN:OE1	2.35	0.44
24:S:24:TYR:O	24:S:85:MET:HB2	2.17	0.44
25:T:65:GLY:CA	25:T:83:ALA:HA	2.47	0.44
26:U:20:ARG:HD3	26:U:43:ARG:NH2	2.32	0.44
28:W:38:PRO:HA	28:W:41:ARG:CD	2.47	0.44
29:X:33:C:O2'	29:X:34:U:OP1	2.30	0.44
29:X:76:C:H2'	29:X:77:C:H6	1.83	0.44
29:X:121:G:O3'	29:X:1389:C:H4'	2.17	0.44
29:X:184:A:C8	29:X:185:C:C5	3.05	0.44
29:X:204:A:N7	29:X:2386:G:C4'	2.81	0.44
29:X:416:U:H4'	29:X:419:G:C1'	2.47	0.44
29:X:644:A:H2'	29:X:645:G:C4'	2.47	0.44
29:X:671:A:H2'	29:X:672:C:C6	2.53	0.44
29:X:777:A:C3'	29:X:778:G:H5'	2.47	0.44
29:X:1174:G:N2	29:X:1175:A:C5	2.86	0.44
29:X:1230:C:N3	29:X:1231:A:N7	2.66	0.44
29:X:1399:C:H2'	29:X:1400:A:C8	2.45	0.44
29:X:1552:C:O2	29:X:1553:G:C2	2.71	0.44
29:X:1621:C:O4'	29:X:1626:A:C6	2.70	0.44
29:X:1832:G:C6	29:X:1833:U:C4	3.06	0.44
29:X:1840:A:C8	29:X:1841:G:C8	3.06	0.44
29:X:2031:A:C6	29:X:2600:A:N1	2.85	0.44
29:X:2033:C:C4	29:X:2034:A:C6	3.06	0.44
29:X:2063:A:H2'	29:X:2064:U:H6	1.82	0.44
29:X:2085:G:H2'	29:X:2086:U:C6	2.53	0.44
29:X:2232:G:H2'	29:X:2233:C:C6	2.53	0.44
29:X:2327:U:O4	29:X:2361:G:N2	2.51	0.44
29:X:2329:C:H2'	29:X:2330:G:C8	2.53	0.44
29:X:2423:G:C2	29:X:2424:G:H1'	2.53	0.44
29:X:2666:U:C5	29:X:2667:C:C4	3.06	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2690:A:OP1	29:X:2692:A:OP1	2.36	0.44
29:X:2714:A:H2'	29:X:2715:C:O4'	2.18	0.44
29:X:2828:C:O2'	29:X:2829:A:H5'	2.17	0.44
31:Z:116:C:H2'	31:Z:117:G:O4'	2.18	0.44
6:A:147:LEU:HD23	6:A:147:LEU:HA	1.83	0.44
6:A:159:ALA:O	29:X:1812:U:C2	2.70	0.44
6:A:160:GLY:HA2	6:A:197:GLY:HA2	2.00	0.44
7:B:117:MET:SD	7:B:136:ARG:HG3	2.58	0.44
7:B:143:GLN:N	7:B:143:GLN:NE2	2.61	0.44
9:D:94:GLU:O	9:D:95:ARG:C	2.60	0.44
10:E:54:ARG:HE	10:E:57:ASP:CA	2.29	0.44
11:F:42:ASN:HA	11:F:45:THR:HG21	1.99	0.44
12:G:43:VAL:O	12:G:167:LYS:HG3	2.18	0.44
12:G:119:LEU:HD23	12:G:119:LEU:HA	1.64	0.44
13:H:60:PRO:C	13:H:61:ARG:HG3	2.43	0.44
16:K:44:LEU:HD12	16:K:44:LEU:C	2.42	0.44
17:L:101:LYS:O	17:L:102:ALA:C	2.58	0.44
18:M:93:ILE:CG2	18:M:94:VAL:N	2.81	0.44
19:N:60:LEU:HD11	19:N:64:ARG:CZ	2.48	0.44
22:Q:8:GLN:O	22:Q:9:ALA:HB2	2.17	0.44
23:R:95:ARG:O	23:R:96:LYS:HB3	2.17	0.44
24:S:6:LYS:HB2	24:S:31:SER:CB	2.45	0.44
24:S:67:LYS:HB3	24:S:82:ASP:CB	2.48	0.44
24:S:91:PRO:C	24:S:92:VAL:HG22	2.42	0.44
26:U:11:LYS:O	26:U:12:ASN:HB2	2.17	0.44
29:X:1:G:H2'	29:X:2:G:O4'	2.17	0.44
29:X:320:A:O2'	29:X:340:G:H2'	2.18	0.44
29:X:338:G:N7	29:X:343:A:N7	2.66	0.44
29:X:353:G:H2'	29:X:354:C:C6	2.53	0.44
29:X:427:C:H1'	29:X:1856:U:C1'	2.41	0.44
29:X:532:A:H2'	29:X:533:C:H6	1.82	0.44
29:X:676:G:C6	29:X:677:G:C5	3.06	0.44
29:X:915:C:O2'	29:X:916:U:H5'	2.18	0.44
29:X:972:C:H5'	29:X:973:U:P	2.58	0.44
29:X:973:U:C4	29:X:974:U:C5	3.06	0.44
29:X:1031:C:P	29:X:1045:G:H21	2.40	0.44
29:X:1094:C:C2'	29:X:1096:A:H5'	2.46	0.44
29:X:1183:C:H2'	29:X:1184:G:C8	2.53	0.44
29:X:1385:C:H1'	29:X:2192:U:C4	2.52	0.44
29:X:1515:U:O2'	29:X:1516:A:H5'	2.18	0.44
29:X:1652:G:C6	29:X:1653:C:C4	3.05	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1949:A:C2	29:X:2572:U:O4'	2.70	0.44
29:X:2022:C:C4	29:X:2023:C:C5	3.05	0.44
29:X:2229:G:HO2'	29:X:2230:G:P	2.41	0.44
29:X:2232:G:H2'	29:X:2233:C:H6	1.83	0.44
29:X:2301:A:C5	29:X:2312:A:N6	2.85	0.44
29:X:2499:C:O2'	29:X:2500:C:H5'	2.17	0.44
29:X:2586:G:C2	29:X:2587:G:C4	3.05	0.44
29:X:2698:G:O2'	29:X:2822:U:OP1	2.35	0.44
29:X:2861:A:O2'	30:Y:31:THR:HG23	2.18	0.44
7:B:75:THR:CG2	7:B:78:LEU:HD21	2.48	0.44
7:B:136:ARG:HH11	7:B:136:ARG:CB	2.31	0.44
7:B:141:ILE:CG2	7:B:150:VAL:CG1	2.95	0.44
8:C:158:ARG:HD2	8:C:169:VAL:CG1	2.48	0.44
9:D:80:ARG:CG	9:D:81:GLN:N	2.80	0.44
11:F:13:PRO:HG3	11:F:52:ILE:CG1	2.46	0.44
11:F:63:ARG:HD3	11:F:63:ARG:N	2.32	0.44
12:G:104:THR:C	12:G:105:GLY:O	2.61	0.44
13:H:79:HIS:O	13:H:90:ARG:HB3	2.17	0.44
15:J:89:GLY:C	15:J:91:VAL:N	2.72	0.44
17:L:89:PHE:CD1	17:L:89:PHE:N	2.83	0.44
21:P:8:PHE:O	21:P:17:GLN:NE2	2.46	0.44
21:P:39:ARG:HH22	29:X:528:G:H5'	1.83	0.44
21:P:118:LYS:HD2	21:P:120:ARG:NH2	2.33	0.44
22:Q:3:HIS:O	22:Q:5:ASP:N	2.51	0.44
24:S:98:VAL:HG11	24:S:168:VAL:HG12	1.98	0.44
27:V:6:MET:CE	27:V:52:GLN:HB3	2.43	0.44
29:X:26:G:H1'	29:X:524:A:H61	1.82	0.44
29:X:84:G:N3	29:X:101:A:C2	2.86	0.44
29:X:161:U:C4	29:X:190:A:N6	2.86	0.44
29:X:423:G:C6	29:X:431:G:C6	3.06	0.44
29:X:469:G:H22	29:X:480:G:H2'	1.82	0.44
29:X:679:C:H2'	29:X:680:U:C6	2.52	0.44
29:X:959:C:H2'	29:X:960:U:C6	2.52	0.44
29:X:1142:G:HO2'	29:X:1143:A:H8	1.61	0.44
29:X:1269:G:C2	29:X:1270:C:C6	3.04	0.44
29:X:1369:G:N2	29:X:1370:U:H1'	2.33	0.44
29:X:1414:G:H2'	29:X:1415:C:O4'	2.18	0.44
29:X:1502:G:N1	29:X:1503:G:C5	2.86	0.44
29:X:1926:U:N1	29:X:1928:G:H5'	2.33	0.44
29:X:1974:U:H2'	29:X:1975:G:C5'	2.47	0.44
29:X:2174:G:H2'	29:X:2175:A:H8	1.83	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2298:U:O2'	29:X:2299:A:C4	2.68	0.44
29:X:2697:G:O2'	29:X:2698:G:H5'	2.18	0.44
30:Y:55:ARG:CZ	30:Y:59:ALA:HB2	2.47	0.44
6:A:144:ALA:O	6:A:145:LEU:C	2.61	0.44
6:A:164:GLN:NE2	6:A:176:ARG:NH1	2.66	0.44
6:A:181:GLU:C	6:A:182:LEU:HD23	2.43	0.44
8:C:45:THR:HG22	8:C:45:THR:O	2.18	0.44
10:E:25:LYS:C	10:E:26:VAL:HG23	2.43	0.44
13:H:53:ALA:N	13:H:70:VAL:O	2.46	0.44
13:H:119:ARG:HH12	13:H:124:MET:HE1	1.83	0.44
14:I:11:GLY:O	14:I:12:SER:C	2.60	0.44
14:I:11:GLY:O	14:I:13:ARG:N	2.50	0.44
14:I:18:ARG:CG	14:I:21:ARG:HD3	2.47	0.44
15:J:19:THR:CG2	15:J:99:LYS:HZ3	2.28	0.44
19:N:82:GLY:C	19:N:84:LYS:N	2.68	0.44
20:O:32:LYS:HD3	20:O:32:LYS:HA	1.89	0.44
20:O:97:GLY:O	20:O:98:ILE:O	2.35	0.44
24:S:35:ASP:OD1	24:S:38:ALA:N	2.36	0.44
24:S:112:LEU:O	24:S:172:LEU:N	2.48	0.44
24:S:172:LEU:HD23	24:S:172:LEU:HA	1.81	0.44
24:S:172:LEU:HD22	24:S:173:PRO:HD2	1.99	0.44
26:U:52:ARG:NH1	26:U:67:LEU:HD11	2.33	0.44
28:W:5:LEU:HD13	28:W:51:LEU:HD23	2.00	0.44
29:X:209:G:N2	29:X:433:G:OP1	2.51	0.44
29:X:714:G:C6	29:X:715:U:C5	3.06	0.44
29:X:857:U:C3'	29:X:858:G:H8	2.24	0.44
29:X:862:A:C4	29:X:863:C:C6	3.06	0.44
29:X:927:C:O2	31:Z:103:A:H4'	2.17	0.44
29:X:985:G:C4	29:X:1200:G:N2	2.85	0.44
29:X:1928:G:C2	29:X:1929:U:C2	3.06	0.44
29:X:2262:C:C2	29:X:2368:G:C2	3.06	0.44
29:X:2271:C:H2'	29:X:2272:A:C8	2.52	0.44
29:X:2321:C:O2	29:X:2321:C:H2'	2.18	0.44
7:B:110:GLY:O	16:K:3:HIS:CD2	2.71	0.43
8:C:3:GLN:HE22	8:C:4:ILE:HG13	1.81	0.43
8:C:28:HIS:CG	14:I:21:ARG:NH1	2.86	0.43
8:C:61:GLN:HA	8:C:61:GLN:HE21	1.80	0.43
8:C:95:LEU:O	8:C:96:PRO:C	2.61	0.43
8:C:101:GLN:C	8:C:103:GLY:H	2.25	0.43
8:C:179:ASP:HA	8:C:182:ARG:HB3	1.99	0.43
9:D:8:TYR:CD1	9:D:173:MET:SD	2.97	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:D:88:LYS:HE3	29:X:2293:G:OP1	2.18	0.43
11:F:7:ILE:HG23	11:F:57:ILE:O	2.18	0.43
11:F:26:ALA:HB1	11:F:27:LEU:HD12	2.00	0.43
11:F:49:GLY:O	11:F:50:ASP:HB2	2.18	0.43
12:G:55:ALA:CB	12:G:134:MET:HE1	2.48	0.43
12:G:107:GLN:O	12:G:109:GLY:N	2.47	0.43
14:I:18:ARG:C	14:I:19:VAL:HG23	2.41	0.43
15:J:26:ASP:O	15:J:27:TYR:HD1	2.01	0.43
18:M:10:GLY:HA3	29:X:2850:U:O2'	2.18	0.43
19:N:66:ASN:CG	19:N:76:TYR:HB2	2.42	0.43
19:N:81:ASN:CG	19:N:85:ARG:HE	2.25	0.43
21:P:39:ARG:HH12	29:X:528:G:H5'	1.81	0.43
22:Q:89:GLU:HB3	22:Q:91:LEU:HD23	2.00	0.43
25:T:46:LYS:HB2	25:T:78:PHE:CE2	2.52	0.43
27:V:13:ASP:O	27:V:14:PHE:C	2.60	0.43
27:V:64:GLY:O	27:V:65:GLU:HB2	2.17	0.43
29:X:197:G:N2	29:X:242:A:H62	2.15	0.43
29:X:349:G:H3'	29:X:350:U:C5	2.52	0.43
29:X:601:A:C2'	29:X:602:C:OP1	2.65	0.43
29:X:688:A:C2	29:X:689:A:N7	2.86	0.43
29:X:757:U:H2'	29:X:758:G:H5'	1.98	0.43
29:X:930:A:N7	29:X:931:G:C8	2.85	0.43
29:X:1055:A:C4	29:X:1055:A:C3'	2.83	0.43
29:X:1092:U:H2'	29:X:1093:U:H6	1.82	0.43
29:X:1114:A:N3	29:X:1114:A:H2'	2.33	0.43
29:X:1539:U:C2	29:X:1540:C:C5	3.06	0.43
29:X:1549:C:H2'	29:X:1550:C:C6	2.52	0.43
29:X:1973:C:H2'	29:X:1974:U:O4'	2.16	0.43
29:X:1998:A:H1'	30:Y:3:LYS:HG2	1.99	0.43
29:X:2048:C:H1'	29:X:2428:U:N3	2.33	0.43
29:X:2212:U:C2'	29:X:2213:G:C8	2.90	0.43
29:X:2277:A:H2'	29:X:2278:A:O4'	2.17	0.43
29:X:2438:A:C6	29:X:2439:U:C2	3.06	0.43
29:X:2491:C:N3	29:X:2492:G:C8	2.86	0.43
29:X:2663:U:N3	29:X:2664:G:N7	2.65	0.43
29:X:2663:U:C4	29:X:2664:G:N7	2.86	0.43
29:X:2787:A:C4	29:X:2788:C:C5	3.06	0.43
30:Y:46:CYS:HA	30:Y:47:PRO:HD2	1.80	0.43
31:Z:35:C:O2'	31:Z:36:A:H5'	2.18	0.43
6:A:135:PHE:CD2	6:A:135:PHE:N	2.85	0.43
6:A:182:LEU:O	6:A:268:ARG:HB2	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:B:189:PRO:HB3	29:X:2658:A:O2'	2.17	0.43
9:D:13:ARG:NH2	9:D:14:PRO:HG3	2.32	0.43
9:D:75:SER:HB2	9:D:79:LEU:HD13	1.99	0.43
10:E:163:ARG:HD3	10:E:167:GLU:HB3	2.01	0.43
12:G:39:GLN:HB2	12:G:79:PHE:CE1	2.52	0.43
12:G:150:VAL:O	12:G:151:TYR:CD1	2.71	0.43
14:I:55:ARG:O	14:I:56:LEU:HB2	2.17	0.43
14:I:66:ASN:ND2	14:I:68:VAL:HG23	2.26	0.43
14:I:82:ASP:HA	14:I:114:ILE:HG21	2.00	0.43
15:J:86:LYS:CD	29:X:2256:G:OP2	2.66	0.43
16:K:3:HIS:CE1	29:X:2795:A:O3'	2.68	0.43
16:K:76:VAL:CG1	16:K:77:ARG:N	2.82	0.43
18:M:78:GLU:OE2	18:M:108:ARG:CZ	2.65	0.43
19:N:14:HIS:CD2	19:N:32:TYR:CD1	3.06	0.43
22:Q:28:TRP:CE3	22:Q:77:LYS:N	2.86	0.43
24:S:25:ASN:O	24:S:26:LYS:HB3	2.18	0.43
24:S:84:TYR:O	24:S:85:MET:C	2.60	0.43
26:U:41:VAL:HG21	26:U:43:ARG:HH22	1.82	0.43
28:W:5:LEU:HD12	28:W:6:VAL:N	2.33	0.43
28:W:40:VAL:HG23	29:X:940:G:O2'	2.17	0.43
28:W:44:VAL:O	28:W:45:LYS:C	2.60	0.43
29:X:148:C:OP1	29:X:148:C:C6	2.68	0.43
29:X:1004:A:O2'	29:X:1005:U:H5'	2.18	0.43
29:X:1030:U:H5'	29:X:1132:C:H1'	1.99	0.43
29:X:1051:U:C6	29:X:1051:U:H3'	2.52	0.43
29:X:1186:G:H21	29:X:1187:A:H62	1.66	0.43
29:X:1237:G:H2'	29:X:1238:A:C8	2.53	0.43
29:X:1388:C:O5'	29:X:1388:C:H6	2.01	0.43
29:X:1436:G:C4	29:X:1437:A:C8	3.07	0.43
29:X:1445:A:H2'	29:X:1446:U:C6	2.53	0.43
29:X:1479:G:H2'	29:X:1480:G:H8	1.83	0.43
29:X:1707:A:H3'	29:X:1708:C:H6	1.83	0.43
29:X:1786:C:C2	29:X:1787:U:C6	3.05	0.43
29:X:1811:A:HO2'	29:X:1812:U:P	2.41	0.43
29:X:1916:G:H2'	29:X:1917:C:O4'	2.17	0.43
29:X:2372:A:H2'	29:X:2373:C:C6	2.51	0.43
29:X:2642:G:H2'	29:X:2643:G:O5'	2.18	0.43
29:X:2663:U:H2'	29:X:2664:G:O4'	2.17	0.43
29:X:2667:C:H5	29:X:2699:G:C5	2.36	0.43
31:Z:17:A:OP2	31:Z:110:U:O2	2.36	0.43
4:4:27:CYS:O	4:4:28:SER:C	2.61	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:A:133:LEU:O	6:A:134:ARG:C	2.61	0.43
6:A:227:ASN:CG	29:X:797:A:H5'	2.43	0.43
8:C:6:VAL:HG23	8:C:118:VAL:HG23	1.99	0.43
8:C:86:PRO:HD3	29:X:1261:G:O5'	2.18	0.43
8:C:145:THR:O	8:C:145:THR:HG22	2.19	0.43
9:D:80:ARG:N	9:D:80:ARG:CD	2.81	0.43
9:D:138:PHE:CE2	9:D:152:MET:SD	3.11	0.43
10:E:33:LEU:O	10:E:34:THR:CG2	2.65	0.43
10:E:144:VAL:O	10:E:145:ALA:C	2.61	0.43
11:F:74:MET:HE1	11:F:107:ILE:HA	1.99	0.43
12:G:90:LEU:HD23	12:G:94:LYS:HA	1.99	0.43
14:I:9:THR:OG1	29:X:1218:C:H4'	2.18	0.43
14:I:101:ARG:HD3	29:X:637:G:O6	2.18	0.43
15:J:11:ARG:HB3	15:J:12:LYS:H	1.47	0.43
15:J:33:TYR:O	15:J:106:GLU:CA	2.66	0.43
17:L:38:ILE:HG13	17:L:39:TYR:N	2.32	0.43
17:L:72:GLY:HA3	17:L:106:ALA:HB3	2.00	0.43
20:O:65:ARG:HG2	20:O:87:ARG:CD	2.47	0.43
21:P:95:ALA:HB1	21:P:126:ILE:HB	2.00	0.43
24:S:42:ALA:C	24:S:44:ARG:N	2.76	0.43
24:S:59:GLY:C	24:S:60:GLU:HG3	2.43	0.43
28:W:27:LYS:O	28:W:28:ILE:O	2.35	0.43
28:W:45:LYS:HE3	28:W:45:LYS:N	2.33	0.43
29:X:161:U:H2'	29:X:162:C:C6	2.52	0.43
29:X:182:G:O2'	29:X:183:U:OP2	2.37	0.43
29:X:514:G:H2'	29:X:514:G:N3	2.33	0.43
29:X:991:A:C6	29:X:992:A:N1	2.85	0.43
29:X:1039:A:C5	29:X:1136:G:N2	2.85	0.43
29:X:1082:G:H1'	29:X:1100:G:C4	2.53	0.43
29:X:1126:A:C2	29:X:1127:C:C2	3.06	0.43
29:X:1144:U:H2'	29:X:1147:G:OP1	2.18	0.43
29:X:1174:G:N3	29:X:1175:A:C8	2.86	0.43
29:X:1375:C:C4	29:X:1376:C:C5	3.06	0.43
29:X:1549:C:H2'	29:X:1550:C:O4'	2.18	0.43
29:X:1830:C:H41	29:X:1881:U:C3'	2.25	0.43
29:X:2167:A:H2'	29:X:2168:A:C8	2.53	0.43
29:X:2198:U:C2'	29:X:2199:C:O4'	2.58	0.43
29:X:2319:G:C2'	29:X:2320:G:H5'	2.48	0.43
29:X:2383:C:C6	29:X:2393:G:N2	2.86	0.43
29:X:2523:G:O2'	29:X:2524:G:H5'	2.19	0.43
29:X:2778:U:H4'	29:X:2779:C:O2	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2820:C:O2	29:X:2821:G:C8	2.71	0.43
29:X:2849:C:C2'	29:X:2850:U:C5'	2.96	0.43
29:X:2861:A:H2'	29:X:2862:G:H8	1.84	0.43
30:Y:31:THR:CG2	30:Y:32:GLU:N	2.81	0.43
6:A:97:TYR:C	6:A:99:ASP:N	2.76	0.43
7:B:1:MET:O	7:B:2:LYS:O	2.35	0.43
7:B:37:LYS:HB3	7:B:42:ASP:OD1	2.19	0.43
7:B:59:VAL:HG21	7:B:74:PRO:CB	2.48	0.43
7:B:85:ALA:H	7:B:86:PRO:HD2	1.83	0.43
7:B:178:GLY:O	7:B:179:GLU:CG	2.63	0.43
8:C:75:PRO:HG2	8:C:83:ALA:HB2	1.93	0.43
8:C:112:GLN:NE2	8:C:116:LYS:CB	2.82	0.43
8:C:125:ILE:CD1	8:C:133:PHE:HA	2.48	0.43
8:C:139:GLN:CA	8:C:139:GLN:NE2	2.74	0.43
9:D:33:LYS:O	9:D:157:VAL:HG23	2.19	0.43
9:D:41:GLY:O	9:D:43:SER:N	2.50	0.43
9:D:97:TYR:HA	9:D:100:LEU:HB3	1.99	0.43
10:E:133:VAL:HG12	10:E:141:VAL:HG13	2.00	0.43
11:F:19:PRO:HD2	11:F:22:PRO:HG2	2.00	0.43
12:G:110:LEU:HD23	12:G:110:LEU:H	1.77	0.43
13:H:24:VAL:HG22	13:H:45:ALA:HB2	2.00	0.43
14:I:17:LYS:HE2	29:X:1258:G:P	2.57	0.43
14:I:47:ALA:C	14:I:49:PHE:H	2.25	0.43
14:I:58:ALA:C	14:I:60:LEU:H	2.26	0.43
15:J:69:ILE:HG13	15:J:69:ILE:O	2.18	0.43
15:J:86:LYS:HD2	29:X:2256:G:OP2	2.18	0.43
20:O:74:TYR:OH	20:O:76:SER:CB	2.65	0.43
22:Q:3:HIS:C	22:Q:5:ASP:OD2	2.61	0.43
23:R:86:PRO:O	23:R:87:GLU:HB2	2.18	0.43
29:X:23:G:C6	29:X:528:G:C6	3.07	0.43
29:X:82:G:C8	29:X:82:G:OP2	2.72	0.43
29:X:131:C:O2'	29:X:132:U:H5'	2.17	0.43
29:X:164:G:C2	29:X:187:U:O2	2.71	0.43
29:X:166:G:H2'	29:X:182:G:N2	2.34	0.43
29:X:421:G:O2'	29:X:422:C:H5'	2.18	0.43
29:X:471:A:C2	29:X:481:A:C4	3.06	0.43
29:X:822:G:O2'	29:X:823:U:H5'	2.18	0.43
29:X:830:C:O2'	29:X:831:G:H5'	2.19	0.43
29:X:840:U:H2'	29:X:2051:U:O2	2.18	0.43
29:X:965:G:H1'	29:X:2253:A:N1	2.32	0.43
29:X:1025:A:C2	29:X:1160:C:C2	3.06	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1051:U:C6	29:X:1051:U:C3'	3.02	0.43
29:X:1097:A:H3'	29:X:1097:A:N3	2.33	0.43
29:X:1255:A:C4	29:X:1256:C:C5	3.06	0.43
29:X:1275:A:N3	30:Y:10:LYS:CE	2.81	0.43
29:X:1371:G:H3'	29:X:1371:G:C8	2.53	0.43
29:X:1529:C:H2'	29:X:1530:U:O4'	2.17	0.43
29:X:1681:A:C2	29:X:2706:U:N1	2.86	0.43
29:X:1785:A:H2'	29:X:1786:C:C6	2.52	0.43
29:X:2018:G:O2'	29:X:2019:C:OP1	2.35	0.43
29:X:2351:G:C2	29:X:2352:A:C8	3.07	0.43
29:X:2386:G:O2'	29:X:2387:U:H5'	2.19	0.43
29:X:2594:U:C6	30:Y:7:PRO:HA	2.53	0.43
29:X:2876:C:H2'	29:X:2877:A:N9	2.34	0.43
31:Z:15:A:C2'	31:Z:16:U:H5''	2.49	0.43
31:Z:42:U:H2'	31:Z:45:C:H5	1.82	0.43
4:4:29:ASN:OD1	4:4:29:ASN:C	2.61	0.43
6:A:93:ALA:N	6:A:105:ILE:O	2.41	0.43
6:A:159:ALA:HB1	29:X:1812:U:O2	2.18	0.43
6:A:244:ARG:HB3	6:A:252:LYS:HZ3	1.79	0.43
7:B:109:LYS:NZ	29:X:2703:C:OP2	2.50	0.43
10:E:110:SER:OG	29:X:2646:C:N3	2.47	0.43
14:I:82:ASP:CA	14:I:114:ILE:HG21	2.48	0.43
14:I:89:ASP:C	14:I:90:ARG:CG	2.91	0.43
17:L:89:PHE:HE2	29:X:2356:A:HO2'	1.59	0.43
18:M:82:PRO:O	18:M:84:ALA:N	2.51	0.43
18:M:98:LYS:HA	18:M:98:LYS:HD2	1.93	0.43
19:N:14:HIS:O	19:N:15:LYS:C	2.60	0.43
19:N:25:TRP:CE3	19:N:26:GLY:HA3	2.53	0.43
19:N:60:LEU:CD1	19:N:60:LEU:C	2.92	0.43
21:P:37:LYS:NZ	21:P:64:ALA:N	2.66	0.43
21:P:71:VAL:O	21:P:72:LEU:C	2.62	0.43
22:Q:35:LYS:C	22:Q:38:ILE:HG23	2.43	0.43
22:Q:43:GLN:O	22:Q:47:GLY:N	2.51	0.43
23:R:25:LEU:O	23:R:79:SER:O	2.35	0.43
23:R:111:GLY:C	23:R:112:LYS:CD	2.86	0.43
24:S:149:ALA:C	24:S:151:ASP:N	2.76	0.43
29:X:334:G:O2'	29:X:335:A:P	2.77	0.43
29:X:588:G:C2	29:X:1275:A:C5	3.06	0.43
29:X:704:G:C2	29:X:705:C:C2	3.07	0.43
29:X:1053:G:H4'	29:X:1054:C:OP1	2.18	0.43
29:X:1437:A:O2'	29:X:1438:G:H5'	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1459:U:N3	29:X:1475:U:H1'	2.33	0.43
29:X:1692:C:H2'	29:X:1693:A:O4'	2.18	0.43
29:X:1933:G:H2'	29:X:1934:U:C6	2.52	0.43
29:X:2022:C:C5	29:X:2023:C:C5	3.06	0.43
29:X:2024:U:O2'	29:X:2025:A:H5'	2.18	0.43
29:X:2039:G:C2	29:X:2040:A:C8	3.07	0.43
29:X:2061:C:O4'	29:X:2413:A:O4'	2.36	0.43
29:X:2086:U:H6	29:X:2086:U:O5'	2.00	0.43
29:X:2222:U:O2	29:X:2223:U:C6	2.71	0.43
29:X:2252:A:C2	29:X:2253:A:C4	3.07	0.43
29:X:2345:A:H2'	29:X:2346:G:H8	1.83	0.43
29:X:2371:A:C8	29:X:2372:A:C8	3.06	0.43
29:X:2551:A:HO2'	29:X:2552:C:P	2.40	0.43
29:X:2642:G:C6	29:X:2643:G:C4	3.06	0.43
8:C:5:ASN:HD22	8:C:5:ASN:N	2.17	0.43
8:C:197:GLU:HG2	8:C:198:GLU:CG	2.48	0.43
9:D:75:SER:HB2	9:D:79:LEU:CD2	2.49	0.43
9:D:122:PHE:HD2	9:D:129:ASN:HB2	1.81	0.43
10:E:113:VAL:HG11	10:E:151:VAL:CG1	2.49	0.43
12:G:61:ARG:HH11	12:G:65:LYS:HD3	1.83	0.43
13:H:12:ASP:OD1	13:H:12:ASP:O	2.37	0.43
14:I:18:ARG:HD2	14:I:21:ARG:CG	2.49	0.43
14:I:32:ARG:NH2	20:O:79:GLN:HA	2.33	0.43
14:I:32:ARG:HH21	20:O:81:ARG:CG	2.28	0.43
14:I:72:TYR:HB3	14:I:107:LYS:CB	2.48	0.43
15:J:33:TYR:O	15:J:106:GLU:HA	2.19	0.43
15:J:55:MET:O	15:J:56:SER:C	2.61	0.43
15:J:100:PRO:HB2	24:S:74:ARG:HE	1.84	0.43
16:K:16:ALA:C	16:K:18:VAL:N	2.74	0.43
16:K:25:ALA:CB	16:K:47:PHE:HE2	2.29	0.43
17:L:17:VAL:CG1	17:L:18:ARG:N	2.80	0.43
19:N:57:PHE:O	19:N:58:ARG:C	2.62	0.43
21:P:80:LEU:HD21	21:P:90:LEU:HD11	2.00	0.43
21:P:95:ALA:CB	21:P:126:ILE:HB	2.48	0.43
21:P:112:GLY:O	29:X:1630:A:N6	2.51	0.43
22:Q:88:ILE:O	22:Q:89:GLU:C	2.61	0.43
23:R:36:VAL:HG12	23:R:37:LEU:N	2.34	0.43
23:R:84:VAL:HG13	23:R:88:THR:O	2.18	0.43
29:X:197:G:H22	29:X:242:A:H62	1.65	0.43
29:X:204:A:H1'	29:X:205:A:N7	2.33	0.43
29:X:230:C:C2'	29:X:231:G:H5'	2.49	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:310:A:H2	29:X:331:U:O4'	2.01	0.43
29:X:319:G:C1'	29:X:511:A:O4'	2.66	0.43
29:X:912:A:H8	29:X:912:A:O5'	2.02	0.43
29:X:982:C:P	29:X:985:G:C8	3.12	0.43
29:X:1040:A:N7	29:X:1041:G:C8	2.86	0.43
29:X:1189:G:H8	29:X:1189:G:O5'	2.02	0.43
29:X:1587:A:N1	29:X:1588:A:C6	2.86	0.43
29:X:1605:A:O2'	29:X:1606:C:H5'	2.18	0.43
29:X:1778:U:C2'	29:X:1779:C:C6	2.98	0.43
29:X:1872:A:H1'	29:X:2070:G:O4'	2.19	0.43
29:X:1928:G:N2	29:X:1929:U:C2	2.86	0.43
29:X:2586:G:N1	29:X:2587:G:N3	2.66	0.43
29:X:2790:C:O2'	30:Y:43:HIS:CD2	2.72	0.43
29:X:2876:C:H2'	29:X:2877:A:C5	2.53	0.43
31:Z:15:A:C2	31:Z:71:G:N3	2.85	0.43
6:A:59:LYS:O	29:X:1584:G:H4'	2.18	0.43
6:A:81:ALA:HA	6:A:113:VAL:CG2	2.47	0.43
8:C:34:GLN:CG	29:X:627:A:OP1	2.67	0.43
8:C:108:ILE:O	8:C:112:GLN:N	2.51	0.43
8:C:111:ARG:HG2	8:C:111:ARG:NH2	2.34	0.43
8:C:170:LEU:HA	8:C:170:LEU:HD12	1.80	0.43
9:D:105:ASN:O	9:D:109:PRO:HG2	2.19	0.43
9:D:125:ARG:CG	29:X:2294:U:O2'	2.64	0.43
10:E:95:ARG:NH1	10:E:97:LYS:HZ1	2.16	0.43
12:G:67:ARG:O	12:G:70:PHE:CD2	2.72	0.43
12:G:84:ASN:HA	12:G:153:GLY:O	2.18	0.43
13:H:110:VAL:CG1	13:H:111:PHE:N	2.80	0.43
18:M:104:LEU:O	18:M:107:LEU:HG	2.19	0.43
19:N:12:ARG:O	19:N:15:LYS:N	2.51	0.43
19:N:66:ASN:HA	19:N:69:ALA:HB3	2.01	0.43
19:N:78:THR:HG23	19:N:117:ARG:CZ	2.49	0.43
20:O:22:VAL:HG21	29:X:1173:G:O3'	2.19	0.43
21:P:79:ALA:CB	21:P:85:MET:SD	3.06	0.43
23:R:15:HIS:O	23:R:16:PHE:CB	2.66	0.43
24:S:39:PHE:C	24:S:39:PHE:CD2	2.96	0.43
24:S:100:THR:CG2	24:S:101:THR:N	2.81	0.43
25:T:42:GLY:HA3	29:X:2310:G:C4'	2.48	0.43
29:X:27:G:N2	29:X:522:G:O2'	2.52	0.43
29:X:168:A:H2'	29:X:169:C:C6	2.54	0.43
29:X:710:C:O2'	29:X:711:C:H5'	2.19	0.43
29:X:967:G:H3'	29:X:968:C:H5''	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1047:G:C2	29:X:1131:G:C4	3.06	0.43
29:X:1099:A:H4'	29:X:1100:G:H8	1.84	0.43
29:X:1122:A:H2'	29:X:1123:G:O5'	2.19	0.43
29:X:1287:A:H2'	29:X:1288:A:H5''	1.99	0.43
29:X:1330:G:C4	29:X:1331:G:C8	3.07	0.43
29:X:1399:C:OP2	29:X:1409:U:N3	2.45	0.43
29:X:1611:U:O2'	29:X:1612:U:H5'	2.19	0.43
29:X:2404:A:P	29:X:2406:C:H5'	2.59	0.43
29:X:2431:C:C4	29:X:2432:A:C6	3.07	0.43
29:X:2441:U:C2	29:X:2442:C:C6	3.06	0.43
29:X:2503:G:N2	29:X:2504:G:H1'	2.34	0.43
29:X:2516:U:C2	29:X:2517:C:C5	3.06	0.43
29:X:2524:G:O2'	29:X:2525:U:H5'	2.18	0.43
29:X:2630:C:H2'	29:X:2631:C:H6	1.83	0.43
31:Z:20:A:C2	31:Z:69:G:O6	2.72	0.43
4:4:7:VAL:HG13	4:4:34:GLN:NE2	2.34	0.43
4:4:25:VAL:HB	4:4:34:GLN:H	1.84	0.43
4:4:25:VAL:HG21	4:4:34:GLN:NE2	2.33	0.43
6:A:58:HIS:O	6:A:59:LYS:HB2	2.18	0.43
6:A:143:HIS:CD2	6:A:196:VAL:HG12	2.54	0.43
7:B:179:GLU:HB3	7:B:181:LEU:HG	1.99	0.43
8:C:94:THR:O	8:C:95:LEU:C	2.61	0.43
8:C:127:ASP:HB2	8:C:129:LYS:HG2	1.99	0.43
9:D:150:ARG:HG3	9:D:150:ARG:NH1	2.33	0.43
11:F:61:ALA:O	11:F:64:SER:HB2	2.19	0.43
12:G:61:ARG:HH22	12:G:78:ASP:CB	2.32	0.43
12:G:131:VAL:O	12:G:134:MET:N	2.51	0.43
14:I:52:GLY:HA3	14:I:55:ARG:CZ	2.48	0.43
15:J:31:GLY:HA2	15:J:108:ALA:HB2	2.01	0.43
16:K:18:VAL:HG12	16:K:19:ALA:N	2.34	0.43
17:L:43:ILE:HD12	17:L:43:ILE:N	2.33	0.43
18:M:34:ARG:NH1	18:M:81:PHE:CG	2.86	0.43
18:M:55:ILE:CD1	18:M:67:THR:HG22	2.47	0.43
18:M:63:ARG:H	18:M:63:ARG:HG3	1.53	0.43
23:R:52:ASN:O	23:R:53:VAL:HG23	2.19	0.43
26:U:28:GLY:N	26:U:32:ARG:CD	2.81	0.43
27:V:4:SER:O	27:V:8:ASN:OD1	2.36	0.43
27:V:37:LEU:HD11	29:X:60:A:C4'	2.46	0.43
29:X:36:G:C5	29:X:37:C:C5	3.06	0.43
29:X:492:G:HO2'	29:X:493:A:P	2.39	0.43
29:X:586:G:O3'	29:X:1268:U:H4'	2.17	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:832:A:C4	29:X:833:A:C8	3.07	0.43
29:X:1172:U:H2'	29:X:1173:G:H8	1.84	0.43
29:X:1223:G:H5'	29:X:1225:G:O4'	2.18	0.43
29:X:1276:U:C1'	30:Y:10:LYS:HG3	2.48	0.43
29:X:1331:G:H2'	29:X:1331:G:N3	2.33	0.43
29:X:1337:G:N2	29:X:1344:C:C2	2.86	0.43
29:X:1383:C:C4	29:X:1384:G:N7	2.86	0.43
29:X:1454:U:H2'	29:X:1455:C:C6	2.50	0.43
29:X:1687:C:O5'	29:X:1687:C:H6	2.02	0.43
29:X:2215:C:N4	29:X:2216:G:C2	2.86	0.43
29:X:2235:G:N2	29:X:2254:C:C4	2.87	0.43
29:X:2250:G:H8	29:X:2250:G:O5'	2.02	0.43
29:X:2335:U:O2'	29:X:2336:G:H5'	2.19	0.43
29:X:2350:G:C6	29:X:2351:G:N7	2.86	0.43
29:X:2652:G:C4	29:X:2653:A:C8	3.07	0.43
29:X:2806:G:H4'	29:X:2858:A:C6	2.54	0.43
29:X:2825:A:H2'	29:X:2826:C:C6	2.54	0.43
30:Y:32:GLU:OE1	30:Y:37:HIS:O	2.37	0.43
6:A:62:TYR:HE1	29:X:1808:C:H3'	1.83	0.43
6:A:124:GLU:O	6:A:129:ASN:ND2	2.52	0.43
7:B:117:MET:HB2	7:B:136:ARG:HG3	2.01	0.43
7:B:137:ARG:NH2	7:B:137:ARG:HG2	2.34	0.43
7:B:152:LYS:HB2	12:G:106:TYR:CB	2.31	0.43
11:F:54:PRO:CD	11:F:71:THR:O	2.67	0.43
13:H:83:ARG:HH11	18:M:40:ARG:HD3	1.84	0.43
14:I:66:ASN:ND2	14:I:67:ASN:N	2.67	0.43
15:J:48:ILE:O	15:J:51:CYS:N	2.47	0.43
17:L:84:ILE:N	17:L:84:ILE:CD1	2.81	0.43
18:M:80:VAL:O	18:M:80:VAL:HG12	2.19	0.43
18:M:81:PHE:HA	18:M:82:PRO:HD3	1.68	0.43
19:N:24:PHE:O	19:N:29:SER:CB	2.67	0.43
24:S:91:PRO:CG	24:S:92:VAL:H	2.32	0.43
24:S:94:VAL:O	24:S:121:GLN:HA	2.19	0.43
24:S:101:THR:CG2	24:S:135:VAL:HG13	2.48	0.43
25:T:17:ASN:OD1	29:X:2240:C:O5'	2.37	0.43
29:X:62:U:H4'	29:X:63:A:OP1	2.19	0.43
29:X:177:U:H2'	29:X:178:C:O4'	2.18	0.43
29:X:238:G:O4'	29:X:619:A:H2	2.01	0.43
29:X:466:A:O2'	29:X:467:U:OP2	2.30	0.43
29:X:522:G:O2'	29:X:523:A:P	2.77	0.43
29:X:549:G:O2'	29:X:550:C:H5'	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:603:C:O2	29:X:603:C:C2'	2.64	0.43
29:X:778:G:H2'	29:X:779:U:H6	1.83	0.43
29:X:815:A:C5	29:X:816:U:C5	3.07	0.43
29:X:820:U:C2	29:X:821:A:C8	3.07	0.43
29:X:1136:G:N1	29:X:1137:A:N6	2.66	0.43
29:X:1274:C:C2'	29:X:1275:A:O5'	2.67	0.43
29:X:1324:G:O2'	29:X:1325:U:P	2.76	0.43
29:X:1586:A:H2'	29:X:1587:A:C8	2.51	0.43
29:X:1599:G:N2	29:X:1600:U:H1'	2.33	0.43
29:X:1789:U:C4	29:X:1811:A:C2	3.07	0.43
29:X:1948:C:C6	29:X:1949:A:C8	3.07	0.43
29:X:2173:G:O2'	29:X:2174:G:H5'	2.19	0.43
29:X:2235:G:N2	29:X:2254:C:N4	2.67	0.43
29:X:2327:U:O2'	29:X:2328:G:H5'	2.19	0.43
29:X:2386:G:C4	29:X:2387:U:C5	3.07	0.43
29:X:2703:C:H2'	29:X:2704:U:C5'	2.48	0.43
29:X:2778:U:H5'	29:X:2779:C:C1'	2.49	0.43
29:X:2871:U:C2	29:X:2872:U:C5	3.07	0.43
6:A:193:ILE:HD13	6:A:193:ILE:HA	1.92	0.43
8:C:158:ARG:HH11	8:C:158:ARG:CG	2.32	0.43
8:C:162:ARG:NH1	29:X:333:A:C3'	2.77	0.43
9:D:5:LYS:HA	9:D:8:TYR:CB	2.49	0.43
9:D:37:ASN:HA	9:D:87:ILE:O	2.19	0.43
9:D:88:LYS:CE	29:X:2293:G:OP1	2.67	0.43
10:E:9:ILE:HD12	10:E:51:LEU:HA	2.00	0.43
10:E:117:PRO:HB3	10:E:123:PHE:CD1	2.54	0.43
11:F:23:VAL:CA	11:F:26:ALA:HB3	2.43	0.43
12:G:46:ALA:O	12:G:47:SER:C	2.62	0.43
12:G:102:ARG:C	12:G:103:TYR:HD1	2.27	0.43
12:G:150:VAL:C	12:G:151:TYR:CG	2.97	0.43
13:H:73:VAL:HG21	13:H:123:PHE:CE2	2.54	0.43
14:I:50:GLU:OE1	29:X:678:G:H4'	2.19	0.43
19:N:77:SER:HB2	29:X:1022:A:OP1	2.19	0.43
19:N:87:ASN:O	19:N:88:ILE:C	2.62	0.43
21:P:109:ARG:HA	21:P:109:ARG:HD2	1.73	0.43
22:Q:7:LEU:CD2	27:V:30:PHE:HE2	2.15	0.43
22:Q:35:LYS:CA	22:Q:38:ILE:HG23	2.49	0.43
23:R:95:ARG:HD2	23:R:95:ARG:N	2.34	0.43
24:S:96:VAL:N	24:S:119:ASN:OD1	2.52	0.43
24:S:141:MET:HA	24:S:145:ASP:CG	2.43	0.43
25:T:20:TYR:HB3	25:T:21:LEU:H	1.64	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:30:G:H2'	29:X:31:C:H6	1.84	0.43
29:X:83:A:O3'	29:X:84:G:O4'	2.37	0.43
29:X:312:G:C5	29:X:313:U:C4	3.07	0.43
29:X:314:G:C6	29:X:326:A:N1	2.87	0.43
29:X:393:U:H2'	29:X:394:U:C6	2.54	0.43
29:X:430:C:C2	29:X:431:G:C8	3.07	0.43
29:X:577:U:H2'	29:X:579:G:OP2	2.19	0.43
29:X:765:C:N4	29:X:1772:C:C2	2.87	0.43
29:X:930:A:C8	29:X:930:A:C3'	3.02	0.43
29:X:1004:A:C2'	29:X:1005:U:H5'	2.49	0.43
29:X:1135:C:N3	29:X:1136:G:N7	2.67	0.43
29:X:1153:A:N3	29:X:1155:G:C8	2.87	0.43
29:X:1318:A:H2'	29:X:1319:C:O5'	2.18	0.43
29:X:1478:U:C2	29:X:1479:G:C8	3.07	0.43
29:X:1811:A:H1'	29:X:1813:A:C5	2.53	0.43
29:X:1882:G:N2	29:X:1885:C:N4	2.66	0.43
29:X:2022:C:H2'	29:X:2023:C:O5'	2.19	0.43
29:X:2044:G:O2'	29:X:2046:C:C5	2.71	0.43
29:X:2276:C:O2'	29:X:2277:A:H5'	2.18	0.43
29:X:2528:G:C2	29:X:2529:G:N7	2.87	0.43
29:X:2695:C:H2'	29:X:2696:A:H8	1.83	0.43
29:X:2714:A:H2'	29:X:2715:C:H6	1.84	0.43
7:B:155:ARG:HH11	7:B:155:ARG:CG	2.31	0.42
9:D:19:GLN:HB3	9:D:20:PHE:CD1	2.54	0.42
9:D:123:ASP:HB2	9:D:127:ASN:O	2.19	0.42
11:F:23:VAL:HB	11:F:34:ILE:HD13	2.00	0.42
11:F:71:THR:HG22	11:F:110:THR:CG2	2.37	0.42
11:F:111:LYS:HB2	11:F:115:LEU:HD11	2.01	0.42
12:G:83:ILE:HB	12:G:154:GLU:HA	2.00	0.42
13:H:116:ARG:HH11	18:M:38:LYS:HZ3	1.67	0.42
14:I:76:LYS:HB3	14:I:79:GLN:HE21	1.82	0.42
15:J:54:VAL:HG12	15:J:55:MET:N	2.33	0.42
15:J:79:PRO:HG2	15:J:88:LYS:HD2	2.01	0.42
17:L:27:LEU:O	17:L:88:VAL:HG23	2.19	0.42
17:L:89:PHE:O	17:L:89:PHE:CD1	2.72	0.42
18:M:93:ILE:CD1	18:M:93:ILE:H	2.32	0.42
19:N:28:ARG:HD2	29:X:542:A:H3'	2.01	0.42
19:N:66:ASN:OD1	19:N:66:ASN:N	2.52	0.42
22:Q:36:THR:O	22:Q:39:LYS:N	2.50	0.42
23:R:22:VAL:CG1	23:R:23:ILE:N	2.82	0.42
25:T:23:VAL:HA	25:T:38:VAL:HG22	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:T:52:GLY:H	25:T:62:LEU:HD22	1.84	0.42
26:U:69:THR:HG23	26:U:75:TYR:HE1	1.82	0.42
29:X:171:G:O2'	29:X:172:A:H5'	2.18	0.42
29:X:172:A:C6	29:X:175:C:H5	2.32	0.42
29:X:212:U:O2'	29:X:213:C:H5'	2.18	0.42
29:X:623:G:C2'	29:X:624:A:H5''	2.49	0.42
29:X:788:G:H4'	29:X:789:G:O5'	2.18	0.42
29:X:815:A:C4	29:X:816:U:C6	3.06	0.42
29:X:915:C:H2'	29:X:916:U:H6	1.84	0.42
29:X:982:C:C2'	29:X:983:G:O5'	2.67	0.42
29:X:997:C:O2'	29:X:998:C:H5'	2.19	0.42
29:X:1007:A:N6	29:X:1171:A:C6	2.87	0.42
29:X:1182:U:H2'	29:X:1183:C:O4'	2.19	0.42
29:X:1287:A:N1	29:X:1661:C:O2'	2.44	0.42
29:X:1287:A:C2	29:X:1315:A:H2	2.36	0.42
29:X:1446:U:H2'	29:X:1447:U:H6	1.80	0.42
29:X:1597:A:C2	29:X:1598:C:N3	2.87	0.42
29:X:1824:C:H6	29:X:1824:C:O5'	2.02	0.42
29:X:1935:A:C6	29:X:1936:A:N1	2.87	0.42
29:X:1971:C:O2'	29:X:1972:G:H5'	2.19	0.42
29:X:1987:G:C6	29:X:1988:A:C4	3.07	0.42
29:X:2511:G:C5	29:X:2512:A:N7	2.87	0.42
29:X:2759:U:H1'	29:X:2761:A:C6	2.54	0.42
29:X:2813:G:H2'	29:X:2814:G:O4'	2.19	0.42
31:Z:42:U:H3	31:Z:45:C:H5''	1.84	0.42
31:Z:75:A:C2	31:Z:76:U:C1'	3.01	0.42
6:A:92:ILE:CG2	6:A:104:TYR:HB3	2.48	0.42
6:A:107:ALA:HA	6:A:108:PRO:HD2	1.90	0.42
6:A:209:ALA:HB2	29:X:1781:C:H4'	2.00	0.42
6:A:214:TRP:HH2	29:X:777:A:P	2.42	0.42
7:B:26:VAL:HG12	7:B:27:LEU:N	2.33	0.42
7:B:181:LEU:HD13	18:M:16:ILE:CD1	2.49	0.42
8:C:32:THR:HG22	8:C:33:TRP:N	2.33	0.42
8:C:45:THR:C	8:C:47:THR:H	2.27	0.42
8:C:112:GLN:HB3	8:C:116:LYS:HZ3	1.82	0.42
8:C:135:SER:O	8:C:136:TRP:C	2.62	0.42
9:D:61:THR:O	9:D:62:LEU:C	2.62	0.42
9:D:117:ILE:HD12	9:D:175:LEU:CD1	2.48	0.42
9:D:121:ALA:C	9:D:122:PHE:HD1	2.26	0.42
12:G:33:ILE:O	12:G:69:ASP:OD1	2.36	0.42
12:G:74:MET:HA	12:G:140:GLN:OE1	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:J:95:VAL:CG1	15:J:96:SER:N	2.82	0.42
19:N:84:LYS:CB	19:N:92:ARG:NH2	2.81	0.42
19:N:84:LYS:HA	19:N:92:ARG:NH2	2.34	0.42
21:P:110:ALA:HB2	29:X:761:G:O5'	2.18	0.42
24:S:42:ALA:O	24:S:43:PHE:C	2.62	0.42
24:S:114:ASP:HB2	24:S:172:LEU:HD12	2.01	0.42
29:X:174:A:N1	29:X:175:C:O2	2.52	0.42
29:X:212:U:O2	29:X:443:A:C2	2.72	0.42
29:X:309:G:H5''	29:X:310:A:OP1	2.19	0.42
29:X:522:G:O2'	29:X:523:A:OP2	2.31	0.42
29:X:544:U:C4	29:X:545:C:N4	2.87	0.42
29:X:577:U:O4	29:X:984:A:OP2	2.37	0.42
29:X:657:A:O2'	29:X:2330:G:H4'	2.19	0.42
29:X:754:G:C6	29:X:755:C:C4	3.07	0.42
29:X:1031:C:O2'	29:X:1032:A:P	2.77	0.42
29:X:1159:U:O2'	29:X:1160:C:H5'	2.20	0.42
29:X:1172:U:O2'	29:X:1173:G:H5'	2.19	0.42
29:X:1210:C:C2	29:X:1211:G:C8	3.08	0.42
29:X:1250:A:O2'	29:X:1251:G:C4'	2.67	0.42
29:X:1337:G:C5	29:X:1341:G:O6	2.72	0.42
29:X:1467:U:N3	29:X:1473:U:N3	2.60	0.42
29:X:1979:C:O2'	29:X:1980:A:O5'	2.36	0.42
29:X:2240:C:N3	29:X:2241:U:C5	2.87	0.42
29:X:2292:C:C2'	29:X:2293:G:H5'	2.49	0.42
29:X:2423:G:C2'	29:X:2424:G:O5'	2.67	0.42
29:X:2484:G:C6	29:X:2555:G:C5	3.06	0.42
29:X:2493:U:C2	29:X:2494:C:C5	3.06	0.42
29:X:2617:G:C5	29:X:2755:A:C6	3.07	0.42
29:X:2786:G:C6	29:X:2787:A:C5	3.08	0.42
31:Z:26:G:H5''	31:Z:27:A:OP1	2.19	0.42
4:4:18:ARG:HG3	29:X:1045:G:H5'	2.00	0.42
4:4:19:ARG:HH11	4:4:19:ARG:HG3	1.84	0.42
6:A:79:VAL:CG1	6:A:113:VAL:HA	2.49	0.42
7:B:8:LYS:HD3	7:B:190:GLY:O	2.19	0.42
7:B:123:ALA:O	7:B:124:GLY:C	2.62	0.42
7:B:141:ILE:CG2	7:B:154:LYS:NZ	2.82	0.42
7:B:156:MET:CE	29:X:2033:C:H1'	2.50	0.42
8:C:124:ASP:CG	8:C:136:TRP:CE3	2.97	0.42
8:C:147:LYS:O	8:C:183:HIS:HB3	2.19	0.42
8:C:160:ALA:O	8:C:161:ALA:HB2	2.18	0.42
8:C:176:ASN:OD1	8:C:176:ASN:C	2.61	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:D:58:ALA:O	9:D:62:LEU:CA	2.64	0.42
11:F:23:VAL:O	11:F:24:GLY:C	2.62	0.42
11:F:25:PRO:HB2	11:F:29:GLN:OE1	2.20	0.42
11:F:27:LEU:HD22	11:F:57:ILE:CD1	2.41	0.42
11:F:100:ASN:H	11:F:103:GLN:HE22	1.65	0.42
11:F:139:GLU:HG2	11:F:140:GLY:N	2.34	0.42
12:G:67:ARG:CB	12:G:70:PHE:HA	2.30	0.42
12:G:139:ARG:HB2	29:X:567:G:OP1	2.19	0.42
13:H:83:ARG:HE	18:M:40:ARG:NH1	2.17	0.42
15:J:19:THR:HB	31:Z:93:G:H5'	2.00	0.42
17:L:28:ARG:HD2	17:L:90:ASP:OD1	2.17	0.42
20:O:52:GLY:O	20:O:53:LYS:C	2.62	0.42
23:R:95:ARG:NH1	23:R:95:ARG:HG3	2.33	0.42
24:S:26:LYS:HB2	24:S:26:LYS:HE3	1.75	0.42
26:U:49:LYS:HB2	26:U:62:LEU:N	2.35	0.42
27:V:4:SER:HB3	27:V:7:ARG:NE	2.35	0.42
29:X:127:C:H2'	29:X:128:C:C6	2.55	0.42
29:X:188:G:C2	29:X:189:A:C4	3.08	0.42
29:X:417:C:N3	29:X:419:G:C6	2.87	0.42
29:X:428:A:C2	29:X:429:C:C2	3.07	0.42
29:X:718:A:C8	29:X:740:A:C4	3.07	0.42
29:X:760:U:C1'	30:Y:3:LYS:HE3	2.49	0.42
29:X:796:A:O3'	29:X:2567:G:H5''	2.19	0.42
29:X:807:A:C4	29:X:808:C:C5	3.07	0.42
29:X:862:A:C2'	29:X:863:C:H6	2.17	0.42
29:X:994:A:HO2'	29:X:995:A:P	2.38	0.42
29:X:1025:A:H2'	29:X:1026:U:C6	2.54	0.42
29:X:1048:U:O5'	29:X:1048:U:H6	2.02	0.42
29:X:1118:G:C2'	29:X:1119:U:C5'	2.80	0.42
29:X:1191:G:C6	29:X:1192:A:C6	3.07	0.42
29:X:1214:C:O2	29:X:1259:A:C2	2.72	0.42
29:X:1296:G:H2'	29:X:1298:G:OP2	2.19	0.42
29:X:1490:U:H2'	29:X:1491:C:C6	2.45	0.42
29:X:1505:U:H3'	29:X:1505:U:C6	2.53	0.42
29:X:1737:G:C4	29:X:1738:U:C5	3.07	0.42
29:X:1924:C:C4	29:X:1925:C:N4	2.87	0.42
29:X:2074:U:C4	29:X:2075:U:C4	3.08	0.42
29:X:2613:A:O2'	29:X:2614:A:H5'	2.19	0.42
29:X:2738:A:H2'	29:X:2739:G:O4'	2.20	0.42
30:Y:12:SER:O	30:Y:13:LYS:C	2.61	0.42
31:Z:52:G:N2	31:Z:53:G:H1'	2.33	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:A:59:LYS:O	29:X:1584:G:C4'	2.68	0.42
6:A:70:ARG:HH21	6:A:189:CYS:HA	1.85	0.42
7:B:38:THR:C	7:B:44:TYR:O	2.63	0.42
8:C:35:LEU:O	8:C:36:ALA:C	2.60	0.42
9:D:52:LYS:CE	9:D:56:GLU:OE2	2.67	0.42
9:D:74:ILE:HG12	9:D:80:ARG:CA	2.49	0.42
11:F:14:ALA:C	11:F:45:THR:HB	2.44	0.42
15:J:86:LYS:HE3	25:T:12:ASN:HA	2.00	0.42
17:L:42:ILE:HD11	17:L:87:VAL:HG13	2.02	0.42
18:M:32:THR:CG2	18:M:33:VAL:N	2.82	0.42
18:M:104:LEU:C	18:M:106:TYR:N	2.77	0.42
19:N:39:LEU:HA	19:N:42:ALA:CB	2.49	0.42
20:O:25:LEU:HG	20:O:32:LYS:HZ3	1.84	0.42
21:P:79:ALA:O	21:P:85:MET:CB	2.64	0.42
22:Q:72:ARG:HH22	29:X:1324:G:C3'	2.31	0.42
26:U:10:LYS:HE2	26:U:11:LYS:HE2	2.02	0.42
26:U:69:THR:O	26:U:70:LEU:C	2.61	0.42
29:X:26:G:H1'	29:X:524:A:N6	2.34	0.42
29:X:630:G:H3'	29:X:631:G:H21	1.84	0.42
29:X:640:C:H4'	29:X:660:G:H21	1.82	0.42
29:X:659:G:C6	29:X:660:G:C6	3.07	0.42
29:X:695:G:N2	29:X:809:C:C2	2.87	0.42
29:X:729:A:H2'	29:X:730:C:C4'	2.46	0.42
29:X:829:C:C2	29:X:1206:G:C2	3.07	0.42
29:X:987:G:C2	29:X:988:G:C8	3.07	0.42
29:X:1050:G:C2'	29:X:1051:U:H5''	2.50	0.42
29:X:1355:A:OP2	29:X:1618:U:O4	2.38	0.42
29:X:1391:A:H1'	29:X:1392:U:C5	2.54	0.42
29:X:1467:U:C2'	29:X:1468:A:OP1	2.67	0.42
29:X:1586:A:N6	29:X:1587:A:N6	2.67	0.42
29:X:1687:C:H2'	29:X:1688:U:O4'	2.20	0.42
29:X:1869:A:O2'	29:X:1870:U:H5'	2.19	0.42
29:X:2196:U:H2'	29:X:2197:U:N1	2.34	0.42
29:X:2257:A:H2'	29:X:2258:G:H5'	2.01	0.42
29:X:2496:C:C6	29:X:2521:A:N7	2.87	0.42
31:Z:18:G:C2'	31:Z:19:C:H5'	2.50	0.42
4:4:4:ARG:HH12	29:X:2456:U:H3	1.68	0.42
6:A:166:GLN:NE2	6:A:176:ARG:NH2	2.67	0.42
6:A:172:TYR:CZ	6:A:186:HIS:HB3	2.52	0.42
6:A:200:GLU:O	6:A:202:LYS:N	2.52	0.42
7:B:20:ALA:O	7:B:21:ILE:HG13	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:B:144:ARG:O	7:B:145:LYS:C	2.62	0.42
8:C:26:VAL:C	8:C:28:HIS:N	2.76	0.42
8:C:34:GLN:OE1	8:C:176:ASN:OD1	2.37	0.42
8:C:147:LYS:O	8:C:184:ASP:N	2.53	0.42
9:D:32:GLU:HB3	9:D:157:VAL:HG12	2.01	0.42
9:D:34:ILE:CD1	9:D:156:ILE:HG12	2.49	0.42
9:D:99:PHE:O	9:D:100:LEU:C	2.62	0.42
10:E:72:VAL:O	10:E:73:ALA:C	2.63	0.42
11:F:54:PRO:CB	11:F:70:LYS:HD2	2.50	0.42
11:F:122:ALA:HA	29:X:1092:U:C5'	2.49	0.42
12:G:40:ASN:HB3	12:G:78:ASP:OD1	2.19	0.42
12:G:101:THR:CG2	12:G:102:ARG:N	2.81	0.42
13:H:116:ARG:NH1	18:M:38:LYS:CE	2.83	0.42
14:I:13:ARG:NE	29:X:1218:C:H1'	2.29	0.42
15:J:67:ILE:O	15:J:67:ILE:HG22	2.18	0.42
16:K:21:ALA:O	16:K:22:ARG:C	2.60	0.42
16:K:28:LEU:CD2	16:K:28:LEU:C	2.93	0.42
18:M:25:PRO:HB3	18:M:93:ILE:CD1	2.48	0.42
18:M:67:THR:OG1	18:M:80:VAL:HG22	2.20	0.42
20:O:21:ARG:HH22	29:X:1005:U:C1'	2.32	0.42
20:O:26:GLN:CG	20:O:27:GLY:N	2.76	0.42
21:P:35:PRO:HA	21:P:122:SER:OG	2.19	0.42
23:R:38:LEU:HB2	23:R:47:VAL:HG23	2.00	0.42
23:R:82:ALA:C	23:R:83:LEU:CG	2.92	0.42
24:S:128:ARG:H	24:S:130:ILE:HD11	1.85	0.42
26:U:45:ASN:C	26:U:46:LEU:HD23	2.43	0.42
28:W:37:THR:O	28:W:41:ARG:HG3	2.19	0.42
29:X:322:A:O2'	29:X:343:A:C5'	2.67	0.42
29:X:341:A:O2'	29:X:342:G:OP1	2.38	0.42
29:X:463:C:O2	29:X:465:C:N4	2.53	0.42
29:X:729:A:H3'	29:X:729:A:C4	2.54	0.42
29:X:807:A:H2'	29:X:808:C:C6	2.55	0.42
29:X:830:C:H2'	29:X:831:G:O4'	2.19	0.42
29:X:837:U:H1'	29:X:2337:A:N7	2.35	0.42
29:X:1101:U:O2	29:X:1113:C:H1'	2.19	0.42
29:X:1256:C:H2'	29:X:1257:U:H6	1.84	0.42
29:X:1363:C:C2'	29:X:1364:C:H5'	2.48	0.42
29:X:1376:C:C4	29:X:1377:G:N7	2.86	0.42
29:X:1391:A:O2'	29:X:1392:U:OP1	2.36	0.42
29:X:1428:G:H2'	29:X:1429:A:OP2	2.19	0.42
29:X:1606:C:H2'	29:X:1607:A:H8	1.85	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1707:A:C8	29:X:1708:C:C6	3.08	0.42
29:X:1723:U:O2'	29:X:1724:C:P	2.78	0.42
29:X:1858:C:H2'	29:X:1859:A:C8	2.54	0.42
29:X:2003:A:O2'	29:X:2004:U:H3'	2.19	0.42
29:X:2301:A:H2'	29:X:2302:G:C8	2.50	0.42
29:X:2559:U:C5	29:X:2560:G:C5	3.07	0.42
29:X:2594:U:O2	29:X:2595:C:C5	2.73	0.42
29:X:2641:A:H8	29:X:2641:A:O5'	2.03	0.42
6:A:106:LEU:HA	6:A:106:LEU:HD23	1.71	0.42
6:A:149:PRO:N	6:A:189:CYS:SG	2.92	0.42
6:A:243:GLY:N	6:A:244:ARG:HH11	2.17	0.42
9:D:129:ASN:ND2	29:X:2282:G:H1'	2.33	0.42
10:E:7:GLN:O	10:E:9:ILE:HG13	2.18	0.42
12:G:51:LEU:HD13	12:G:88:VAL:HG11	2.02	0.42
14:I:53:ARG:NE	29:X:227:G:HO2'	2.15	0.42
14:I:89:ASP:O	14:I:91:ASP:N	2.53	0.42
15:J:31:GLY:HA2	15:J:108:ALA:CB	2.49	0.42
15:J:106:GLU:OE1	15:J:106:GLU:C	2.63	0.42
16:K:54:THR:HG22	16:K:66:VAL:HG23	2.02	0.42
16:K:73:LYS:HA	16:K:76:VAL:HG12	2.00	0.42
17:L:47:ARG:C	17:L:49:GLN:N	2.77	0.42
17:L:95:LYS:HD3	31:Z:49:C:O2'	2.20	0.42
18:M:22:ARG:CD	18:M:24:LEU:CD2	2.96	0.42
18:M:85:SER:C	18:M:87:LEU:N	2.78	0.42
18:M:104:LEU:HA	18:M:104:LEU:HD23	1.74	0.42
19:N:2:PRO:O	19:N:3:ARG:C	2.61	0.42
19:N:37:GLN:NE2	29:X:572:G:N3	2.68	0.42
19:N:89:ASP:OD1	20:O:47:PHE:CB	2.68	0.42
22:Q:39:LYS:O	22:Q:42:ILE:CG2	2.67	0.42
22:Q:69:ILE:HB	22:Q:70:GLY:H	1.42	0.42
23:R:23:ILE:HD12	23:R:23:ILE:N	2.27	0.42
23:R:105:ARG:NH1	23:R:112:LYS:CA	2.79	0.42
25:T:14:ARG:O	25:T:15:ASP:HB2	2.19	0.42
27:V:6:MET:O	27:V:14:PHE:HE1	2.02	0.42
27:V:25:LEU:CD2	27:V:47:ARG:HG2	2.50	0.42
29:X:177:U:H3'	29:X:178:C:C6	2.54	0.42
29:X:210:A:H2'	29:X:211:U:H5'	2.02	0.42
29:X:387:A:C2	29:X:388:G:C8	3.08	0.42
29:X:566:U:C2	29:X:567:G:C8	3.07	0.42
29:X:599:A:H2'	29:X:600:G:C8	2.55	0.42
29:X:602:C:H2'	29:X:603:C:H6	1.85	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:629:C:H2'	29:X:630:G:O4'	2.19	0.42
29:X:1032:A:C8	29:X:1032:A:C3'	3.03	0.42
29:X:1032:A:O2'	29:X:1134:C:H5''	2.19	0.42
29:X:1094:C:O5'	29:X:1094:C:H6	2.02	0.42
29:X:1231:A:C5	29:X:1232:U:C4	3.08	0.42
29:X:1287:A:N3	29:X:1310:C:H1'	2.35	0.42
29:X:1571:G:N2	29:X:1572:C:C2	2.88	0.42
29:X:1670:G:C4'	29:X:1671:A:OP1	2.55	0.42
29:X:1778:U:C2'	29:X:1779:C:H6	2.24	0.42
29:X:1791:C:C5'	29:X:1792:C:OP1	2.66	0.42
29:X:1963:G:O2'	29:X:1965:U:OP2	2.38	0.42
29:X:1968:G:O2'	29:X:1969:G:H5'	2.19	0.42
29:X:2470:U:O2	29:X:2470:U:C2'	2.63	0.42
29:X:2627:G:C6	29:X:2652:G:C5	3.07	0.42
29:X:2656:G:O2'	29:X:2657:G:H5'	2.19	0.42
29:X:2810:A:C2	29:X:2853:U:C4	3.07	0.42
4:4:13:ASN:O	4:4:15:LYS:HG3	2.20	0.42
4:4:15:LYS:O	4:4:17:VAL:HG23	2.19	0.42
6:A:96:HIS:CE1	6:A:100:GLY:HA2	2.54	0.42
8:C:56:ARG:NH1	29:X:814:G:OP2	2.53	0.42
10:E:9:ILE:HB	10:E:50:LEU:HB3	2.01	0.42
10:E:115:ILE:HD11	10:E:151:VAL:HG21	2.00	0.42
10:E:126:PRO:CG	10:E:127:GLU:N	2.70	0.42
11:F:11:GLN:HB2	29:X:1072:U:O4	2.19	0.42
12:G:32:TYR:OH	12:G:35:LYS:NZ	2.47	0.42
16:K:27:ALA:O	16:K:30:ARG:N	2.50	0.42
16:K:103:ARG:O	16:K:107:GLY:HA2	2.19	0.42
17:L:29:LEU:HD12	17:L:41:GLN:O	2.19	0.42
17:L:36:LYS:HD2	17:L:36:LYS:N	2.34	0.42
22:Q:56:MET:SD	29:X:1618:U:O4	2.77	0.42
23:R:25:LEU:HD12	23:R:81:VAL:H	1.82	0.42
24:S:24:TYR:HB2	24:S:25:ASN:H	1.68	0.42
24:S:30:VAL:HG12	24:S:31:SER:O	2.20	0.42
25:T:20:TYR:O	25:T:21:LEU:CG	2.68	0.42
26:U:11:LYS:NZ	26:U:75:TYR:CB	2.76	0.42
26:U:11:LYS:NZ	26:U:75:TYR:CG	2.87	0.42
26:U:17:SER:CB	26:U:44:ALA:HA	2.49	0.42
26:U:53:GLU:CB	26:U:56:GLN:O	2.68	0.42
29:X:416:U:H5''	29:X:419:G:H4'	2.01	0.42
29:X:525:A:N1	29:X:1273:G:O2'	2.41	0.42
29:X:531:G:N2	29:X:532:A:C4	2.87	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:749:C:C2	29:X:750:C:C5	3.08	0.42
29:X:931:G:C5	29:X:932:G:C8	3.08	0.42
29:X:953:G:H8	29:X:953:G:O5'	2.03	0.42
29:X:1122:A:C2'	29:X:1123:G:H4'	2.50	0.42
29:X:1386:A:H5''	29:X:2191:A:H62	1.78	0.42
29:X:1496:G:C2'	29:X:1497:C:O5'	2.67	0.42
29:X:1525:A:H2'	29:X:1526:U:H5'	2.02	0.42
29:X:1674:C:O2'	29:X:1675:C:H5'	2.20	0.42
29:X:1701:C:C2	29:X:1722:G:N2	2.87	0.42
29:X:1759:A:C6	29:X:1968:G:C6	3.07	0.42
29:X:1973:C:O5'	29:X:1973:C:H6	2.02	0.42
29:X:2309:G:H2'	29:X:2310:G:O4'	2.19	0.42
29:X:2324:G:H4'	29:X:2326:C:H5''	2.01	0.42
29:X:2399:C:O5'	29:X:2399:C:H6	2.02	0.42
29:X:2703:C:H2'	29:X:2704:U:O5'	2.19	0.42
29:X:2707:G:H2'	29:X:2708:U:C6	2.55	0.42
4:4:36:GLN:NE2	29:X:1135:C:H1'	2.34	0.42
7:B:154:LYS:HE2	29:X:2598:C:H1'	2.01	0.42
8:C:39:ARG:HG2	8:C:39:ARG:HH11	1.85	0.42
8:C:112:GLN:NE2	8:C:188:ILE:HD11	2.34	0.42
10:E:25:LYS:O	10:E:26:VAL:HG23	2.19	0.42
12:G:104:THR:OG1	12:G:105:GLY:N	2.49	0.42
14:I:117:ALA:CB	14:I:137:GLY:HA3	2.49	0.42
15:J:93:TYR:CD2	15:J:93:TYR:C	2.97	0.42
15:J:99:LYS:HD2	15:J:99:LYS:HA	1.81	0.42
16:K:76:VAL:HA	16:K:79:VAL:CG1	2.50	0.42
19:N:12:ARG:HB2	19:N:13:ARG:H	1.67	0.42
20:O:22:VAL:CG2	29:X:1173:G:C4'	2.87	0.42
20:O:61:VAL:N	20:O:92:ALA:O	2.50	0.42
21:P:36:ARG:CZ	30:Y:20:ARG:NH1	2.83	0.42
22:Q:57:ASN:OD1	22:Q:76:LYS:HD2	2.20	0.42
23:R:93:ARG:CG	23:R:94:VAL:HG23	2.50	0.42
24:S:141:MET:HB3	24:S:171:VAL:HG23	2.01	0.42
24:S:172:LEU:CD2	24:S:173:PRO:HD2	2.50	0.42
25:T:69:PHE:C	25:T:70:ILE:HG13	2.44	0.42
29:X:6:A:C5	29:X:7:G:N7	2.88	0.42
29:X:43:A:N1	29:X:44:G:C6	2.88	0.42
29:X:137:A:H2'	29:X:138:G:H5'	2.01	0.42
29:X:447:U:O2'	29:X:448:C:C5	2.72	0.42
29:X:559:C:O2	29:X:560:G:H1'	2.19	0.42
29:X:580:A:C6	29:X:584:A:C8	3.07	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:587:A:H2'	29:X:588:G:H5''	2.01	0.42
29:X:651:C:N4	29:X:658:G:H1	2.18	0.42
29:X:677:G:C2	29:X:678:G:C8	3.08	0.42
29:X:1030:U:H5''	29:X:1132:C:O2	2.19	0.42
29:X:1299:A:C4	29:X:1342:U:C4	3.07	0.42
29:X:1318:A:C2'	29:X:1319:C:O5'	2.67	0.42
29:X:1512:A:N3	29:X:1593:C:O2'	2.51	0.42
29:X:1629:G:C2'	29:X:1633:C:N4	2.81	0.42
29:X:1715:A:H4'	29:X:1716:G:O5'	2.20	0.42
29:X:1727:C:H4'	29:X:2833:C:N3	2.34	0.42
29:X:1790:G:C4	29:X:1811:A:N6	2.88	0.42
29:X:1807:A:OP2	29:X:1814:G:H5''	2.20	0.42
29:X:1876:C:C5	29:X:1877:C:C5	3.08	0.42
29:X:2005:U:H2'	29:X:2595:C:O2'	2.20	0.42
29:X:2007:G:O2'	29:X:2008:C:H5'	2.20	0.42
29:X:2027:C:C2	29:X:2604:G:C2	3.07	0.42
29:X:2210:C:O2	29:X:2211:U:C6	2.73	0.42
29:X:2290:A:N1	29:X:2291:U:C4	2.88	0.42
29:X:2299:A:C2'	29:X:2312:A:N6	2.83	0.42
29:X:2519:C:H2'	29:X:2520:A:H5'	2.02	0.42
29:X:2624:G:H5''	29:X:2625:U:OP2	2.19	0.42
29:X:2860:C:C2'	29:X:2861:A:H5'	2.50	0.42
31:Z:15:A:N1	31:Z:71:G:H2'	2.34	0.42
4:4:31:LYS:H	4:4:31:LYS:HD2	1.81	0.42
6:A:250:TRP:O	6:A:255:LYS:CE	2.68	0.42
7:B:134:TRP:CD1	7:B:134:TRP:N	2.72	0.42
8:C:117:LEU:HD23	8:C:117:LEU:O	2.20	0.42
8:C:137:ALA:HB1	8:C:142:LEU:HB2	2.02	0.42
8:C:161:ALA:CB	8:C:169:VAL:CG2	2.98	0.42
9:D:9:ASN:C	9:D:13:ARG:HB3	2.44	0.42
9:D:53:ALA:O	9:D:56:GLU:HB2	2.20	0.42
10:E:140:LEU:HA	10:E:140:LEU:HD23	1.84	0.42
12:G:105:GLY:O	12:G:110:LEU:CD1	2.64	0.42
13:H:47:VAL:CG1	13:H:117:GLU:HB3	2.50	0.42
13:H:119:ARG:NH1	13:H:124:MET:HE1	2.34	0.42
16:K:87:TYR:O	16:K:88:ALA:C	2.63	0.42
16:K:97:ILE:HA	16:K:112:LEU:O	2.20	0.42
19:N:75:ASN:ND2	19:N:77:SER:HB3	2.34	0.42
19:N:93:LYS:HD2	20:O:10:LYS:HZ1	1.85	0.42
22:Q:6:ILE:O	22:Q:7:LEU:C	2.62	0.42
23:R:15:HIS:CE1	23:R:16:PHE:CE2	3.08	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:U:33:LYS:HD3	29:X:2375:G:H1'	2.01	0.42
26:U:46:LEU:HA	26:U:47:HIS:CE1	2.54	0.42
29:X:21:A:N1	29:X:530:G:C6	2.88	0.42
29:X:33:C:O2	29:X:466:A:C2	2.73	0.42
29:X:346:C:O2	29:X:347:C:C6	2.73	0.42
29:X:403:A:H4'	29:X:404:A:C5'	2.50	0.42
29:X:783:G:C6	29:X:784:U:N3	2.87	0.42
29:X:788:G:H5'	29:X:790:A:O4'	2.20	0.42
29:X:923:A:H2	29:X:2256:G:N3	2.17	0.42
29:X:1125:G:O2'	29:X:1126:A:H5'	2.20	0.42
29:X:1873:A:H4'	29:X:2069:U:H4'	2.02	0.42
29:X:1888:C:H2'	29:X:1913:G:N7	2.35	0.42
29:X:1992:G:O2'	29:X:1993:G:H5'	2.20	0.42
29:X:2057:U:H5'	29:X:2058:U:OP2	2.19	0.42
29:X:2312:A:O2'	29:X:2313:G:P	2.78	0.42
29:X:2534:U:C5	29:X:2535:C:C2	3.07	0.42
29:X:2814:G:C5	29:X:2815:C:C4	3.07	0.42
29:X:2869:U:H2'	29:X:2870:C:O4'	2.20	0.42
6:A:186:HIS:HD2	6:A:188:GLU:CD	2.27	0.42
6:A:209:ALA:HA	29:X:1782:A:H5'	2.02	0.42
7:B:95:ILE:HA	7:B:95:ILE:HD13	1.65	0.42
7:B:154:LYS:HE3	29:X:2598:C:H1'	2.02	0.42
9:D:32:GLU:N	9:D:157:VAL:O	2.49	0.42
9:D:33:LYS:H	9:D:157:VAL:HB	1.85	0.42
9:D:92:ARG:HH12	31:Z:46:G:C3'	2.32	0.42
9:D:106:ILE:HG23	9:D:110:ARG:HD2	2.01	0.42
9:D:135:GLN:HG3	9:D:151:GLY:N	2.35	0.42
9:D:156:ILE:CG2	9:D:158:THR:HG23	2.49	0.42
13:H:9:ASP:OD1	13:H:93:ARG:CZ	2.68	0.42
14:I:32:ARG:NH2	20:O:79:GLN:C	2.78	0.42
15:J:17:ARG:NH1	29:X:969:U:C5'	2.75	0.42
15:J:39:GLU:HA	15:J:40:PRO:HD3	1.74	0.42
16:K:51:LEU:HD12	16:K:66:VAL:HG22	2.01	0.42
16:K:78:LYS:HG2	16:K:83:VAL:HG12	2.02	0.42
17:L:33:ARG:CZ	17:L:103:LEU:HD12	2.49	0.42
17:L:44:ASP:OD1	17:L:44:ASP:O	2.38	0.42
17:L:47:ARG:C	17:L:49:GLN:H	2.28	0.42
18:M:70:LYS:HG2	18:M:71:ILE:N	2.34	0.42
19:N:88:ILE:HA	20:O:49:GLU:CD	2.45	0.42
21:P:45:ILE:HD13	21:P:53:ALA:HB1	2.02	0.42
22:Q:39:LYS:O	22:Q:42:ILE:HG23	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:R:82:ALA:C	23:R:83:LEU:HG	2.41	0.42
24:S:4:THR:HB	24:S:57:GLU:CB	2.44	0.42
25:T:11:LYS:H	25:T:11:LYS:HG3	1.77	0.42
25:T:41:ARG:NH1	25:T:41:ARG:HG3	2.33	0.42
26:U:27:ASP:CA	26:U:32:ARG:CD	2.95	0.42
26:U:46:LEU:HD23	26:U:46:LEU:N	2.35	0.42
29:X:60:A:C6	29:X:61:U:C4	3.07	0.42
29:X:148:C:H3'	29:X:149:A:H8	1.84	0.42
29:X:200:A:C6	29:X:435:A:C5	3.08	0.42
29:X:328:A:O2'	29:X:329:C:H5'	2.20	0.42
29:X:404:A:C5	29:X:405:C:C5	3.07	0.42
29:X:879:A:OP1	29:X:879:A:C8	2.73	0.42
29:X:984:A:C8	29:X:1202:U:N3	2.88	0.42
29:X:1147:G:O2'	29:X:2022:C:H5''	2.20	0.42
29:X:1441:A:O2'	29:X:1442:C:OP2	2.34	0.42
29:X:1445:A:H2'	29:X:1446:U:H6	1.84	0.42
29:X:1682:A:C2'	29:X:1683:G:H5'	2.50	0.42
29:X:2054:A:H2'	29:X:2055:G:H8	1.85	0.42
29:X:2542:U:O2	29:X:2544:A:C8	2.70	0.42
29:X:2546:G:O2'	29:X:2547:C:H5'	2.20	0.42
29:X:2792:C:N3	29:X:2805:G:C2	2.88	0.42
29:X:2829:A:H2'	29:X:2830:U:H6	1.83	0.42
3:3:12:ARG:CA	14:I:62:LYS:HB3	2.50	0.41
6:A:101:GLU:OE2	6:A:103:ARG:NE	2.53	0.41
6:A:264:LYS:HD2	6:A:264:LYS:HA	1.83	0.41
7:B:85:ALA:HB3	7:B:86:PRO:HD2	2.02	0.41
8:C:50:GLN:O	8:C:50:GLN:CG	2.68	0.41
8:C:154:ASP:OD2	8:C:157:THR:OG1	2.35	0.41
8:C:158:ARG:HH11	8:C:158:ARG:CB	2.32	0.41
9:D:16:LEU:HD22	9:D:20:PHE:CE1	2.55	0.41
9:D:24:SER:OG	31:Z:57:U:O3'	2.37	0.41
10:E:109:TYR:HE1	10:E:152:ARG:NE	2.16	0.41
12:G:164:GLN:C	12:G:165:VAL:HG13	2.45	0.41
15:J:12:LYS:HD3	29:X:923:A:C5	2.55	0.41
15:J:36:ILE:HA	15:J:102:ARG:O	2.20	0.41
15:J:75:VAL:CG2	15:J:93:TYR:HE2	2.32	0.41
18:M:11:GLU:O	18:M:13:LEU:N	2.51	0.41
19:N:117:ARG:NH2	19:N:117:ARG:HG3	2.34	0.41
20:O:86:HIS:CD2	20:O:87:ARG:N	2.88	0.41
21:P:42:VAL:O	21:P:42:VAL:HG12	2.19	0.41
26:U:23:LYS:HE3	26:U:26:ALA:CA	2.49	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:V:47:ARG:O	27:V:50:VAL:N	2.52	0.41
29:X:612:G:H2'	29:X:668:A:H61	1.85	0.41
29:X:847:C:C2	29:X:848:A:N7	2.88	0.41
29:X:1002:C:H2'	29:X:1003:C:H6	1.84	0.41
29:X:1200:G:H2'	29:X:1201:G:H8	1.85	0.41
29:X:1247:U:C2'	29:X:1248:G:H5'	2.50	0.41
29:X:1248:G:H8	29:X:1248:G:O5'	2.03	0.41
29:X:1426:U:O2'	29:X:1427:G:H5'	2.20	0.41
29:X:1778:U:C6	29:X:1779:C:H5	2.38	0.41
29:X:2217:G:N3	29:X:2217:G:H2'	2.34	0.41
29:X:2219:U:O2'	29:X:2220:A:H5'	2.19	0.41
29:X:2343:C:H2'	29:X:2344:G:H5'	2.02	0.41
29:X:2381:A:C2'	29:X:2382:C:OP2	2.68	0.41
29:X:2440:C:C4	29:X:2441:U:O4	2.72	0.41
29:X:2707:G:H5'	29:X:2707:G:C8	2.55	0.41
6:A:59:LYS:CG	29:X:1584:G:H4'	2.50	0.41
6:A:160:GLY:N	6:A:196:VAL:CG2	2.84	0.41
7:B:145:LYS:NZ	29:X:583:C:O2	2.47	0.41
8:C:102:LEU:CD2	8:C:106:MET:CE	2.98	0.41
9:D:13:ARG:HG2	9:D:13:ARG:NH2	2.35	0.41
9:D:70:ALA:HB3	9:D:83:MET:H	1.84	0.41
10:E:106:ASN:N	10:E:107:ILE:HD13	2.35	0.41
10:E:131:ILE:CG2	10:E:132:ASP:N	2.82	0.41
12:G:36:ASN:CG	12:G:37:ASP:H	2.28	0.41
12:G:57:LEU:CD2	12:G:170:PRO:HA	2.51	0.41
12:G:66:HIS:HB3	19:N:67:ALA:O	2.20	0.41
12:G:132:PHE:CB	12:G:145:HIS:CE1	3.03	0.41
12:G:138:GLY:O	12:G:139:ARG:C	2.62	0.41
14:I:28:LYS:NZ	14:I:36:GLY:HA2	2.30	0.41
15:J:119:PHE:HD1	15:J:132:MET:HG3	1.84	0.41
19:N:40:LEU:HD23	19:N:40:LEU:HA	1.80	0.41
20:O:78:VAL:CG2	29:X:1202:U:H5'	2.50	0.41
21:P:62:ARG:HH11	21:P:62:ARG:CG	2.29	0.41
21:P:71:VAL:HG11	21:P:126:ILE:CG2	2.50	0.41
21:P:82:ASN:ND2	29:X:505:G:N3	2.68	0.41
22:Q:3:HIS:C	22:Q:5:ASP:N	2.77	0.41
24:S:55:THR:O	24:S:55:THR:HG22	2.19	0.41
24:S:72:ASP:N	24:S:77:ALA:O	2.49	0.41
27:V:24:GLU:C	27:V:26:MET:N	2.78	0.41
27:V:50:VAL:CA	27:V:53:LEU:HD12	2.33	0.41
28:W:46:THR:HG22	28:W:47:VAL:N	2.35	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:59:G:H1'	29:X:73:A:C2	2.55	0.41
29:X:117:A:H4'	29:X:118:U:O5'	2.20	0.41
29:X:312:G:C4	29:X:313:U:C5	3.08	0.41
29:X:356:A:H2'	29:X:357:A:N7	2.35	0.41
29:X:400:U:H4'	29:X:401:G:O4'	2.19	0.41
29:X:404:A:C6	29:X:405:C:N3	2.87	0.41
29:X:439:C:O2'	29:X:440:U:H5'	2.19	0.41
29:X:471:A:C2	29:X:481:A:C5	3.08	0.41
29:X:518:A:OP2	29:X:518:A:C4'	2.67	0.41
29:X:586:G:C6	29:X:587:A:N6	2.87	0.41
29:X:618:A:O2'	29:X:619:A:H5'	2.20	0.41
29:X:665:A:C2	29:X:666:U:C6	3.08	0.41
29:X:751:G:O2'	29:X:752:G:OP1	2.35	0.41
29:X:767:G:O2'	29:X:768:U:H5'	2.20	0.41
29:X:973:U:O2'	29:X:974:U:H5'	2.19	0.41
29:X:1426:U:H2'	29:X:1427:G:C5'	2.50	0.41
29:X:1495:G:H5'	29:X:1574:A:H2	1.85	0.41
29:X:1693:A:N6	29:X:1694:A:C6	2.88	0.41
29:X:1730:G:C4	29:X:1737:G:N2	2.88	0.41
29:X:2029:G:N2	29:X:2030:U:C2	2.88	0.41
29:X:2261:G:H5'	29:X:2262:C:O5'	2.20	0.41
31:Z:23:G:C6	31:Z:24:U:C4	3.08	0.41
31:Z:68:A:C2	31:Z:111:C:C2	3.09	0.41
6:A:85:ASP:CG	6:A:92:ILE:HD12	2.45	0.41
6:A:133:LEU:HB2	6:A:187:SER:HA	2.03	0.41
6:A:151:LYS:HD2	6:A:151:LYS:HA	1.87	0.41
6:A:209:ALA:HB2	29:X:1781:C:C2'	2.49	0.41
8:C:130:THR:HA	8:C:160:ALA:HB1	2.01	0.41
9:D:46:ASP:O	9:D:50:ILE:HG13	2.20	0.41
10:E:89:LEU:HD11	10:E:96:ALA:HB2	2.02	0.41
10:E:102:ALA:HB1	10:E:115:ILE:O	2.21	0.41
10:E:140:LEU:O	10:E:141:VAL:C	2.62	0.41
11:F:51:ALA:CB	11:F:72:PRO:HB2	2.51	0.41
11:F:63:ARG:N	11:F:63:ARG:CD	2.83	0.41
11:F:98:LYS:HE2	11:F:139:GLU:HB2	2.01	0.41
13:H:28:GLY:O	13:H:35:THR:OG1	2.38	0.41
14:I:83:LEU:HD23	14:I:83:LEU:HA	1.80	0.41
14:I:126:SER:O	14:I:130:ILE:HG13	2.20	0.41
17:L:10:LYS:HB2	17:L:14:ARG:NH2	2.15	0.41
17:L:90:ASP:C	17:L:91:ARG:O	2.63	0.41
18:M:85:SER:C	18:M:87:LEU:H	2.27	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:N:78:THR:O	19:N:81:ASN:N	2.53	0.41
21:P:9:ARG:HB3	21:P:13:GLN:HB2	2.02	0.41
24:S:43:PHE:CD1	24:S:66:VAL:HG21	2.55	0.41
24:S:71:MET:H	24:S:71:MET:CE	2.33	0.41
25:T:43:THR:HG22	25:T:46:LYS:HG2	2.02	0.41
26:U:41:VAL:CG2	26:U:43:ARG:NH2	2.81	0.41
29:X:18:U:O5'	29:X:18:U:H6	2.04	0.41
29:X:53:G:C6	29:X:115:G:N2	2.89	0.41
29:X:102:C:C5	29:X:103:U:C4	3.08	0.41
29:X:123:A:O4'	29:X:123:A:OP1	2.38	0.41
29:X:219:G:H2'	29:X:231:G:C6	2.55	0.41
29:X:308:C:H2'	29:X:309:G:O4'	2.20	0.41
29:X:351:A:C6	29:X:352:G:C4	3.08	0.41
29:X:628:A:H2'	29:X:629:C:O4'	2.20	0.41
29:X:803:C:H4'	29:X:804:C:OP1	2.15	0.41
29:X:815:A:C4	29:X:816:U:C5	3.08	0.41
29:X:1217:U:H2'	29:X:1218:C:H6	1.85	0.41
29:X:1526:U:H2'	29:X:1527:G:C8	2.55	0.41
29:X:1697:U:H2'	29:X:1698:C:O4'	2.20	0.41
29:X:1991:C:H2'	29:X:1992:G:C8	2.51	0.41
29:X:2041:A:H8	29:X:2041:A:O5'	2.03	0.41
29:X:2528:G:C2	29:X:2529:G:C8	3.08	0.41
29:X:2611:A:C2	29:X:2767:C:C2	3.08	0.41
29:X:2626:U:O2'	29:X:2627:G:H5'	2.20	0.41
29:X:2670:C:C6	29:X:2847:G:C6	3.08	0.41
29:X:2731:G:N3	29:X:2731:G:O4'	2.53	0.41
29:X:2781:G:C3'	29:X:2782:G:H5''	2.49	0.41
31:Z:16:U:HO2'	31:Z:17:A:P	2.42	0.41
4:4:25:VAL:CB	4:4:34:GLN:HB2	2.48	0.41
6:A:126:LYS:O	6:A:129:ASN:HB2	2.21	0.41
6:A:186:HIS:C	6:A:188:GLU:N	2.78	0.41
6:A:210:GLY:O	6:A:213:ARG:HB2	2.20	0.41
6:A:244:ARG:HE	6:A:244:ARG:HB2	1.69	0.41
7:B:77:ILE:O	7:B:78:LEU:HD23	2.19	0.41
7:B:117:MET:HE1	7:B:135:HIS:HB3	2.01	0.41
8:C:47:THR:HA	8:C:82:VAL:O	2.21	0.41
8:C:172:VAL:C	8:C:174:GLY:H	2.28	0.41
9:D:51:ASP:O	9:D:52:LYS:C	2.64	0.41
10:E:137:ASP:CG	10:E:139:GLN:HB2	2.44	0.41
11:F:13:PRO:HG3	11:F:52:ILE:CD1	2.50	0.41
12:G:50:PRO:HD3	29:X:1152:C:H42	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:H:83:ARG:HD2	13:H:89:ILE:HD11	2.01	0.41
14:I:107:LYS:HB2	14:I:107:LYS:HE2	1.87	0.41
18:M:104:LEU:HD23	18:M:106:TYR:HE2	1.84	0.41
19:N:75:ASN:ND2	19:N:78:THR:H	2.18	0.41
20:O:39:PHE:CE1	20:O:46:VAL:HB	2.56	0.41
23:R:84:VAL:HG22	23:R:90:LYS:N	2.35	0.41
23:R:93:ARG:HH22	23:R:108:VAL:HG12	1.85	0.41
24:S:116:VAL:HG12	24:S:117:VAL:CG1	2.50	0.41
25:T:3:HIS:CG	25:T:4:LYS:N	2.89	0.41
25:T:40:GLN:NE2	25:T:57:HIS:HB3	2.29	0.41
25:T:41:ARG:HH22	29:X:2366:U:HO2'	1.66	0.41
26:U:17:SER:HB2	26:U:44:ALA:CA	2.50	0.41
26:U:28:GLY:O	26:U:29:GLY:C	2.64	0.41
26:U:67:LEU:C	26:U:67:LEU:CD2	2.94	0.41
27:V:51:ALA:O	27:V:52:GLN:C	2.63	0.41
27:V:60:LEU:C	27:V:62:ARG:N	2.76	0.41
29:X:21:A:H2'	29:X:22:C:C6	2.54	0.41
29:X:48:A:O2'	29:X:49:U:OP2	2.34	0.41
29:X:459:A:C2	29:X:466:A:C8	3.09	0.41
29:X:820:U:H2'	29:X:821:A:C8	2.49	0.41
29:X:1042:G:H2'	29:X:1043:A:H8	1.85	0.41
29:X:1129:A:C6	29:X:1130:U:N3	2.89	0.41
29:X:1438:G:H2'	29:X:1439:G:C8	2.56	0.41
29:X:1658:A:N6	29:X:1659:G:C2	2.88	0.41
29:X:1781:C:H2'	29:X:1782:A:C5	2.55	0.41
29:X:1933:G:N7	29:X:1934:U:C5	2.88	0.41
29:X:1939:U:O2	29:X:1939:U:H2'	2.19	0.41
29:X:2006:G:H5'	29:X:2596:C:H4'	2.02	0.41
29:X:2082:C:C2'	29:X:2083:G:H5''	2.50	0.41
29:X:2301:A:O2'	29:X:2302:G:H5'	2.21	0.41
29:X:2779:C:C6	29:X:2779:C:C3'	3.03	0.41
29:X:2799:C:N3	29:X:2800:C:C2	2.89	0.41
6:A:117:VAL:HG13	6:A:128:GLY:O	2.21	0.41
7:B:82:ARG:NH2	29:X:2617:G:OP2	2.53	0.41
7:B:162:MET:HE3	29:X:2796:A:C5'	2.50	0.41
8:C:177:VAL:O	8:C:180:ILE:HG23	2.20	0.41
9:D:13:ARG:CG	9:D:17:MET:HE1	2.50	0.41
9:D:35:VAL:CG1	9:D:36:VAL:H	2.29	0.41
9:D:146:VAL:HB	9:D:147:ASP:H	1.62	0.41
10:E:9:ILE:CD1	10:E:51:LEU:HA	2.50	0.41
10:E:36:PRO:C	10:E:37:TYR:CD1	2.99	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:E:41:LEU:HD22	10:E:64:LEU:HD22	2.02	0.41
10:E:109:TYR:C	10:E:111:HIS:H	2.26	0.41
11:F:11:GLN:HG2	11:F:11:GLN:O	2.21	0.41
11:F:12:LEU:HD12	11:F:37:PHE:CZ	2.56	0.41
11:F:44:GLN:C	11:F:46:ALA:H	2.28	0.41
12:G:45:ASP:OD1	12:G:47:SER:N	2.47	0.41
12:G:107:GLN:C	12:G:109:GLY:H	2.26	0.41
13:H:116:ARG:CZ	18:M:38:LYS:HD3	2.50	0.41
14:I:108:LEU:C	14:I:109:LEU:HD23	2.45	0.41
15:J:79:PRO:CG	15:J:88:LYS:HD2	2.49	0.41
15:J:86:LYS:O	15:J:87:GLY:C	2.63	0.41
16:K:60:LEU:O	16:K:63:ARG:HB3	2.20	0.41
17:L:10:LYS:HB3	17:L:14:ARG:HE	1.85	0.41
17:L:14:ARG:HH12	29:X:2274:C:H5	1.69	0.41
20:O:13:ARG:CB	20:O:13:ARG:CZ	2.98	0.41
20:O:26:GLN:C	20:O:27:GLY:O	2.63	0.41
24:S:5:ALA:HB1	24:S:7:PRO:HD3	2.03	0.41
24:S:96:VAL:C	24:S:119:ASN:OD1	2.63	0.41
27:V:42:ARG:CZ	27:V:46:LEU:HD21	2.51	0.41
29:X:24:G:C5	29:X:25:U:C5	3.09	0.41
29:X:59:G:C5	29:X:62:U:C4	3.09	0.41
29:X:210:A:C2'	29:X:211:U:H5'	2.49	0.41
29:X:312:G:C6	29:X:328:A:C6	3.08	0.41
29:X:584:A:H8	29:X:584:A:OP1	2.04	0.41
29:X:618:A:C2	29:X:619:A:C4	3.08	0.41
29:X:630:G:H3'	29:X:631:G:N2	2.36	0.41
29:X:640:C:N4	29:X:641:G:O6	2.54	0.41
29:X:812:G:C6	29:X:813:A:C6	3.08	0.41
29:X:920:G:C2'	29:X:921:A:O5'	2.69	0.41
29:X:994:A:O2'	29:X:995:A:P	2.79	0.41
29:X:1424:U:H2'	29:X:1425:G:C8	2.56	0.41
29:X:1625:A:C2	29:X:1632:A:C4	3.09	0.41
29:X:1732:U:H4'	29:X:1733:U:OP2	2.20	0.41
29:X:1742:G:C2	29:X:1743:C:C4	3.09	0.41
29:X:1845:A:N3	29:X:2212:U:O2'	2.45	0.41
29:X:1915:A:H61	29:X:1951:G:H1'	1.85	0.41
29:X:1978:U:H3'	29:X:1979:C:C5'	2.30	0.41
29:X:1997:A:O2'	30:Y:3:LYS:HE2	2.20	0.41
29:X:2047:C:H1'	29:X:2429:A:C5	2.56	0.41
29:X:2070:G:C6	29:X:2212:U:N3	2.89	0.41
29:X:2434:G:N1	29:X:2477:C:N4	2.69	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2564:U:H4'	29:X:2565:C:OP1	2.21	0.41
29:X:2566:A:N6	29:X:2587:G:H1'	2.35	0.41
29:X:2650:G:C5	29:X:2651:U:C5	3.08	0.41
29:X:2684:A:C4	29:X:2685:A:C8	3.08	0.41
6:A:48:ARG:HB3	6:A:48:ARG:CZ	2.50	0.41
7:B:16:LYS:O	7:B:17:ASN:HB2	2.20	0.41
8:C:22:VAL:HG21	8:C:110:SER:OG	2.20	0.41
8:C:103:GLY:C	8:C:105:ALA:N	2.78	0.41
8:C:172:VAL:O	8:C:173:ALA:C	2.64	0.41
9:D:71:LYS:O	9:D:72:LYS:HB2	2.20	0.41
10:E:64:LEU:CA	10:E:67:LEU:HB2	2.49	0.41
10:E:84:THR:HB	10:E:134:SER:CB	2.50	0.41
10:E:95:ARG:O	10:E:106:ASN:HB3	2.20	0.41
10:E:158:HIS:NE2	29:X:2638:G:OP1	2.41	0.41
15:J:27:TYR:OH	24:S:76:ARG:HG2	2.20	0.41
15:J:66:TYR:CE2	29:X:886:A:H4'	2.55	0.41
15:J:136:GLU:CA	15:J:138:TYR:CE2	3.04	0.41
18:M:24:LEU:O	18:M:25:PRO:C	2.63	0.41
19:N:93:LYS:HG2	29:X:1007:A:O2'	2.20	0.41
21:P:29:LYS:O	21:P:30:TYR:HB2	2.20	0.41
22:Q:12:ILE:O	22:Q:13:SER:OG	2.37	0.41
23:R:17:LYS:HB3	23:R:18:LYS:NZ	2.36	0.41
24:S:125:PRO:CG	24:S:126:GLY:N	2.83	0.41
26:U:50:ALA:C	26:U:52:ARG:NH2	2.78	0.41
27:V:39:GLN:O	27:V:42:ARG:HB3	2.20	0.41
27:V:50:VAL:HA	27:V:53:LEU:CD1	2.34	0.41
29:X:95:G:O2'	29:X:96:C:H5'	2.20	0.41
29:X:184:A:H2'	29:X:185:C:O4'	2.21	0.41
29:X:242:A:H2'	29:X:243:G:C1'	2.50	0.41
29:X:339:U:O4	29:X:343:A:C8	2.73	0.41
29:X:341:A:O2'	29:X:342:G:P	2.78	0.41
29:X:468:A:H1'	29:X:470:U:C6	2.55	0.41
29:X:524:A:O2'	29:X:525:A:H5'	2.21	0.41
29:X:930:A:C8	29:X:930:A:H3'	2.55	0.41
29:X:942:U:O2	29:X:942:U:H2'	2.19	0.41
29:X:1149:G:N3	29:X:1154:A:C2	2.77	0.41
29:X:1153:A:C4	29:X:1155:G:C5	3.09	0.41
29:X:1164:C:O2'	29:X:1165:G:H5'	2.20	0.41
29:X:1281:A:C2	29:X:1996:A:C4	3.09	0.41
29:X:1473:U:C2'	29:X:1474:A:OP2	2.68	0.41
29:X:1982:C:O2	29:X:2666:U:O2'	2.30	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2171:U:C4	29:X:2172:U:C4	3.09	0.41
29:X:2201:G:C2	29:X:2202:G:C8	3.09	0.41
29:X:2378:G:H2'	29:X:2379:G:O4'	2.19	0.41
29:X:2441:U:N3	29:X:2442:C:C5	2.89	0.41
29:X:2513:A:C6	29:X:2514:G:C8	3.09	0.41
29:X:2673:G:H2'	29:X:2674:C:H6	1.86	0.41
29:X:2728:A:H2'	29:X:2729:A:H8	1.86	0.41
29:X:2791:C:O2	29:X:2858:A:O2'	2.35	0.41
29:X:2798:A:C5	29:X:2799:C:C5	3.08	0.41
6:A:61:LEU:HD23	6:A:61:LEU:HA	1.81	0.41
6:A:186:HIS:ND1	6:A:186:HIS:N	2.69	0.41
6:A:218:LYS:CD	6:A:218:LYS:O	2.69	0.41
6:A:227:ASN:HD21	29:X:797:A:C5'	2.34	0.41
7:B:11:MET:HG2	7:B:24:THR:OG1	2.21	0.41
7:B:31:CYS:HA	7:B:32:PRO:HD3	1.75	0.41
7:B:118:LYS:O	7:B:160:MET:HE1	2.20	0.41
8:C:163:ASN:O	8:C:164:VAL:O	2.38	0.41
9:D:144:ASP:O	9:D:145:MET:HG2	2.20	0.41
10:E:24:PHE:CD1	10:E:24:PHE:N	2.88	0.41
10:E:106:ASN:H	10:E:107:ILE:HD13	1.85	0.41
10:E:148:VAL:O	10:E:150:LYS:N	2.53	0.41
11:F:25:PRO:CG	11:F:26:ALA:N	2.83	0.41
12:G:96:ASP:OD1	12:G:97:ASP:HB2	2.21	0.41
15:J:125:LYS:HB2	29:X:2463:G:H1'	2.03	0.41
16:K:38:LEU:O	16:K:41:ALA:HB3	2.20	0.41
16:K:76:VAL:O	16:K:79:VAL:HG12	2.19	0.41
16:K:86:LYS:C	16:K:88:ALA:H	2.28	0.41
17:L:33:ARG:NH1	17:L:99:ARG:O	2.54	0.41
17:L:99:ARG:HG2	31:Z:51:G:OP1	2.21	0.41
17:L:104:ALA:O	17:L:107:ALA:N	2.54	0.41
18:M:82:PRO:C	18:M:84:ALA:N	2.75	0.41
18:M:87:LEU:O	18:M:87:LEU:HD13	2.20	0.41
20:O:9:GLY:O	20:O:10:LYS:CB	2.67	0.41
20:O:38:LEU:HD13	20:O:38:LEU:C	2.45	0.41
23:R:84:VAL:CA	23:R:90:LYS:HD3	2.24	0.41
24:S:45:GLN:HB2	24:S:46:GLN:H	1.71	0.41
26:U:23:LYS:HD2	26:U:35:THR:CB	2.50	0.41
26:U:50:ALA:HB3	26:U:52:ARG:NH2	2.24	0.41
26:U:53:GLU:HB3	26:U:58:LYS:N	2.36	0.41
27:V:48:ARG:NE	29:X:75:C:OP1	2.53	0.41
29:X:204:A:N7	29:X:2386:G:H5'	2.36	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:318:G:H21	29:X:341:A:H62	1.69	0.41
29:X:541:C:O2'	29:X:542:A:P	2.79	0.41
29:X:657:A:N3	29:X:2329:C:O2'	2.47	0.41
29:X:887:G:O2'	29:X:888:G:H5'	2.20	0.41
29:X:1036:G:O2'	29:X:1037:U:OP2	2.34	0.41
29:X:1081:A:C5	29:X:1108:U:H4'	2.56	0.41
29:X:1170:U:O2'	29:X:1171:A:H5'	2.21	0.41
29:X:1211:G:N2	29:X:1263:G:C5	2.89	0.41
29:X:1313:U:O2'	29:X:1314:A:OP2	2.36	0.41
29:X:1494:G:H2'	29:X:1495:G:O4'	2.21	0.41
29:X:1509:A:C2'	29:X:1510:A:H5'	2.49	0.41
29:X:1547:U:H2'	29:X:1548:U:H6	1.85	0.41
29:X:1707:A:C8	29:X:1708:C:C5	3.09	0.41
29:X:2328:G:OP2	29:X:2328:G:H8	2.03	0.41
29:X:2373:C:H2'	29:X:2374:C:H6	1.84	0.41
6:A:67:PHE:CE1	6:A:157:ARG:NH2	2.89	0.41
6:A:108:PRO:HG2	6:A:111:LEU:HG	2.02	0.41
8:C:33:TRP:CH2	8:C:100:ARG:HD2	2.55	0.41
8:C:105:ALA:C	8:C:107:ALA:N	2.78	0.41
9:D:61:THR:HG22	9:D:99:PHE:CE2	2.56	0.41
9:D:79:LEU:HA	9:D:80:ARG:NH1	2.34	0.41
10:E:77:LYS:HA	10:E:80:SER:CB	2.51	0.41
12:G:150:VAL:C	12:G:151:TYR:CD1	2.98	0.41
14:I:77:LEU:C	14:I:79:GLN:N	2.78	0.41
14:I:88:PHE:O	14:I:93:LEU:HB2	2.21	0.41
15:J:69:ILE:HG21	15:J:104:MET:HA	1.98	0.41
15:J:70:PHE:CG	29:X:884:C:H4'	2.56	0.41
15:J:104:MET:CE	15:J:130:THR:HG21	2.50	0.41
15:J:119:PHE:HA	15:J:122:ALA:HB3	2.02	0.41
16:K:71:HIS:ND1	16:K:71:HIS:N	2.68	0.41
19:N:84:LYS:C	19:N:86:ALA:H	2.29	0.41
20:O:35:LEU:CD2	20:O:36:LYS:N	2.84	0.41
28:W:7:ARG:HD3	29:X:999:A:OP1	2.21	0.41
29:X:340:G:OP1	29:X:340:G:H3'	2.20	0.41
29:X:516:G:O2'	29:X:517:A:C8	2.50	0.41
29:X:620:G:C4	29:X:621:U:C5	3.09	0.41
29:X:656:U:C2'	29:X:657:A:OP2	2.69	0.41
29:X:760:U:C4	30:Y:3:LYS:CG	2.95	0.41
29:X:861:G:N2	29:X:943:U:H1'	2.36	0.41
29:X:1053:G:O6	29:X:1124:U:O4	2.39	0.41
29:X:1166:A:C3'	29:X:1167:A:H5''	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1355:A:H1'	29:X:1410:U:H4'	2.02	0.41
29:X:1569:A:C4	29:X:1571:G:C8	3.09	0.41
29:X:1687:C:OP2	29:X:1688:U:O4	2.39	0.41
29:X:1759:A:N1	29:X:1968:G:C6	2.89	0.41
29:X:1794:A:H2'	29:X:1795:C:H5'	2.02	0.41
29:X:1879:G:H2'	29:X:1880:G:O4'	2.21	0.41
29:X:1981:A:O3'	29:X:2704:U:H4'	2.20	0.41
29:X:2229:G:H2'	29:X:2475:C:OP1	2.21	0.41
29:X:2299:A:O2'	29:X:2312:A:N6	2.54	0.41
29:X:2309:G:O2'	29:X:2310:G:H5'	2.21	0.41
29:X:2472:U:H2'	29:X:2473:G:O4'	2.20	0.41
29:X:2505:G:H5'	29:X:2722:C:O2'	2.20	0.41
29:X:2510:A:N6	29:X:2511:G:C6	2.88	0.41
29:X:2519:C:C2'	29:X:2520:A:H5'	2.50	0.41
29:X:2587:G:C8	29:X:2587:G:H3'	2.56	0.41
29:X:2701:A:O2'	29:X:2702:G:H5'	2.21	0.41
29:X:2733:A:H8	29:X:2733:A:O5'	2.04	0.41
4:4:11:CYS:SG	4:4:32:HIS:CE1	3.14	0.41
4:4:20:HIS:O	4:4:22:ARG:N	2.53	0.41
4:4:24:LEU:HG	4:4:35:ARG:CG	2.41	0.41
4:4:25:VAL:O	4:4:25:VAL:HG12	2.21	0.41
4:4:27:CYS:HG	4:4:32:HIS:CG	2.31	0.41
5:5:6:BB9:O	29:X:1106:A:H1'	2.20	0.41
5:5:10:TS9:CD1	29:X:1078:A:H1'	2.51	0.41
6:A:70:ARG:C	6:A:72:LYS:N	2.78	0.41
6:A:88:ARG:O	6:A:89:SER:HB3	2.21	0.41
6:A:124:GLU:CB	6:A:126:LYS:HD2	2.51	0.41
8:C:60:GLY:O	8:C:62:LYS:N	2.54	0.41
8:C:67:ALA:O	8:C:68:ARG:HB3	2.21	0.41
8:C:137:ALA:HA	8:C:142:LEU:HD12	2.03	0.41
9:D:91:LEU:HB3	9:D:96:MET:HA	2.03	0.41
9:D:93:GLY:H	9:D:96:MET:HE2	1.86	0.41
9:D:120:ASN:O	9:D:122:PHE:CD1	2.74	0.41
9:D:135:GLN:HG3	9:D:150:ARG:C	2.46	0.41
9:D:138:PHE:CB	9:D:141:ILE:HG12	2.51	0.41
10:E:20:GLN:O	10:E:21:ASP:HB2	2.20	0.41
10:E:28:GLY:HA3	10:E:79:VAL:HB	2.02	0.41
10:E:139:GLN:O	10:E:143:GLN:HG3	2.18	0.41
10:E:155:ASP:OD2	10:E:158:HIS:HB2	2.20	0.41
10:E:172:LYS:CD	29:X:2508:G:OP2	2.69	0.41
10:E:175:LYS:HD3	10:E:175:LYS:HA	1.89	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:F:20:ALA:N	11:F:21:PRO:CD	2.68	0.41
12:G:61:ARG:HH22	12:G:78:ASP:HB2	1.84	0.41
12:G:157:PRO:C	12:G:159:SER:N	2.78	0.41
13:H:13:ASN:O	13:H:14:SER:C	2.64	0.41
14:I:9:THR:OG1	14:I:13:ARG:CZ	2.69	0.41
14:I:90:ARG:O	14:I:91:ASP:HB3	2.21	0.41
14:I:92:THR:O	14:I:95:ALA:N	2.53	0.41
15:J:48:ILE:O	15:J:49:GLU:C	2.64	0.41
15:J:66:TYR:O	15:J:106:GLU:CD	2.64	0.41
15:J:68:ARG:HE	15:J:103:VAL:HG11	1.86	0.41
16:K:22:ARG:O	16:K:25:ALA:HB3	2.21	0.41
16:K:94:TYR:CD1	16:K:115:LEU:O	2.74	0.41
17:L:64:LYS:HA	17:L:67:THR:OG1	2.20	0.41
17:L:101:LYS:O	17:L:102:ALA:O	2.38	0.41
17:L:102:ALA:C	17:L:104:ALA:N	2.74	0.41
18:M:22:ARG:CD	18:M:24:LEU:HD21	2.50	0.41
19:N:4:ALA:HB3	29:X:1262:U:H5''	2.02	0.41
19:N:22:LYS:C	19:N:24:PHE:N	2.79	0.41
19:N:25:TRP:CE3	19:N:26:GLY:CA	3.03	0.41
20:O:26:GLN:CG	20:O:27:GLY:H	2.09	0.41
20:O:51:ALA:C	20:O:53:LYS:N	2.77	0.41
20:O:61:VAL:HG23	20:O:94:LYS:N	2.30	0.41
21:P:10:ASN:O	21:P:10:ASN:CG	2.64	0.41
21:P:107:ILE:HA	21:P:108:PRO:HD3	1.94	0.41
21:P:134:LYS:HD3	29:X:2776:U:O2	2.21	0.41
22:Q:88:ILE:HD12	22:Q:88:ILE:C	2.46	0.41
24:S:22:VAL:HG22	24:S:80:HIS:CE1	2.56	0.41
24:S:91:PRO:CG	24:S:92:VAL:N	2.84	0.41
25:T:5:LYS:HD2	25:T:5:LYS:N	2.36	0.41
26:U:39:LYS:HB3	26:U:40:ARG:H	1.59	0.41
27:V:42:ARG:HA	27:V:42:ARG:HD2	1.91	0.41
27:V:51:ALA:HB3	29:X:75:C:H4'	2.03	0.41
28:W:45:LYS:HA	28:W:45:LYS:CE	2.51	0.41
29:X:33:C:O2'	29:X:34:U:O4'	2.39	0.41
29:X:176:A:N6	29:X:2413:A:C5	2.89	0.41
29:X:179:U:H2'	29:X:180:C:O4'	2.21	0.41
29:X:492:G:C2'	29:X:493:A:OP2	2.68	0.41
29:X:497:C:C6	29:X:497:C:C4'	3.03	0.41
29:X:551:A:H2'	29:X:552:C:O4'	2.20	0.41
29:X:643:A:N3	29:X:2382:C:H1'	2.36	0.41
29:X:644:A:C8	29:X:645:G:H1'	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:658:G:H4'	29:X:2330:G:H5''	2.03	0.41
29:X:685:U:O2'	29:X:686:C:C5'	2.63	0.41
29:X:730:C:H4'	29:X:731:A:OP1	2.21	0.41
29:X:759:C:C6	29:X:759:C:C4'	3.04	0.41
29:X:760:U:H1'	30:Y:3:LYS:HE3	2.01	0.41
29:X:872:G:C1'	29:X:2247:A:H1'	2.50	0.41
29:X:925:U:C4'	29:X:926:C:OP1	2.63	0.41
29:X:971:A:H4'	29:X:2436:U:C4'	2.50	0.41
29:X:1014:G:C6	29:X:1015:U:C4	3.09	0.41
29:X:1142:G:O2'	29:X:1143:A:O5'	2.39	0.41
29:X:1211:G:C2	29:X:1263:G:C5	3.09	0.41
29:X:1244:U:C2	29:X:1245:G:C8	3.09	0.41
29:X:1281:A:H2'	29:X:1282:A:O4'	2.20	0.41
29:X:1299:A:C6	29:X:1302:C:C4	3.09	0.41
29:X:1309:G:C2'	29:X:1310:C:O5'	2.68	0.41
29:X:1347:C:H2'	29:X:1348:C:O5'	2.20	0.41
29:X:1350:G:H2'	29:X:1351:G:O4'	2.21	0.41
29:X:1355:A:C2'	29:X:1357:U:OP2	2.69	0.41
29:X:1414:G:C5	29:X:1415:C:C4	3.09	0.41
29:X:1429:A:C2'	29:X:1430:G:H4'	2.51	0.41
29:X:1438:G:C2	29:X:1591:U:C2	3.09	0.41
29:X:1505:U:C6	29:X:1505:U:C3'	3.04	0.41
29:X:1526:U:H3'	29:X:1527:G:C8	2.56	0.41
29:X:1623:C:O2'	29:X:1624:A:OP2	2.34	0.41
29:X:1641:C:O2	29:X:1641:C:C2'	2.64	0.41
29:X:1672:A:H3'	29:X:1673:C:C5	2.55	0.41
29:X:1683:G:O2'	29:X:1684:G:H5'	2.21	0.41
29:X:1695:U:C2'	29:X:1696:C:H5'	2.51	0.41
29:X:1737:G:O2'	29:X:1738:U:H5'	2.20	0.41
29:X:1811:A:C4	29:X:1813:A:N1	2.89	0.41
29:X:1830:C:N4	29:X:1881:U:H2'	2.36	0.41
29:X:2046:C:N3	29:X:2429:A:N6	2.61	0.41
29:X:2209:G:C6	29:X:2210:C:N4	2.89	0.41
29:X:2238:G:C6	29:X:2239:C:C4	3.09	0.41
29:X:2262:C:H2'	29:X:2263:C:O4'	2.20	0.41
29:X:2264:C:C4'	29:X:2267:A:C6	3.03	0.41
29:X:2281:C:C2	29:X:2282:G:C8	3.09	0.41
29:X:2307:A:C2	29:X:2308:A:C5	3.09	0.41
29:X:2371:A:C2	29:X:2408:G:C2	3.09	0.41
29:X:2394:G:C6	29:X:2395:C:C4	3.08	0.41
29:X:2433:G:C5	29:X:2434:G:N7	2.89	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2543:A:C2	29:X:2626:U:C4'	3.03	0.41
29:X:2578:G:C2	29:X:2579:A:C8	3.08	0.41
29:X:2649:A:C2	29:X:2650:G:C4	3.09	0.41
29:X:2676:G:C2	29:X:2690:A:C2	3.09	0.41
29:X:2800:C:C5	29:X:2801:A:C8	3.09	0.41
29:X:2864:C:O2	29:X:2864:C:H2'	2.21	0.41
31:Z:70:C:H2'	31:Z:71:G:O4'	2.21	0.41
6:A:126:LYS:C	6:A:193:ILE:CG2	2.94	0.41
6:A:160:GLY:N	6:A:196:VAL:HG23	2.34	0.41
6:A:172:TYR:HH	29:X:2202:G:P	2.44	0.41
7:B:52:ALA:HA	18:M:5:ILE:CG2	2.50	0.41
7:B:109:LYS:NZ	29:X:2703:C:OP1	2.50	0.41
8:C:17:LEU:HA	8:C:18:PRO:HD3	1.79	0.41
8:C:26:VAL:O	8:C:27:LEU:C	2.62	0.41
8:C:47:THR:HG23	8:C:84:PHE:H	1.82	0.41
8:C:77:PHE:O	8:C:79:GLY:N	2.54	0.41
9:D:175:LEU:CG	9:D:177:PHE:HE1	2.34	0.41
10:E:27:LYS:HA	10:E:32:GLU:HA	2.01	0.41
10:E:143:GLN:HG2	29:X:2725:C:C2'	2.51	0.41
12:G:130:ALA:CB	29:X:1149:G:OP1	2.69	0.41
12:G:148:LEU:C	12:G:149:LYS:HG2	2.46	0.41
12:G:155:THR:CG2	12:G:156:HIS:H	2.24	0.41
13:H:23:ARG:HH22	13:H:25:LEU:N	2.18	0.41
14:I:17:LYS:HE2	29:X:1258:G:OP2	2.21	0.41
14:I:71:THR:HG21	14:I:104:ARG:CZ	2.51	0.41
17:L:54:ALA:CB	17:L:75:LEU:CA	2.99	0.41
18:M:33:VAL:HG22	18:M:51:GLU:CD	2.46	0.41
18:M:104:LEU:HA	18:M:106:TYR:HE2	1.82	0.41
19:N:74:MET:HE1	19:N:79:PHE:HA	2.02	0.41
19:N:91:ASN:O	19:N:92:ARG:HB2	2.21	0.41
21:P:102:THR:HG22	21:P:104:LYS:HD3	2.01	0.41
23:R:25:LEU:CD1	23:R:81:VAL:N	2.83	0.41
23:R:84:VAL:CG2	23:R:89:GLY:CA	2.94	0.41
24:S:37:LYS:O	24:S:38:ALA:C	2.64	0.41
25:T:3:HIS:HB2	25:T:5:LYS:HE2	2.03	0.41
27:V:4:SER:O	27:V:7:ARG:HG3	2.21	0.41
27:V:31:GLN:CA	27:V:34:ALA:HB3	2.49	0.41
28:W:2:LYS:HB3	28:W:54:GLN:CD	2.45	0.41
29:X:172:A:H2'	29:X:175:C:H42	1.86	0.41
29:X:208:C:H2'	29:X:209:G:C5'	2.50	0.41
29:X:417:C:C4	29:X:419:G:C5	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:464:G:C6	29:X:465:C:N4	2.89	0.41
29:X:466:A:H4'	29:X:467:U:O5'	2.20	0.41
29:X:847:C:H2'	29:X:848:A:O4'	2.21	0.41
29:X:1023:U:O2	29:X:1154:A:H8	2.04	0.41
29:X:1098:G:P	29:X:1098:G:H8	2.44	0.41
29:X:1211:G:C2	29:X:1263:G:C6	3.09	0.41
29:X:1423:A:C2	29:X:1609:G:C2	3.09	0.41
29:X:1514:C:C1'	29:X:1593:C:H4'	2.51	0.41
29:X:1876:C:H2'	29:X:1877:C:H5'	2.02	0.41
29:X:1923:U:O2'	29:X:1924:C:P	2.79	0.41
29:X:2004:U:H4'	29:X:2005:U:OP2	2.15	0.41
29:X:2187:A:N6	29:X:2188:A:N6	2.69	0.41
29:X:2332:G:H2'	29:X:2333:A:O4'	2.21	0.41
29:X:2691:C:H1'	29:X:2692:A:C8	2.55	0.41
29:X:2698:G:H2'	29:X:2699:G:H8	1.86	0.41
29:X:2869:U:O2'	29:X:2870:C:H5'	2.21	0.41
31:Z:5:C:C2'	31:Z:6:C:O4'	2.68	0.41
6:A:62:TYR:CE1	29:X:1808:C:H3'	2.56	0.40
6:A:71:ASP:OD2	6:A:103:ARG:NH1	2.54	0.40
6:A:73:SER:HB2	6:A:120:GLY:HA3	2.03	0.40
6:A:209:ALA:O	29:X:742:G:N7	2.54	0.40
6:A:214:TRP:CH2	29:X:777:A:P	3.14	0.40
6:A:217:ARG:NH1	29:X:793:G:OP1	2.53	0.40
6:A:245:VAL:N	6:A:252:LYS:HE2	2.36	0.40
7:B:27:LEU:HD22	7:B:51:TYR:OH	2.21	0.40
7:B:117:MET:CB	7:B:136:ARG:HG3	2.51	0.40
8:C:144:GLY:HA3	8:C:166:TRP:NE1	2.36	0.40
9:D:92:ARG:NH1	31:Z:46:G:C5'	2.76	0.40
10:E:142:GLY:C	10:E:144:VAL:H	2.28	0.40
12:G:141:GLY:O	12:G:144:MET:N	2.55	0.40
12:G:154:GLU:O	12:G:157:PRO:CD	2.69	0.40
13:H:116:ARG:CZ	18:M:38:LYS:CD	2.98	0.40
15:J:61:ARG:C	15:J:63:GLY:H	2.29	0.40
15:J:86:LYS:O	15:J:87:GLY:O	2.39	0.40
15:J:135:ARG:HB3	15:J:136:GLU:H	1.72	0.40
17:L:12:ARG:O	17:L:16:LYS:HB2	2.21	0.40
20:O:20:ILE:O	20:O:21:ARG:O	2.38	0.40
21:P:28:ALA:HB2	21:P:71:VAL:HG22	2.02	0.40
22:Q:43:GLN:HA	22:Q:48:VAL:O	2.21	0.40
23:R:28:LYS:HG2	23:R:29:HIS:CD2	2.55	0.40
23:R:29:HIS:O	23:R:32:GLN:HB2	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:S:39:PHE:CE1	24:S:81:VAL:HG11	2.56	0.40
28:W:3:ILE:CG2	28:W:4:LYS:N	2.84	0.40
29:X:70:A:C4'	29:X:71:A:H3'	2.46	0.40
29:X:172:A:H2'	29:X:175:C:N4	2.35	0.40
29:X:224:G:N2	29:X:227:G:H3'	2.36	0.40
29:X:311:A:C5	29:X:345:U:C4'	3.04	0.40
29:X:391:C:C2'	29:X:392:G:H5'	2.51	0.40
29:X:487:G:N2	29:X:490:A:O4'	2.54	0.40
29:X:664:C:O3'	29:X:665:A:H3'	2.21	0.40
29:X:759:C:C6	29:X:759:C:C3'	3.04	0.40
29:X:825:C:H1'	29:X:1263:G:N2	2.36	0.40
29:X:939:C:H4'	29:X:940:G:O5'	2.20	0.40
29:X:1007:A:O2'	29:X:1008:G:H5'	2.22	0.40
29:X:1018:C:C4	29:X:1019:U:H5	2.40	0.40
29:X:1145:C:C6	29:X:1147:G:OP1	2.74	0.40
29:X:1460:G:C6	29:X:1461:C:C4	3.09	0.40
29:X:1511:A:H2	29:X:1594:U:H1'	1.85	0.40
29:X:1581:C:O2'	29:X:1582:A:O5'	2.27	0.40
29:X:1678:G:C4	29:X:1983:G:N2	2.90	0.40
29:X:1710:U:O2'	29:X:1711:C:P	2.79	0.40
29:X:1730:G:N2	29:X:1731:C:H1'	2.37	0.40
29:X:1850:G:H2'	29:X:1851:A:H8	1.85	0.40
29:X:2557:G:H2'	29:X:2558:C:C6	2.56	0.40
29:X:2645:C:H3'	29:X:2646:C:H6	1.84	0.40
31:Z:26:G:O3'	31:Z:27:A:O4'	2.40	0.40
6:A:43:ARG:NH1	6:A:43:ARG:CB	2.69	0.40
6:A:52:ARG:HH21	6:A:53:PHE:HZ	1.69	0.40
6:A:52:ARG:HH11	6:A:247:VAL:HG11	1.87	0.40
6:A:134:ARG:NH2	6:A:135:PHE:CZ	2.85	0.40
6:A:144:ALA:O	6:A:153:ALA:HA	2.21	0.40
7:B:53:PRO:HG2	18:M:6:LYS:NZ	2.35	0.40
8:C:75:PRO:O	29:X:594:G:H4'	2.21	0.40
9:D:41:GLY:HA2	9:D:44:LYS:O	2.21	0.40
9:D:106:ILE:CG2	9:D:110:ARG:HD2	2.50	0.40
9:D:122:PHE:HA	29:X:2282:G:C4'	2.43	0.40
10:E:33:LEU:CG	10:E:34:THR:H	2.34	0.40
10:E:89:LEU:HD13	10:E:95:ARG:CA	2.42	0.40
11:F:54:PRO:HB2	11:F:70:LYS:HD2	2.04	0.40
12:G:69:ASP:O	12:G:70:PHE:C	2.65	0.40
12:G:88:VAL:HG22	12:G:89:ALA:H	1.85	0.40
12:G:88:VAL:HG13	12:G:89:ALA:N	2.36	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:G:153:GLY:CA	12:G:157:PRO:HG2	2.51	0.40
13:H:83:ARG:HH11	18:M:40:ARG:NE	2.19	0.40
13:H:108:THR:O	13:H:109:ARG:HB3	2.22	0.40
17:L:69:ALA:CB	17:L:106:ALA:HB2	2.51	0.40
19:N:5:LYS:HB3	19:N:7:GLY:H	1.86	0.40
20:O:78:VAL:HG22	29:X:1202:U:C5'	2.51	0.40
21:P:19:LYS:O	21:P:20:LEU:CB	2.67	0.40
22:Q:69:ILE:HD13	22:Q:70:GLY:N	2.36	0.40
23:R:105:ARG:HH22	23:R:111:GLY:C	2.28	0.40
24:S:51:LEU:N	24:S:51:LEU:CD2	2.74	0.40
25:T:9:SER:O	25:T:10:SER:O	2.40	0.40
26:U:40:ARG:HG2	26:U:40:ARG:HH21	1.87	0.40
26:U:62:LEU:HD23	26:U:67:LEU:HG	2.03	0.40
29:X:126:C:C2	29:X:127:C:C5	3.09	0.40
29:X:577:U:O5'	29:X:956:A:N6	2.54	0.40
29:X:760:U:O5'	29:X:760:U:H6	2.04	0.40
29:X:956:A:C5	29:X:2427:A:N1	2.90	0.40
29:X:1379:A:H2'	29:X:1380:C:C6	2.56	0.40
29:X:1477:C:H1'	29:X:2681:A:N3	2.36	0.40
29:X:1506:C:H2'	29:X:1507:A:H5'	2.03	0.40
29:X:1739:G:H2'	29:X:1740:G:C8	2.56	0.40
29:X:1764:A:C2'	29:X:1765:C:H5'	2.49	0.40
29:X:1807:A:P	29:X:1814:G:H4'	2.61	0.40
29:X:2028:C:C2	29:X:2603:G:C2	3.09	0.40
29:X:2047:C:C4	29:X:2048:C:N4	2.90	0.40
29:X:2071:G:C5	29:X:2072:C:C5	3.09	0.40
29:X:2195:C:C2'	29:X:2196:U:C6	2.84	0.40
29:X:2209:G:C4	29:X:2210:C:H5	2.40	0.40
29:X:2231:G:C6	29:X:2232:G:N7	2.89	0.40
29:X:2280:A:C6	29:X:2281:C:N4	2.90	0.40
29:X:2377:U:H6	29:X:2377:U:O5'	2.04	0.40
29:X:2529:G:C6	29:X:2530:C:C4	3.10	0.40
29:X:2718:A:H2'	29:X:2719:U:O5'	2.21	0.40
4:4:1:MET:H1	29:X:2505:G:C2'	2.32	0.40
6:A:97:TYR:O	6:A:99:ASP:N	2.55	0.40
6:A:209:ALA:CB	29:X:1781:C:O2'	2.58	0.40
7:B:37:LYS:CG	7:B:42:ASP:OD1	2.70	0.40
8:C:33:TRP:O	8:C:36:ALA:HB3	2.21	0.40
8:C:111:ARG:HA	8:C:111:ARG:HD3	1.86	0.40
8:C:130:THR:O	8:C:133:PHE:N	2.54	0.40
9:D:154:ILE:HD12	9:D:154:ILE:N	2.36	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:E:38:ASN:ND2	10:E:64:LEU:HD11	2.37	0.40
10:E:103:LEU:CG	10:E:105:MET:HE3	2.50	0.40
11:F:12:LEU:CD1	11:F:37:PHE:HE2	2.34	0.40
11:F:81:ALA:O	11:F:82:ALA:HB2	2.21	0.40
11:F:99:LEU:C	11:F:99:LEU:CD1	2.95	0.40
12:G:107:GLN:O	29:X:1142:G:P	2.79	0.40
14:I:61:PRO:CB	29:X:2372:A:H5'	2.47	0.40
14:I:65:PHE:CB	29:X:642:A:O2'	2.69	0.40
14:I:78:SER:N	14:I:112:GLY:HA3	2.36	0.40
16:K:20:LEU:HA	16:K:20:LEU:HD12	1.87	0.40
16:K:27:ALA:O	16:K:28:LEU:C	2.64	0.40
17:L:17:VAL:HB	29:X:2313:G:N2	2.37	0.40
17:L:72:GLY:O	17:L:107:ALA:HB2	2.21	0.40
17:L:100:VAL:HG13	17:L:101:LYS:N	2.37	0.40
18:M:39:VAL:HA	18:M:45:THR:HG23	2.03	0.40
19:N:54:LYS:O	19:N:55:ARG:C	2.64	0.40
19:N:54:LYS:NZ	29:X:1007:A:N7	2.67	0.40
19:N:86:ALA:O	19:N:89:ASP:N	2.54	0.40
21:P:30:TYR:H	21:P:123:HIS:CE1	2.38	0.40
21:P:38:VAL:O	21:P:39:ARG:C	2.64	0.40
21:P:118:LYS:HD2	21:P:120:ARG:HH21	1.86	0.40
23:R:15:HIS:CE1	23:R:16:PHE:HE2	2.40	0.40
23:R:59:LYS:HA	23:R:62:MET:HG3	2.03	0.40
24:S:99:HIS:HB2	24:S:135:VAL:HA	2.03	0.40
25:T:55:ARG:HD2	29:X:2363:G:OP1	2.22	0.40
25:T:57:HIS:ND1	25:T:57:HIS:N	2.68	0.40
25:T:72:LYS:HD3	31:Z:14:C:O5'	2.22	0.40
26:U:10:LYS:HZ3	26:U:70:LEU:CG	2.29	0.40
27:V:54:ASN:O	27:V:55:THR:C	2.64	0.40
29:X:30:G:O2'	29:X:31:C:H5'	2.21	0.40
29:X:55:A:H2'	29:X:56:C:H6	1.86	0.40
29:X:488:A:C6	29:X:489:A:C6	3.09	0.40
29:X:540:G:O6	29:X:2006:G:OP1	2.40	0.40
29:X:648:A:H4'	29:X:649:G:C4'	2.52	0.40
29:X:654:A:N3	29:X:655:A:H5'	2.36	0.40
29:X:674:U:H2'	29:X:675:C:O4'	2.22	0.40
29:X:689:A:N1	29:X:815:A:N1	2.69	0.40
29:X:739:G:O2'	29:X:740:A:O5'	2.40	0.40
29:X:885:A:C5	29:X:918:A:C2	3.09	0.40
29:X:1089:C:O2	29:X:1099:A:H5'	2.21	0.40
29:X:1213:U:H2'	29:X:1214:C:O4'	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1235:C:H2'	29:X:1236:G:H8	1.85	0.40
29:X:1251:G:O2'	29:X:1252:C:H5'	2.21	0.40
29:X:1625:A:H1'	29:X:1632:A:O2'	2.21	0.40
29:X:1659:G:H2'	29:X:1660:G:O4'	2.20	0.40
29:X:1687:C:OP2	29:X:2529:G:OP1	2.40	0.40
29:X:1987:G:C4	29:X:1988:A:C8	3.08	0.40
29:X:2036:G:N1	29:X:2037:A:C4	2.89	0.40
29:X:2039:G:C5	29:X:2556:A:C4	3.10	0.40
29:X:2221:G:C2'	29:X:2222:U:O5'	2.69	0.40
29:X:2309:G:H2'	29:X:2310:G:H5'	2.01	0.40
29:X:2323:U:C6	29:X:2323:U:C3'	3.04	0.40
29:X:2594:U:C4	30:Y:6:VAL:O	2.74	0.40
29:X:2605:C:H2'	29:X:2606:G:O4'	2.21	0.40
7:B:11:MET:SD	29:X:2661:G:C8	3.15	0.40
7:B:116:VAL:CG2	7:B:136:ARG:NE	2.74	0.40
8:C:66:ASN:HA	29:X:1268:U:C2	2.56	0.40
8:C:116:LYS:O	8:C:117:LEU:CB	2.70	0.40
8:C:151:VAL:HA	8:C:170:LEU:O	2.22	0.40
9:D:63:GLN:HG2	31:Z:44:C:O2'	2.21	0.40
9:D:79:LEU:CA	9:D:80:ARG:CZ	2.97	0.40
9:D:80:ARG:HG2	9:D:81:GLN:H	1.85	0.40
11:F:101:TRP:O	11:F:104:VAL:CB	2.67	0.40
12:G:46:ALA:CB	12:G:54:LEU:HD21	2.51	0.40
12:G:85:ALA:C	12:G:87:GLN:H	2.28	0.40
12:G:103:TYR:C	12:G:107:GLN:NE2	2.79	0.40
13:H:41:ASN:HD22	13:H:41:ASN:N	2.06	0.40
14:I:38:LYS:HB3	29:X:954:U:P	2.62	0.40
15:J:75:VAL:C	15:J:76:THR:HG23	2.46	0.40
15:J:122:ALA:HA	15:J:125:LYS:HD3	2.03	0.40
16:K:3:HIS:HB3	16:K:5:LYS:HG3	2.04	0.40
16:K:43:GLU:OE1	16:K:43:GLU:C	2.65	0.40
16:K:99:ARG:HH21	29:X:2792:C:P	2.44	0.40
17:L:40:ALA:CB	17:L:75:LEU:HD22	2.42	0.40
17:L:41:GLN:HG3	17:L:50:THR:HG21	2.03	0.40
17:L:46:SER:OG	17:L:47:ARG:HG3	2.22	0.40
17:L:67:THR:O	17:L:68:ALA:C	2.64	0.40
18:M:105:TYR:O	18:M:107:LEU:N	2.55	0.40
19:N:18:LEU:HD13	19:N:18:LEU:HA	1.88	0.40
20:O:34:GLU:HB2	20:O:56:VAL:HG23	2.03	0.40
21:P:36:ARG:HA	21:P:39:ARG:HD3	2.03	0.40
23:R:105:ARG:HH12	23:R:113:THR:N	2.16	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:S:17:SER:C	24:S:18:MET:HG2	2.45	0.40
24:S:61:THR:O	24:S:62:PHE:HD2	2.04	0.40
24:S:99:HIS:O	24:S:136:VAL:HB	2.22	0.40
25:T:69:PHE:CE2	25:T:79:ILE:HG12	2.56	0.40
29:X:17:G:C2	29:X:18:U:N3	2.89	0.40
29:X:29:U:O5'	29:X:29:U:H6	2.05	0.40
29:X:46:C:O2'	29:X:47:G:H5'	2.21	0.40
29:X:82:G:N1	29:X:100:G:H2'	2.37	0.40
29:X:312:G:C4	29:X:313:U:C4	3.10	0.40
29:X:518:A:OP2	29:X:518:A:H4'	2.21	0.40
29:X:559:C:H2'	29:X:560:G:C4'	2.52	0.40
29:X:749:C:N3	29:X:750:C:C5	2.89	0.40
29:X:872:G:H22	29:X:929:A:P	2.43	0.40
29:X:936:A:H2'	29:X:937:C:O4'	2.21	0.40
29:X:1023:U:H6	29:X:1023:U:H3'	1.87	0.40
29:X:1082:G:O2'	29:X:1100:G:H3'	2.21	0.40
29:X:1226:A:C8	29:X:1250:A:C2	3.09	0.40
29:X:1460:G:N3	29:X:1460:G:H2'	2.36	0.40
29:X:1514:C:O4'	29:X:1593:C:C5'	2.69	0.40
29:X:1544:A:N3	29:X:1560:A:C6	2.90	0.40
29:X:1551:U:OP2	29:X:1553:G:N2	2.48	0.40
29:X:2018:G:HO2'	29:X:2019:C:P	2.45	0.40
29:X:2060:A:C5	29:X:2414:A:C5	3.10	0.40
29:X:2202:G:N2	29:X:2203:G:H1'	2.36	0.40
29:X:2326:C:H2'	29:X:2327:U:C5	2.56	0.40
29:X:2424:G:C6	29:X:2425:G:C5	3.09	0.40
29:X:2542:U:H1'	29:X:2545:A:C6	2.56	0.40
29:X:2751:C:H2'	29:X:2752:C:C6	2.57	0.40
29:X:2811:G:C6	29:X:2812:A:N6	2.90	0.40
29:X:2827:G:C2	29:X:2828:C:O2	2.74	0.40
29:X:2860:C:H2'	29:X:2861:A:C5'	2.51	0.40
6:A:179:SER:HB3	29:X:1790:G:O6	2.21	0.40
6:A:262:LYS:C	6:A:264:LYS:N	2.75	0.40
7:B:5:LEU:HD22	7:B:49:ILE:HG23	2.03	0.40
7:B:115:GLY:O	7:B:119:ARG:HB3	2.22	0.40
7:B:141:ILE:HG21	7:B:154:LYS:NZ	2.34	0.40
8:C:47:THR:HG23	8:C:82:VAL:O	2.21	0.40
8:C:54:THR:C	8:C:55:GLY:O	2.64	0.40
10:E:95:ARG:CZ	10:E:97:LYS:CE	2.93	0.40
11:F:122:ALA:HB1	29:X:1092:U:H4'	2.03	0.40
12:G:125:ARG:NH1	29:X:2760:G:N1	2.69	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:I:76:LYS:HB3	14:I:79:GLN:CG	2.49	0.40
14:I:92:THR:O	14:I:94:GLU:N	2.54	0.40
14:I:133:VAL:HG21	14:I:140:VAL:HG22	2.01	0.40
15:J:11:ARG:NH1	15:J:11:ARG:HG3	2.37	0.40
15:J:106:GLU:CD	15:J:106:GLU:H	2.27	0.40
16:K:90:ARG:C	16:K:92:GLY:H	2.25	0.40
16:K:105:GLY:CA	29:X:1301:U:O4	2.69	0.40
17:L:15:ARG:NH2	17:L:18:ARG:NH1	2.70	0.40
19:N:28:ARG:NE	29:X:542:A:H3'	2.35	0.40
19:N:43:ALA:HB3	20:O:74:TYR:HB3	2.03	0.40
22:Q:11:VAL:HG23	22:Q:27:PHE:CA	2.47	0.40
22:Q:61:LYS:HB2	22:Q:72:ARG:CD	2.51	0.40
22:Q:92:ALA:C	22:Q:94:GLN:H	2.30	0.40
23:R:103:LYS:CG	23:R:104:VAL:N	2.85	0.40
24:S:80:HIS:CG	24:S:81:VAL:N	2.89	0.40
24:S:125:PRO:CG	24:S:126:GLY:H	2.32	0.40
24:S:141:MET:HE1	24:S:169:VAL:HG21	2.03	0.40
28:W:12:ARG:CG	28:W:12:ARG:NH1	2.79	0.40
29:X:73:A:H4'	29:X:74:G:O5'	2.21	0.40
29:X:103:U:O5'	29:X:103:U:H6	2.04	0.40
29:X:464:G:C2	29:X:469:G:C5	3.10	0.40
29:X:631:G:N3	29:X:631:G:O4'	2.54	0.40
29:X:640:C:H4'	29:X:660:G:N2	2.37	0.40
29:X:683:A:O2'	29:X:684:C:O5'	2.37	0.40
29:X:834:A:H5''	29:X:835:U:C6	2.56	0.40
29:X:1050:G:C2'	29:X:1051:U:H5'	2.49	0.40
29:X:1336:G:O6	29:X:1337:G:C6	2.74	0.40
29:X:1436:G:C5	29:X:1437:A:N7	2.89	0.40
29:X:1438:G:C5	29:X:1439:G:C5	3.10	0.40
29:X:1534:A:O2'	29:X:1535:C:H5'	2.21	0.40
29:X:1778:U:C2	29:X:1779:C:C5	3.10	0.40
29:X:1812:U:O2	29:X:1812:U:C2'	2.70	0.40
29:X:1850:G:C2'	29:X:1851:A:C8	2.95	0.40
29:X:1927:U:O2	29:X:1938:U:H5''	2.22	0.40
29:X:2016:A:C5	29:X:2019:C:C4	3.09	0.40
29:X:2085:G:N1	29:X:2171:U:O2	2.55	0.40
29:X:2202:G:H2'	29:X:2203:G:O4'	2.21	0.40
29:X:2240:C:H2'	29:X:2241:U:H5'	2.02	0.40
29:X:2457:A:H2'	29:X:2458:U:O4'	2.21	0.40
29:X:2526:U:C2	29:X:2527:G:C8	3.09	0.40
29:X:2564:U:C4'	29:X:2565:C:OP1	2.70	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2594:U:C6	29:X:2594:U:H5'	2.56	0.40
29:X:2599:U:C2'	29:X:2600:A:O5'	2.69	0.40
29:X:2705:A:O2'	29:X:2706:U:P	2.80	0.40
29:X:2728:A:H2'	29:X:2729:A:C8	2.56	0.40
31:Z:7:C:H2'	31:Z:8:C:C6	2.56	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 X-ray entries followed by that with respect to entries of similar resolution.

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	4	35/37 (95%)	20 (57%)	10 (29%)	5 (14%)	0	1
5	5	5/19 (26%)	4 (80%)	1 (20%)	0	100	100
6	A	238/274 (87%)	154 (65%)	50 (21%)	34 (14%)	0	1
7	B	203/211 (96%)	148 (73%)	32 (16%)	23 (11%)	0	2
8	C	195/205 (95%)	97 (50%)	54 (28%)	44 (23%)	0	0
9	D	175/180 (97%)	95 (54%)	48 (27%)	32 (18%)	0	0
10	E	169/185 (91%)	100 (59%)	38 (22%)	31 (18%)	0	0
11	F	142/144 (99%)	94 (66%)	29 (20%)	19 (13%)	0	1
12	G	140/174 (80%)	76 (54%)	34 (24%)	30 (21%)	0	0
13	H	132/134 (98%)	105 (80%)	18 (14%)	9 (7%)	1	7
14	I	139/156 (89%)	59 (42%)	45 (32%)	35 (25%)	0	0
15	J	134/142 (94%)	82 (61%)	31 (23%)	21 (16%)	0	1
16	K	111/116 (96%)	74 (67%)	25 (22%)	12 (11%)	0	2
17	L	102/114 (90%)	59 (58%)	19 (19%)	24 (24%)	0	0
18	M	106/166 (64%)	70 (66%)	23 (22%)	13 (12%)	0	1
19	N	115/118 (98%)	57 (50%)	40 (35%)	18 (16%)	0	1

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
20	O	92/100 (92%)	57 (62%)	10 (11%)	25 (27%)	0	0
21	P	125/134 (93%)	89 (71%)	21 (17%)	15 (12%)	0	1
22	Q	91/95 (96%)	39 (43%)	28 (31%)	24 (26%)	0	0
23	R	108/115 (94%)	62 (57%)	27 (25%)	19 (18%)	0	0
24	S	173/237 (73%)	93 (54%)	46 (27%)	34 (20%)	0	0
25	T	82/91 (90%)	47 (57%)	19 (23%)	16 (20%)	0	0
26	U	70/81 (86%)	35 (50%)	16 (23%)	19 (27%)	0	0
27	V	64/67 (96%)	35 (55%)	16 (25%)	13 (20%)	0	0
28	W	53/55 (96%)	38 (72%)	9 (17%)	6 (11%)	0	2
30	Y	56/60 (93%)	40 (71%)	9 (16%)	7 (12%)	0	1
All	All	3055/3410 (90%)	1829 (60%)	698 (23%)	528 (17%)	0	1

All (528) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
6	A	59	LYS
6	A	145	LEU
6	A	168	LYS
6	A	217	ARG
6	A	220	HIS
7	B	71	GLY
7	B	73	ALA
7	B	85	ALA
7	B	86	PRO
7	B	122	PHE
7	B	132	LYS
7	B	137	ARG
7	B	147	PRO
7	B	179	GLU
8	C	9	GLN
8	C	10	ASN
8	C	13	ARG
8	C	30	VAL
8	C	31	VAL
8	C	66	ASN
8	C	67	ALA
8	C	75	PRO
8	C	121	ASP

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Mol	Chain	Res	Type
8	C	138	LYS
8	C	161	ALA
8	C	164	VAL
8	C	165	SER
8	C	166	TRP
8	C	172	VAL
8	C	175	VAL
8	C	192	ALA
8	C	195	ILE
9	D	10	ASP
9	D	120	ASN
9	D	123	ASP
9	D	137	ILE
9	D	149	THR
10	E	13	SER
10	E	14	GLY
10	E	15	VAL
10	E	16	THR
10	E	55	PRO
10	E	58	ALA
10	E	93	GLY
10	E	98	LEU
10	E	110	SER
10	E	126	PRO
10	E	129	THR
10	E	143	GLN
10	E	165	VAL
11	F	14	ALA
11	F	20	ALA
11	F	26	ALA
11	F	50	ASP
11	F	82	ALA
11	F	117	ALA
11	F	120	VAL
12	G	33	ILE
12	G	34	PRO
12	G	36	ASN
12	G	37	ASP
12	G	65	LYS
12	G	67	ARG
12	G	72	PRO
12	G	73	ASN

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Mol	Chain	Res	Type
12	G	97	ASP
12	G	104	THR
12	G	107	GLN
12	G	118	ALA
12	G	163	PRO
12	G	170	PRO
13	H	27	SER
13	H	42	LYS
14	I	17	LYS
14	I	38	LYS
14	I	39	SER
14	I	54	SER
14	I	65	PHE
14	I	86	THR
14	I	91	ASP
14	I	103	ASN
14	I	114	ILE
14	I	127	ALA
14	I	131	LYS
15	J	11	ARG
15	J	22	ALA
15	J	26	ASP
15	J	29	ALA
15	J	80	ALA
15	J	82	THR
15	J	87	GLY
15	J	117	GLU
16	K	6	ALA
16	K	11	ASN
16	K	92	GLY
17	L	26	ARG
17	L	31	VAL
17	L	38	ILE
17	L	40	ALA
17	L	45	ASP
17	L	55	SER
17	L	56	SER
17	L	60	LYS
17	L	68	ALA
17	L	94	TYR
17	L	102	ALA
17	L	104	ALA

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Mol	Chain	Res	Type
18	M	25	PRO
18	M	28	ARG
18	M	29	PRO
18	M	39	VAL
18	M	46	ARG
18	M	53	VAL
18	M	102	ALA
19	N	5	LYS
19	N	8	ILE
19	N	76	TYR
19	N	94	VAL
20	O	7	THR
20	O	9	GLY
20	O	10	LYS
20	O	13	ARG
20	O	21	ARG
20	O	25	LEU
20	O	26	GLN
20	O	29	ALA
20	O	30	GLY
20	O	35	LEU
20	O	36	LYS
20	O	48	GLY
20	O	49	GLU
20	O	97	GLY
21	P	9	ARG
21	P	11	LYS
21	P	32	ARG
21	P	81	HIS
22	Q	33	ALA
22	Q	40	ASP
22	Q	41	ALA
22	Q	63	LYS
22	Q	67	ARG
22	Q	69	ILE
22	Q	74	ASP
22	Q	87	SER
23	R	7	GLY
23	R	12	ASP
23	R	26	SER
23	R	60	PRO
23	R	65	PRO

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Mol	Chain	Res	Type
23	R	75	ALA
23	R	83	LEU
23	R	96	LYS
24	S	6	LYS
24	S	12	GLN
24	S	26	LYS
24	S	36	ARG
24	S	49	THR
24	S	88	TYR
24	S	92	VAL
24	S	118	HIS
24	S	124	ALA
24	S	125	PRO
25	T	3	HIS
25	T	4	LYS
25	T	7	VAL
25	T	10	SER
25	T	19	LYS
25	T	21	LEU
25	T	31	VAL
25	T	75	GLY
26	U	13	LEU
26	U	14	VAL
26	U	16	ASN
26	U	29	GLY
26	U	30	VAL
26	U	34	THR
26	U	41	VAL
26	U	56	GLN
26	U	60	VAL
27	V	2	LYS
27	V	8	ASN
27	V	19	ASP
27	V	36	GLN
28	W	54	GLN
30	Y	4	HIS
30	Y	20	ARG
30	Y	36	CYS
30	Y	52	TYR
30	Y	53	ASP
4	4	14	CYS
4	4	21	GLY

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Mol	Chain	Res	Type
6	A	45	ASN
6	A	47	GLY
6	A	52	ARG
6	A	56	GLY
6	A	109	GLU
6	A	125	PRO
6	A	159	ALA
6	A	160	GLY
6	A	187	SER
6	A	214	TRP
6	A	232	PRO
6	A	240	THR
6	A	243	GLY
6	A	244	ARG
6	A	252	LYS
7	B	2	LYS
7	B	69	LYS
7	B	74	PRO
7	B	76	ARG
7	B	123	ALA
7	B	145	LYS
7	B	152	LYS
7	B	180	ASN
8	C	11	GLY
8	C	15	ILE
8	C	22	VAL
8	C	103	GLY
8	C	117	LEU
8	C	129	LYS
8	C	139	GLN
8	C	152	THR
8	C	153	ASP
8	C	159	ARG
8	C	178	TYR
8	C	196	VAL
9	D	9	ASN
9	D	71	LYS
9	D	77	PHE
9	D	94	GLU
9	D	107	GLY
9	D	119	PRO
9	D	124	GLY

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Mol	Chain	Res	Type
9	D	145	MET
10	E	19	ALA
10	E	106	ASN
10	E	112	PRO
10	E	119	ALA
10	E	139	GLN
11	F	24	GLY
11	F	51	ALA
11	F	61	ALA
11	F	118	GLY
12	G	55	ALA
12	G	86	ALA
12	G	105	GLY
12	G	139	ARG
13	H	37	GLY
13	H	79	HIS
13	H	101	ASN
14	I	29	THR
14	I	43	ALA
14	I	44	GLY
14	I	47	ALA
14	I	56	LEU
14	I	98	LEU
14	I	99	VAL
14	I	105	PRO
14	I	106	VAL
14	I	115	SER
14	I	128	ALA
14	I	135	ALA
15	J	13	GLN
15	J	27	TYR
15	J	81	GLU
15	J	83	ARG
16	K	7	GLY
16	K	32	GLY
16	K	95	THR
17	L	33	ARG
17	L	53	ALA
17	L	82	LYS
17	L	91	ARG
17	L	108	ARG
18	M	27	PHE

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Mol	Chain	Res	Type
18	M	47	SER
18	M	95	GLU
19	N	51	ARG
19	N	110	VAL
20	O	8	GLY
20	O	14	VAL
20	O	15	SER
20	O	66	GLY
21	P	10	ASN
21	P	12	LYS
21	P	77	ALA
21	P	82	ASN
21	P	89	ARG
21	P	113	SER
22	Q	4	TYR
22	Q	12	ILE
22	Q	42	ILE
22	Q	60	GLY
22	Q	61	LYS
22	Q	65	VAL
22	Q	86	GLN
22	Q	93	GLY
23	R	6	ALA
23	R	9	HIS
23	R	50	GLY
23	R	61	SER
23	R	63	THR
23	R	89	GLY
24	S	17	SER
24	S	43	PHE
24	S	45	GLN
24	S	46	GLN
24	S	128	ARG
24	S	134	LEU
24	S	156	GLU
25	T	11	LYS
25	T	30	VAL
25	T	73	GLY
25	T	74	LYS
25	T	83	ALA
26	U	10	LYS
26	U	27	ASP

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Mol	Chain	Res	Type
26	U	42	GLN
26	U	65	ASN
26	U	76	LYS
27	V	65	GLU
30	Y	37	HIS
4	4	9	LYS
4	4	35	ARG
6	A	81	ALA
6	A	154	GLN
6	A	197	GLY
6	A	241	GLY
6	A	258	LYS
7	B	121	ASN
7	B	135	HIS
8	C	179	ASP
9	D	5	LYS
9	D	53	ALA
9	D	68	THR
9	D	152	MET
9	D	168	ALA
10	E	7	GLN
10	E	76	VAL
10	E	77	LYS
10	E	149	ARG
10	E	156	ALA
10	E	173	ALA
12	G	169	GLN
13	H	32	LYS
14	I	10	PRO
14	I	18	ARG
14	I	37	GLN
14	I	40	ARG
14	I	49	PHE
14	I	62	LYS
14	I	132	ALA
15	J	106	GLU
16	K	20	LEU
16	K	56	LYS
16	K	91	PRO
18	M	17	GLU
18	M	105	TYR
19	N	3	ARG

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Mol	Chain	Res	Type
19	N	13	ARG
19	N	75	ASN
19	N	77	SER
19	N	78	THR
20	O	39	PHE
20	O	87	ARG
21	P	79	ALA
21	P	101	PRO
22	Q	3	HIS
22	Q	13	SER
22	Q	91	LEU
23	R	49	GLU
24	S	13	LYS
24	S	25	ASN
24	S	63	PRO
24	S	110	GLY
24	S	133	GLU
24	S	165	GLU
25	T	54	GLY
26	U	32	ARG
26	U	47	HIS
26	U	72	LYS
27	V	57	LYS
28	W	8	SER
28	W	15	ASN
28	W	23	LEU
28	W	49	HIS
6	A	54	ILE
6	A	55	GLY
6	A	58	HIS
6	A	219	PRO
7	B	131	SER
8	C	20	PRO
8	C	89	ARG
8	C	105	ALA
8	C	114	GLY
8	C	126	ALA
8	C	127	ASP
8	C	190	ALA
9	D	41	GLY
9	D	146	VAL
9	D	164	GLU

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Mol	Chain	Res	Type
11	F	19	PRO
11	F	22	PRO
11	F	84	ILE
11	F	122	ALA
11	F	135	GLY
12	G	68	PRO
12	G	70	PHE
12	G	143	ALA
12	G	154	GLU
12	G	155	THR
13	H	61	ARG
14	I	33	GLY
14	I	64	GLY
15	J	52	ARG
15	J	56	SER
15	J	114	GLN
15	J	122	ALA
16	K	45	ARG
17	L	21	THR
17	L	67	THR
19	N	12	ARG
19	N	28	ARG
19	N	46	GLU
19	N	73	GLY
19	N	88	ILE
19	N	108	ALA
20	O	12	TYR
20	O	24	SER
20	O	44	GLN
20	O	96	LEU
21	P	87	GLU
22	Q	44	GLN
23	R	16	PHE
23	R	91	ALA
23	R	108	VAL
24	S	42	ALA
24	S	47	SER
24	S	91	PRO
24	S	106	GLY
24	S	107	GLU
24	S	138	VAL
25	T	13	GLY

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Mol	Chain	Res	Type
26	U	15	VAL
27	V	39	GLN
27	V	43	VAL
27	V	61	ALA
4	4	19	ARG
6	A	153	ALA
6	A	198	ASN
6	A	249	PRO
7	B	108	SER
8	C	61	GLN
8	C	91	TYR
8	C	123	PHE
8	C	125	ILE
8	C	154	ASP
9	D	13	ARG
9	D	19	GLN
9	D	40	LEU
9	D	47	SER
9	D	141	ILE
10	E	25	LYS
10	E	140	LEU
10	E	152	ARG
12	G	40	ASN
12	G	48	GLY
12	G	53	ARG
12	G	162	LYS
13	H	33	GLY
13	H	47	VAL
14	I	84	GLU
14	I	90	ARG
15	J	15	ARG
15	J	57	ARG
15	J	89	GLY
15	J	90	ALA
16	K	21	ALA
17	L	97	HIS
17	L	103	LEU
18	M	56	ALA
22	Q	34	THR
24	S	3	LEU
24	S	76	ARG
25	T	84	ALA

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Mol	Chain	Res	Type
26	U	40	ARG
27	V	32	ALA
27	V	37	LEU
27	V	56	VAL
30	Y	21	SER
6	A	190	TYR
6	A	271	VAL
9	D	15	ALA
9	D	54	ALA
9	D	76	ASN
10	E	11	VAL
12	G	84	ASN
12	G	165	VAL
14	I	19	VAL
17	L	9	ARG
17	L	46	SER
17	L	64	LYS
28	W	38	PRO
7	B	126	PRO
8	C	55	GLY
11	F	25	PRO
16	K	100	VAL
9	D	12	VAL
10	E	128	PRO
11	F	87	GLY
22	Q	6	ILE
22	Q	47	GLY
24	S	174	PRO
7	B	83	GLY
9	D	21	GLY
11	F	140	GLY
19	N	65	ILE
20	O	60	VAL
21	P	68	VAL
22	Q	9	ALA
23	R	85	ASP
24	S	102	GLY
24	S	164	PRO
9	D	14	PRO
10	E	43	VAL
10	E	144	VAL
27	V	35	GLY

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Mol	Chain	Res	Type
21	P	92	VAL

5.3.2 Protein sidechains ⓘ

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

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	4	35/35 (100%)	32 (91%)	3 (9%)	10	33
5	5	3/4 (75%)	3 (100%)	0	100	100
6	A	185/215 (86%)	160 (86%)	25 (14%)	4	16
7	B	155/157 (99%)	127 (82%)	28 (18%)	2	8
8	C	157/163 (96%)	130 (83%)	27 (17%)	2	10
9	D	153/156 (98%)	137 (90%)	16 (10%)	6	25
10	E	136/144 (94%)	127 (93%)	9 (7%)	15	43
11	F	107/107 (100%)	99 (92%)	8 (8%)	12	38
12	G	118/146 (81%)	93 (79%)	25 (21%)	1	5
13	H	103/103 (100%)	83 (81%)	20 (19%)	1	6
14	I	108/121 (89%)	91 (84%)	17 (16%)	2	12
15	J	110/116 (95%)	86 (78%)	24 (22%)	1	5
16	K	90/93 (97%)	76 (84%)	14 (16%)	2	12
17	L	74/82 (90%)	52 (70%)	22 (30%)	0	1
18	M	94/134 (70%)	69 (73%)	25 (27%)	0	2
19	N	96/97 (99%)	82 (85%)	14 (15%)	3	14
20	O	75/79 (95%)	63 (84%)	12 (16%)	2	11
21	P	109/115 (95%)	96 (88%)	13 (12%)	5	20
22	Q	75/76 (99%)	65 (87%)	10 (13%)	4	17
23	R	91/96 (95%)	70 (77%)	21 (23%)	1	4
24	S	149/192 (78%)	132 (89%)	17 (11%)	5	21
25	T	62/67 (92%)	57 (92%)	5 (8%)	11	36
26	U	57/66 (86%)	42 (74%)	15 (26%)	0	2

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
27	V	54/55 (98%)	50 (93%)	4 (7%)	13	38
28	W	48/48 (100%)	40 (83%)	8 (17%)	2	11
30	Y	51/53 (96%)	44 (86%)	7 (14%)	3	16
All	All	2495/2720 (92%)	2106 (84%)	389 (16%)	2	12

All (389) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
4	4	22	ARG
4	4	23	VAL
4	4	31	LYS
6	A	40	THR
6	A	43	ARG
6	A	44	ASN
6	A	48	ARG
6	A	49	ILE
6	A	101	GLU
6	A	105	ILE
6	A	122	GLU
6	A	157	ARG
6	A	161	THR
6	A	162	SER
6	A	164	GLN
6	A	183	ARG
6	A	196	VAL
6	A	208	LYS
6	A	211	ARG
6	A	214	TRP
6	A	215	LEU
6	A	218	LYS
6	A	231	HIS
6	A	232	PRO
6	A	240	THR
6	A	244	ARG
6	A	252	LYS
6	A	260	ARG
7	B	4	ILE
7	B	12	THR
7	B	25	VAL
7	B	53	PRO
7	B	69	LYS

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Mol	Chain	Res	Type
7	B	75	THR
7	B	79	ARG
7	B	86	PRO
7	B	91	VAL
7	B	93	VAL
7	B	95	ILE
7	B	105	THR
7	B	108	SER
7	B	126	PRO
7	B	131	SER
7	B	133	LYS
7	B	134	TRP
7	B	136	ARG
7	B	137	ARG
7	B	140	SER
7	B	143	GLN
7	B	147	PRO
7	B	150	VAL
7	B	155	ARG
7	B	159	HIS
7	B	162	MET
7	B	183	LEU
7	B	200	SER
8	C	3	GLN
8	C	17	LEU
8	C	26	VAL
8	C	45	THR
8	C	59	TYR
8	C	62	LYS
8	C	64	THR
8	C	66	ASN
8	C	74	VAL
8	C	82	VAL
8	C	92	ASP
8	C	93	TYR
8	C	94	THR
8	C	95	LEU
8	C	104	LEU
8	C	108	ILE
8	C	113	GLU
8	C	124	ASP
8	C	136	TRP

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Mol	Chain	Res	Type
8	C	139	GLN
8	C	154	ASP
8	C	155	GLU
8	C	158	ARG
8	C	166	TRP
8	C	176	ASN
8	C	180	ILE
8	C	188	ILE
9	D	6	THR
9	D	10	ASP
9	D	35	VAL
9	D	40	LEU
9	D	51	ASP
9	D	74	ILE
9	D	80	ARG
9	D	84	PRO
9	D	89	VAL
9	D	92	ARG
9	D	123	ASP
9	D	125	ARG
9	D	130	LEU
9	D	137	ILE
9	D	144	ASP
9	D	156	ILE
10	E	35	VAL
10	E	43	VAL
10	E	50	LEU
10	E	67	LEU
10	E	72	VAL
10	E	107	ILE
10	E	129	THR
10	E	136	ILE
10	E	172	LYS
11	F	10	LEU
11	F	59	ILE
11	F	63	ARG
11	F	92	ASN
11	F	99	LEU
11	F	103	GLN
11	F	119	SER
11	F	137	THR
12	G	31	THR

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Mol	Chain	Res	Type
12	G	34	PRO
12	G	37	ASP
12	G	38	GLU
12	G	41	TRP
12	G	57	LEU
12	G	61	ARG
12	G	70	PHE
12	G	71	THR
12	G	93	LYS
12	G	94	LYS
12	G	101	THR
12	G	102	ARG
12	G	104	THR
12	G	106	TYR
12	G	110	LEU
12	G	113	GLU
12	G	123	PRO
12	G	132	PHE
12	G	148	LEU
12	G	154	GLU
12	G	157	PRO
12	G	161	GLN
12	G	169	GLN
12	G	170	PRO
13	H	1	MET
13	H	5	GLN
13	H	10	VAL
13	H	22	ILE
13	H	23	ARG
13	H	25	LEU
13	H	26	ASN
13	H	27	SER
13	H	41	ASN
13	H	47	VAL
13	H	57	ASP
13	H	81	ILE
13	H	88	THR
13	H	89	ILE
13	H	104	GLU
13	H	108	THR
13	H	114	VAL
13	H	120	ASP

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Mol	Chain	Res	Type
13	H	127	VAL
13	H	132	GLU
14	I	10	PRO
14	I	13	ARG
14	I	23	PRO
14	I	26	THR
14	I	28	LYS
14	I	34	HIS
14	I	45	LYS
14	I	53	ARG
14	I	61	PRO
14	I	65	PHE
14	I	84	GLU
14	I	88	PHE
14	I	89	ASP
14	I	94	GLU
14	I	103	ASN
14	I	133	VAL
14	I	142	LEU
15	J	8	THR
15	J	11	ARG
15	J	15	ARG
15	J	19	THR
15	J	21	ASP
15	J	27	TYR
15	J	32	ASP
15	J	52	ARG
15	J	54	VAL
15	J	64	LYS
15	J	68	ARG
15	J	78	LYS
15	J	79	PRO
15	J	81	GLU
15	J	82	THR
15	J	88	LYS
15	J	91	VAL
15	J	93	TYR
15	J	103	VAL
15	J	106	GLU
15	J	111	THR
15	J	125	LYS
15	J	132	MET

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Mol	Chain	Res	Type
15	J	134	LYS
16	K	3	HIS
16	K	5	LYS
16	K	11	ASN
16	K	12	ARG
16	K	13	ASN
16	K	37	THR
16	K	43	GLU
16	K	51	LEU
16	K	75	VAL
16	K	83	VAL
16	K	95	THR
16	K	98	LEU
16	K	102	THR
16	K	104	ARG
17	L	8	ARG
17	L	13	THR
17	L	15	ARG
17	L	29	LEU
17	L	31	VAL
17	L	37	HIS
17	L	38	ILE
17	L	42	ILE
17	L	44	ASP
17	L	45	ASP
17	L	51	LEU
17	L	59	LEU
17	L	60	LYS
17	L	64	LYS
17	L	65	THR
17	L	67	THR
17	L	71	VAL
17	L	88	VAL
17	L	89	PHE
17	L	91	ARG
17	L	93	SER
17	L	103	LEU
18	M	6	LYS
18	M	7	ILE
18	M	22	ARG
18	M	25	PRO
18	M	26	ASP

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Mol	Chain	Res	Type
18	M	28	ARG
18	M	31	ASP
18	M	34	ARG
18	M	37	THR
18	M	43	ASN
18	M	46	ARG
18	M	48	GLN
18	M	51	GLU
18	M	63	ARG
18	M	71	ILE
18	M	72	SER
18	M	79	ARG
18	M	80	VAL
18	M	87	LEU
18	M	89	ASN
18	M	92	THR
18	M	93	ILE
18	M	94	VAL
18	M	99	VAL
18	M	100	ARG
19	N	3	ARG
19	N	9	VAL
19	N	13	ARG
19	N	18	LEU
19	N	19	LYS
19	N	22	LYS
19	N	33	ARG
19	N	47	TYR
19	N	60	LEU
19	N	71	LEU
19	N	85	ARG
19	N	90	LEU
19	N	93	LYS
19	N	111	ASP
20	O	18	ASP
20	O	20	ILE
20	O	25	LEU
20	O	28	GLU
20	O	35	LEU
20	O	38	LEU
20	O	45	THR
20	O	47	PHE

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Mol	Chain	Res	Type
20	O	54	TYR
20	O	56	VAL
20	O	69	ILE
20	O	75	LYS
21	P	16	GLN
21	P	27	VAL
21	P	32	ARG
21	P	45	ILE
21	P	46	ARG
21	P	65	SER
21	P	67	PRO
21	P	86	LEU
21	P	87	GLU
21	P	102	THR
21	P	106	LEU
21	P	126	ILE
21	P	133	ASN
22	Q	7	LEU
22	Q	10	PRO
22	Q	12	ILE
22	Q	15	LYS
22	Q	27	PHE
22	Q	37	GLU
22	Q	38	ILE
22	Q	58	VAL
22	Q	65	VAL
22	Q	69	ILE
23	R	11	ASN
23	R	13	LYS
23	R	18	LYS
23	R	23	ILE
23	R	25	LEU
23	R	32	GLN
23	R	44	GLN
23	R	56	LYS
23	R	65	PRO
23	R	73	GLU
23	R	79	SER
23	R	80	LYS
23	R	83	LEU
23	R	93	ARG
23	R	95	ARG

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Mol	Chain	Res	Type
23	R	98	ILE
23	R	105	ARG
23	R	106	VAL
23	R	108	VAL
23	R	112	LYS
23	R	113	THR
24	S	3	LEU
24	S	9	THR
24	S	13	LYS
24	S	28	ASN
24	S	40	ASP
24	S	49	THR
24	S	51	LEU
24	S	63	PRO
24	S	71	MET
24	S	92	VAL
24	S	104	SER
24	S	108	VAL
24	S	113	VAL
24	S	119	ASN
24	S	120	LEU
24	S	133	GLU
24	S	175	ARG
25	T	18	PRO
25	T	31	VAL
25	T	38	VAL
25	T	41	ARG
25	T	71	ASN
26	U	13	LEU
26	U	14	VAL
26	U	32	ARG
26	U	35	THR
26	U	37	ILE
26	U	42	GLN
26	U	46	LEU
26	U	47	HIS
26	U	53	GLU
26	U	54	ASN
26	U	60	VAL
26	U	67	LEU
26	U	69	THR
26	U	70	LEU

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Mol	Chain	Res	Type
26	U	78	ILE
27	V	2	LYS
27	V	6	MET
27	V	13	ASP
27	V	19	ASP
28	W	6	VAL
28	W	12	ARG
28	W	15	ASN
28	W	26	ARG
28	W	32	ARG
28	W	35	SER
28	W	45	LYS
28	W	46	THR
30	Y	4	HIS
30	Y	6	VAL
30	Y	19	ARG
30	Y	44	HIS
30	Y	56	GLN
30	Y	57	VAL
30	Y	58	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (86) such sidechains are listed below:

Mol	Chain	Res	Type
4	4	34	GLN
4	4	36	GLN
6	A	44	ASN
6	A	96	HIS
6	A	129	ASN
6	A	164	GLN
6	A	166	GLN
6	A	227	ASN
6	A	231	HIS
7	B	135	HIS
7	B	143	GLN
7	B	159	HIS
7	B	192	ASN
8	C	3	GLN
8	C	5	ASN
8	C	10	ASN
8	C	61	GLN
8	C	66	ASN

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Mol	Chain	Res	Type
8	C	98	GLN
8	C	112	GLN
8	C	139	GLN
8	C	140	ASN
9	D	37	ASN
9	D	118	ASN
9	D	129	ASN
10	E	61	HIS
10	E	139	GLN
10	E	147	ASN
11	F	29	GLN
11	F	42	ASN
11	F	92	ASN
12	G	73	ASN
12	G	107	GLN
12	G	122	HIS
12	G	140	GLN
12	G	158	HIS
13	H	5	GLN
13	H	41	ASN
13	H	79	HIS
14	I	34	HIS
14	I	37	GLN
14	I	66	ASN
14	I	79	GLN
14	I	81	GLN
15	J	13	GLN
15	J	124	HIS
16	K	13	ASN
16	K	50	GLN
17	L	37	HIS
17	L	49	GLN
17	L	97	HIS
18	M	48	GLN
19	N	31	GLN
19	N	72	HIS
19	N	75	ASN
19	N	115	ASN
20	O	11	GLN
20	O	57	GLN
21	P	73	ASN
21	P	78	ASN

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Mol	Chain	Res	Type
21	P	81	HIS
21	P	133	ASN
22	Q	73	ASN
23	R	10	HIS
23	R	11	ASN
23	R	29	HIS
23	R	44	GLN
23	R	64	ASN
23	R	71	GLN
24	S	45	GLN
24	S	46	GLN
24	S	70	GLN
24	S	99	HIS
25	T	3	HIS
25	T	17	ASN
25	T	35	ASN
25	T	57	HIS
25	T	71	ASN
26	U	56	GLN
27	V	41	HIS
27	V	45	GLN
28	W	15	ASN
28	W	49	HIS
30	Y	29	ASN
30	Y	43	HIS
30	Y	44	HIS

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
29	X	2680/2880 (93%)	704 (26%)	313 (11%)
31	Z	121/123 (98%)	24 (19%)	1 (0%)
All	All	2801/3003 (93%)	728 (25%)	314 (11%)

All (728) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
29	X	2	G
29	X	4	C
29	X	13	A
29	X	14	A

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Mol	Chain	Res	Type
29	X	27	G
29	X	34	U
29	X	35	G
29	X	39	C
29	X	45	C
29	X	49	U
29	X	59	G
29	X	63	A
29	X	70	A
29	X	71	A
29	X	72	A
29	X	74	G
29	X	76	C
29	X	82	G
29	X	83	A
29	X	84	G
29	X	87	G
29	X	89	A
29	X	90	G
29	X	91	A
29	X	98	U
29	X	99	U
29	X	100	G
29	X	105	G
29	X	110	U
29	X	116	A
29	X	117	A
29	X	118	U
29	X	119	G
29	X	123	A
29	X	124	A
29	X	126	C
29	X	127	C
29	X	135	U
29	X	143	A
29	X	147	G
29	X	149	A
29	X	158	A
29	X	173	A
29	X	181	A
29	X	182	G
29	X	183	U

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Mol	Chain	Res	Type
29	X	193	A
29	X	199	A
29	X	200	A
29	X	205	A
29	X	206	U
29	X	207	U
29	X	210	A
29	X	218	A
29	X	219	G
29	X	220	U
29	X	225	G
29	X	226	C
29	X	227	G
29	X	242	A
29	X	243	G
29	X	245	C
29	X	304	A
29	X	305	A
29	X	318	G
29	X	323	G
29	X	333	A
29	X	334	G
29	X	335	A
29	X	340	G
29	X	341	A
29	X	342	G
29	X	343	A
29	X	399	G
29	X	400	U
29	X	401	G
29	X	403	A
29	X	404	A
29	X	414	A
29	X	416	U
29	X	417	C
29	X	418	C
29	X	419	G
29	X	424	G
29	X	425	A
29	X	441	A
29	X	447	U
29	X	448	C

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Mol	Chain	Res	Type
29	X	453	U
29	X	455	A
29	X	456	C
29	X	458	G
29	X	459	A
29	X	460	U
29	X	461	A
29	X	463	C
29	X	466	A
29	X	467	U
29	X	468	A
29	X	470	U
29	X	491	A
29	X	492	G
29	X	497	C
29	X	498	C
29	X	514	G
29	X	515	A
29	X	517	A
29	X	519	C
29	X	523	A
29	X	534	U
29	X	537	C
29	X	538	A
29	X	539	A
29	X	540	G
29	X	541	C
29	X	542	A
29	X	543	G
29	X	554	U
29	X	555	U
29	X	556	A
29	X	557	U
29	X	558	G
29	X	559	C
29	X	571	U
29	X	572	G
29	X	580	A
29	X	581	A
29	X	582	G
29	X	583	C
29	X	584	A

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Mol	Chain	Res	Type
29	X	587	A
29	X	595	A
29	X	601	A
29	X	613	A
29	X	614	G
29	X	617	U
29	X	624	A
29	X	625	A
29	X	626	A
29	X	627	A
29	X	628	A
29	X	631	G
29	X	632	A
29	X	633	G
29	X	636	G
29	X	639	G
29	X	649	G
29	X	652	C
29	X	654	A
29	X	655	A
29	X	657	A
29	X	664	C
29	X	665	A
29	X	666	U
29	X	667	U
29	X	668	A
29	X	682	G
29	X	683	A
29	X	684	C
29	X	699	G
29	X	700	C
29	X	718	A
29	X	728	G
29	X	729	A
29	X	730	C
29	X	731	A
29	X	732	G
29	X	740	A
29	X	741	G
29	X	742	G
29	X	743	A
29	X	752	G

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Mol	Chain	Res	Type
29	X	753	U
29	X	759	C
29	X	760	U
29	X	766	A
29	X	775	U
29	X	776	G
29	X	778	G
29	X	781	G
29	X	789	G
29	X	790	A
29	X	795	A
29	X	797	A
29	X	798	G
29	X	802	A
29	X	803	C
29	X	804	C
29	X	805	G
29	X	806	A
29	X	807	A
29	X	813	A
29	X	814	G
29	X	815	A
29	X	818	G
29	X	819	C
29	X	825	C
29	X	832	A
29	X	833	A
29	X	840	U
29	X	841	G
29	X	842	A
29	X	843	G
29	X	844	G
29	X	859	U
29	X	862	A
29	X	872	G
29	X	873	U
29	X	878	C
29	X	879	A
29	X	914	C
29	X	919	U
29	X	922	A
29	X	926	C

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Mol	Chain	Res	Type
29	X	927	C
29	X	939	C
29	X	940	G
29	X	944	A
29	X	952	A
29	X	955	G
29	X	956	A
29	X	957	G
29	X	968	C
29	X	969	U
29	X	970	A
29	X	972	C
29	X	973	U
29	X	984	A
29	X	985	G
29	X	994	A
29	X	995	A
29	X	996	C
29	X	1000	G
29	X	1006	C
29	X	1007	A
29	X	1016	C
29	X	1019	U
29	X	1023	U
29	X	1024	G
29	X	1032	A
29	X	1033	G
29	X	1034	U
29	X	1036	G
29	X	1037	U
29	X	1044	U
29	X	1045	G
29	X	1051	U
29	X	1053	G
29	X	1054	C
29	X	1055	A
29	X	1056	U
29	X	1057	A
29	X	1058	G
29	X	1059	A
29	X	1060	C
29	X	1069	G

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Mol	Chain	Res	Type
29	X	1070	G
29	X	1071	U
29	X	1072	U
29	X	1073	G
29	X	1078	A
29	X	1079	G
29	X	1081	A
29	X	1082	G
29	X	1087	C
29	X	1090	C
29	X	1096	A
29	X	1097	A
29	X	1098	G
29	X	1099	A
29	X	1107	A
29	X	1108	U
29	X	1119	U
29	X	1123	G
29	X	1128	G
29	X	1129	A
29	X	1133	G
29	X	1137	A
29	X	1138	A
29	X	1139	A
29	X	1140	A
29	X	1141	U
29	X	1142	G
29	X	1145	C
29	X	1146	G
29	X	1149	G
29	X	1152	C
29	X	1153	A
29	X	1154	A
29	X	1155	G
29	X	1167	A
29	X	1168	G
29	X	1182	U
29	X	1183	C
29	X	1185	C
29	X	1187	A
29	X	1189	G
29	X	1192	A

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Mol	Chain	Res	Type
29	X	1194	U
29	X	1195	U
29	X	1213	U
29	X	1220	G
29	X	1224	A
29	X	1225	G
29	X	1234	C
29	X	1250	A
29	X	1251	G
29	X	1253	C
29	X	1260	A
29	X	1261	G
29	X	1262	U
29	X	1264	C
29	X	1265	G
29	X	1266	G
29	X	1269	G
29	X	1278	A
29	X	1279	G
29	X	1282	A
29	X	1284	G
29	X	1285	A
29	X	1286	U
29	X	1288	A
29	X	1289	A
29	X	1300	A
29	X	1301	U
29	X	1302	C
29	X	1313	U
29	X	1314	A
29	X	1315	A
29	X	1316	G
29	X	1319	C
29	X	1325	U
29	X	1326	U
29	X	1333	G
29	X	1334	A
29	X	1338	G
29	X	1339	U
29	X	1342	U
29	X	1343	C
29	X	1345	G

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Mol	Chain	Res	Type
29	X	1346	C
29	X	1353	A
29	X	1354	A
29	X	1355	A
29	X	1356	G
29	X	1358	C
29	X	1359	G
29	X	1378	A
29	X	1381	G
29	X	1391	A
29	X	1392	U
29	X	1398	G
29	X	1404	C
29	X	1409	U
29	X	1410	U
29	X	1411	C
29	X	1413	U
29	X	1428	G
29	X	1429	A
29	X	1432	G
29	X	1433	A
29	X	1434	U
29	X	1440	G
29	X	1441	A
29	X	1442	C
29	X	1443	G
29	X	1460	G
29	X	1465	G
29	X	1467	U
29	X	1468	A
29	X	1469	U
29	X	1470	G
29	X	1473	U
29	X	1474	A
29	X	1475	U
29	X	1482	U
29	X	1489	C
29	X	1490	U
29	X	1497	C
29	X	1498	G
29	X	1513	U
29	X	1514	C

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Mol	Chain	Res	Type
29	X	1522	C
29	X	1523	A
29	X	1524	C
29	X	1525	A
29	X	1528	C
29	X	1531	C
29	X	1551	U
29	X	1553	G
29	X	1554	G
29	X	1562	G
29	X	1570	C
29	X	1571	G
29	X	1574	A
29	X	1575	C
29	X	1576	G
29	X	1582	A
29	X	1583	A
29	X	1585	A
29	X	1594	U
29	X	1601	U
29	X	1602	G
29	X	1603	A
29	X	1608	U
29	X	1614	C
29	X	1624	A
29	X	1625	A
29	X	1626	A
29	X	1627	C
29	X	1632	A
29	X	1633	C
29	X	1634	A
29	X	1635	G
29	X	1648	C
29	X	1651	U
29	X	1652	G
29	X	1657	A
29	X	1664	G
29	X	1665	C
29	X	1668	G
29	X	1670	G
29	X	1671	A
29	X	1686	A

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Mol	Chain	Res	Type
29	X	1691	G
29	X	1692	C
29	X	1699	A
29	X	1710	U
29	X	1711	C
29	X	1712	G
29	X	1713	G
29	X	1715	A
29	X	1716	G
29	X	1717	A
29	X	1718	A
29	X	1724	C
29	X	1732	U
29	X	1733	U
29	X	1734	C
29	X	1747	G
29	X	1749	G
29	X	1750	A
29	X	1754	G
29	X	1755	G
29	X	1764	A
29	X	1771	A
29	X	1772	C
29	X	1773	C
29	X	1776	A
29	X	1778	U
29	X	1782	A
29	X	1790	G
29	X	1791	C
29	X	1792	C
29	X	1793	A
29	X	1800	A
29	X	1801	C
29	X	1802	A
29	X	1807	A
29	X	1808	C
29	X	1812	U
29	X	1813	A
29	X	1821	A
29	X	1822	C
29	X	1825	C
29	X	1831	G

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Mol	Chain	Res	Type
29	X	1842	G
29	X	1851	A
29	X	1852	G
29	X	1854	G
29	X	1855	G
29	X	1856	U
29	X	1857	G
29	X	1859	A
29	X	1861	G
29	X	1865	C
29	X	1867	A
29	X	1868	A
29	X	1869	A
29	X	1871	G
29	X	1883	A
29	X	1910	A
29	X	1912	G
29	X	1914	U
29	X	1919	A
29	X	1920	A
29	X	1922	U
29	X	1923	U
29	X	1924	C
29	X	1926	U
29	X	1927	U
29	X	1928	G
29	X	1938	U
29	X	1939	U
29	X	1946	U
29	X	1947	G
29	X	1948	C
29	X	1949	A
29	X	1950	C
29	X	1953	A
29	X	1954	A
29	X	1955	G
29	X	1964	A
29	X	1965	U
29	X	1976	U
29	X	1979	C
29	X	1980	A
29	X	2004	U

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Mol	Chain	Res	Type
29	X	2005	U
29	X	2006	G
29	X	2014	A
29	X	2015	G
29	X	2016	A
29	X	2019	C
29	X	2026	C
29	X	2034	A
29	X	2035	G
29	X	2038	C
29	X	2039	G
29	X	2044	G
29	X	2045	A
29	X	2046	C
29	X	2050	G
29	X	2051	U
29	X	2052	G
29	X	2075	U
29	X	2076	G
29	X	2083	G
29	X	2089	C
29	X	2171	U
29	X	2190	A
29	X	2191	A
29	X	2192	U
29	X	2195	C
29	X	2196	U
29	X	2197	U
29	X	2198	U
29	X	2199	C
29	X	2200	G
29	X	2205	C
29	X	2217	G
29	X	2218	G
29	X	2229	G
29	X	2230	G
29	X	2238	G
29	X	2245	A
29	X	2246	A
29	X	2247	A
29	X	2252	A
29	X	2254	C

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Mol	Chain	Res	Type
29	X	2255	G
29	X	2257	A
29	X	2261	G
29	X	2262	C
29	X	2265	A
29	X	2266	A
29	X	2267	A
29	X	2268	G
29	X	2276	C
29	X	2284	U
29	X	2285	U
29	X	2286	G
29	X	2287	G
29	X	2288	A
29	X	2298	U
29	X	2300	G
29	X	2305	C
29	X	2306	A
29	X	2313	G
29	X	2314	A
29	X	2315	A
29	X	2316	G
29	X	2318	U
29	X	2320	G
29	X	2322	U
29	X	2323	U
29	X	2324	G
29	X	2325	A
29	X	2326	C
29	X	2328	G
29	X	2351	G
29	X	2358	C
29	X	2362	G
29	X	2364	C
29	X	2368	G
29	X	2369	U
29	X	2381	A
29	X	2386	G
29	X	2396	C
29	X	2402	U
29	X	2403	C
29	X	2405	A

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Mol	Chain	Res	Type
29	X	2406	C
29	X	2408	G
29	X	2409	A
29	X	2410	U
29	X	2418	A
29	X	2419	C
29	X	2420	C
29	X	2427	A
29	X	2428	U
29	X	2438	A
29	X	2448	A
29	X	2452	U
29	X	2455	A
29	X	2469	G
29	X	2470	U
29	X	2476	A
29	X	2477	C
29	X	2480	C
29	X	2481	G
29	X	2482	A
29	X	2483	U
29	X	2484	G
29	X	2485	U
29	X	2486	C
29	X	2497	A
29	X	2498	U
29	X	2499	C
29	X	2508	G
29	X	2521	A
29	X	2522	G
29	X	2545	A
29	X	2546	G
29	X	2552	C
29	X	2556	A
29	X	2560	G
29	X	2561	G
29	X	2564	U
29	X	2565	C
29	X	2580	C
29	X	2581	A
29	X	2582	G
29	X	2588	U

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Mol	Chain	Res	Type
29	X	2591	C
29	X	2592	U
29	X	2593	A
29	X	2594	U
29	X	2608	A
29	X	2609	G
29	X	2624	G
29	X	2625	U
29	X	2633	A
29	X	2634	G
29	X	2650	G
29	X	2660	C
29	X	2661	G
29	X	2666	U
29	X	2668	U
29	X	2669	C
29	X	2670	C
29	X	2691	C
29	X	2692	A
29	X	2693	U
29	X	2694	G
29	X	2700	U
29	X	2706	U
29	X	2707	G
29	X	2708	U
29	X	2712	G
29	X	2713	A
29	X	2728	A
29	X	2730	A
29	X	2731	G
29	X	2732	C
29	X	2736	U
29	X	2737	A
29	X	2738	A
29	X	2744	A
29	X	2745	A
29	X	2757	G
29	X	2758	A
29	X	2759	U
29	X	2760	G
29	X	2761	A
29	X	2770	A

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Mol	Chain	Res	Type
29	X	2771	C
29	X	2774	U
29	X	2775	U
29	X	2777	A
29	X	2778	U
29	X	2779	C
29	X	2780	A
29	X	2782	G
29	X	2795	A
29	X	2796	A
29	X	2798	A
29	X	2808	U
29	X	2809	A
29	X	2810	A
29	X	2811	G
29	X	2824	C
29	X	2825	A
29	X	2827	G
29	X	2841	U
29	X	2842	C
29	X	2847	G
29	X	2850	U
29	X	2854	G
29	X	2855	C
29	X	2858	A
29	X	2859	U
29	X	2867	G
29	X	2868	G
31	Z	4	C
31	Z	14	C
31	Z	15	A
31	Z	17	A
31	Z	18	G
31	Z	26	G
31	Z	27	A
31	Z	28	A
31	Z	37	C
31	Z	38	C
31	Z	43	G
31	Z	44	C
31	Z	46	G
31	Z	47	A

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Mol	Chain	Res	Type
31	Z	59	A
31	Z	68	A
31	Z	69	G
31	Z	93	G
31	Z	102	A
31	Z	110	U
31	Z	111	C
31	Z	112	A
31	Z	115	G
31	Z	123	U

All (314) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
29	X	3	U
29	X	13	A
29	X	33	C
29	X	38	G
29	X	48	A
29	X	62	U
29	X	69	G
29	X	71	A
29	X	73	A
29	X	82	G
29	X	117	A
29	X	118	U
29	X	154	U
29	X	173	A
29	X	176	A
29	X	181	A
29	X	182	G
29	X	192	G
29	X	198	A
29	X	199	A
29	X	218	A
29	X	219	G
29	X	226	C
29	X	312	G
29	X	322	A
29	X	332	C
29	X	333	A
29	X	334	G

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Mol	Chain	Res	Type
29	X	340	G
29	X	341	A
29	X	342	G
29	X	399	G
29	X	400	U
29	X	403	A
29	X	417	C
29	X	424	G
29	X	454	G
29	X	458	G
29	X	459	A
29	X	460	U
29	X	466	A
29	X	467	U
29	X	468	A
29	X	469	G
29	X	490	A
29	X	513	A
29	X	516	G
29	X	522	G
29	X	538	A
29	X	539	A
29	X	541	C
29	X	542	A
29	X	553	C
29	X	554	U
29	X	555	U
29	X	556	A
29	X	557	U
29	X	571	U
29	X	580	A
29	X	582	G
29	X	583	C
29	X	596	C
29	X	613	A
29	X	631	G
29	X	638	A
29	X	648	A
29	X	664	C
29	X	682	G
29	X	683	A
29	X	698	A

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Mol	Chain	Res	Type
29	X	699	G
29	X	717	G
29	X	729	A
29	X	730	C
29	X	739	G
29	X	741	G
29	X	751	G
29	X	752	G
29	X	765	C
29	X	775	U
29	X	777	A
29	X	780	U
29	X	788	G
29	X	789	G
29	X	795	A
29	X	797	A
29	X	801	A
29	X	802	A
29	X	803	C
29	X	804	C
29	X	805	G
29	X	806	A
29	X	813	A
29	X	814	G
29	X	818	G
29	X	824	U
29	X	842	A
29	X	843	G
29	X	872	G
29	X	878	C
29	X	925	U
29	X	938	G
29	X	939	C
29	X	955	G
29	X	956	A
29	X	968	C
29	X	969	U
29	X	972	C
29	X	984	A
29	X	985	G
29	X	994	A
29	X	1000	G

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Mol	Chain	Res	Type
29	X	1006	C
29	X	1023	U
29	X	1031	C
29	X	1033	G
29	X	1036	G
29	X	1044	U
29	X	1053	G
29	X	1054	C
29	X	1055	A
29	X	1071	U
29	X	1072	U
29	X	1096	A
29	X	1122	A
29	X	1137	A
29	X	1139	A
29	X	1141	U
29	X	1142	G
29	X	1152	C
29	X	1153	A
29	X	1154	A
29	X	1182	U
29	X	1186	G
29	X	1188	A
29	X	1194	U
29	X	1212	U
29	X	1223	G
29	X	1224	A
29	X	1233	A
29	X	1249	G
29	X	1260	A
29	X	1261	G
29	X	1263	G
29	X	1265	G
29	X	1266	G
29	X	1278	A
29	X	1285	A
29	X	1299	A
29	X	1301	U
29	X	1313	U
29	X	1314	A
29	X	1315	A
29	X	1324	G

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Mol	Chain	Res	Type
29	X	1325	U
29	X	1333	G
29	X	1337	G
29	X	1338	G
29	X	1342	U
29	X	1345	G
29	X	1353	A
29	X	1354	A
29	X	1355	A
29	X	1357	U
29	X	1391	A
29	X	1409	U
29	X	1410	U
29	X	1412	C
29	X	1439	G
29	X	1441	A
29	X	1442	C
29	X	1459	U
29	X	1473	U
29	X	1474	A
29	X	1496	G
29	X	1552	C
29	X	1561	A
29	X	1575	C
29	X	1581	C
29	X	1582	A
29	X	1583	A
29	X	1601	U
29	X	1607	A
29	X	1618	U
29	X	1623	C
29	X	1624	A
29	X	1625	A
29	X	1626	A
29	X	1632	A
29	X	1633	C
29	X	1634	A
29	X	1651	U
29	X	1664	G
29	X	1670	G
29	X	1685	A
29	X	1691	G

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Mol	Chain	Res	Type
29	X	1698	C
29	X	1710	U
29	X	1711	C
29	X	1712	G
29	X	1715	A
29	X	1716	G
29	X	1723	U
29	X	1732	U
29	X	1749	G
29	X	1771	A
29	X	1772	C
29	X	1775	A
29	X	1777	A
29	X	1790	G
29	X	1791	C
29	X	1799	A
29	X	1807	A
29	X	1811	A
29	X	1820	G
29	X	1867	A
29	X	1913	G
29	X	1920	A
29	X	1921	A
29	X	1922	U
29	X	1923	U
29	X	1926	U
29	X	1927	U
29	X	1937	G
29	X	1938	U
29	X	1947	G
29	X	1953	A
29	X	1963	G
29	X	1975	G
29	X	1979	C
29	X	2004	U
29	X	2005	U
29	X	2014	A
29	X	2015	G
29	X	2016	A
29	X	2018	G
29	X	2034	A
29	X	2044	G

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Mol	Chain	Res	Type
29	X	2045	A
29	X	2050	G
29	X	2075	U
29	X	2088	U
29	X	2196	U
29	X	2197	U
29	X	2204	A
29	X	2217	G
29	X	2228	U
29	X	2229	G
29	X	2237	C
29	X	2245	A
29	X	2254	C
29	X	2261	G
29	X	2265	A
29	X	2267	A
29	X	2275	U
29	X	2312	A
29	X	2313	G
29	X	2315	A
29	X	2322	U
29	X	2323	U
29	X	2324	G
29	X	2325	A
29	X	2370	G
29	X	2396	C
29	X	2402	U
29	X	2404	A
29	X	2405	A
29	X	2418	A
29	X	2426	G
29	X	2427	A
29	X	2428	U
29	X	2469	G
29	X	2476	A
29	X	2482	A
29	X	2485	U
29	X	2496	C
29	X	2497	A
29	X	2498	U
29	X	2521	A
29	X	2551	A

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Mol	Chain	Res	Type
29	X	2560	G
29	X	2564	U
29	X	2580	C
29	X	2589	C
29	X	2592	U
29	X	2593	A
29	X	2594	U
29	X	2608	A
29	X	2624	G
29	X	2633	A
29	X	2660	C
29	X	2668	U
29	X	2669	C
29	X	2691	C
29	X	2693	U
29	X	2700	U
29	X	2705	A
29	X	2706	U
29	X	2712	G
29	X	2736	U
29	X	2756	A
29	X	2758	A
29	X	2759	U
29	X	2760	G
29	X	2770	A
29	X	2807	U
29	X	2810	A
29	X	2823	G
29	X	2824	C
29	X	2841	U
29	X	2848	A
29	X	2854	G
29	X	2867	G
31	Z	26	G

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

11 non-standard protein/DNA/RNA residues are modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. 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 $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
5	MH6	5	14	5	3,3,6	1.59	1 (33%)	1,3,7	0.42	0
5	BB9	5	13	5	2,4,6	1.73	1 (50%)	3,4,7	2.76	3 (100%)
5	DHA	5	3	5	3,4,5	1.64	1 (33%)	2,4,6	1.78	1 (50%)
5	TS9	5	10	5	7,8,10	0.91	0	6,12,15	1.08	0
5	DHA	5	16	5	3,4,5	1.55	1 (33%)	2,4,6	5.47	1 (50%)
5	BB9	5	11	5	2,5,6	1.53	0	1,5,7	2.57	1 (100%)
5	BB9	5	6	5	2,5,6	2.32	1 (50%)	1,5,7	2.58	1 (100%)
5	BB9	5	15	5	2,5,6	4.73	1 (50%)	1,5,7	4.05	1 (100%)
5	DBU	5	8	5	3,4,6	3.78	2 (66%)	3,4,7	1.77	1 (33%)
5	DHA	5	17	5	3,4,5	1.09	0	2,4,6	2.52	1 (50%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
5	BB9	5	13	5	-	0/0/2/6	-
5	DHA	5	3	5	-	0/0/2/4	-
5	TS9	5	10	5	-	0/9/12/16	-
5	DHA	5	16	5	-	0/0/2/4	-
5	BB9	5	11	5	-	0/0/4/6	-
5	BB9	5	6	5	-	0/0/4/6	-
5	BB9	5	15	5	-	0/0/4/6	-
5	DBU	5	8	5	-	0/1/2/6	-
5	DHA	5	17	5	-	0/0/2/4	-

All (8) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
5	5	15	BB9	O-C	-6.68	1.07	1.22
5	5	8	DBU	CA-N	6.08	1.47	1.33
5	5	6	BB9	O-C	3.03	1.28	1.22
5	5	16	DHA	C-CA	-2.55	1.40	1.45
5	5	13	BB9	CA-N	2.45	1.39	1.33
5	5	3	DHA	C-CA	2.16	1.48	1.45

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
5	5	8	DBU	C-CA	-2.12	1.43	1.49
5	5	14	MH6	C-CA	2.05	1.53	1.49

All (10) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	5	16	DHA	O-C-CA	-7.70	111.08	125.53
5	5	15	BB9	O-C-CA	4.05	130.46	125.39
5	5	17	DHA	O-C-CA	-2.99	119.92	125.53
5	5	13	BB9	C-CA-CB	2.83	126.66	121.45
5	5	8	DBU	CB-CA-N	2.82	124.53	122.88
5	5	13	BB9	CB-CA-N	-2.78	113.96	122.53
5	5	13	BB9	C-CA-N	2.66	119.35	116.44
5	5	6	BB9	O-C-CA	-2.58	122.15	125.39
5	5	11	BB9	O-C-CA	-2.57	122.17	125.39
5	5	3	DHA	O-C-CA	-2.51	120.82	125.53

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

5 monomers are involved in 5 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
5	5	14	MH6	1	0
5	5	13	BB9	1	0
5	5	10	TS9	1	0
5	5	6	BB9	1	0
5	5	15	BB9	1	0

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 36 ligands modelled in this entry, 36 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

6 Fit of model and data [i](#)

6.1 Protein, DNA and RNA chains [i](#)

In the following table, the column labelled ‘#RSRZ> 2’ contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95th percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled ‘Q< 0.9’ lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
1	1	53/55 (96%)	15.66	53 (100%) 0 0	48, 56, 77, 82	0
2	2	46/47 (97%)	13.07	46 (100%) 0 0	9, 29, 38, 40	0
3	3	63/66 (95%)	12.76	63 (100%) 0 0	23, 41, 51, 57	0
4	4	37/37 (100%)	1.42	9 (24%) 2 1	60, 69, 77, 81	0
5	5	6/19 (31%)	1.35	3 (50%) 0 0	79, 83, 86, 86	0
6	A	240/274 (87%)	1.35	58 (24%) 2 1	25, 63, 77, 84	0
7	B	205/211 (97%)	0.24	14 (6%) 23 16	3, 22, 49, 63	0
8	C	197/205 (96%)	1.01	34 (17%) 4 4	8, 51, 73, 83	0
9	D	177/180 (98%)	1.35	37 (20%) 2 2	60, 75, 85, 91	0
10	E	171/185 (92%)	0.88	18 (10%) 11 9	44, 66, 79, 88	0
11	F	144/144 (100%)	2.23	81 (56%) 0 0	74, 89, 98, 102	0
12	G	142/174 (81%)	1.04	26 (18%) 3 3	22, 43, 67, 72	0
13	H	134/134 (100%)	0.00	2 (1%) 72 53	3, 16, 37, 45	0
14	I	141/156 (90%)	1.72	41 (29%) 1 1	22, 62, 77, 85	0
15	J	136/142 (95%)	0.98	22 (16%) 4 4	27, 51, 73, 80	0
16	K	113/116 (97%)	-0.02	4 (3%) 47 31	3, 9, 24, 34	0
17	L	104/114 (91%)	1.35	25 (24%) 2 1	43, 62, 72, 75	0
18	M	108/166 (65%)	0.14	3 (2%) 55 36	4, 19, 43, 64	0
19	N	117/118 (99%)	0.69	16 (13%) 6 5	4, 40, 62, 73	0
20	O	94/100 (94%)	0.89	10 (10%) 11 9	18, 53, 71, 81	0
21	P	127/134 (94%)	0.15	6 (4%) 36 24	4, 18, 53, 76	0
22	Q	93/95 (97%)	0.92	15 (16%) 4 4	32, 50, 69, 80	0
23	R	110/115 (95%)	1.29	23 (20%) 2 2	36, 54, 80, 87	0
24	S	175/237 (73%)	1.42	43 (24%) 2 1	61, 71, 82, 87	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
25	T	84/91 (92%)	1.14	17 (20%) 3 2	35, 51, 80, 90	0
26	U	72/81 (88%)	1.50	21 (29%) 1 1	45, 61, 72, 78	0
27	V	66/67 (98%)	0.58	4 (6%) 27 18	49, 61, 81, 88	0
28	W	55/55 (100%)	0.42	0 100 100	23, 41, 61, 78	0
29	X	2686/2880 (93%)	0.69	345 (12%) 7 6	4, 41, 116, 151	0
30	Y	58/60 (96%)	0.52	6 (10%) 12 10	4, 17, 44, 52	0
31	Z	122/123 (99%)	1.27	22 (18%) 3 3	30, 75, 102, 129	0
All	All	6076/6581 (92%)	1.19	1067 (17%) 4 4	3, 49, 95, 151	0

All (1067) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	1	6	PRO	30.5
1	1	52	GLU	24.4
1	1	33	ALA	24.4
1	1	25	THR	24.1
3	3	54	GLU	24.0
3	3	28	GLY	23.4
1	1	5	GLY	23.0
2	2	5	TYR	22.8
1	1	7	ARG	22.8
3	3	22	VAL	22.6
1	1	4	ASP	22.2
1	1	35	LEU	21.8
2	2	42	LEU	21.6
2	2	46	ASP	21.5
1	1	40	TYR	21.1
2	2	35	ARG	21.0
1	1	50	PHE	20.9
1	1	18	THR	20.5
2	2	37	LYS	20.3
1	1	20	PHE	20.2
3	3	43	GLY	19.8
1	1	30	ASN	19.5
3	3	24	ALA	19.5
2	2	36	ALA	19.2
3	3	3	LYS	18.6
1	1	47	HIS	18.6
2	2	8	ASN	18.5
2	2	27	GLY	18.5

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Mol	Chain	Res	Type	RSRZ
1	1	29	ARG	18.2
3	3	27	SER	18.2
1	1	34	LYS	18.0
1	1	51	ARG	17.9
1	1	32	GLN	17.9
3	3	40	GLU	17.9
2	2	45	SER	17.6
3	3	17	THR	17.4
3	3	7	HIS	17.3
1	1	13	GLU	17.3
1	1	42	PRO	17.2
1	1	41	ASP	17.1
1	1	53	LYS	17.1
2	2	43	THR	17.0
1	1	8	ILE	16.9
3	3	39	ASP	16.8
3	3	38	GLY	16.7
1	1	24	THR	16.6
3	3	63	PRO	16.5
3	3	62	LEU	16.2
3	3	55	TRP	16.1
3	3	52	LYS	16.1
1	1	16	ALA	15.9
1	1	27	ASN	15.9
3	3	37	SER	15.5
2	2	39	ARG	15.4
3	3	30	ARG	15.2
2	2	44	VAL	15.1
3	3	25	PHE	15.0
2	2	4	THR	15.0
3	3	51	ALA	14.9
2	2	38	GLY	14.8
3	3	4	MET	14.8
1	1	22	TYR	14.8
3	3	42	ARG	14.4
3	3	2	PRO	14.4
1	1	15	SER	14.4
2	2	41	GLN	14.3
1	1	28	ARG	14.2
1	1	31	THR	14.1
3	3	31	HIS	14.0
3	3	12	ARG	13.9

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Mol	Chain	Res	Type	RSRZ
2	2	34	ARG	13.9
1	1	12	MET	13.9
2	2	10	ARG	13.8
1	1	14	SER	13.7
3	3	8	LYS	13.7
2	2	7	PRO	13.6
2	2	17	GLY	13.5
3	3	23	MET	13.5
1	1	43	VAL	13.4
1	1	10	VAL	13.3
3	3	29	LYS	13.3
2	2	1	MET	13.3
3	3	34	THR	13.2
3	3	53	ALA	13.2
3	3	41	ILE	13.2
3	3	46	LYS	13.1
1	1	23	THR	12.8
2	2	40	HIS	12.8
1	1	36	GLU	12.5
1	1	21	TYR	12.5
2	2	13	ALA	12.4
2	2	33	ARG	12.4
1	1	39	LYS	12.0
2	2	26	SER	11.9
3	3	11	LYS	11.9
2	2	6	GLN	11.9
3	3	60	LEU	11.8
2	2	2	LYS	11.7
2	2	15	THR	11.6
3	3	19	THR	11.6
3	3	33	ASN	11.5
2	2	31	LEU	11.5
3	3	45	GLY	11.4
3	3	44	LYS	11.4
2	2	12	ARG	11.4
1	1	9	ILE	11.4
1	1	26	LYS	11.4
3	3	18	GLY	11.3
3	3	47	GLY	11.3
3	3	64	ARG	11.2
1	1	54	LYS	11.0
2	2	14	LYS	10.9

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Mol	Chain	Res	Type	RSRZ
1	1	48	VAL	10.8
2	2	25	LYS	10.8
3	3	32	GLN	10.8
1	1	38	LYS	10.7
2	2	16	HIS	10.7
2	2	9	ASN	10.6
1	1	49	VAL	10.6
1	1	11	LYS	10.5
2	2	11	LYS	10.4
3	3	26	LYS	10.4
3	3	61	MET	10.4
2	2	23	LYS	10.3
31	Z	123	U	10.3
2	2	29	ASN	10.2
3	3	13	ARG	10.2
2	2	3	ARG	10.0
3	3	14	ILE	9.9
3	3	35	GLY	9.9
1	1	19	GLY	9.8
3	3	20	GLY	9.8
14	I	29	THR	9.6
1	1	45	LYS	9.6
3	3	6	THR	9.5
29	X	2409	A	9.4
1	1	17	GLY	9.4
3	3	9	MET	9.3
29	X	731	A	9.1
29	X	1085	G	9.1
14	I	52	GLY	9.1
1	1	3	LYS	9.0
1	1	46	LYS	9.0
1	1	37	LEU	8.9
2	2	19	ARG	8.8
29	X	1055	A	8.8
12	G	97	ASP	8.8
3	3	49	VAL	8.6
1	1	44	ALA	8.4
3	3	57	ARG	8.4
3	3	59	LYS	8.4
2	2	18	PHE	8.3
2	2	30	ILE	8.2
2	2	28	ARG	8.1

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Mol	Chain	Res	Type	RSRZ
3	3	36	LYS	8.0
11	F	130	THR	7.9
24	S	91	PRO	7.8
1	1	2	ALA	7.7
2	2	32	ALA	7.6
2	2	20	ALA	7.6
30	Y	2	ALA	7.6
29	X	514	G	7.5
29	X	1077	U	7.5
29	X	1037	U	7.4
2	2	21	ARG	7.3
3	3	48	PHE	7.3
14	I	48	PHE	7.3
9	D	43	SER	7.2
29	X	555	U	7.2
29	X	1552	C	7.2
3	3	56	ALA	7.0
29	X	1187	A	7.0
6	A	242	ALA	6.9
3	3	15	LYS	6.9
3	3	21	LYS	6.9
29	X	1071	U	6.8
29	X	1058	G	6.8
3	3	50	LEU	6.8
2	2	22	MET	6.8
29	X	2088	U	6.7
15	J	84	MET	6.7
29	X	2780	A	6.7
24	S	32	PHE	6.5
29	X	2290	A	6.5
9	D	73	SER	6.5
29	X	248	A	6.3
23	R	58	VAL	6.2
2	2	24	THR	6.2
29	X	556	A	6.2
29	X	1090	C	6.1
29	X	557	U	6.0
29	X	1553	G	6.0
25	T	15	ASP	5.9
10	E	37	TYR	5.9
8	C	165	SER	5.9
6	A	219	PRO	5.9

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Mol	Chain	Res	Type	RSRZ
23	R	82	ALA	5.9
14	I	32	ARG	5.9
29	X	1523	A	5.9
29	X	2775	U	5.9
29	X	1067	G	5.9
14	I	53	ARG	5.9
8	C	19	LEU	5.9
29	X	1086	C	5.8
29	X	2877	A	5.8
6	A	270	ILE	5.8
23	R	94	VAL	5.8
29	X	1084	A	5.7
29	X	1054	C	5.7
29	X	177	U	5.6
17	L	64	LYS	5.6
29	X	558	G	5.6
12	G	129	HIS	5.6
29	X	1074	G	5.5
29	X	1098	G	5.5
26	U	16	ASN	5.5
24	S	92	VAL	5.5
29	X	90	G	5.4
6	A	220	HIS	5.4
12	G	156	HIS	5.4
6	A	249	PRO	5.4
29	X	1093	U	5.3
3	3	16	ILE	5.3
29	X	2781	G	5.3
29	X	2776	U	5.3
12	G	40	ASN	5.3
11	F	52	ILE	5.3
20	O	39	PHE	5.2
6	A	203	ASN	5.2
9	D	153	ASP	5.2
3	3	10	ALA	5.2
29	X	1057	A	5.2
19	N	89	ASP	5.2
3	3	5	LYS	5.1
23	R	67	GLY	5.1
29	X	1069	G	5.1
29	X	2408	G	5.1
23	R	59	LYS	5.1

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Mol	Chain	Res	Type	RSRZ
29	X	1099	A	5.1
6	A	33	LEU	5.0
6	A	84	TYR	5.0
29	X	2324	G	5.0
18	M	34	ARG	5.0
14	I	97	ARG	5.0
31	Z	41	A	4.9
14	I	33	GLY	4.9
12	G	106	TYR	4.9
9	D	42	SER	4.9
14	I	6	LEU	4.9
6	A	250	TRP	4.9
29	X	891	A	4.9
11	F	126	THR	4.9
15	J	141	ALA	4.9
29	X	1432	G	4.9
20	O	36	LYS	4.8
19	N	48	ARG	4.8
9	D	86	GLY	4.8
8	C	44	SER	4.8
29	X	1080	A	4.8
11	F	127	VAL	4.8
14	I	36	GLY	4.8
14	I	9	THR	4.8
29	X	1076	U	4.7
29	X	2291	U	4.7
11	F	67	PHE	4.7
11	F	133	SER	4.7
11	F	129	GLY	4.7
29	X	2170	C	4.7
11	F	40	ALA	4.7
17	L	58	ALA	4.7
29	X	665	A	4.7
6	A	46	ARG	4.6
9	D	35	VAL	4.6
6	A	186	HIS	4.6
29	X	416	U	4.6
29	X	100	G	4.6
29	X	1857	G	4.6
6	A	156	ALA	4.6
14	I	5	ASP	4.6
11	F	59	ILE	4.6

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Mol	Chain	Res	Type	RSRZ
14	I	8	PRO	4.6
20	O	11	GLN	4.6
29	X	1092	U	4.5
17	L	34	SER	4.5
29	X	1103	C	4.5
19	N	91	ASN	4.5
29	X	358	C	4.5
29	X	559	C	4.5
29	X	2779	C	4.5
8	C	197	GLU	4.5
17	L	36	LYS	4.5
29	X	940	G	4.5
29	X	1100	G	4.5
8	C	189	ASP	4.4
14	I	64	GLY	4.4
29	X	434	C	4.4
29	X	730	C	4.4
29	X	1120	C	4.4
29	X	1279	G	4.4
9	D	154	ILE	4.4
29	X	83	A	4.4
10	E	5	GLY	4.3
26	U	48	LYS	4.3
29	X	2085	G	4.3
26	U	62	LEU	4.3
29	X	1189	G	4.3
9	D	71	LYS	4.3
9	D	39	GLY	4.3
12	G	155	THR	4.3
14	I	10	PRO	4.3
11	F	27	LEU	4.3
8	C	161	ALA	4.3
11	F	26	ALA	4.3
29	X	2774	U	4.2
29	X	1115	C	4.2
23	R	43	ASP	4.2
7	B	135	HIS	4.2
31	Z	2	C	4.2
29	X	1554	G	4.2
8	C	162	ARG	4.2
7	B	205	SER	4.2
29	X	1106	A	4.2

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Mol	Chain	Res	Type	RSRZ
29	X	2197	U	4.1
3	3	58	MET	4.1
29	X	1095	A	4.1
29	X	2777	A	4.1
22	Q	72	ARG	4.1
29	X	1079	G	4.1
11	F	117	ALA	4.1
19	N	92	ARG	4.1
9	D	38	GLU	4.1
29	X	1104	G	4.1
29	X	1856	U	4.1
29	X	1881	U	4.1
26	U	47	HIS	4.1
14	I	12	SER	4.0
25	T	19	LYS	4.0
29	X	1188	A	4.0
20	O	46	VAL	4.0
19	N	23	GLY	4.0
26	U	30	VAL	4.0
11	F	31	GLY	4.0
24	S	108	VAL	4.0
23	R	57	ASN	4.0
29	X	1068	A	4.0
12	G	119	LEU	4.0
29	X	1863	U	3.9
29	X	1850	G	3.9
23	R	65	PRO	3.9
23	R	7	GLY	3.9
10	E	58	ALA	3.9
20	O	10	LYS	3.9
29	X	1094	C	3.9
25	T	14	ARG	3.9
17	L	57	ALA	3.9
29	X	417	C	3.9
29	X	2284	U	3.9
15	J	16	GLY	3.9
15	J	69	ILE	3.8
11	F	88	SER	3.8
29	X	2270	U	3.8
6	A	208	LYS	3.8
8	C	55	GLY	3.8
23	R	81	VAL	3.8

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Mol	Chain	Res	Type	RSRZ
6	A	255	LYS	3.8
29	X	774	A	3.8
29	X	1107	A	3.8
29	X	2326	C	3.8
26	U	46	LEU	3.8
17	L	63	ASN	3.8
22	Q	92	ALA	3.8
8	C	57	LYS	3.8
26	U	79	GLU	3.8
29	X	1091	C	3.7
29	X	2087	U	3.7
29	X	1867	A	3.7
11	F	74	MET	3.7
29	X	1224	A	3.7
29	X	1524	C	3.7
31	Z	111	C	3.7
29	X	1909	U	3.7
19	N	116	ALA	3.7
29	X	70	A	3.7
11	F	91	PRO	3.6
14	I	74	VAL	3.6
15	J	72	ASP	3.6
29	X	1053	G	3.6
31	Z	122	U	3.6
17	L	37	HIS	3.6
11	F	41	PHE	3.6
10	E	52	VAL	3.6
29	X	1114	A	3.6
29	X	2169	A	3.6
11	F	32	ALA	3.6
24	S	85	MET	3.6
29	X	305	A	3.6
29	X	1081	A	3.6
31	Z	14	C	3.6
29	X	1056	U	3.6
17	L	24	SER	3.6
26	U	52	ARG	3.5
29	X	304	A	3.5
29	X	1059	A	3.5
29	X	2316	G	3.5
11	F	115	LEU	3.5
8	C	194	GLU	3.5

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Mol	Chain	Res	Type	RSRZ
29	X	1515	U	3.5
7	B	94	ASP	3.5
17	L	33	ARG	3.5
29	X	1556	A	3.5
29	X	2247	A	3.5
4	4	21	GLY	3.5
6	A	47	GLY	3.5
10	E	59	GLN	3.5
29	X	400	U	3.5
12	G	162	LYS	3.5
17	L	20	THR	3.5
9	D	34	ILE	3.5
14	I	63	ARG	3.4
27	V	48	ARG	3.4
31	Z	60	A	3.4
29	X	2195	C	3.4
11	F	96	VAL	3.4
29	X	2773	G	3.4
29	X	2778	U	3.4
9	D	94	GLU	3.4
24	S	107	GLU	3.4
29	X	1101	U	3.4
29	X	1112	U	3.4
30	Y	56	GLN	3.4
4	4	31	LYS	3.4
6	A	189	CYS	3.4
6	A	237	GLU	3.4
18	M	40	ARG	3.4
8	C	190	ALA	3.4
14	I	31	GLY	3.4
7	B	136	ARG	3.3
29	X	429	C	3.3
29	X	1551	U	3.3
8	C	193	LEU	3.3
11	F	77	LEU	3.3
9	D	145	MET	3.3
17	L	40	ALA	3.3
29	X	2090	U	3.3
11	F	18	THR	3.3
11	F	123	ALA	3.3
11	F	131	ALA	3.3
29	X	1066	G	3.3

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Mol	Chain	Res	Type	RSRZ
29	X	1393	G	3.3
4	4	20	HIS	3.3
14	I	55	ARG	3.3
29	X	1089	C	3.3
10	E	43	VAL	3.3
8	C	2	ALA	3.3
11	F	20	ALA	3.3
20	O	5	ILE	3.3
6	A	243	GLY	3.3
11	F	15	GLY	3.3
6	A	261	ARG	3.3
24	S	123	VAL	3.3
29	X	1072	U	3.3
29	X	2080	U	3.3
24	S	23	ALA	3.3
17	L	48	GLY	3.3
24	S	131	PRO	3.2
23	R	91	ALA	3.2
6	A	101	GLU	3.2
29	X	2173	G	3.2
29	X	410	A	3.2
29	X	2325	A	3.2
11	F	89	SER	3.2
19	N	94	VAL	3.2
25	T	7	VAL	3.2
11	F	116	ASN	3.2
29	X	1184	G	3.2
29	X	1839	A	3.2
11	F	92	ASN	3.2
29	X	356	A	3.2
29	X	553	C	3.2
11	F	21	PRO	3.2
29	X	727	U	3.1
29	X	2196	U	3.1
6	A	271	VAL	3.1
29	X	424	G	3.1
29	X	1223	G	3.1
29	X	2731	G	3.1
11	F	78	ILE	3.1
12	G	66	HIS	3.1
19	N	88	ILE	3.1
6	A	248	THR	3.1

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Mol	Chain	Res	Type	RSRZ
9	D	147	ASP	3.1
29	X	1023	U	3.1
15	J	14	PHE	3.1
12	G	103	TYR	3.1
6	A	54	ILE	3.1
29	X	1070	G	3.1
29	X	1073	G	3.1
11	F	124	ALA	3.1
29	X	729	A	3.1
29	X	1569	A	3.1
29	X	2315	A	3.1
29	X	537	C	3.1
29	X	1917	C	3.1
29	X	413	G	3.1
23	R	77	HIS	3.1
29	X	247	A	3.1
29	X	930	A	3.1
15	J	17	ARG	3.0
7	B	128	SER	3.0
27	V	4	SER	3.0
29	X	1083	C	3.0
29	X	2089	C	3.0
29	X	399	G	3.0
29	X	1849	G	3.0
29	X	2193	C	3.0
6	A	91	ARG	3.0
24	S	76	ARG	3.0
14	I	15	ASP	3.0
14	I	17	LYS	3.0
24	S	171	VAL	3.0
14	I	86	THR	3.0
11	F	12	LEU	3.0
29	X	1851	A	3.0
17	L	18	ARG	3.0
21	P	19	LYS	3.0
24	S	67	LYS	3.0
29	X	1531	C	3.0
23	R	12	ASP	3.0
11	F	66	THR	3.0
6	A	147	LEU	2.9
26	U	67	LEU	2.9
12	G	41	TRP	2.9

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Mol	Chain	Res	Type	RSRZ
29	X	2384	G	2.9
7	B	154	LYS	2.9
29	X	2168	A	2.9
24	S	86	VAL	2.9
24	S	144	GLY	2.9
6	A	240	THR	2.9
22	Q	14	GLU	2.9
11	F	128	ALA	2.9
24	S	113	VAL	2.9
14	I	51	GLY	2.9
29	X	1186	G	2.9
17	L	90	ASP	2.9
29	X	343	A	2.9
29	X	2194	A	2.9
9	D	146	VAL	2.9
11	F	55	VAL	2.9
11	F	75	SER	2.9
25	T	9	SER	2.9
25	T	16	SER	2.9
6	A	217	ARG	2.9
8	C	121	ASP	2.9
25	T	17	ASN	2.9
29	X	1128	G	2.9
29	X	1605	A	2.9
29	X	2190	A	2.9
11	F	136	VAL	2.9
29	X	418	C	2.9
29	X	1031	C	2.9
29	X	656	U	2.9
29	X	1105	U	2.9
29	X	1600	U	2.9
17	L	8	ARG	2.9
12	G	39	GLN	2.9
7	B	18	ASP	2.9
18	M	109	GLU	2.9
8	C	166	TRP	2.9
14	I	118	VAL	2.9
15	J	15	ARG	2.9
9	D	104	ILE	2.9
12	G	110	LEU	2.9
29	X	1082	G	2.9
29	X	1735	G	2.9

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Mol	Chain	Res	Type	RSRZ
6	A	266	SER	2.8
29	X	1185	C	2.8
12	G	96	ASP	2.8
15	J	82	THR	2.8
8	C	132	ASN	2.8
9	D	127	ASN	2.8
11	F	125	ASN	2.8
22	Q	62	ARG	2.8
6	A	151	LYS	2.8
11	F	83	GLY	2.8
17	L	53	ALA	2.8
23	R	78	ALA	2.8
29	X	1365	U	2.8
29	X	2727	G	2.8
29	X	422	C	2.8
29	X	1877	C	2.8
19	N	57	PHE	2.8
24	S	172	LEU	2.8
11	F	60	TYR	2.8
9	D	139	PRO	2.8
16	K	17	ARG	2.8
14	I	68	VAL	2.8
22	Q	27	PHE	2.8
29	X	118	U	2.8
29	X	225	G	2.8
12	G	107	GLN	2.8
4	4	6	SER	2.8
11	F	4	VAL	2.8
14	I	106	VAL	2.8
17	L	87	VAL	2.8
14	I	109	LEU	2.8
26	U	8	THR	2.8
6	A	190	TYR	2.8
29	X	657	A	2.8
29	X	1499	A	2.8
29	X	1526	U	2.8
29	X	1872	A	2.8
11	F	111	LYS	2.8
29	X	398	C	2.8
29	X	1549	C	2.8
29	X	1570	C	2.8
6	A	267	ASP	2.7

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Mol	Chain	Res	Type	RSRZ
7	B	60	ASN	2.7
22	Q	71	GLN	2.7
29	X	1030	U	2.7
13	H	117	GLU	2.7
14	I	88	PHE	2.7
24	S	147	ILE	2.7
23	R	113	THR	2.7
25	T	8	GLY	2.7
29	X	237	G	2.7
29	X	1498	G	2.7
31	Z	52	G	2.7
9	D	44	LYS	2.7
12	G	36	ASN	2.7
29	X	2323	U	2.7
15	J	25	GLY	2.7
26	U	28	GLY	2.7
29	X	2181	A	2.7
30	Y	38	GLY	2.7
31	Z	15	A	2.7
8	C	59	TYR	2.7
17	L	39	TYR	2.7
10	E	33	LEU	2.7
29	X	147	G	2.7
29	X	726	G	2.7
29	X	1847	G	2.7
22	Q	64	ARG	2.7
11	F	39	LYS	2.7
25	T	10	SER	2.7
29	X	1733	U	2.7
29	X	199	A	2.7
29	X	1516	A	2.7
12	G	130	ALA	2.7
6	A	45	ASN	2.7
29	X	1075	C	2.7
14	I	57	ILE	2.7
15	J	88	LYS	2.7
15	J	106	GLU	2.7
29	X	1912	G	2.7
8	C	173	ALA	2.7
14	I	30	ALA	2.7
11	F	99	LEU	2.7
15	J	27	TYR	2.7

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Mol	Chain	Res	Type	RSRZ
29	X	554	U	2.7
11	F	134	MET	2.6
10	E	44	ARG	2.6
22	Q	46	PHE	2.6
29	X	648	A	2.6
6	A	197	GLY	2.6
14	I	50	GLU	2.6
29	X	1164	C	2.6
8	C	47	THR	2.6
9	D	4	LEU	2.6
6	A	171	ASP	2.6
12	G	73	ASN	2.6
26	U	21	ARG	2.6
29	X	2330	G	2.6
29	X	654	A	2.6
29	X	1603	A	2.6
30	Y	36	CYS	2.6
29	X	1830	C	2.6
29	X	2179	C	2.6
29	X	2876	C	2.6
10	E	60	LYS	2.6
11	F	13	PRO	2.6
13	H	28	GLY	2.6
29	X	1116	U	2.6
29	X	152	G	2.6
29	X	1193	G	2.6
9	D	136	LEU	2.6
11	F	10	LEU	2.6
26	U	44	ALA	2.6
9	D	72	LYS	2.6
29	X	1096	A	2.6
29	X	1512	A	2.6
9	D	137	ILE	2.6
21	P	17	GLN	2.6
11	F	17	ALA	2.6
11	F	138	VAL	2.6
24	S	30	VAL	2.6
6	A	134	ARG	2.6
19	N	58	ARG	2.6
29	X	1048	U	2.6
29	X	1467	U	2.6
29	X	1547	U	2.6

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Mol	Chain	Res	Type	RSRZ
29	X	2198	U	2.6
16	K	3	HIS	2.6
29	X	2174	G	2.6
29	X	2344	G	2.6
11	F	73	PRO	2.6
24	S	173	PRO	2.6
29	X	2165	A	2.6
6	A	216	GLY	2.6
7	B	89	ASP	2.6
11	F	28	GLY	2.6
4	4	18	ARG	2.6
11	F	120	VAL	2.6
22	Q	65	VAL	2.6
29	X	1064	C	2.6
12	G	65	LYS	2.6
11	F	101	TRP	2.5
9	D	141	ILE	2.5
29	X	345	U	2.5
20	O	88	GLN	2.5
26	U	29	GLY	2.5
10	E	23	VAL	2.5
29	X	194	G	2.5
29	X	735	G	2.5
29	X	2203	G	2.5
31	Z	58	G	2.5
31	Z	4	C	2.5
11	F	30	TYR	2.5
4	4	24	LEU	2.5
10	E	51	LEU	2.5
29	X	1548	U	2.5
6	A	129	ASN	2.5
10	E	46	ASP	2.5
8	C	188	ILE	2.5
24	S	148	THR	2.5
15	J	30	PHE	2.5
29	X	1021	A	2.5
29	X	74	G	2.5
29	X	203	G	2.5
29	X	1951	G	2.5
8	C	20	PRO	2.5
6	A	239	ARG	2.5
6	A	263	ARG	2.5

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Mol	Chain	Res	Type	RSRZ
9	D	103	LEU	2.5
15	J	86	LYS	2.5
29	X	1606	C	2.5
22	Q	44	GLN	2.5
30	Y	33	CYS	2.5
24	S	116	VAL	2.5
9	D	142	THR	2.5
6	A	183	ARG	2.5
11	F	80	LYS	2.5
19	N	12	ARG	2.5
24	S	112	LEU	2.5
17	L	92	GLY	2.5
21	P	24	GLY	2.5
29	X	306	G	2.5
29	X	1841	G	2.5
29	X	2389	G	2.5
15	J	140	GLU	2.5
29	X	2271	C	2.5
23	R	63	THR	2.5
29	X	2192	U	2.5
6	A	43	ARG	2.5
12	G	116	ARG	2.5
6	A	247	VAL	2.5
12	G	160	ALA	2.4
20	O	23	GLU	2.4
24	S	1	MET	2.4
11	F	132	ARG	2.4
26	U	40	ARG	2.4
29	X	421	G	2.4
29	X	1050	G	2.4
29	X	1913	G	2.4
29	X	2199	C	2.4
31	Z	30	C	2.4
31	Z	64	C	2.4
29	X	1601	U	2.4
10	E	17	VAL	2.4
20	O	34	GLU	2.4
24	S	104	SER	2.4
19	N	117	ARG	2.4
21	P	134	LYS	2.4
8	C	14	THR	2.4
8	C	66	ASN	2.4

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Mol	Chain	Res	Type	RSRZ
23	R	92	THR	2.4
24	S	29	ASN	2.4
6	A	132	PRO	2.4
29	X	73	A	2.4
11	F	135	GLY	2.4
24	S	126	GLY	2.4
26	U	51	ILE	2.4
31	Z	29	C	2.4
29	X	1428	G	2.4
29	X	2171	U	2.4
14	I	54	SER	2.4
12	G	171	LEU	2.4
6	A	86	PRO	2.4
24	S	174	PRO	2.4
15	J	91	VAL	2.4
17	L	62	GLY	2.4
25	T	6	GLY	2.4
24	S	124	ALA	2.4
29	X	200	A	2.4
29	X	242	A	2.4
29	X	1153	A	2.4
29	X	2189	A	2.4
29	X	2352	A	2.4
8	C	50	GLN	2.4
4	4	22	ARG	2.4
11	F	37	PHE	2.4
29	X	664	C	2.4
29	X	1087	C	2.4
29	X	1922	U	2.4
29	X	2368	G	2.4
6	A	214	TRP	2.4
11	F	8	VAL	2.4
24	S	49	THR	2.4
25	T	36	ILE	2.4
17	L	41	GLN	2.4
25	T	26	PHE	2.4
30	Y	58	LEU	2.4
19	N	113	SER	2.4
29	X	1108	U	2.4
6	A	241	GLY	2.3
24	S	87	THR	2.3
29	X	420	C	2.3

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Mol	Chain	Res	Type	RSRZ
6	A	39	LYS	2.3
6	A	118	ASN	2.3
6	A	258	LYS	2.3
14	I	67	ASN	2.3
8	C	185	ARG	2.3
24	S	149	ALA	2.3
29	X	1508	G	2.3
29	X	1533	G	2.3
29	X	2286	G	2.3
17	L	89	PHE	2.3
20	O	38	LEU	2.3
15	J	28	VAL	2.3
11	F	22	PRO	2.3
29	X	1097	A	2.3
29	X	1510	A	2.3
6	A	272	THR	2.3
12	G	71	THR	2.3
6	A	96	HIS	2.3
11	F	76	TYR	2.3
24	S	28	ASN	2.3
26	U	45	ASN	2.3
29	X	2385	U	2.3
6	A	85	ASP	2.3
26	U	27	ASP	2.3
29	X	185	C	2.3
29	X	1121	G	2.3
29	X	1852	G	2.3
12	G	64	GLY	2.3
5	5	4	ALA	2.3
11	F	38	THR	2.3
17	L	65	THR	2.3
24	S	21	ALA	2.3
26	U	34	THR	2.3
29	X	204	A	2.3
29	X	601	A	2.3
29	X	1585	A	2.3
29	X	2730	A	2.3
31	Z	17	A	2.3
29	X	873	U	2.3
29	X	2086	U	2.3
6	A	196	VAL	2.3
11	F	23	VAL	2.3

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Mol	Chain	Res	Type	RSRZ
25	T	4	LYS	2.3
29	X	1190	C	2.3
29	X	2748	C	2.3
14	I	100	ARG	2.3
11	F	72	PRO	2.3
22	Q	88	ILE	2.3
24	S	110	GLY	2.3
19	N	6	THR	2.3
29	X	1427	G	2.3
29	X	2297	G	2.3
31	Z	121	G	2.3
11	F	114	ASP	2.3
7	B	145	LYS	2.3
11	F	104	VAL	2.3
29	X	1078	A	2.3
29	X	1954	A	2.3
29	X	2079	A	2.3
31	Z	3	A	2.3
11	F	82	ALA	2.3
22	Q	56	MET	2.3
29	X	1183	C	2.3
7	B	2	LYS	2.3
9	D	129	ASN	2.3
23	R	51	VAL	2.3
29	X	69	G	2.2
29	X	641	G	2.2
6	A	36	ALA	2.2
10	E	22	GLY	2.2
15	J	79	PRO	2.2
21	P	79	ALA	2.2
29	X	1426	U	2.2
29	X	1840	A	2.2
29	X	1927	U	2.2
22	Q	13	SER	2.2
29	X	889	C	2.2
29	X	1514	C	2.2
29	X	2453	C	2.2
29	X	2771	C	2.2
8	C	164	VAL	2.2
8	C	167	VAL	2.2
23	R	52	ASN	2.2
25	T	12	ASN	2.2

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Mol	Chain	Res	Type	RSRZ
14	I	114	ILE	2.2
11	F	6	GLY	2.2
15	J	18	MET	2.2
6	A	254	THR	2.2
17	L	19	THR	2.2
29	X	79	G	2.2
29	X	2328	G	2.2
31	Z	23	G	2.2
29	X	1883	A	2.2
29	X	2299	A	2.2
29	X	2455	A	2.2
8	C	163	ASN	2.2
9	D	37	ASN	2.2
29	X	1127	C	2.2
9	D	41	GLY	2.2
19	N	93	LYS	2.2
24	S	52	PHE	2.2
23	R	93	ARG	2.2
9	D	155	THR	2.2
10	E	39	THR	2.2
29	X	1505	U	2.2
29	X	872	G	2.2
29	X	1525	A	2.2
29	X	2357	A	2.2
31	Z	53	G	2.2
12	G	108	GLY	2.2
25	T	73	GLY	2.2
6	A	218	LYS	2.2
14	I	28	LYS	2.2
16	K	5	LYS	2.2
8	C	56	ARG	2.2
8	C	72	ARG	2.2
29	X	661	C	2.2
23	R	11	ASN	2.2
23	R	96	LYS	2.2
29	X	1424	U	2.2
31	Z	16	U	2.2
27	V	44	ARG	2.2
14	I	49	PHE	2.2
29	X	1468	A	2.2
29	X	1024	G	2.2
29	X	2083	G	2.2

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Mol	Chain	Res	Type	RSRZ
12	G	158	HIS	2.2
9	D	36	VAL	2.1
11	F	53	ILE	2.1
29	X	1113	C	2.1
22	Q	86	GLN	2.1
7	B	147	PRO	2.1
11	F	113	PRO	2.1
23	R	34	GLY	2.1
25	T	13	GLY	2.1
29	X	187	U	2.1
29	X	172	A	2.1
29	X	1625	A	2.1
29	X	1884	A	2.1
31	Z	103	A	2.1
11	F	44	GLN	2.1
26	U	25	ARG	2.1
27	V	39	GLN	2.1
29	X	2166	G	2.1
29	X	2304	G	2.1
29	X	2317	G	2.1
29	X	2386	G	2.1
29	X	2447	G	2.1
29	X	94	C	2.1
29	X	1060	C	2.1
29	X	1364	C	2.1
9	D	144	ASP	2.1
9	D	62	LEU	2.1
10	E	131	ILE	2.1
29	X	667	U	2.1
29	X	1594	U	2.1
29	X	2365	U	2.1
25	T	2	ALA	2.1
9	D	174	GLY	2.1
11	F	36	GLU	2.1
15	J	85	GLY	2.1
24	S	89	GLY	2.1
29	X	436	A	2.1
29	X	796	A	2.1
29	X	1800	A	2.1
10	E	24	PHE	2.1
11	F	65	PHE	2.1
24	S	31	SER	2.1

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Mol	Chain	Res	Type	RSRZ
24	S	22	VAL	2.1
29	X	423	G	2.1
29	X	540	G	2.1
29	X	1854	G	2.1
29	X	2282	G	2.1
29	X	2283	G	2.1
29	X	75	C	2.1
11	F	7	ILE	2.1
11	F	105	LEU	2.1
17	L	38	ILE	2.1
8	C	42	THR	2.1
6	A	130	ALA	2.1
8	C	49	ALA	2.1
29	X	1119	U	2.1
14	I	23	PRO	2.1
26	U	39	LYS	2.1
29	X	929	A	2.1
29	X	1362	A	2.1
29	X	1555	A	2.1
29	X	2581	A	2.1
15	J	11	ARG	2.1
24	S	130	ILE	2.1
10	E	132	ASP	2.1
5	5	7	THR	2.1
9	D	128	TYR	2.1
29	X	583	C	2.1
29	X	1529	C	2.1
29	X	111	G	2.1
29	X	388	G	2.1
29	X	1527	G	2.1
29	X	2214	G	2.1
31	Z	108	G	2.1
7	B	3	GLY	2.1
22	Q	63	LYS	2.0
4	4	28	SER	2.0
24	S	122	ILE	2.0
8	C	83	ALA	2.0
19	N	96	ALA	2.0
29	X	1802	A	2.0
29	X	2308	A	2.0
21	P	8	PHE	2.0
7	B	56	GLU	2.0

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Mol	Chain	Res	Type	RSRZ
14	I	7	LYS	2.0
24	S	168	VAL	2.0
29	X	1801	C	2.0
29	X	1888	C	2.0
14	I	40	ARG	2.0
16	K	115	LEU	2.0
29	X	658	G	2.0
29	X	662	G	2.0
29	X	1123	G	2.0
29	X	1871	G	2.0
29	X	2867	G	2.0
6	A	224	SER	2.0
29	X	9	U	2.0
11	F	35	MET	2.0
11	F	81	ALA	2.0
11	F	122	ALA	2.0
11	F	144	ALA	2.0
9	D	8	TYR	2.0
11	F	62	ASP	2.0
4	4	37	GLY	2.0
8	C	101	GLN	2.0
9	D	157	VAL	2.0
24	S	66	VAL	2.0
29	X	918	A	2.0
29	X	1429	A	2.0
14	I	56	LEU	2.0
24	S	154	LEU	2.0
5	5	1	ILE	2.0
29	X	878	C	2.0
29	X	927	C	2.0
29	X	968	C	2.0

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

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
5	DHA	5	16	5/6	-0.14	0.31	83,83,85,86	0
5	DHA	5	17	5/6	0.33	0.38	76,77,78,80	2

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
5	DCY	5	9	6/7	0.49	0.21	87,87,87,87	0
5	DHA	5	3	5/6	0.50	0.28	82,83,84,85	0
5	TS9	5	10	9/11	0.60	0.16	87,88,89,89	0
5	BB9	5	13	5/7	0.62	0.18	85,86,86,87	0
5	MH6	5	14	4/7	0.73	0.14	86,86,87,87	0
5	BB9	5	6	6/7	0.75	0.12	82,84,85,86	0
5	BB9	5	11	6/7	0.76	0.14	85,87,87,88	0
5	DBU	5	8	5/7	0.76	0.29	85,86,87,87	0
5	BB9	5	15	6/7	0.77	0.22	88,88,88,88	0

6.3 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

6.4 Ligands [i](#)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
32	MG	X	2896	1/1	0.74	0.17	3,3,3,3	0
32	MG	X	2884	1/1	0.87	0.84	55,55,55,55	0
32	MG	X	2909	1/1	0.87	0.33	3,3,3,3	0
32	MG	X	2890	1/1	0.88	0.38	49,49,49,49	0
32	MG	X	2898	1/1	0.88	0.50	19,19,19,19	0
32	MG	X	2891	1/1	0.88	0.40	12,12,12,12	0
32	MG	X	2893	1/1	0.89	0.18	13,13,13,13	0
32	MG	X	2885	1/1	0.89	0.25	56,56,56,56	0
32	MG	X	2881	1/1	0.90	0.31	59,59,59,59	0
32	MG	X	2900	1/1	0.92	0.26	3,3,3,3	0
32	MG	Z	126	1/1	0.92	0.31	25,25,25,25	0
32	MG	X	2906	1/1	0.93	0.13	58,58,58,58	0
32	MG	X	2882	1/1	0.93	0.43	12,12,12,12	0
32	MG	X	2905	1/1	0.93	0.27	13,13,13,13	0
32	MG	X	2883	1/1	0.94	0.15	49,49,49,49	0
32	MG	X	2886	1/1	0.94	0.17	41,41,41,41	0
32	MG	X	2901	1/1	0.94	0.13	60,60,60,60	0
32	MG	Z	124	1/1	0.94	0.36	26,26,26,26	0
32	MG	X	2904	1/1	0.94	0.24	6,6,6,6	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
32	MG	Z	127	1/1	0.94	0.15	12,12,12,12	0
32	MG	Z	128	1/1	0.94	0.25	41,41,41,41	0
32	MG	X	2888	1/1	0.95	0.38	3,3,3,3	0
32	MG	X	2902	1/1	0.95	0.19	24,24,24,24	0
32	MG	X	2889	1/1	0.96	0.39	3,3,3,3	0
32	MG	X	2892	1/1	0.96	0.18	22,22,22,22	0
32	MG	X	2907	1/1	0.96	0.43	17,17,17,17	0
32	MG	M	167	1/1	0.96	0.32	3,3,3,3	0
32	MG	X	2910	1/1	0.97	0.36	19,19,19,19	0
32	MG	X	2899	1/1	0.97	0.48	3,3,3,3	0
32	MG	X	2897	1/1	0.97	0.47	3,3,3,3	0
32	MG	X	2908	1/1	0.97	0.10	3,3,3,3	0
32	MG	X	2887	1/1	0.97	0.17	3,3,3,3	0
32	MG	X	2903	1/1	0.98	0.29	3,3,3,3	0
32	MG	X	2895	1/1	0.98	0.29	3,3,3,3	0
32	MG	X	2894	1/1	0.98	0.43	15,15,15,15	0
32	MG	Z	125	1/1	0.99	0.33	9,9,9,9	0

6.5 Other polymers [i](#)

There are no such residues in this entry.