



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 6, 2026 – 01:46 PM UTC

PDB ID : 2HHH / pdb_00002hhh
Title : Crystal structure of kasugamycin bound to the 30S ribosomal subunit
Authors : Schlutzen, F.
Deposited on : 2006-06-28
Resolution : 3.35 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
Buster-report	:	wwPDB partial adaption of 1.1.7 (2018)
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

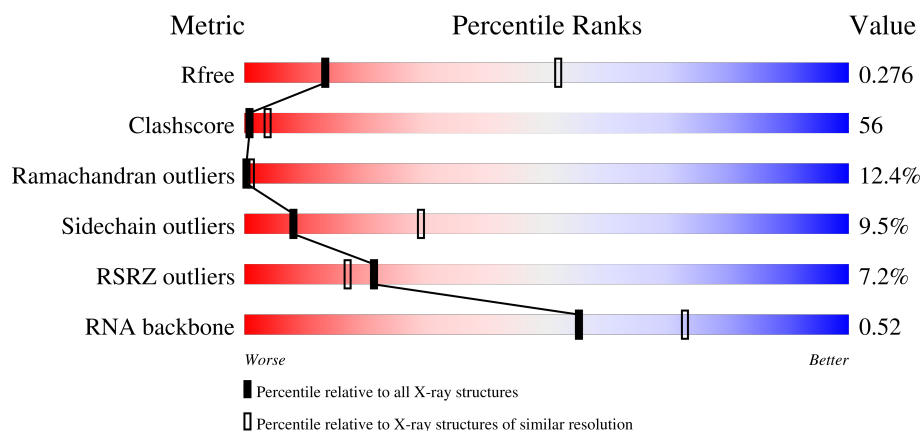
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.35 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))
R_{free}	180053	1099 (3.40-3.32)
Clashscore	190562	1116 (3.40-3.32)
Ramachandran outliers	187476	1101 (3.40-3.32)
Sidechain outliers	187428	1101 (3.40-3.32)
RSRZ outliers	180081	1099 (3.40-3.32)
RNA backbone	3983	1110 (3.72-3.00)

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	A	1522	
2	B	256	
3	C	239	
4	D	209	

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Mol	Chain	Length	Quality of chain
5	E	162	
6	F	101	
7	G	156	
8	H	138	
9	I	128	
10	J	105	
11	K	129	
12	L	135	
13	M	126	
14	N	61	
15	O	89	
16	P	88	
17	Q	105	
18	R	88	
19	S	93	
20	T	106	
21	U	27	

2 Entry composition

There are 22 unique types of molecules in this entry. The entry contains 51632 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 RNA chain called 16S ribosomal RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	1505	Total	C	N	O	P	44	0	0
			32349	14399	5994	10452	1504			

- Molecule 2 is a protein called 30S ribosomal protein S2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	B	234	Total	C	N	O	S	0	0	0
			1900	1213	341	341	5			

- Molecule 3 is a protein called 30S ribosomal protein S3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	C	206	Total	C	N	O	S	0	0	0
			1612	1016	314	281	1			

- Molecule 4 is a protein called 30S ribosomal protein S4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	D	208	Total	C	N	O	S	0	0	0
			1703	1066	339	291	7			

- Molecule 5 is a protein called 30S ribosomal protein S5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	E	150	Total	C	N	O	S	0	0	0
			1146	724	217	201	4			

- Molecule 6 is a protein called 30S ribosomal protein S6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
6	F	101	Total	C	N	O	S	0	0	0
			843	531	155	154	3			

- Molecule 7 is a protein called 30S ribosomal protein S7.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	G	155	Total	C	N	O	S	0	0	0
			1257	781	252	218	6			

- Molecule 8 is a protein called 30S ribosomal protein S8.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	H	138	Total	C	N	O	S	0	0	0
			1116	705	215	193	3			

- Molecule 9 is a protein called 30S ribosomal protein S9.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
9	I	127	Total	C	N	O	0	0	0
			1011	639	198	174			

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
I	58	ARG	HIS	conflict	UNP P80374

- Molecule 10 is a protein called 30S ribosomal protein S10.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	J	98	Total	C	N	O	S	0	0	0
			794	499	156	138	1			

- Molecule 11 is a protein called 30S ribosomal protein S11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	K	119	Total	C	N	O	S	0	0	0
			885	549	168	165	3			

- Molecule 12 is a protein called 30S ribosomal protein S12.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
12	L	124	Total	C	N	O	S	0	0	0
			970	611	195	163	1			

There are 3 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
L	2	VAL	-	insertion	UNP P17293
L	3	ALA	-	insertion	UNP P17293
L	4	LEU	-	insertion	UNP P17293

- Molecule 13 is a protein called 30S ribosomal protein S13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
13	M	125	Total	C	N	O	S	0	0	0
			997	617	207	171	2			

- Molecule 14 is a protein called 30S ribosomal protein S14.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
14	N	60	Total	C	N	O	S	0	0	0
			492	312	104	72	4			

- Molecule 15 is a protein called 30S ribosomal protein S15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
15	O	88	Total	C	N	O	S	0	0	0
			734	459	147	126	2			

- Molecule 16 is a protein called 30S ribosomal protein S16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
16	P	83	Total	C	N	O	S	0	0	0
			700	443	139	117	1			

- Molecule 17 is a protein called 30S ribosomal protein S17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
17	Q	104	Total	C	N	O	S	0	0	0
			857	547	161	147	2			

- Molecule 18 is a protein called 30S ribosomal protein S18.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
18	R	73	Total	C	N	O	0	0	0
			597	380	118	99			

- Molecule 19 is a protein called 30S ribosomal protein S19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
19	S	80	Total	C	N	O	S	0	0	0
			647	414	119	112	2			

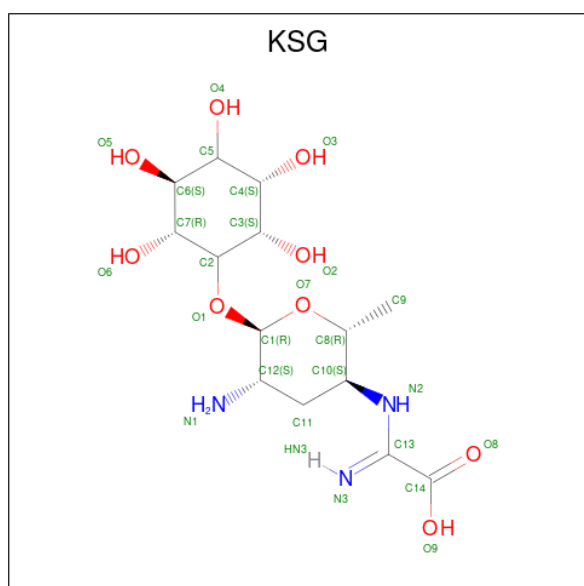
- Molecule 20 is a protein called 30S ribosomal protein S20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
20	T	99	Total	C	N	O	S	0	0	0
			762	469	162	129	2			

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

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
21	U	24	Total	C	N	O	0	0	0
			208	128	50	30			

- Molecule 22 is (1S,2R,3S,4R,5S,6S)-2,3,4,5,6-PENTAHYDROXYCYCLOHEXYL 2-AMINO-4-{{[CARBOXY(IMINO)METHYL]AMINO}-2,3,4,6-TETRADEOXY-ALPHA-D-ARABINO-HEXOPYRANOSIDE (CCD ID: KSG) (formula: $C_{14}H_{25}N_3O_9$).

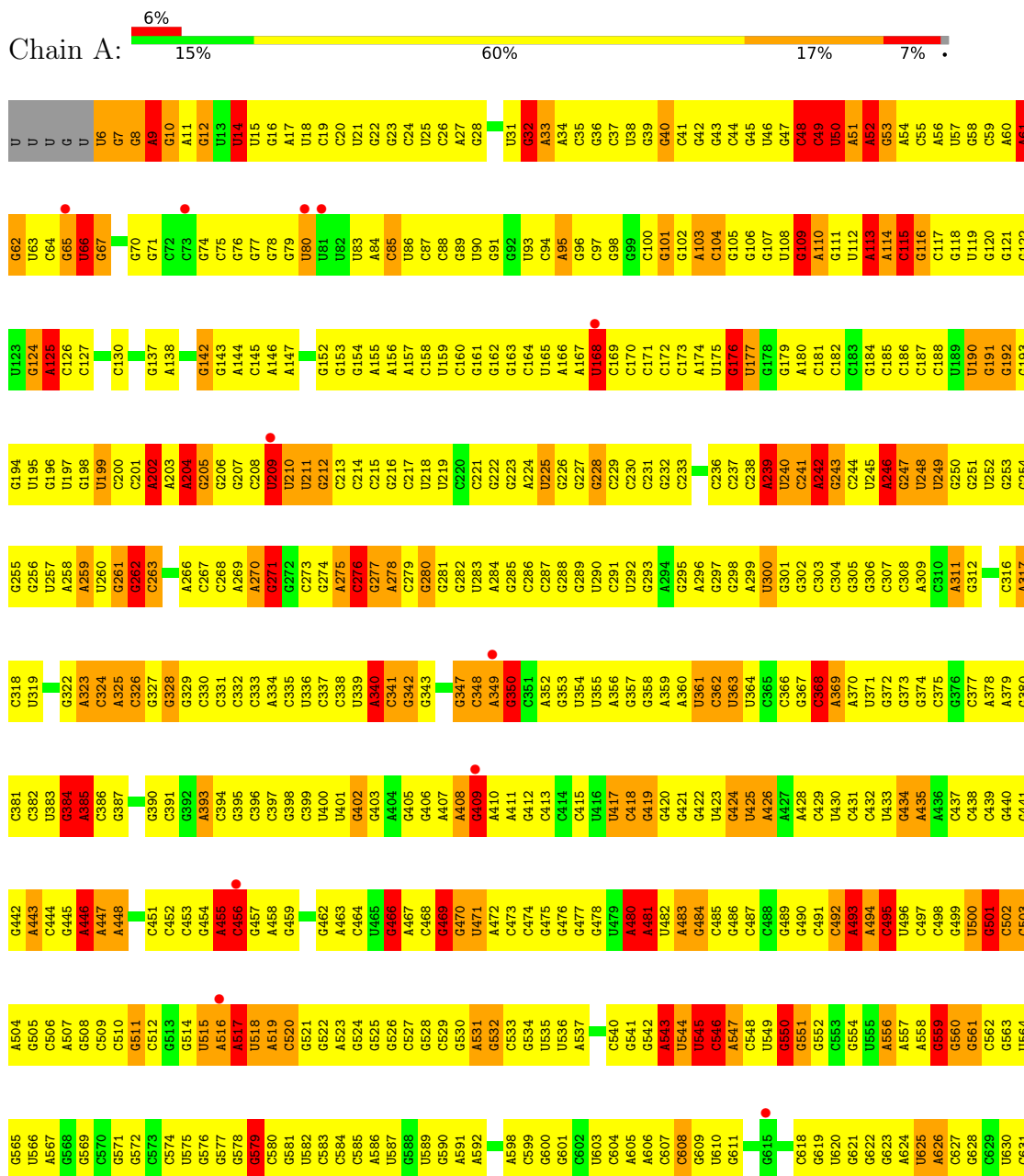


Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
22	A	1	Total	C	N	O	0	0
			26	14	3	9		
22	A	1	Total	C	N	O	0	0
			26	14	3	9		

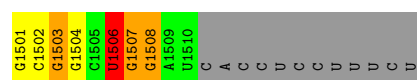
3 Residue-property plots

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.

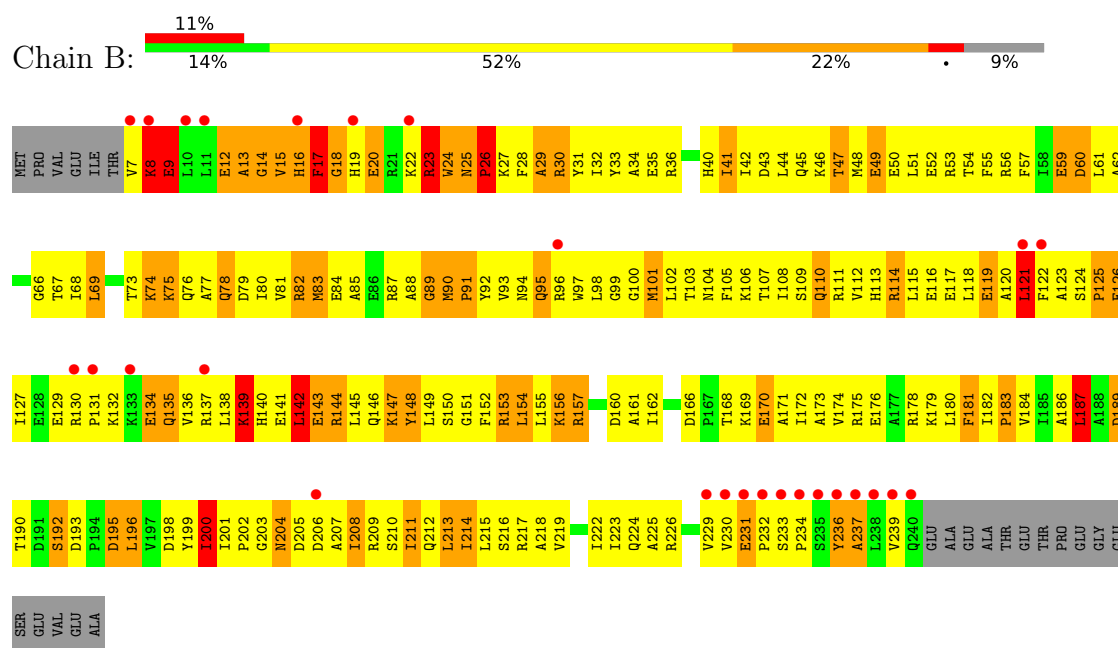
• Molecule 1: 16S ribosomal RNA



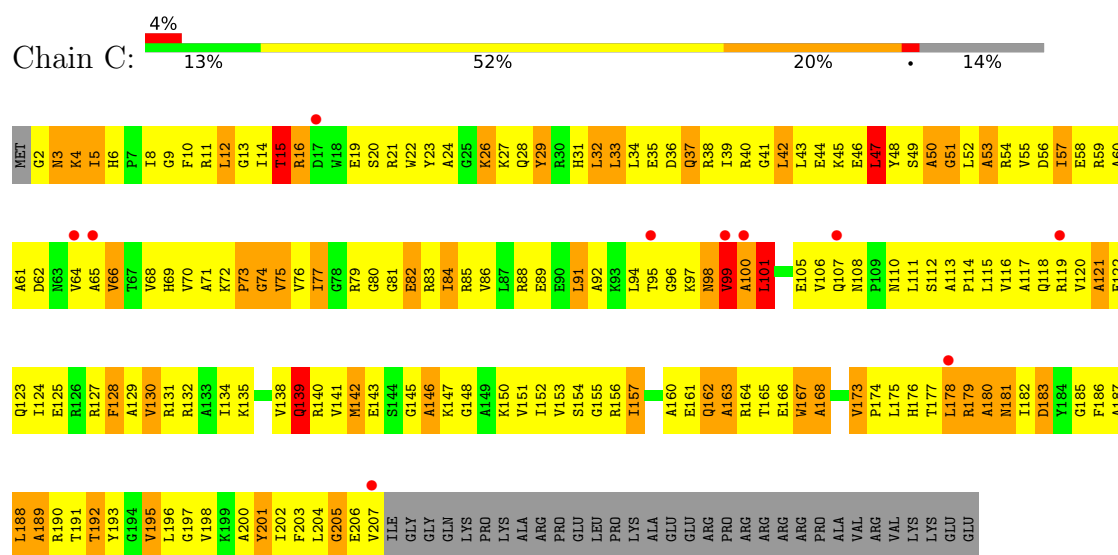




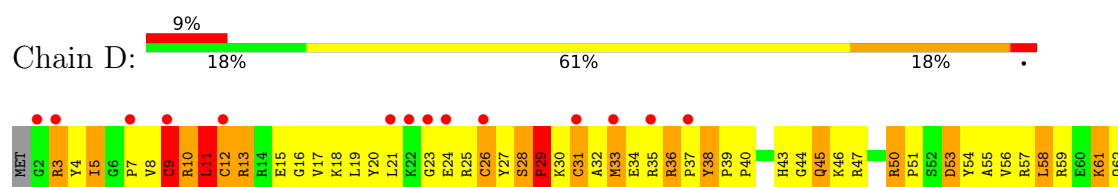
• Molecule 2: 30S ribosomal protein S2

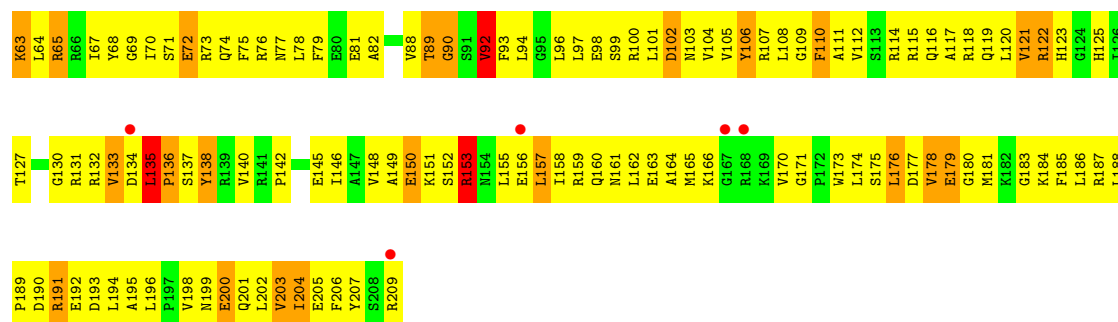


• Molecule 3: 30S ribosomal protein S3

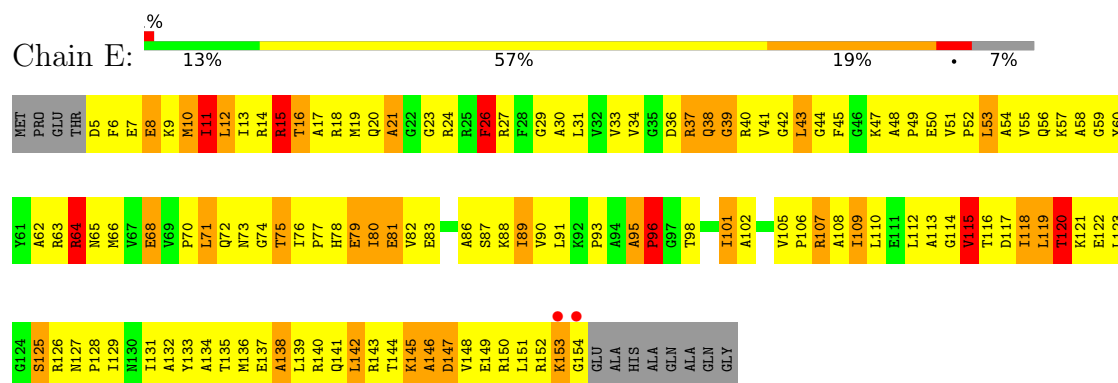


• Molecule 4: 30S ribosomal protein S4

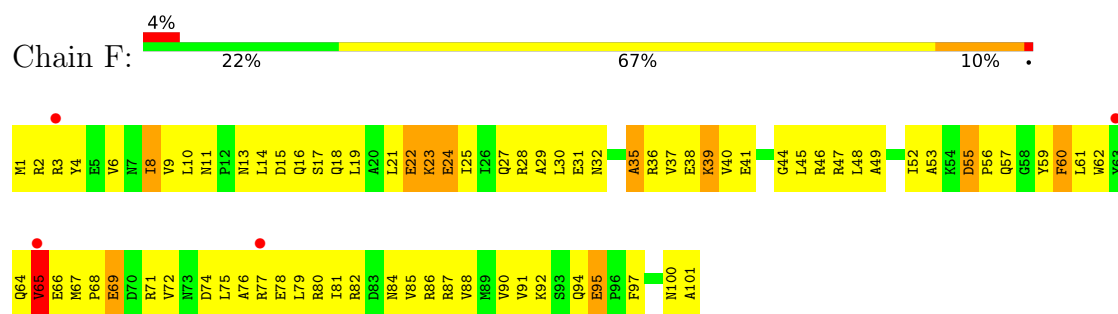




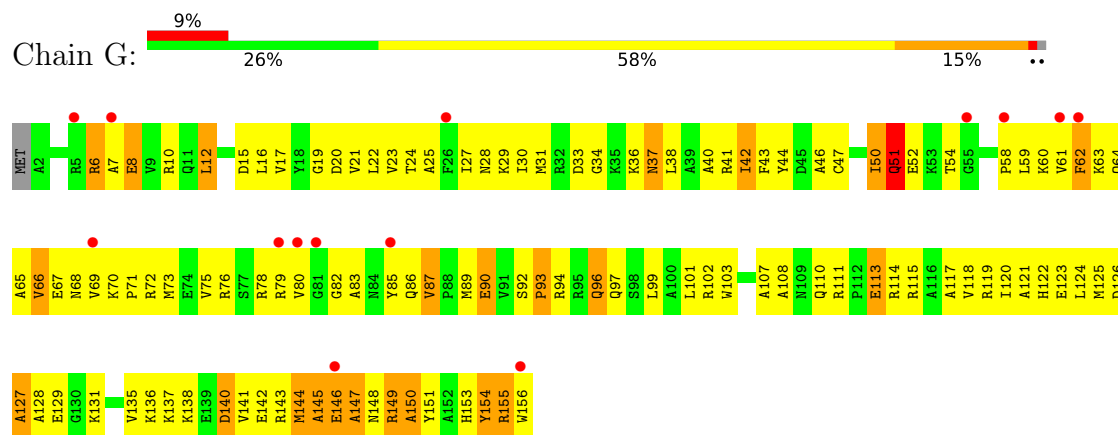
• Molecule 5: 30S ribosomal protein S5



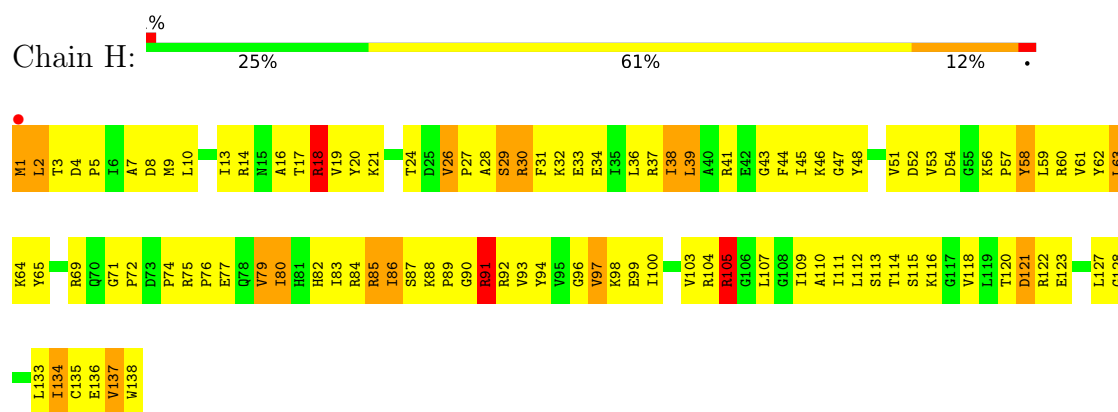
• Molecule 6: 30S ribosomal protein S6



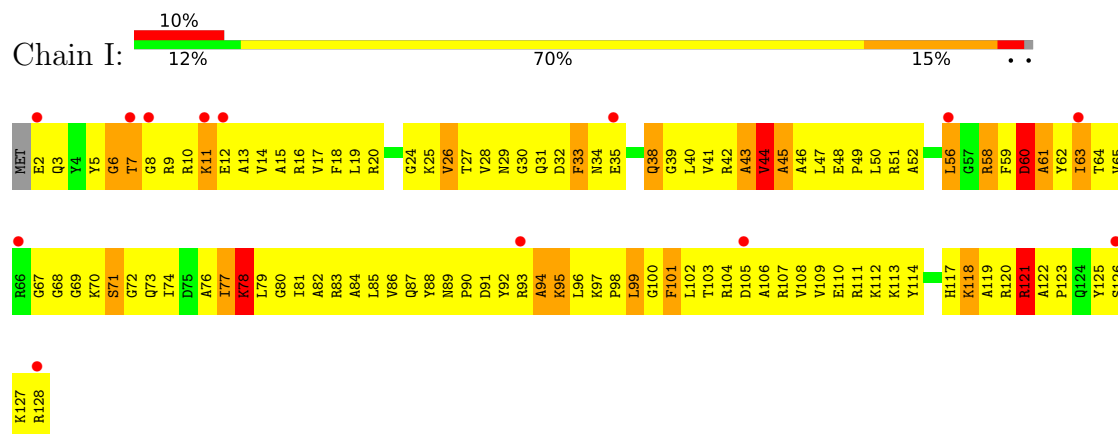
• Molecule 7: 30S ribosomal protein S7



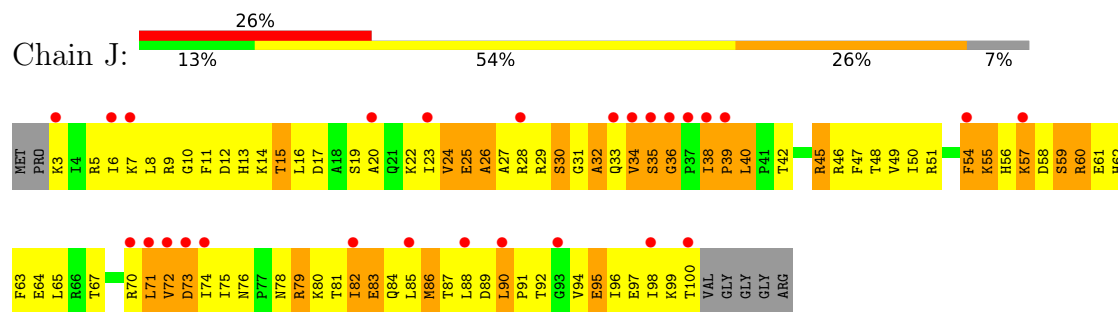
• Molecule 8: 30S ribosomal protein S8



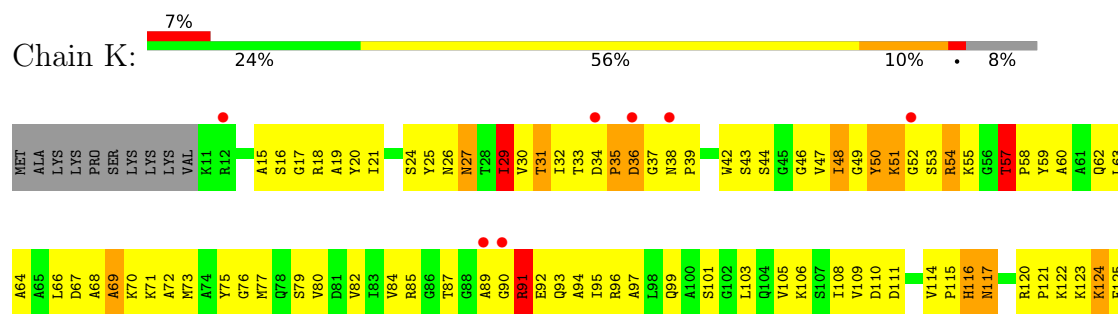
• Molecule 9: 30S ribosomal protein S9



• Molecule 10: 30S ribosomal protein S10



• Molecule 11: 30S ribosomal protein S11

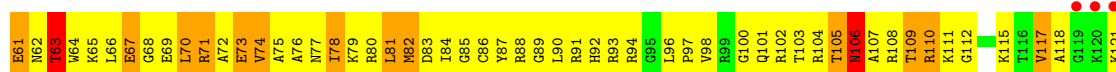
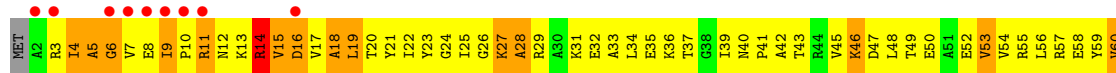
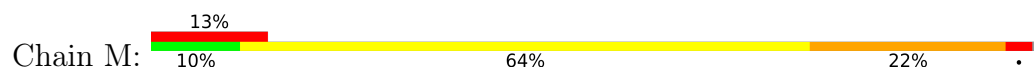




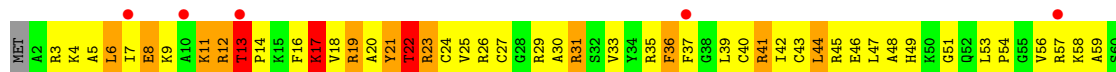
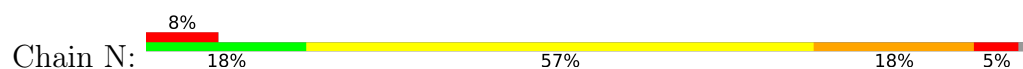
- Molecule 12: 30S ribosomal protein S12



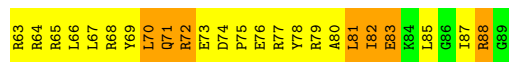
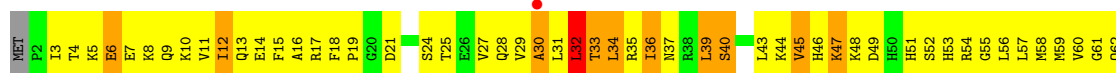
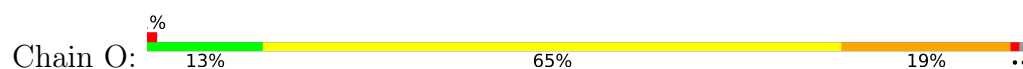
- Molecule 13: 30S ribosomal protein S13



- Molecule 14: 30S ribosomal protein S14

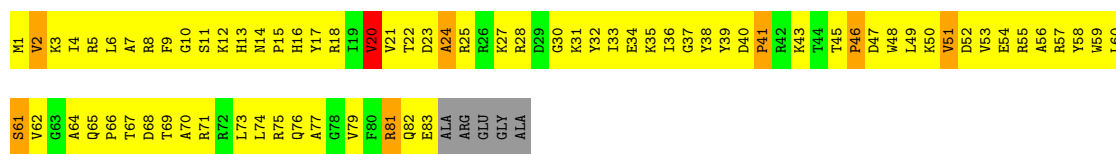


- Molecule 15: 30S ribosomal protein S15



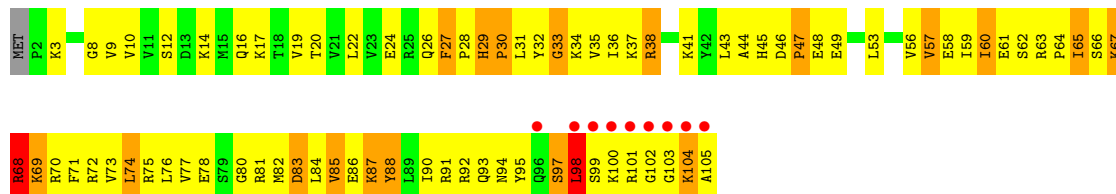
- Molecule 16: 30S ribosomal protein S16

Chain P: 10% 75% 8% 6%



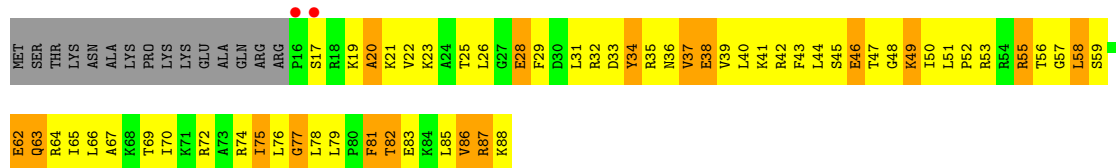
• Molecule 17: 30S ribosomal protein S17

Chain Q: 9% 22% 58% 17% ..



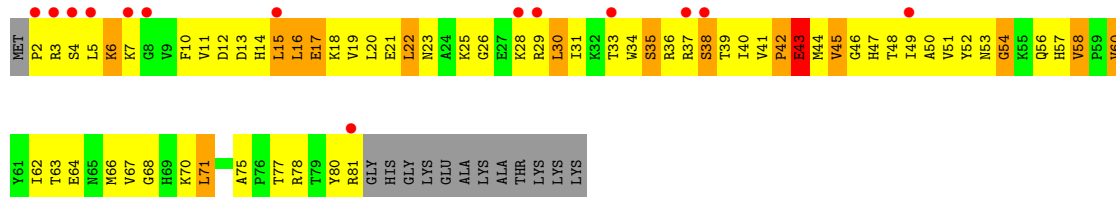
• Molecule 18: 30S ribosomal protein S18

Chain R: 2% 15% 49% 19% 17%



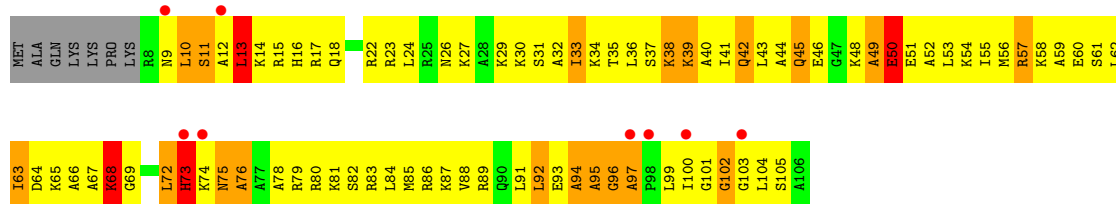
• Molecule 19: 30S ribosomal protein S19

Chain S: 15% 16% 54% 15% 14%

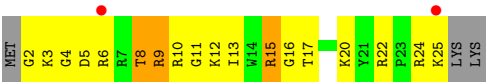


• Molecule 20: 30S ribosomal protein S20

Chain T: 8% 12% 59% 18% 7%



• Molecule 21: 30S ribosomal protein Thx



4 Data and refinement statistics

Property	Value	Source
Space group	P 41 21 2	Depositor
Cell constants a, b, c, α , β , γ	410.44Å 410.44Å 172.65Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	29.74 – 3.35 29.74 – 3.35	Depositor EDS
% Data completeness (in resolution range)	98.4 (29.74-3.35) 98.2 (29.74-3.35)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.55 (at 3.31Å)	Xtriage
Refinement program	CNS	Depositor
R, R_{free}	0.265 , 0.289 0.253 , 0.276	Depositor DCC
R_{free} test set	10101 reflections (4.76%)	wwPDB-VP
Wilson B-factor (Å ²)	56.5	Xtriage
Anisotropy	0.534	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.16 , 11.8	EDS
L-test for twinning ²	$\langle L \rangle = 0.36$, $\langle L^2 \rangle = 0.19$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.87	EDS
Total number of atoms	51632	wwPDB-VP
Average B, all atoms (Å ²)	38.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.65% 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: KSG

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\# Z > 5$	RMSZ	$\# Z > 5$
1	A	0.52	0/36212	0.91	125/56520 (0.2%)
2	B	0.74	0/1935	1.12	18/2609 (0.7%)
3	C	0.70	0/1636	1.00	7/2205 (0.3%)
4	D	0.79	0/1733	1.13	15/2318 (0.6%)
5	E	1.04	1/1162 (0.1%)	1.41	19/1564 (1.2%)
6	F	0.62	1/856 (0.1%)	1.00	5/1154 (0.4%)
7	G	0.59	0/1276	1.04	10/1709 (0.6%)
8	H	0.91	1/1136 (0.1%)	1.24	12/1527 (0.8%)
9	I	0.61	0/1029	1.05	8/1378 (0.6%)
10	J	0.56	0/807	1.04	2/1085 (0.2%)
11	K	0.64	0/900	1.18	11/1213 (0.9%)
12	L	0.76	0/986	1.22	7/1320 (0.5%)
13	M	0.58	0/1008	1.12	6/1347 (0.4%)
14	N	0.70	0/501	1.20	5/664 (0.8%)
15	O	0.77	0/745	1.01	2/992 (0.2%)
16	P	0.76	0/716	1.20	4/963 (0.4%)
17	Q	0.83	1/870 (0.1%)	1.21	7/1159 (0.6%)
18	R	0.63	0/603	1.08	3/799 (0.4%)
19	S	0.50	0/661	1.08	4/890 (0.4%)
20	T	0.63	0/764	1.06	4/1006 (0.4%)
21	U	0.59	0/212	1.03	1/277 (0.4%)
All	All	0.60	4/55748 (0.0%)	0.98	275/82699 (0.3%)

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
1	A	0	86
8	H	0	1

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Mol	Chain	#Chirality outliers	#Planarity outliers
All	All	0	87

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
17	Q	65	ILE	CA-CB	-6.76	1.45	1.54
6	F	8	ILE	CA-CB	-5.32	1.48	1.54
8	H	1	MET	SD-CE	5.25	1.92	1.79
5	E	109	ILE	CA-CB	-5.06	1.49	1.54

All (275) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
12	L	26	ALA	N-CA-C	-12.15	98.69	113.15
1	A	176	G	C2'-C3'-O3'	10.06	124.58	109.50
8	H	134	ILE	N-CA-C	9.85	119.70	110.74
5	E	145	LYS	N-CA-C	-9.55	101.62	113.18
2	B	90	MET	CA-C-N	9.54	131.76	119.84
2	B	90	MET	C-N-CA	9.54	131.76	119.84
11	K	91	ARG	N-CA-C	-9.48	100.50	111.03
1	A	368	C	C2'-C3'-O3'	9.41	123.61	109.50
14	N	8	GLU	N-CA-C	-9.23	102.03	113.38
5	E	81	GLU	N-CA-C	-8.78	95.99	109.95
5	E	38	GLN	N-CA-C	-8.74	101.05	112.68
2	B	236	TYR	N-CA-C	-8.69	102.66	113.18
1	A	938	U	C2'-C3'-O3'	8.61	122.42	109.50
5	E	11	ILE	N-CA-C	8.60	119.39	110.62
1	A	579	G	C2'-C3'-O3'	-8.58	100.83	113.70
5	E	21	ALA	N-CA-C	-8.36	98.98	110.35
1	A	1363	U	C2'-C3'-O3'	8.23	121.85	109.50
20	T	13	LEU	N-CA-C	-8.16	102.77	112.89
1	A	637	A	N9-C1'-C2'	8.14	126.21	114.00
5	E	64	ARG	N-CA-C	-7.98	98.05	110.42
1	A	242	A	N9-C1'-C2'	7.92	125.89	114.00
1	A	1284	U	C2'-C3'-O3'	7.89	121.34	109.50
1	A	113	A	C2'-C3'-O3'	7.85	121.28	109.50
13	M	82	MET	N-CA-C	-7.83	103.85	113.41
1	A	802	G	N9-C1'-C2'	7.82	125.72	114.00
1	A	262	G	C2'-C3'-O3'	7.73	125.30	113.70
7	G	144	MET	N-CA-C	-7.73	100.91	112.04
14	N	21	TYR	N-CA-C	7.59	122.08	107.44
13	M	107	ALA	N-CA-C	-7.58	100.79	112.99

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
20	T	76	ALA	N-CA-C	-7.57	102.03	111.11
1	A	501	G	C4'-C3'-O3'	-7.50	101.75	113.00
1	A	1279	C	C4'-C3'-O3'	-7.48	101.78	113.00
7	G	51	GLN	N-CA-C	-7.47	105.08	114.56
1	A	1476	U	C2'-C3'-O3'	7.32	120.48	109.50
19	S	58	VAL	N-CA-C	7.30	116.92	108.96
13	M	25	ILE	N-CA-C	7.25	118.56	108.12
1	A	1506	U	C2'-C3'-O3'	7.25	120.37	109.50
1	A	943	A	C2'-C3'-O3'	7.21	120.32	109.50
12	L	61	THR	N-CA-C	-7.14	104.54	113.18
4	D	135	LEU	CA-C-N	7.11	128.73	119.84
4	D	135	LEU	C-N-CA	7.11	128.73	119.84
1	A	311	A	N9-C1'-C2'	7.10	122.66	112.00
1	A	938	U	N1-C1'-C2'	7.07	124.61	114.00
21	U	15	ARG	N-CA-C	-7.07	104.53	113.72
1	A	311	A	C4'-C3'-O3'	-7.06	102.41	113.00
11	K	75	TYR	N-CA-C	-7.04	105.05	112.93
18	R	86	VAL	N-CA-C	6.99	116.78	106.85
2	B	187	LEU	N-CA-C	-6.99	94.84	107.98
1	A	1036	G	C2'-C3'-O3'	-6.98	103.23	113.70
7	G	145	ALA	N-CA-C	-6.95	101.58	110.19
8	H	79	VAL	N-CA-C	-6.95	105.30	113.42
7	G	150	ALA	N-CA-C	-6.93	103.82	112.90
17	Q	57	VAL	N-CA-C	6.93	117.27	108.82
1	A	543	A	C2'-C3'-O3'	6.92	119.88	109.50
8	H	75	ARG	CA-C-N	6.89	128.45	119.84
8	H	75	ARG	C-N-CA	6.89	128.45	119.84
1	A	32	G	C4'-C3'-O3'	-6.88	99.07	109.40
8	H	26	VAL	N-CA-C	-6.88	103.54	109.19
1	A	1112	C	C2'-C3'-O3'	6.88	119.82	109.50
5	E	26	PHE	N-CA-C	6.83	120.18	110.14
11	K	57	THR	CA-C-N	6.82	126.78	119.28
11	K	57	THR	C-N-CA	6.82	126.78	119.28
1	A	1379	A	C2'-C3'-O3'	-6.81	103.49	113.70
1	A	48	C	N1-C1'-C2'	6.80	124.20	114.00
7	G	37	ASN	N-CA-C	-6.79	102.83	112.13
4	D	38	TYR	CA-C-N	6.76	127.35	120.38
4	D	38	TYR	C-N-CA	6.76	127.35	120.38
7	G	154	TYR	N-CA-C	-6.69	104.83	114.12
5	E	125	SER	N-CA-C	-6.68	100.40	110.28
1	A	109	G	C2'-C3'-O3'	6.67	119.51	109.50
1	A	409	G	C4'-C3'-O3'	-6.67	102.99	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	776	A	C2'-C3'-O3'	6.66	119.49	109.50
1	A	1329	G	C1'-C2'-O2'	-6.65	101.82	111.80
4	D	12	CYS	N-CA-C	-6.65	103.23	111.75
1	A	361	U	N1-C1'-C2'	6.65	121.97	112.00
7	G	30	ILE	N-CA-C	-6.65	105.36	111.67
11	K	29	ILE	N-CA-C	6.64	117.87	108.17
3	C	5	ILE	N-CA-C	6.64	117.71	110.21
13	M	11	ARG	N-CA-C	6.64	119.16	109.07
3	C	183	ASP	N-CA-C	-6.63	100.67	110.48
1	A	1207	A	C2'-C3'-O3'	-6.62	103.78	113.70
1	A	1280	C	C4'-C3'-O3'	-6.61	103.08	113.00
9	I	63	ILE	N-CA-C	6.61	119.63	108.86
1	A	1483	G	C2'-C3'-O3'	6.59	123.59	113.70
1	A	242	A	C4'-C3'-O3'	-6.58	99.53	109.40
18	R	46	GLU	N-CA-C	-6.54	104.34	113.37
18	R	81	PHE	N-CA-C	-6.54	105.03	114.12
1	A	115	C	C2'-C3'-O3'	-6.54	99.69	109.50
1	A	66	U	C2'-C3'-O3'	-6.48	103.98	113.70
17	Q	29	HIS	CA-C-N	6.47	127.92	119.84
17	Q	29	HIS	C-N-CA	6.47	127.92	119.84
1	A	125	A	C4'-C3'-O3'	-6.45	103.33	113.00
20	T	68	LYS	N-CA-C	-6.44	103.95	110.97
19	S	54	GLY	N-CA-C	-6.42	105.75	115.00
4	D	166	LYS	N-CA-C	-6.42	97.22	108.20
11	K	69	ALA	N-CA-C	-6.34	104.47	111.82
1	A	1183	A	C2'-C3'-O3'	6.33	118.99	109.50
1	A	732	C	C2'-C3'-O3'	6.30	118.94	109.50
9	I	6	GLY	N-CA-C	-6.27	98.31	113.18
4	D	11	LEU	N-CA-C	-6.25	104.00	111.69
6	F	55	ASP	CA-C-N	6.24	127.64	119.84
6	F	55	ASP	C-N-CA	6.24	127.64	119.84
1	A	912	C	C2'-C3'-O3'	-6.22	100.16	109.50
1	A	971	G	C2'-C3'-O3'	6.22	118.83	109.50
1	A	1328	A	C2'-C3'-O3'	6.22	118.83	109.50
6	F	49	ALA	N-CA-C	-6.21	104.57	111.71
5	E	119	LEU	N-CA-C	-6.21	100.08	109.95
1	A	1263	U	C2'-C3'-O3'	6.20	118.80	109.50
1	A	246	A	C2'-C3'-O3'	6.20	118.80	109.50
13	M	100	GLY	N-CA-C	6.15	123.85	115.30
12	L	92	ASP	N-CA-C	6.15	120.04	112.54
1	A	125	A	N9-C1'-C2'	6.12	121.19	112.00
5	E	95	ALA	CA-C-N	6.12	127.48	119.84

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	E	95	ALA	C-N-CA	6.12	127.48	119.84
7	G	6	ARG	N-CA-C	-6.12	104.32	112.94
16	P	51	VAL	N-CA-C	6.10	122.03	109.34
1	A	949	G	N9-C1'-C2'	6.09	123.13	114.00
1	A	239	A	C2'-C3'-O3'	6.06	118.59	109.50
1	A	671	A	C2'-C3'-O3'	6.05	118.58	109.50
1	A	1267	A	C2'-C3'-O3'	5.99	118.48	109.50
8	H	26	VAL	CA-C-N	5.98	126.92	119.98
8	H	26	VAL	C-N-CA	5.98	126.92	119.98
2	B	200	ILE	CB-CA-C	-5.96	103.26	111.49
19	S	22	LEU	N-CA-C	-5.94	106.16	113.41
3	C	99	VAL	N-CA-C	5.93	117.64	108.44
1	A	1206	G	C2'-C3'-O3'	5.93	118.39	109.50
19	S	38	SER	N-CA-C	5.93	118.82	110.23
1	A	545	U	C1'-C2'-O2'	-5.92	102.91	111.80
2	B	186	ALA	N-CA-C	5.92	119.12	109.06
2	B	192	SER	N-CA-C	5.91	118.83	110.14
1	A	481	A	C2'-C3'-O3'	5.91	118.36	109.50
16	P	46	PRO	N-CA-C	-5.88	106.40	113.98
1	A	1318	C	N1-C1'-C2'	5.87	120.81	112.00
4	D	121	VAL	CB-CA-C	-5.87	104.54	111.94
3	C	173	VAL	CA-C-N	5.86	127.17	119.84
3	C	173	VAL	C-N-CA	5.86	127.17	119.84
16	P	25	ARG	N-CA-C	5.84	119.87	112.87
2	B	139	LYS	N-CA-C	-5.83	105.06	111.82
10	J	55	LYS	N-CA-C	5.83	120.05	109.32
16	P	20	VAL	N-CA-C	5.83	117.31	108.80
1	A	1169	G	C4'-C3'-O3'	-5.82	104.27	113.00
1	A	495	C	C1'-C2'-O2'	-5.80	103.10	111.80
10	J	55	LYS	CB-CA-C	-5.80	108.89	115.79
1	A	1122	G	N9-C1'-C2'	5.80	120.69	112.00
4	D	33	MET	N-CA-C	-5.78	104.82	112.34
1	A	1164	G	C2'-C3'-O3'	5.76	118.15	109.50
5	E	15	ARG	N-CA-C	5.76	118.68	111.24
1	A	777	U	N1-C1'-C2'	5.76	120.64	112.00
9	I	77	ILE	N-CA-C	-5.76	104.32	110.36
1	A	204	A	C2'-C3'-O3'	5.75	118.13	109.50
1	A	501	G	N9-C1'-C2'	5.75	120.62	112.00
1	A	1304	C	N1-C1'-C2'	5.75	122.62	114.00
8	H	2	LEU	N-CA-C	-5.74	99.44	108.63
1	A	686	A	N9-C1'-C2'	5.74	120.60	112.00
1	A	1347	U	C2'-C3'-O3'	5.73	118.10	109.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
8	H	137	VAL	N-CA-C	5.73	118.09	108.81
1	A	1280	C	N1-C1'-C2'	5.71	120.57	112.00
1	A	545	U	C2'-C3'-O3'	5.68	118.02	109.50
9	I	99	LEU	N-CA-C	-5.68	106.40	113.38
1	A	849	U	C2'-C3'-O3'	-5.67	100.99	109.50
1	A	168	U	N1-C1'-C2'	5.66	122.50	114.00
1	A	493	A	C2'-C3'-O3'	5.65	122.18	113.70
1	A	1091	G	C4'-C3'-C2'	-5.65	96.95	102.60
5	E	120	THR	N-CA-C	5.64	117.68	108.76
4	D	12	CYS	CA-CB-SG	5.64	127.38	114.40
1	A	954	G	N9-C1'-C2'	5.63	122.44	114.00
1	A	705	G	N9-C1'-C2'	5.61	122.41	114.00
1	A	1128	C	C4'-C3'-O3'	-5.61	104.59	113.00
1	A	1283	U	C4'-C3'-O3'	-5.60	104.60	113.00
7	G	33	ASP	N-CA-C	-5.60	105.07	112.24
1	A	686	A	C4'-C3'-O3'	-5.59	104.61	113.00
1	A	300	U	C2'-C3'-O3'	-5.59	105.32	113.70
9	I	26	VAL	N-CA-C	5.56	116.74	108.46
4	D	26	CYS	N-CA-C	-5.55	105.71	113.37
1	A	262	G	C5'-C4'-C3'	-5.55	107.68	116.00
15	O	44	LYS	N-CA-C	-5.53	106.37	113.01
5	E	68	GLU	CA-C-N	-5.53	117.95	123.04
5	E	68	GLU	C-N-CA	-5.53	117.95	123.04
1	A	1481	A	C2'-C3'-O3'	5.52	117.78	109.50
1	A	95	A	C3'-C2'-O2'	5.52	118.98	110.70
17	Q	67	LYS	N-CA-C	-5.52	102.02	110.30
2	B	148	TYR	N-CA-C	5.51	118.34	111.24
1	A	802	G	C3'-C2'-O2'	-5.50	106.34	114.60
3	C	142	MET	N-CA-C	-5.50	106.24	113.12
11	K	59	TYR	N-CA-C	-5.50	104.92	111.03
1	A	795	C	C4'-C3'-O3'	-5.50	104.75	113.00
20	T	45	GLN	N-CA-C	-5.50	105.29	111.28
1	A	32	G	N9-C1'-C2'	5.49	122.24	114.00
11	K	57	THR	N-CA-C	5.49	121.95	109.81
14	N	13	THR	CA-C-N	-5.49	114.16	119.87
14	N	13	THR	C-N-CA	-5.49	114.16	119.87
1	A	1281	A	C4'-C3'-O3'	-5.48	104.78	113.00
11	K	116	HIS	N-CA-C	-5.47	105.27	112.72
1	A	891	A	C2'-C3'-O3'	5.47	117.71	109.50
1	A	1281	A	N9-C1'-C2'	5.47	120.21	112.00
1	A	687	G	O4'-C1'-C2'	5.47	111.27	105.80
1	A	1077	G	C4'-C3'-O3'	-5.46	101.21	109.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	448	A	C4'-C3'-O3'	-5.46	104.82	113.00
1	A	1177	C	C4'-C3'-O3'	-5.45	104.82	113.00
5	E	8	GLU	N-CA-C	5.45	116.22	108.54
1	A	52	A	C2'-C3'-O3'	5.44	117.66	109.50
1	A	550	G	C4'-C3'-O3'	5.44	117.56	109.40
1	A	543	A	N9-C1'-C2'	5.43	122.14	114.00
13	M	71	ARG	N-CA-C	-5.42	104.40	111.02
4	D	28	SER	CA-C-N	5.42	126.62	119.84
4	D	28	SER	C-N-CA	5.42	126.62	119.84
1	A	635	C	C4'-C3'-O3'	-5.42	104.87	113.00
1	A	455	A	N9-C1'-C2'	5.41	120.12	112.00
1	A	701	C	C2'-C3'-O3'	-5.40	101.39	109.50
1	A	340	A	C2'-C3'-O3'	5.40	117.60	109.50
1	A	867	A	C4'-C3'-O3'	5.40	117.50	109.40
5	E	146	ALA	N-CA-C	-5.39	102.68	111.04
1	A	66	U	N1-C1'-C2'	5.39	120.08	112.00
1	A	385	A	C2'-C3'-O3'	-5.38	105.63	113.70
2	B	110	GLN	N-CA-C	-5.38	105.31	111.07
3	C	96	GLY	N-CA-C	-5.37	107.12	113.99
12	L	70	ILE	CA-C-N	5.36	125.82	120.14
12	L	70	ILE	C-N-CA	5.36	125.82	120.14
2	B	134	GLU	N-CA-C	-5.35	105.11	111.69
1	A	456	C	N1-C1'-C2'	5.35	120.02	112.00
1	A	737	A	C2'-C3'-O3'	-5.35	101.47	109.50
1	A	1084	A	C2'-C3'-O3'	5.35	117.52	109.50
1	A	736	G	C4'-C3'-O3'	-5.35	101.38	109.40
17	Q	27	PHE	CA-C-N	5.34	125.60	119.83
17	Q	27	PHE	C-N-CA	5.34	125.60	119.83
8	H	100	ILE	CA-C-N	5.33	125.62	119.92
8	H	100	ILE	C-N-CA	5.33	125.62	119.92
8	H	80	ILE	N-CA-C	-5.30	99.05	106.53
12	L	62	SER	N-CA-C	-5.29	106.33	112.89
1	A	469	G	C2'-C3'-O3'	5.29	117.44	109.50
1	A	823	U	N1-C1'-C2'	5.28	119.92	112.00
1	A	1261	A	N9-C1'-C2'	5.28	119.92	112.00
1	A	49	C	C2'-C3'-O3'	5.23	117.34	109.50
2	B	13	ALA	N-CA-C	-5.22	105.55	112.34
9	I	60	ASP	N-CA-C	-5.22	99.69	110.80
1	A	446	A	O4'-C1'-C2'	5.21	111.01	105.80
2	B	119	GLU	N-CA-C	-5.21	106.18	112.54
2	B	189	ASP	N-CA-C	5.21	114.71	107.73
1	A	1182	C	C2'-C3'-O3'	-5.21	105.89	113.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	F	60	PHE	N-CA-C	5.21	117.45	109.07
4	D	13	ARG	N-CA-C	5.20	119.62	113.12
1	A	738	C	N1-C1'-C2'	5.20	119.80	112.00
1	A	209	U	C2'-C3'-O3'	5.19	117.29	109.50
11	K	51	LYS	N-CA-C	5.19	119.74	113.41
1	A	802	G	C1'-C2'-O2'	-5.19	104.02	111.80
2	B	237	ALA	N-CA-C	-5.18	105.55	111.14
2	B	156	LYS	N-CA-C	-5.18	106.96	113.28
1	A	1222	U	C4'-C3'-O3'	5.17	117.15	109.40
2	B	195	ASP	N-CA-C	5.17	116.91	111.28
1	A	1067	G	C4'-C3'-O3'	-5.16	105.26	113.00
1	A	61	A	C2'-C3'-O3'	5.16	117.23	109.50
9	I	61	ALA	N-CA-C	5.16	116.78	108.32
1	A	1318	C	C4'-C3'-O3'	-5.16	105.27	113.00
2	B	218	ALA	N-CA-C	-5.14	105.75	111.36
5	E	118	ILE	CB-CA-C	-5.14	104.66	111.80
1	A	9	A	C4'-C3'-O3'	5.13	117.09	109.40
9	I	91	ASP	N-CA-C	-5.13	105.69	111.28
12	L	119	LYS	N-CA-C	-5.13	101.35	109.76
1	A	517	A	C2'-C3'-O3'	5.12	117.18	109.50
14	N	22	THR	N-CA-C	5.12	121.70	110.80
1	A	546	C	C1'-C2'-O2'	-5.11	104.14	111.80
1	A	1480	A	N9-C1'-C2'	5.11	121.66	114.00
4	D	61	LYS	N-CA-C	-5.09	105.38	112.45
1	A	384	G	C2'-C3'-O3'	-5.08	106.09	113.70
5	E	23	GLY	N-CA-C	5.07	117.20	112.08
1	A	480	A	N9-C1'-C2'	5.06	121.59	114.00
17	Q	74	LEU	N-CA-C	5.06	116.61	111.14
7	G	147	ALA	N-CA-C	-5.06	107.16	113.38
11	K	25	TYR	N-CA-C	-5.06	106.96	112.72
1	A	838	A	C4'-C3'-O3'	-5.04	105.44	113.00
1	A	1048	U	C2'-C3'-O3'	5.04	117.06	109.50
1	A	202	A	N9-C1'-C2'	5.02	119.53	112.00
15	O	45	VAL	N-CA-C	-5.01	102.42	108.53
6	F	22	GLU	N-CA-C	-5.00	105.52	110.97
1	A	1329	G	C5'-C4'-C3'	5.00	122.70	115.20

There are no chirality outliers.

All (87) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	101	G	Sidechain

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Mol	Chain	Res	Type	Group
1	A	1032	U	Sidechain
1	A	1038	A	Sidechain
1	A	1050	A	Sidechain
1	A	1056	U	Sidechain
1	A	1060	G	Sidechain
1	A	109	G	Sidechain
1	A	1091	G	Sidechain
1	A	112	U	Sidechain
1	A	1122	G	Sidechain
1	A	1163	G	Sidechain
1	A	1187	U	Sidechain
1	A	12	G	Sidechain
1	A	1202	G	Sidechain
1	A	1213	G	Sidechain
1	A	1238	A	Sidechain
1	A	125	A	Sidechain
1	A	1263	U	Sidechain
1	A	1283	U	Sidechain
1	A	1304	C	Sidechain
1	A	1353	G	Sidechain
1	A	1355	U	Sidechain
1	A	1376	U	Sidechain
1	A	1381	A	Sidechain
1	A	14	U	Sidechain
1	A	1419	U	Sidechain
1	A	142	G	Sidechain
1	A	1475	G	Sidechain
1	A	1503	G	Sidechain
1	A	199	U	Sidechain
1	A	202	A	Sidechain
1	A	204	A	Sidechain
1	A	225	U	Sidechain
1	A	228	G	Sidechain
1	A	249	U	Sidechain
1	A	259	A	Sidechain
1	A	261	G	Sidechain
1	A	262	G	Sidechain
1	A	271	G	Sidechain
1	A	276	C	Sidechain
1	A	280	G	Sidechain
1	A	295	G	Sidechain
1	A	317	A	Sidechain

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Mol	Chain	Res	Type	Group
1	A	350	G	Sidechain
1	A	363	U	Sidechain
1	A	408	A	Sidechain
1	A	443	A	Sidechain
1	A	466	G	Sidechain
1	A	480	A	Sidechain
1	A	50	U	Sidechain
1	A	500	U	Sidechain
1	A	501	G	Sidechain
1	A	517	A	Sidechain
1	A	52	A	Sidechain
1	A	554	G	Sidechain
1	A	559	G	Sidechain
1	A	608	C	Sidechain
1	A	61	A	Sidechain
1	A	636	U	Sidechain
1	A	641	G	Sidechain
1	A	650	G	Sidechain
1	A	703	C	Sidechain
1	A	711	G	Sidechain
1	A	736	G	Sidechain
1	A	747	G	Sidechain
1	A	750	A	Sidechain
1	A	777	U	Sidechain
1	A	796	C	Sidechain
1	A	803	A	Sidechain
1	A	811	U	Sidechain
1	A	819	U	Sidechain
1	A	820	G	Sidechain
1	A	842	A	Sidechain
1	A	846	C	Sidechain
1	A	847	G	Sidechain
1	A	848	U	Sidechain
1	A	85	C	Sidechain
1	A	850	A	Sidechain
1	A	856	G	Sidechain
1	A	858	C	Sidechain
1	A	898	U	Sidechain
1	A	924	A	Sidechain
1	A	925	G	Sidechain
1	A	933	U	Sidechain
1	A	941	G	Sidechain

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Mol	Chain	Res	Type	Group
1	A	952	A	Sidechain
8	H	58	TYR	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	A	32349	0	16328	2014	0
2	B	1900	0	1951	303	0
3	C	1612	0	1677	318	0
4	D	1703	0	1767	283	0
5	E	1146	0	1207	217	0
6	F	843	0	857	110	0
7	G	1257	0	1296	172	0
8	H	1116	0	1177	146	0
9	I	1011	0	1043	191	0
10	J	794	0	840	147	0
11	K	885	0	904	125	0
12	L	970	0	1057	175	0
13	M	997	0	1072	199	0
14	N	492	0	533	103	0
15	O	734	0	771	118	0
16	P	700	0	720	112	0
17	Q	857	0	930	154	0
18	R	597	0	668	126	0
19	S	647	0	673	114	0
20	T	762	0	856	144	0
21	U	208	0	221	31	0
22	A	52	0	46	12	0
All	All	51632	0	36594	4906	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 56.

All (4906) 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)
8:H:89:PRO:HA	8:H:92:ARG:NH1	1.49	1.27
12:L:41:ARG:HG2	12:L:42:THR:H	1.05	1.13
3:C:156:ARG:H	3:C:163:ALA:HA	1.04	1.13
19:S:28:LYS:HG2	19:S:29:ARG:H	1.07	1.12
10:J:45:ARG:HB3	10:J:45:ARG:HH11	1.15	1.11
3:C:91:LEU:HD21	3:C:99:VAL:HG13	1.17	1.09
12:L:28:LYS:HD2	12:L:33:ARG:HH22	1.00	1.08
1:A:239:A:H4'	1:A:240:U:C5'	1.84	1.08
1:A:1132:C:H2'	1:A:1133:U:H6	1.12	1.07
1:A:181:C:O3'	20:T:82:SER:HB3	1.54	1.06
1:A:917:G:H5''	7:G:102:ARG:HH22	1.17	1.05
5:E:18:ARG:HG2	5:E:19:MET:H	0.98	1.05
5:E:139:LEU:HD22	5:E:142:LEU:HD11	1.33	1.05
1:A:239:A:H4'	1:A:240:U:H5'	1.38	1.03
1:A:1030:G:H5''	14:N:4:LYS:HD2	1.38	1.03
19:S:20:LEU:HA	19:S:23:ASN:HD22	1.21	1.02
1:A:106:G:H21	1:A:350:G:H5'	1.20	1.02
16:P:74:LEU:HB3	16:P:79:VAL:HG21	1.42	1.01
1:A:1207:A:H5'	13:M:103:THR:OG1	1.61	1.01
9:I:26:VAL:HG22	9:I:61:ALA:HB3	1.39	1.01
1:A:917:G:H5''	7:G:102:ARG:NH2	1.75	1.01
7:G:113:GLU:HG2	7:G:119:ARG:HG2	1.43	1.01
8:H:87:SER:HA	8:H:93:VAL:HG23	1.40	1.00
9:I:93:ARG:HD3	9:I:97:LYS:HE3	1.40	1.00
1:A:1432:A:H5''	1:A:1433:C:H5	1.25	0.99
1:A:1426:G:H5''	1:A:1427:A:H5'	1.40	0.99
13:M:65:LYS:HE3	13:M:69:GLU:HG2	1.44	0.99
6:F:48:LEU:HD13	6:F:52:ILE:HG13	1.44	0.98
4:D:131:ARG:H	4:D:131:ARG:HD2	1.28	0.98
14:N:41:ARG:HG2	14:N:41:ARG:HH11	1.27	0.98
4:D:140:VAL:HG11	4:D:146:ILE:HD11	1.42	0.98
3:C:94:LEU:HD23	3:C:95:THR:HG23	1.45	0.97
1:A:1425:G:N2	1:A:1427:A:H3'	1.78	0.97
1:A:1480:A:H2	1:A:1483:G:H1	1.03	0.97
5:E:18:ARG:HG2	5:E:19:MET:N	1.78	0.97
12:L:41:ARG:HG2	12:L:42:THR:N	1.80	0.97
1:A:563:G:H5'	1:A:712:A:H1'	1.46	0.97
9:I:28:VAL:HG22	9:I:63:ILE:HB	1.45	0.97
2:B:68:ILE:H	2:B:90:MET:HE3	1.29	0.97
1:A:1135:A:H5''	10:J:13:HIS:CD2	1.99	0.96
1:A:1132:C:H2'	1:A:1133:U:C6	2.01	0.96
1:A:1331:A:H2'	1:A:1332:A:H8	1.30	0.96

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:791:A:H2'	1:A:792:C:H6	1.29	0.95
3:C:58:GLU:H	3:C:65:ALA:HB3	1.28	0.95
12:L:28:LYS:HD2	12:L:33:ARG:NH2	1.81	0.95
3:C:195:VAL:O	3:C:196:LEU:HD23	1.65	0.94
3:C:188:LEU:HD11	3:C:195:VAL:HG13	1.48	0.94
5:E:79:GLU:HG3	5:E:93:PRO:HD2	1.50	0.94
5:E:80:ILE:HD11	5:E:91:LEU:HD12	1.48	0.94
1:A:1467:G:C2'	1:A:1468:C:H5''	1.98	0.94
20:T:43:LEU:HD11	20:T:55:ILE:HD12	1.48	0.94
1:A:937:A:H3'	1:A:938:U:H5''	1.48	0.94
6:F:30:LEU:HD23	6:F:75:LEU:HD21	1.50	0.94
1:A:1418:G:H2'	1:A:1419:U:C6	2.03	0.93
3:C:58:GLU:HB3	10:J:92:THR:HG21	1.48	0.93
1:A:1467:G:H2'	1:A:1468:C:H5''	1.47	0.93
1:A:531:A:H4'	1:A:532:G:O5'	1.68	0.93
5:E:89:ILE:HD13	5:E:90:VAL:N	1.84	0.93
1:A:1325:G:H1'	9:I:121:ARG:HH12	1.31	0.92
3:C:70:VAL:HG21	3:C:76:VAL:HG21	1.49	0.92
1:A:246:A:H4'	1:A:247:G:O5'	1.68	0.92
4:D:150:GLU:H	4:D:150:GLU:CD	1.78	0.92
9:I:26:VAL:HB	9:I:33:PHE:HB2	1.50	0.92
5:E:41:VAL:CG2	5:E:113:ALA:HA	2.00	0.92
1:A:1282:G:HO2'	1:A:1283:U:H6	1.13	0.91
9:I:108:VAL:HG12	9:I:109:VAL:H	1.34	0.91
5:E:43:LEU:HD23	5:E:44:GLY:N	1.85	0.91
3:C:91:LEU:HD21	3:C:99:VAL:CG1	1.99	0.91
1:A:347:G:H4'	1:A:348:C:OP1	1.71	0.91
1:A:1425:G:H21	1:A:1427:A:H3'	1.31	0.91
3:C:52:LEU:HD23	3:C:52:LEU:H	1.35	0.91
1:A:945:C:H4'	9:I:128:ARG:HG3	1.52	0.91
1:A:1218:A:H4'	1:A:1286:G:H4'	1.52	0.91
1:A:1486:G:H2'	1:A:1487:C:H6	1.36	0.91
20:T:13:LEU:H	20:T:13:LEU:HD12	1.35	0.91
2:B:204:ASN:HD22	2:B:206:ASP:H	1.19	0.90
1:A:1158:A:H2'	1:A:1159:G:C8	2.06	0.90
1:A:858:C:H5''	12:L:12:ARG:HH21	1.37	0.90
2:B:209:ARG:HE	2:B:239:VAL:CG1	1.84	0.90
3:C:3:ASN:HD22	3:C:3:ASN:N	1.69	0.90
6:F:9:VAL:HB	6:F:87:ARG:HB2	1.51	0.90
1:A:251:G:H1'	17:Q:16:GLN:NE2	1.87	0.89
1:A:434:G:H4'	1:A:435:A:OP1	1.69	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:6:HIS:HD2	3:C:9:GLY:H	1.16	0.89
3:C:26:LYS:H	3:C:26:LYS:HD3	1.37	0.89
4:D:104:VAL:HG12	4:D:108:LEU:HD11	1.53	0.89
1:A:1040:G:H5''	3:C:154:SER:HB2	1.53	0.89
12:L:67:THR:HG21	12:L:96:VAL:HG22	1.54	0.89
1:A:43:G:H2'	1:A:44:C:C6	2.06	0.89
1:A:791:A:H2'	1:A:792:C:C6	2.07	0.89
1:A:823:U:H5'	1:A:824:C:H5	1.38	0.89
20:T:57:ARG:HE	20:T:102:GLY:HA3	1.36	0.89
1:A:584:C:OP1	8:H:97:VAL:HG12	1.73	0.89
10:J:34:VAL:HG22	10:J:74:ILE:HG12	1.55	0.89
1:A:1287:G:HO2'	1:A:1288:A:H8	0.93	0.88
1:A:1396:A:H2	1:A:1465:G:H22	1.10	0.88
5:E:144:THR:HG22	5:E:145:LYS:N	1.87	0.88
11:K:54:ARG:O	11:K:57:THR:HG22	1.73	0.88
8:H:83:ILE:HG13	8:H:137:VAL:HG22	1.56	0.88
1:A:1433:C:H4'	1:A:1434:G:O5'	1.71	0.88
4:D:70:ILE:HD11	4:D:100:ARG:NE	1.87	0.88
10:J:12:ASP:HB3	10:J:15:THR:HB	1.56	0.88
1:A:1120:C:H4'	1:A:1121:G:C2	2.08	0.88
11:K:48:ILE:HD13	11:K:63:LEU:HB2	1.54	0.88
1:A:804:U:H4'	1:A:805:G:OP2	1.71	0.87
1:A:1328:A:H2'	7:G:10:ARG:HH22	1.39	0.87
7:G:51:GLN:HG2	7:G:58:PRO:HD3	1.56	0.87
12:L:41:ARG:CG	12:L:42:THR:H	1.87	0.87
1:A:1140:A:H1'	1:A:1163:G:N2	1.90	0.87
1:A:1269:A:H2	1:A:1335:G:H1'	1.40	0.87
13:M:81:LEU:HA	13:M:84:ILE:HG12	1.57	0.87
14:N:27:CYS:SG	14:N:29:ARG:HB2	2.15	0.87
1:A:648:G:H22	1:A:725:G:H1	1.20	0.87
2:B:142:LEU:HD22	2:B:146:GLN:NE2	1.90	0.87
9:I:97:LYS:HE2	9:I:102:LEU:HD12	1.55	0.87
1:A:61:A:H4'	1:A:62:G:O5'	1.73	0.87
3:C:156:ARG:N	3:C:163:ALA:HA	1.88	0.87
5:E:89:ILE:HD13	5:E:89:ILE:C	1.99	0.87
1:A:367:G:O2'	1:A:368:C:H5'	1.75	0.87
3:C:14:ILE:HG22	3:C:15:THR:H	1.39	0.87
1:A:1177:C:H3'	1:A:1178:U:C5'	2.05	0.86
4:D:28:SER:O	4:D:30:LYS:N	2.08	0.86
8:H:123:GLU:O	8:H:127:LEU:HD23	1.76	0.86
1:A:106:G:N2	1:A:350:G:H5'	1.90	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:84:ILE:O	3:C:88:ARG:HB2	1.74	0.86
2:B:98:LEU:HB2	2:B:101:MET:SD	2.14	0.86
13:M:6:GLY:O	13:M:7:VAL:HG22	1.74	0.86
1:A:1288:A:N6	1:A:1313:G:H1'	1.90	0.86
3:C:188:LEU:CD1	3:C:189:ALA:H	1.88	0.86
1:A:43:G:H2'	1:A:44:C:H6	1.39	0.86
1:A:1432:A:H5''	1:A:1433:C:C5	2.09	0.86
2:B:53:ARG:HA	2:B:56:ARG:NH1	1.91	0.86
1:A:191:G:H4'	1:A:192:G:OP2	1.76	0.86
3:C:188:LEU:HD12	3:C:189:ALA:H	1.41	0.86
1:A:603:U:H3	4:D:135:LEU:HD21	1.39	0.85
1:A:722:C:OP2	6:F:92:LYS:HE3	1.75	0.85
10:J:90:LEU:H	10:J:91:PRO:HD2	1.40	0.85
1:A:550:G:H4'	1:A:551:G:OP1	1.73	0.85
1:A:661:U:H3	1:A:697:G:H22	1.20	0.85
1:A:900:G:H2'	1:A:901:A:C8	2.10	0.85
4:D:125:HIS:HD1	4:D:152:SER:HG	1.25	0.85
1:A:485:C:H2'	1:A:486:G:H8	1.40	0.85
5:E:110:LEU:HD13	5:E:118:ILE:HD12	1.59	0.85
7:G:59:LEU:HD11	7:G:63:LYS:HE3	1.56	0.85
8:H:89:PRO:HA	8:H:92:ARG:HH12	1.36	0.85
1:A:103:A:H2'	1:A:322:G:H21	1.41	0.85
5:E:139:LEU:CD2	5:E:142:LEU:HD11	2.06	0.85
15:O:25:THR:HG21	15:O:70:LEU:HD23	1.56	0.85
15:O:56:LEU:HA	15:O:59:MET:HE2	1.56	0.85
1:A:1233:A:H2'	1:A:1234:A:C8	2.12	0.84
1:A:1331:A:H2'	1:A:1332:A:C8	2.13	0.84
19:S:28:LYS:HG2	19:S:29:ARG:N	1.89	0.84
1:A:1383:C:H4'	1:A:1384:G:OP2	1.78	0.84
7:G:50:ILE:HD11	7:G:121:ALA:HA	1.57	0.84
1:A:1099:C:H2'	1:A:1100:G:H5'	1.60	0.84
9:I:17:VAL:HG11	9:I:81:ILE:HA	1.59	0.84
1:A:1172:G:OP1	3:C:4:LYS:HA	1.78	0.84
3:C:91:LEU:CD2	3:C:99:VAL:HG13	2.05	0.84
5:E:80:ILE:HD12	5:E:80:ILE:O	1.78	0.83
8:H:53:VAL:HB	8:H:58:TYR:CD1	2.12	0.83
9:I:65:VAL:HG21	9:I:73:GLN:HB3	1.58	0.83
3:C:64:VAL:HB	3:C:99:VAL:HB	1.58	0.83
13:M:81:LEU:HA	13:M:84:ILE:CG1	2.08	0.83
1:A:1216:C:H5'	1:A:1348:G:OP1	1.78	0.83
17:Q:101:ARG:HA	17:Q:101:ARG:HE	1.42	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1287:G:H5'	21:U:4:GLY:HA3	1.59	0.83
7:G:37:ASN:ND2	9:I:41:VAL:HG23	1.94	0.83
13:M:62:ASN:O	13:M:63:THR:HB	1.76	0.83
4:D:151:LYS:H	4:D:151:LYS:HD2	1.43	0.82
14:N:14:PRO:C	14:N:16:PHE:H	1.85	0.82
7:G:145:ALA:C	7:G:147:ALA:H	1.85	0.82
19:S:64:GLU:O	19:S:67:VAL:HG23	1.80	0.82
1:A:130:C:O2	16:P:1:MET:HB2	1.80	0.82
1:A:1282:G:O2'	1:A:1283:U:H6	1.62	0.82
5:E:18:ARG:CG	5:E:19:MET:H	1.87	0.82
11:K:48:ILE:HG22	11:K:49:GLY:H	1.44	0.82
3:C:130:VAL:HG21	3:C:157:ILE:HG23	1.58	0.82
1:A:182:C:N3	20:T:105:SER:HB3	1.95	0.82
1:A:397:C:H2'	1:A:398:G:H8	1.44	0.82
2:B:30:ARG:HG3	2:B:31:TYR:CD2	2.15	0.82
13:M:4:ILE:HG22	13:M:5:ALA:H	1.45	0.82
13:M:10:PRO:HB2	13:M:18:ALA:HB1	1.62	0.82
13:M:98:VAL:HG23	13:M:110:ARG:HH12	1.44	0.82
1:A:970:U:H4'	1:A:971:G:O5'	1.79	0.82
18:R:86:VAL:O	18:R:87:ARG:HG2	1.79	0.82
1:A:515:U:H4'	1:A:516:A:H5''	1.62	0.82
4:D:127:THR:HG23	4:D:130:GLY:O	1.78	0.82
10:J:49:VAL:O	10:J:60:ARG:HA	1.79	0.82
1:A:823:U:H5'	1:A:824:C:C5	2.14	0.81
1:A:947:A:H61	13:M:126:LYS:HB2	1.43	0.81
1:A:1009:C:H2'	1:A:1010:G:H8	1.45	0.81
1:A:1238:A:H4'	1:A:1239:U:H5'	1.60	0.81
4:D:121:VAL:O	4:D:134:ASP:HA	1.80	0.81
1:A:641:G:O2'	1:A:642:G:H5'	1.79	0.81
6:F:3:ARG:HH21	6:F:64:GLN:HE22	1.28	0.81
17:Q:9:VAL:HG22	17:Q:56:VAL:HG22	1.60	0.81
7:G:148:ASN:C	7:G:150:ALA:H	1.85	0.81
1:A:670:U:O4	1:A:687:G:H1'	1.80	0.81
5:E:12:LEU:HD12	5:E:31:LEU:HB2	1.62	0.81
7:G:59:LEU:O	7:G:62:PHE:HB3	1.80	0.81
12:L:75:HIS:HA	12:L:102:ARG:HH22	1.45	0.81
13:M:57:ARG:HG3	13:M:61:GLU:OE2	1.80	0.81
2:B:204:ASN:ND2	2:B:206:ASP:H	1.78	0.81
10:J:3:LYS:HA	10:J:75:ILE:HA	1.63	0.81
1:A:442:G:H2'	1:A:470:G:N2	1.96	0.81
1:A:1274:U:H5'	9:I:38:GLN:NE2	1.96	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:424:G:H4'	1:A:425:U:O5'	1.78	0.81
12:L:70:ILE:HD13	12:L:77:LEU:HD12	1.61	0.81
13:M:75:ALA:HA	13:M:78:ILE:HD12	1.60	0.81
17:Q:67:LYS:O	17:Q:68:ARG:HB3	1.80	0.81
18:R:47:THR:HB	18:R:49:LYS:HE3	1.61	0.81
1:A:1280:C:C2	7:G:114:ARG:NH1	2.49	0.81
18:R:45:SER:C	18:R:47:THR:H	1.86	0.81
1:A:609:G:H2'	1:A:610:U:C6	2.16	0.80
2:B:130:ARG:NH2	3:C:207:VAL:HG22	1.95	0.80
10:J:3:LYS:HG2	10:J:75:ILE:HG23	1.63	0.80
4:D:102:ASP:HB3	4:D:136:PRO:HA	1.62	0.80
11:K:66:LEU:HB3	11:K:70:LYS:HE3	1.62	0.80
1:A:1124:C:H2'	1:A:1125:G:H8	1.43	0.80
6:F:100:ASN:HD22	18:R:23:LYS:HG2	1.45	0.80
20:T:79:ARG:HE	20:T:83:ARG:HH12	1.26	0.80
20:T:46:GLU:HB3	20:T:48:LYS:HZ2	1.44	0.80
1:A:205:G:H2'	1:A:206:G:H8	1.47	0.80
1:A:1305:G:H2'	1:A:1306:A:C8	2.17	0.80
10:J:8:LEU:HB2	10:J:70:ARG:HB2	1.61	0.80
16:P:39:TYR:CD2	16:P:73:LEU:HD11	2.17	0.80
18:R:53:ARG:NH1	18:R:59:SER:HA	1.95	0.80
13:M:79:LYS:O	13:M:82:MET:HB3	1.82	0.80
2:B:88:ALA:C	2:B:90:MET:H	1.90	0.80
3:C:32:LEU:HD21	3:C:59:ARG:HD2	1.64	0.80
4:D:109:GLY:O	4:D:111:ALA:N	2.14	0.80
1:A:401:U:H3'	1:A:402:G:H5'	1.63	0.80
12:L:39:VAL:O	12:L:56:ALA:HA	1.81	0.80
11:K:21:ILE:HB	11:K:84:VAL:HG12	1.65	0.80
1:A:603:U:N3	4:D:135:LEU:HD21	1.96	0.79
3:C:47:LEU:H	3:C:47:LEU:HD12	1.47	0.79
5:E:12:LEU:CD1	5:E:31:LEU:HB2	2.12	0.79
20:T:57:ARG:NE	20:T:102:GLY:HA3	1.97	0.79
1:A:385:A:H2'	1:A:386:C:H5'	1.64	0.79
1:A:954:G:OP2	1:A:1340:U:H1'	1.81	0.79
1:A:1177:C:H3'	1:A:1178:U:H5'	1.62	0.79
1:A:1274:U:P	7:G:41:ARG:HH22	2.04	0.79
1:A:1287:G:H22	1:A:1313:G:H2'	1.47	0.79
3:C:155:GLY:O	3:C:196:LEU:HD22	1.81	0.79
14:N:41:ARG:HG2	14:N:41:ARG:NH1	1.94	0.79
15:O:54:ARG:HG2	15:O:58:MET:HE2	1.65	0.79
1:A:1329:G:O2'	1:A:1330:U:OP2	1.98	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:K:58:PRO:HB2	11:K:93:GLN:HG3	1.64	0.79
1:A:386:C:H2'	1:A:387:G:C8	2.18	0.79
1:A:822:G:H2'	1:A:823:U:H5''	1.62	0.79
1:A:1080:C:H2'	1:A:1081:C:C6	2.18	0.79
1:A:65:G:H4'	1:A:66:U:H5''	1.64	0.79
1:A:386:C:H2'	1:A:387:G:H8	1.46	0.79
1:A:1462:C:H2'	1:A:1463:U:H6	1.48	0.79
6:F:22:GLU:OE1	6:F:82:ARG:HD3	1.83	0.79
13:M:65:LYS:HE3	13:M:69:GLU:CG	2.12	0.79
7:G:75:VAL:HG21	7:G:144:MET:HB3	1.63	0.79
1:A:252:U:H2'	1:A:253:G:H8	1.48	0.78
1:A:323:A:H4'	1:A:324:C:OP1	1.84	0.78
4:D:64:LEU:HD23	4:D:198:VAL:HG11	1.63	0.78
13:M:96:LEU:HB3	13:M:97:PRO:HD2	1.64	0.78
4:D:131:ARG:H	4:D:131:ARG:CD	1.95	0.78
5:E:71:LEU:HD11	5:E:114:GLY:HA3	1.63	0.78
10:J:30:SER:OG	10:J:81:THR:HA	1.84	0.78
13:M:117:VAL:HG12	13:M:118:ALA:H	1.46	0.78
9:I:117:HIS:O	9:I:118:LYS:HG3	1.83	0.78
1:A:684:G:O3'	1:A:687:G:H5'	1.83	0.78
1:A:25:U:H2'	1:A:26:C:H6	1.49	0.78
5:E:144:THR:HG22	5:E:145:LYS:H	1.43	0.78
11:K:91:ARG:HD3	18:R:88:LYS:HE2	1.64	0.78
13:M:52:GLU:HG2	13:M:55:ARG:HH21	1.49	0.78
1:A:94:C:H2'	1:A:95:A:C8	2.19	0.78
1:A:1419:U:H2'	1:A:1420:C:C6	2.19	0.78
3:C:155:GLY:HA3	3:C:163:ALA:HB1	1.65	0.78
1:A:802:G:H3'	1:A:803:A:C5'	2.14	0.78
1:A:1200:C:H2'	1:A:1201:U:C6	2.18	0.78
8:H:7:ALA:HB2	8:H:85:ARG:HD2	1.66	0.78
9:I:9:ARG:HG2	9:I:14:VAL:HG22	1.66	0.78
9:I:125:TYR:CE1	9:I:128:ARG:HD2	2.19	0.78
1:A:824:C:H5''	1:A:825:U:OP1	1.84	0.78
5:E:51:VAL:O	5:E:55:VAL:HG23	1.84	0.78
16:P:9:PHE:CE2	16:P:18:ARG:HD2	2.19	0.78
1:A:1080:C:H2'	1:A:1081:C:H6	1.46	0.78
5:E:144:THR:O	5:E:148:VAL:HG23	1.84	0.78
2:B:206:ASP:CG	2:B:207:ALA:N	2.42	0.77
8:H:86:ILE:HD11	8:H:136:GLU:HB2	1.66	0.77
13:M:108:ARG:NH1	13:M:111:LYS:HD2	1.97	0.77
1:A:850:A:H4'	1:A:851:A:OP1	1.83	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:34:GLU:O	8:H:37:ARG:HB3	1.84	0.77
9:I:19:LEU:O	9:I:20:ARG:HG3	1.83	0.77
1:A:400:U:H2'	1:A:401:U:C6	2.19	0.77
1:A:489:G:H5'	1:A:518:U:H2'	1.66	0.77
1:A:1047:G:H4'	1:A:1048:U:C5'	2.14	0.77
3:C:110:ASN:O	3:C:111:LEU:HD23	1.83	0.77
13:M:78:ILE:O	13:M:81:LEU:HD23	1.85	0.77
4:D:70:ILE:HD11	4:D:100:ARG:CD	2.14	0.77
17:Q:12:SER:HB3	17:Q:20:THR:HB	1.65	0.77
17:Q:67:LYS:HA	17:Q:70:ARG:HH12	1.49	0.77
6:F:80:ARG:NH1	6:F:88:VAL:HB	1.99	0.77
12:L:120:TYR:O	12:L:122:THR:HG23	1.84	0.77
17:Q:9:VAL:HG21	17:Q:84:LEU:HD13	1.66	0.77
18:R:39:VAL:HG13	18:R:40:LEU:N	1.99	0.77
13:M:98:VAL:HG23	13:M:110:ARG:NH1	1.98	0.77
18:R:47:THR:CB	18:R:49:LYS:HE3	2.14	0.77
19:S:12:ASP:HB2	19:S:35:SER:OG	1.84	0.77
1:A:190:U:O4	17:Q:62:SER:HB3	1.84	0.77
1:A:1498:G:H2'	1:A:1499:G:H8	1.48	0.77
6:F:18:GLN:O	6:F:21:LEU:HB3	1.85	0.77
12:L:115:LYS:O	12:L:117:ARG:N	2.16	0.77
19:S:25:LYS:H	19:S:25:LYS:HD2	1.50	0.77
1:A:1142:U:H5'	1:A:1143:G:OP1	1.85	0.77
16:P:21:VAL:HG21	16:P:59:TRP:CD1	2.19	0.77
1:A:11:A:H2'	1:A:12:G:H8	1.50	0.77
1:A:496:U:H2'	1:A:497:C:C6	2.19	0.77
1:A:737:A:H4'	1:A:738:C:O5'	1.83	0.77
2:B:74:LYS:HZ1	2:B:206:ASP:HB2	1.49	0.77
2:B:187:LEU:HD21	2:B:214:ILE:HG13	1.66	0.77
3:C:141:VAL:HG11	3:C:202:ILE:HG12	1.66	0.77
9:I:47:LEU:C	9:I:49:PRO:HD2	2.08	0.77
19:S:12:ASP:H	19:S:38:SER:HB3	1.49	0.77
1:A:1014:G:H2'	1:A:1015:G:H8	1.49	0.76
3:C:14:ILE:HG22	3:C:15:THR:N	2.00	0.76
12:L:83:VAL:HG21	12:L:100:ILE:HD13	1.67	0.76
14:N:27:CYS:SG	14:N:29:ARG:CB	2.73	0.76
18:R:17:SER:HA	18:R:19:LYS:NZ	2.00	0.76
1:A:425:U:H4'	1:A:426:A:O5'	1.84	0.76
1:A:474:C:H2'	1:A:475:G:H8	1.49	0.76
7:G:93:PRO:HG2	7:G:94:ARG:H	1.51	0.76
1:A:1009:C:H2'	1:A:1010:G:C8	2.19	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1107:G:H5'	10:J:35:SER:O	1.85	0.76
1:A:1352:C:H2'	1:A:1353:G:C8	2.20	0.76
1:A:1419:U:H2'	1:A:1420:C:H6	1.49	0.76
1:A:1468:C:H6	1:A:1468:C:H5'	1.51	0.76
5:E:151:LEU:HD11	8:H:77:GLU:OE2	1.83	0.76
1:A:486:G:H4'	1:A:534:G:H4'	1.67	0.76
3:C:123:GLN:O	3:C:128:PHE:HB2	1.85	0.76
9:I:7:THR:HG22	9:I:8:GLY:N	2.01	0.76
1:A:290:U:H2'	1:A:291:C:H6	1.49	0.76
1:A:1010:G:N2	1:A:1012:G:H3'	2.00	0.76
1:A:1232:A:H4'	9:I:68:GLY:H	1.50	0.76
2:B:23:ARG:HH11	2:B:23:ARG:C	1.92	0.76
2:B:142:LEU:HD22	2:B:146:GLN:HE22	1.47	0.76
1:A:1269:A:C2	1:A:1335:G:H1'	2.20	0.76
2:B:112:VAL:O	2:B:115:LEU:HB3	1.85	0.76
13:M:4:ILE:HG22	13:M:5:ALA:N	1.98	0.76
6:F:46:ARG:HB2	6:F:60:PHE:HE1	1.51	0.76
15:O:17:ARG:HG3	15:O:17:ARG:HH11	1.51	0.76
1:A:1429:C:H2'	1:A:1430:C:H6	1.50	0.76
7:G:145:ALA:O	7:G:147:ALA:N	2.19	0.76
8:H:19:VAL:HG23	8:H:21:LYS:HG2	1.66	0.76
1:A:1108:U:H3	10:J:5:ARG:NH2	1.84	0.76
10:J:84:GLN:O	10:J:88:LEU:HD12	1.86	0.76
1:A:333:C:H2'	1:A:334:A:H8	1.51	0.75
2:B:53:ARG:HA	2:B:56:ARG:CZ	2.15	0.75
4:D:104:VAL:HG11	4:D:146:ILE:HD12	1.67	0.75
15:O:39:LEU:HD13	15:O:56:LEU:HB2	1.68	0.75
18:R:56:THR:HG21	18:R:63:GLN:OE1	1.87	0.75
7:G:37:ASN:HD21	9:I:41:VAL:H	1.34	0.75
7:G:122:HIS:HD2	7:G:125:MET:HE1	1.51	0.75
1:A:502:C:O2'	12:L:50:SER:HB3	1.85	0.75
18:R:87:ARG:HG2	18:R:87:ARG:HH11	1.48	0.75
1:A:721:A:H2'	1:A:722:C:C6	2.22	0.75
1:A:858:C:H5''	12:L:12:ARG:NH2	2.01	0.75
20:T:10:LEU:O	20:T:12:ALA:N	2.19	0.75
2:B:84:GLU:HB3	2:B:219:VAL:HG21	1.68	0.75
1:A:775:G:H2'	1:A:776:A:H5'	1.68	0.75
18:R:26:LEU:HD13	18:R:42:ARG:HH12	1.49	0.75
1:A:646:G:H2'	1:A:647:A:H8	1.52	0.75
1:A:1329:G:H3'	9:I:108:VAL:O	1.87	0.75
2:B:100:GLY:N	2:B:176:GLU:OE2	2.16	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:938:U:O2'	1:A:1205:C:H4'	1.86	0.75
9:I:7:THR:HG22	9:I:8:GLY:H	1.50	0.75
12:L:10:LEU:O	12:L:14:GLY:N	2.16	0.75
1:A:472:A:H2'	1:A:473:C:O4'	1.88	0.74
2:B:206:ASP:CG	2:B:207:ALA:H	1.95	0.74
3:C:47:LEU:HD12	3:C:47:LEU:N	2.02	0.74
7:G:85:TYR:HD1	7:G:154:TYR:HE1	1.31	0.74
11:K:69:ALA:O	11:K:73:MET:HG2	1.86	0.74
19:S:62:ILE:HD12	19:S:66:MET:HG3	1.69	0.74
2:B:88:ALA:O	2:B:90:MET:N	2.20	0.74
4:D:8:VAL:O	4:D:10:ARG:N	2.19	0.74
6:F:3:ARG:HH21	6:F:64:GLN:NE2	1.84	0.74
2:B:139:LYS:O	2:B:143:GLU:HG2	1.87	0.74
2:B:209:ARG:HE	2:B:239:VAL:HG11	1.52	0.74
3:C:3:ASN:N	3:C:3:ASN:ND2	2.30	0.74
7:G:37:ASN:HD21	9:I:41:VAL:HG23	1.51	0.74
18:R:55:ARG:HB3	18:R:55:ARG:HH11	1.51	0.74
1:A:1124:C:H2'	1:A:1125:G:C8	2.22	0.74
1:A:1201:U:H2'	1:A:1202:G:H8	1.52	0.74
2:B:83:MET:HE3	2:B:234:PRO:HG2	1.69	0.74
4:D:24:GLU:O	4:D:25:ARG:HB3	1.88	0.74
1:A:802:G:H3'	1:A:803:A:H5'	1.70	0.74
1:A:1044:G:N2	1:A:1179:G:H1'	2.03	0.74
3:C:131:ARG:HG2	3:C:135:LYS:HE3	1.69	0.74
8:H:13:ILE:O	8:H:17:THR:HG23	1.88	0.74
1:A:103:A:H2'	1:A:322:G:N2	2.02	0.74
17:Q:60:ILE:HB	17:Q:74:LEU:HD12	1.70	0.74
19:S:33:THR:HG22	19:S:35:SER:H	1.51	0.74
1:A:224:A:H2'	1:A:225:U:C6	2.22	0.74
1:A:1238:A:H8	3:C:27:LYS:HZ1	1.36	0.74
5:E:82:VAL:HG21	5:E:138:ALA:HA	1.70	0.74
7:G:42:ILE:HG22	7:G:120:ILE:HD12	1.69	0.74
1:A:676:U:O2	1:A:678:A:H5''	1.88	0.74
5:E:12:LEU:O	5:E:12:LEU:HD13	1.88	0.74
20:T:46:GLU:HB3	20:T:48:LYS:NZ	2.02	0.74
1:A:9:A:N6	4:D:209:ARG:HB2	2.02	0.74
1:A:515:U:H5''	1:A:516:A:OP1	1.88	0.74
12:L:89:ARG:HG2	12:L:97:ARG:HA	1.69	0.74
16:P:67:THR:HG22	16:P:68:ASP:N	2.01	0.74
1:A:1475:G:H2'	1:A:1476:U:H6	1.53	0.73
12:L:71:PRO:O	12:L:102:ARG:HD2	1.88	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1467:G:C3'	1:A:1468:C:H5''	2.17	0.73
18:R:64:ARG:O	18:R:67:ALA:HB3	1.89	0.73
2:B:124:SER:HB2	2:B:125:PRO:HD2	1.69	0.73
1:A:95:A:O2'	1:A:96:G:H5'	1.88	0.73
14:N:23:ARG:HD3	14:N:30:ALA:HB2	1.69	0.73
1:A:984:A:H2'	1:A:985:C:H5'	1.70	0.73
2:B:187:LEU:CD2	2:B:214:ILE:HG13	2.17	0.73
5:E:43:LEU:HD23	5:E:43:LEU:C	2.13	0.73
10:J:30:SER:HB3	10:J:80:LYS:HG3	1.70	0.73
16:P:81:ARG:HG3	16:P:83:GLU:HG2	1.68	0.73
1:A:1084:A:H4'	1:A:1085:A:O5'	1.88	0.73
1:A:1238:A:N6	1:A:1260:U:H1'	2.03	0.73
1:A:1250:A:H2'	1:A:1251:A:C8	2.22	0.73
8:H:91:ARG:HG3	12:L:7:ILE:HG13	1.69	0.73
1:A:496:U:H2'	1:A:497:C:H6	1.54	0.73
18:R:53:ARG:HG2	18:R:63:GLN:HG2	1.71	0.73
1:A:446:A:H1'	1:A:447:A:C8	2.23	0.73
5:E:72:GLN:OE1	5:E:77:PRO:HB3	1.89	0.73
8:H:86:ILE:HD12	8:H:133:LEU:CD2	2.19	0.73
9:I:121:ARG:HG2	9:I:121:ARG:HH11	1.54	0.73
18:R:44:LEU:HD22	18:R:48:GLY:O	1.87	0.73
1:A:242:A:N6	1:A:277:G:H1'	2.04	0.72
1:A:1050:A:O2'	1:A:1051:G:H8	1.71	0.72
8:H:83:ILE:HG23	8:H:83:ILE:O	1.89	0.72
18:R:36:ASN:HD22	18:R:36:ASN:C	1.94	0.72
8:H:36:LEU:HD13	8:H:61:VAL:HG22	1.71	0.72
10:J:19:SER:OG	10:J:91:PRO:HG3	1.89	0.72
10:J:81:THR:C	10:J:83:GLU:H	1.98	0.72
19:S:42:PRO:HA	19:S:45:VAL:HG23	1.70	0.72
1:A:331:C:H2'	1:A:332:C:C6	2.24	0.72
1:A:932:G:N2	1:A:1209:A:H62	1.86	0.72
1:A:943:A:C2	1:A:947:A:C2	2.78	0.72
1:A:1202:G:H2'	1:A:1203:G:H8	1.55	0.72
12:L:113:ARG:HB2	12:L:122:THR:HG21	1.71	0.72
1:A:896:A:H2'	1:A:897:A:C8	2.24	0.72
1:A:1178:U:H5''	1:A:1179:G:H5'	1.71	0.72
1:A:1483:G:C8	1:A:1483:G:H3'	2.25	0.72
2:B:68:ILE:N	2:B:90:MET:HE3	2.02	0.72
11:K:77:MET:CE	11:K:80:VAL:HG22	2.19	0.72
13:M:15:VAL:HG23	13:M:43:THR:O	1.89	0.72
1:A:584:C:H4'	8:H:128:GLY:O	1.90	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1380:C:H4'	1:A:1381:A:OP2	1.90	0.72
3:C:15:THR:O	3:C:16:ARG:HB2	1.89	0.72
11:K:109:VAL:HG13	18:R:85:LEU:O	1.89	0.72
12:L:126:LYS:N	12:L:126:LYS:HD2	2.04	0.72
17:Q:90:ILE:O	17:Q:93:GLN:HB3	1.89	0.72
17:Q:101:ARG:HA	17:Q:101:ARG:NE	2.04	0.72
1:A:197:U:H3	20:T:105:SER:HG	1.38	0.72
1:A:251:G:H1'	17:Q:16:GLN:HE22	1.51	0.72
1:A:627:C:H2'	1:A:628:G:H8	1.55	0.72
5:E:11:ILE:HG22	5:E:12:LEU:HD12	1.72	0.72
5:E:40:ARG:HG2	5:E:40:ARG:HH11	1.54	0.72
7:G:85:TYR:HD1	7:G:154:TYR:CE1	2.08	0.72
8:H:110:ALA:HB3	8:H:121:ASP:HB3	1.69	0.72
11:K:96:ARG:HA	11:K:99:GLN:OE1	1.89	0.72
16:P:6:LEU:HD23	16:P:17:TYR:CG	2.24	0.72
1:A:1045:U:H2'	1:A:1046:C:C6	2.24	0.72
1:A:1216:C:H1'	1:A:1347:U:O2	1.89	0.72
1:A:575:U:H2'	1:A:576:G:H8	1.55	0.72
1:A:888:C:H2'	1:A:889:U:H6	1.55	0.72
1:A:1207:A:H5'	13:M:103:THR:HG1	1.55	0.72
1:A:1347:U:O2'	1:A:1348:G:OP1	2.08	0.72
1:A:1359:U:H2'	1:A:1360:A:C8	2.25	0.72
6:F:48:LEU:HD13	6:F:52:ILE:CG1	2.20	0.72
10:J:49:VAL:HG12	10:J:50:ILE:O	1.89	0.72
1:A:1069:U:H3	1:A:1082:G:H22	1.36	0.72
19:S:20:LEU:HA	19:S:23:ASN:ND2	2.02	0.72
1:A:23:G:H2'	1:A:24:C:C6	2.25	0.71
1:A:546:C:H41	1:A:862:U:H2'	1.55	0.71
1:A:811:U:H2'	1:A:848:U:O4	1.89	0.71
13:M:23:TYR:CE2	13:M:70:LEU:HB3	2.25	0.71
1:A:544:U:H4'	1:A:545:U:H5''	1.72	0.71
16:P:1:MET:O	16:P:24:ALA:HB2	1.90	0.71
18:R:39:VAL:HG13	18:R:40:LEU:HD23	1.72	0.71
1:A:179:G:H2'	1:A:180:A:H8	1.55	0.71
1:A:1113:A:H3'	1:A:1113:A:OP2	1.89	0.71
1:A:1232:A:H4'	9:I:68:GLY:N	2.04	0.71
3:C:94:LEU:CD2	3:C:95:THR:HG23	2.19	0.71
7:G:15:ASP:OD2	7:G:23:VAL:HG11	1.91	0.71
9:I:3:GLN:HG3	9:I:20:ARG:HE	1.54	0.71
9:I:100:GLY:O	9:I:102:LEU:N	2.24	0.71
18:R:26:LEU:HD13	18:R:42:ARG:NH1	2.05	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:543:A:H4'	1:A:544:U:O5'	1.91	0.71
1:A:1287:G:H22	1:A:1313:G:C2'	2.03	0.71
1:A:1480:A:H5''	1:A:1481:A:OP2	1.89	0.71
3:C:56:ASP:O	3:C:57:ILE:HG13	1.91	0.71
7:G:70:LYS:HB3	7:G:96:GLN:OE1	1.90	0.71
7:G:99:LEU:HD22	7:G:103:TRP:CZ2	2.25	0.71
12:L:47:LYS:CB	12:L:48:PRO:HD3	2.20	0.71
13:M:52:GLU:HG2	13:M:55:ARG:NH2	2.05	0.71
1:A:438:C:H2'	1:A:439:C:H6	1.56	0.71
1:A:1374:U:H2'	1:A:1375:G:C8	2.25	0.71
2:B:134:GLU:C	2:B:136:VAL:H	1.97	0.71
11:K:34:ASP:O	11:K:36:ASP:N	2.23	0.71
14:N:14:PRO:HG3	14:N:17:LYS:HA	1.73	0.71
16:P:22:THR:HA	16:P:33:ILE:HG13	1.72	0.71
1:A:366:C:O2'	1:A:367:G:H5'	1.91	0.71
1:A:1208:C:H4'	1:A:1209:A:OP1	1.91	0.71
5:E:9:LYS:HG3	5:E:112:LEU:HD11	1.72	0.71
18:R:36:ASN:O	18:R:39:VAL:HG12	1.90	0.71
1:A:1111:C:H5'	9:I:16:ARG:NH2	2.05	0.71
8:H:1:MET:HG2	8:H:2:LEU:N	2.03	0.71
9:I:108:VAL:HG12	9:I:109:VAL:N	2.03	0.71
12:L:55:VAL:CG1	12:L:67:THR:HG23	2.19	0.71
18:R:36:ASN:ND2	18:R:38:GLU:HG2	2.06	0.71
1:A:385:A:H2'	1:A:386:C:C5'	2.21	0.71
1:A:483:A:O2'	1:A:484:G:C8	2.42	0.71
4:D:102:ASP:HB3	4:D:136:PRO:CA	2.21	0.71
7:G:126:ASP:HA	7:G:129:GLU:HB2	1.71	0.71
1:A:673:C:P	11:K:46:GLY:HA3	2.31	0.70
1:A:1230:A:H1'	9:I:70:LYS:NZ	2.06	0.70
1:A:1399:G:N2	1:A:1463:U:H1'	2.05	0.70
2:B:209:ARG:HE	2:B:239:VAL:HG13	1.54	0.70
5:E:80:ILE:HD13	5:E:138:ALA:HB1	1.73	0.70
8:H:89:PRO:HA	8:H:92:ARG:CZ	2.19	0.70
19:S:40:ILE:HB	19:S:67:VAL:O	1.90	0.70
20:T:30:LYS:HB3	20:T:34:LYS:HE3	1.71	0.70
1:A:244:C:O2'	1:A:245:U:H5'	1.91	0.70
1:A:454:G:H3'	1:A:455:A:H5''	1.74	0.70
1:A:1222:U:H4'	1:A:1223:G:OP2	1.89	0.70
3:C:188:LEU:CD1	3:C:189:ALA:N	2.55	0.70
7:G:73:MET:SD	7:G:90:GLU:HA	2.32	0.70
1:A:252:U:H2'	1:A:253:G:C8	2.26	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:333:C:H2'	1:A:334:A:C8	2.27	0.70
3:C:54:ARG:HB3	3:C:69:HIS:HD2	1.57	0.70
7:G:83:ALA:HB3	7:G:85:TYR:CE2	2.26	0.70
1:A:324:C:H4'	1:A:325:A:O5'	1.90	0.70
1:A:1184:G:C2	14:N:42:ILE:HG21	2.27	0.70
2:B:91:PRO:HB3	2:B:154:LEU:HB2	1.73	0.70
15:O:25:THR:CG2	15:O:70:LEU:HD23	2.21	0.70
1:A:1037:C:O2'	1:A:1038:A:H5''	1.91	0.70
3:C:6:HIS:CD2	3:C:8:ILE:HB	2.27	0.70
4:D:112:VAL:N	4:D:116:GLN:OE1	2.19	0.70
5:E:144:THR:HG22	5:E:146:ALA:H	1.57	0.70
17:Q:24:GLU:OE2	17:Q:37:LYS:HD3	1.91	0.70
1:A:1216:C:H2'	1:A:1217:U:H6	1.57	0.70
1:A:1221:A:H62	1:A:1281:A:H62	1.39	0.70
1:A:1349:C:H2'	1:A:1350:C:C6	2.26	0.70
8:H:111:ILE:O	8:H:134:ILE:HD12	1.92	0.70
11:K:91:ARG:HD2	11:K:92:GLU:OE1	1.92	0.70
11:K:95:ILE:O	11:K:99:GLN:HG3	1.91	0.70
12:L:55:VAL:HG11	12:L:67:THR:HG23	1.73	0.70
14:N:26:ARG:HH12	14:N:47:LEU:HG	1.56	0.70
1:A:397:C:H2'	1:A:398:G:C8	2.27	0.70
1:A:801:C:H1'	1:A:803:A:H5'	1.74	0.70
15:O:31:LEU:HD12	15:O:31:LEU:H	1.56	0.70
3:C:11:ARG:O	3:C:14:ILE:N	2.19	0.70
1:A:378:A:H2'	1:A:379:A:C8	2.25	0.70
3:C:110:ASN:HD21	3:C:140:ARG:HB3	1.57	0.70
1:A:270:A:HO2'	1:A:271:G:H8	1.40	0.69
1:A:1440:G:H2'	1:A:1441:C:C6	2.27	0.69
4:D:120:LEU:O	4:D:125:HIS:HB2	1.92	0.69
9:I:8:GLY:HA2	9:I:79:LEU:HD12	1.72	0.69
10:J:16:LEU:HD23	10:J:94:VAL:HG22	1.73	0.69
1:A:823:U:C5'	1:A:824:C:H5	2.04	0.69
8:H:20:TYR:HA	8:H:65:TYR:CE2	2.27	0.69
15:O:17:ARG:NH1	15:O:77:ARG:NH1	2.39	0.69
1:A:380:G:H2'	1:A:381:C:H6	1.57	0.69
12:L:67:THR:CG2	12:L:96:VAL:HG22	2.23	0.69
17:Q:68:ARG:O	17:Q:69:LYS:HB2	1.93	0.69
1:A:1350:C:H4'	10:J:48:THR:HG21	1.73	0.69
4:D:192:GLU:N	4:D:192:GLU:OE1	2.25	0.69
5:E:110:LEU:O	5:E:113:ALA:HB3	1.93	0.69
10:J:12:ASP:O	10:J:15:THR:HG22	1.93	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:T:79:ARG:HE	20:T:83:ARG:NH1	1.91	0.69
1:A:419:G:N2	1:A:420:G:C8	2.61	0.69
2:B:97:TRP:HH2	2:B:176:GLU:CD	2.00	0.69
2:B:204:ASN:HD22	2:B:204:ASN:C	2.00	0.69
20:T:54:LYS:HG3	20:T:100:ILE:HD13	1.74	0.69
1:A:1280:C:C5	7:G:114:ARG:HD3	2.28	0.69
10:J:32:ALA:HB2	10:J:76:ASN:HB2	1.74	0.69
1:A:1204:G:P	19:S:77:THR:HG21	2.33	0.69
1:A:1507:G:H5''	1:A:1508:G:OP2	1.93	0.69
14:N:22:THR:HB	14:N:33:VAL:HG21	1.74	0.69
17:Q:76:LEU:C	17:Q:76:LEU:HD23	2.17	0.69
1:A:452:C:H2'	1:A:453:C:H6	1.56	0.69
1:A:749:G:H1	1:A:796:C:H2'	1.58	0.69
1:A:932:G:H21	1:A:1209:A:H62	1.40	0.69
3:C:8:ILE:HG23	3:C:16:ARG:HG2	1.73	0.69
5:E:15:ARG:O	5:E:16:THR:HG22	1.93	0.69
5:E:109:ILE:HD12	5:E:135:THR:HG21	1.74	0.69
10:J:61:GLU:OE1	14:N:45:ARG:NH1	2.25	0.69
18:R:36:ASN:O	18:R:36:ASN:ND2	2.26	0.69
19:S:36:ARG:HH21	19:S:75:ALA:HB3	1.56	0.69
1:A:522:G:OP2	12:L:115:LYS:HG3	1.93	0.69
1:A:1355:U:H2'	1:A:1356:G:O4'	1.93	0.69
3:C:139:GLN:NE2	3:C:143:GLU:HB2	2.07	0.69
6:F:11:ASN:OD1	6:F:13:ASN:N	2.22	0.69
12:L:75:HIS:HA	12:L:102:ARG:NH2	2.06	0.69
1:A:65:G:H4'	1:A:66:U:C5'	2.21	0.69
2:B:31:TYR:HE1	2:B:200:ILE:HD12	1.56	0.69
2:B:77:ALA:HB2	2:B:211:ILE:HD13	1.75	0.69
3:C:83:ARG:C	3:C:85:ARG:H	2.00	0.69
5:E:15:ARG:O	5:E:27:ARG:O	2.11	0.69
11:K:73:MET:O	11:K:76:GLY:N	2.26	0.69
1:A:1260:U:C5'	1:A:1261:A:O4'	2.41	0.68
3:C:173:VAL:O	3:C:173:VAL:HG12	1.94	0.68
4:D:111:ALA:HB2	4:D:120:LEU:HD12	1.75	0.68
5:E:26:PHE:CD1	5:E:26:PHE:N	2.60	0.68
1:A:371:U:OP1	16:P:69:THR:HG21	1.94	0.68
9:I:32:ASP:O	9:I:35:GLU:N	2.22	0.68
20:T:33:ILE:CD1	20:T:63:ILE:HA	2.24	0.68
1:A:247:G:H4'	1:A:248:U:O5'	1.92	0.68
1:A:407:A:N9	1:A:409:G:H1'	2.08	0.68
1:A:822:G:C2'	1:A:823:U:H5''	2.22	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:50:U:H1'	12:L:28:LYS:HZ3	1.57	0.68
1:A:1099:C:H2'	1:A:1100:G:C5'	2.23	0.68
1:A:1355:U:H5''	9:I:71:SER:HB3	1.76	0.68
3:C:177:THR:HG23	3:C:177:THR:O	1.92	0.68
5:E:105:VAL:HB	5:E:106:PRO:HD3	1.75	0.68
13:M:84:ILE:C	13:M:86:CYS:H	2.01	0.68
1:A:955:A:H2'	1:A:956:A:H5''	1.74	0.68
1:A:1385:C:H2'	1:A:1386:C:O4'	1.94	0.68
3:C:83:ARG:C	3:C:85:ARG:N	2.51	0.68
4:D:70:ILE:CG2	4:D:71:SER:N	2.57	0.68
6:F:10:LEU:HB3	6:F:85:VAL:HA	1.74	0.68
7:G:141:VAL:O	7:G:144:MET:HB2	1.94	0.68
13:M:5:ALA:HB2	13:M:22:ILE:HD13	1.76	0.68
21:U:12:LYS:O	21:U:16:GLY:N	2.26	0.68
1:A:608:C:O2'	1:A:609:G:H5'	1.93	0.68
1:A:1201:U:H2'	1:A:1202:G:C8	2.29	0.68
1:A:168:U:H5'	1:A:204:A:O4'	1.93	0.68
1:A:769:G:C2	1:A:770:G:C8	2.82	0.68
1:A:964:A:H2'	1:A:965:G:C8	2.29	0.68
1:A:1506:U:O2'	1:A:1507:G:H3'	1.94	0.68
7:G:24:THR:HA	7:G:27:ILE:HD12	1.76	0.68
9:I:17:VAL:HG21	9:I:81:ILE:N	2.07	0.68
1:A:53:G:O2'	1:A:54:A:H5'	1.93	0.68
1:A:585:C:H2'	1:A:586:A:H8	1.59	0.68
2:B:181:PHE:N	2:B:181:PHE:HD1	1.92	0.68
4:D:70:ILE:HD11	4:D:100:ARG:CZ	2.24	0.68
4:D:179:GLU:O	4:D:181:MET:HG3	1.94	0.68
10:J:45:ARG:HH11	10:J:45:ARG:CB	2.00	0.68
1:A:97:C:OP1	20:T:17:ARG:HD2	1.94	0.68
1:A:1207:A:C5'	13:M:103:THR:OG1	2.41	0.68
4:D:35:ARG:O	4:D:36:ARG:HB2	1.94	0.68
8:H:65:TYR:HA	8:H:79:VAL:HG23	1.76	0.68
13:M:24:GLY:HA3	13:M:66:LEU:HD22	1.75	0.68
20:T:42:GLN:O	20:T:45:GLN:HB3	1.95	0.68
1:A:745:G:C5	1:A:746:C:C4	2.82	0.67
1:A:897:A:O2'	1:A:898:U:H5'	1.94	0.67
2:B:104:ASN:OD1	2:B:107:THR:HB	1.94	0.67
2:B:181:PHE:N	2:B:181:PHE:CD1	2.60	0.67
4:D:36:ARG:H	4:D:37:PRO:HD3	1.59	0.67
9:I:48:GLU:OE1	9:I:51:ARG:HD2	1.93	0.67
12:L:25:PRO:C	12:L:27:LEU:H	1.99	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:943:A:C2	13:M:124:PRO:HB2	2.29	0.67
1:A:1325:G:H1'	9:I:121:ARG:NH1	2.08	0.67
2:B:155:LEU:HD22	2:B:157:ARG:O	1.95	0.67
5:E:15:ARG:NE	5:E:26:PHE:CD2	2.62	0.67
5:E:36:ASP:O	5:E:38:GLN:N	2.27	0.67
1:A:18:U:H2'	1:A:19:C:C6	2.29	0.67
1:A:1287:G:O2'	1:A:1288:A:H8	1.72	0.67
5:E:41:VAL:HG23	5:E:113:ALA:HA	1.76	0.67
7:G:146:GLU:HA	7:G:149:ARG:HB2	1.75	0.67
9:I:33:PHE:HZ	9:I:46:ALA:HB3	1.59	0.67
17:Q:27:PHE:O	17:Q:36:ILE:HG12	1.94	0.67
1:A:960:U:H4'	1:A:961:A:O5'	1.93	0.67
1:A:1269:A:H2'	1:A:1270:A:C8	2.30	0.67
3:C:3:ASN:C	3:C:4:LYS:HG2	2.19	0.67
3:C:26:LYS:H	3:C:26:LYS:CD	2.00	0.67
3:C:92:ALA:C	3:C:94:LEU:H	2.03	0.67
5:E:80:ILE:CD1	5:E:91:LEU:HD12	2.24	0.67
5:E:91:LEU:HD12	5:E:138:ALA:HB1	1.76	0.67
1:A:647:A:H2'	1:A:648:G:C8	2.29	0.67
1:A:1211:A:H2'	1:A:1212:C:H6	1.59	0.67
2:B:28:PHE:CD2	2:B:190:THR:HA	2.30	0.67
4:D:103:ASN:O	4:D:106:TYR:N	2.27	0.67
1:A:386:C:O3'	16:P:28:ARG:NH2	2.28	0.67
1:A:799:A:H5''	1:A:801:C:N4	2.10	0.67
1:A:1040:G:C5'	3:C:154:SER:HB2	2.24	0.67
1:A:1486:G:H2'	1:A:1487:C:C6	2.26	0.67
9:I:118:LYS:O	9:I:119:ALA:HB3	1.94	0.67
12:L:28:LYS:CD	12:L:33:ARG:HH22	1.92	0.67
2:B:52:GLU:HG2	2:B:56:ARG:NH2	2.09	0.67
10:J:29:ARG:HB2	10:J:84:GLN:HE22	1.60	0.67
10:J:71:LEU:O	10:J:72:VAL:HB	1.93	0.67
11:K:36:ASP:N	11:K:36:ASP:OD2	2.28	0.67
11:K:82:VAL:HB	11:K:108:ILE:HA	1.77	0.67
20:T:56:MET:O	20:T:59:ALA:HB3	1.94	0.67
1:A:243:G:OP2	17:Q:99:SER:HB2	1.94	0.67
1:A:930:U:O2'	1:A:931:G:H5'	1.94	0.67
1:A:1338:G:H2'	1:A:1339:A:C8	2.30	0.67
1:A:1482:G:O2'	1:A:1483:G:OP2	2.12	0.67
2:B:25:ASN:HD22	2:B:25:ASN:C	2.03	0.67
16:P:8:ARG:HG2	16:P:17:TYR:CE2	2.30	0.67
17:Q:20:THR:HG23	17:Q:43:LEU:HD21	1.77	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1274:U:H5'	9:I:38:GLN:HE22	1.59	0.67
1:A:1496:A:H2'	1:A:1497:A:C8	2.30	0.67
2:B:152:PHE:CE1	2:B:155:LEU:HD12	2.30	0.67
4:D:61:LYS:HD2	4:D:207:TYR:OH	1.95	0.67
15:O:7:GLU:O	15:O:11:VAL:HG23	1.94	0.67
15:O:27:VAL:HG12	15:O:31:LEU:HD11	1.77	0.67
17:Q:56:VAL:HG12	17:Q:77:VAL:HB	1.77	0.67
19:S:42:PRO:O	19:S:45:VAL:HG23	1.95	0.67
1:A:283:U:H2'	1:A:284:A:H8	1.60	0.67
1:A:1377:A:N6	1:A:1479:C:H5'	2.10	0.67
2:B:88:ALA:HB1	2:B:90:MET:HG2	1.77	0.67
3:C:13:GLY:O	3:C:14:ILE:HD13	1.95	0.67
4:D:149:ALA:O	4:D:150:GLU:C	2.38	0.67
4:D:190:ASP:O	4:D:192:GLU:N	2.28	0.67
9:I:79:LEU:O	9:I:82:ALA:HB3	1.95	0.67
13:M:36:LYS:HD2	13:M:59:TYR:CZ	2.30	0.67
1:A:529:C:O2'	1:A:530:G:H5'	1.95	0.66
1:A:720:C:H2'	1:A:721:A:C8	2.30	0.66
1:A:1047:G:H4'	1:A:1048:U:H5''	1.76	0.66
2:B:100:GLY:O	2:B:102:LEU:N	2.28	0.66
5:E:75:THR:HG23	5:E:76:ILE:N	2.08	0.66
10:J:94:VAL:HG12	10:J:95:GLU:N	2.08	0.66
1:A:1020:C:H2'	1:A:1021:C:C6	2.30	0.66
1:A:1263:U:H5'	1:A:1264:C:H5	1.59	0.66
2:B:121:LEU:O	2:B:127:ILE:HG12	1.94	0.66
6:F:46:ARG:HB2	6:F:60:PHE:CE1	2.30	0.66
10:J:45:ARG:HB3	10:J:45:ARG:NH1	1.99	0.66
1:A:250:G:OP1	17:Q:67:LYS:O	2.13	0.66
1:A:721:A:H2'	1:A:722:C:H6	1.60	0.66
1:A:1477:A:P	22:A:1523:KSG:H12	2.35	0.66
2:B:142:LEU:CA	2:B:146:GLN:HE22	2.08	0.66
5:E:121:LYS:HE3	5:E:122:GLU:O	1.95	0.66
9:I:42:ARG:O	9:I:43:ALA:C	2.39	0.66
13:M:80:ARG:C	13:M:82:MET:H	2.03	0.66
19:S:43:GLU:H	19:S:43:GLU:CD	2.04	0.66
1:A:75:C:H2'	1:A:76:G:H8	1.61	0.66
1:A:1135:A:H5''	10:J:13:HIS:HD2	1.59	0.66
1:A:1225:C:H2'	1:A:1226:C:H6	1.61	0.66
1:A:1260:U:H5''	1:A:1261:A:O4'	1.95	0.66
1:A:1403:C:H2'	1:A:1404:G:H8	1.61	0.66
2:B:156:LYS:O	2:B:156:LYS:HD3	1.95	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:36:ASP:C	5:E:38:GLN:H	2.03	0.66
1:A:474:C:H2'	1:A:475:G:C8	2.31	0.66
1:A:745:G:H4'	17:Q:102:GLY:C	2.19	0.66
1:A:1351:G:OP1	10:J:62:HIS:HE1	1.78	0.66
3:C:100:ALA:O	3:C:101:LEU:HB2	1.94	0.66
7:G:75:VAL:HG11	7:G:86:GLN:HB3	1.77	0.66
14:N:11:LYS:O	14:N:12:ARG:C	2.38	0.66
1:A:1225:C:H2'	1:A:1226:C:C6	2.30	0.66
4:D:13:ARG:NH1	4:D:38:TYR:O	2.29	0.66
4:D:107:ARG:HH12	4:D:114:ARG:HH22	1.43	0.66
19:S:28:LYS:CG	19:S:29:ARG:H	1.92	0.66
20:T:66:ALA:HB1	20:T:72:LEU:HB2	1.78	0.66
1:A:385:A:C2'	1:A:386:C:H5'	2.26	0.66
1:A:522:G:H4'	12:L:114:LYS:HD3	1.78	0.66
1:A:579:G:H2'	1:A:625:U:O4	1.96	0.66
2:B:93:VAL:HG11	2:B:97:TRP:CD1	2.31	0.66
9:I:43:ALA:HA	9:I:74:ILE:HD13	1.77	0.66
17:Q:74:LEU:O	17:Q:74:LEU:HD23	1.96	0.66
21:U:12:LYS:HG3	21:U:17:THR:OG1	1.95	0.66
1:A:380:G:H2'	1:A:381:C:C6	2.31	0.66
1:A:540:C:H2'	1:A:541:G:H5'	1.78	0.66
1:A:758:G:H1	1:A:789:C:H42	1.42	0.66
3:C:82:GLU:O	3:C:85:ARG:HB3	1.94	0.66
16:P:22:THR:HA	16:P:33:ILE:CD1	2.26	0.66
16:P:55:ARG:O	16:P:58:TYR:HB3	1.95	0.66
1:A:271:G:H5'	17:Q:14:LYS:HD3	1.76	0.66
1:A:802:G:O2'	1:A:804:U:C5	2.48	0.66
1:A:1373:U:H2'	1:A:1374:U:H6	1.61	0.66
3:C:23:TYR:CD2	3:C:24:ALA:N	2.64	0.66
4:D:36:ARG:N	4:D:37:PRO:HD3	2.10	0.66
5:E:10:MET:HE1	5:E:13:ILE:HD13	1.75	0.66
7:G:12:LEU:HD12	7:G:12:LEU:N	2.11	0.66
7:G:64:GLN:O	7:G:67:GLU:HB3	1.96	0.66
8:H:86:ILE:HD12	8:H:133:LEU:HD22	1.78	0.66
11:K:57:THR:HG23	11:K:60:ALA:CB	2.26	0.66
16:P:20:VAL:HG13	16:P:21:VAL:N	2.09	0.66
17:Q:92:ARG:O	17:Q:95:TYR:HB2	1.96	0.66
18:R:39:VAL:HG13	18:R:40:LEU:H	1.60	0.66
19:S:16:LEU:C	19:S:18:LYS:H	2.04	0.66
1:A:749:G:N1	1:A:796:C:H2'	2.10	0.66
1:A:767:C:O2'	1:A:768:C:H5'	1.94	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:964:A:H1'	19:S:54:GLY:O	1.95	0.66
1:A:1489:G:O2'	1:A:1490:U:H5'	1.96	0.66
4:D:31:CYS:O	4:D:31:CYS:SG	2.54	0.66
11:K:67:ASP:HA	11:K:70:LYS:HD2	1.77	0.66
17:Q:97:SER:HB2	17:Q:102:GLY:C	2.20	0.66
1:A:266:A:H2'	1:A:267:C:C6	2.31	0.65
1:A:609:G:H2'	1:A:610:U:H6	1.57	0.65
1:A:1488:U:H2'	1:A:1489:G:C8	2.31	0.65
3:C:125:GLU:C	3:C:127:ARG:H	2.02	0.65
3:C:174:PRO:HB2	3:C:177:THR:HG22	1.77	0.65
5:E:144:THR:CG2	5:E:145:LYS:N	2.57	0.65
7:G:148:ASN:O	7:G:150:ALA:N	2.28	0.65
15:O:73:GLU:OE1	15:O:73:GLU:HA	1.95	0.65
19:S:16:LEU:O	19:S:19:VAL:HG12	1.96	0.65
1:A:424:G:C2	1:A:426:A:N6	2.63	0.65
1:A:552:G:N2	1:A:861:C:C2	2.65	0.65
1:A:671:A:H4'	1:A:672:G:O5'	1.95	0.65
1:A:1151:A:H8	1:A:1151:A:O5'	1.79	0.65
2:B:32:ILE:HD13	2:B:40:HIS:CD2	2.31	0.65
3:C:179:ARG:HD2	3:C:179:ARG:C	2.21	0.65
6:F:10:LEU:HA	6:F:86:ARG:HG2	1.78	0.65
7:G:25:ALA:HA	7:G:28:ASN:HD22	1.60	0.65
14:N:22:THR:HB	14:N:33:VAL:CG2	2.25	0.65
4:D:140:VAL:CG1	4:D:146:ILE:HD11	2.21	0.65
5:E:115:VAL:HG21	5:E:118:ILE:HD11	1.78	0.65
17:Q:81:ARG:HG3	17:Q:81:ARG:O	1.96	0.65
17:Q:82:MET:O	17:Q:84:LEU:N	2.29	0.65
18:R:87:ARG:HG2	18:R:87:ARG:NH1	2.11	0.65
20:T:67:ALA:HA	20:T:73:HIS:H	1.61	0.65
1:A:867:A:H4'	1:A:868:G:OP1	1.96	0.65
4:D:96:LEU:O	4:D:99:SER:N	2.28	0.65
4:D:104:VAL:HG21	4:D:140:VAL:HG21	1.77	0.65
6:F:82:ARG:HA	6:F:82:ARG:HE	1.61	0.65
12:L:53:ARG:H	12:L:53:ARG:HD2	1.61	0.65
12:L:55:VAL:HG12	12:L:56:ALA:N	2.11	0.65
1:A:176:G:O2'	1:A:177:U:OP2	2.10	0.65
1:A:483:A:H4'	1:A:484:G:OP1	1.96	0.65
1:A:799:A:O2'	1:A:800:A:P	2.54	0.65
1:A:1295:U:OP2	19:S:6:LYS:HA	1.96	0.65
14:N:6:LEU:HB3	14:N:23:ARG:NH2	2.11	0.65
1:A:622:G:O2'	1:A:623:G:H5'	1.96	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:188:LEU:HD11	3:C:195:VAL:CG1	2.23	0.65
18:R:58:LEU:HD11	18:R:66:LEU:HD13	1.77	0.65
1:A:501:G:O2'	1:A:514:G:H4'	1.95	0.65
1:A:724:U:O2'	1:A:725:G:H5'	1.95	0.65
1:A:1251:A:C2	1:A:1295:U:O4'	2.50	0.65
2:B:142:LEU:CD2	2:B:146:GLN:HE22	2.09	0.65
7:G:38:LEU:O	7:G:42:ILE:HG13	1.96	0.65
10:J:38:ILE:HG13	10:J:71:LEU:HB3	1.79	0.65
10:J:78:ASN:O	10:J:80:LYS:N	2.30	0.65
11:K:77:MET:HE3	11:K:80:VAL:HG22	1.79	0.65
12:L:53:ARG:HD2	12:L:53:ARG:N	2.11	0.65
15:O:36:ILE:HA	15:O:59:MET:CE	2.27	0.65
18:R:29:PHE:HE1	18:R:31:LEU:CD2	2.10	0.65
1:A:860:C:O2'	1:A:861:C:H5'	1.96	0.65
1:A:903:G:C6	1:A:905:G:N7	2.64	0.65
1:A:994:A:H2'	1:A:995:A:C8	2.32	0.65
1:A:1220:A:N7	1:A:1285:C:H1'	2.11	0.65
3:C:6:HIS:CD2	3:C:9:GLY:H	2.07	0.65
3:C:64:VAL:HB	3:C:99:VAL:CB	2.27	0.65
3:C:107:GLN:H	3:C:107:GLN:CD	2.05	0.65
1:A:199:U:H2'	1:A:200:C:C6	2.31	0.65
1:A:670:U:H1'	11:K:42:TRP:HE1	1.62	0.65
1:A:1482:G:H4'	1:A:1483:G:O5'	1.97	0.65
3:C:54:ARG:HB3	3:C:69:HIS:CD2	2.32	0.65
5:E:70:PRO:O	5:E:71:LEU:C	2.39	0.65
7:G:46:ALA:O	7:G:50:ILE:HG13	1.97	0.65
13:M:13:LYS:O	13:M:14:ARG:C	2.39	0.65
19:S:22:LEU:HD11	19:S:31:ILE:HD11	1.79	0.65
1:A:106:G:H21	1:A:350:G:C5'	2.03	0.65
1:A:1435:G:O2'	1:A:1436:G:H5'	1.98	0.65
3:C:112:SER:HB2	3:C:115:LEU:HB2	1.78	0.65
4:D:203:VAL:O	4:D:206:PHE:N	2.30	0.65
6:F:1:MET:SD	6:F:67:MET:HA	2.37	0.65
10:J:6:ILE:O	10:J:71:LEU:O	2.14	0.65
12:L:5:PRO:HA	12:L:9:GLN:OE1	1.97	0.65
13:M:5:ALA:HB3	13:M:8:GLU:HG3	1.78	0.65
15:O:87:ILE:HG22	15:O:88:ARG:N	2.10	0.65
1:A:40:G:O2'	1:A:41:C:H5'	1.97	0.64
1:A:400:U:H2'	1:A:401:U:H6	1.59	0.64
1:A:943:A:O2'	1:A:944:G:H5'	1.98	0.64
1:A:1198:G:H5''	14:N:5:ALA:HB2	1.79	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:T:66:ALA:CB	20:T:72:LEU:HB2	2.27	0.64
1:A:142:G:O2'	1:A:143:G:H5'	1.97	0.64
1:A:698:G:H2'	1:A:699:A:C8	2.31	0.64
1:A:1108:U:H3	10:J:5:ARG:HH21	1.44	0.64
11:K:44:SER:OG	11:K:47:VAL:HG23	1.97	0.64
13:M:108:ARG:O	13:M:112:GLY:N	2.24	0.64
14:N:26:ARG:NH1	14:N:47:LEU:HG	2.11	0.64
16:P:21:VAL:HG12	16:P:33:ILE:HD12	1.79	0.64
19:S:30:LEU:HD23	19:S:48:THR:O	1.97	0.64
1:A:1480:A:H2	1:A:1483:G:N1	1.85	0.64
5:E:88:LYS:HB3	5:E:123:LEU:HB2	1.79	0.64
13:M:65:LYS:CE	13:M:69:GLU:HG2	2.25	0.64
18:R:45:SER:C	18:R:47:THR:N	2.52	0.64
1:A:953:A:H4'	1:A:954:G:OP2	1.96	0.64
1:A:1465:G:H2'	1:A:1466:G:H8	1.62	0.64
1:A:1491:A:H2'	1:A:1492:C:C6	2.32	0.64
2:B:23:ARG:C	2:B:23:ARG:NH1	2.55	0.64
3:C:113:ALA:HB3	3:C:114:PRO:HD3	1.77	0.64
4:D:203:VAL:HG12	4:D:204:ILE:N	2.11	0.64
9:I:28:VAL:HA	9:I:63:ILE:O	1.97	0.64
1:A:647:A:H2'	1:A:648:G:H8	1.63	0.64
1:A:1211:A:H2'	1:A:1212:C:C6	2.32	0.64
1:A:1335:G:H2'	1:A:1336:C:H6	1.61	0.64
1:A:1354:G:O3'	9:I:69:GLY:HA3	1.97	0.64
2:B:22:LYS:C	2:B:23:ARG:HG3	2.23	0.64
3:C:52:LEU:HD21	3:C:118:GLN:HE22	1.62	0.64
4:D:104:VAL:HG11	4:D:146:ILE:CD1	2.27	0.64
5:E:39:GLY:HA2	5:E:113:ALA:O	1.97	0.64
10:J:12:ASP:HB3	10:J:15:THR:CB	2.27	0.64
12:L:55:VAL:HG13	12:L:68:ALA:O	1.97	0.64
17:Q:10:VAL:O	17:Q:53:LEU:HD12	1.97	0.64
19:S:5:LEU:O	19:S:6:LYS:HB2	1.97	0.64
19:S:47:HIS:O	19:S:62:ILE:HG22	1.98	0.64
1:A:646:G:H2'	1:A:647:A:C8	2.32	0.64
1:A:900:G:H2'	1:A:901:A:H8	1.62	0.64
1:A:926:C:O2'	1:A:927:A:H5'	1.96	0.64
1:A:50:U:H1'	12:L:28:LYS:NZ	2.13	0.64
1:A:271:G:H5'	17:Q:14:LYS:HB3	1.80	0.64
1:A:678:A:H5'	11:K:53:SER:HB2	1.77	0.64
1:A:776:A:H4'	1:A:777:U:H5''	1.79	0.64
1:A:1246:C:H2'	1:A:1247:G:C8	2.32	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1288:A:H62	1:A:1313:G:H1'	1.59	0.64
1:A:1403:C:H2'	1:A:1404:G:C8	2.32	0.64
3:C:26:LYS:HD3	3:C:26:LYS:N	2.11	0.64
7:G:24:THR:O	7:G:28:ASN:ND2	2.31	0.64
9:I:48:GLU:N	9:I:49:PRO:HD2	2.11	0.64
11:K:19:ALA:HB2	11:K:80:VAL:HG11	1.78	0.64
14:N:9:LYS:HD3	14:N:9:LYS:C	2.22	0.64
1:A:634:G:C2'	1:A:635:C:H5'	2.27	0.64
1:A:1109:U:H2'	1:A:1110:G:O4'	1.98	0.64
5:E:36:ASP:C	5:E:38:GLN:N	2.55	0.64
7:G:92:SER:HB2	7:G:93:PRO:HD2	1.80	0.64
9:I:17:VAL:HG22	9:I:63:ILE:HD13	1.79	0.64
12:L:117:ARG:O	12:L:119:LYS:O	2.16	0.64
18:R:66:LEU:HD21	18:R:70:ILE:HD11	1.79	0.64
1:A:831:G:O2'	1:A:832:G:H5'	1.98	0.64
2:B:130:ARG:HH21	3:C:207:VAL:HG22	1.63	0.64
4:D:30:LYS:C	4:D:32:ALA:H	2.04	0.64
4:D:70:ILE:HG22	4:D:71:SER:N	2.11	0.64
4:D:109:GLY:C	4:D:111:ALA:H	2.05	0.64
19:S:11:VAL:HG13	19:S:38:SER:HB2	1.80	0.64
1:A:95:A:H2'	1:A:96:G:H8	1.63	0.64
1:A:540:C:C2'	1:A:541:G:H5'	2.27	0.64
1:A:739:G:OP2	15:O:65:ARG:HG2	1.97	0.64
1:A:858:C:O2'	1:A:859:G:H5'	1.97	0.64
1:A:1489:G:H2'	1:A:1490:U:O4'	1.97	0.64
4:D:9:CYS:O	4:D:13:ARG:HG3	1.98	0.64
12:L:93:LEU:HB3	12:L:96:VAL:HG21	1.80	0.64
1:A:340:A:H5''	1:A:341:C:H5	1.63	0.63
1:A:719:C:O2'	1:A:720:C:H5'	1.97	0.63
1:A:947:A:N6	13:M:126:LYS:HB2	2.13	0.63
2:B:178:ARG:NH2	8:H:74:PRO:HG3	2.12	0.63
4:D:119:GLN:HG2	4:D:123:HIS:CD2	2.32	0.63
10:J:19:SER:CB	10:J:91:PRO:HG3	2.28	0.63
15:O:31:LEU:O	15:O:34:LEU:HB3	1.98	0.63
1:A:25:U:H2'	1:A:26:C:C6	2.32	0.63
1:A:506:C:H41	12:L:53:ARG:HH22	1.45	0.63
1:A:835:C:H2'	1:A:836:G:O4'	1.98	0.63
1:A:952:A:P	14:N:29:ARG:HH22	2.20	0.63
1:A:999:U:H2'	1:A:1000:G:H8	1.62	0.63
3:C:142:MET:HE1	3:C:148:GLY:N	2.13	0.63
4:D:82:ALA:HB1	4:D:92:VAL:HB	1.79	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:76:ILE:O	5:E:93:PRO:HB3	1.98	0.63
6:F:48:LEU:HD22	18:R:77:GLY:HA3	1.80	0.63
12:L:86:ARG:HH11	12:L:86:ARG:HG3	1.62	0.63
1:A:1383:C:C4'	1:A:1384:G:OP2	2.47	0.63
1:A:1465:G:O2'	1:A:1466:G:H5'	1.97	0.63
2:B:46:LYS:O	2:B:47:THR:C	2.42	0.63
2:B:77:ALA:O	2:B:78:GLN:C	2.41	0.63
18:R:55:ARG:O	18:R:56:THR:C	2.42	0.63
20:T:43:LEU:HD12	20:T:52:ALA:HA	1.79	0.63
20:T:91:LEU:C	20:T:93:GLU:H	2.06	0.63
1:A:750:A:C8	1:A:798:A:N6	2.67	0.63
1:A:781:C:OP1	11:K:124:LYS:HG3	1.99	0.63
1:A:1385:C:O2	1:A:1478:A:N1	2.31	0.63
2:B:29:ALA:O	2:B:31:TYR:N	2.31	0.63
3:C:177:THR:O	3:C:179:ARG:N	2.31	0.63
11:K:17:GLY:O	11:K:80:VAL:HA	1.99	0.63
11:K:87:THR:HA	11:K:91:ARG:HH21	1.63	0.63
12:L:119:LYS:O	12:L:120:TYR:HB2	1.99	0.63
20:T:55:ILE:O	20:T:56:MET:C	2.41	0.63
1:A:181:C:H2'	1:A:182:C:H6	1.63	0.63
1:A:545:U:O2'	1:A:546:C:OP2	2.16	0.63
1:A:654:G:H2'	1:A:655:G:O4'	1.99	0.63
4:D:162:LEU:HD12	4:D:181:MET:HE2	1.79	0.63
12:L:75:HIS:HD2	12:L:77:LEU:HB2	1.63	0.63
20:T:26:ASN:O	20:T:29:LYS:HB2	1.98	0.63
1:A:33:A:H2'	1:A:34:A:C8	2.34	0.63
2:B:89:GLY:H	2:B:226:ARG:HH22	1.45	0.63
3:C:33:LEU:HD23	3:C:33:LEU:C	2.23	0.63
3:C:105:GLU:O	3:C:107:GLN:NE2	2.31	0.63
4:D:65:ARG:HD2	4:D:75:PHE:HB2	1.81	0.63
4:D:177:ASP:O	4:D:178:VAL:C	2.40	0.63
8:H:120:THR:O	8:H:121:ASP:C	2.42	0.63
11:K:57:THR:HG23	11:K:60:ALA:HB2	1.80	0.63
17:Q:44:ALA:HB1	17:Q:73:VAL:HG22	1.79	0.63
18:R:37:VAL:CG2	18:R:78:LEU:HB3	2.27	0.63
1:A:452:C:H2'	1:A:453:C:C6	2.34	0.63
1:A:675:G:O2'	1:A:781:C:H4'	1.99	0.63
1:A:677:G:H1'	22:A:1524:KSG:H6	1.79	0.63
1:A:1482:G:HO2'	1:A:1483:G:P	2.21	0.63
2:B:89:GLY:H	2:B:226:ARG:NH2	1.97	0.63
6:F:3:ARG:NH2	6:F:64:GLN:HE22	1.95	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:47:LYS:CB	12:L:48:PRO:CD	2.75	0.63
1:A:1120:C:H4'	1:A:1121:G:N2	2.14	0.63
7:G:23:VAL:HG13	7:G:43:PHE:CE2	2.34	0.63
10:J:82:ILE:O	10:J:86:MET:HB2	1.99	0.63
1:A:199:U:H2'	1:A:200:C:H6	1.64	0.63
1:A:372:G:H5''	16:P:5:ARG:HD2	1.81	0.63
6:F:40:VAL:HG23	6:F:62:TRP:O	1.99	0.63
10:J:12:ASP:CB	10:J:15:THR:HB	2.28	0.63
10:J:54:PHE:HD2	10:J:55:LYS:HG2	1.64	0.63
12:L:60:LEU:HD21	12:L:66:VAL:HG22	1.80	0.63
13:M:23:TYR:HB3	13:M:67:GLU:HA	1.80	0.63
19:S:20:LEU:HD12	19:S:21:GLU:N	2.14	0.63
1:A:146:A:H2'	1:A:147:A:O4'	1.99	0.62
1:A:889:U:O2'	1:A:890:C:H5'	1.99	0.62
1:A:1364:U:O2'	1:A:1365:C:H5'	1.98	0.62
3:C:47:LEU:H	3:C:47:LEU:CD1	2.11	0.62
3:C:83:ARG:O	3:C:85:ARG:N	2.31	0.62
5:E:135:THR:O	5:E:136:MET:C	2.41	0.62
11:K:120:ARG:NH1	11:K:126:ARG:HD2	2.14	0.62
17:Q:17:LYS:HA	17:Q:46:ASP:O	1.99	0.62
1:A:42:G:H2'	1:A:43:G:H8	1.63	0.62
1:A:170:C:H2'	1:A:171:C:H6	1.63	0.62
1:A:287:C:O2'	1:A:288:G:H5'	1.98	0.62
1:A:1453:G:H2'	1:A:1454:G:C8	2.34	0.62
2:B:134:GLU:C	2:B:136:VAL:N	2.57	0.62
3:C:174:PRO:O	3:C:177:THR:HG22	1.98	0.62
4:D:150:GLU:HA	4:D:153:ARG:HG3	1.81	0.62
5:E:71:LEU:CD1	5:E:114:GLY:HA3	2.28	0.62
1:A:20:C:H2'	1:A:21:U:H6	1.63	0.62
1:A:552:G:O6	12:L:5:PRO:HG3	1.99	0.62
1:A:673:C:H42	1:A:682:G:H1	1.45	0.62
1:A:733:C:H2'	1:A:734:G:H8	1.64	0.62
1:A:773:U:H2'	1:A:775:G:OP2	1.99	0.62
12:L:47:LYS:HB3	12:L:48:PRO:HD3	1.81	0.62
15:O:32:LEU:HD13	15:O:63:ARG:HB2	1.82	0.62
17:Q:43:LEU:CD1	17:Q:68:ARG:NH1	2.62	0.62
17:Q:87:LYS:O	17:Q:88:TYR:C	2.41	0.62
18:R:39:VAL:CG1	18:R:40:LEU:N	2.62	0.62
1:A:1012:G:O2'	1:A:1013:A:H5'	1.99	0.62
1:A:1020:C:H2'	1:A:1021:C:H6	1.63	0.62
1:A:1373:U:H2'	1:A:1374:U:C6	2.35	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:23:ARG:HH11	2:B:24:TRP:N	1.97	0.62
4:D:106:TYR:C	4:D:106:TYR:CD2	2.76	0.62
11:K:34:ASP:OD2	11:K:38:ASN:HB2	2.00	0.62
17:Q:12:SER:HB3	17:Q:20:THR:CB	2.29	0.62
18:R:39:VAL:CG1	18:R:40:LEU:H	2.12	0.62
20:T:69:GLY:O	20:T:73:HIS:ND1	2.33	0.62
1:A:925:G:H2'	1:A:926:C:C6	2.35	0.62
1:A:1320:G:H2'	1:A:1321:A:C8	2.33	0.62
1:A:1329:G:N2	1:A:1356:G:H2'	2.13	0.62
1:A:1396:A:H2	1:A:1465:G:N2	1.91	0.62
1:A:1466:G:H2'	1:A:1467:G:C8	2.35	0.62
2:B:25:ASN:HD22	2:B:26:PRO:HD2	1.65	0.62
2:B:25:ASN:C	2:B:25:ASN:ND2	2.56	0.62
2:B:100:GLY:C	2:B:102:LEU:N	2.57	0.62
4:D:8:VAL:C	4:D:10:ARG:H	2.08	0.62
5:E:11:ILE:O	5:E:12:LEU:HB3	1.99	0.62
5:E:144:THR:CG2	5:E:145:LYS:H	2.11	0.62
7:G:145:ALA:C	7:G:147:ALA:N	2.51	0.62
10:J:3:LYS:C	10:J:100:THR:HG23	2.24	0.62
12:L:126:LYS:HD2	12:L:126:LYS:H	1.64	0.62
15:O:87:ILE:O	15:O:88:ARG:HB2	1.99	0.62
16:P:20:VAL:CG2	16:P:35:LYS:HA	2.30	0.62
1:A:762:G:O5'	1:A:762:G:H8	1.82	0.62
3:C:195:VAL:C	3:C:196:LEU:HD23	2.23	0.62
7:G:108:ALA:O	7:G:111:ARG:HG3	2.00	0.62
9:I:86:VAL:O	9:I:87:GLN:C	2.41	0.62
11:K:48:ILE:HD11	11:K:64:ALA:N	2.15	0.62
13:M:8:GLU:OE1	13:M:22:ILE:HA	1.99	0.62
1:A:984:A:C2'	1:A:985:C:H5'	2.30	0.62
1:A:1192:C:H4'	1:A:1196:C:C4	2.34	0.62
1:A:1437:C:H5''	20:T:27:LYS:NZ	2.14	0.62
2:B:109:SER:HA	2:B:112:VAL:HG23	1.82	0.62
2:B:140:HIS:O	2:B:141:GLU:C	2.41	0.62
14:N:37:PHE:HB3	14:N:39:LEU:HD12	1.79	0.62
2:B:93:VAL:HG11	2:B:97:TRP:HD1	1.63	0.62
3:C:119:ARG:O	3:C:123:GLN:HG3	1.99	0.62
13:M:5:ALA:CB	13:M:22:ILE:HD13	2.29	0.62
13:M:23:TYR:HE2	13:M:70:LEU:HB3	1.62	0.62
1:A:101:G:H2'	1:A:102:G:H5'	1.82	0.62
1:A:373:G:OP1	16:P:3:LYS:HD2	2.00	0.62
1:A:847:G:H4'	1:A:850:A:C8	2.35	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:100:GLY:C	2:B:102:LEU:H	2.06	0.62
2:B:230:VAL:HG13	2:B:231:GLU:OE2	2.00	0.62
3:C:68:VAL:HG12	3:C:70:VAL:CG2	2.30	0.62
6:F:10:LEU:HD12	6:F:59:TYR:HB3	1.82	0.62
6:F:95:GLU:CD	6:F:95:GLU:H	2.06	0.62
1:A:251:G:C1'	17:Q:16:GLN:NE2	2.61	0.62
1:A:286:C:O2'	1:A:287:C:H5'	2.00	0.62
4:D:175:SER:O	4:D:183:GLY:HA2	2.00	0.62
12:L:47:LYS:HB2	12:L:48:PRO:CD	2.30	0.62
13:M:15:VAL:HG11	13:M:34:LEU:HD21	1.81	0.62
19:S:13:ASP:HA	19:S:16:LEU:HB3	1.82	0.62
20:T:31:SER:HA	20:T:34:LYS:HD2	1.82	0.62
1:A:423:U:OP2	4:D:36:ARG:NH2	2.33	0.61
1:A:564:U:H2'	1:A:565:G:O4'	2.00	0.61
1:A:620:U:H2'	1:A:621:G:H8	1.65	0.61
1:A:1421:G:H2'	1:A:1422:C:C6	2.35	0.61
2:B:76:GLN:HG3	2:B:206:ASP:OD1	1.99	0.61
2:B:114:ARG:NH1	2:B:118:LEU:HD21	2.14	0.61
3:C:161:GLU:HG2	3:C:161:GLU:O	2.00	0.61
3:C:201:TYR:N	3:C:201:TYR:CD1	2.68	0.61
4:D:105:VAL:HA	4:D:108:LEU:HD12	1.82	0.61
5:E:5:ASP:CG	5:E:6:PHE:H	2.07	0.61
6:F:69:GLU:HA	6:F:72:VAL:HG23	1.82	0.61
1:A:212:G:H2'	1:A:213:C:C6	2.34	0.61
1:A:407:A:C1'	1:A:409:G:H1'	2.30	0.61
1:A:1161:A:O3'	9:I:103:THR:HG23	2.00	0.61
1:A:1267:A:H4'	1:A:1268:A:O5'	1.98	0.61
2:B:28:PHE:O	2:B:29:ALA:C	2.43	0.61
5:E:80:ILE:HD11	5:E:91:LEU:CD1	2.28	0.61
11:K:48:ILE:CD1	11:K:63:LEU:HB2	2.28	0.61
1:A:38:U:O2'	1:A:484:G:H4'	1.99	0.61
1:A:398:G:O2'	1:A:399:C:H5'	1.99	0.61
1:A:443:A:H2'	1:A:444:C:C6	2.35	0.61
1:A:1050:A:O2'	1:A:1051:G:P	2.59	0.61
1:A:1127:G:N2	1:A:1129:A:H62	1.97	0.61
3:C:5:ILE:O	3:C:5:ILE:HD12	2.00	0.61
5:E:11:ILE:HG22	5:E:31:LEU:HB2	1.81	0.61
16:P:8:ARG:HB2	16:P:28:ARG:NH1	2.15	0.61
1:A:290:U:H2'	1:A:291:C:C6	2.34	0.61
1:A:454:G:H3'	1:A:455:A:C5'	2.31	0.61
1:A:562:C:O2'	1:A:712:A:N3	2.33	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:42:GLY:HA3	5:E:62:ALA:O	1.99	0.61
19:S:31:ILE:O	19:S:50:ALA:N	2.30	0.61
19:S:49:ILE:HD12	19:S:71:LEU:HD21	1.83	0.61
1:A:262:G:H5''	1:A:262:G:C8	2.36	0.61
1:A:706:A:H4'	1:A:707:U:C5	2.35	0.61
1:A:1169:G:C2	1:A:1170:A:C4	2.89	0.61
2:B:121:LEU:N	2:B:121:LEU:HD23	2.14	0.61
2:B:178:ARG:O	8:H:71:GLY:HA2	2.01	0.61
9:I:111:ARG:HD2	9:I:113:LYS:HG3	1.83	0.61
18:R:47:THR:HG22	18:R:48:GLY:N	2.15	0.61
1:A:945:C:C4'	9:I:128:ARG:HG3	2.28	0.61
2:B:22:LYS:O	2:B:23:ARG:HG3	2.00	0.61
2:B:30:ARG:HG3	2:B:31:TYR:CE2	2.35	0.61
8:H:88:LYS:HB3	8:H:89:PRO:HD2	1.83	0.61
12:L:6:THR:OG1	12:L:9:GLN:HG3	2.00	0.61
1:A:7:G:C4	5:E:119:LEU:HD11	2.36	0.61
1:A:775:G:C2'	1:A:776:A:H5'	2.29	0.61
2:B:149:LEU:O	2:B:151:GLY:N	2.34	0.61
4:D:65:ARG:HE	4:D:72:GLU:N	1.97	0.61
4:D:150:GLU:CD	4:D:150:GLU:N	2.53	0.61
17:Q:43:LEU:HD11	17:Q:68:ARG:NH1	2.16	0.61
19:S:22:LEU:HD22	19:S:28:LYS:HB2	1.81	0.61
1:A:268:C:O2'	1:A:269:A:H5'	2.00	0.61
1:A:576:G:O2'	1:A:577:G:H5'	2.01	0.61
1:A:603:U:C2	4:D:135:LEU:HD11	2.36	0.61
4:D:26:CYS:HA	4:D:31:CYS:HB2	1.82	0.61
5:E:41:VAL:HG21	5:E:113:ALA:HA	1.79	0.61
7:G:83:ALA:HB3	7:G:85:TYR:HE2	1.65	0.61
20:T:46:GLU:CB	20:T:48:LYS:HZ2	2.11	0.61
1:A:359:A:OP1	12:L:33:ARG:HG3	2.00	0.61
1:A:402:G:H5''	4:D:5:ILE:HG21	1.83	0.61
1:A:407:A:C4	1:A:409:G:H1'	2.36	0.61
1:A:737:A:H5'	1:A:738:C:C6	2.36	0.61
1:A:1403:C:O5'	1:A:1403:C:H6	1.83	0.61
4:D:61:LYS:HD3	4:D:206:PHE:CE2	2.36	0.61
4:D:194:LEU:HB3	4:D:196:LEU:HD12	1.82	0.61
5:E:139:LEU:HD22	5:E:142:LEU:CD1	2.22	0.61
17:Q:66:SER:O	17:Q:67:LYS:C	2.44	0.61
1:A:372:G:O2'	1:A:373:G:H5'	2.00	0.61
1:A:964:A:H2'	1:A:965:G:H8	1.66	0.61
2:B:17:PHE:HD1	2:B:18:GLY:N	1.99	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:190:ASP:N	4:D:193:ASP:OD2	2.34	0.61
8:H:44:PHE:HB3	8:H:80:ILE:HG12	1.83	0.61
9:I:5:TYR:CG	9:I:6:GLY:N	2.68	0.61
11:K:80:VAL:HG21	11:K:103:LEU:HD13	1.82	0.61
1:A:745:G:H1'	17:Q:103:GLY:O	2.01	0.60
2:B:17:PHE:HD1	2:B:17:PHE:C	2.09	0.60
2:B:20:GLU:HG3	2:B:189:ASP:OD2	2.01	0.60
5:E:13:ILE:HG22	5:E:30:ALA:CB	2.31	0.60
5:E:44:GLY:N	5:E:62:ALA:HB2	2.16	0.60
10:J:92:THR:HG22	10:J:92:THR:O	2.01	0.60
16:P:39:TYR:HB2	16:P:49:LEU:HD12	1.83	0.60
1:A:51:A:O2'	1:A:53:G:C8	2.54	0.60
1:A:1203:G:OP1	1:A:1303:C:N3	2.33	0.60
4:D:5:ILE:HA	4:D:115:ARG:NH2	2.16	0.60
4:D:151:LYS:HD2	4:D:151:LYS:N	2.13	0.60
7:G:12:LEU:HD12	7:G:12:LEU:H	1.63	0.60
7:G:111:ARG:HB3	7:G:113:GLU:OE2	2.00	0.60
7:G:122:HIS:CD2	7:G:125:MET:HE1	2.34	0.60
13:M:87:TYR:CE1	13:M:91:ARG:HD3	2.35	0.60
20:T:44:ALA:HB1	20:T:92:LEU:HG	1.83	0.60
1:A:332:C:H2'	1:A:333:C:H6	1.65	0.60
1:A:980:G:H2'	1:A:981:G:C8	2.36	0.60
1:A:993:A:H2'	1:A:994:A:C8	2.36	0.60
1:A:1302:C:O2'	1:A:1303:C:H5'	2.01	0.60
1:A:1350:C:H5'	10:J:60:ARG:NH1	2.16	0.60
2:B:17:PHE:C	2:B:17:PHE:CD1	2.78	0.60
3:C:132:ARG:HH22	4:D:47:ARG:NH1	1.97	0.60
12:L:98:TYR:N	12:L:98:TYR:CD1	2.69	0.60
14:N:9:LYS:HD3	14:N:9:LYS:O	2.01	0.60
18:R:62:GLU:O	18:R:65:ILE:N	2.34	0.60
1:A:9:A:H1'	5:E:102:ALA:C	2.27	0.60
1:A:42:G:H2'	1:A:43:G:C8	2.37	0.60
1:A:60:A:H3'	1:A:327:G:H22	1.66	0.60
1:A:1342:A:H2'	1:A:1343:G:O4'	2.01	0.60
3:C:177:THR:HG23	3:C:180:ALA:HB2	1.83	0.60
4:D:187:ARG:HD2	4:D:188:LEU:H	1.66	0.60
6:F:100:ASN:HD22	18:R:23:LYS:CG	2.14	0.60
7:G:113:GLU:CD	7:G:113:GLU:H	2.08	0.60
8:H:87:SER:HA	8:H:93:VAL:CG2	2.22	0.60
12:L:45:PRO:HG2	12:L:51:ALA:N	2.16	0.60
13:M:96:LEU:O	13:M:110:ARG:NH1	2.34	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:199:U:H1'	20:T:103:GLY:HA2	1.83	0.60
1:A:205:G:H2'	1:A:206:G:C8	2.35	0.60
3:C:97:LYS:O	3:C:98:ASN:HB3	2.01	0.60
3:C:188:LEU:O	3:C:189:ALA:HB2	2.00	0.60
14:N:44:LEU:HD12	14:N:44:LEU:O	2.02	0.60
19:S:10:PHE:C	19:S:10:PHE:CD2	2.79	0.60
1:A:190:U:O4	17:Q:63:ARG:N	2.31	0.60
1:A:702:G:H5'	1:A:703:C:OP2	2.01	0.60
1:A:745:G:C2	17:Q:105:ALA:HB3	2.37	0.60
1:A:1050:A:HO2'	1:A:1051:G:H8	1.48	0.60
1:A:1205:C:P	19:S:78:ARG:HH12	2.24	0.60
1:A:1333:U:H2'	1:A:1334:C:H6	1.67	0.60
7:G:68:ASN:ND2	7:G:128:ALA:HA	2.17	0.60
14:N:3:ARG:NH1	14:N:6:LEU:HD11	2.17	0.60
16:P:74:LEU:O	16:P:79:VAL:HG23	2.00	0.60
20:T:33:ILE:HD11	20:T:63:ILE:HA	1.84	0.60
1:A:521:G:H2'	1:A:522:G:C8	2.36	0.60
1:A:923:G:N2	1:A:1316:G:H4'	2.16	0.60
1:A:1140:A:H5''	1:A:1141:C:OP1	2.01	0.60
1:A:1175:G:O2'	1:A:1176:U:H5'	2.01	0.60
1:A:1245:C:H2'	1:A:1246:C:H6	1.66	0.60
1:A:1498:G:O2'	1:A:1499:G:H5'	2.01	0.60
1:A:1500:U:O2'	1:A:1501:G:H5'	2.01	0.60
4:D:12:CYS:HA	4:D:19:LEU:HD12	1.83	0.60
7:G:25:ALA:CA	7:G:28:ASN:HD22	2.14	0.60
10:J:30:SER:O	10:J:78:ASN:HB2	2.02	0.60
16:P:74:LEU:CB	16:P:79:VAL:HG21	2.25	0.60
20:T:39:LYS:HD2	20:T:55:ILE:HD13	1.82	0.60
1:A:79:G:H3'	1:A:80:U:H5''	1.83	0.60
1:A:469:G:H4'	1:A:470:G:O5'	2.01	0.60
1:A:757:G:C6	1:A:791:A:N6	2.69	0.60
1:A:1172:G:C2'	1:A:1173:A:OP2	2.50	0.60
1:A:1245:C:H2'	1:A:1246:C:C6	2.37	0.60
2:B:137:ARG:NH1	2:B:137:ARG:HB3	2.15	0.60
4:D:90:GLY:N	4:D:204:ILE:HD11	2.16	0.60
5:E:79:GLU:O	5:E:80:ILE:HG23	2.02	0.60
7:G:96:GLN:O	7:G:99:LEU:N	2.35	0.60
8:H:91:ARG:NH1	17:Q:33:GLY:HA3	2.16	0.60
15:O:27:VAL:HG12	15:O:31:LEU:CD1	2.31	0.60
16:P:67:THR:HG22	16:P:68:ASP:H	1.65	0.60
1:A:47:G:O2'	1:A:361:U:H1'	2.02	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:486:G:C2	1:A:487:C:C2	2.89	0.60
1:A:763:C:H2'	1:A:764:A:O4'	2.01	0.60
1:A:999:U:H2'	1:A:1000:G:C8	2.36	0.60
1:A:1000:G:H2'	1:A:1001:G:O4'	2.02	0.60
1:A:1153:G:H2'	1:A:1154:C:H6	1.67	0.60
3:C:134:ILE:O	3:C:138:VAL:HG23	2.02	0.60
4:D:8:VAL:HG13	4:D:21:LEU:HD13	1.83	0.60
10:J:30:SER:HB2	10:J:81:THR:N	2.16	0.60
1:A:214:C:H4'	1:A:456:C:N4	2.16	0.60
1:A:1439:G:H2'	1:A:1440:G:H8	1.67	0.60
6:F:75:LEU:O	6:F:75:LEU:HD13	2.02	0.60
9:I:92:TYR:O	9:I:93:ARG:C	2.45	0.60
15:O:3:ILE:HD12	15:O:3:ILE:N	2.17	0.60
18:R:47:THR:HG22	18:R:48:GLY:H	1.65	0.60
19:S:51:VAL:HG12	19:S:52:TYR:N	2.17	0.60
1:A:159:U:O2'	1:A:160:C:H5'	2.01	0.59
1:A:776:A:O2'	1:A:777:U:P	2.59	0.59
1:A:778:A:O2'	1:A:779:C:H5'	2.02	0.59
1:A:1336:C:O2'	1:A:1337:G:H5'	2.02	0.59
2:B:43:ASP:C	2:B:43:ASP:OD1	2.45	0.59
3:C:110:ASN:ND2	3:C:140:ARG:HB3	2.17	0.59
7:G:20:ASP:O	7:G:23:VAL:HB	2.01	0.59
14:N:14:PRO:C	14:N:16:PHE:N	2.55	0.59
1:A:378:A:H2'	1:A:379:A:H8	1.67	0.59
1:A:802:G:C3'	1:A:803:A:C5'	2.79	0.59
1:A:1324:C:O2'	1:A:1325:G:H5'	2.02	0.59
3:C:112:SER:O	3:C:113:ALA:C	2.45	0.59
4:D:64:LEU:HD23	4:D:198:VAL:CG1	2.31	0.59
5:E:144:THR:HB	5:E:147:ASP:OD2	2.02	0.59
11:K:99:GLN:HG2	11:K:105:VAL:HG21	1.84	0.59
1:A:110:A:H61	1:A:309:A:H1'	1.66	0.59
1:A:634:G:H2'	1:A:635:C:H5'	1.84	0.59
1:A:1128:C:O2'	1:A:1129:A:H8	1.84	0.59
1:A:1232:A:H2'	1:A:1233:A:C8	2.37	0.59
1:A:1280:C:N4	7:G:114:ARG:HB3	2.17	0.59
2:B:74:LYS:NZ	2:B:206:ASP:HB2	2.17	0.59
7:G:25:ALA:HA	7:G:28:ASN:ND2	2.16	0.59
7:G:115:ARG:HB2	7:G:118:VAL:HG23	1.84	0.59
15:O:9:GLN:HA	15:O:12:ILE:HD12	1.84	0.59
16:P:45:THR:HB	16:P:46:PRO:HD2	1.83	0.59
17:Q:24:GLU:CD	17:Q:37:LYS:HD3	2.28	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:540:C:H2'	1:A:541:G:C5'	2.31	0.59
1:A:545:U:HO2'	1:A:546:C:P	2.24	0.59
1:A:1103:G:H8	1:A:1103:G:O5'	1.85	0.59
1:A:1208:C:H5''	13:M:103:THR:HB	1.83	0.59
1:A:1220:A:H5'	1:A:1318:C:H41	1.67	0.59
1:A:1302:C:H2'	1:A:1303:C:O4'	2.03	0.59
2:B:142:LEU:O	2:B:143:GLU:C	2.44	0.59
5:E:107:ARG:O	5:E:108:ALA:C	2.44	0.59
5:E:145:LYS:O	5:E:145:LYS:HG2	2.02	0.59
7:G:96:GLN:O	7:G:97:GLN:C	2.45	0.59
20:T:49:ALA:O	20:T:50:GLU:C	2.44	0.59
20:T:93:GLU:HA	20:T:93:GLU:OE2	2.01	0.59
1:A:548:C:C6	17:Q:31:LEU:HD11	2.37	0.59
1:A:902:C:O2'	1:A:903:G:H5'	2.02	0.59
1:A:908:C:O2'	1:A:909:C:H5'	2.01	0.59
1:A:1022:C:O2'	1:A:1023:U:H5'	2.03	0.59
1:A:1219:C:H4'	1:A:1316:G:N2	2.15	0.59
1:A:1263:U:H5'	1:A:1264:C:C5	2.36	0.59
2:B:120:ALA:C	2:B:122:PHE:H	2.09	0.59
13:M:65:LYS:O	13:M:66:LEU:HD23	2.02	0.59
20:T:53:LEU:HD21	20:T:104:LEU:HD12	1.85	0.59
1:A:9:A:C6	4:D:209:ARG:HB2	2.36	0.59
1:A:443:A:OP2	1:A:470:G:N2	2.32	0.59
1:A:1164:G:O2'	1:A:1165:A:OP2	2.20	0.59
1:A:1183:A:H4'	1:A:1184:G:O5'	2.02	0.59
1:A:1233:A:H2'	1:A:1234:A:H8	1.66	0.59
2:B:83:MET:HE3	2:B:234:PRO:CG	2.33	0.59
3:C:10:PHE:CZ	3:C:178:LEU:HD13	2.38	0.59
3:C:32:LEU:O	3:C:35:GLU:HB3	2.02	0.59
3:C:33:LEU:HD11	14:N:53:LEU:HD22	1.84	0.59
4:D:32:ALA:C	4:D:34:GLU:N	2.56	0.59
5:E:42:GLY:C	5:E:62:ALA:HB1	2.26	0.59
7:G:151:TYR:HA	7:G:153:HIS:CE1	2.36	0.59
10:J:85:LEU:O	10:J:87:THR:N	2.36	0.59
12:L:27:LEU:O	12:L:29:GLY:N	2.34	0.59
12:L:117:ARG:O	12:L:119:LYS:N	2.35	0.59
15:O:36:ILE:HA	15:O:59:MET:HE1	1.85	0.59
18:R:29:PHE:HE1	18:R:31:LEU:HD23	1.68	0.59
20:T:66:ALA:HB3	20:T:72:LEU:HD12	1.84	0.59
1:A:41:C:H2'	1:A:42:G:C8	2.38	0.59
1:A:85:C:H2'	1:A:86:U:O4'	2.02	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:727:U:H2'	1:A:728:C:C6	2.38	0.59
1:A:924:A:H2'	1:A:925:G:C8	2.38	0.59
1:A:1135:A:C5'	10:J:13:HIS:CD2	2.82	0.59
2:B:59:GLU:O	2:B:60:ASP:C	2.45	0.59
3:C:150:LYS:O	3:C:200:ALA:HA	2.02	0.59
4:D:29:PRO:C	4:D:30:LYS:HG3	2.28	0.59
4:D:176:LEU:O	4:D:176:LEU:HD23	2.03	0.59
5:E:41:VAL:HG21	5:E:113:ALA:CA	2.33	0.59
5:E:122:GLU:OE1	5:E:131:ILE:HG21	2.03	0.59
12:L:83:VAL:CG2	12:L:100:ILE:HG23	2.33	0.59
15:O:32:LEU:O	15:O:33:THR:C	2.44	0.59
1:A:1203:G:O3'	19:S:77:THR:HG21	2.03	0.59
1:A:1423:C:H2'	1:A:1424:G:O4'	2.03	0.59
2:B:88:ALA:CB	2:B:90:MET:HG2	2.32	0.59
6:F:82:ARG:HB2	6:F:85:VAL:HB	1.84	0.59
8:H:83:ILE:O	8:H:83:ILE:CG2	2.50	0.59
15:O:24:SER:O	15:O:25:THR:C	2.46	0.59
18:R:88:LYS:OXT	18:R:88:LYS:HG2	2.02	0.59
1:A:1436:G:O2'	1:A:1437:C:H5'	2.03	0.59
3:C:154:SER:CB	3:C:197:GLY:H	2.16	0.59
10:J:67:THR:O	10:J:67:THR:HG22	2.03	0.59
12:L:47:LYS:HB2	12:L:48:PRO:HD3	1.84	0.59
13:M:87:TYR:CZ	13:M:91:ARG:HD3	2.37	0.59
15:O:10:LYS:HG3	15:O:11:VAL:N	2.17	0.59
1:A:732:C:H1'	1:A:733:C:H5	1.67	0.59
1:A:796:C:O2'	1:A:797:U:P	2.60	0.59
1:A:1390:C:H2'	1:A:1391:A:H8	1.67	0.59
5:E:78:HIS:CD2	8:H:107:LEU:HD12	2.38	0.59
11:K:77:MET:HE1	11:K:80:VAL:HG22	1.83	0.59
20:T:43:LEU:CD1	20:T:55:ILE:HD12	2.27	0.59
1:A:155:A:H2'	1:A:156:A:O4'	2.02	0.58
1:A:277:G:O2'	1:A:278:A:P	2.61	0.58
1:A:283:U:H2'	1:A:284:A:C8	2.38	0.58
1:A:563:G:C5'	1:A:712:A:H1'	2.27	0.58
1:A:787:G:H2'	1:A:788:U:C6	2.38	0.58
1:A:1111:C:H4'	9:I:16:ARG:NH1	2.19	0.58
1:A:1440:G:H2'	1:A:1441:C:H6	1.68	0.58
2:B:87:ARG:HD3	2:B:234:PRO:CD	2.33	0.58
3:C:113:ALA:HB1	3:C:185:GLY:N	2.17	0.58
3:C:167:TRP:O	3:C:168:ALA:CB	2.51	0.58
4:D:53:ASP:O	4:D:57:ARG:HD3	2.03	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:13:ILE:HA	5:E:29:GLY:O	2.03	0.58
12:L:110:VAL:O	12:L:122:THR:HG22	2.03	0.58
16:P:20:VAL:HG11	16:P:32:TYR:HB3	1.84	0.58
16:P:20:VAL:HG22	16:P:35:LYS:HA	1.85	0.58
16:P:58:TYR:O	16:P:61:SER:HB3	2.02	0.58
17:Q:8:GLY:HA3	17:Q:22:LEU:O	2.03	0.58
1:A:454:G:C3'	1:A:455:A:H5''	2.33	0.58
1:A:635:C:N3	1:A:636:U:C4	2.71	0.58
1:A:1305:G:H2'	1:A:1306:A:H8	1.68	0.58
1:A:1311:A:P	13:M:28:ALA:HB3	2.43	0.58
4:D:191:ARG:O	4:D:191:ARG:HD2	2.02	0.58
9:I:26:VAL:CB	9:I:33:PHE:HB2	2.30	0.58
13:M:79:LYS:C	13:M:82:MET:HB3	2.27	0.58
20:T:57:ARG:O	20:T:58:LYS:C	2.45	0.58
1:A:362:C:O2'	1:A:390:G:N2	2.36	0.58
1:A:1070:G:H2'	1:A:1071:G:H8	1.67	0.58
1:A:1308:C:OP1	21:U:12:LYS:NZ	2.36	0.58
4:D:59:ARG:NH2	4:D:62:GLN:HG3	2.17	0.58
4:D:152:SER:HB3	4:D:155:LEU:HD12	1.85	0.58
8:H:27:PRO:O	8:H:32:LYS:HE3	2.03	0.58
10:J:5:ARG:HB3	10:J:99:LYS:O	2.03	0.58
11:K:33:THR:OG1	11:K:37:GLY:C	2.46	0.58
11:K:34:ASP:C	11:K:36:ASP:H	2.11	0.58
13:M:10:PRO:O	13:M:45:VAL:HG11	2.04	0.58
15:O:56:LEU:HG	15:O:57:LEU:N	2.18	0.58
16:P:22:THR:HA	16:P:33:ILE:CG1	2.33	0.58
1:A:88:C:H2'	1:A:89:G:C8	2.38	0.58
1:A:708:G:C2	1:A:709:G:C8	2.91	0.58
1:A:1329:G:O2'	1:A:1330:U:P	2.61	0.58
1:A:1395:C:H2'	1:A:1396:A:C8	2.39	0.58
2:B:193:ASP:OD1	2:B:195:ASP:HB2	2.03	0.58
15:O:87:ILE:HG22	15:O:88:ARG:H	1.68	0.58
1:A:185:C:H2'	1:A:186:C:C6	2.38	0.58
1:A:536:U:O2'	1:A:537:A:H5'	2.02	0.58
1:A:787:G:H2'	1:A:788:U:H6	1.67	0.58
1:A:1287:G:C5'	21:U:4:GLY:HA3	2.32	0.58
4:D:39:PRO:HG2	4:D:44:GLY:HA2	1.85	0.58
4:D:151:LYS:H	4:D:151:LYS:CD	2.15	0.58
6:F:3:ARG:NH2	6:F:64:GLN:NE2	2.52	0.58
16:P:57:ARG:NH1	16:P:79:VAL:O	2.37	0.58
1:A:485:C:OP1	12:L:117:ARG:NH2	2.36	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:566:U:C2	1:A:744:G:C6	2.91	0.58
1:A:1021:C:H2'	1:A:1022:C:H6	1.67	0.58
1:A:1065:G:H2'	1:A:1066:U:O4'	2.04	0.58
3:C:20:SER:HB3	3:C:22:TRP:HE1	1.68	0.58
5:E:110:LEU:HD13	5:E:118:ILE:CD1	2.33	0.58
8:H:44:PHE:CE1	8:H:137:VAL:HG12	2.38	0.58
8:H:111:ILE:HB	8:H:135:CYS:SG	2.44	0.58
11:K:33:THR:HA	11:K:39:PRO:HA	1.86	0.58
12:L:54:LYS:N	12:L:54:LYS:HD2	2.19	0.58
12:L:60:LEU:HD11	12:L:85:ILE:HD12	1.84	0.58
13:M:94:ARG:HH12	19:S:81:ARG:HD3	1.68	0.58
16:P:67:THR:CG2	16:P:68:ASP:N	2.67	0.58
1:A:398:G:H1'	1:A:604:C:H42	1.69	0.58
1:A:707:U:O2	1:A:707:U:H2'	2.03	0.58
3:C:74:GLY:O	3:C:76:VAL:N	2.36	0.58
4:D:8:VAL:HG11	4:D:21:LEU:CB	2.33	0.58
4:D:122:ARG:NH2	4:D:134:ASP:OD2	2.36	0.58
9:I:95:LYS:C	9:I:98:PRO:HD2	2.28	0.58
16:P:39:TYR:HB2	16:P:49:LEU:CD1	2.34	0.58
1:A:20:C:H2'	1:A:21:U:C6	2.39	0.58
1:A:702:G:H4'	11:K:117:ASN:HD21	1.67	0.58
1:A:757:G:O2'	1:A:758:G:H5'	2.03	0.58
1:A:925:G:C5	1:A:926:C:C4	2.92	0.58
1:A:1001:G:H2'	1:A:1002:G:H8	1.67	0.58
1:A:1064:G:H5''	5:E:27:ARG:NH1	2.18	0.58
1:A:1099:C:C2'	1:A:1100:G:C5'	2.82	0.58
1:A:1287:G:OP1	21:U:2:GLY:N	2.37	0.58
1:A:1340:U:H3'	1:A:1341:C:C6	2.38	0.58
2:B:209:ARG:NE	2:B:239:VAL:HG11	2.18	0.58
4:D:8:VAL:HG11	4:D:21:LEU:HB3	1.84	0.58
4:D:149:ALA:O	4:D:152:SER:N	2.37	0.58
4:D:209:ARG:HG2	4:D:209:ARG:HH11	1.68	0.58
5:E:53:LEU:O	5:E:54:ALA:C	2.46	0.58
6:F:40:VAL:HG22	6:F:41:GLU:N	2.19	0.58
13:M:33:ALA:HA	13:M:59:TYR:HE2	1.68	0.58
13:M:79:LYS:HD3	13:M:83:ASP:OD2	2.04	0.58
1:A:228:G:O2'	1:A:229:C:H5'	2.03	0.58
1:A:379:A:H2'	1:A:380:G:H5'	1.85	0.58
1:A:575:U:H2'	1:A:576:G:C8	2.38	0.58
1:A:584:C:H42	1:A:622:G:H1	1.52	0.58
1:A:745:G:H2'	1:A:746:C:C6	2.39	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:950:C:H4'	10:J:57:LYS:HB3	1.86	0.58
1:A:1131:U:H4'	9:I:14:VAL:HG11	1.85	0.58
4:D:33:MET:SD	4:D:37:PRO:HA	2.44	0.58
4:D:64:LEU:O	4:D:64:LEU:HD13	2.03	0.58
7:G:114:ARG:HG2	7:G:114:ARG:HH11	1.69	0.58
9:I:126:SER:C	9:I:128:ARG:H	2.12	0.58
12:L:28:LYS:O	12:L:29:GLY:C	2.46	0.58
13:M:80:ARG:HG2	13:M:81:LEU:N	2.18	0.58
14:N:11:LYS:O	14:N:13:THR:N	2.37	0.58
21:U:2:GLY:O	21:U:4:GLY:N	2.36	0.58
1:A:187:C:H2'	1:A:188:C:O4'	2.03	0.58
1:A:241:C:O2'	1:A:242:A:H5'	2.03	0.58
1:A:340:A:H5''	1:A:341:C:C5	2.38	0.58
1:A:422:G:O2'	1:A:423:U:H5'	2.04	0.58
1:A:485:C:H2'	1:A:486:G:C8	2.29	0.58
1:A:1111:C:O2'	1:A:1113:A:C8	2.54	0.58
1:A:1137:G:O2'	1:A:1138:G:H5'	2.03	0.58
1:A:1274:U:C5'	9:I:38:GLN:HE22	2.16	0.58
7:G:85:TYR:CD1	7:G:154:TYR:HE1	2.19	0.58
16:P:57:ARG:O	16:P:61:SER:HB3	2.03	0.58
20:T:57:ARG:HH21	20:T:100:ILE:CG2	2.17	0.58
1:A:262:G:O3'	17:Q:67:LYS:HB2	2.04	0.57
1:A:715:G:O2'	1:A:716:C:H5'	2.03	0.57
1:A:931:G:H2'	1:A:932:G:O4'	2.04	0.57
2:B:124:SER:O	2:B:127:ILE:HG13	2.04	0.57
2:B:125:PRO:C	2:B:127:ILE:H	2.12	0.57
3:C:35:GLU:OE2	3:C:97:LYS:HG3	2.04	0.57
4:D:36:ARG:HG3	4:D:38:TYR:CZ	2.39	0.57
5:E:8:GLU:O	5:E:8:GLU:HG2	2.04	0.57
5:E:89:ILE:C	5:E:89:ILE:CD1	2.68	0.57
5:E:128:PRO:O	5:E:129:ILE:C	2.44	0.57
7:G:113:GLU:CD	7:G:113:GLU:N	2.62	0.57
7:G:121:ALA:C	7:G:125:MET:HE3	2.29	0.57
12:L:45:PRO:HG2	12:L:50:SER:C	2.29	0.57
13:M:65:LYS:HG3	13:M:69:GLU:OE2	2.02	0.57
20:T:50:GLU:HG3	20:T:99:LEU:HD12	1.84	0.57
1:A:50:U:O2	1:A:358:G:H1'	2.04	0.57
1:A:421:G:O2'	1:A:422:G:H5'	2.02	0.57
3:C:188:LEU:HD11	3:C:195:VAL:HG22	1.86	0.57
4:D:10:ARG:HH11	4:D:10:ARG:HG3	1.69	0.57
5:E:141:GLN:O	5:E:142:LEU:C	2.47	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:17:THR:HG22	8:H:63:LEU:HG	1.86	0.57
10:J:51:ARG:H	10:J:59:SER:HB2	1.68	0.57
16:P:39:TYR:CE1	16:P:41:PRO:HA	2.39	0.57
17:Q:60:ILE:HD13	17:Q:61:GLU:O	2.05	0.57
20:T:75:ASN:O	20:T:78:ALA:HB3	2.04	0.57
1:A:41:C:H2'	1:A:42:G:H8	1.69	0.57
2:B:68:ILE:HD12	2:B:222:ILE:HD11	1.86	0.57
3:C:33:LEU:O	3:C:34:LEU:C	2.44	0.57
12:L:27:LEU:C	12:L:29:GLY:N	2.60	0.57
1:A:276:C:O2	17:Q:38:ARG:HG3	2.04	0.57
1:A:855:C:O2'	8:H:4:ASP:HB2	2.03	0.57
1:A:1102:C:O2'	1:A:1103:G:H5'	2.03	0.57
1:A:1483:G:H3'	1:A:1483:G:H8	1.69	0.57
2:B:80:ILE:HD11	2:B:208:ILE:HG23	1.86	0.57
4:D:107:ARG:NH1	4:D:114:ARG:NH2	2.53	0.57
4:D:179:GLU:C	4:D:181:MET:H	2.13	0.57
4:D:199:ASN:O	4:D:200:GLU:C	2.47	0.57
10:J:20:ALA:O	10:J:24:VAL:HG23	2.03	0.57
13:M:37:THR:CG2	13:M:39:ILE:HD11	2.35	0.57
17:Q:67:LYS:CA	17:Q:70:ARG:HH12	2.15	0.57
18:R:40:LEU:HB2	18:R:79:LEU:HD11	1.87	0.57
1:A:390:G:H2'	1:A:391:C:C6	2.40	0.57
1:A:1408:U:H2'	1:A:1409:C:H6	1.69	0.57
3:C:5:ILE:HD13	3:C:10:PHE:HB2	1.85	0.57
3:C:94:LEU:HD23	3:C:95:THR:CG2	2.28	0.57
3:C:150:LYS:HE2	3:C:152:ILE:HD11	1.85	0.57
4:D:145:GLU:HG2	4:D:184:LYS:HE2	1.86	0.57
4:D:160:GLN:O	4:D:163:GLU:HB3	2.04	0.57
5:E:78:HIS:ND1	5:E:78:HIS:O	2.38	0.57
5:E:80:ILE:CD1	5:E:91:LEU:HB2	2.34	0.57
8:H:113:SER:N	8:H:134:ILE:HD11	2.19	0.57
9:I:27:THR:HG23	9:I:30:GLY:O	2.03	0.57
12:L:39:VAL:HB	12:L:57:LYS:CG	2.34	0.57
13:M:77:ASN:O	13:M:80:ARG:HB3	2.04	0.57
1:A:291:C:C4	1:A:292:U:C4	2.92	0.57
1:A:342:G:H2'	1:A:343:G:O4'	2.05	0.57
1:A:850:A:C2	1:A:852:G:C6	2.92	0.57
1:A:888:C:H2'	1:A:889:U:C6	2.39	0.57
1:A:906:G:O2'	1:A:907:G:H5'	2.05	0.57
1:A:1085:A:O2'	1:A:1086:C:H5'	2.04	0.57
1:A:1132:C:OP1	9:I:9:ARG:HD3	2.03	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1270:A:O4'	1:A:1335:G:H4'	2.05	0.57
1:A:1291:G:P	13:M:88:ARG:HH21	2.27	0.57
3:C:72:LYS:O	3:C:74:GLY:N	2.38	0.57
12:L:53:ARG:CB	12:L:93:LEU:HD11	2.35	0.57
12:L:92:ASP:O	12:L:93:LEU:HD23	2.03	0.57
13:M:84:ILE:HG13	13:M:86:CYS:HB2	1.86	0.57
18:R:59:SER:H	18:R:62:GLU:HB2	1.69	0.57
1:A:1202:G:H2'	1:A:1203:G:C8	2.36	0.57
1:A:1335:G:O2'	1:A:1336:C:H5'	2.03	0.57
3:C:14:ILE:CG2	3:C:15:THR:H	2.15	0.57
3:C:33:LEU:HD23	3:C:34:LEU:N	2.19	0.57
12:L:85:ILE:HA	12:L:99:HIS:O	2.05	0.57
17:Q:29:HIS:C	17:Q:29:HIS:ND1	2.62	0.57
18:R:65:ILE:C	18:R:67:ALA:N	2.55	0.57
1:A:190:U:H2'	17:Q:63:ARG:NH2	2.20	0.57
1:A:453:C:C2	1:A:454:G:C8	2.93	0.57
1:A:515:U:H4'	1:A:516:A:C5'	2.33	0.57
1:A:623:G:O2'	1:A:624:A:H5'	2.05	0.57
1:A:902:C:H5'	1:A:1382:C:OP2	2.04	0.57
1:A:1291:G:O2'	1:A:1292:G:H5'	2.05	0.57
1:A:1437:C:H5''	20:T:27:LYS:HZ3	1.69	0.57
3:C:201:TYR:N	3:C:201:TYR:HD1	2.03	0.57
4:D:150:GLU:O	4:D:153:ARG:HB2	2.04	0.57
7:G:21:VAL:HG23	7:G:22:LEU:N	2.19	0.57
8:H:36:LEU:CD1	8:H:61:VAL:HG22	2.34	0.57
12:L:50:SER:O	12:L:51:ALA:HB2	2.04	0.57
16:P:81:ARG:CG	16:P:83:GLU:HG2	2.35	0.57
18:R:17:SER:HA	18:R:19:LYS:HZ1	1.69	0.57
19:S:35:SER:C	19:S:37:ARG:H	2.10	0.57
1:A:410:A:C2	1:A:411:A:C4	2.93	0.57
5:E:7:GLU:OE2	5:E:37:ARG:NE	2.23	0.57
13:M:17:VAL:O	13:M:20:THR:HB	2.05	0.57
20:T:50:GLU:O	20:T:100:ILE:HD12	2.05	0.57
1:A:744:G:H2'	1:A:745:G:H5'	1.87	0.57
1:A:1330:U:H4'	9:I:120:ARG:HD2	1.87	0.57
2:B:85:ALA:O	2:B:88:ALA:O	2.22	0.57
3:C:77:ILE:O	3:C:83:ARG:HB3	2.05	0.57
13:M:15:VAL:HB	13:M:34:LEU:HD11	1.86	0.57
18:R:59:SER:OG	18:R:62:GLU:HG3	2.05	0.57
1:A:444:C:H3'	1:A:445:G:H8	1.69	0.56
1:A:446:A:H1'	1:A:447:A:N7	2.20	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:702:G:C4'	11:K:117:ASN:HD21	2.18	0.56
1:A:812:A:H2'	1:A:813:G:O4'	2.05	0.56
1:A:1050:A:H1'	1:A:1051:G:O4'	2.04	0.56
1:A:1280:C:H4'	1:A:1281:A:C8	2.40	0.56
2:B:31:TYR:CE1	2:B:200:ILE:HD12	2.37	0.56
3:C:91:LEU:HD23	3:C:91:LEU:C	2.30	0.56
5:E:144:THR:CG2	5:E:146:ALA:H	2.17	0.56
6:F:67:MET:HB2	6:F:68:PRO:CD	2.34	0.56
6:F:82:ARG:HA	6:F:82:ARG:NE	2.20	0.56
8:H:86:ILE:O	8:H:88:LYS:HG3	2.05	0.56
13:M:9:ILE:HD12	13:M:9:ILE:N	2.19	0.56
1:A:778:A:H2'	1:A:779:C:C6	2.40	0.56
1:A:1331:A:C2'	1:A:1332:A:H8	2.10	0.56
1:A:1332:A:C2	1:A:1333:U:C2	2.92	0.56
2:B:18:GLY:HA3	2:B:41:ILE:HA	1.86	0.56
3:C:3:ASN:O	3:C:4:LYS:HG2	2.04	0.56
9:I:121:ARG:C	9:I:121:ARG:HD3	2.30	0.56
11:K:122:LYS:O	11:K:123:LYS:C	2.47	0.56
13:M:29:ARG:O	13:M:32:GLU:HB3	2.05	0.56
1:A:239:A:H4'	1:A:240:U:O5'	2.04	0.56
1:A:353:G:O2'	1:A:354:U:H5'	2.03	0.56
1:A:442:G:H2'	1:A:470:G:H22	1.69	0.56
1:A:995:A:H2'	1:A:996:G:O4'	2.04	0.56
1:A:1096:C:O5'	1:A:1096:C:H6	1.87	0.56
1:A:1301:A:H2'	1:A:1305:G:N7	2.20	0.56
1:A:1328:A:H1'	1:A:1330:U:C5	2.39	0.56
1:A:1333:U:O2'	1:A:1334:C:H5'	2.05	0.56
1:A:1382:C:O2	1:A:1384:G:C5	2.59	0.56
1:A:1473:U:H2'	1:A:1474:C:C6	2.40	0.56
2:B:106:LYS:O	2:B:110:GLN:HG3	2.04	0.56
2:B:161:ALA:HA	2:B:182:ILE:HG22	1.87	0.56
2:B:182:ILE:O	2:B:183:PRO:C	2.47	0.56
3:C:180:ALA:O	3:C:181:ASN:HB3	2.04	0.56
3:C:188:LEU:HD13	3:C:189:ALA:N	2.20	0.56
4:D:114:ARG:O	4:D:117:ALA:HB3	2.05	0.56
4:D:156:GLU:HG2	4:D:160:GLN:HE21	1.70	0.56
5:E:48:ALA:HB1	5:E:49:PRO:HD2	1.86	0.56
5:E:80:ILE:CD1	5:E:138:ALA:HB1	2.35	0.56
5:E:82:VAL:HG11	5:E:137:GLU:HB3	1.87	0.56
14:N:37:PHE:HB3	14:N:39:LEU:CD1	2.36	0.56
17:Q:44:ALA:HA	17:Q:71:PHE:O	2.04	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:204:A:H4'	1:A:205:G:O5'	2.05	0.56
1:A:483:A:H1'	1:A:531:A:N6	2.20	0.56
1:A:745:G:C6	1:A:746:C:C4	2.94	0.56
1:A:781:C:O2'	1:A:782:G:H5'	2.06	0.56
1:A:845:G:O2'	1:A:851:A:N6	2.38	0.56
1:A:857:C:H2'	1:A:858:C:H6	1.69	0.56
1:A:870:A:H2'	1:A:871:C:C6	2.40	0.56
1:A:938:U:C2	1:A:1207:A:N7	2.74	0.56
1:A:1178:U:H5''	1:A:1179:G:C5'	2.36	0.56
1:A:1302:C:N3	19:S:36:ARG:NH1	2.54	0.56
3:C:35:GLU:O	3:C:38:ARG:HB2	2.05	0.56
4:D:25:ARG:HA	4:D:28:SER:OG	2.05	0.56
12:L:34:ARG:O	12:L:61:THR:HG23	2.06	0.56
15:O:34:LEU:C	15:O:34:LEU:HD23	2.31	0.56
19:S:80:TYR:CG	19:S:81:ARG:N	2.73	0.56
1:A:211:U:H4'	1:A:212:G:O5'	2.04	0.56
1:A:367:G:C2'	1:A:368:C:H5'	2.35	0.56
1:A:1207:A:H5'	1:A:1208:C:OP2	2.05	0.56
1:A:1475:G:H1'	1:A:1496:A:H2	1.71	0.56
2:B:47:THR:HA	2:B:202:PRO:HG2	1.88	0.56
2:B:48:MET:O	2:B:51:LEU:N	2.38	0.56
2:B:97:TRP:CH2	2:B:176:GLU:CD	2.83	0.56
2:B:212:GLN:C	2:B:212:GLN:CD	2.74	0.56
6:F:56:PRO:C	6:F:57:GLN:HG3	2.30	0.56
13:M:52:GLU:HA	13:M:55:ARG:HE	1.70	0.56
17:Q:26:GLN:O	17:Q:27:PHE:HB3	2.05	0.56
18:R:34:TYR:HA	18:R:69:THR:HG23	1.88	0.56
1:A:208:C:H42	1:A:212:G:H1	1.53	0.56
1:A:251:G:C1'	17:Q:16:GLN:HE21	2.19	0.56
1:A:561:G:H1'	1:A:800:A:N3	2.20	0.56
1:A:674:G:N2	1:A:682:G:C6	2.74	0.56
1:A:1309:C:H2'	1:A:1310:C:C6	2.40	0.56
1:A:1351:G:H4'	14:N:61:TRP:HZ2	1.70	0.56
3:C:11:ARG:O	3:C:12:LEU:C	2.49	0.56
6:F:36:ARG:HH12	6:F:38:GLU:HG2	1.68	0.56
12:L:126:LYS:H	12:L:126:LYS:CD	2.17	0.56
18:R:38:GLU:OE1	18:R:38:GLU:N	2.38	0.56
18:R:76:LEU:O	18:R:78:LEU:N	2.39	0.56
20:T:54:LYS:HE2	20:T:100:ILE:HD11	1.87	0.56
1:A:23:G:H4'	1:A:863:G:C8	2.41	0.56
1:A:101:G:C2'	1:A:102:G:H5'	2.35	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:334:A:H2'	1:A:335:C:H6	1.70	0.56
1:A:438:C:H2'	1:A:439:C:C6	2.40	0.56
1:A:994:A:H2'	1:A:995:A:H8	1.70	0.56
1:A:1163:G:O2'	1:A:1164:G:O4'	2.24	0.56
1:A:1464:G:H2'	1:A:1465:G:C8	2.40	0.56
4:D:25:ARG:C	4:D:27:TYR:H	2.12	0.56
4:D:90:GLY:CA	4:D:204:ILE:HD11	2.36	0.56
6:F:38:GLU:O	6:F:39:LYS:HB3	2.06	0.56
7:G:15:ASP:HB3	7:G:19:GLY:H	1.70	0.56
10:J:42:THR:HG23	10:J:67:THR:C	2.30	0.56
1:A:745:G:N2	17:Q:105:ALA:HB3	2.20	0.56
1:A:1103:G:O2'	1:A:1104:U:H5'	2.05	0.56
1:A:1195:A:N1	1:A:1197:G:H1'	2.20	0.56
5:E:41:VAL:CG2	5:E:113:ALA:CA	2.80	0.56
7:G:64:GLN:HG2	7:G:128:ALA:HB1	1.88	0.56
7:G:69:VAL:O	7:G:71:PRO:HD3	2.06	0.56
8:H:97:VAL:HG13	8:H:98:LYS:N	2.21	0.56
17:Q:19:VAL:HG23	17:Q:44:ALA:HB3	1.88	0.56
19:S:62:ILE:CD1	19:S:66:MET:HG3	2.34	0.56
1:A:79:G:C3'	1:A:80:U:H5''	2.36	0.56
1:A:258:A:C6	1:A:259:A:C6	2.94	0.56
1:A:273:C:O2'	1:A:274:G:H5'	2.06	0.56
1:A:485:C:H1'	1:A:533:C:H1'	1.88	0.56
1:A:639:A:C2	1:A:738:C:N3	2.74	0.56
1:A:905:G:C2	1:A:906:G:C8	2.93	0.56
1:A:1002:G:H2'	1:A:1002:G:N3	2.20	0.56
1:A:1318:C:H1'	1:A:1319:G:N1	2.21	0.56
2:B:93:VAL:HG22	2:B:101:MET:HE1	1.88	0.56
2:B:98:LEU:HB2	2:B:101:MET:CG	2.36	0.56
3:C:116:VAL:HG21	3:C:202:ILE:HD11	1.88	0.56
3:C:120:VAL:O	3:C:121:ALA:C	2.49	0.56
3:C:132:ARG:HH22	4:D:47:ARG:HH12	1.52	0.56
5:E:43:LEU:C	5:E:43:LEU:CD2	2.78	0.56
5:E:65:ASN:CG	5:E:65:ASN:O	2.49	0.56
5:E:133:TYR:O	5:E:134:ALA:C	2.49	0.56
5:E:139:LEU:HA	5:E:142:LEU:HG	1.88	0.56
6:F:3:ARG:HE	6:F:64:GLN:HE21	1.53	0.56
16:P:21:VAL:HG11	16:P:59:TRP:CE2	2.40	0.56
20:T:76:ALA:HA	20:T:79:ARG:NH1	2.21	0.56
1:A:879:A:N7	1:A:880:G:H1'	2.22	0.56
1:A:896:A:H2'	1:A:897:A:H8	1.70	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1069:U:H3	1:A:1082:G:N2	2.03	0.56
1:A:1486:G:C5	1:A:1487:C:C5	2.93	0.56
3:C:188:LEU:CD1	3:C:195:VAL:HG13	2.30	0.56
4:D:77:ASN:O	4:D:78:LEU:C	2.49	0.56
4:D:170:VAL:HG12	4:D:171:GLY:N	2.21	0.56
6:F:25:ILE:HD12	6:F:82:ARG:HD2	1.88	0.56
6:F:75:LEU:O	6:F:79:LEU:HG	2.06	0.56
12:L:117:ARG:O	12:L:118:SER:C	2.47	0.56
18:R:19:LYS:O	18:R:20:ALA:HB2	2.06	0.56
19:S:35:SER:C	19:S:37:ARG:N	2.61	0.56
1:A:231:C:H5'	17:Q:70:ARG:HG2	1.88	0.55
1:A:277:G:HO2'	1:A:278:A:P	2.28	0.55
1:A:405:G:OP1	4:D:24:GLU:O	2.24	0.55
1:A:1109:U:H6	1:A:1109:U:P	2.29	0.55
6:F:8:ILE:HB	6:F:61:LEU:HB2	1.89	0.55
11:K:19:ALA:CB	11:K:80:VAL:HG11	2.37	0.55
15:O:4:THR:O	15:O:5:LYS:C	2.49	0.55
15:O:70:LEU:HD12	15:O:78:TYR:HB2	1.86	0.55
1:A:70:G:H2'	1:A:71:G:H8	1.70	0.55
1:A:243:G:OP1	17:Q:100:LYS:HE2	2.06	0.55
1:A:891:A:P	12:L:47:LYS:HZ2	2.29	0.55
1:A:1328:A:C2'	7:G:10:ARG:HH22	2.16	0.55
2:B:17:PHE:CD1	2:B:18:GLY:N	2.74	0.55
2:B:26:PRO:O	2:B:28:PHE:N	2.39	0.55
2:B:174:VAL:O	2:B:178:ARG:HB2	2.07	0.55
3:C:162:GLN:O	3:C:163:ALA:C	2.47	0.55
4:D:38:TYR:HB2	4:D:39:PRO:HD2	1.88	0.55
4:D:109:GLY:C	4:D:111:ALA:N	2.63	0.55
5:E:38:GLN:O	5:E:71:LEU:HD12	2.06	0.55
7:G:78:ARG:HB2	7:G:156:TRP:CZ3	2.41	0.55
8:H:96:GLY:O	8:H:99:GLU:N	2.26	0.55
10:J:15:THR:HG23	10:J:94:VAL:HG22	1.87	0.55
12:L:83:VAL:HG22	12:L:84:LEU:N	2.20	0.55
1:A:67:G:H4'	1:A:168:U:C5	2.42	0.55
1:A:75:C:O2'	1:A:76:G:H5'	2.06	0.55
1:A:1173:A:H2'	1:A:1174:C:C6	2.42	0.55
1:A:1307:C:H2'	1:A:1308:C:C6	2.41	0.55
2:B:25:ASN:HD22	2:B:26:PRO:CD	2.18	0.55
4:D:118:ARG:O	4:D:121:VAL:HB	2.06	0.55
7:G:155:ARG:O	7:G:156:TRP:CB	2.54	0.55
11:K:115:PRO:C	11:K:117:ASN:H	2.14	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:92:ASP:C	12:L:93:LEU:HD23	2.30	0.55
13:M:4:ILE:O	13:M:5:ALA:O	2.25	0.55
13:M:11:ARG:HG2	13:M:12:ASN:N	2.22	0.55
18:R:86:VAL:O	18:R:87:ARG:CG	2.52	0.55
1:A:263:C:OP2	17:Q:67:LYS:HD2	2.06	0.55
1:A:412:G:C5	1:A:413:C:C4	2.95	0.55
1:A:1290:U:H2'	1:A:1291:G:H8	1.71	0.55
1:A:1453:G:H2'	1:A:1454:G:H8	1.70	0.55
2:B:35:GLU:O	2:B:36:ARG:HG3	2.05	0.55
3:C:35:GLU:CG	3:C:59:ARG:HH22	2.19	0.55
3:C:180:ALA:O	3:C:181:ASN:CB	2.54	0.55
4:D:150:GLU:O	4:D:151:LYS:C	2.49	0.55
4:D:177:ASP:O	4:D:177:ASP:OD1	2.25	0.55
5:E:24:ARG:HG2	5:E:24:ARG:HH11	1.70	0.55
5:E:83:GLU:HG2	5:E:88:LYS:HG3	1.88	0.55
6:F:101:ALA:HA	18:R:28:GLU:HG3	1.89	0.55
7:G:23:VAL:O	7:G:24:THR:C	2.49	0.55
11:K:66:LEU:HB3	11:K:70:LYS:CE	2.34	0.55
11:K:123:LYS:O	11:K:125:PHE:N	2.39	0.55
14:N:14:PRO:HB2	14:N:16:PHE:O	2.05	0.55
16:P:36:ILE:HG13	16:P:37:GLY:H	1.72	0.55
1:A:317:A:O2'	1:A:318:C:H5'	2.07	0.55
1:A:486:G:H2'	1:A:487:C:H6	1.72	0.55
1:A:545:U:O2'	1:A:546:C:P	2.64	0.55
1:A:634:G:O2'	1:A:635:C:H5'	2.07	0.55
1:A:826:C:H2'	1:A:827:C:H6	1.71	0.55
1:A:858:C:C5'	12:L:12:ARG:HH21	2.15	0.55
1:A:959:U:H4'	14:N:21:TYR:CE2	2.42	0.55
4:D:110:PHE:CD1	4:D:162:LEU:HD21	2.41	0.55
7:G:36:LYS:O	7:G:36:LYS:HD3	2.06	0.55
11:K:95:ILE:HG21	11:K:108:ILE:HD13	1.87	0.55
12:L:33:ARG:HD2	12:L:62:SER:HB3	1.87	0.55
16:P:53:VAL:HG23	16:P:54:GLU:N	2.22	0.55
1:A:88:C:H2'	1:A:89:G:H8	1.70	0.55
1:A:257:U:O2	1:A:259:A:C8	2.59	0.55
1:A:463:A:O2'	1:A:464:C:H5'	2.06	0.55
1:A:566:U:H2'	1:A:567:A:O4'	2.06	0.55
1:A:738:C:O2	1:A:738:C:C2'	2.54	0.55
1:A:836:G:O6	1:A:847:G:C8	2.60	0.55
1:A:958:C:H2'	1:A:959:U:H5'	1.88	0.55
1:A:1172:G:O2'	1:A:1173:A:P	2.64	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:213:LEU:HD23	2:B:213:LEU:C	2.31	0.55
4:D:71:SER:O	4:D:73:ARG:N	2.40	0.55
9:I:93:ARG:CD	9:I:97:LYS:HE3	2.27	0.55
13:M:4:ILE:O	13:M:5:ALA:C	2.49	0.55
13:M:14:ARG:CZ	13:M:42:ALA:HA	2.37	0.55
17:Q:74:LEU:HD23	17:Q:74:LEU:C	2.31	0.55
20:T:42:GLN:O	20:T:46:GLU:HG3	2.05	0.55
1:A:270:A:O2'	1:A:271:G:H8	1.90	0.55
1:A:792:C:OP1	15:O:48:LYS:HE2	2.06	0.55
1:A:846:C:O2'	1:A:851:A:H2'	2.07	0.55
1:A:959:U:H5''	14:N:21:TYR:CZ	2.41	0.55
1:A:1128:C:O2'	1:A:1129:A:C8	2.60	0.55
3:C:5:ILE:CD1	3:C:10:PHE:HB2	2.36	0.55
3:C:29:TYR:OH	14:N:54:PRO:HG2	2.06	0.55
4:D:23:GLY:HA3	4:D:112:VAL:CG1	2.37	0.55
4:D:70:ILE:HD11	4:D:100:ARG:HD2	1.89	0.55
4:D:201:GLN:O	4:D:205:GLU:HG3	2.06	0.55
9:I:100:GLY:C	9:I:102:LEU:N	2.65	0.55
9:I:108:VAL:CG1	9:I:109:VAL:H	2.15	0.55
13:M:81:LEU:HA	13:M:84:ILE:CD1	2.36	0.55
17:Q:43:LEU:HD11	17:Q:68:ARG:HH12	1.72	0.55
1:A:410:A:C2	1:A:411:A:N9	2.75	0.55
1:A:491:C:H2'	1:A:492:C:C5	2.42	0.55
1:A:949:G:HO2'	1:A:1348:G:HO2'	1.48	0.55
2:B:120:ALA:O	2:B:122:PHE:N	2.40	0.55
3:C:15:THR:HG21	3:C:179:ARG:O	2.07	0.55
3:C:64:VAL:O	3:C:99:VAL:HG23	2.06	0.55
4:D:10:ARG:HG3	4:D:10:ARG:NH1	2.21	0.55
4:D:161:ASN:O	4:D:162:LEU:C	2.49	0.55
8:H:137:VAL:HG12	8:H:138:TRP:N	2.21	0.55
10:J:25:GLU:O	10:J:28:ARG:HB2	2.07	0.55
10:J:81:THR:O	10:J:83:GLU:N	2.39	0.55
11:K:43:SER:HB3	11:K:68:ALA:HB2	1.89	0.55
13:M:26:GLY:O	13:M:27:LYS:C	2.49	0.55
13:M:39:ILE:O	13:M:41:PRO:HD3	2.07	0.55
15:O:45:VAL:HG12	15:O:46:HIS:H	1.71	0.55
17:Q:67:LYS:O	17:Q:68:ARG:CB	2.50	0.55
1:A:407:A:H1'	1:A:409:G:H1'	1.89	0.55
1:A:939:U:C2'	1:A:940:C:H5'	2.37	0.55
1:A:1287:G:OP1	21:U:2:GLY:CA	2.54	0.55
1:A:1475:G:H2'	1:A:1476:U:C6	2.37	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:58:GLU:HB3	10:J:92:THR:CG2	2.29	0.55
3:C:108:ASN:OD1	3:C:110:ASN:HB2	2.07	0.55
6:F:94:GLN:NE2	18:R:32:ARG:HD3	2.22	0.55
9:I:33:PHE:CZ	9:I:46:ALA:HB3	2.40	0.55
1:A:124:G:O2'	1:A:125:A:OP2	2.23	0.55
1:A:142:G:C2	1:A:143:G:C8	2.95	0.55
1:A:417:U:H5'	1:A:418:C:OP2	2.07	0.55
1:A:1287:G:N2	1:A:1313:G:C2'	2.69	0.55
1:A:1485:A:H2'	1:A:1486:G:C8	2.41	0.55
4:D:18:LYS:HB3	4:D:20:TYR:HE2	1.72	0.55
4:D:101:LEU:C	4:D:103:ASN:H	2.14	0.55
10:J:47:PHE:CE2	14:N:37:PHE:CE1	2.95	0.55
10:J:81:THR:C	10:J:83:GLU:N	2.65	0.55
13:M:3:ARG:HA	13:M:8:GLU:O	2.07	0.55
15:O:53:HIS:O	15:O:56:LEU:HB3	2.07	0.55
16:P:9:PHE:HE2	16:P:18:ARG:HD2	1.70	0.55
16:P:20:VAL:HG11	16:P:32:TYR:CB	2.38	0.55
1:A:195:U:H2'	1:A:196:G:C8	2.42	0.54
1:A:691:C:O2	11:K:39:PRO:HD3	2.07	0.54
1:A:1050:A:O2'	1:A:1051:G:C8	2.56	0.54
2:B:98:LEU:HB2	2:B:101:MET:HG3	1.90	0.54
4:D:137:SER:O	4:D:138:TYR:C	2.48	0.54
5:E:141:GLN:O	5:E:143:ARG:HG2	2.07	0.54
7:G:67:GLU:HA	7:G:67:GLU:OE2	2.07	0.54
9:I:59:PHE:O	9:I:60:ASP:HB2	2.06	0.54
11:K:34:ASP:CG	11:K:38:ASN:HB2	2.32	0.54
11:K:124:LYS:HB3	11:K:125:PHE:CD1	2.43	0.54
12:L:35:GLY:HA3	12:L:58:VAL:HG12	1.87	0.54
1:A:11:A:O2'	1:A:12:G:H5'	2.07	0.54
1:A:475:G:H2'	1:A:476:G:H8	1.72	0.54
1:A:591:A:C2'	1:A:592:A:H5'	2.37	0.54
1:A:736:G:O2'	1:A:737:A:P	2.65	0.54
1:A:856:G:OP1	8:H:89:PRO:O	2.25	0.54
1:A:1035:U:H2'	1:A:1182:C:H41	1.72	0.54
1:A:1355:U:OP1	9:I:71:SER:HB3	2.06	0.54
1:A:1439:G:O2'	1:A:1440:G:H5'	2.07	0.54
3:C:35:GLU:HG2	3:C:59:ARG:HH22	1.71	0.54
4:D:90:GLY:H	4:D:204:ILE:HD11	1.72	0.54
9:I:38:GLN:OE1	9:I:39:GLY:N	2.40	0.54
11:K:48:ILE:HD13	11:K:63:LEU:CB	2.32	0.54
16:P:74:LEU:HB3	16:P:79:VAL:CG2	2.27	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S:16:LEU:C	19:S:18:LYS:N	2.64	0.54
1:A:378:A:C2	1:A:379:A:C4	2.95	0.54
1:A:486:G:H2'	1:A:487:C:O4'	2.07	0.54
1:A:642:G:O2'	1:A:643:U:H5'	2.07	0.54
4:D:62:GLN:O	4:D:63:LYS:C	2.50	0.54
8:H:16:ALA:HB3	8:H:63:LEU:HD21	1.89	0.54
10:J:47:PHE:CE2	14:N:37:PHE:HE1	2.25	0.54
13:M:40:ASN:HB3	13:M:43:THR:HG23	1.89	0.54
13:M:80:ARG:C	13:M:82:MET:N	2.65	0.54
17:Q:86:GLU:O	17:Q:87:LYS:C	2.49	0.54
1:A:182:C:C2	20:T:105:SER:HB3	2.42	0.54
1:A:904:G:H1	22:A:1523:KSG:H6	1.73	0.54
1:A:937:A:C3'	1:A:938:U:H5''	2.29	0.54
1:A:1188:G:C6	1:A:1189:G:C5	2.96	0.54
1:A:1401:A:H3'	1:A:1402:G:C8	2.42	0.54
1:A:1438:A:C2	1:A:1439:G:H1'	2.43	0.54
2:B:137:ARG:HB3	2:B:137:ARG:HH11	1.71	0.54
2:B:200:ILE:HG22	2:B:201:ILE:N	2.22	0.54
3:C:8:ILE:O	3:C:11:ARG:N	2.40	0.54
4:D:8:VAL:O	4:D:11:LEU:HG	2.07	0.54
4:D:107:ARG:HH12	4:D:114:ARG:NH2	2.05	0.54
6:F:24:GLU:HG3	6:F:25:ILE:N	2.20	0.54
10:J:94:VAL:CG1	10:J:95:GLU:N	2.71	0.54
14:N:12:ARG:O	14:N:14:PRO:N	2.40	0.54
15:O:66:LEU:O	15:O:69:TYR:HB3	2.08	0.54
17:Q:91:ARG:O	17:Q:92:ARG:C	2.49	0.54
17:Q:97:SER:O	17:Q:98:LEU:HD12	2.07	0.54
19:S:15:LEU:HD12	19:S:16:LEU:N	2.22	0.54
20:T:10:LEU:C	20:T:12:ALA:H	2.15	0.54
20:T:57:ARG:HB2	20:T:57:ARG:HH11	1.72	0.54
1:A:544:U:H4'	1:A:545:U:C5'	2.38	0.54
1:A:585:C:H2'	1:A:586:A:C8	2.41	0.54
1:A:626:A:N7	8:H:115:SER:HA	2.23	0.54
1:A:855:C:O2'	8:H:3:THR:HG23	2.07	0.54
1:A:923:G:H21	1:A:1316:G:H4'	1.71	0.54
1:A:969:U:O2'	1:A:970:U:H5'	2.08	0.54
1:A:980:G:H2'	1:A:981:G:O4'	2.07	0.54
1:A:1329:G:C4	9:I:107:ARG:NH1	2.75	0.54
2:B:16:HIS:O	2:B:17:PHE:O	2.26	0.54
2:B:52:GLU:HG2	2:B:56:ARG:HH21	1.72	0.54
5:E:37:ARG:HG2	5:E:37:ARG:HH11	1.72	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:80:ARG:CZ	6:F:88:VAL:HB	2.38	0.54
9:I:69:GLY:O	9:I:73:GLN:HG3	2.08	0.54
17:Q:82:MET:C	17:Q:84:LEU:N	2.65	0.54
1:A:275:A:H5'	1:A:277:G:O4'	2.08	0.54
1:A:319:U:OP1	20:T:23:ARG:HA	2.07	0.54
1:A:870:A:O2'	1:A:1398:G:H4'	2.07	0.54
1:A:1428:G:N2	1:A:1438:A:H1'	2.22	0.54
1:A:1430:C:O2'	1:A:1431:U:H5'	2.08	0.54
1:A:1464:G:H2'	1:A:1465:G:O4'	2.08	0.54
2:B:87:ARG:NH2	2:B:233:SER:HB2	2.22	0.54
2:B:148:TYR:CD2	2:B:148:TYR:N	2.75	0.54
3:C:14:ILE:CG2	3:C:15:THR:N	2.71	0.54
3:C:38:ARG:HH11	3:C:38:ARG:HG3	1.72	0.54
4:D:10:ARG:NH1	4:D:40:PRO:HB2	2.21	0.54
7:G:122:HIS:HD2	7:G:125:MET:CE	2.20	0.54
9:I:93:ARG:HD3	9:I:97:LYS:CE	2.28	0.54
10:J:90:LEU:N	10:J:91:PRO:HD2	2.13	0.54
12:L:9:GLN:O	12:L:10:LEU:C	2.50	0.54
12:L:60:LEU:HD22	12:L:60:LEU:N	2.23	0.54
12:L:117:ARG:C	12:L:119:LYS:N	2.66	0.54
14:N:16:PHE:O	14:N:18:VAL:N	2.41	0.54
16:P:22:THR:OG1	16:P:23:ASP:N	2.40	0.54
1:A:214:C:C4'	1:A:456:C:N4	2.70	0.54
1:A:522:G:O2'	1:A:523:A:H5'	2.07	0.54
1:A:740:C:H2'	1:A:741:U:O4'	2.06	0.54
1:A:1325:G:C1'	9:I:121:ARG:HH12	2.11	0.54
1:A:1415:G:H1'	1:A:1447:G:N2	2.22	0.54
2:B:44:LEU:O	2:B:45:GLN:C	2.50	0.54
2:B:187:LEU:HD13	2:B:205:ASP:HA	1.90	0.54
3:C:167:TRP:O	3:C:168:ALA:HB2	2.06	0.54
4:D:8:VAL:HG13	4:D:21:LEU:CD1	2.38	0.54
5:E:86:ALA:HB3	5:E:125:SER:HB2	1.90	0.54
9:I:120:ARG:O	9:I:122:ALA:N	2.40	0.54
10:J:10:GLY:N	10:J:16:LEU:HD11	2.23	0.54
12:L:119:LYS:O	12:L:120:TYR:CB	2.56	0.54
13:M:54:VAL:O	13:M:55:ARG:C	2.51	0.54
19:S:7:LYS:HG3	19:S:7:LYS:O	2.08	0.54
1:A:124:G:H4'	1:A:125:A:O5'	2.08	0.54
1:A:698:G:N3	1:A:761:A:H1'	2.23	0.54
1:A:893:A:H2'	1:A:894:G:H5'	1.90	0.54
1:A:1125:G:H2'	1:A:1126:G:O4'	2.07	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:15:VAL:HG11	2:B:209:ARG:C	2.33	0.54
2:B:134:GLU:O	2:B:136:VAL:N	2.41	0.54
3:C:52:LEU:H	3:C:52:LEU:CD2	2.14	0.54
4:D:150:GLU:O	4:D:153:ARG:N	2.40	0.54
7:G:107:ALA:O	7:G:108:ALA:C	2.50	0.54
9:I:44:VAL:O	9:I:46:ALA:N	2.41	0.54
9:I:80:GLY:O	9:I:81:ILE:C	2.50	0.54
10:J:12:ASP:HB3	10:J:15:THR:CG2	2.37	0.54
18:R:25:THR:HG22	18:R:25:THR:O	2.08	0.54
20:T:72:LEU:CD2	20:T:76:ALA:HB3	2.38	0.54
1:A:58:G:H2'	1:A:59:C:C6	2.42	0.54
1:A:199:U:H4'	20:T:102:GLY:C	2.33	0.54
1:A:474:C:O2'	1:A:475:G:H5'	2.08	0.54
1:A:542:G:C8	1:A:543:A:C2	2.96	0.54
1:A:1195:A:C2	1:A:1197:G:H1'	2.43	0.54
1:A:1219:C:C4'	1:A:1316:G:H21	2.21	0.54
1:A:1359:U:H2'	1:A:1360:A:H8	1.70	0.54
1:A:1422:C:P	20:T:38:LYS:HZ3	2.31	0.54
2:B:80:ILE:HG21	2:B:212:GLN:HA	1.90	0.54
2:B:120:ALA:C	2:B:122:PHE:N	2.66	0.54
4:D:5:ILE:HA	4:D:115:ARG:HH22	1.71	0.54
4:D:88:VAL:O	4:D:89:THR:C	2.50	0.54
4:D:179:GLU:O	4:D:181:MET:N	2.41	0.54
10:J:19:SER:HB2	10:J:91:PRO:HG3	1.88	0.54
13:M:4:ILE:CG2	13:M:5:ALA:H	2.11	0.54
14:N:24:CYS:SG	14:N:26:ARG:HB3	2.48	0.54
14:N:36:PHE:O	14:N:36:PHE:CD1	2.61	0.54
17:Q:97:SER:HB2	17:Q:103:GLY:N	2.23	0.54
19:S:15:LEU:O	19:S:19:VAL:N	2.33	0.54
1:A:219:U:H5''	20:T:68:LYS:NZ	2.23	0.54
1:A:434:G:C4'	1:A:435:A:OP1	2.50	0.54
1:A:803:A:H4'	1:A:804:U:OP2	2.08	0.54
1:A:949:G:O2'	1:A:1348:G:O2'	2.22	0.54
1:A:1096:C:H2'	1:A:1097:C:H6	1.73	0.54
7:G:20:ASP:OD1	7:G:23:VAL:N	2.38	0.54
7:G:76:ARG:HB2	7:G:89:MET:SD	2.48	0.54
13:M:84:ILE:C	13:M:86:CYS:N	2.66	0.54
1:A:55:C:H2'	1:A:348:C:H41	1.73	0.53
1:A:699:A:H2'	1:A:700:A:O4'	2.08	0.53
1:A:802:G:O2'	1:A:804:U:H5	1.90	0.53
1:A:826:C:H2'	1:A:827:C:C6	2.43	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:918:C:H2'	1:A:919:G:H8	1.71	0.53
1:A:1135:A:C5'	10:J:13:HIS:HD2	2.19	0.53
1:A:1465:G:H2'	1:A:1466:G:C8	2.43	0.53
1:A:1488:U:H2'	1:A:1489:G:N7	2.22	0.53
2:B:88:ALA:C	2:B:90:MET:N	2.55	0.53
3:C:42:LEU:O	3:C:43:LEU:C	2.51	0.53
3:C:139:GLN:HE21	3:C:139:GLN:C	2.15	0.53
8:H:120:THR:O	8:H:122:ARG:N	2.41	0.53
9:I:47:LEU:HB3	9:I:50:LEU:HD12	1.90	0.53
9:I:97:LYS:CE	9:I:102:LEU:HD12	2.34	0.53
10:J:56:HIS:O	10:J:59:SER:OG	2.23	0.53
13:M:14:ARG:HB3	13:M:16:ASP:OD1	2.08	0.53
19:S:81:ARG:O	19:S:81:ARG:HG2	2.07	0.53
1:A:444:C:H3'	1:A:445:G:C8	2.43	0.53
1:A:447:A:O2'	1:A:448:A:O4'	2.27	0.53
1:A:1048:U:H4'	1:A:1049:C:O5'	2.09	0.53
1:A:1100:G:O3'	9:I:104:ARG:NH1	2.28	0.53
1:A:1294:G:O2'	1:A:1295:U:H5'	2.09	0.53
1:A:1358:A:H2'	1:A:1359:U:O4'	2.07	0.53
3:C:40:ARG:O	3:C:44:GLU:HG3	2.08	0.53
7:G:76:ARG:O	7:G:156:TRP:HZ3	1.90	0.53
7:G:80:VAL:HB	7:G:85:TYR:CD1	2.43	0.53
9:I:79:LEU:HD13	9:I:79:LEU:C	2.33	0.53
9:I:79:LEU:HD13	9:I:83:ARG:HG3	1.90	0.53
10:J:8:LEU:HD21	10:J:96:ILE:HG12	1.90	0.53
18:R:17:SER:HA	18:R:19:LYS:HZ2	1.71	0.53
1:A:232:G:C5	1:A:233:C:C5	2.96	0.53
1:A:508:G:H2'	1:A:509:C:C6	2.43	0.53
1:A:1010:G:H21	1:A:1012:G:H3'	1.71	0.53
2:B:18:GLY:CA	2:B:41:ILE:HA	2.38	0.53
3:C:62:ASP:O	3:C:97:LYS:O	2.26	0.53
4:D:195:ALA:O	4:D:196:LEU:C	2.50	0.53
12:L:27:LEU:C	12:L:29:GLY:H	2.15	0.53
13:M:56:LEU:O	13:M:60:VAL:HG23	2.07	0.53
16:P:73:LEU:O	16:P:76:GLN:N	2.38	0.53
17:Q:84:LEU:O	17:Q:85:VAL:C	2.51	0.53
17:Q:94:ASN:O	17:Q:97:SER:OG	2.20	0.53
1:A:334:A:H2'	1:A:335:C:C6	2.43	0.53
1:A:472:A:C2	1:A:473:C:H1'	2.44	0.53
1:A:730:A:O2'	1:A:731:C:H5'	2.09	0.53
1:A:803:A:H5''	1:A:804:U:OP2	2.08	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:887:A:H2'	1:A:888:C:O4'	2.09	0.53
7:G:155:ARG:O	7:G:156:TRP:HB2	2.07	0.53
16:P:32:TYR:CE2	16:P:35:LYS:HB2	2.43	0.53
1:A:45:G:H2'	1:A:46:U:C6	2.43	0.53
1:A:278:A:H3'	1:A:279:C:C5	2.43	0.53
1:A:369:A:C2	1:A:467:A:C6	2.96	0.53
1:A:418:C:H4'	1:A:419:G:C4	2.44	0.53
1:A:1070:G:H2'	1:A:1071:G:C8	2.43	0.53
1:A:1377:A:C5	1:A:1479:C:H4'	2.44	0.53
1:A:1475:G:O2'	1:A:1476:U:H5'	2.09	0.53
3:C:99:VAL:CG2	3:C:100:ALA:N	2.72	0.53
4:D:70:ILE:CD1	4:D:100:ARG:CZ	2.86	0.53
4:D:88:VAL:O	4:D:92:VAL:HG23	2.08	0.53
5:E:152:ARG:HB3	8:H:43:GLY:HA3	1.91	0.53
7:G:8:GLU:OE1	7:G:8:GLU:O	2.26	0.53
7:G:41:ARG:O	7:G:44:TYR:N	2.42	0.53
7:G:80:VAL:HG11	7:G:154:TYR:CZ	2.44	0.53
12:L:59:ARG:NH1	12:L:65:GLU:HG2	2.22	0.53
12:L:111:LYS:O	12:L:112:ASP:HB2	2.08	0.53
15:O:6:GLU:O	15:O:7:GLU:C	2.52	0.53
15:O:45:VAL:HB	15:O:46:HIS:ND1	2.23	0.53
19:S:5:LEU:O	19:S:6:LYS:CB	2.57	0.53
1:A:206:G:O2'	1:A:207:G:H5'	2.09	0.53
1:A:466:G:O2'	1:A:467:A:C8	2.60	0.53
2:B:170:GLU:O	2:B:172:ILE:N	2.42	0.53
4:D:156:GLU:O	4:D:160:GLN:HG3	2.09	0.53
4:D:200:GLU:HG2	4:D:201:GLN:H	1.73	0.53
8:H:104:ARG:O	8:H:107:LEU:N	2.42	0.53
9:I:43:ALA:HA	9:I:74:ILE:CD1	2.38	0.53
10:J:51:ARG:HB2	10:J:59:SER:HB3	1.89	0.53
19:S:33:THR:HG22	19:S:35:SER:N	2.22	0.53
20:T:26:ASN:O	20:T:29:LYS:N	2.39	0.53
20:T:60:GLU:HA	20:T:63:ILE:HD12	1.89	0.53
1:A:181:C:H2'	1:A:182:C:C6	2.43	0.53
1:A:198:G:H2'	1:A:199:U:H6	1.74	0.53
1:A:531:A:C4'	1:A:532:G:O5'	2.50	0.53
1:A:1099:C:O2'	1:A:1100:G:H5''	2.09	0.53
1:A:1481:A:O2'	1:A:1482:G:OP1	2.20	0.53
5:E:72:GLN:O	5:E:73:ASN:HB3	2.09	0.53
8:H:64:LYS:C	8:H:65:TYR:CD1	2.87	0.53
8:H:90:GLY:O	8:H:91:ARG:HB2	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:7:LYS:HG3	10:J:71:LEU:HD22	1.91	0.53
11:K:67:ASP:O	11:K:70:LYS:HB2	2.09	0.53
14:N:24:CYS:SG	14:N:39:LEU:HA	2.47	0.53
14:N:41:ARG:HD2	14:N:41:ARG:C	2.34	0.53
17:Q:20:THR:HG23	17:Q:43:LEU:CD2	2.38	0.53
19:S:42:PRO:HA	19:S:45:VAL:CG2	2.37	0.53
1:A:51:A:N6	1:A:357:G:H4'	2.23	0.53
1:A:59:C:H1'	1:A:384:G:O6	2.09	0.53
1:A:117:C:OP1	1:A:308:C:H5'	2.09	0.53
1:A:328:G:O2'	1:A:329:G:H5'	2.08	0.53
1:A:687:G:H3'	1:A:687:G:OP2	2.09	0.53
1:A:899:U:H2'	1:A:900:G:O4'	2.08	0.53
1:A:1111:C:H2'	1:A:1112:C:H5''	1.90	0.53
2:B:24:TRP:CG	2:B:25:ASN:N	2.74	0.53
2:B:101:MET:HA	2:B:108:ILE:CD1	2.39	0.53
2:B:213:LEU:O	2:B:214:ILE:C	2.51	0.53
5:E:132:ALA:O	5:E:135:THR:HB	2.08	0.53
6:F:52:ILE:HD11	18:R:77:GLY:HA3	1.91	0.53
10:J:98:ILE:O	10:J:99:LYS:HG3	2.08	0.53
11:K:110:ASP:C	11:K:110:ASP:OD1	2.51	0.53
19:S:16:LEU:O	19:S:18:LYS:N	2.42	0.53
1:A:18:U:H4'	1:A:1063:A:O4'	2.09	0.53
1:A:709:G:H2'	1:A:710:C:H6	1.74	0.53
1:A:872:G:H2'	1:A:873:G:C8	2.44	0.53
2:B:82:ARG:O	2:B:83:MET:C	2.52	0.53
3:C:34:LEU:C	3:C:34:LEU:HD23	2.33	0.53
3:C:140:ARG:HA	3:C:143:GLU:HB3	1.91	0.53
5:E:57:LYS:O	5:E:60:TYR:N	2.42	0.53
8:H:137:VAL:O	8:H:138:TRP:HB3	2.07	0.53
9:I:31:GLN:NE2	9:I:35:GLU:HG3	2.23	0.53
15:O:10:LYS:HD2	15:O:10:LYS:C	2.34	0.53
16:P:20:VAL:CG1	16:P:21:VAL:N	2.71	0.53
1:A:18:U:O4'	1:A:1063:A:H1'	2.09	0.53
1:A:21:U:H2'	1:A:22:G:C8	2.44	0.53
1:A:546:C:N4	1:A:862:U:H2'	2.23	0.53
1:A:673:C:N4	1:A:682:G:H1	2.07	0.53
1:A:1036:G:H2'	1:A:1181:U:H5	1.74	0.53
1:A:1041:G:C5	1:A:1042:C:C4	2.96	0.53
1:A:1338:G:H2'	1:A:1339:A:H8	1.72	0.53
4:D:68:TYR:OH	4:D:98:GLU:OE1	2.21	0.53
7:G:31:MET:SD	7:G:34:GLY:HA2	2.49	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:41:ARG:O	7:G:42:ILE:C	2.52	0.53
7:G:113:GLU:OE2	7:G:113:GLU:N	2.42	0.53
8:H:104:ARG:O	8:H:105:ARG:C	2.52	0.53
10:J:38:ILE:HG13	10:J:71:LEU:CB	2.39	0.53
12:L:10:LEU:N	12:L:10:LEU:HD23	2.24	0.53
12:L:25:PRO:C	12:L:27:LEU:N	2.64	0.53
12:L:32:PHE:HB3	12:L:85:ILE:O	2.10	0.53
13:M:14:ARG:HG2	13:M:42:ALA:HA	1.90	0.53
14:N:44:LEU:HD12	14:N:44:LEU:C	2.33	0.53
16:P:82:GLN:O	16:P:82:GLN:HG3	2.07	0.53
18:R:65:ILE:C	18:R:67:ALA:H	2.17	0.53
1:A:670:U:O4	1:A:687:G:O2'	2.19	0.52
1:A:1219:C:O3'	1:A:1282:G:N2	2.41	0.52
2:B:125:PRO:C	2:B:127:ILE:N	2.65	0.52
4:D:54:TYR:O	4:D:55:ALA:C	2.50	0.52
5:E:24:ARG:HG2	5:E:24:ARG:NH1	2.23	0.52
8:H:48:TYR:HA	8:H:60:ARG:O	2.09	0.52
11:K:49:GLY:O	11:K:50:TYR:O	2.27	0.52
12:L:7:ILE:O	12:L:8:ASN:C	2.52	0.52
12:L:59:ARG:CZ	12:L:65:GLU:HG2	2.39	0.52
14:N:3:ARG:O	14:N:7:ILE:HG13	2.09	0.52
14:N:14:PRO:CG	14:N:17:LYS:HA	2.38	0.52
15:O:11:VAL:HG21	15:O:34:LEU:HD12	1.90	0.52
16:P:67:THR:CG2	16:P:68:ASP:H	2.23	0.52
17:Q:29:HIS:CE1	17:Q:32:TYR:H	2.25	0.52
19:S:80:TYR:CD1	19:S:81:ARG:N	2.77	0.52
1:A:35:C:H42	1:A:534:G:H1	1.57	0.52
1:A:200:C:H2'	1:A:201:C:C6	2.44	0.52
1:A:528:G:C5	1:A:529:C:C5	2.96	0.52
1:A:561:G:H1'	1:A:800:A:C4	2.43	0.52
1:A:1458:G:O2'	1:A:1459:U:H5'	2.09	0.52
1:A:1473:U:H2'	1:A:1474:C:H6	1.74	0.52
2:B:53:ARG:HG3	2:B:56:ARG:HH12	1.73	0.52
2:B:234:PRO:O	2:B:237:ALA:HB3	2.09	0.52
5:E:43:LEU:CB	5:E:136:MET:HE2	2.39	0.52
9:I:97:LYS:C	9:I:100:GLY:H	2.16	0.52
10:J:26:ALA:HB1	10:J:84:GLN:HB3	1.91	0.52
10:J:39:PRO:O	10:J:40:LEU:HB2	2.08	0.52
18:R:29:PHE:CE1	18:R:31:LEU:HD23	2.45	0.52
18:R:85:LEU:HD12	18:R:86:VAL:N	2.24	0.52
1:A:480:A:H1'	1:A:481:A:C8	2.44	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:486:G:OP1	12:L:118:SER:CB	2.57	0.52
1:A:1172:G:HO2'	1:A:1173:A:P	2.32	0.52
1:A:1293:G:O6	19:S:2:PRO:HB2	2.09	0.52
1:A:1295:U:O4	19:S:4:SER:OG	2.22	0.52
2:B:75:LYS:HE3	2:B:78:GLN:OE1	2.09	0.52
3:C:91:LEU:HD23	3:C:92:ALA:N	2.24	0.52
4:D:25:ARG:NH2	4:D:30:LYS:HB3	2.24	0.52
5:E:9:LYS:CG	5:E:112:LEU:HD11	2.39	0.52
6:F:36:ARG:NH1	6:F:38:GLU:HG2	2.25	0.52
7:G:60:LYS:O	7:G:61:VAL:C	2.52	0.52
9:I:114:TYR:CD1	9:I:114:TYR:C	2.87	0.52
13:M:58:GLU:O	13:M:62:ASN:HB2	2.08	0.52
1:A:335:C:H2'	1:A:336:U:C6	2.44	0.52
1:A:542:G:C4	1:A:543:A:C2	2.97	0.52
1:A:962:C:O2'	1:A:963:C:H5'	2.09	0.52
1:A:1048:U:O2'	1:A:1049:C:OP2	2.25	0.52
1:A:1228:C:H2'	1:A:1229:U:H6	1.75	0.52
1:A:1325:G:H2'	1:A:1326:C:C6	2.44	0.52
1:A:1436:G:H8	1:A:1436:G:O5'	1.92	0.52
3:C:5:ILE:HD12	3:C:5:ILE:C	2.34	0.52
3:C:6:HIS:NE2	3:C:8:ILE:HB	2.22	0.52
3:C:33:LEU:HD11	14:N:53:LEU:CD2	2.40	0.52
3:C:34:LEU:HD23	3:C:34:LEU:O	2.09	0.52
3:C:68:VAL:HG12	3:C:70:VAL:HG22	1.90	0.52
7:G:65:ALA:O	7:G:66:VAL:C	2.52	0.52
9:I:71:SER:O	9:I:74:ILE:N	2.42	0.52
13:M:33:ALA:HA	13:M:59:TYR:CE2	2.44	0.52
21:U:5:ASP:OD1	21:U:8:THR:HG23	2.09	0.52
1:A:9:A:H1'	5:E:102:ALA:O	2.10	0.52
1:A:9:A:H4'	1:A:10:G:OP1	2.09	0.52
1:A:529:C:H5''	4:D:72:GLU:HG2	1.92	0.52
1:A:600:G:O2'	1:A:601:G:H5'	2.08	0.52
1:A:657:G:O3'	6:F:87:ARG:NH2	2.43	0.52
1:A:737:A:H4'	1:A:738:C:C5'	2.39	0.52
1:A:1141:C:H42	1:A:1163:G:H1	1.56	0.52
1:A:1282:G:O2'	1:A:1283:U:P	2.67	0.52
1:A:1325:G:H2'	1:A:1326:C:O4'	2.09	0.52
1:A:1382:C:C2	1:A:1480:A:N6	2.78	0.52
1:A:1422:C:P	20:T:38:LYS:NZ	2.83	0.52
2:B:12:GLU:C	2:B:14:GLY:N	2.64	0.52
2:B:74:LYS:NZ	2:B:205:ASP:O	2.42	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:12:LEU:HD22	5:E:12:LEU:C	2.34	0.52
5:E:87:SER:HB3	5:E:131:ILE:CD1	2.39	0.52
8:H:28:ALA:O	8:H:29:SER:HB3	2.09	0.52
12:L:84:LEU:O	12:L:101:VAL:N	2.33	0.52
13:M:18:ALA:O	13:M:20:THR:N	2.43	0.52
15:O:39:LEU:HD13	15:O:56:LEU:CB	2.37	0.52
18:R:38:GLU:HA	18:R:41:LYS:HE3	1.92	0.52
20:T:78:ALA:O	20:T:79:ARG:C	2.52	0.52
1:A:271:G:H5'	17:Q:14:LYS:CB	2.40	0.52
1:A:715:G:H5'	1:A:750:A:H4'	1.90	0.52
1:A:732:C:H1'	1:A:733:C:C5	2.43	0.52
1:A:745:G:C1'	17:Q:103:GLY:O	2.58	0.52
1:A:751:A:H2'	1:A:752:A:C8	2.44	0.52
1:A:1151:A:H2'	1:A:1152:A:C8	2.44	0.52
1:A:1263:U:H4'	1:A:1264:C:OP2	2.10	0.52
5:E:102:ALA:HB1	5:E:120:THR:HG21	1.91	0.52
8:H:53:VAL:HB	8:H:58:TYR:CE1	2.45	0.52
11:K:109:VAL:HG22	18:R:86:VAL:HA	1.91	0.52
12:L:6:THR:O	12:L:7:ILE:C	2.53	0.52
12:L:59:ARG:HD3	12:L:65:GLU:OE2	2.10	0.52
16:P:20:VAL:HG21	16:P:32:TYR:CD2	2.45	0.52
17:Q:66:SER:O	17:Q:70:ARG:NH1	2.42	0.52
20:T:36:LEU:HD12	20:T:62:LEU:HD11	1.90	0.52
20:T:37:SER:O	20:T:38:LYS:C	2.53	0.52
1:A:197:U:O2'	1:A:198:G:H5'	2.10	0.52
1:A:224:A:H2'	1:A:225:U:H6	1.73	0.52
1:A:444:C:C5	1:A:445:G:C5	2.98	0.52
1:A:681:U:O4'	1:A:770:G:H4'	2.10	0.52
1:A:838:A:H2'	1:A:839:G:O4'	2.09	0.52
1:A:984:A:H2'	1:A:985:C:C5'	2.39	0.52
3:C:29:TYR:C	3:C:29:TYR:CD2	2.88	0.52
3:C:112:SER:O	3:C:116:VAL:HG23	2.09	0.52
4:D:118:ARG:HG3	4:D:136:PRO:HB3	1.92	0.52
6:F:10:LEU:CD1	6:F:59:TYR:HB3	2.40	0.52
7:G:123:GLU:O	7:G:127:ALA:HB2	2.10	0.52
12:L:59:ARG:CZ	12:L:65:GLU:CG	2.87	0.52
14:N:35:ARG:O	14:N:37:PHE:N	2.43	0.52
17:Q:62:SER:HB2	17:Q:72:ARG:HG3	1.92	0.52
18:R:56:THR:OG1	18:R:57:GLY:N	2.43	0.52
21:U:24:ARG:HH11	21:U:24:ARG:HG3	1.75	0.52
1:A:582:U:H4'	8:H:94:TYR:CG	2.45	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:751:A:H2'	1:A:752:A:H8	1.74	0.52
1:A:837:A:H2'	1:A:838:A:H8	1.73	0.52
1:A:1334:C:H1'	1:A:1354:G:N2	2.23	0.52
1:A:1425:G:H2'	1:A:1425:G:N3	2.25	0.52
3:C:22:TRP:CE3	3:C:22:TRP:O	2.63	0.52
3:C:114:PRO:O	3:C:117:ALA:HB3	2.10	0.52
6:F:76:ALA:O	6:F:77:ARG:C	2.53	0.52
9:I:10:ARG:HD3	9:I:105:ASP:HB3	1.92	0.52
9:I:122:ALA:HB1	9:I:123:PRO:HD2	1.92	0.52
10:J:39:PRO:O	10:J:40:LEU:CB	2.57	0.52
13:M:31:LYS:O	13:M:35:GLU:HB2	2.09	0.52
13:M:125:ARG:HD2	13:M:125:ARG:C	2.33	0.52
16:P:11:SER:OG	16:P:14:ASN:HB3	2.10	0.52
20:T:33:ILE:O	20:T:34:LYS:C	2.52	0.52
1:A:121:G:N2	17:Q:61:GLU:OE1	2.42	0.52
1:A:172:C:P	20:T:65:LYS:HZ2	2.33	0.52
1:A:270:A:O2'	1:A:271:G:P	2.68	0.52
1:A:801:C:H4'	1:A:802:G:O5'	2.09	0.52
1:A:1021:C:H2'	1:A:1022:C:C6	2.45	0.52
1:A:1077:G:H5''	1:A:1078:U:H5	1.75	0.52
1:A:1299:C:O2'	1:A:1300:A:H5'	2.10	0.52
1:A:1308:C:OP2	21:U:6:ARG:CZ	2.58	0.52
1:A:1358:A:H4'	7:G:29:LYS:HE2	1.91	0.52
2:B:46:LYS:O	2:B:48:MET:N	2.43	0.52
2:B:147:LYS:HB3	2:B:148:TYR:CD2	2.45	0.52
3:C:34:LEU:CD1	14:N:25:VAL:HG21	2.39	0.52
9:I:121:ARG:HG2	9:I:121:ARG:NH1	2.22	0.52
10:J:8:LEU:CD2	10:J:96:ILE:HG12	2.40	0.52
13:M:11:ARG:CG	13:M:12:ASN:N	2.73	0.52
17:Q:78:GLU:OE1	17:Q:81:ARG:HD2	2.09	0.52
20:T:76:ALA:O	20:T:80:ARG:HG2	2.10	0.52
1:A:366:C:C2'	1:A:367:G:H5'	2.39	0.52
1:A:823:U:O2	1:A:823:U:H2'	2.09	0.52
1:A:1328:A:H5'	9:I:120:ARG:HH12	1.75	0.52
1:A:1355:U:O2'	1:A:1356:G:H5'	2.10	0.52
2:B:78:GLN:O	2:B:94:ASN:OD1	2.28	0.52
2:B:132:LYS:HA	2:B:135:GLN:HB3	1.92	0.52
3:C:33:LEU:CD1	14:N:53:LEU:HD22	2.40	0.52
8:H:111:ILE:HD12	8:H:135:CYS:SG	2.50	0.52
12:L:53:ARG:HB2	12:L:93:LEU:HD11	1.92	0.52
12:L:65:GLU:CD	12:L:65:GLU:N	2.68	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:O:46:HIS:C	15:O:48:LYS:N	2.66	0.52
16:P:67:THR:HB	16:P:70:ALA:HB2	1.92	0.52
1:A:239:A:C4'	1:A:240:U:H5'	2.27	0.51
1:A:366:C:C2	1:A:367:G:C8	2.99	0.51
1:A:574:C:C2	1:A:575:U:C5	2.99	0.51
1:A:959:U:H4'	14:N:21:TYR:CD2	2.46	0.51
1:A:1220:A:C8	1:A:1285:C:H1'	2.44	0.51
1:A:1331:A:C4	1:A:1332:A:C8	2.98	0.51
1:A:1422:C:OP1	20:T:38:LYS:NZ	2.43	0.51
2:B:126:GLU:O	2:B:129:GLU:HB2	2.11	0.51
2:B:149:LEU:C	2:B:151:GLY:N	2.68	0.51
4:D:18:LYS:HB3	4:D:20:TYR:CE2	2.46	0.51
4:D:61:LYS:HD3	4:D:206:PHE:CD2	2.46	0.51
4:D:103:ASN:O	4:D:104:VAL:C	2.50	0.51
4:D:110:PHE:HD1	4:D:162:LEU:HD21	1.75	0.51
4:D:170:VAL:HG21	4:D:176:LEU:HD22	1.92	0.51
6:F:6:VAL:HG22	6:F:90:VAL:HG22	1.92	0.51
7:G:44:TYR:O	7:G:47:CYS:HB2	2.10	0.51
14:N:23:ARG:HA	14:N:30:ALA:HA	1.92	0.51
14:N:47:LEU:O	14:N:48:ALA:C	2.53	0.51
14:N:57:ARG:HG2	14:N:58:LYS:H	1.75	0.51
20:T:45:GLN:HA	20:T:91:LEU:HD22	1.92	0.51
20:T:49:ALA:O	20:T:52:ALA:N	2.43	0.51
1:A:307:C:O2'	1:A:308:C:H5'	2.09	0.51
1:A:850:A:C2	1:A:852:G:C5	2.99	0.51
1:A:1417:A:H2'	1:A:1418:G:O4'	2.09	0.51
3:C:52:LEU:O	3:C:53:ALA:HB2	2.10	0.51
5:E:43:LEU:HB3	5:E:136:MET:HE2	1.91	0.51
9:I:26:VAL:HA	9:I:61:ALA:O	2.10	0.51
13:M:84:ILE:O	13:M:86:CYS:N	2.43	0.51
14:N:17:LYS:HD3	14:N:17:LYS:C	2.35	0.51
19:S:70:LYS:O	19:S:71:LEU:C	2.53	0.51
20:T:14:LYS:O	20:T:18:GLN:HG3	2.09	0.51
20:T:59:ALA:C	20:T:63:ILE:HD12	2.36	0.51
1:A:23:G:H2'	1:A:24:C:H6	1.72	0.51
1:A:45:G:H2'	1:A:46:U:O4'	2.10	0.51
1:A:462:G:H2'	1:A:463:A:H8	1.75	0.51
1:A:541:G:H2'	1:A:542:G:O4'	2.11	0.51
1:A:857:C:H2'	1:A:858:C:C6	2.45	0.51
1:A:1287:G:N2	1:A:1313:G:O2'	2.42	0.51
2:B:87:ARG:HD3	2:B:234:PRO:HD2	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:98:LEU:CB	2:B:101:MET:SD	2.93	0.51
2:B:222:ILE:HG22	2:B:223:ILE:N	2.24	0.51
9:I:10:ARG:O	9:I:11:LYS:C	2.54	0.51
9:I:127:LYS:N	9:I:127:LYS:HD2	2.26	0.51
13:M:10:PRO:HB2	13:M:18:ALA:CB	2.38	0.51
13:M:17:VAL:O	13:M:20:THR:CB	2.58	0.51
13:M:60:VAL:O	13:M:62:ASN:N	2.43	0.51
14:N:41:ARG:NH1	14:N:41:ARG:CG	2.66	0.51
15:O:36:ILE:HA	15:O:59:MET:HE3	1.92	0.51
15:O:75:PRO:O	15:O:78:TYR:HB3	2.09	0.51
18:R:37:VAL:HG21	18:R:78:LEU:HB3	1.92	0.51
20:T:15:ARG:O	20:T:18:GLN:N	2.42	0.51
20:T:33:ILE:HD13	20:T:63:ILE:HA	1.91	0.51
1:A:43:G:C4	1:A:44:C:C5	2.98	0.51
1:A:163:G:O2'	1:A:164:C:H5'	2.11	0.51
1:A:276:C:H4'	1:A:277:G:OP2	2.10	0.51
1:A:982:G:C2	1:A:983:A:H1'	2.44	0.51
1:A:983:A:N7	1:A:1020:C:N3	2.59	0.51
1:A:1149:G:N2	1:A:1151:A:H3'	2.25	0.51
1:A:1328:A:H61	1:A:1357:A:H3'	1.75	0.51
2:B:23:ARG:O	2:B:24:TRP:O	2.28	0.51
3:C:147:LYS:O	3:C:203:PHE:CD2	2.63	0.51
4:D:43:HIS:O	4:D:44:GLY:C	2.51	0.51
4:D:78:LEU:HB3	4:D:93:PHE:HE2	1.75	0.51
5:E:136:MET:O	5:E:139:LEU:N	2.36	0.51
8:H:24:THR:HG23	8:H:24:THR:O	2.10	0.51
9:I:26:VAL:HB	9:I:33:PHE:CB	2.33	0.51
9:I:84:ALA:O	9:I:86:VAL:N	2.44	0.51
11:K:32:ILE:CG2	11:K:77:MET:HE2	2.41	0.51
15:O:81:LEU:O	15:O:82:ILE:C	2.51	0.51
16:P:59:TRP:O	16:P:60:LEU:C	2.52	0.51
18:R:48:GLY:H	18:R:82:THR:HA	1.75	0.51
20:T:39:LYS:O	20:T:43:LEU:HG	2.11	0.51
20:T:79:ARG:O	20:T:80:ARG:C	2.52	0.51
21:U:5:ASP:O	21:U:11:GLY:HA3	2.10	0.51
1:A:74:G:O2'	1:A:75:C:H5'	2.10	0.51
1:A:211:U:H5'	1:A:212:G:OP1	2.10	0.51
1:A:263:C:P	17:Q:67:LYS:HB2	2.50	0.51
1:A:937:A:H3'	1:A:938:U:C5'	2.32	0.51
3:C:155:GLY:HA3	3:C:163:ALA:CB	2.36	0.51
4:D:3:ARG:NH2	4:D:74:GLN:OE1	2.43	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:25:ARG:CZ	4:D:30:LYS:HB3	2.40	0.51
8:H:47:GLY:O	8:H:62:TYR:HB2	2.11	0.51
10:J:15:THR:CG2	10:J:16:LEU:N	2.73	0.51
10:J:96:ILE:HG22	10:J:97:GLU:N	2.25	0.51
13:M:6:GLY:O	13:M:7:VAL:CG2	2.53	0.51
13:M:26:GLY:O	13:M:28:ALA:N	2.43	0.51
16:P:11:SER:O	16:P:12:LYS:C	2.51	0.51
16:P:36:ILE:HG13	16:P:37:GLY:N	2.26	0.51
1:A:198:G:C4	20:T:105:SER:HB2	2.45	0.51
1:A:673:C:OP2	11:K:46:GLY:HA3	2.10	0.51
1:A:896:A:C6	1:A:897:A:C6	2.98	0.51
1:A:1114:G:H1	1:A:1126:G:H21	1.59	0.51
1:A:1143:G:O2'	1:A:1144:C:H5'	2.11	0.51
3:C:12:LEU:HD21	14:N:51:GLY:HA3	1.92	0.51
4:D:76:ARG:O	4:D:79:PHE:HB3	2.10	0.51
4:D:203:VAL:O	4:D:204:ILE:C	2.54	0.51
5:E:34:VAL:N	5:E:42:GLY:O	2.44	0.51
6:F:100:ASN:ND2	18:R:23:LYS:O	2.44	0.51
8:H:31:PHE:HE1	8:H:118:VAL:CG2	2.24	0.51
9:I:111:ARG:HD3	9:I:112:LYS:C	2.35	0.51
9:I:118:LYS:O	9:I:119:ALA:CB	2.58	0.51
12:L:78:GLN:N	12:L:81:SER:OG	2.39	0.51
15:O:24:SER:O	15:O:27:VAL:N	2.43	0.51
17:Q:29:HIS:CE1	17:Q:31:LEU:H	2.29	0.51
17:Q:82:MET:O	17:Q:83:ASP:C	2.54	0.51
1:A:170:C:O2'	1:A:171:C:H5'	2.11	0.51
1:A:676:U:H1'	1:A:679:A:N7	2.25	0.51
1:A:703:C:O2	18:R:50:ILE:HG13	2.10	0.51
1:A:804:U:C4'	1:A:805:G:OP2	2.54	0.51
1:A:917:G:C6	1:A:918:C:N4	2.79	0.51
1:A:1208:C:H5''	13:M:103:THR:CB	2.40	0.51
4:D:11:LEU:C	4:D:13:ARG:N	2.66	0.51
5:E:129:ILE:O	5:E:132:ALA:HB3	2.10	0.51
13:M:86:CYS:O	13:M:89:GLY:N	2.40	0.51
15:O:17:ARG:HH11	15:O:17:ARG:CG	2.22	0.51
15:O:67:LEU:O	15:O:70:LEU:N	2.44	0.51
17:Q:97:SER:O	17:Q:99:SER:N	2.43	0.51
20:T:57:ARG:NH2	20:T:100:ILE:HG21	2.26	0.51
20:T:82:SER:O	20:T:86:ARG:HB2	2.11	0.51
1:A:36:G:H2'	1:A:37:C:C6	2.46	0.51
1:A:76:G:O2'	1:A:77:G:H5'	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:126:C:H2'	1:A:127:C:C6	2.46	0.51
1:A:154:G:H2'	1:A:156:A:OP2	2.11	0.51
1:A:209:U:O2'	1:A:210:U:OP1	2.24	0.51
1:A:480:A:H5'	1:A:481:A:OP1	2.11	0.51
1:A:549:U:C4	1:A:550:G:C5	2.98	0.51
1:A:591:A:O2'	1:A:592:A:H5'	2.11	0.51
1:A:679:A:H2'	1:A:680:A:C8	2.45	0.51
1:A:864:G:C6	1:A:865:G:C5	2.99	0.51
1:A:1380:C:OP2	5:E:24:ARG:NH2	2.44	0.51
2:B:200:ILE:HG22	2:B:201:ILE:H	1.75	0.51
4:D:64:LEU:HD21	4:D:94:LEU:HD21	1.93	0.51
4:D:78:LEU:CD1	4:D:97:LEU:HD23	2.41	0.51
4:D:194:LEU:HD22	4:D:194:LEU:N	2.25	0.51
9:I:43:ALA:O	9:I:44:VAL:C	2.53	0.51
10:J:75:ILE:HG22	10:J:76:ASN:N	2.25	0.51
13:M:23:TYR:CG	13:M:23:TYR:O	2.64	0.51
14:N:27:CYS:SG	14:N:29:ARG:HB3	2.49	0.51
15:O:55:GLY:O	15:O:58:MET:HB2	2.11	0.51
15:O:76:GLU:OE2	15:O:80:ALA:HB2	2.10	0.51
18:R:66:LEU:HD21	18:R:70:ILE:CD1	2.41	0.51
20:T:85:MET:HE3	20:T:103:GLY:O	2.10	0.51
1:A:618:C:O2'	1:A:619:G:H5'	2.11	0.51
1:A:649:A:N3	1:A:716:C:H2'	2.26	0.51
1:A:732:C:O2'	1:A:733:C:OP2	2.28	0.51
1:A:736:G:H4'	1:A:738:C:H5	1.75	0.51
1:A:959:U:H2'	1:A:960:U:C5	2.46	0.51
1:A:1072:G:N2	1:A:1073:U:H1'	2.26	0.51
1:A:1172:G:H2'	1:A:1173:A:OP2	2.11	0.51
1:A:1299:C:H2'	1:A:1300:A:O4'	2.11	0.51
1:A:1309:C:H2'	1:A:1310:C:H6	1.76	0.51
1:A:1397:U:H2'	1:A:1398:G:H8	1.76	0.51
1:A:1443:C:H2'	1:A:1444:C:O4'	2.11	0.51
3:C:160:ALA:C	3:C:162:GLN:H	2.19	0.51
8:H:1:MET:CG	8:H:2:LEU:N	2.73	0.51
11:K:18:ARG:NH1	11:K:36:ASP:HA	2.25	0.51
21:U:20:LYS:O	21:U:20:LYS:HG2	2.10	0.51
1:A:104:C:C4	1:A:105:G:C5	2.99	0.51
1:A:271:G:C5'	17:Q:14:LYS:HD3	2.41	0.51
1:A:521:G:H2'	1:A:522:G:H8	1.75	0.51
1:A:522:G:O3'	12:L:114:LYS:HD3	2.11	0.51
1:A:805:G:N1	1:A:858:C:C4	2.79	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:981:G:N2	1:A:1022:C:C2	2.79	0.51
1:A:1032:U:H1'	1:A:1183:A:N7	2.25	0.51
1:A:1231:C:O2'	9:I:73:GLN:NE2	2.43	0.51
1:A:1270:A:C2	1:A:1271:A:C4	2.99	0.51
1:A:1301:A:H5'	1:A:1302:C:OP1	2.11	0.51
1:A:1329:G:C2'	1:A:1330:U:OP2	2.58	0.51
1:A:1408:U:H2'	1:A:1409:C:C6	2.45	0.51
5:E:98:THR:N	5:E:117:ASP:OD1	2.41	0.51
7:G:79:ARG:HA	7:G:83:ALA:O	2.09	0.51
11:K:91:ARG:CD	18:R:88:LYS:HE2	2.38	0.51
17:Q:27:PHE:HB2	17:Q:28:PRO:HD2	1.92	0.51
18:R:47:THR:HA	18:R:83:GLU:HB2	1.92	0.51
18:R:53:ARG:CG	18:R:63:GLN:HG2	2.37	0.51
1:A:10:G:N2	1:A:11:A:C4	2.79	0.50
1:A:738:C:O2	1:A:738:C:H2'	2.11	0.50
1:A:796:C:O2'	1:A:797:U:OP2	2.28	0.50
1:A:1307:C:H2'	1:A:1308:C:H6	1.76	0.50
2:B:19:HIS:NE2	2:B:206:ASP:HB3	2.26	0.50
2:B:53:ARG:O	2:B:56:ARG:HB3	2.10	0.50
3:C:72:LYS:C	3:C:74:GLY:N	2.68	0.50
3:C:84:ILE:O	3:C:84:ILE:HG12	2.10	0.50
5:E:128:PRO:HG2	5:E:129:ILE:H	1.76	0.50
7:G:144:MET:O	7:G:147:ALA:HB3	2.11	0.50
8:H:26:VAL:HG22	8:H:59:LEU:HB2	1.93	0.50
13:M:52:GLU:O	13:M:53:VAL:C	2.54	0.50
14:N:41:ARG:HH11	14:N:41:ARG:CG	2.08	0.50
16:P:13:HIS:O	16:P:15:PRO:HD2	2.12	0.50
16:P:34:GLU:OE2	16:P:55:ARG:HD3	2.10	0.50
18:R:28:GLU:OE1	18:R:28:GLU:N	2.44	0.50
19:S:34:TRP:O	19:S:36:ARG:N	2.41	0.50
20:T:51:GLU:HA	20:T:54:LYS:HB2	1.93	0.50
1:A:170:C:H2'	1:A:171:C:C6	2.44	0.50
1:A:324:C:O2'	1:A:325:A:P	2.68	0.50
1:A:368:C:N4	1:A:384:G:OP2	2.44	0.50
1:A:892:A:O2'	1:A:893:A:H5'	2.11	0.50
2:B:101:MET:HA	2:B:108:ILE:HD12	1.92	0.50
4:D:57:ARG:HH22	5:E:107:ARG:HD3	1.77	0.50
4:D:203:VAL:O	4:D:206:PHE:HB3	2.10	0.50
8:H:51:VAL:O	8:H:58:TYR:N	2.43	0.50
8:H:63:LEU:HB3	8:H:65:TYR:CE1	2.46	0.50
8:H:83:ILE:HG13	8:H:137:VAL:CG2	2.35	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:61:GLU:CD	14:N:45:ARG:NH1	2.69	0.50
12:L:55:VAL:HG12	12:L:56:ALA:H	1.76	0.50
17:Q:104:LYS:O	17:Q:105:ALA:HB2	2.11	0.50
1:A:63:U:H2'	1:A:64:C:C6	2.47	0.50
1:A:172:C:P	20:T:65:LYS:NZ	2.85	0.50
1:A:281:G:O2'	1:A:282:G:H5'	2.11	0.50
1:A:390:G:H2'	1:A:391:C:H6	1.75	0.50
1:A:493:A:H8	1:A:493:A:O5'	1.94	0.50
1:A:720:C:H2'	1:A:721:A:H8	1.73	0.50
1:A:1408:U:O2'	1:A:1409:C:H5'	2.10	0.50
2:B:142:LEU:HA	2:B:146:GLN:HE22	1.74	0.50
2:B:204:ASN:ND2	2:B:206:ASP:N	2.56	0.50
4:D:179:GLU:C	4:D:181:MET:N	2.68	0.50
7:G:110:GLN:OE1	7:G:110:GLN:HA	2.10	0.50
8:H:111:ILE:C	8:H:134:ILE:HD12	2.36	0.50
11:K:85:ARG:HE	11:K:111:ASP:HB3	1.77	0.50
19:S:11:VAL:HA	19:S:38:SER:HB2	1.92	0.50
19:S:22:LEU:HD21	19:S:28:LYS:HD2	1.93	0.50
20:T:61:SER:O	20:T:62:LEU:C	2.54	0.50
1:A:536:U:H2'	1:A:537:A:H8	1.77	0.50
1:A:763:C:N4	1:A:764:A:C6	2.79	0.50
1:A:868:G:O2'	1:A:869:U:OP2	2.29	0.50
1:A:1290:U:OP1	13:M:98:VAL:N	2.43	0.50
2:B:20:GLU:CG	2:B:189:ASP:OD2	2.60	0.50
2:B:119:GLU:CD	2:B:153:ARG:HH22	2.20	0.50
4:D:10:ARG:HH11	4:D:10:ARG:CG	2.25	0.50
4:D:64:LEU:HD12	4:D:75:PHE:CE1	2.47	0.50
5:E:93:PRO:CG	8:H:105:ARG:HE	2.25	0.50
6:F:8:ILE:HD11	6:F:79:LEU:HD13	1.92	0.50
9:I:69:GLY:C	9:I:73:GLN:HG3	2.36	0.50
12:L:49:ASN:HD22	12:L:49:ASN:N	2.08	0.50
13:M:15:VAL:O	13:M:18:ALA:HB3	2.12	0.50
16:P:11:SER:O	16:P:14:ASN:N	2.39	0.50
19:S:39:THR:HA	19:S:70:LYS:HG2	1.94	0.50
1:A:484:G:N2	1:A:530:G:H1'	2.27	0.50
1:A:485:C:O3'	12:L:118:SER:HB2	2.12	0.50
1:A:741:U:O2'	1:A:857:C:H1'	2.11	0.50
1:A:982:G:C6	1:A:983:A:N3	2.79	0.50
1:A:1249:C:O2	21:U:20:LYS:HD3	2.12	0.50
1:A:1280:C:C4	7:G:114:ARG:HD3	2.46	0.50
2:B:33:TYR:O	2:B:34:ALA:HB2	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:196:LEU:N	2:B:196:LEU:HD23	2.27	0.50
4:D:64:LEU:HD23	4:D:198:VAL:CB	2.40	0.50
6:F:24:GLU:O	6:F:25:ILE:C	2.53	0.50
13:M:40:ASN:O	13:M:43:THR:HG23	2.12	0.50
18:R:34:TYR:CD2	18:R:34:TYR:N	2.78	0.50
21:U:17:THR:O	21:U:22:ARG:HD3	2.12	0.50
1:A:232:G:C6	1:A:233:C:C4	2.99	0.50
1:A:368:C:O2'	1:A:369:A:OP2	2.21	0.50
2:B:126:GLU:HG2	2:B:129:GLU:OE1	2.11	0.50
2:B:178:ARG:HH21	8:H:74:PRO:HG3	1.77	0.50
4:D:200:GLU:HG2	4:D:201:GLN:N	2.27	0.50
5:E:89:ILE:HD13	5:E:90:VAL:C	2.36	0.50
14:N:18:VAL:O	14:N:20:ALA:N	2.39	0.50
14:N:24:CYS:N	14:N:33:VAL:HG11	2.27	0.50
15:O:32:LEU:CD1	15:O:63:ARG:HB2	2.42	0.50
15:O:46:HIS:O	15:O:48:LYS:N	2.45	0.50
19:S:44:MET:O	19:S:45:VAL:C	2.54	0.50
1:A:324:C:HO2'	1:A:325:A:P	2.35	0.50
1:A:723:C:P	6:F:2:ARG:HH22	2.35	0.50
1:A:736:G:O2'	1:A:737:A:O5'	2.30	0.50
1:A:866:G:N1	1:A:867:A:N6	2.60	0.50
1:A:976:G:O2'	1:A:977:C:H5'	2.11	0.50
1:A:1287:G:H5''	21:U:4:GLY:C	2.36	0.50
1:A:1298:G:N2	1:A:1300:A:H3'	2.27	0.50
5:E:15:ARG:O	5:E:16:THR:CG2	2.58	0.50
15:O:32:LEU:O	15:O:34:LEU:N	2.45	0.50
1:A:231:C:H2'	1:A:232:G:H8	1.77	0.50
1:A:528:G:H2'	1:A:529:C:H6	1.77	0.50
1:A:536:U:H2'	1:A:537:A:C8	2.46	0.50
1:A:609:G:C4	1:A:610:U:C5	2.99	0.50
1:A:745:G:O2'	17:Q:104:LYS:HA	2.11	0.50
1:A:1062:G:H2'	1:A:1063:A:C8	2.47	0.50
3:C:79:ARG:HG3	3:C:82:GLU:HB3	1.94	0.50
3:C:130:VAL:O	3:C:134:ILE:HG13	2.12	0.50
6:F:22:GLU:OE2	6:F:84:ASN:HB2	2.11	0.50
7:G:42:ILE:CG2	7:G:120:ILE:HD12	2.40	0.50
10:J:29:ARG:C	10:J:84:GLN:HE22	2.19	0.50
13:M:18:ALA:O	13:M:19:LEU:C	2.54	0.50
13:M:34:LEU:HD13	13:M:41:PRO:HA	1.93	0.50
13:M:81:LEU:HA	13:M:84:ILE:HD11	1.94	0.50
15:O:61:GLY:O	15:O:62:GLN:C	2.54	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:O:82:ILE:O	15:O:85:LEU:N	2.36	0.50
20:T:57:ARG:HD2	20:T:103:GLY:H	1.77	0.50
1:A:212:G:H2'	1:A:213:C:H6	1.77	0.50
1:A:289:G:C6	1:A:290:U:C4	3.00	0.50
1:A:298:G:N3	1:A:540:C:H4'	2.27	0.50
1:A:1342:A:H2'	1:A:1343:G:C8	2.46	0.50
2:B:142:LEU:CB	2:B:146:GLN:HE22	2.25	0.50
3:C:10:PHE:CE2	3:C:178:LEU:HD13	2.46	0.50
3:C:178:LEU:O	3:C:179:ARG:HB2	2.12	0.50
4:D:103:ASN:O	4:D:106:TYR:HB3	2.12	0.50
6:F:75:LEU:HD13	6:F:75:LEU:C	2.36	0.50
7:G:65:ALA:HB1	7:G:127:ALA:CB	2.42	0.50
9:I:69:GLY:O	9:I:70:LYS:C	2.53	0.50
9:I:86:VAL:HG13	9:I:90:PRO:HA	1.94	0.50
9:I:93:ARG:O	9:I:96:LEU:N	2.45	0.50
11:K:66:LEU:O	11:K:67:ASP:C	2.54	0.50
12:L:51:ALA:C	12:L:52:LEU:HG	2.37	0.50
16:P:8:ARG:HG2	16:P:17:TYR:HE2	1.75	0.50
18:R:65:ILE:O	18:R:67:ALA:N	2.45	0.50
19:S:47:HIS:H	19:S:62:ILE:CG2	2.25	0.50
20:T:56:MET:O	20:T:57:ARG:C	2.55	0.50
1:A:84:A:H2'	1:A:85:C:O4'	2.12	0.49
1:A:639:A:C2	1:A:738:C:N4	2.80	0.49
1:A:654:G:C2	1:A:721:A:C2	3.00	0.49
1:A:856:G:C5'	8:H:89:PRO:HG2	2.42	0.49
1:A:1099:C:C2'	1:A:1100:G:H5''	2.42	0.49
1:A:1230:A:H1'	9:I:70:LYS:HZ3	1.76	0.49
1:A:1292:G:C2	1:A:1310:C:N3	2.80	0.49
2:B:80:ILE:HD13	2:B:212:GLN:HB2	1.94	0.49
3:C:201:TYR:O	3:C:202:ILE:HG13	2.13	0.49
4:D:71:SER:O	4:D:72:GLU:C	2.54	0.49
9:I:110:GLU:OE2	9:I:113:LYS:NZ	2.45	0.49
12:L:39:VAL:HB	12:L:57:LYS:HG2	1.93	0.49
13:M:62:ASN:O	13:M:63:THR:CB	2.52	0.49
13:M:71:ARG:O	13:M:72:ALA:C	2.55	0.49
17:Q:97:SER:C	17:Q:98:LEU:HD12	2.37	0.49
1:A:90:U:H2'	1:A:91:G:H8	1.77	0.49
1:A:222:G:C6	1:A:223:G:N7	2.80	0.49
1:A:238:C:H2'	1:A:239:A:H5'	1.94	0.49
1:A:311:A:H4'	1:A:349:A:N1	2.27	0.49
1:A:338:C:H2'	1:A:339:U:O4'	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:341:C:H4'	1:A:342:G:C5'	2.42	0.49
1:A:385:A:C6	1:A:386:C:H1'	2.47	0.49
1:A:540:C:O2'	1:A:541:G:H5'	2.11	0.49
1:A:820:G:C6	1:A:829:G:C6	3.00	0.49
1:A:1087:G:OP1	2:B:111:ARG:HD2	2.11	0.49
1:A:1205:C:OP1	1:A:1206:G:H3'	2.12	0.49
1:A:1227:A:H2'	1:A:1228:C:C6	2.47	0.49
22:A:1524:KSG:O6	22:A:1524:KSG:H1	2.13	0.49
3:C:119:ARG:HG2	3:C:140:ARG:HH12	1.76	0.49
4:D:162:LEU:O	4:D:165:MET:HB2	2.12	0.49
5:E:11:ILE:HG22	5:E:31:LEU:CB	2.42	0.49
8:H:20:TYR:HA	8:H:65:TYR:CZ	2.48	0.49
10:J:85:LEU:O	10:J:86:MET:C	2.55	0.49
15:O:46:HIS:C	15:O:48:LYS:H	2.20	0.49
18:R:53:ARG:HH12	18:R:59:SER:HA	1.76	0.49
1:A:434:G:O3'	1:A:478:G:N1	2.45	0.49
1:A:850:A:C4'	1:A:851:A:OP1	2.58	0.49
1:A:918:C:H2'	1:A:919:G:C8	2.47	0.49
1:A:1047:G:O2'	1:A:1172:G:N2	2.45	0.49
1:A:1258:G:H8	1:A:1258:G:O5'	1.96	0.49
3:C:42:LEU:O	3:C:45:LYS:N	2.44	0.49
4:D:78:LEU:HD13	4:D:97:LEU:HD23	1.94	0.49
5:E:144:THR:HG22	5:E:146:ALA:N	2.26	0.49
13:M:15:VAL:CG1	13:M:34:LEU:HD11	2.42	0.49
16:P:48:TRP:CE3	16:P:49:LEU:HB2	2.47	0.49
18:R:45:SER:OG	18:R:49:LYS:HB2	2.12	0.49
1:A:39:G:C2	1:A:393:A:C2	3.00	0.49
1:A:202:A:H2'	1:A:203:A:C8	2.47	0.49
1:A:246:A:C2	1:A:270:A:C6	3.00	0.49
1:A:296:A:H2'	1:A:297:G:O4'	2.12	0.49
1:A:341:C:H4'	1:A:342:G:H5''	1.94	0.49
1:A:501:G:HO2'	1:A:502:C:P	2.34	0.49
1:A:605:A:H8	1:A:605:A:O5'	1.95	0.49
2:B:44:LEU:C	2:B:46:LYS:N	2.67	0.49
2:B:46:LYS:O	2:B:49:GLU:N	2.46	0.49
2:B:115:LEU:O	2:B:116:GLU:C	2.55	0.49
2:B:126:GLU:HA	2:B:129:GLU:HG3	1.94	0.49
5:E:40:ARG:HH11	5:E:40:ARG:CG	2.23	0.49
8:H:5:PRO:O	8:H:8:ASP:HB3	2.11	0.49
8:H:91:ARG:CG	12:L:7:ILE:HG13	2.39	0.49
12:L:111:LYS:O	12:L:112:ASP:CB	2.60	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:Q:76:LEU:HD23	17:Q:77:VAL:N	2.25	0.49
1:A:382:C:C2'	1:A:383:U:H5'	2.42	0.49
1:A:470:G:C2'	1:A:471:U:OP2	2.60	0.49
1:A:510:C:OP1	1:A:891:A:H3'	2.12	0.49
1:A:795:C:H4'	1:A:878:A:N6	2.27	0.49
1:A:952:A:C4	14:N:31:ARG:NH2	2.81	0.49
1:A:1078:U:H2'	1:A:1079:C:O4'	2.12	0.49
3:C:92:ALA:C	3:C:94:LEU:N	2.70	0.49
3:C:118:GLN:O	3:C:121:ALA:HB3	2.12	0.49
3:C:119:ARG:CG	3:C:140:ARG:HH12	2.26	0.49
4:D:130:GLY:O	4:D:131:ARG:C	2.55	0.49
6:F:56:PRO:O	6:F:57:GLN:HG3	2.11	0.49
8:H:52:ASP:HA	8:H:56:LYS:O	2.12	0.49
10:J:25:GLU:O	10:J:26:ALA:C	2.54	0.49
13:M:70:LEU:O	13:M:71:ARG:C	2.56	0.49
1:A:208:C:N4	1:A:210:U:H1'	2.27	0.49
1:A:324:C:H4'	1:A:325:A:C5'	2.41	0.49
1:A:397:C:O2'	1:A:398:G:H5'	2.13	0.49
1:A:670:U:H2'	1:A:671:A:C8	2.47	0.49
1:A:702:G:O4'	11:K:117:ASN:ND2	2.45	0.49
1:A:739:G:OP2	15:O:65:ARG:CG	2.61	0.49
1:A:823:U:O2	1:A:823:U:C2'	2.61	0.49
1:A:970:U:O2'	1:A:971:G:OP2	2.28	0.49
1:A:1110:G:N1	1:A:1128:C:N3	2.59	0.49
1:A:1192:C:H5'	1:A:1196:C:N4	2.28	0.49
1:A:1429:C:C2	1:A:1430:C:C5	3.01	0.49
2:B:13:ALA:C	2:B:15:VAL:H	2.21	0.49
3:C:38:ARG:HG3	3:C:38:ARG:NH1	2.27	0.49
4:D:65:ARG:NE	4:D:72:GLU:HA	2.27	0.49
4:D:194:LEU:HD22	4:D:194:LEU:H	1.77	0.49
5:E:102:ALA:CB	5:E:120:THR:HG21	2.42	0.49
6:F:17:SER:O	6:F:18:GLN:C	2.55	0.49
9:I:18:PHE:HB2	9:I:62:TYR:O	2.12	0.49
12:L:113:ARG:CB	12:L:122:THR:HG21	2.43	0.49
20:T:63:ILE:O	20:T:66:ALA:N	2.35	0.49
1:A:21:U:H2'	1:A:22:G:H8	1.77	0.49
1:A:373:G:P	16:P:5:ARG:HH11	2.36	0.49
1:A:581:G:C8	1:A:582:U:C5	3.00	0.49
1:A:768:C:C2	1:A:769:G:C8	3.01	0.49
1:A:791:A:C4	1:A:792:C:C5	3.00	0.49
1:A:981:G:C2	1:A:982:G:C6	3.01	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1113:A:P	1:A:1114:G:OP2	2.71	0.49
1:A:1204:G:O2'	1:A:1205:C:H5'	2.13	0.49
1:A:1313:G:C2'	1:A:1314:A:OP2	2.60	0.49
3:C:29:TYR:C	3:C:29:TYR:HD2	2.20	0.49
3:C:70:VAL:O	3:C:106:VAL:HG23	2.12	0.49
3:C:145:GLY:O	3:C:146:ALA:HB3	2.12	0.49
3:C:147:LYS:HE2	3:C:205:GLY:HA2	1.94	0.49
3:C:155:GLY:HA2	3:C:164:ARG:H	1.77	0.49
3:C:186:PHE:CD1	3:C:187:ALA:N	2.80	0.49
4:D:61:LYS:HD2	4:D:207:TYR:CZ	2.48	0.49
4:D:191:ARG:NH2	4:D:198:VAL:O	2.44	0.49
9:I:78:LYS:O	9:I:79:LEU:C	2.53	0.49
12:L:54:LYS:C	12:L:55:VAL:HG23	2.38	0.49
12:L:79:GLU:HB3	12:L:80:HIS:CE1	2.48	0.49
13:M:117:VAL:HG12	13:M:118:ALA:N	2.23	0.49
19:S:16:LEU:HA	19:S:19:VAL:HG12	1.94	0.49
1:A:166:A:O2'	1:A:167:A:H5'	2.13	0.49
1:A:497:C:O2'	1:A:498:C:H5'	2.12	0.49
1:A:620:U:H2'	1:A:621:G:C8	2.46	0.49
1:A:667:G:H2'	1:A:668:A:C8	2.48	0.49
1:A:762:G:C2'	1:A:763:C:H5'	2.43	0.49
1:A:1044:G:C2	1:A:1179:G:N3	2.81	0.49
1:A:1173:A:H2'	1:A:1174:C:H6	1.78	0.49
1:A:1358:A:C6	1:A:1359:U:N3	2.81	0.49
3:C:3:ASN:O	3:C:4:LYS:CG	2.61	0.49
3:C:191:THR:HG22	3:C:192:THR:N	2.27	0.49
5:E:89:ILE:HD12	5:E:91:LEU:HG	1.95	0.49
5:E:141:GLN:O	5:E:142:LEU:O	2.30	0.49
6:F:38:GLU:OE1	6:F:66:GLU:HB2	2.13	0.49
8:H:14:ARG:O	8:H:17:THR:OG1	2.30	0.49
9:I:73:GLN:O	9:I:76:ALA:HB3	2.13	0.49
9:I:100:GLY:C	9:I:102:LEU:H	2.20	0.49
16:P:13:HIS:C	16:P:15:PRO:CD	2.85	0.49
16:P:67:THR:HB	16:P:70:ALA:CB	2.42	0.49
1:A:182:C:P	20:T:82:SER:HB3	2.52	0.49
1:A:961:A:OP1	14:N:6:LEU:HD21	2.12	0.49
1:A:1000:G:C2	1:A:1001:G:H1'	2.48	0.49
1:A:1221:A:H2'	1:A:1280:C:N4	2.28	0.49
4:D:199:ASN:O	4:D:202:LEU:N	2.44	0.49
10:J:30:SER:HB3	10:J:84:GLN:HE21	1.78	0.49
11:K:34:ASP:OD1	11:K:38:ASN:N	2.46	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:K:97:ALA:O	11:K:101:SER:HB3	2.13	0.49
13:M:104:ARG:O	13:M:105:THR:HG23	2.13	0.49
13:M:108:ARG:O	13:M:109:THR:C	2.54	0.49
16:P:53:VAL:O	16:P:54:GLU:C	2.56	0.49
18:R:37:VAL:HG21	18:R:78:LEU:HD22	1.95	0.49
19:S:44:MET:O	19:S:47:HIS:CD2	2.65	0.49
19:S:44:MET:HA	19:S:47:HIS:HD2	1.78	0.49
20:T:32:ALA:O	20:T:35:THR:HB	2.13	0.49
1:A:76:G:H2'	1:A:77:G:O4'	2.12	0.49
1:A:215:C:H2'	1:A:216:G:O4'	2.13	0.49
1:A:445:G:N7	1:A:466:G:O6	2.46	0.49
1:A:542:G:C5	1:A:543:A:C2	3.00	0.49
1:A:685:C:H5''	1:A:687:G:O4'	2.12	0.49
1:A:744:G:C2'	1:A:745:G:H5'	2.43	0.49
1:A:745:G:H4'	17:Q:102:GLY:CA	2.42	0.49
1:A:751:A:H2'	1:A:752:A:O4'	2.12	0.49
1:A:853:C:O2'	8:H:14:ARG:NH1	2.43	0.49
1:A:856:G:C6	1:A:857:C:C4	3.01	0.49
1:A:938:U:HO2'	1:A:1205:C:H4'	1.76	0.49
1:A:1141:C:C2'	1:A:1141:C:O2	2.61	0.49
1:A:1199:C:C4	1:A:1200:C:C5	3.01	0.49
1:A:1396:A:O2'	1:A:1397:U:H5'	2.13	0.49
3:C:79:ARG:HG2	3:C:82:GLU:HG2	1.94	0.49
4:D:34:GLU:O	4:D:35:ARG:HB2	2.12	0.49
4:D:76:ARG:HG2	4:D:76:ARG:HH11	1.77	0.49
5:E:57:LYS:O	5:E:60:TYR:HB3	2.13	0.49
5:E:64:ARG:O	5:E:65:ASN:HB3	2.12	0.49
5:E:137:GLU:C	5:E:139:LEU:N	2.68	0.49
6:F:67:MET:HB2	6:F:68:PRO:HD2	1.94	0.49
10:J:29:ARG:CB	10:J:84:GLN:HE22	2.25	0.49
13:M:8:GLU:C	13:M:9:ILE:HG13	2.38	0.49
16:P:45:THR:C	16:P:47:ASP:N	2.71	0.49
18:R:43:PHE:CG	18:R:66:LEU:HD11	2.48	0.49
20:T:55:ILE:O	20:T:58:LYS:N	2.46	0.49
1:A:21:U:O2'	1:A:22:G:H5'	2.12	0.48
1:A:305:G:H2'	1:A:306:G:H8	1.77	0.48
1:A:649:A:H2'	1:A:709:G:N2	2.28	0.48
1:A:886:A:O2'	1:A:887:A:H5'	2.12	0.48
1:A:1030:G:OP1	14:N:4:LYS:NZ	2.44	0.48
1:A:1435:G:H8	1:A:1435:G:O5'	1.96	0.48
2:B:29:ALA:O	2:B:32:ILE:N	2.34	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:177:THR:CG2	3:C:180:ALA:HB2	2.42	0.48
5:E:50:GLU:O	5:E:53:LEU:HB2	2.13	0.48
9:I:15:ALA:HA	9:I:64:THR:O	2.13	0.48
10:J:27:ALA:C	10:J:29:ARG:H	2.20	0.48
12:L:75:HIS:CD2	12:L:77:LEU:HB2	2.46	0.48
16:P:14:ASN:OD1	16:P:16:HIS:HE1	1.96	0.48
18:R:21:LYS:O	18:R:22:VAL:C	2.56	0.48
18:R:76:LEU:O	18:R:78:LEU:HG	2.12	0.48
19:S:42:PRO:O	19:S:45:VAL:N	2.46	0.48
19:S:51:VAL:O	19:S:57:HIS:HA	2.13	0.48
19:S:53:ASN:N	19:S:56:GLN:O	2.42	0.48
1:A:469:G:O2'	1:A:470:G:OP2	2.29	0.48
1:A:576:G:H2'	1:A:577:G:H8	1.77	0.48
1:A:627:C:H2'	1:A:628:G:C8	2.41	0.48
1:A:811:U:C4	1:A:848:U:C2	3.02	0.48
1:A:1160:G:P	9:I:97:LYS:HZ3	2.36	0.48
1:A:1168:G:H21	14:N:61:TRP:C	2.20	0.48
1:A:1230:A:H1'	9:I:70:LYS:HZ1	1.73	0.48
1:A:1270:A:H1'	1:A:1334:C:O2'	2.12	0.48
3:C:74:GLY:O	3:C:75:VAL:C	2.56	0.48
4:D:185:PHE:HE2	4:D:188:LEU:HD23	1.78	0.48
5:E:33:VAL:HB	5:E:112:LEU:HD12	1.95	0.48
9:I:79:LEU:HD23	9:I:101:PHE:O	2.12	0.48
12:L:5:PRO:HB2	12:L:10:LEU:HD21	1.94	0.48
12:L:34:ARG:HG3	12:L:61:THR:CG2	2.43	0.48
12:L:45:PRO:HB2	12:L:49:ASN:O	2.12	0.48
13:M:98:VAL:CG2	13:M:110:ARG:HH12	2.19	0.48
19:S:49:ILE:O	19:S:60:VAL:N	2.45	0.48
1:A:125:A:H5''	1:A:191:G:H2'	1.96	0.48
1:A:725:G:O2'	1:A:726:G:H5'	2.13	0.48
1:A:1169:G:OP1	9:I:113:LYS:HE2	2.12	0.48
1:A:1192:C:H5'	1:A:1196:C:H42	1.78	0.48
1:A:1216:C:H4'	1:A:1347:U:H1'	1.95	0.48
1:A:1357:A:O2'	1:A:1358:A:H5'	2.13	0.48
1:A:1422:C:H2'	1:A:1423:C:C6	2.49	0.48
1:A:1450:U:O2'	1:A:1451:A:H5'	2.12	0.48
1:A:1483:G:C8	1:A:1483:G:C3'	2.89	0.48
3:C:94:LEU:HD23	3:C:94:LEU:O	2.13	0.48
6:F:3:ARG:HE	6:F:64:GLN:NE2	2.10	0.48
7:G:22:LEU:HD11	7:G:101:LEU:HD21	1.95	0.48
11:K:58:PRO:HA	11:K:90:GLY:HA3	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:84:LEU:HB3	12:L:101:VAL:HB	1.96	0.48
15:O:18:PHE:HB2	15:O:19:PRO:CD	2.43	0.48
15:O:27:VAL:O	15:O:31:LEU:CD1	2.61	0.48
17:Q:97:SER:OG	17:Q:103:GLY:CA	2.61	0.48
1:A:198:G:H2'	1:A:199:U:C6	2.49	0.48
1:A:406:G:H2'	1:A:425:U:C4	2.49	0.48
1:A:486:G:H2'	1:A:487:C:C6	2.48	0.48
1:A:865:G:H2'	1:A:866:G:O4'	2.12	0.48
1:A:975:U:O2'	1:A:976:G:H5'	2.14	0.48
1:A:1001:G:H2'	1:A:1002:G:C8	2.47	0.48
1:A:1245:C:O2'	1:A:1246:C:H5'	2.13	0.48
1:A:1299:C:C6	14:N:16:PHE:CD2	3.01	0.48
2:B:31:TYR:HE1	2:B:200:ILE:CD1	2.26	0.48
2:B:230:VAL:HG12	2:B:231:GLU:O	2.13	0.48
3:C:39:ILE:C	3:C:41:GLY:N	2.69	0.48
3:C:121:ALA:O	3:C:122:GLU:C	2.56	0.48
3:C:179:ARG:O	3:C:180:ALA:C	2.56	0.48
3:C:202:ILE:CG2	3:C:204:LEU:HD21	2.44	0.48
4:D:5:ILE:HG22	4:D:5:ILE:O	2.12	0.48
5:E:105:VAL:O	5:E:106:PRO:C	2.54	0.48
9:I:32:ASP:O	9:I:33:PHE:C	2.56	0.48
10:J:49:VAL:HG12	10:J:50:ILE:N	2.27	0.48
13:M:28:ALA:O	13:M:29:ARG:C	2.55	0.48
16:P:38:TYR:CE2	16:P:50:LYS:HD3	2.49	0.48
20:T:16:HIS:O	20:T:17:ARG:C	2.55	0.48
20:T:53:LEU:HD13	20:T:101:GLY:H	1.77	0.48
1:A:193:G:O2'	1:A:194:G:H5'	2.14	0.48
1:A:208:C:N3	1:A:212:G:N2	2.51	0.48
1:A:254:G:O2'	1:A:255:G:H5'	2.14	0.48
1:A:352:A:C5	1:A:353:G:C8	3.01	0.48
1:A:542:G:H2'	1:A:543:A:H2	1.78	0.48
1:A:582:U:H2'	1:A:583:C:C6	2.48	0.48
1:A:1340:U:H3'	1:A:1341:C:C5	2.48	0.48
3:C:46:GLU:HB2	3:C:47:LEU:HD12	1.95	0.48
3:C:58:GLU:HB2	3:C:65:ALA:HB2	1.96	0.48
3:C:154:SER:OG	3:C:196:LEU:HB3	2.14	0.48
7:G:93:PRO:CG	7:G:94:ARG:H	2.24	0.48
10:J:27:ALA:HB1	10:J:74:ILE:HD13	1.96	0.48
12:L:75:HIS:HD2	12:L:77:LEU:CB	2.24	0.48
14:N:18:VAL:HG23	14:N:19:ARG:N	2.29	0.48
15:O:15:PHE:O	15:O:16:ALA:C	2.57	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:Q:61:GLU:HA	17:Q:71:PHE:CD1	2.49	0.48
17:Q:103:GLY:O	17:Q:104:LYS:O	2.30	0.48
18:R:46:GLU:H	18:R:46:GLU:CD	2.22	0.48
19:S:11:VAL:HG22	19:S:39:THR:O	2.13	0.48
19:S:36:ARG:NH2	19:S:75:ALA:HB3	2.25	0.48
20:T:15:ARG:O	20:T:16:HIS:C	2.56	0.48
20:T:91:LEU:C	20:T:93:GLU:N	2.72	0.48
1:A:168:U:C2	1:A:204:A:C2	3.01	0.48
1:A:190:U:O4	17:Q:62:SER:CB	2.58	0.48
1:A:637:A:P	8:H:56:LYS:HZ3	2.37	0.48
1:A:1089:G:O2'	1:A:1090:C:H5'	2.13	0.48
1:A:1322:A:O2'	1:A:1323:U:H5'	2.14	0.48
1:A:1361:C:C5	1:A:1362:G:C8	3.01	0.48
3:C:34:LEU:C	3:C:34:LEU:CD2	2.87	0.48
3:C:139:GLN:HE22	3:C:143:GLU:HB2	1.78	0.48
4:D:187:ARG:CD	4:D:188:LEU:H	2.26	0.48
5:E:12:LEU:O	5:E:30:ALA:HA	2.14	0.48
6:F:78:GLU:CD	6:F:81:ILE:HD12	2.39	0.48
9:I:13:ALA:HA	9:I:67:GLY:O	2.13	0.48
9:I:99:LEU:HD22	9:I:99:LEU:N	2.29	0.48
13:M:66:LEU:C	13:M:70:LEU:HB2	2.37	0.48
19:S:23:ASN:HA	19:S:26:GLY:O	2.12	0.48
20:T:94:ALA:O	20:T:95:ALA:CB	2.61	0.48
1:A:275:A:OP2	17:Q:95:TYR:CE2	2.67	0.48
1:A:446:A:C1'	1:A:447:A:C8	2.97	0.48
1:A:447:A:O2'	1:A:448:A:P	2.72	0.48
1:A:620:U:O2'	1:A:621:G:H5'	2.13	0.48
1:A:682:G:H2'	1:A:683:C:C6	2.49	0.48
1:A:844:C:H2'	1:A:845:G:O4'	2.14	0.48
1:A:928:U:H2'	1:A:929:G:H8	1.78	0.48
1:A:1096:C:H1'	3:C:178:LEU:HD21	1.95	0.48
1:A:1236:C:OP1	10:J:45:ARG:HD2	2.14	0.48
1:A:1280:C:O2	1:A:1280:C:H2'	2.13	0.48
1:A:1311:A:O2'	1:A:1312:U:H5'	2.14	0.48
1:A:1374:U:H2'	1:A:1375:G:H8	1.76	0.48
2:B:46:LYS:C	2:B:48:MET:N	2.70	0.48
2:B:48:MET:O	2:B:50:GLU:N	2.47	0.48
2:B:115:LEU:O	2:B:118:LEU:N	2.44	0.48
2:B:172:ILE:O	2:B:175:ARG:HB3	2.14	0.48
3:C:5:ILE:CD1	3:C:5:ILE:C	2.87	0.48
3:C:21:ARG:NH2	3:C:56:ASP:OD2	2.46	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:178:VAL:O	4:D:179:GLU:C	2.57	0.48
5:E:45:PHE:CE2	5:E:47:LYS:HE3	2.49	0.48
5:E:81:GLU:HB3	5:E:88:LYS:NZ	2.29	0.48
5:E:115:VAL:HG11	5:E:118:ILE:HD12	1.96	0.48
7:G:72:ARG:HG2	7:G:142:GLU:OE1	2.14	0.48
9:I:44:VAL:O	9:I:45:ALA:C	2.57	0.48
9:I:111:ARG:HH11	9:I:111:ARG:HG3	1.78	0.48
13:M:5:ALA:O	13:M:6:GLY:C	2.56	0.48
13:M:18:ALA:O	13:M:21:TYR:N	2.38	0.48
15:O:25:THR:O	15:O:28:GLN:HB2	2.13	0.48
15:O:55:GLY:O	15:O:56:LEU:C	2.56	0.48
1:A:46:U:H2'	1:A:47:G:C8	2.49	0.48
1:A:97:C:P	20:T:17:ARG:HH11	2.36	0.48
1:A:210:U:H5''	1:A:211:U:OP1	2.14	0.48
1:A:254:G:H2'	1:A:255:G:H8	1.79	0.48
1:A:354:U:H2'	1:A:355:U:C6	2.49	0.48
1:A:409:G:H2'	1:A:424:G:N2	2.28	0.48
1:A:501:G:O2'	1:A:514:G:C4'	2.62	0.48
1:A:799:A:HO2'	1:A:800:A:P	2.35	0.48
1:A:818:C:O5'	1:A:818:C:H6	1.97	0.48
1:A:855:C:O2	8:H:3:THR:HG21	2.14	0.48
1:A:1036:G:H2'	1:A:1181:U:C5	2.47	0.48
1:A:1218:A:H2'	1:A:1219:C:C6	2.49	0.48
1:A:1219:C:C4'	1:A:1316:G:N2	2.77	0.48
1:A:1274:U:P	7:G:41:ARG:NH2	2.81	0.48
1:A:1291:G:C6	1:A:1311:A:C2	3.02	0.48
1:A:1310:C:O2'	1:A:1311:A:H5'	2.14	0.48
2:B:19:HIS:CD2	2:B:204:ASN:ND2	2.82	0.48
2:B:149:LEU:C	2:B:151:GLY:H	2.21	0.48
3:C:129:ALA:CB	3:C:132:ARG:HD2	2.43	0.48
4:D:8:VAL:CG2	4:D:115:ARG:NH1	2.76	0.48
6:F:11:ASN:OD1	6:F:11:ASN:C	2.56	0.48
10:J:12:ASP:OD1	10:J:14:LYS:N	2.47	0.48
11:K:85:ARG:NE	11:K:111:ASP:OD2	2.47	0.48
13:M:68:GLY:O	13:M:72:ALA:N	2.41	0.48
18:R:75:ILE:C	18:R:77:GLY:H	2.21	0.48
1:A:95:A:H2'	1:A:96:G:C8	2.46	0.48
1:A:298:G:H8	1:A:298:G:O5'	1.97	0.48
1:A:490:G:C6	1:A:491:C:C4	3.02	0.48
1:A:698:G:C2	1:A:761:A:H1'	2.48	0.48
1:A:1088:A:O2'	1:A:1089:G:H5'	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1181:U:H4'	10:J:54:PHE:CD1	2.49	0.48
1:A:1429:C:H2'	1:A:1430:C:C6	2.40	0.48
1:A:1459:U:H2'	1:A:1460:G:O4'	2.13	0.48
2:B:75:LYS:O	2:B:75:LYS:HD3	2.12	0.48
3:C:35:GLU:O	3:C:36:ASP:C	2.55	0.48
3:C:70:VAL:C	3:C:106:VAL:HG23	2.39	0.48
3:C:130:VAL:HG11	3:C:157:ILE:HD13	1.95	0.48
4:D:96:LEU:O	4:D:99:SER:HB2	2.13	0.48
4:D:131:ARG:HD2	4:D:131:ARG:N	2.11	0.48
6:F:74:ASP:O	6:F:75:LEU:C	2.56	0.48
9:I:48:GLU:OE1	9:I:48:GLU:HA	2.14	0.48
10:J:71:LEU:O	10:J:72:VAL:CB	2.58	0.48
11:K:48:ILE:HG22	11:K:49:GLY:N	2.21	0.48
13:M:49:THR:O	13:M:53:VAL:HG23	2.14	0.48
15:O:5:LYS:O	15:O:9:GLN:HG3	2.12	0.48
15:O:82:ILE:O	15:O:83:GLU:C	2.55	0.48
16:P:52:ASP:O	16:P:52:ASP:OD1	2.31	0.48
18:R:70:ILE:HG22	18:R:70:ILE:O	2.13	0.48
1:A:113:A:C5	1:A:236:C:C4	3.02	0.48
1:A:182:C:H1'	20:T:85:MET:HE2	1.96	0.48
1:A:191:G:H1	1:A:260:U:P	2.37	0.48
1:A:317:A:H2	1:A:328:G:H22	1.59	0.48
1:A:567:A:H1'	1:A:743:A:N6	2.28	0.48
1:A:713:A:H2'	1:A:714:G:H8	1.79	0.48
1:A:981:G:H2'	1:A:982:G:C8	2.49	0.48
1:A:1112:C:O2'	1:A:1113:A:OP2	2.24	0.48
1:A:1349:C:H2'	1:A:1350:C:H6	1.75	0.48
2:B:26:PRO:C	2:B:28:PHE:N	2.70	0.48
2:B:113:HIS:O	2:B:114:ARG:C	2.56	0.48
3:C:19:GLU:O	3:C:56:ASP:HA	2.14	0.48
3:C:72:LYS:C	3:C:74:GLY:H	2.22	0.48
4:D:115:ARG:O	4:D:116:GLN:C	2.56	0.48
6:F:30:LEU:HB3	6:F:35:ALA:HB3	1.96	0.48
8:H:38:ILE:HG22	8:H:39:LEU:N	2.28	0.48
10:J:78:ASN:O	10:J:79:ARG:C	2.57	0.48
10:J:91:PRO:HB2	10:J:94:VAL:CG2	2.44	0.48
13:M:15:VAL:O	13:M:16:ASP:C	2.57	0.48
13:M:121:LYS:N	13:M:121:LYS:HD2	2.29	0.48
15:O:12:ILE:O	15:O:13:GLN:C	2.56	0.48
15:O:27:VAL:O	15:O:31:LEU:HD12	2.14	0.48
15:O:51:HIS:O	15:O:52:SER:C	2.56	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:O:87:ILE:O	15:O:88:ARG:CB	2.61	0.48
18:R:74:ARG:HB3	18:R:81:PHE:CZ	2.48	0.48
19:S:62:ILE:HD12	19:S:66:MET:CG	2.41	0.48
1:A:20:C:O2'	1:A:21:U:H5'	2.15	0.47
1:A:225:U:H2'	1:A:226:G:H8	1.78	0.47
1:A:332:C:H2'	1:A:333:C:C6	2.48	0.47
1:A:589:U:H2'	1:A:590:G:C8	2.48	0.47
1:A:715:G:OP1	1:A:750:A:H1'	2.14	0.47
1:A:982:G:N1	1:A:983:A:H1'	2.29	0.47
1:A:1102:C:OP2	9:I:9:ARG:NH2	2.46	0.47
1:A:1280:C:H1'	1:A:1281:A:C6	2.49	0.47
1:A:1296:C:OP2	19:S:6:LYS:CD	2.62	0.47
2:B:187:LEU:HA	2:B:201:ILE:HB	1.96	0.47
3:C:117:ALA:O	3:C:118:GLN:C	2.56	0.47
3:C:152:ILE:HG22	3:C:153:VAL:N	2.28	0.47
5:E:89:ILE:HD13	5:E:90:VAL:CA	2.44	0.47
7:G:62:PHE:O	7:G:63:LYS:C	2.56	0.47
8:H:82:HIS:HD2	8:H:138:TRP:NE1	2.11	0.47
15:O:39:LEU:O	15:O:40:SER:C	2.57	0.47
16:P:6:LEU:HD12	16:P:6:LEU:N	2.29	0.47
18:R:28:GLU:H	18:R:28:GLU:CD	2.21	0.47
19:S:52:TYR:HA	19:S:56:GLN:O	2.14	0.47
20:T:53:LEU:O	20:T:57:ARG:HD3	2.14	0.47
1:A:45:G:H2'	1:A:46:U:H6	1.79	0.47
1:A:143:G:H2'	1:A:144:A:H8	1.79	0.47
1:A:369:A:H1'	1:A:466:G:H1'	1.95	0.47
1:A:472:A:C2'	1:A:473:C:H5'	2.45	0.47
1:A:486:G:C4'	1:A:534:G:H4'	2.43	0.47
1:A:868:G:H2'	1:A:884:G:O6	2.15	0.47
1:A:903:G:C2	1:A:905:G:C8	3.01	0.47
1:A:1055:G:H2'	1:A:1056:U:C6	2.49	0.47
1:A:1186:A:H2'	1:A:1187:U:H6	1.78	0.47
1:A:1204:G:C5'	19:S:77:THR:HG21	2.44	0.47
1:A:1363:U:O2'	1:A:1364:U:OP2	2.27	0.47
2:B:54:THR:O	2:B:57:PHE:N	2.45	0.47
2:B:176:GLU:O	2:B:180:LEU:HG	2.14	0.47
5:E:9:LYS:HB2	5:E:112:LEU:HD11	1.96	0.47
5:E:105:VAL:HB	5:E:106:PRO:CD	2.44	0.47
6:F:78:GLU:HA	6:F:81:ILE:CD1	2.44	0.47
6:F:97:PHE:HB2	18:R:32:ARG:HH21	1.79	0.47
7:G:24:THR:C	7:G:28:ASN:ND2	2.73	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:47:LEU:C	9:I:49:PRO:CD	2.84	0.47
9:I:89:ASN:HB3	9:I:92:TYR:CD1	2.49	0.47
10:J:34:VAL:C	10:J:36:GLY:H	2.21	0.47
17:Q:26:GLN:HG2	17:Q:37:LYS:HG3	1.96	0.47
18:R:36:ASN:O	18:R:38:GLU:N	2.47	0.47
19:S:33:THR:CG2	19:S:35:SER:H	2.22	0.47
20:T:53:LEU:O	20:T:54:LYS:C	2.57	0.47
20:T:91:LEU:O	20:T:93:GLU:N	2.46	0.47
1:A:176:G:H4'	1:A:177:U:C5'	2.44	0.47
1:A:424:G:HO2'	1:A:425:U:P	2.37	0.47
1:A:682:G:H2'	1:A:683:C:H6	1.78	0.47
1:A:765:A:H2'	1:A:766:A:O4'	2.14	0.47
1:A:776:A:O2'	1:A:777:U:OP2	2.33	0.47
1:A:814:G:H4'	2:B:23:ARG:HA	1.95	0.47
1:A:943:A:C2	1:A:947:A:N1	2.82	0.47
1:A:1163:G:O2'	1:A:1164:G:O5'	2.31	0.47
22:A:1523:KSG:O6	22:A:1523:KSG:H1	2.13	0.47
2:B:25:ASN:HD22	2:B:26:PRO:N	2.11	0.47
3:C:174:PRO:O	3:C:175:LEU:C	2.56	0.47
5:E:12:LEU:HD13	5:E:12:LEU:C	2.38	0.47
6:F:94:GLN:O	6:F:95:GLU:C	2.54	0.47
9:I:63:ILE:HG21	9:I:77:ILE:HG12	1.97	0.47
11:K:30:VAL:N	11:K:43:SER:O	2.48	0.47
15:O:32:LEU:O	15:O:35:ARG:N	2.47	0.47
15:O:54:ARG:O	15:O:55:GLY:C	2.56	0.47
18:R:29:PHE:HE1	18:R:31:LEU:HD21	1.80	0.47
19:S:41:VAL:HG23	19:S:43:GLU:HG2	1.97	0.47
1:A:275:A:OP2	17:Q:95:TYR:HE2	1.98	0.47
1:A:288:G:N7	1:A:289:G:H1'	2.29	0.47
1:A:938:U:O2	1:A:938:U:H2'	2.13	0.47
1:A:1238:A:H2	1:A:1240:G:N1	2.13	0.47
1:A:1260:U:H5'	1:A:1261:A:O4'	2.13	0.47
2:B:184:VAL:HG23	2:B:198:ASP:OD2	2.13	0.47
2:B:207:ALA:O	2:B:208:ILE:C	2.56	0.47
4:D:156:GLU:HG2	4:D:160:GLN:NE2	2.28	0.47
4:D:161:ASN:O	4:D:163:GLU:N	2.47	0.47
5:E:144:THR:C	5:E:146:ALA:H	2.23	0.47
5:E:153:LYS:HD2	5:E:154:GLY:O	2.15	0.47
13:M:71:ARG:HG2	13:M:71:ARG:HH11	1.79	0.47
17:Q:57:VAL:HA	17:Q:77:VAL:HG23	1.97	0.47
1:A:98:G:H4'	1:A:169:C:O4'	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:170:C:C2	1:A:171:C:C5	3.02	0.47
1:A:462:G:O2'	1:A:463:A:H5'	2.13	0.47
1:A:522:G:C4'	12:L:114:LYS:HD3	2.44	0.47
1:A:736:G:C4'	1:A:738:C:H5	2.27	0.47
1:A:971:G:O2'	1:A:972:A:OP1	2.30	0.47
1:A:1094:A:H61	3:C:177:THR:HA	1.79	0.47
1:A:1104:U:O2'	1:A:1105:U:H5'	2.14	0.47
1:A:1283:U:HO2'	1:A:1284:U:P	2.37	0.47
1:A:1351:G:H5''	9:I:112:LYS:O	2.15	0.47
1:A:1476:U:O2'	1:A:1477:A:P	2.71	0.47
22:A:1524:KSG:H5	7:G:82:GLY:HA3	1.96	0.47
2:B:84:GLU:OE1	2:B:216:SER:HA	2.14	0.47
2:B:105:PHE:HE2	2:B:157:ARG:HA	1.78	0.47
4:D:102:ASP:OD1	4:D:136:PRO:O	2.31	0.47
5:E:137:GLU:O	5:E:139:LEU:N	2.47	0.47
8:H:8:ASP:O	8:H:9:MET:C	2.56	0.47
8:H:41:ARG:O	8:H:41:ARG:HG2	2.12	0.47
8:H:86:ILE:HD12	8:H:133:LEU:HD21	1.92	0.47
8:H:91:ARG:HG2	12:L:7:ILE:HG21	1.97	0.47
10:J:3:LYS:O	10:J:100:THR:HG23	2.14	0.47
11:K:72:ALA:HB1	11:K:77:MET:HG3	1.97	0.47
11:K:123:LYS:O	11:K:124:LYS:C	2.57	0.47
13:M:37:THR:HG21	13:M:39:ILE:HD11	1.97	0.47
13:M:89:GLY:O	13:M:92:HIS:HB2	2.14	0.47
1:A:340:A:O2'	1:A:341:C:P	2.73	0.47
1:A:765:A:H2'	1:A:766:A:C5'	2.45	0.47
1:A:805:G:C6	1:A:858:C:N4	2.83	0.47
1:A:1213:G:O2'	1:A:1214:U:H5'	2.15	0.47
3:C:101:LEU:C	3:C:101:LEU:CD2	2.87	0.47
3:C:179:ARG:HH11	3:C:179:ARG:HG3	1.79	0.47
4:D:132:ARG:C	4:D:133:VAL:HG23	2.39	0.47
6:F:91:VAL:HG13	18:R:72:ARG:NH2	2.29	0.47
8:H:137:VAL:CG1	8:H:138:TRP:N	2.77	0.47
10:J:56:HIS:HB2	10:J:59:SER:OG	2.15	0.47
11:K:93:GLN:NE2	11:K:96:ARG:NH2	2.63	0.47
11:K:110:ASP:HB2	18:R:88:LYS:HD2	1.96	0.47
11:K:114:VAL:O	11:K:114:VAL:HG13	2.14	0.47
12:L:55:VAL:CG1	12:L:56:ALA:N	2.77	0.47
13:M:59:TYR:O	13:M:60:VAL:O	2.32	0.47
17:Q:29:HIS:ND1	17:Q:29:HIS:O	2.47	0.47
17:Q:63:ARG:HG2	17:Q:64:PRO:O	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:T:23:ARG:HG2	20:T:23:ARG:NH1	2.28	0.47
1:A:36:G:N2	12:L:118:SER:OG	2.44	0.47
1:A:172:C:O2'	1:A:173:C:H5'	2.15	0.47
1:A:251:G:O6	1:A:262:G:O6	2.33	0.47
1:A:437:C:H6	1:A:437:C:O5'	1.97	0.47
1:A:470:G:O2'	1:A:471:U:P	2.73	0.47
1:A:492:C:H5''	1:A:493:A:OP1	2.15	0.47
1:A:505:G:O2'	1:A:506:C:H5'	2.14	0.47
1:A:574:C:N3	1:A:575:U:C5	2.83	0.47
1:A:665:C:H2'	1:A:666:G:C8	2.50	0.47
1:A:674:G:O5'	1:A:674:G:H8	1.97	0.47
1:A:765:A:H2'	1:A:766:A:H5'	1.96	0.47
1:A:768:C:H2'	1:A:769:G:H8	1.80	0.47
1:A:1099:C:C2'	1:A:1100:G:H5'	2.36	0.47
1:A:1161:A:O2'	1:A:1162:A:H5'	2.15	0.47
1:A:1209:A:O3'	13:M:115:LYS:HD3	2.14	0.47
1:A:1239:U:O2'	1:A:1240:G:OP2	2.28	0.47
1:A:1303:C:H2'	1:A:1304:C:C5	2.50	0.47
1:A:1328:A:H4'	1:A:1329:G:O5'	2.14	0.47
1:A:1333:U:H2'	1:A:1334:C:C6	2.46	0.47
2:B:157:ARG:HH11	2:B:157:ARG:HG3	1.80	0.47
2:B:239:VAL:O	2:B:239:VAL:HG12	2.15	0.47
3:C:56:ASP:O	3:C:57:ILE:CG1	2.62	0.47
3:C:204:LEU:O	3:C:205:GLY:C	2.58	0.47
4:D:12:CYS:CA	4:D:19:LEU:HD12	2.45	0.47
4:D:76:ARG:HD3	4:D:207:TYR:CE2	2.49	0.47
4:D:96:LEU:O	4:D:97:LEU:C	2.57	0.47
4:D:162:LEU:HD12	4:D:181:MET:CE	2.44	0.47
5:E:52:PRO:O	5:E:53:LEU:C	2.56	0.47
6:F:9:VAL:HG22	6:F:60:PHE:CD2	2.50	0.47
7:G:107:ALA:O	7:G:110:GLN:HB2	2.14	0.47
7:G:151:TYR:C	7:G:153:HIS:H	2.22	0.47
8:H:16:ALA:HB1	8:H:21:LYS:HB2	1.97	0.47
9:I:47:LEU:O	9:I:48:GLU:C	2.58	0.47
9:I:126:SER:C	9:I:128:ARG:N	2.73	0.47
11:K:120:ARG:NH2	11:K:126:ARG:NH1	2.63	0.47
12:L:8:ASN:O	12:L:9:GLN:C	2.58	0.47
12:L:33:ARG:CD	12:L:62:SER:HB3	2.45	0.47
13:M:37:THR:HG22	13:M:37:THR:O	2.15	0.47
14:N:33:VAL:HG23	14:N:33:VAL:O	2.15	0.47
15:O:24:SER:HB2	15:O:27:VAL:HG23	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S:12:ASP:H	19:S:38:SER:CB	2.24	0.47
1:A:161:G:H2'	1:A:162:G:H8	1.79	0.47
1:A:278:A:H3'	1:A:279:C:C6	2.49	0.47
1:A:342:G:O2'	1:A:343:G:H5'	2.14	0.47
1:A:342:G:C2'	1:A:343:G:H5'	2.44	0.47
1:A:526:G:P	4:D:10:ARG:HH22	2.37	0.47
1:A:709:G:C4	1:A:710:C:C5	3.03	0.47
1:A:1094:A:N6	3:C:177:THR:HA	2.30	0.47
1:A:1203:G:O2'	19:S:77:THR:HG23	2.15	0.47
1:A:1221:A:H1'	1:A:1223:G:C4	2.50	0.47
1:A:1230:A:H2'	1:A:1231:C:H6	1.80	0.47
1:A:1246:C:H2'	1:A:1247:G:H8	1.78	0.47
1:A:1318:C:H1'	1:A:1319:G:C6	2.50	0.47
1:A:1467:G:H2'	1:A:1468:C:C5'	2.34	0.47
2:B:16:HIS:CE1	2:B:210:SER:HA	2.50	0.47
2:B:155:LEU:HD23	2:B:155:LEU:HA	1.76	0.47
2:B:203:GLY:O	2:B:205:ASP:N	2.47	0.47
3:C:182:ILE:HG22	3:C:183:ASP:O	2.15	0.47
3:C:186:PHE:HA	3:C:198:VAL:O	2.14	0.47
4:D:117:ALA:O	4:D:118:ARG:C	2.58	0.47
5:E:13:ILE:HD12	5:E:51:VAL:CG1	2.45	0.47
5:E:91:LEU:HD23	5:E:91:LEU:HA	1.60	0.47
8:H:114:THR:C	8:H:116:LYS:N	2.72	0.47
10:J:11:PHE:CZ	10:J:65:LEU:HD21	2.50	0.47
11:K:33:THR:OG1	11:K:38:ASN:C	2.58	0.47
15:O:25:THR:O	15:O:29:VAL:HG23	2.15	0.47
15:O:71:GLN:O	15:O:72:ARG:C	2.56	0.47
17:Q:9:VAL:CG2	17:Q:56:VAL:HG22	2.39	0.47
20:T:32:ALA:O	20:T:33:ILE:C	2.57	0.47
1:A:339:U:H2'	1:A:341:C:C5	2.49	0.47
1:A:400:U:C2	1:A:401:U:C5	3.02	0.47
1:A:458:A:C4'	16:P:82:GLN:HE21	2.27	0.47
1:A:524:G:H2'	1:A:525:G:O4'	2.15	0.47
1:A:706:A:C6	1:A:708:G:C5	3.02	0.47
1:A:950:C:OP1	10:J:57:LYS:NZ	2.40	0.47
1:A:1058:C:OP1	2:B:103:THR:HG21	2.14	0.47
1:A:1204:G:OP1	19:S:77:THR:HG21	2.13	0.47
1:A:1329:G:C8	9:I:107:ARG:HB3	2.50	0.47
1:A:1439:G:H2'	1:A:1440:G:C8	2.48	0.47
1:A:1463:U:O2	1:A:1463:U:H2'	2.14	0.47
22:A:1524:KSG:O2	22:A:1524:KSG:H8	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:142:LEU:HA	2:B:142:LEU:HD23	1.79	0.47
3:C:82:GLU:C	3:C:82:GLU:CD	2.83	0.47
4:D:8:VAL:HG12	4:D:9:CYS:N	2.29	0.47
4:D:32:ALA:C	4:D:34:GLU:H	2.21	0.47
4:D:65:ARG:HD2	4:D:75:PHE:CB	2.43	0.47
6:F:19:LEU:HD23	6:F:23:LYS:HG3	1.97	0.47
6:F:64:GLN:O	6:F:64:GLN:HG2	2.15	0.47
7:G:51:GLN:OE1	7:G:51:GLN:HA	2.14	0.47
7:G:113:GLU:CG	7:G:119:ARG:HG2	2.30	0.47
8:H:112:LEU:CA	8:H:134:ILE:HD12	2.45	0.47
12:L:43:VAL:HG12	12:L:44:THR:N	2.30	0.47
12:L:104:VAL:O	12:L:105:TYR:HB2	2.14	0.47
17:Q:19:VAL:HG23	17:Q:19:VAL:O	2.15	0.47
1:A:199:U:C1'	20:T:103:GLY:HA2	2.45	0.47
1:A:453:C:H2'	1:A:454:G:O4'	2.15	0.47
1:A:510:C:H2'	1:A:511:G:O4'	2.15	0.47
1:A:661:U:H3	1:A:697:G:N2	2.01	0.47
1:A:1253:G:O5'	1:A:1253:G:H8	1.98	0.47
1:A:1260:U:H5''	1:A:1261:A:C5'	2.45	0.47
1:A:1363:U:O2'	1:A:1364:U:P	2.73	0.47
1:A:1485:A:H2'	1:A:1486:G:H8	1.78	0.47
4:D:10:ARG:HH12	4:D:40:PRO:HB2	1.80	0.47
4:D:161:ASN:O	4:D:164:ALA:N	2.48	0.47
5:E:9:LYS:HG3	5:E:112:LEU:HD21	1.96	0.47
5:E:13:ILE:HG22	5:E:30:ALA:HA	1.96	0.47
5:E:136:MET:O	5:E:137:GLU:C	2.56	0.47
8:H:45:ILE:HD13	8:H:61:VAL:HG13	1.97	0.47
9:I:3:GLN:HG3	9:I:20:ARG:NE	2.27	0.47
10:J:61:GLU:CD	14:N:45:ARG:HH12	2.23	0.47
10:J:79:ARG:C	10:J:81:THR:N	2.71	0.47
11:K:84:VAL:HG23	11:K:110:ASP:HA	1.97	0.47
14:N:3:ARG:HD3	14:N:6:LEU:HD12	1.96	0.47
18:R:87:ARG:NH1	18:R:87:ARG:CG	2.75	0.47
1:A:17:A:H4'	5:E:17:ALA:H	1.80	0.46
1:A:432:C:O2'	1:A:433:U:H5'	2.14	0.46
1:A:502:C:O2'	1:A:503:C:OP2	2.26	0.46
1:A:507:A:H61	12:L:53:ARG:NH1	2.14	0.46
1:A:609:G:C5	1:A:610:U:C4	3.02	0.46
1:A:675:G:HO2'	1:A:781:C:H4'	1.78	0.46
1:A:850:A:C4	1:A:852:G:C8	3.03	0.46
1:A:951:G:H2'	1:A:952:A:H8	1.79	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1032:U:H4'	1:A:1033:G:OP2	2.14	0.46
1:A:1050:A:O2'	1:A:1051:G:OP2	2.33	0.46
1:A:1140:A:C6	1:A:1162:A:C6	3.03	0.46
1:A:1149:G:H22	1:A:1151:A:H3'	1.80	0.46
1:A:1280:C:O2	1:A:1280:C:C2'	2.62	0.46
1:A:1352:C:H2'	1:A:1353:G:H8	1.76	0.46
22:A:1523:KSG:O2	22:A:1523:KSG:H8	2.15	0.46
2:B:119:GLU:OE2	2:B:153:ARG:NH2	2.47	0.46
2:B:134:GLU:O	2:B:138:LEU:N	2.41	0.46
2:B:212:GLN:NE2	2:B:216:SER:HB3	2.30	0.46
4:D:65:ARG:O	4:D:69:GLY:N	2.47	0.46
5:E:144:THR:C	5:E:146:ALA:N	2.72	0.46
12:L:65:GLU:N	12:L:65:GLU:OE1	2.48	0.46
13:M:37:THR:HG22	13:M:39:ILE:HD11	1.97	0.46
15:O:9:GLN:O	15:O:12:ILE:HB	2.15	0.46
17:Q:45:HIS:HB2	17:Q:69:LYS:HE2	1.96	0.46
19:S:7:LYS:O	19:S:7:LYS:CG	2.63	0.46
21:U:2:GLY:C	21:U:4:GLY:N	2.72	0.46
1:A:23:G:O2'	1:A:24:C:H5'	2.16	0.46
1:A:161:G:O2'	1:A:162:G:H5'	2.15	0.46
1:A:311:A:H1'	1:A:349:A:C2	2.50	0.46
1:A:341:C:H1'	1:A:342:G:N2	2.31	0.46
1:A:525:G:O2'	1:A:526:G:H5'	2.15	0.46
1:A:728:C:H2'	1:A:729:C:C6	2.50	0.46
1:A:783:G:O2'	1:A:784:G:H5'	2.15	0.46
1:A:803:A:N7	1:A:1507:G:C2	2.83	0.46
1:A:997:C:O5'	1:A:997:C:H6	1.98	0.46
1:A:1014:G:H2'	1:A:1015:G:C8	2.39	0.46
1:A:1145:C:N3	1:A:1157:G:C2	2.83	0.46
1:A:1169:G:H3'	1:A:1170:A:H8	1.80	0.46
1:A:1208:C:O2'	1:A:1209:A:O5'	2.33	0.46
1:A:1248:G:N2	1:A:1252:C:C2	2.84	0.46
2:B:7:VAL:C	2:B:8:LYS:HG3	2.40	0.46
2:B:108:ILE:O	2:B:111:ARG:N	2.48	0.46
2:B:215:LEU:O	2:B:216:SER:C	2.58	0.46
2:B:216:SER:OG	2:B:217:ARG:N	2.48	0.46
3:C:108:ASN:C	3:C:110:ASN:H	2.24	0.46
3:C:112:SER:CB	3:C:115:LEU:HD12	2.45	0.46
3:C:174:PRO:HB2	3:C:177:THR:CG2	2.43	0.46
4:D:173:TRP:O	4:D:186:LEU:HB2	2.14	0.46
5:E:31:LEU:HD23	5:E:44:GLY:O	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:115:VAL:CG1	5:E:116:THR:N	2.75	0.46
6:F:69:GLU:HA	6:F:72:VAL:CG2	2.45	0.46
8:H:44:PHE:HD1	8:H:80:ILE:HG12	1.80	0.46
9:I:79:LEU:CD1	9:I:83:ARG:HD2	2.45	0.46
9:I:100:GLY:O	9:I:101:PHE:C	2.57	0.46
11:K:111:ASP:CG	11:K:111:ASP:O	2.57	0.46
17:Q:90:ILE:O	17:Q:93:GLN:CB	2.61	0.46
20:T:42:GLN:NE2	20:T:46:GLU:OE2	2.48	0.46
1:A:225:U:O2'	16:P:23:ASP:OD2	2.33	0.46
1:A:355:U:O2'	1:A:356:A:H5'	2.16	0.46
1:A:370:A:C6	1:A:371:U:C4	3.04	0.46
1:A:377:C:H2'	1:A:378:A:O4'	2.15	0.46
1:A:406:G:C2	1:A:425:U:C2	3.04	0.46
1:A:429:C:H2'	1:A:430:U:H6	1.80	0.46
1:A:604:C:H2'	1:A:605:A:O4'	2.15	0.46
1:A:803:A:C4'	1:A:804:U:OP2	2.63	0.46
1:A:873:G:C6	1:A:874:C:N4	2.82	0.46
1:A:1280:C:H3'	7:G:114:ARG:HH22	1.79	0.46
1:A:1385:C:H2'	1:A:1386:C:C6	2.50	0.46
1:A:1494:G:H2'	1:A:1496:A:OP2	2.15	0.46
2:B:90:MET:HB3	2:B:91:PRO:HD2	1.98	0.46
2:B:172:ILE:O	2:B:173:ALA:C	2.58	0.46
3:C:32:LEU:HD21	3:C:59:ARG:CD	2.40	0.46
3:C:49:SER:O	3:C:51:GLY:N	2.49	0.46
4:D:138:TYR:C	4:D:138:TYR:CD2	2.94	0.46
5:E:43:LEU:C	5:E:62:ALA:HB2	2.40	0.46
5:E:57:LYS:O	5:E:58:ALA:C	2.57	0.46
7:G:37:ASN:O	7:G:38:LEU:C	2.58	0.46
7:G:87:VAL:HG22	7:G:154:TYR:HD1	1.79	0.46
8:H:18:ARG:HG3	8:H:18:ARG:NH1	2.31	0.46
9:I:10:ARG:HE	9:I:11:LYS:HB2	1.80	0.46
12:L:54:LYS:C	12:L:55:VAL:CG2	2.89	0.46
13:M:23:TYR:CD2	13:M:70:LEU:HB3	2.51	0.46
19:S:50:ALA:HA	19:S:58:VAL:O	2.15	0.46
20:T:96:GLY:O	20:T:97:ALA:HB3	2.16	0.46
21:U:6:ARG:HD2	21:U:15:ARG:NH1	2.30	0.46
1:A:10:G:H5'	5:E:122:GLU:OE2	2.14	0.46
1:A:198:G:O2'	1:A:199:U:H5'	2.15	0.46
1:A:424:G:C4	1:A:426:A:C6	3.04	0.46
1:A:458:A:H2'	1:A:459:G:O4'	2.15	0.46
1:A:626:A:H2'	1:A:627:C:C6	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:757:G:C4	1:A:758:G:C8	3.04	0.46
1:A:1152:A:O5'	1:A:1152:A:H8	1.97	0.46
1:A:1177:C:H2'	1:A:1179:G:H5'	1.97	0.46
1:A:1293:G:N7	19:S:2:PRO:HA	2.30	0.46
1:A:1335:G:N2	1:A:1353:G:C4	2.84	0.46
1:A:1337:G:O2'	1:A:1338:G:H5'	2.16	0.46
1:A:1349:C:O2'	10:J:60:ARG:NH2	2.48	0.46
2:B:125:PRO:O	2:B:127:ILE:N	2.48	0.46
3:C:95:THR:C	3:C:97:LYS:N	2.71	0.46
4:D:53:ASP:O	4:D:57:ARG:CD	2.62	0.46
4:D:134:ASP:C	4:D:135:LEU:HD23	2.39	0.46
5:E:95:ALA:HB1	5:E:96:PRO:HD2	1.97	0.46
6:F:53:ALA:O	6:F:55:ASP:N	2.48	0.46
7:G:65:ALA:HB1	7:G:127:ALA:HB1	1.96	0.46
9:I:108:VAL:CG1	9:I:109:VAL:N	2.74	0.46
13:M:40:ASN:HD22	13:M:41:PRO:HD2	1.81	0.46
13:M:45:VAL:O	13:M:48:LEU:HB2	2.15	0.46
15:O:51:HIS:ND1	15:O:51:HIS:N	2.61	0.46
20:T:23:ARG:HG2	20:T:23:ARG:HH11	1.81	0.46
1:A:32:G:N1	1:A:49:C:H5''	2.30	0.46
1:A:62:G:H2'	1:A:63:U:O4'	2.15	0.46
1:A:936:A:C6	1:A:937:A:N1	2.84	0.46
1:A:1160:G:P	9:I:97:LYS:NZ	2.88	0.46
2:B:69:LEU:HB3	2:B:162:ILE:HG12	1.98	0.46
3:C:2:GLY:C	3:C:3:ASN:ND2	2.73	0.46
3:C:34:LEU:O	3:C:35:GLU:C	2.59	0.46
4:D:57:ARG:NH2	5:E:107:ARG:HD3	2.30	0.46
4:D:100:ARG:HB3	4:D:102:ASP:OD1	2.15	0.46
7:G:23:VAL:O	7:G:27:ILE:HG13	2.15	0.46
7:G:64:GLN:HG3	7:G:68:ASN:HD21	1.80	0.46
7:G:103:TRP:CD1	7:G:137:LYS:HD3	2.50	0.46
9:I:9:ARG:CG	9:I:14:VAL:HG22	2.43	0.46
10:J:15:THR:HG23	10:J:94:VAL:CG2	2.45	0.46
10:J:16:LEU:O	10:J:17:ASP:C	2.58	0.46
10:J:29:ARG:HB2	10:J:84:GLN:NE2	2.26	0.46
13:M:59:TYR:O	13:M:63:THR:HB	2.15	0.46
15:O:6:GLU:CD	15:O:6:GLU:H	2.23	0.46
15:O:54:ARG:CG	15:O:58:MET:HE2	2.41	0.46
15:O:75:PRO:HG2	15:O:76:GLU:H	1.81	0.46
18:R:40:LEU:CB	18:R:79:LEU:HD11	2.45	0.46
19:S:30:LEU:CD2	19:S:31:ILE:H	2.29	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:T:13:LEU:C	20:T:15:ARG:N	2.72	0.46
1:A:6:U:O2'	1:A:7:G:N3	2.47	0.46
1:A:198:G:C6	1:A:199:U:C4	3.04	0.46
1:A:542:G:H2'	1:A:543:A:C2	2.51	0.46
1:A:609:G:C6	1:A:610:U:C4	3.04	0.46
1:A:676:U:H2'	1:A:678:A:OP2	2.16	0.46
1:A:691:C:H4'	11:K:20:TYR:CD1	2.51	0.46
1:A:776:A:H4'	1:A:777:U:C5'	2.44	0.46
1:A:902:C:C6	1:A:902:C:H3'	2.51	0.46
1:A:905:G:O2'	1:A:906:G:H5'	2.16	0.46
1:A:1231:C:H2'	1:A:1232:A:H5'	1.97	0.46
1:A:1438:A:H2'	1:A:1439:G:O4'	2.15	0.46
1:A:1486:G:C4	1:A:1487:C:C5	3.03	0.46
2:B:108:ILE:C	2:B:110:GLN:N	2.70	0.46
2:B:211:ILE:O	2:B:212:GLN:C	2.58	0.46
3:C:76:VAL:O	3:C:83:ARG:HB3	2.16	0.46
5:E:59:GLY:O	5:E:63:ARG:HB2	2.14	0.46
5:E:109:ILE:HD12	5:E:135:THR:CG2	2.44	0.46
7:G:69:VAL:O	7:G:69:VAL:HG12	2.15	0.46
11:K:91:ARG:NH1	18:R:88:LYS:HE3	2.31	0.46
13:M:29:ARG:O	13:M:32:GLU:N	2.49	0.46
15:O:65:ARG:O	15:O:66:LEU:C	2.57	0.46
18:R:19:LYS:HD2	18:R:19:LYS:N	2.31	0.46
19:S:19:VAL:O	19:S:22:LEU:HB2	2.16	0.46
1:A:441:G:H2'	1:A:442:G:C5'	2.46	0.46
1:A:661:U:O2	1:A:761:A:O2'	2.32	0.46
1:A:905:G:H4'	1:A:1481:A:N7	2.30	0.46
1:A:1004:U:H2'	1:A:1005:G:C8	2.50	0.46
1:A:1169:G:C6	1:A:1170:A:C5	3.04	0.46
1:A:1282:G:O2'	1:A:1283:U:O5'	2.34	0.46
1:A:1438:A:C6	1:A:1439:G:C4	3.03	0.46
2:B:26:PRO:C	2:B:28:PHE:H	2.22	0.46
2:B:51:LEU:O	2:B:52:GLU:C	2.58	0.46
2:B:101:MET:HG3	2:B:108:ILE:HD13	1.98	0.46
3:C:147:LYS:O	3:C:203:PHE:HD2	1.99	0.46
4:D:18:LYS:HD3	4:D:20:TYR:HE2	1.81	0.46
5:E:147:ASP:OD2	5:E:147:ASP:N	2.35	0.46
7:G:42:ILE:HG23	7:G:117:ALA:HA	1.98	0.46
10:J:33:GLN:HG2	10:J:33:GLN:O	2.16	0.46
10:J:61:GLU:OE1	10:J:63:PHE:CZ	2.69	0.46
14:N:36:PHE:CD1	14:N:36:PHE:C	2.94	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:P:57:ARG:CZ	16:P:79:VAL:O	2.63	0.46
18:R:74:ARG:HA	18:R:79:LEU:O	2.15	0.46
1:A:79:G:H3'	1:A:80:U:C5'	2.45	0.46
1:A:100:C:C5	20:T:15:ARG:NH2	2.84	0.46
1:A:431:C:H2'	1:A:432:C:H6	1.81	0.46
1:A:523:A:OP1	12:L:114:LYS:HE2	2.15	0.46
1:A:1199:C:H2'	1:A:1200:C:O4'	2.16	0.46
1:A:1361:C:OP1	7:G:6:ARG:O	2.34	0.46
22:A:1524:KSG:C13	22:A:1524:KSG:H91	2.46	0.46
3:C:65:ALA:O	3:C:66:VAL:HB	2.16	0.46
4:D:105:VAL:HG13	4:D:110:PHE:HB2	1.98	0.46
7:G:23:VAL:CG1	7:G:43:PHE:CE2	2.99	0.46
8:H:4:ASP:OD2	8:H:89:PRO:HD3	2.16	0.46
11:K:48:ILE:HD11	11:K:64:ALA:CA	2.46	0.46
15:O:81:LEU:C	15:O:81:LEU:CD2	2.89	0.46
19:S:20:LEU:HD12	19:S:20:LEU:C	2.41	0.46
19:S:41:VAL:HG22	19:S:44:MET:HE3	1.97	0.46
1:A:179:G:H2'	1:A:180:A:C8	2.44	0.46
1:A:435:A:C4	1:A:481:A:C2	3.03	0.46
1:A:495:C:HO2'	1:A:496:U:P	2.38	0.46
1:A:517:A:O2'	1:A:518:U:P	2.74	0.46
1:A:559:G:O2'	1:A:560:G:P	2.74	0.46
1:A:982:G:C5	1:A:983:A:N3	2.84	0.46
1:A:1421:G:C2	1:A:1442:G:N3	2.84	0.46
3:C:49:SER:C	3:C:51:GLY:H	2.23	0.46
3:C:68:VAL:HG12	3:C:70:VAL:HG23	1.98	0.46
4:D:63:LYS:HG2	4:D:64:LEU:N	2.31	0.46
4:D:64:LEU:HB2	4:D:198:VAL:HG11	1.98	0.46
4:D:67:ILE:HG22	4:D:68:TYR:CD1	2.51	0.46
5:E:80:ILE:HD11	5:E:91:LEU:HB2	1.96	0.46
6:F:1:MET:HG2	6:F:68:PRO:HA	1.97	0.46
8:H:58:TYR:O	8:H:59:LEU:HD23	2.16	0.46
8:H:69:ARG:HB2	8:H:74:PRO:HA	1.98	0.46
8:H:85:ARG:HD3	8:H:88:LYS:HG2	1.97	0.46
9:I:32:ASP:O	9:I:34:ASN:N	2.49	0.46
10:J:33:GLN:O	10:J:34:VAL:O	2.33	0.46
10:J:86:MET:HA	10:J:86:MET:HE3	1.98	0.46
11:K:18:ARG:HB2	11:K:33:THR:CG2	2.46	0.46
11:K:70:LYS:O	11:K:71:LYS:C	2.59	0.46
12:L:59:ARG:CZ	12:L:65:GLU:HG3	2.45	0.46
13:M:87:TYR:C	13:M:89:GLY:N	2.73	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:T:81:LYS:C	20:T:83:ARG:H	2.24	0.46
1:A:86:U:H2'	1:A:87:C:C6	2.50	0.46
1:A:100:C:H2'	1:A:101:G:H8	1.81	0.46
1:A:402:G:H1'	1:A:480:A:N1	2.31	0.46
1:A:744:G:H2'	1:A:745:G:C5'	2.46	0.46
1:A:805:G:H2'	1:A:806:C:C6	2.51	0.46
1:A:859:G:P	12:L:12:ARG:HH22	2.38	0.46
1:A:863:G:C2	1:A:864:G:C8	3.04	0.46
1:A:868:G:O2'	1:A:869:U:P	2.73	0.46
1:A:970:U:HO2'	1:A:971:G:P	2.37	0.46
1:A:1291:G:C5	1:A:1311:A:C2	3.03	0.46
1:A:1302:C:N4	19:S:36:ARG:HG3	2.31	0.46
1:A:1319:G:H5''	1:A:1320:G:OP1	2.15	0.46
1:A:1501:G:O2'	1:A:1502:C:H5'	2.16	0.46
2:B:81:VAL:O	2:B:82:ARG:C	2.58	0.46
3:C:35:GLU:OE2	3:C:59:ARG:NH1	2.47	0.46
3:C:70:VAL:HG12	3:C:71:ALA:N	2.31	0.46
4:D:64:LEU:HD12	4:D:75:PHE:HE1	1.80	0.46
4:D:194:LEU:H	4:D:194:LEU:CD2	2.28	0.46
5:E:137:GLU:O	5:E:138:ALA:C	2.59	0.46
11:K:29:ILE:HA	11:K:44:SER:HA	1.98	0.46
16:P:58:TYR:CD1	16:P:59:TRP:N	2.84	0.46
18:R:53:ARG:HG2	18:R:63:GLN:CG	2.44	0.46
18:R:75:ILE:O	18:R:77:GLY:N	2.44	0.46
19:S:17:GLU:HA	19:S:20:LEU:HG	1.98	0.46
19:S:17:GLU:O	19:S:21:GLU:HG3	2.16	0.46
19:S:51:VAL:HG12	19:S:52:TYR:H	1.80	0.46
20:T:68:LYS:HA	20:T:68:LYS:HD2	1.72	0.46
21:U:10:ARG:O	21:U:11:GLY:C	2.57	0.46
1:A:242:A:O3'	1:A:243:G:H4'	2.16	0.45
1:A:244:C:C2'	1:A:245:U:H5'	2.46	0.45
1:A:274:G:OP2	17:Q:41:LYS:NZ	2.46	0.45
1:A:685:C:O2'	1:A:686:A:OP2	2.24	0.45
1:A:686:A:H5''	1:A:687:G:C8	2.51	0.45
1:A:850:A:C4	1:A:852:G:N7	2.84	0.45
1:A:1055:G:C6	1:A:1087:G:C2	3.04	0.45
1:A:1107:G:C8	1:A:1128:C:C5	3.04	0.45
1:A:1302:C:H42	19:S:36:ARG:HG3	1.81	0.45
1:A:1315:A:C5	1:A:1316:G:C8	3.03	0.45
1:A:1424:G:H4'	1:A:1425:G:N7	2.31	0.45
4:D:50:ARG:HA	4:D:51:PRO:HD3	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:66:MET:HE3	5:E:66:MET:HB3	1.87	0.45
10:J:38:ILE:CG1	10:J:71:LEU:HB3	2.46	0.45
15:O:45:VAL:HG12	15:O:46:HIS:N	2.31	0.45
18:R:40:LEU:O	18:R:43:PHE:N	2.48	0.45
1:A:16:G:C2	1:A:17:A:C4	3.05	0.45
1:A:56:A:C2	1:A:57:U:C1'	2.99	0.45
1:A:56:A:C2'	1:A:57:U:H5'	2.47	0.45
1:A:405:G:H2'	1:A:406:G:O4'	2.16	0.45
1:A:846:C:H5'	1:A:851:A:N6	2.32	0.45
1:A:953:A:O2'	1:A:954:G:P	2.74	0.45
2:B:68:ILE:H	2:B:90:MET:CE	2.14	0.45
2:B:123:ALA:N	2:B:127:ILE:HD11	2.31	0.45
3:C:165:THR:CG2	3:C:166:GLU:N	2.79	0.45
4:D:209:ARG:HG2	4:D:209:ARG:NH1	2.30	0.45
5:E:101:ILE:O	5:E:101:ILE:HG22	2.16	0.45
7:G:20:ASP:OD1	7:G:22:LEU:HB3	2.15	0.45
7:G:111:ARG:NH1	7:G:122:HIS:HB3	2.32	0.45
7:G:113:GLU:O	7:G:119:ARG:NH1	2.45	0.45
8:H:18:ARG:HG3	8:H:18:ARG:HH11	1.81	0.45
9:I:65:VAL:HG13	9:I:65:VAL:O	2.15	0.45
12:L:68:ALA:HB1	12:L:100:ILE:HG13	1.98	0.45
18:R:48:GLY:HA3	18:R:82:THR:HA	1.99	0.45
20:T:58:LYS:O	20:T:62:LEU:HG	2.15	0.45
1:A:382:C:O2'	1:A:383:U:H5'	2.16	0.45
1:A:764:A:C2	1:A:787:G:C6	3.04	0.45
1:A:787:G:H2'	1:A:788:U:O4'	2.16	0.45
1:A:879:A:C5	1:A:880:G:H1'	2.52	0.45
1:A:964:A:C6	1:A:1202:G:C6	3.04	0.45
1:A:1169:G:C6	1:A:1170:A:C6	3.04	0.45
1:A:1332:A:H2'	1:A:1333:U:C6	2.52	0.45
1:A:1350:C:H5''	9:I:114:TYR:HB2	1.99	0.45
2:B:12:GLU:OE1	2:B:12:GLU:HA	2.09	0.45
4:D:23:GLY:HA3	4:D:112:VAL:HG12	1.97	0.45
4:D:176:LEU:HA	4:D:183:GLY:HA2	1.96	0.45
5:E:115:VAL:HG11	5:E:118:ILE:CD1	2.46	0.45
6:F:45:LEU:O	6:F:46:ARG:HG2	2.16	0.45
7:G:31:MET:SD	7:G:36:LYS:HB2	2.56	0.45
9:I:63:ILE:CD1	9:I:77:ILE:HG23	2.46	0.45
10:J:7:LYS:HG3	10:J:71:LEU:CD2	2.46	0.45
11:K:94:ALA:O	11:K:97:ALA:HB3	2.16	0.45
12:L:37:CYS:HA	12:L:57:LYS:O	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:59:ARG:NE	12:L:65:GLU:HG3	2.31	0.45
14:N:22:THR:O	14:N:23:ARG:HB2	2.16	0.45
15:O:87:ILE:CG2	15:O:88:ARG:N	2.77	0.45
16:P:20:VAL:HG23	16:P:35:LYS:HA	1.99	0.45
16:P:56:ALA:O	16:P:57:ARG:C	2.60	0.45
17:Q:97:SER:O	17:Q:98:LEU:C	2.59	0.45
19:S:17:GLU:HA	19:S:20:LEU:CD2	2.47	0.45
19:S:42:PRO:O	19:S:44:MET:N	2.49	0.45
1:A:120:G:H2'	1:A:121:G:O4'	2.16	0.45
1:A:241:C:C2	1:A:280:G:C2	3.04	0.45
1:A:512:C:H41	12:L:49:ASN:CG	2.24	0.45
1:A:626:A:H2'	1:A:627:C:H6	1.82	0.45
1:A:718:G:H21	18:R:75:ILE:HD11	1.81	0.45
1:A:820:G:C6	1:A:829:G:C5	3.05	0.45
1:A:891:A:O5'	12:L:47:LYS:NZ	2.50	0.45
1:A:1043:C:OP1	14:N:45:ARG:NH2	2.50	0.45
1:A:1100:G:H4'	9:I:104:ARG:NH1	2.32	0.45
1:A:1331:A:H5''	9:I:121:ARG:HB2	1.99	0.45
1:A:1356:G:H5''	7:G:36:LYS:HB3	1.98	0.45
1:A:1499:G:H2'	1:A:1500:U:C6	2.51	0.45
2:B:25:ASN:O	2:B:26:PRO:C	2.59	0.45
2:B:93:VAL:HG21	2:B:97:TRP:CD1	2.51	0.45
6:F:4:TYR:CZ	6:F:72:VAL:HG21	2.51	0.45
6:F:32:ASN:N	6:F:32:ASN:HD22	2.14	0.45
7:G:42:ILE:CG2	7:G:117:ALA:HA	2.47	0.45
9:I:63:ILE:HG22	9:I:64:THR:N	2.32	0.45
9:I:95:LYS:O	9:I:98:PRO:HD2	2.17	0.45
10:J:24:VAL:HG12	10:J:28:ARG:HD2	1.98	0.45
12:L:6:THR:O	12:L:9:GLN:HB2	2.16	0.45
13:M:10:PRO:O	13:M:10:PRO:HG2	2.16	0.45
15:O:61:GLY:O	15:O:64:ARG:HG2	2.16	0.45
1:A:58:G:C5	1:A:59:C:C4	3.05	0.45
1:A:79:G:H2'	1:A:80:U:H5''	1.99	0.45
1:A:237:C:O2'	1:A:238:C:H5'	2.16	0.45
1:A:281:G:C2'	1:A:282:G:H5'	2.45	0.45
1:A:398:G:C2'	1:A:399:C:H5'	2.47	0.45
1:A:441:G:O2'	1:A:442:G:H5'	2.17	0.45
1:A:453:C:H2'	1:A:454:G:H8	1.81	0.45
1:A:491:C:H2'	1:A:492:C:H5	1.81	0.45
1:A:503:C:H2'	1:A:504:A:C8	2.51	0.45
1:A:641:G:N2	1:A:734:G:C8	2.85	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:744:G:C2	17:Q:103:GLY:O	2.70	0.45
1:A:1063:A:O3'	5:E:16:THR:OG1	2.35	0.45
1:A:1127:G:N2	1:A:1129:A:N6	2.61	0.45
1:A:1301:A:P	19:S:5:LEU:HD21	2.57	0.45
1:A:1379:A:H4'	1:A:1380:C:H5''	1.98	0.45
1:A:1387:C:H2'	1:A:1388:G:C8	2.52	0.45
1:A:1395:C:H2'	1:A:1396:A:H8	1.80	0.45
2:B:114:ARG:O	2:B:114:ARG:HD2	2.16	0.45
2:B:204:ASN:C	2:B:206:ASP:H	2.24	0.45
3:C:173:VAL:N	3:C:174:PRO:CD	2.80	0.45
5:E:16:THR:O	5:E:16:THR:HG23	2.17	0.45
6:F:23:LYS:HE2	6:F:23:LYS:HB3	1.75	0.45
8:H:96:GLY:O	8:H:97:VAL:C	2.59	0.45
11:K:106:LYS:HD3	11:K:106:LYS:HA	1.84	0.45
13:M:84:ILE:HG13	13:M:86:CYS:CB	2.46	0.45
14:N:24:CYS:C	14:N:26:ARG:H	2.23	0.45
17:Q:29:HIS:HB2	17:Q:36:ILE:CG2	2.47	0.45
20:T:38:LYS:O	20:T:41:ILE:N	2.49	0.45
20:T:64:ASP:CG	20:T:81:LYS:HZ2	2.24	0.45
1:A:100:C:H2'	1:A:101:G:C8	2.52	0.45
1:A:172:C:H2'	1:A:173:C:H6	1.82	0.45
1:A:190:U:C5	17:Q:72:ARG:NH2	2.85	0.45
1:A:535:U:C2	1:A:536:U:C5	3.05	0.45
1:A:548:C:N1	17:Q:31:LEU:HD11	2.31	0.45
1:A:757:G:C6	1:A:791:A:C6	3.05	0.45
1:A:758:G:O2'	1:A:759:G:H5'	2.15	0.45
1:A:845:G:HO2'	1:A:851:A:N6	2.15	0.45
1:A:985:C:O2	1:A:1003:G:H1'	2.17	0.45
1:A:1216:C:H5'	1:A:1347:U:HO2'	1.82	0.45
1:A:1284:U:O2'	1:A:1285:C:OP1	2.30	0.45
1:A:1410:U:H2'	1:A:1411:A:C8	2.51	0.45
2:B:141:GLU:O	2:B:142:LEU:C	2.57	0.45
2:B:206:ASP:O	2:B:207:ALA:HB3	2.17	0.45
3:C:113:ALA:N	3:C:114:PRO:CD	2.79	0.45
3:C:125:GLU:C	3:C:127:ARG:N	2.65	0.45
4:D:64:LEU:HD13	4:D:64:LEU:C	2.41	0.45
4:D:68:TYR:CD2	4:D:97:LEU:HB3	2.51	0.45
4:D:173:TRP:CD1	4:D:174:LEU:HD21	2.52	0.45
5:E:37:ARG:HG2	5:E:37:ARG:NH1	2.31	0.45
5:E:74:GLY:HA3	5:E:116:THR:HG22	1.99	0.45
8:H:63:LEU:HD23	8:H:65:TYR:OH	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:3:GLN:HE21	9:I:3:GLN:HB3	1.53	0.45
10:J:92:THR:O	10:J:92:THR:CG2	2.65	0.45
17:Q:68:ARG:O	17:Q:69:LYS:CB	2.63	0.45
18:R:51:LEU:HA	18:R:52:PRO:HD3	1.76	0.45
1:A:293:G:H4'	1:A:541:G:H4'	1.99	0.45
1:A:411:A:H2'	1:A:412:G:O4'	2.17	0.45
1:A:428:A:C8	1:A:429:C:C5	3.04	0.45
1:A:702:G:C4'	11:K:117:ASN:ND2	2.78	0.45
1:A:802:G:H3'	1:A:803:A:H5''	1.96	0.45
1:A:803:A:C5'	1:A:804:U:OP2	2.64	0.45
1:A:816:C:H2'	1:A:817:U:O4'	2.17	0.45
1:A:971:G:H4'	1:A:972:A:OP2	2.16	0.45
1:A:985:C:N3	1:A:1002:G:O6	2.50	0.45
1:A:1178:U:H4'	1:A:1179:G:OP2	2.16	0.45
1:A:1335:G:N2	1:A:1353:G:N3	2.65	0.45
3:C:152:ILE:CG2	3:C:153:VAL:N	2.80	0.45
3:C:154:SER:OG	3:C:197:GLY:N	2.47	0.45
3:C:182:ILE:HA	3:C:202:ILE:O	2.15	0.45
7:G:37:ASN:O	7:G:40:ALA:N	2.50	0.45
8:H:17:THR:OG1	8:H:18:ARG:N	2.47	0.45
8:H:104:ARG:NH2	8:H:138:TRP:CZ3	2.84	0.45
13:M:81:LEU:O	13:M:86:CYS:HB3	2.17	0.45
15:O:10:LYS:CG	15:O:11:VAL:N	2.80	0.45
16:P:69:THR:O	16:P:73:LEU:HG	2.16	0.45
17:Q:90:ILE:O	17:Q:91:ARG:C	2.59	0.45
20:T:22:ARG:O	20:T:23:ARG:C	2.59	0.45
1:A:61:A:H1'	1:A:62:G:O4'	2.17	0.45
1:A:317:A:H2'	1:A:318:C:C6	2.51	0.45
1:A:360:A:H2'	1:A:361:U:O2	2.16	0.45
1:A:410:A:OP2	1:A:424:G:N2	2.50	0.45
1:A:413:C:H6	1:A:413:C:O5'	2.00	0.45
1:A:459:G:OP2	16:P:75:ARG:NH1	2.50	0.45
1:A:469:G:O2'	1:A:470:G:P	2.75	0.45
1:A:483:A:H4'	1:A:484:G:H5'	1.98	0.45
1:A:753:G:C2	1:A:754:C:C6	3.05	0.45
1:A:805:G:C2	1:A:858:C:N3	2.85	0.45
1:A:856:G:H5'	8:H:89:PRO:HG2	1.98	0.45
1:A:1110:G:N2	1:A:1129:A:H62	2.15	0.45
1:A:1232:A:H5'	9:I:68:GLY:O	2.17	0.45
1:A:1281:A:C5	1:A:1283:U:O2	2.70	0.45
1:A:1315:A:H2'	1:A:1316:G:O4'	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1401:A:H3'	1:A:1402:G:H8	1.82	0.45
2:B:73:THR:CG2	2:B:96:ARG:CZ	2.95	0.45
2:B:148:TYR:N	2:B:148:TYR:HD2	2.13	0.45
5:E:56:GLN:O	5:E:57:LYS:C	2.60	0.45
5:E:115:VAL:HG13	5:E:116:THR:N	2.32	0.45
9:I:89:ASN:O	9:I:92:TYR:HB2	2.17	0.45
11:K:49:GLY:O	11:K:50:TYR:C	2.60	0.45
13:M:86:CYS:SG	13:M:88:ARG:HB3	2.57	0.45
13:M:96:LEU:HB3	13:M:97:PRO:CD	2.40	0.45
17:Q:43:LEU:CD1	17:Q:68:ARG:HH12	2.28	0.45
19:S:40:ILE:HG23	19:S:44:MET:SD	2.57	0.45
1:A:51:A:N6	1:A:357:G:C4'	2.80	0.45
1:A:186:C:O2'	1:A:187:C:H5'	2.17	0.45
1:A:198:G:C5	1:A:199:U:C5	3.04	0.45
1:A:418:C:O2'	1:A:419:G:H5''	2.17	0.45
1:A:502:C:H5''	1:A:503:C:C6	2.52	0.45
1:A:586:A:C2	1:A:587:U:C2	3.05	0.45
1:A:641:G:H2'	1:A:642:G:H8	1.81	0.45
1:A:954:G:C8	1:A:1340:U:O2	2.70	0.45
1:A:1174:C:H2'	1:A:1175:G:O4'	2.17	0.45
1:A:1239:U:H4'	1:A:1240:G:O5'	2.16	0.45
1:A:1273:G:H4'	9:I:38:GLN:O	2.17	0.45
1:A:1423:C:O2'	1:A:1424:G:H5'	2.17	0.45
1:A:1437:C:O2'	1:A:1438:A:H5'	2.17	0.45
2:B:89:GLY:N	2:B:226:ARG:HH22	2.14	0.45
2:B:229:VAL:O	2:B:229:VAL:HG12	2.16	0.45
3:C:51:GLY:O	3:C:71:ALA:N	2.42	0.45
3:C:108:ASN:ND2	3:C:111:LEU:HG	2.31	0.45
4:D:200:GLU:O	4:D:201:GLN:C	2.57	0.45
6:F:37:VAL:HG12	6:F:39:LYS:H	1.82	0.45
7:G:27:ILE:HG13	7:G:27:ILE:H	1.64	0.45
12:L:42:THR:CG2	12:L:52:LEU:HB3	2.47	0.45
15:O:39:LEU:HD13	15:O:56:LEU:CA	2.46	0.45
20:T:29:LYS:O	20:T:32:ALA:HB3	2.17	0.45
21:U:5:ASP:O	21:U:8:THR:HG23	2.16	0.45
1:A:468:C:H2'	1:A:469:G:N7	2.32	0.45
1:A:750:A:C8	1:A:798:A:C6	3.05	0.45
1:A:1030:G:O2'	1:A:1031:G:H5'	2.17	0.45
1:A:1216:C:C2	1:A:1217:U:C5	3.05	0.45
2:B:135:GLN:O	2:B:139:LYS:HB2	2.17	0.45
3:C:101:LEU:O	3:C:101:LEU:HD22	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:173:TRP:CD2	4:D:189:PRO:HB3	2.52	0.45
6:F:38:GLU:O	6:F:39:LYS:CB	2.65	0.45
13:M:57:ARG:CG	13:M:61:GLU:OE2	2.59	0.45
14:N:29:ARG:HB3	14:N:40:CYS:HB3	1.98	0.45
15:O:17:ARG:HG3	15:O:17:ARG:NH1	2.27	0.45
15:O:30:ALA:O	15:O:31:LEU:C	2.59	0.45
15:O:32:LEU:HA	15:O:32:LEU:HD23	1.69	0.45
17:Q:17:LYS:CA	17:Q:46:ASP:O	2.63	0.45
19:S:36:ARG:NH2	19:S:75:ALA:O	2.50	0.45
1:A:10:G:OP2	5:E:121:LYS:HD2	2.16	0.44
1:A:447:A:C2	1:A:448:A:C4	3.05	0.44
1:A:499:G:C6	1:A:500:U:N3	2.85	0.44
1:A:561:G:C2	1:A:562:C:C6	3.05	0.44
1:A:653:U:H2'	1:A:654:G:C8	2.52	0.44
1:A:726:G:H2'	1:A:727:U:H5'	1.98	0.44
1:A:951:G:H2'	1:A:952:A:OP1	2.16	0.44
1:A:1067:G:C5	1:A:1068:U:C4	3.05	0.44
1:A:1177:C:C3'	1:A:1178:U:C5'	2.87	0.44
1:A:1484:U:OP1	22:A:1523:KSG:N3	2.50	0.44
2:B:24:TRP:CG	2:B:25:ASN:H	2.33	0.44
4:D:10:ARG:NH1	4:D:40:PRO:CB	2.79	0.44
4:D:111:ALA:HB2	4:D:120:LEU:CD1	2.43	0.44
4:D:148:VAL:HG12	4:D:149:ALA:N	2.31	0.44
5:E:93:PRO:HG3	8:H:105:ARG:HE	1.80	0.44
6:F:40:VAL:HG22	6:F:41:GLU:H	1.80	0.44
6:F:53:ALA:C	6:F:55:ASP:H	2.24	0.44
7:G:71:PRO:O	7:G:96:GLN:HG2	2.17	0.44
8:H:103:VAL:O	8:H:104:ARG:C	2.59	0.44
9:I:56:LEU:C	9:I:58:ARG:H	2.24	0.44
10:J:49:VAL:CG1	10:J:50:ILE:N	2.79	0.44
12:L:7:ILE:O	12:L:11:VAL:HG23	2.17	0.44
13:M:60:VAL:O	13:M:61:GLU:C	2.60	0.44
13:M:82:MET:HE3	13:M:92:HIS:HB3	1.99	0.44
15:O:36:ILE:HG12	15:O:59:MET:HE3	1.99	0.44
18:R:19:LYS:HD2	18:R:19:LYS:H	1.82	0.44
18:R:53:ARG:NH1	18:R:58:LEU:O	2.50	0.44
1:A:164:C:O2'	1:A:165:U:H5'	2.16	0.44
1:A:174:A:H2'	1:A:175:U:C6	2.52	0.44
1:A:329:G:C6	1:A:330:C:N4	2.86	0.44
1:A:502:C:C5	1:A:514:G:C4	3.05	0.44
1:A:517:A:O2'	1:A:519:A:OP2	2.27	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:548:C:O4'	17:Q:32:TYR:CD2	2.70	0.44
1:A:585:C:O2'	1:A:586:A:H5'	2.17	0.44
1:A:606:A:C8	1:A:607:C:C6	3.05	0.44
1:A:690:A:N3	11:K:31:THR:OG1	2.49	0.44
1:A:1196:C:H4'	1:A:1197:G:OP1	2.18	0.44
1:A:1401:A:H2'	1:A:1402:G:O4'	2.17	0.44
3:C:131:ARG:O	3:C:134:ILE:HB	2.17	0.44
3:C:154:SER:HB3	3:C:197:GLY:H	1.81	0.44
5:E:87:SER:HB3	5:E:131:ILE:HD13	1.99	0.44
10:J:25:GLU:O	10:J:28:ARG:N	2.48	0.44
10:J:81:THR:O	10:J:85:LEU:HG	2.17	0.44
15:O:36:ILE:HD12	15:O:63:ARG:HD3	1.98	0.44
18:R:53:ARG:HD3	18:R:63:GLN:CB	2.47	0.44
20:T:49:ALA:O	20:T:52:ALA:HB3	2.18	0.44
21:U:5:ASP:OD1	21:U:5:ASP:C	2.59	0.44
1:A:204:A:C5	1:A:217:C:H4'	2.52	0.44
1:A:353:G:C2	1:A:354:U:C6	3.05	0.44
1:A:447:A:HO2'	1:A:448:A:H8	1.61	0.44
1:A:490:G:C5	1:A:491:C:C4	3.05	0.44
1:A:563:G:H2'	1:A:564:U:H6	1.83	0.44
1:A:891:A:H4'	1:A:892:A:O5'	2.16	0.44
2:B:142:LEU:C	2:B:146:GLN:NE2	2.76	0.44
3:C:82:GLU:HG3	3:C:83:ARG:N	2.33	0.44
3:C:134:ILE:O	3:C:135:LYS:C	2.60	0.44
4:D:161:ASN:C	4:D:163:GLU:N	2.74	0.44
6:F:77:ARG:O	6:F:81:ILE:HG13	2.16	0.44
8:H:2:LEU:HD23	8:H:2:LEU:C	2.42	0.44
8:H:44:PHE:CE2	8:H:109:ILE:HD13	2.51	0.44
13:M:10:PRO:CB	13:M:18:ALA:HB1	2.42	0.44
16:P:21:VAL:HG21	16:P:59:TRP:NE1	2.31	0.44
20:T:10:LEU:C	20:T:12:ALA:N	2.75	0.44
20:T:60:GLU:CA	20:T:63:ILE:HD12	2.47	0.44
1:A:48:C:H1'	1:A:361:U:C4	2.52	0.44
1:A:373:G:C2	1:A:383:U:O2	2.70	0.44
1:A:550:G:C4'	1:A:551:G:OP1	2.55	0.44
1:A:576:G:C2	1:A:577:G:C5	3.05	0.44
1:A:762:G:O2'	1:A:763:C:H5'	2.18	0.44
1:A:1288:A:C2	1:A:1289:U:N1	2.86	0.44
1:A:1487:C:N3	1:A:1488:U:C4	2.85	0.44
1:A:1495:G:H2'	1:A:1496:A:O4'	2.17	0.44
2:B:79:ASP:O	2:B:80:ILE:C	2.60	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:115:LEU:HD21	2:B:153:ARG:CZ	2.48	0.44
3:C:50:ALA:O	3:C:70:VAL:CG1	2.65	0.44
4:D:8:VAL:CG1	4:D:21:LEU:CB	2.96	0.44
5:E:20:GLN:O	5:E:21:ALA:C	2.57	0.44
6:F:44:GLY:O	6:F:59:TYR:HA	2.17	0.44
7:G:20:ASP:OD1	7:G:22:LEU:N	2.51	0.44
9:I:28:VAL:O	9:I:29:ASN:C	2.60	0.44
9:I:126:SER:OG	9:I:127:LYS:N	2.48	0.44
12:L:58:VAL:O	12:L:65:GLU:HA	2.17	0.44
13:M:66:LEU:O	13:M:67:GLU:C	2.60	0.44
16:P:43:LYS:HB3	16:P:48:TRP:CD1	2.51	0.44
1:A:78:G:C2	1:A:87:C:C2	3.06	0.44
1:A:125:A:H1'	1:A:260:U:H5'	1.99	0.44
1:A:176:G:N2	1:A:202:A:C4	2.86	0.44
1:A:221:C:O5'	1:A:221:C:H6	2.00	0.44
1:A:299:A:C5	1:A:300:U:C5	3.06	0.44
1:A:341:C:H4'	1:A:342:G:O5'	2.18	0.44
1:A:636:U:O2'	1:A:637:A:H5''	2.17	0.44
1:A:637:A:P	8:H:56:LYS:NZ	2.91	0.44
1:A:1079:C:O5'	1:A:1079:C:H6	2.01	0.44
1:A:1128:C:H1'	1:A:1129:A:C8	2.53	0.44
1:A:1268:A:H2'	1:A:1269:A:H4'	1.99	0.44
1:A:1335:G:H2'	1:A:1336:C:C6	2.48	0.44
1:A:1443:C:O2'	1:A:1444:C:H5'	2.17	0.44
2:B:157:ARG:HG3	2:B:157:ARG:NH1	2.33	0.44
4:D:107:ARG:NH1	4:D:114:ARG:HH22	2.11	0.44
6:F:48:LEU:HD22	6:F:52:ILE:HD11	1.99	0.44
7:G:20:ASP:HB3	7:G:23:VAL:CG2	2.47	0.44
7:G:138:LYS:HD3	7:G:138:LYS:C	2.43	0.44
9:I:17:VAL:HG22	9:I:63:ILE:CD1	2.47	0.44
11:K:62:GLN:O	11:K:63:LEU:C	2.60	0.44
13:M:67:GLU:O	13:M:70:LEU:HB2	2.17	0.44
13:M:74:VAL:O	13:M:75:ALA:C	2.61	0.44
14:N:12:ARG:O	14:N:13:THR:C	2.60	0.44
14:N:24:CYS:N	14:N:29:ARG:O	2.44	0.44
16:P:20:VAL:CG2	16:P:32:TYR:CD2	3.01	0.44
20:T:43:LEU:CD1	20:T:52:ALA:HA	2.46	0.44
20:T:43:LEU:O	20:T:46:GLU:N	2.49	0.44
1:A:186:C:C2'	1:A:187:C:H5'	2.47	0.44
1:A:784:G:H2'	1:A:785:U:C5	2.53	0.44
1:A:829:G:H2'	1:A:830:G:H8	1.81	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:838:A:H3'	1:A:839:G:H8	1.83	0.44
1:A:901:A:H1'	1:A:1381:A:C2	2.53	0.44
1:A:972:A:C2	1:A:973:C:C6	3.05	0.44
1:A:1192:C:C4'	1:A:1196:C:C4	3.00	0.44
1:A:1268:A:C8	1:A:1269:A:H4'	2.53	0.44
1:A:1309:C:OP1	21:U:20:LYS:N	2.50	0.44
1:A:1328:A:N1	1:A:1357:A:H5''	2.32	0.44
2:B:8:LYS:HD3	2:B:9:GLU:H	1.82	0.44
2:B:153:ARG:O	2:B:155:LEU:N	2.50	0.44
3:C:28:GLN:O	3:C:29:TYR:C	2.57	0.44
3:C:120:VAL:O	3:C:123:GLN:N	2.50	0.44
3:C:120:VAL:HG12	3:C:124:ILE:HD11	2.00	0.44
5:E:89:ILE:CD1	5:E:91:LEU:HG	2.47	0.44
6:F:65:VAL:HG23	6:F:66:GLU:N	2.31	0.44
9:I:17:VAL:HG11	9:I:81:ILE:HG12	2.00	0.44
11:K:79:SER:OG	11:K:106:LYS:HG2	2.18	0.44
13:M:87:TYR:O	13:M:88:ARG:C	2.61	0.44
13:M:88:ARG:HG3	13:M:98:VAL:HG13	2.00	0.44
16:P:39:TYR:CD1	16:P:39:TYR:C	2.96	0.44
18:R:65:ILE:O	18:R:66:LEU:C	2.58	0.44
19:S:40:ILE:O	19:S:67:VAL:HG12	2.18	0.44
19:S:51:VAL:O	19:S:58:VAL:N	2.50	0.44
1:A:14:U:O2	1:A:892:A:H3'	2.18	0.44
1:A:227:G:H2'	1:A:228:G:H8	1.81	0.44
1:A:240:U:H5'	1:A:241:C:OP1	2.18	0.44
1:A:276:C:H1'	17:Q:38:ARG:HG3	2.00	0.44
1:A:308:C:O2'	1:A:309:A:H5'	2.17	0.44
1:A:447:A:O2'	1:A:448:A:H8	2.00	0.44
1:A:664:C:O2	1:A:695:G:C2	2.70	0.44
1:A:741:U:H2'	1:A:742:G:O4'	2.17	0.44
1:A:745:G:H4'	17:Q:102:GLY:HA3	1.98	0.44
1:A:794:C:O2'	1:A:795:C:H5'	2.18	0.44
1:A:972:A:H2'	1:A:972:A:N3	2.32	0.44
1:A:982:G:C6	1:A:983:A:H1'	2.52	0.44
1:A:1051:G:C2	1:A:1052:C:C6	3.06	0.44
1:A:1168:G:N2	1:A:1169:G:H1'	2.33	0.44
1:A:1240:G:O2'	1:A:1241:C:H5'	2.18	0.44
2:B:104:ASN:OD1	2:B:107:THR:CB	2.65	0.44
3:C:118:GLN:O	3:C:119:ARG:C	2.60	0.44
3:C:162:GLN:O	3:C:163:ALA:O	2.36	0.44
4:D:25:ARG:C	4:D:27:TYR:N	2.75	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:30:LYS:C	4:D:32:ALA:N	2.71	0.44
4:D:55:ALA:O	4:D:58:LEU:N	2.51	0.44
4:D:148:VAL:CG1	4:D:149:ALA:N	2.81	0.44
5:E:53:LEU:O	5:E:56:GLN:HB2	2.18	0.44
6:F:22:GLU:O	6:F:23:LYS:C	2.60	0.44
6:F:97:PHE:HB2	18:R:32:ARG:NH2	2.33	0.44
7:G:76:ARG:HD2	7:G:89:MET:SD	2.58	0.44
10:J:32:ALA:HB2	10:J:76:ASN:HD22	1.82	0.44
10:J:49:VAL:HG13	14:N:41:ARG:HB2	1.98	0.44
11:K:26:ASN:O	11:K:27:ASN:HB2	2.17	0.44
11:K:99:GLN:HA	11:K:105:VAL:CG2	2.48	0.44
12:L:26:ALA:C	12:L:27:LEU:O	2.61	0.44
12:L:102:ARG:O	12:L:121:GLY:HA3	2.18	0.44
13:M:73:GLU:O	13:M:76:ALA:HB3	2.17	0.44
17:Q:20:THR:HA	17:Q:43:LEU:CD2	2.48	0.44
19:S:10:PHE:C	19:S:10:PHE:HD2	2.26	0.44
19:S:44:MET:O	19:S:47:HIS:HB2	2.17	0.44
1:A:158:C:O2'	1:A:159:U:H5'	2.18	0.44
1:A:240:U:O4	1:A:884:G:H1'	2.18	0.44
1:A:441:G:C2'	1:A:442:G:H5'	2.48	0.44
1:A:486:G:OP1	12:L:118:SER:N	2.50	0.44
1:A:491:C:C4	1:A:492:C:C4	3.06	0.44
1:A:631:C:O2'	1:A:632:A:H5'	2.18	0.44
1:A:853:C:O2'	8:H:14:ARG:HD2	2.17	0.44
1:A:943:A:O2'	1:A:944:G:C5'	2.64	0.44
1:A:947:A:N6	13:M:126:LYS:HD2	2.33	0.44
1:A:1140:A:N6	1:A:1160:G:H1'	2.32	0.44
1:A:1274:U:OP1	7:G:41:ARG:NH2	2.51	0.44
1:A:1330:U:H2'	1:A:1331:A:H8	1.83	0.44
1:A:1388:G:O2'	1:A:1389:U:H5'	2.18	0.44
3:C:3:ASN:HD22	3:C:3:ASN:H	1.58	0.44
3:C:165:THR:HG22	3:C:166:GLU:N	2.33	0.44
3:C:175:LEU:HD23	3:C:182:ILE:CD1	2.48	0.44
4:D:92:VAL:O	4:D:96:LEU:HD13	2.17	0.44
5:E:11:ILE:CG2	5:E:31:LEU:HB3	2.48	0.44
7:G:23:VAL:HG12	7:G:27:ILE:HD11	1.99	0.44
8:H:82:HIS:HB3	8:H:138:TRP:CD2	2.52	0.44
9:I:71:SER:O	9:I:72:GLY:C	2.60	0.44
12:L:110:VAL:O	12:L:122:THR:CG2	2.66	0.44
14:N:5:ALA:O	14:N:7:ILE:N	2.51	0.44
15:O:11:VAL:O	15:O:15:PHE:HD1	2.01	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:R:35:ARG:O	18:R:37:VAL:N	2.46	0.44
18:R:45:SER:O	18:R:47:THR:N	2.51	0.44
19:S:25:LYS:HD2	19:S:25:LYS:N	2.25	0.44
1:A:27:A:N6	1:A:542:G:O2'	2.41	0.44
1:A:928:U:H2'	1:A:929:G:C8	2.52	0.44
1:A:1140:A:C2	1:A:1163:G:C4	3.06	0.44
1:A:1194:U:O4'	1:A:1194:U:OP2	2.36	0.44
1:A:1212:C:O2'	1:A:1213:G:H5'	2.18	0.44
1:A:1313:G:O2'	1:A:1314:A:P	2.76	0.44
3:C:85:ARG:O	3:C:86:VAL:C	2.61	0.44
3:C:89:GLU:O	3:C:92:ALA:N	2.48	0.44
3:C:112:SER:C	3:C:114:PRO:HD2	2.43	0.44
5:E:81:GLU:OE1	5:E:88:LYS:NZ	2.51	0.44
6:F:74:ASP:C	6:F:76:ALA:N	2.75	0.44
7:G:66:VAL:HG12	7:G:67:GLU:N	2.33	0.44
9:I:70:LYS:O	9:I:74:ILE:HG13	2.18	0.44
10:J:6:ILE:O	10:J:71:LEU:HD13	2.17	0.44
10:J:9:ARG:HB3	10:J:9:ARG:NH1	2.33	0.44
10:J:27:ALA:HB2	10:J:85:LEU:HD21	2.00	0.44
10:J:84:GLN:C	10:J:88:LEU:HD12	2.43	0.44
13:M:23:TYR:HB2	13:M:67:GLU:OE2	2.17	0.44
14:N:14:PRO:O	14:N:16:PHE:N	2.50	0.44
16:P:52:ASP:OD1	16:P:52:ASP:C	2.61	0.44
17:Q:9:VAL:HG12	17:Q:10:VAL:N	2.32	0.44
17:Q:63:ARG:O	17:Q:64:PRO:C	2.58	0.44
1:A:137:G:H2'	1:A:138:A:H8	1.82	0.43
1:A:440:G:C2	1:A:475:G:C2	3.06	0.43
1:A:566:U:H2'	1:A:567:A:C8	2.53	0.43
1:A:641:G:C2	1:A:734:G:C5	3.05	0.43
1:A:989:G:O2'	1:A:990:G:H5'	2.18	0.43
1:A:989:G:H2'	1:A:990:G:H8	1.83	0.43
1:A:1220:A:C4	1:A:1285:C:O2'	2.71	0.43
1:A:1503:G:O2'	1:A:1504:G:H5'	2.17	0.43
3:C:65:ALA:C	3:C:66:VAL:O	2.61	0.43
5:E:9:LYS:CB	5:E:112:LEU:HD11	2.48	0.43
5:E:74:GLY:CA	5:E:116:THR:HG22	2.48	0.43
6:F:30:LEU:O	6:F:31:GLU:C	2.61	0.43
6:F:30:LEU:CD2	6:F:75:LEU:HD21	2.36	0.43
8:H:2:LEU:C	8:H:2:LEU:CD2	2.91	0.43
10:J:45:ARG:NH2	14:N:36:PHE:HD2	2.15	0.43
12:L:113:ARG:NH2	12:L:120:TYR:CE1	2.86	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:5:ALA:O	13:M:8:GLU:N	2.50	0.43
13:M:49:THR:O	13:M:50:GLU:C	2.60	0.43
13:M:91:ARG:HB3	13:M:97:PRO:O	2.18	0.43
14:N:17:LYS:HD3	14:N:17:LYS:O	2.17	0.43
15:O:18:PHE:CE1	15:O:21:ASP:HB2	2.53	0.43
19:S:30:LEU:HD23	19:S:31:ILE:H	1.83	0.43
1:A:137:G:O2'	1:A:138:A:H5'	2.18	0.43
1:A:249:U:H2'	1:A:250:G:H8	1.84	0.43
1:A:519:A:H5''	1:A:520:C:OP2	2.18	0.43
1:A:635:C:N4	1:A:636:U:O4	2.51	0.43
1:A:736:G:H1'	1:A:738:C:H41	1.82	0.43
1:A:891:A:P	12:L:47:LYS:NZ	2.90	0.43
1:A:1140:A:N3	1:A:1163:G:C2	2.86	0.43
1:A:1301:A:H5'	19:S:70:LYS:NZ	2.33	0.43
1:A:1414:C:C2	1:A:1448:G:C2	3.06	0.43
2:B:12:GLU:C	2:B:14:GLY:H	2.26	0.43
2:B:16:HIS:NE2	2:B:214:ILE:HG12	2.34	0.43
3:C:3:ASN:O	3:C:4:LYS:O	2.36	0.43
3:C:139:GLN:NE2	3:C:139:GLN:CA	2.80	0.43
4:D:3:ARG:O	4:D:5:ILE:HG13	2.17	0.43
7:G:69:VAL:HG22	7:G:135:VAL:HG22	1.99	0.43
7:G:136:LYS:O	7:G:137:LYS:C	2.60	0.43
10:J:31:GLY:O	10:J:32:ALA:O	2.35	0.43
11:K:26:ASN:O	11:K:27:ASN:CB	2.65	0.43
11:K:33:THR:OG1	11:K:38:ASN:N	2.52	0.43
13:M:46:LYS:HG3	13:M:47:ASP:H	1.83	0.43
13:M:54:VAL:HG12	13:M:58:GLU:HG2	2.00	0.43
13:M:73:GLU:O	13:M:74:VAL:C	2.61	0.43
13:M:105:THR:HB	13:M:106:ASN:H	1.47	0.43
15:O:31:LEU:O	15:O:32:LEU:C	2.61	0.43
15:O:67:LEU:O	15:O:68:ARG:C	2.59	0.43
18:R:33:ASP:C	18:R:35:ARG:H	2.25	0.43
19:S:19:VAL:HG13	19:S:20:LEU:N	2.33	0.43
20:T:57:ARG:HH11	20:T:57:ARG:CB	2.31	0.43
20:T:101:GLY:O	20:T:102:GLY:O	2.35	0.43
1:A:56:A:O2'	1:A:57:U:H5'	2.17	0.43
1:A:125:A:OP2	1:A:190:U:H2'	2.18	0.43
1:A:248:U:H2'	1:A:249:U:C6	2.54	0.43
1:A:393:A:N7	1:A:531:A:O2'	2.47	0.43
1:A:932:G:H21	1:A:1209:A:N6	2.10	0.43
1:A:1063:A:H5'	5:E:14:ARG:NH2	2.33	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1169:G:C4	1:A:1170:A:C8	3.06	0.43
1:A:1276:G:O2'	1:A:1277:G:H5'	2.18	0.43
1:A:1302:C:C4	1:A:1303:C:C4	3.06	0.43
1:A:1329:G:H22	1:A:1356:G:H2'	1.83	0.43
2:B:166:ASP:C	2:B:166:ASP:OD1	2.61	0.43
2:B:204:ASN:C	2:B:206:ASP:N	2.75	0.43
3:C:83:ARG:O	3:C:84:ILE:C	2.61	0.43
4:D:98:GLU:HG2	4:D:194:LEU:HD11	1.99	0.43
5:E:31:LEU:HD23	5:E:31:LEU:HA	1.78	0.43
6:F:35:ALA:HA	6:F:67:MET:HB3	2.00	0.43
8:H:24:THR:O	8:H:24:THR:CG2	2.66	0.43
9:I:7:THR:CG2	9:I:8:GLY:H	2.21	0.43
9:I:10:ARG:HD2	9:I:11:LYS:H	1.82	0.43
9:I:24:GLY:CA	9:I:60:ASP:HA	2.48	0.43
11:K:52:GLY:O	11:K:53:SER:C	2.61	0.43
12:L:45:PRO:HG2	12:L:50:SER:CA	2.48	0.43
13:M:56:LEU:O	13:M:57:ARG:C	2.62	0.43
15:O:21:ASP:OD2	15:O:21:ASP:C	2.60	0.43
16:P:23:ASP:C	16:P:23:ASP:OD1	2.60	0.43
16:P:74:LEU:O	16:P:79:VAL:CG2	2.65	0.43
17:Q:19:VAL:CG2	17:Q:44:ALA:HB3	2.48	0.43
17:Q:58:GLU:HG3	17:Q:75:ARG:HG2	2.00	0.43
17:Q:93:GLN:O	17:Q:94:ASN:C	2.61	0.43
1:A:155:A:H1'	1:A:340:A:C5	2.54	0.43
1:A:194:G:H2'	1:A:195:U:O4'	2.17	0.43
1:A:274:G:H1'	1:A:278:A:H1'	2.01	0.43
1:A:435:A:H5''	1:A:478:G:H22	1.83	0.43
1:A:1077:G:OP2	1:A:1078:U:C5	2.71	0.43
1:A:1251:A:C2	1:A:1295:U:C1'	3.02	0.43
1:A:1328:A:C4	7:G:10:ARG:NH2	2.87	0.43
1:A:1334:C:H2'	1:A:1335:G:C8	2.54	0.43
1:A:1347:U:HO2'	1:A:1348:G:P	2.33	0.43
2:B:117:GLU:O	2:B:117:GLU:HG2	2.19	0.43
2:B:168:THR:OG1	2:B:192:SER:HB3	2.18	0.43
2:B:210:SER:O	2:B:211:ILE:C	2.61	0.43
3:C:23:TYR:CG	3:C:24:ALA:N	2.87	0.43
5:E:65:ASN:O	5:E:65:ASN:OD1	2.36	0.43
5:E:78:HIS:HD2	8:H:107:LEU:HD12	1.82	0.43
9:I:117:HIS:C	9:I:118:LYS:HG3	2.41	0.43
11:K:24:SER:HB3	11:K:27:ASN:O	2.19	0.43
11:K:108:ILE:O	11:K:109:VAL:HG23	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:18:ALA:C	13:M:20:THR:N	2.73	0.43
13:M:87:TYR:O	13:M:90:LEU:N	2.51	0.43
13:M:90:LEU:O	13:M:93:ARG:N	2.51	0.43
15:O:14:GLU:HA	15:O:14:GLU:OE2	2.18	0.43
15:O:59:MET:O	15:O:60:VAL:C	2.59	0.43
16:P:39:TYR:CZ	16:P:41:PRO:HA	2.53	0.43
1:A:8:G:O2'	1:A:9:A:OP1	2.32	0.43
1:A:172:C:H2'	1:A:173:C:C6	2.53	0.43
1:A:173:C:H2'	1:A:174:A:H8	1.83	0.43
1:A:646:G:O2'	1:A:647:A:H5'	2.18	0.43
1:A:674:G:C6	1:A:675:G:N1	2.86	0.43
1:A:1208:C:H5'	13:M:96:LEU:HD13	2.00	0.43
1:A:1409:C:H2'	1:A:1410:U:C6	2.53	0.43
2:B:61:LEU:O	2:B:62:ALA:C	2.62	0.43
4:D:158:ILE:CG2	4:D:181:MET:HE2	2.48	0.43
4:D:200:GLU:O	4:D:203:VAL:HB	2.18	0.43
6:F:2:ARG:NE	6:F:69:GLU:HG2	2.33	0.43
6:F:27:GLN:HA	6:F:27:GLN:HE21	1.83	0.43
8:H:20:TYR:CD1	8:H:65:TYR:CD2	3.06	0.43
10:J:22:LYS:HE2	10:J:90:LEU:HD12	2.00	0.43
11:K:76:GLY:O	11:K:77:MET:C	2.60	0.43
14:N:53:LEU:HB3	14:N:56:VAL:HG21	1.99	0.43
15:O:87:ILE:CG2	15:O:88:ARG:H	2.30	0.43
17:Q:81:ARG:HE	17:Q:81:ARG:HB2	1.68	0.43
17:Q:97:SER:CB	17:Q:103:GLY:N	2.82	0.43
18:R:39:VAL:O	18:R:40:LEU:C	2.62	0.43
19:S:46:GLY:N	19:S:62:ILE:HG23	2.33	0.43
1:A:36:G:H2'	1:A:37:C:H6	1.84	0.43
1:A:79:G:C2'	1:A:80:U:H5''	2.49	0.43
1:A:258:A:H5'	20:T:74:LYS:HG3	2.01	0.43
1:A:282:G:O2'	1:A:283:U:H5'	2.18	0.43
1:A:340:A:HO2'	1:A:341:C:P	2.41	0.43
1:A:400:U:H5'	4:D:122:ARG:HD2	1.99	0.43
1:A:662:U:H2'	1:A:663:C:O4'	2.19	0.43
1:A:764:A:P	11:K:122:LYS:HB2	2.59	0.43
1:A:802:G:H2'	1:A:803:A:H5''	2.01	0.43
1:A:902:C:C6	1:A:902:C:C3'	3.01	0.43
1:A:912:C:C4	1:A:1327:U:C5	3.07	0.43
1:A:934:U:O2'	1:A:935:U:H5'	2.18	0.43
1:A:939:U:H2'	1:A:940:C:H5'	2.00	0.43
1:A:1086:C:H5''	2:B:98:LEU:HD22	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1180:G:H2'	1:A:1181:U:O4'	2.18	0.43
1:A:1331:A:P	9:I:118:LYS:NZ	2.92	0.43
2:B:132:LYS:HG2	2:B:135:GLN:OE1	2.19	0.43
3:C:11:ARG:HG2	3:C:15:THR:OG1	2.19	0.43
3:C:12:LEU:O	3:C:16:ARG:O	2.36	0.43
3:C:179:ARG:HG3	3:C:179:ARG:NH1	2.34	0.43
4:D:104:VAL:HG12	4:D:108:LEU:CD1	2.35	0.43
7:G:118:VAL:O	7:G:121:ALA:N	2.51	0.43
10:J:48:THR:OG1	10:J:62:HIS:CD2	2.71	0.43
12:L:5:PRO:O	12:L:6:THR:C	2.61	0.43
13:M:79:LYS:CD	13:M:83:ASP:OD2	2.66	0.43
14:N:42:ILE:O	14:N:43:CYS:C	2.61	0.43
15:O:27:VAL:CG1	15:O:31:LEU:HD11	2.48	0.43
17:Q:56:VAL:O	17:Q:77:VAL:HB	2.18	0.43
18:R:62:GLU:O	18:R:64:ARG:N	2.52	0.43
20:T:30:LYS:O	20:T:31:SER:C	2.62	0.43
20:T:50:GLU:HG3	20:T:99:LEU:CD1	2.48	0.43
20:T:54:LYS:HG3	20:T:100:ILE:CD1	2.45	0.43
1:A:113:A:O2'	1:A:114:A:OP2	2.28	0.43
1:A:458:A:C6	1:A:459:G:C4	3.07	0.43
1:A:648:G:OP1	18:R:64:ARG:HD2	2.19	0.43
1:A:676:U:H5'	1:A:781:C:C5'	2.49	0.43
1:A:741:U:H4'	1:A:806:C:O2	2.19	0.43
1:A:762:G:H2'	1:A:763:C:H5'	2.00	0.43
1:A:902:C:H3'	1:A:902:C:H6	1.84	0.43
1:A:945:C:OP1	1:A:947:A:H5'	2.18	0.43
1:A:1184:G:C4	14:N:42:ILE:HD13	2.53	0.43
1:A:1287:G:C2	1:A:1313:G:N3	2.87	0.43
1:A:1507:G:C5'	1:A:1508:G:OP2	2.64	0.43
2:B:51:LEU:O	2:B:55:PHE:N	2.45	0.43
2:B:84:GLU:HB3	2:B:219:VAL:CG2	2.44	0.43
3:C:122:GLU:O	3:C:125:GLU:N	2.51	0.43
4:D:78:LEU:HA	4:D:78:LEU:HD23	1.75	0.43
5:E:11:ILE:CG2	5:E:31:LEU:CB	2.96	0.43
8:H:112:LEU:C	8:H:134:ILE:HD11	2.44	0.43
9:I:84:ALA:O	9:I:87:GLN:N	2.52	0.43
10:J:91:PRO:HB2	10:J:94:VAL:HG23	2.01	0.43
13:M:17:VAL:O	13:M:18:ALA:C	2.60	0.43
13:M:67:GLU:O	13:M:70:LEU:N	2.50	0.43
13:M:108:ARG:O	13:M:111:LYS:N	2.50	0.43
14:N:5:ALA:C	14:N:7:ILE:H	2.26	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:O:49:ASP:O	15:O:49:ASP:CG	2.62	0.43
16:P:73:LEU:O	16:P:74:LEU:C	2.60	0.43
19:S:39:THR:HG22	19:S:40:ILE:H	1.84	0.43
19:S:63:THR:O	19:S:66:MET:HG2	2.18	0.43
20:T:11:SER:HA	20:T:13:LEU:CD1	2.49	0.43
1:A:393:A:N6	1:A:532:G:C5	2.87	0.43
1:A:419:G:H3'	1:A:419:G:N3	2.34	0.43
1:A:419:G:C2'	1:A:420:G:H5'	2.49	0.43
1:A:441:G:H2'	1:A:442:G:H5'	2.00	0.43
1:A:556:A:N3	1:A:895:G:H1'	2.34	0.43
1:A:574:C:H2'	1:A:575:U:H6	1.84	0.43
1:A:630:U:H2'	1:A:631:C:C6	2.54	0.43
1:A:878:A:N1	1:A:879:A:C2	2.87	0.43
1:A:1024:A:H2'	1:A:1025:G:C8	2.54	0.43
1:A:1100:G:N1	1:A:1166:G:C6	2.87	0.43
1:A:1113:A:C2	1:A:1129:A:C4	3.07	0.43
1:A:1137:G:H2'	1:A:1138:G:H8	1.82	0.43
1:A:1239:U:O2'	1:A:1240:G:P	2.76	0.43
1:A:1254:G:C4	1:A:1255:G:C8	3.07	0.43
2:B:95:GLN:O	2:B:96:ARG:HD2	2.18	0.43
3:C:33:LEU:O	3:C:36:ASP:N	2.52	0.43
3:C:64:VAL:HB	3:C:99:VAL:CG2	2.48	0.43
7:G:8:GLU:CD	7:G:8:GLU:C	2.86	0.43
7:G:23:VAL:HG13	7:G:43:PHE:CZ	2.54	0.43
7:G:146:GLU:CA	7:G:149:ARG:HB2	2.45	0.43
8:H:4:ASP:OD2	8:H:89:PRO:CD	2.67	0.43
9:I:14:VAL:O	9:I:65:VAL:HA	2.18	0.43
10:J:12:ASP:CG	10:J:15:THR:HB	2.43	0.43
12:L:41:ARG:NH1	12:L:41:ARG:HB2	2.34	0.43
13:M:58:GLU:O	13:M:62:ASN:CB	2.67	0.43
16:P:12:LYS:C	16:P:14:ASN:H	2.26	0.43
16:P:14:ASN:N	16:P:15:PRO:CD	2.81	0.43
17:Q:81:ARG:HG3	17:Q:84:LEU:HD12	2.00	0.43
1:A:56:A:C2	1:A:57:U:N1	2.87	0.43
1:A:98:G:O2'	1:A:169:C:H5'	2.18	0.43
1:A:277:G:C2'	1:A:278:A:OP2	2.67	0.43
1:A:476:G:O2'	1:A:477:G:H5'	2.19	0.43
1:A:698:G:H1'	1:A:761:A:C8	2.54	0.43
1:A:758:G:C2	1:A:790:C:N3	2.87	0.43
1:A:844:C:C5	1:A:845:G:H1'	2.53	0.43
1:A:868:G:C2'	1:A:869:U:OP2	2.66	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:947:A:H2'	1:A:948:C:H5'	1.99	0.43
1:A:1050:A:H1'	1:A:1051:G:C1'	2.49	0.43
1:A:1184:G:C2	14:N:42:ILE:CG2	3.01	0.43
1:A:1222:U:C4'	1:A:1223:G:OP2	2.62	0.43
1:A:1267:A:O2'	1:A:1268:A:OP2	2.34	0.43
2:B:97:TRP:CH2	2:B:176:GLU:OE2	2.71	0.43
2:B:124:SER:HB2	2:B:125:PRO:CD	2.43	0.43
2:B:126:GLU:HA	2:B:129:GLU:OE1	2.19	0.43
2:B:179:LYS:HA	8:H:72:PRO:HD3	2.01	0.43
3:C:33:LEU:CD2	3:C:34:LEU:N	2.81	0.43
3:C:71:ALA:HA	3:C:106:VAL:HB	2.00	0.43
4:D:61:LYS:NZ	4:D:72:GLU:OE2	2.51	0.43
5:E:12:LEU:HD13	5:E:31:LEU:HB2	1.99	0.43
6:F:14:LEU:HD11	6:F:84:ASN:CG	2.43	0.43
7:G:125:MET:O	7:G:126:ASP:C	2.62	0.43
9:I:63:ILE:HD13	9:I:77:ILE:HG23	2.01	0.43
11:K:87:THR:HA	11:K:91:ARG:NH2	2.31	0.43
11:K:91:ARG:HD2	11:K:92:GLU:CD	2.44	0.43
12:L:85:ILE:HG23	12:L:98:TYR:HB3	1.99	0.43
13:M:64:TRP:CB	13:M:66:LEU:HD21	2.49	0.43
18:R:47:THR:HG23	18:R:83:GLU:H	1.83	0.43
18:R:53:ARG:NH1	18:R:59:SER:CA	2.75	0.43
18:R:62:GLU:O	18:R:63:GLN:C	2.61	0.43
1:A:109:G:H4'	1:A:110:A:O5'	2.19	0.43
1:A:292:U:O2'	1:A:293:G:H5'	2.19	0.43
1:A:814:G:H2'	1:A:815:U:O4'	2.19	0.43
1:A:845:G:HO2'	1:A:851:A:H61	1.65	0.43
1:A:960:U:H1'	1:A:961:A:C6	2.53	0.43
1:A:1111:C:H2'	1:A:1112:C:C5'	2.48	0.43
1:A:1208:C:O2'	1:A:1209:A:P	2.77	0.43
1:A:1293:G:N2	1:A:1309:C:C2	2.87	0.43
1:A:1328:A:N9	7:G:10:ARG:NH2	2.67	0.43
2:B:14:GLY:C	2:B:15:VAL:HG23	2.44	0.43
2:B:44:LEU:O	2:B:46:LYS:N	2.51	0.43
2:B:144:ARG:HG3	2:B:145:LEU:N	2.33	0.43
3:C:94:LEU:HD23	3:C:94:LEU:C	2.43	0.43
4:D:11:LEU:O	4:D:12:CYS:C	2.61	0.43
4:D:23:GLY:O	4:D:26:CYS:HB2	2.19	0.43
4:D:78:LEU:HD22	4:D:96:LEU:HD23	2.00	0.43
4:D:142:PRO:HA	4:D:185:PHE:HD2	1.84	0.43
6:F:85:VAL:O	6:F:85:VAL:HG12	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:21:VAL:CG2	7:G:22:LEU:N	2.81	0.43
7:G:25:ALA:C	7:G:28:ASN:HD22	2.27	0.43
9:I:42:ARG:O	9:I:44:VAL:N	2.52	0.43
11:K:120:ARG:C	11:K:121:PRO:O	2.61	0.43
12:L:59:ARG:HE	12:L:59:ARG:HB2	1.52	0.43
13:M:16:ASP:O	13:M:17:VAL:C	2.62	0.43
16:P:20:VAL:HG22	16:P:34:GLU:O	2.19	0.43
18:R:29:PHE:CE1	18:R:31:LEU:CD2	2.97	0.43
1:A:299:A:C6	1:A:300:U:C4	3.07	0.42
1:A:426:A:OP2	4:D:7:PRO:HA	2.19	0.42
1:A:493:A:O4'	4:D:58:LEU:HD12	2.19	0.42
1:A:526:G:O2'	1:A:527:C:H5'	2.19	0.42
1:A:676:U:OP1	11:K:124:LYS:HE3	2.18	0.42
1:A:751:A:C4	1:A:752:A:C8	3.07	0.42
1:A:813:G:N2	1:A:814:G:C4	2.87	0.42
1:A:914:C:O2'	1:A:915:A:H5'	2.18	0.42
1:A:1208:C:H5'	13:M:96:LEU:CD1	2.49	0.42
1:A:1421:G:N2	1:A:1442:G:H1'	2.34	0.42
1:A:1425:G:N3	1:A:1425:G:C2'	2.82	0.42
2:B:29:ALA:O	2:B:30:ARG:C	2.60	0.42
2:B:187:LEU:CD1	2:B:205:ASP:HA	2.48	0.42
3:C:19:GLU:HB3	3:C:40:ARG:HH21	1.83	0.42
3:C:50:ALA:HB1	3:C:70:VAL:CG1	2.47	0.42
7:G:126:ASP:HB3	7:G:131:LYS:HG3	2.01	0.42
8:H:48:TYR:CD1	8:H:48:TYR:C	2.95	0.42
11:K:21:ILE:CB	11:K:84:VAL:HG12	2.42	0.42
13:M:65:LYS:HE2	13:M:73:GLU:HB2	2.00	0.42
14:N:25:VAL:O	14:N:25:VAL:HG22	2.18	0.42
14:N:26:ARG:HD3	14:N:43:CYS:SG	2.59	0.42
14:N:31:ARG:HD2	14:N:31:ARG:HA	1.72	0.42
17:Q:78:GLU:O	17:Q:78:GLU:HG3	2.18	0.42
21:U:5:ASP:CG	21:U:8:THR:HG23	2.44	0.42
1:A:43:G:C6	1:A:44:C:N4	2.87	0.42
1:A:483:A:C1'	1:A:531:A:N6	2.81	0.42
1:A:635:C:C4	1:A:636:U:O4	2.72	0.42
1:A:672:G:C5	1:A:684:G:C2	3.07	0.42
1:A:1145:C:H2'	1:A:1146:C:C6	2.54	0.42
1:A:1255:G:C2	1:A:1256:G:H1'	2.54	0.42
1:A:1335:G:C4	1:A:1336:C:C5	3.07	0.42
1:A:1498:G:C4	1:A:1499:G:N7	2.87	0.42
2:B:48:MET:O	2:B:49:GLU:C	2.61	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:23:TYR:OH	10:J:9:ARG:HD3	2.18	0.42
4:D:8:VAL:HG11	4:D:21:LEU:HB2	2.00	0.42
13:M:63:THR:CG2	13:M:64:TRP:N	2.82	0.42
15:O:45:VAL:C	15:O:47:LYS:N	2.74	0.42
17:Q:68:ARG:HG2	17:Q:68:ARG:HH11	1.84	0.42
20:T:38:LYS:O	20:T:40:ALA:N	2.52	0.42
1:A:10:G:C2	1:A:11:A:C4	3.07	0.42
1:A:60:A:C3'	1:A:327:G:H22	2.31	0.42
1:A:107:G:H1'	1:A:350:G:H5''	2.01	0.42
1:A:109:G:H1'	1:A:110:A:N7	2.34	0.42
1:A:122:G:C2	1:A:230:C:C2	3.07	0.42
1:A:446:A:N6	1:A:466:G:N9	2.68	0.42
1:A:934:U:H2'	1:A:935:U:O4'	2.18	0.42
1:A:947:A:H62	13:M:126:LYS:HD2	1.84	0.42
1:A:1048:U:O5'	1:A:1172:G:N2	2.51	0.42
1:A:1101:C:OP1	9:I:104:ARG:HD2	2.19	0.42
1:A:1218:A:C2	1:A:1219:C:N3	2.87	0.42
1:A:1260:U:H5''	1:A:1261:A:H5'	2.01	0.42
1:A:1318:C:O2'	1:A:1319:G:C5	2.66	0.42
3:C:40:ARG:HG2	3:C:55:VAL:HG11	2.00	0.42
4:D:16:GLY:C	4:D:33:MET:HE2	2.45	0.42
4:D:71:SER:C	4:D:73:ARG:N	2.78	0.42
5:E:118:ILE:HG22	5:E:119:LEU:N	2.34	0.42
5:E:148:VAL:O	5:E:149:GLU:C	2.61	0.42
8:H:111:ILE:HB	8:H:135:CYS:HG	1.84	0.42
9:I:7:THR:HB	9:I:83:ARG:HH11	1.84	0.42
11:K:52:GLY:HA2	11:K:55:LYS:HE2	2.01	0.42
11:K:73:MET:SD	11:K:103:LEU:HD23	2.59	0.42
11:K:91:ARG:CZ	18:R:88:LYS:CE	2.97	0.42
12:L:64:TYR:CD1	12:L:64:TYR:N	2.87	0.42
13:M:64:TRP:O	13:M:66:LEU:HG	2.19	0.42
13:M:67:GLU:HB3	13:M:68:GLY:H	1.51	0.42
13:M:94:ARG:NH1	19:S:81:ARG:HD3	2.32	0.42
13:M:101:GLN:OE1	13:M:101:GLN:N	2.51	0.42
16:P:70:ALA:O	16:P:71:ARG:C	2.61	0.42
18:R:28:GLU:N	18:R:28:GLU:CD	2.77	0.42
20:T:57:ARG:O	20:T:60:GLU:N	2.52	0.42
1:A:266:A:H2'	1:A:267:C:H6	1.81	0.42
1:A:486:G:H1'	1:A:534:G:H5'	2.01	0.42
1:A:495:C:O2'	1:A:496:U:C5'	2.67	0.42
1:A:661:U:O2'	1:A:662:U:H5'	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:699:A:H5''	1:A:789:C:H1'	2.01	0.42
1:A:706:A:O3'	1:A:707:U:C6	2.72	0.42
1:A:833:G:H8	1:A:849:U:O4	2.03	0.42
1:A:896:A:C2	1:A:897:A:C4	3.08	0.42
1:A:1094:A:N1	3:C:177:THR:CB	2.82	0.42
1:A:1274:U:O2'	1:A:1275:G:H5'	2.19	0.42
1:A:1284:U:OP2	13:M:17:VAL:HG13	2.19	0.42
1:A:1287:G:C8	1:A:1287:G:OP2	2.72	0.42
2:B:13:ALA:O	2:B:15:VAL:N	2.52	0.42
2:B:223:ILE:O	2:B:224:GLN:C	2.61	0.42
3:C:14:ILE:O	3:C:15:THR:C	2.62	0.42
3:C:70:VAL:HG12	3:C:72:LYS:H	1.84	0.42
4:D:78:LEU:O	4:D:81:GLU:HB3	2.19	0.42
4:D:142:PRO:HG2	4:D:187:ARG:HH11	1.84	0.42
4:D:163:GLU:C	4:D:165:MET:N	2.76	0.42
7:G:121:ALA:O	7:G:125:MET:HE3	2.20	0.42
8:H:26:VAL:O	8:H:58:TYR:HD2	2.03	0.42
9:I:31:GLN:HB3	9:I:35:GLU:HB3	2.00	0.42
9:I:93:ARG:O	9:I:94:ALA:C	2.62	0.42
9:I:111:ARG:O	9:I:119:ALA:HB2	2.19	0.42
10:J:23:ILE:N	10:J:23:ILE:HD12	2.35	0.42
11:K:73:MET:SD	11:K:103:LEU:CD2	3.07	0.42
11:K:120:ARG:O	11:K:121:PRO:C	2.61	0.42
12:L:27:LEU:HG	12:L:28:LYS:H	1.84	0.42
12:L:41:ARG:CB	12:L:41:ARG:HH11	2.32	0.42
15:O:76:GLU:C	15:O:78:TYR:N	2.77	0.42
16:P:32:TYR:HE2	16:P:35:LYS:HB2	1.83	0.42
16:P:38:TYR:HE2	16:P:50:LYS:HD3	1.84	0.42
16:P:51:VAL:O	16:P:52:ASP:HB3	2.19	0.42
17:Q:47:PRO:C	17:Q:49:GLU:H	2.27	0.42
17:Q:56:VAL:CG1	17:Q:77:VAL:HB	2.47	0.42
20:T:75:ASN:O	20:T:76:ALA:C	2.60	0.42
1:A:184:G:O2'	1:A:185:C:H5'	2.19	0.42
1:A:209:U:H4'	1:A:210:U:OP2	2.19	0.42
1:A:213:C:O2'	1:A:214:C:H5'	2.20	0.42
1:A:390:G:C4	1:A:391:C:C5	3.08	0.42
1:A:869:U:H2'	1:A:870:A:H8	1.84	0.42
1:A:898:U:O2	1:A:899:U:C2	2.73	0.42
1:A:939:U:C2	1:A:961:A:C5	3.07	0.42
1:A:1041:G:C6	1:A:1042:C:N3	2.87	0.42
1:A:1468:C:H5'	1:A:1468:C:C6	2.41	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:50:GLU:O	2:B:51:LEU:C	2.62	0.42
2:B:126:GLU:HA	2:B:129:GLU:CG	2.50	0.42
3:C:188:LEU:O	3:C:189:ALA:CB	2.63	0.42
3:C:190:ARG:HB3	3:C:190:ARG:CZ	2.49	0.42
4:D:8:VAL:HG23	4:D:115:ARG:NH1	2.34	0.42
5:E:72:GLN:O	5:E:73:ASN:CB	2.67	0.42
5:E:118:ILE:CG2	5:E:119:LEU:N	2.83	0.42
6:F:2:ARG:CD	6:F:69:GLU:HG2	2.50	0.42
6:F:37:VAL:HG12	6:F:38:GLU:N	2.35	0.42
7:G:12:LEU:N	7:G:12:LEU:CD1	2.82	0.42
8:H:45:ILE:O	8:H:45:ILE:HG13	2.19	0.42
8:H:92:ARG:HB3	8:H:94:TYR:CE1	2.55	0.42
10:J:30:SER:HB2	10:J:80:LYS:C	2.44	0.42
11:K:84:VAL:HG21	18:R:88:LYS:HD3	2.01	0.42
12:L:71:PRO:HB2	12:L:120:TYR:HE2	1.84	0.42
12:L:87:GLY:HA2	12:L:98:TYR:HA	2.01	0.42
12:L:97:ARG:HB2	12:L:98:TYR:CE1	2.55	0.42
14:N:24:CYS:C	14:N:26:ARG:N	2.78	0.42
16:P:7:ALA:HB3	16:P:18:ARG:HB3	2.02	0.42
16:P:55:ARG:O	16:P:56:ALA:C	2.62	0.42
17:Q:91:ARG:C	17:Q:93:GLN:N	2.75	0.42
20:T:83:ARG:O	20:T:87:LYS:HG3	2.19	0.42
1:A:246:A:H2	1:A:270:A:C6	2.38	0.42
1:A:440:G:N1	1:A:475:G:C6	2.87	0.42
1:A:571:G:O2'	1:A:572:G:H5'	2.19	0.42
1:A:598:A:C2	1:A:611:G:C2	3.08	0.42
1:A:648:G:H2'	1:A:650:G:OP1	2.19	0.42
1:A:671:A:HO2'	1:A:672:G:P	2.42	0.42
1:A:832:G:H3'	1:A:849:U:C4	2.55	0.42
1:A:1288:A:C2	1:A:1289:U:C2	3.08	0.42
1:A:1492:C:O2'	1:A:1493:C:H5'	2.20	0.42
2:B:67:THR:N	2:B:160:ASP:OD2	2.53	0.42
2:B:77:ALA:O	2:B:79:ASP:N	2.52	0.42
3:C:58:GLU:HB2	3:C:65:ALA:CB	2.50	0.42
3:C:98:ASN:OD1	3:C:98:ASN:O	2.36	0.42
3:C:134:ILE:HG23	3:C:151:VAL:CG1	2.50	0.42
3:C:139:GLN:HE21	3:C:139:GLN:CA	2.32	0.42
6:F:2:ARG:O	6:F:4:TYR:CE2	2.72	0.42
8:H:17:THR:O	8:H:20:TYR:N	2.39	0.42
8:H:60:ARG:HG3	8:H:60:ARG:NH1	2.35	0.42
9:I:31:GLN:CD	9:I:35:GLU:HG3	2.45	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:40:LEU:O	9:I:43:ALA:HB2	2.20	0.42
12:L:75:HIS:CD2	12:L:77:LEU:H	2.37	0.42
14:N:57:ARG:HG2	14:N:58:LYS:N	2.34	0.42
17:Q:63:ARG:HG2	17:Q:64:PRO:N	2.33	0.42
18:R:17:SER:OG	18:R:55:ARG:HD3	2.19	0.42
1:A:242:A:C4	1:A:275:A:C6	3.08	0.42
1:A:282:G:H2'	1:A:283:U:H6	1.85	0.42
1:A:332:C:O2'	1:A:333:C:H5'	2.20	0.42
1:A:409:G:H22	1:A:424:G:H1'	1.85	0.42
1:A:558:A:N3	1:A:861:C:H1'	2.34	0.42
1:A:610:U:H2'	1:A:611:G:H8	1.84	0.42
1:A:882:C:H2'	1:A:883:U:O4'	2.20	0.42
1:A:931:G:H1'	13:M:125:ARG:CB	2.50	0.42
1:A:1179:G:OP1	1:A:1180:G:OP2	2.37	0.42
1:A:1208:C:N4	13:M:104:ARG:HG3	2.35	0.42
1:A:1217:U:O2'	1:A:1218:A:H5'	2.20	0.42
1:A:1237:G:C2	1:A:1265:G:C2	3.07	0.42
1:A:1332:A:O2'	1:A:1333:U:H5'	2.19	0.42
1:A:1412:C:H2'	1:A:1413:C:C6	2.54	0.42
2:B:43:ASP:OD1	2:B:45:GLN:N	2.53	0.42
2:B:73:THR:O	2:B:74:LYS:C	2.61	0.42
5:E:5:ASP:CG	5:E:6:PHE:N	2.76	0.42
6:F:14:LEU:HA	6:F:18:GLN:NE2	2.34	0.42
7:G:16:LEU:HD22	7:G:16:LEU:N	2.35	0.42
7:G:75:VAL:CG2	7:G:144:MET:HB3	2.42	0.42
7:G:76:ARG:O	7:G:156:TRP:CZ3	2.71	0.42
8:H:51:VAL:CG1	8:H:52:ASP:N	2.83	0.42
9:I:97:LYS:N	9:I:98:PRO:CD	2.83	0.42
12:L:89:ARG:HG2	12:L:97:ARG:CA	2.45	0.42
15:O:35:ARG:O	15:O:36:ILE:C	2.61	0.42
18:R:85:LEU:HD12	18:R:86:VAL:H	1.85	0.42
21:U:5:ASP:CG	21:U:8:THR:CG2	2.93	0.42
1:A:337:C:H6	1:A:337:C:O5'	2.03	0.42
1:A:470:G:HO2'	1:A:471:U:H6	1.66	0.42
1:A:745:G:C5	1:A:746:C:C5	3.08	0.42
1:A:1274:U:C5'	9:I:38:GLN:NE2	2.73	0.42
1:A:1482:G:H4'	1:A:1483:G:C5'	2.50	0.42
2:B:123:ALA:CA	2:B:127:ILE:HD11	2.50	0.42
3:C:36:ASP:O	3:C:37:GLN:C	2.63	0.42
3:C:73:PRO:O	3:C:74:GLY:O	2.38	0.42
3:C:139:GLN:HE21	3:C:143:GLU:HB2	1.83	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:188:LEU:CD1	3:C:195:VAL:HG22	2.49	0.42
5:E:8:GLU:OE2	5:E:63:ARG:NH2	2.52	0.42
5:E:13:ILE:HG22	5:E:30:ALA:CA	2.50	0.42
7:G:118:VAL:O	7:G:119:ARG:C	2.62	0.42
8:H:88:LYS:O	8:H:89:PRO:C	2.63	0.42
9:I:112:LYS:C	9:I:112:LYS:HD3	2.45	0.42
10:J:27:ALA:CB	10:J:74:ILE:HD13	2.49	0.42
12:L:73:GLU:OE2	12:L:73:GLU:HA	2.20	0.42
13:M:8:GLU:HG3	13:M:22:ILE:HG12	2.02	0.42
14:N:58:LYS:HB3	14:N:58:LYS:HE3	1.81	0.42
15:O:67:LEU:C	15:O:69:TYR:N	2.77	0.42
16:P:13:HIS:C	16:P:15:PRO:HD2	2.44	0.42
17:Q:29:HIS:HE1	17:Q:31:LEU:HB3	1.84	0.42
18:R:55:ARG:HB3	18:R:55:ARG:NH1	2.27	0.42
20:T:48:LYS:O	20:T:49:ALA:C	2.63	0.42
1:A:7:G:C5	5:E:119:LEU:HD11	2.55	0.42
1:A:10:G:OP1	5:E:122:GLU:HG3	2.20	0.42
1:A:144:A:H2'	1:A:145:C:H6	1.84	0.42
1:A:403:G:O2'	4:D:116:GLN:HG3	2.20	0.42
1:A:486:G:C1'	1:A:534:G:H5'	2.50	0.42
1:A:569:G:O2'	1:A:857:C:OP1	2.30	0.42
1:A:691:C:H4'	11:K:20:TYR:CE1	2.54	0.42
1:A:762:G:H2'	1:A:763:C:C5'	2.50	0.42
1:A:951:G:H2'	1:A:952:A:C8	2.55	0.42
1:A:1103:G:O5'	1:A:1103:G:C8	2.69	0.42
1:A:1207:A:N3	1:A:1207:A:H2'	2.35	0.42
1:A:1432:A:O2'	1:A:1433:C:P	2.77	0.42
1:A:1477:A:O2'	1:A:1478:A:H5'	2.20	0.42
1:A:1506:U:O2'	1:A:1507:G:P	2.77	0.42
2:B:73:THR:CG2	2:B:169:LYS:HE3	2.50	0.42
2:B:108:ILE:O	2:B:110:GLN:N	2.52	0.42
2:B:231:GLU:HB2	2:B:232:PRO:HD2	2.00	0.42
6:F:21:LEU:O	6:F:24:GLU:HB3	2.20	0.42
6:F:78:GLU:OE2	6:F:81:ILE:HD12	2.20	0.42
7:G:127:ALA:O	7:G:128:ALA:C	2.63	0.42
7:G:148:ASN:C	7:G:150:ALA:N	2.55	0.42
7:G:151:TYR:C	7:G:153:HIS:N	2.77	0.42
11:K:29:ILE:HB	11:K:44:SER:CB	2.50	0.42
12:L:46:LYS:HG2	12:L:47:LYS:HG3	2.02	0.42
12:L:84:LEU:HD12	12:L:84:LEU:HA	1.87	0.42
14:N:41:ARG:HD2	14:N:41:ARG:O	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:N:42:ILE:O	14:N:46:GLU:HG3	2.20	0.42
20:T:94:ALA:O	20:T:95:ALA:HB3	2.19	0.42
20:T:103:GLY:O	20:T:104:LEU:HG	2.19	0.42
21:U:2:GLY:C	21:U:4:GLY:H	2.28	0.42
1:A:157:A:H8	1:A:157:A:O5'	2.03	0.42
1:A:255:G:H2'	1:A:256:G:O4'	2.19	0.42
1:A:261:G:H2'	1:A:263:C:H5	1.85	0.42
1:A:477:G:H2'	1:A:478:G:C8	2.55	0.42
1:A:533:C:C2	1:A:534:G:C8	3.08	0.42
1:A:576:G:N2	1:A:577:G:C4	2.88	0.42
1:A:606:A:N7	1:A:607:C:C6	2.88	0.42
1:A:610:U:H2'	1:A:611:G:C8	2.55	0.42
1:A:691:C:H2'	1:A:692:C:C6	2.55	0.42
1:A:720:C:O2'	1:A:721:A:H5'	2.20	0.42
1:A:745:G:H2'	1:A:746:C:H6	1.83	0.42
1:A:1056:U:O2'	1:A:1057:G:H5'	2.20	0.42
1:A:1101:C:P	9:I:104:ARG:HH11	2.40	0.42
1:A:1111:C:C2	1:A:1127:G:N2	2.87	0.42
1:A:1341:C:O5'	1:A:1341:C:H6	2.03	0.42
1:A:1398:G:C4	1:A:1399:G:C8	3.08	0.42
2:B:140:HIS:O	2:B:143:GLU:N	2.53	0.42
3:C:46:GLU:C	3:C:48:TYR:H	2.28	0.42
3:C:116:VAL:O	3:C:119:ARG:HB3	2.20	0.42
4:D:158:ILE:HG22	4:D:159:ARG:N	2.32	0.42
5:E:137:GLU:O	5:E:140:ARG:N	2.53	0.42
7:G:42:ILE:HG23	7:G:117:ALA:CA	2.50	0.42
8:H:19:VAL:CG2	8:H:21:LYS:HG2	2.42	0.42
9:I:25:LYS:O	9:I:60:ASP:OD1	2.38	0.42
10:J:46:ARG:NH1	10:J:64:GLU:OE2	2.52	0.42
11:K:58:PRO:HB2	11:K:93:GLN:CG	2.43	0.42
13:M:3:ARG:HA	13:M:9:ILE:HG23	2.01	0.42
13:M:9:ILE:HD12	13:M:9:ILE:H	1.84	0.42
20:T:30:LYS:O	20:T:34:LYS:HG3	2.20	0.42
21:U:10:ARG:HA	21:U:13:ILE:HB	2.02	0.42
1:A:103:A:H4'	1:A:104:C:OP2	2.20	0.41
1:A:171:C:H2'	1:A:172:C:C6	2.55	0.41
1:A:298:G:O2'	1:A:299:A:H5'	2.20	0.41
1:A:372:G:O3'	16:P:5:ARG:NH1	2.50	0.41
1:A:415:C:C2	1:A:421:G:C2	3.08	0.41
1:A:458:A:O2'	1:A:459:G:H5'	2.20	0.41
1:A:769:G:C6	1:A:782:G:O6	2.73	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1032:U:H1'	1:A:1183:A:C8	2.55	0.41
1:A:1188:G:C5	1:A:1189:G:N7	2.88	0.41
1:A:1216:C:C4'	1:A:1347:U:H1'	2.50	0.41
1:A:1368:G:H2'	1:A:1369:G:O4'	2.20	0.41
1:A:1382:C:H4'	1:A:1383:C:H5''	2.01	0.41
1:A:1387:C:O5'	1:A:1387:C:H6	2.03	0.41
2:B:121:LEU:HD23	2:B:121:LEU:H	1.85	0.41
2:B:222:ILE:O	2:B:225:ALA:HB3	2.20	0.41
3:C:70:VAL:HG12	3:C:72:LYS:N	2.35	0.41
3:C:89:GLU:C	3:C:91:LEU:N	2.77	0.41
3:C:190:ARG:HB3	3:C:190:ARG:NH1	2.35	0.41
6:F:15:ASP:O	6:F:16:GLN:C	2.63	0.41
6:F:22:GLU:O	6:F:24:GLU:N	2.53	0.41
7:G:21:VAL:O	7:G:22:LEU:C	2.62	0.41
7:G:62:PHE:HD1	7:G:124:LEU:HD22	1.84	0.41
8:H:84:ARG:HD2	8:H:85:ARG:O	2.20	0.41
10:J:89:ASP:O	10:J:90:LEU:HD23	2.20	0.41
12:L:26:ALA:O	12:L:27:LEU:O	2.37	0.41
12:L:27:LEU:O	12:L:28:LYS:C	2.62	0.41
13:M:15:VAL:CB	13:M:34:LEU:HD11	2.50	0.41
16:P:2:VAL:HA	16:P:23:ASP:HA	2.01	0.41
1:A:9:A:H5'	5:E:120:THR:O	2.20	0.41
1:A:18:U:C4	1:A:19:C:N4	2.88	0.41
1:A:107:G:H2'	1:A:108:U:O4'	2.20	0.41
1:A:198:G:O2'	20:T:102:GLY:O	2.37	0.41
1:A:199:U:C4'	20:T:102:GLY:C	2.92	0.41
1:A:201:C:H2'	1:A:202:A:H5''	2.01	0.41
1:A:340:A:OP2	1:A:341:C:N4	2.43	0.41
1:A:487:C:OP1	12:L:119:LYS:NZ	2.47	0.41
1:A:904:G:C6	1:A:1483:G:C5	3.08	0.41
1:A:1030:G:C2'	1:A:1031:G:H5'	2.50	0.41
1:A:1175:G:N2	1:A:1176:U:C2	2.88	0.41
1:A:1207:A:N3	1:A:1207:A:C2'	2.84	0.41
1:A:1475:G:H1'	1:A:1496:A:C2	2.54	0.41
2:B:22:LYS:C	2:B:23:ARG:CG	2.93	0.41
2:B:53:ARG:HG3	2:B:56:ARG:NH1	2.34	0.41
2:B:203:GLY:O	2:B:204:ASN:C	2.62	0.41
3:C:99:VAL:HG23	3:C:100:ALA:N	2.35	0.41
4:D:32:ALA:O	4:D:33:MET:C	2.63	0.41
4:D:101:LEU:C	4:D:103:ASN:N	2.78	0.41
5:E:31:LEU:HG	5:E:45:PHE:HD1	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:33:VAL:HG11	5:E:109:ILE:HA	2.02	0.41
6:F:1:MET:HG2	6:F:67:MET:C	2.45	0.41
6:F:69:GLU:C	6:F:71:ARG:H	2.28	0.41
7:G:25:ALA:CA	7:G:28:ASN:ND2	2.79	0.41
7:G:141:VAL:C	7:G:143:ARG:N	2.78	0.41
8:H:20:TYR:HA	8:H:65:TYR:HE2	1.82	0.41
15:O:33:THR:O	15:O:34:LEU:C	2.61	0.41
17:Q:29:HIS:HA	17:Q:30:PRO:HD2	1.63	0.41
17:Q:82:MET:C	17:Q:84:LEU:H	2.28	0.41
17:Q:85:VAL:O	17:Q:86:GLU:C	2.62	0.41
17:Q:90:ILE:O	17:Q:93:GLN:N	2.53	0.41
20:T:51:GLU:O	20:T:52:ALA:C	2.63	0.41
1:A:157:A:H2'	1:A:158:C:H5'	2.02	0.41
1:A:180:A:N3	20:T:81:LYS:NZ	2.63	0.41
1:A:204:A:H1'	1:A:205:G:O4'	2.20	0.41
1:A:249:U:H2'	1:A:250:G:C8	2.55	0.41
1:A:303:C:C5	1:A:304:C:H5	2.38	0.41
1:A:360:A:N6	12:L:28:LYS:HZ3	2.18	0.41
1:A:451:C:H2'	1:A:452:C:C6	2.55	0.41
1:A:524:G:O2'	1:A:525:G:H5'	2.19	0.41
1:A:1287:G:OP2	1:A:1287:G:H8	2.03	0.41
1:A:1369:G:H2'	1:A:1370:G:H8	1.85	0.41
1:A:1462:C:H2'	1:A:1463:U:C6	2.39	0.41
1:A:1465:G:H2'	1:A:1466:G:O4'	2.20	0.41
1:A:1486:G:C4	1:A:1487:C:C6	3.09	0.41
2:B:18:GLY:HA2	2:B:42:ILE:H	1.84	0.41
2:B:98:LEU:O	2:B:99:GLY:C	2.63	0.41
4:D:70:ILE:HG21	4:D:74:GLN:HB2	2.03	0.41
7:G:44:TYR:O	7:G:47:CYS:N	2.54	0.41
7:G:145:ALA:O	7:G:146:GLU:HB2	2.20	0.41
8:H:53:VAL:CB	8:H:58:TYR:CD1	2.96	0.41
9:I:7:THR:O	9:I:80:GLY:HA2	2.21	0.41
9:I:38:GLN:OE1	9:I:38:GLN:C	2.63	0.41
9:I:120:ARG:O	9:I:121:ARG:C	2.62	0.41
11:K:21:ILE:HB	11:K:84:VAL:CG1	2.44	0.41
12:L:54:LYS:N	12:L:54:LYS:CD	2.82	0.41
16:P:65:GLN:HA	16:P:66:PRO:HD2	1.84	0.41
17:Q:56:VAL:HG12	17:Q:77:VAL:CB	2.49	0.41
19:S:28:LYS:CG	19:S:29:ARG:N	2.63	0.41
20:T:87:LYS:O	20:T:88:VAL:C	2.64	0.41
21:U:6:ARG:O	21:U:12:LYS:HE2	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:22:G:N2	1:A:23:G:C2	2.89	0.41
1:A:106:G:C2	1:A:107:G:C8	3.08	0.41
1:A:324:C:O2	1:A:324:C:H2'	2.21	0.41
1:A:494:A:O2'	1:A:526:G:H1'	2.21	0.41
1:A:777:U:O4	1:A:1495:G:H8	2.03	0.41
1:A:777:U:O4	1:A:1495:G:H5'	2.19	0.41
1:A:1355:U:H5''	9:I:71:SER:CB	2.48	0.41
2:B:16:HIS:O	2:B:17:PHE:C	2.62	0.41
2:B:124:SER:CB	2:B:125:PRO:CD	2.98	0.41
3:C:82:GLU:CG	3:C:83:ARG:N	2.83	0.41
4:D:64:LEU:HD23	4:D:198:VAL:HG21	2.00	0.41
4:D:76:ARG:HG2	4:D:76:ARG:NH1	2.35	0.41
5:E:80:ILE:HD12	5:E:91:LEU:HB2	2.03	0.41
8:H:54:ASP:C	8:H:56:LYS:H	2.28	0.41
13:M:50:GLU:O	13:M:53:VAL:HB	2.21	0.41
14:N:35:ARG:C	14:N:37:PHE:N	2.77	0.41
15:O:39:LEU:HD22	15:O:43:LEU:HD11	2.02	0.41
20:T:51:GLU:HA	20:T:54:LYS:HE3	2.02	0.41
1:A:199:U:C2	1:A:200:C:C5	3.08	0.41
1:A:374:G:H2'	1:A:375:C:C6	2.55	0.41
1:A:502:C:HO2'	12:L:50:SER:HB3	1.81	0.41
1:A:801:C:C4	1:A:803:A:H1'	2.56	0.41
1:A:985:C:O2'	1:A:986:C:H5'	2.20	0.41
1:A:1083:C:O2'	1:A:1084:A:H5'	2.21	0.41
1:A:1327:U:O2	1:A:1360:A:C6	2.73	0.41
1:A:1446:A:H2'	1:A:1447:G:H5'	2.03	0.41
1:A:1500:U:H2'	1:A:1501:G:H8	1.85	0.41
3:C:22:TRP:CH2	3:C:32:LEU:HB3	2.55	0.41
3:C:31:HIS:O	3:C:32:LEU:C	2.64	0.41
4:D:43:HIS:O	4:D:46:LYS:HB2	2.21	0.41
4:D:64:LEU:CD2	4:D:198:VAL:HG21	2.51	0.41
5:E:34:VAL:O	5:E:41:VAL:HA	2.20	0.41
5:E:79:GLU:OE1	5:E:79:GLU:N	2.46	0.41
8:H:112:LEU:C	8:H:134:ILE:CD1	2.94	0.41
9:I:25:LYS:O	9:I:61:ALA:N	2.48	0.41
10:J:3:LYS:HG2	10:J:75:ILE:CG2	2.42	0.41
10:J:3:LYS:CG	10:J:75:ILE:HG23	2.42	0.41
11:K:38:ASN:HA	11:K:39:PRO:HD2	1.89	0.41
13:M:6:GLY:O	13:M:67:GLU:HG3	2.20	0.41
13:M:78:ILE:HA	13:M:81:LEU:HD21	2.03	0.41
13:M:81:LEU:H	13:M:81:LEU:CD2	2.33	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:N:8:GLU:O	14:N:11:LYS:HB2	2.20	0.41
15:O:3:ILE:N	15:O:3:ILE:CD1	2.81	0.41
15:O:36:ILE:HG22	15:O:37:ASN:N	2.36	0.41
15:O:70:LEU:HD12	15:O:78:TYR:CA	2.51	0.41
17:Q:104:LYS:HB3	17:Q:105:ALA:H	1.44	0.41
20:T:97:ALA:O	20:T:99:LEU:HD23	2.20	0.41
1:A:62:G:C5	1:A:101:G:N2	2.89	0.41
1:A:118:G:H2'	1:A:119:U:C6	2.56	0.41
1:A:137:G:H2'	1:A:138:A:C8	2.55	0.41
1:A:496:U:OP1	4:D:46:LYS:NZ	2.51	0.41
1:A:542:G:C4	1:A:543:A:H2	2.38	0.41
1:A:552:G:N7	12:L:5:PRO:HD3	2.36	0.41
1:A:577:G:C6	1:A:578:G:C5	3.08	0.41
1:A:591:A:H2'	1:A:592:A:H5'	2.01	0.41
1:A:758:G:N2	1:A:759:G:H1'	2.34	0.41
1:A:917:G:C5'	7:G:102:ARG:HH22	2.08	0.41
1:A:1397:U:H2'	1:A:1398:G:C8	2.54	0.41
1:A:1414:C:H2'	1:A:1415:G:O4'	2.21	0.41
1:A:1441:C:O2'	1:A:1442:G:H5'	2.20	0.41
1:A:1448:G:O2'	1:A:1449:G:H5'	2.20	0.41
4:D:17:VAL:O	4:D:19:LEU:HG	2.21	0.41
6:F:47:ARG:HH11	6:F:57:GLN:HG2	1.84	0.41
13:M:46:LYS:HG3	13:M:47:ASP:N	2.36	0.41
13:M:64:TRP:HB2	13:M:66:LEU:HD21	2.01	0.41
14:N:16:PHE:C	14:N:18:VAL:H	2.28	0.41
14:N:27:CYS:HB3	14:N:43:CYS:SG	2.60	0.41
15:O:5:LYS:HB2	15:O:6:GLU:OE2	2.20	0.41
15:O:17:ARG:O	15:O:18:PHE:HB3	2.19	0.41
16:P:6:LEU:HD23	16:P:17:TYR:CD1	2.56	0.41
16:P:51:VAL:HG21	16:P:77:ALA:HB2	2.02	0.41
16:P:58:TYR:HE1	16:P:59:TRP:CZ3	2.38	0.41
17:Q:81:ARG:HB2	17:Q:83:ASP:OD1	2.20	0.41
19:S:39:THR:HG22	19:S:40:ILE:N	2.36	0.41
20:T:40:ALA:O	20:T:41:ILE:C	2.64	0.41
1:A:53:G:H2'	1:A:54:A:O4'	2.21	0.41
1:A:58:G:C6	1:A:59:C:N4	2.89	0.41
1:A:76:G:C4	1:A:89:G:N2	2.89	0.41
1:A:418:C:H4'	1:A:419:G:C5	2.55	0.41
1:A:419:G:H2'	1:A:420:G:H5'	2.02	0.41
1:A:430:U:H2'	1:A:431:C:C6	2.55	0.41
1:A:446:A:N6	1:A:466:G:C1'	2.84	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:552:G:C2	1:A:861:C:N3	2.89	0.41
1:A:764:A:N6	1:A:785:U:OP2	2.51	0.41
1:A:1095:C:O2	3:C:179:ARG:HB3	2.19	0.41
1:A:1135:A:H5''	10:J:13:HIS:CG	2.51	0.41
1:A:1215:G:H2'	1:A:1216:C:C6	2.56	0.41
1:A:1239:U:H4'	1:A:1240:G:C5'	2.51	0.41
1:A:1290:U:H2'	1:A:1291:G:C8	2.53	0.41
1:A:1303:C:H2'	1:A:1304:C:C6	2.56	0.41
1:A:1313:G:O2'	1:A:1314:A:H8	2.02	0.41
2:B:8:LYS:HD3	2:B:9:GLU:N	2.36	0.41
2:B:53:ARG:O	2:B:54:THR:C	2.61	0.41
2:B:175:ARG:O	2:B:176:GLU:C	2.64	0.41
3:C:8:ILE:O	3:C:9:GLY:C	2.63	0.41
3:C:154:SER:OG	3:C:196:LEU:HA	2.20	0.41
4:D:202:LEU:HD23	4:D:202:LEU:HA	1.86	0.41
8:H:30:ARG:O	8:H:33:GLU:HB3	2.21	0.41
9:I:111:ARG:O	9:I:113:LYS:HD2	2.20	0.41
10:J:94:VAL:HG12	10:J:95:GLU:H	1.84	0.41
11:K:30:VAL:HG12	11:K:31:THR:N	2.34	0.41
11:K:116:HIS:O	11:K:117:ASN:HB2	2.20	0.41
16:P:27:LYS:O	16:P:28:ARG:C	2.64	0.41
18:R:33:ASP:OD2	18:R:36:ASN:HB2	2.20	0.41
1:A:93:U:N3	1:A:94:C:C5	2.88	0.41
1:A:110:A:H2'	1:A:111:G:O4'	2.20	0.41
1:A:275:A:H5''	1:A:276:C:H3'	2.02	0.41
1:A:412:G:C6	1:A:413:C:N3	2.89	0.41
1:A:443:A:H2'	1:A:444:C:H6	1.84	0.41
1:A:768:C:H2'	1:A:769:G:C8	2.56	0.41
1:A:873:G:H2'	1:A:874:C:C6	2.55	0.41
1:A:923:G:H2'	1:A:923:G:N3	2.36	0.41
1:A:1131:U:H2'	1:A:1132:C:O4'	2.21	0.41
1:A:1238:A:O2'	1:A:1239:U:P	2.79	0.41
1:A:1334:C:C1'	1:A:1354:G:N2	2.84	0.41
1:A:1369:G:O2'	1:A:1370:G:H5'	2.21	0.41
1:A:1476:U:H1'	1:A:1477:A:N7	2.36	0.41
4:D:20:TYR:N	4:D:20:TYR:CD2	2.87	0.41
6:F:37:VAL:HG12	6:F:39:LYS:N	2.36	0.41
7:G:52:GLU:C	7:G:54:THR:H	2.29	0.41
8:H:9:MET:O	8:H:10:LEU:C	2.62	0.41
9:I:97:LYS:C	9:I:99:LEU:N	2.77	0.41
10:J:51:ARG:H	10:J:59:SER:CB	2.34	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:87:GLY:H	12:L:99:HIS:H	1.69	0.41
13:M:86:CYS:O	13:M:87:TYR:C	2.63	0.41
13:M:122:LYS:O	13:M:123:ALA:HB2	2.20	0.41
15:O:6:GLU:C	15:O:8:LYS:N	2.79	0.41
15:O:32:LEU:C	15:O:34:LEU:N	2.79	0.41
16:P:39:TYR:CD1	16:P:40:ASP:N	2.89	0.41
16:P:53:VAL:HG23	16:P:54:GLU:H	1.83	0.41
17:Q:66:SER:OG	17:Q:69:LYS:HD3	2.20	0.41
20:T:14:LYS:O	20:T:17:ARG:HB3	2.21	0.41
1:A:53:G:H2'	1:A:54:A:C8	2.56	0.41
1:A:67:G:H4'	1:A:168:U:C4	2.56	0.41
1:A:115:C:H5'	1:A:116:G:OP1	2.21	0.41
1:A:137:G:C2	1:A:218:U:C2	3.09	0.41
1:A:168:U:H1'	1:A:204:A:C6	2.56	0.41
1:A:216:G:O2'	1:A:217:C:H5'	2.21	0.41
1:A:248:U:C2	1:A:249:U:C5	3.08	0.41
1:A:261:G:H4'	17:Q:65:ILE:O	2.21	0.41
1:A:395:G:H2'	1:A:396:C:C6	2.55	0.41
1:A:677:G:H1'	22:A:1524:KSG:C6	2.50	0.41
1:A:732:C:H4'	1:A:733:C:O5'	2.21	0.41
1:A:754:C:H1'	1:A:877:C:H42	1.86	0.41
1:A:939:U:H2'	1:A:940:C:O4'	2.21	0.41
1:A:982:G:H8	1:A:982:G:O5'	2.03	0.41
1:A:1023:U:H2'	1:A:1024:A:C8	2.56	0.41
1:A:1036:G:N7	1:A:1181:U:H2'	2.36	0.41
1:A:1047:G:H4'	1:A:1048:U:OP1	2.20	0.41
1:A:1282:G:C2'	1:A:1283:U:OP2	2.68	0.41
1:A:1289:U:H5'	13:M:109:THR:HG21	2.03	0.41
1:A:1497:A:H2'	1:A:1498:G:H5'	2.02	0.41
2:B:13:ALA:C	2:B:15:VAL:N	2.79	0.41
2:B:17:PHE:O	2:B:18:GLY:C	2.62	0.41
2:B:189:ASP:HB3	2:B:203:GLY:O	2.21	0.41
3:C:64:VAL:HG12	3:C:66:VAL:HG23	2.02	0.41
3:C:65:ALA:O	3:C:66:VAL:O	2.38	0.41
3:C:79:ARG:O	3:C:81:GLY:N	2.54	0.41
3:C:154:SER:OG	3:C:196:LEU:CA	2.69	0.41
4:D:64:LEU:CD2	4:D:198:VAL:HG11	2.41	0.41
4:D:190:ASP:C	4:D:192:GLU:N	2.79	0.41
4:D:205:GLU:O	4:D:206:PHE:C	2.64	0.41
5:E:36:ASP:O	5:E:37:ARG:C	2.63	0.41
6:F:74:ASP:O	6:F:76:ALA:N	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:76:ARG:HD2	7:G:89:MET:CE	2.51	0.41
8:H:26:VAL:C	8:H:58:TYR:CD2	2.99	0.41
8:H:44:PHE:CD1	8:H:80:ILE:HG12	2.56	0.41
8:H:122:ARG:O	8:H:123:GLU:C	2.62	0.41
9:I:106:ALA:O	9:I:108:VAL:HG23	2.21	0.41
10:J:62:HIS:HB3	14:N:59:ALA:HB3	2.03	0.41
11:K:124:LYS:HB3	11:K:125:PHE:HD1	1.85	0.41
12:L:11:VAL:HG13	17:Q:29:HIS:HD2	1.86	0.41
12:L:27:LEU:HG	12:L:28:LYS:N	2.36	0.41
13:M:60:VAL:C	13:M:62:ASN:N	2.78	0.41
13:M:66:LEU:O	13:M:70:LEU:N	2.54	0.41
14:N:4:LYS:O	14:N:5:ALA:C	2.63	0.41
14:N:12:ARG:O	14:N:14:PRO:HD3	2.21	0.41
15:O:82:ILE:HG22	15:O:83:GLU:N	2.36	0.41
16:P:1:MET:O	16:P:24:ALA:CB	2.65	0.41
16:P:56:ALA:O	16:P:58:TYR:N	2.54	0.41
17:Q:86:GLU:O	17:Q:87:LYS:O	2.39	0.41
17:Q:91:ARG:O	17:Q:93:GLN:N	2.54	0.41
18:R:36:ASN:HD22	18:R:38:GLU:HG2	1.82	0.41
19:S:5:LEU:HD23	19:S:5:LEU:HA	1.80	0.41
20:T:42:GLN:HE22	20:T:46:GLU:CG	2.34	0.41
1:A:80:U:O2	1:A:83:U:H5	2.04	0.41
1:A:372:G:OP2	16:P:67:THR:HG21	2.21	0.41
1:A:466:G:H2'	1:A:467:A:N7	2.36	0.41
1:A:606:A:C8	1:A:607:C:C5	3.08	0.41
1:A:626:A:C5	8:H:115:SER:HA	2.56	0.41
1:A:639:A:C2	1:A:738:C:C4	3.09	0.41
1:A:905:G:N3	1:A:906:G:C8	2.89	0.41
1:A:1092:C:H2'	1:A:1093:A:O4'	2.21	0.41
1:A:1135:A:C4'	10:J:13:HIS:HD2	2.34	0.41
1:A:1140:A:H4'	1:A:1141:C:O5'	2.21	0.41
1:A:1179:G:C2'	1:A:1180:G:H5'	2.51	0.41
1:A:1228:C:H2'	1:A:1229:U:C6	2.53	0.41
2:B:12:GLU:OE1	2:B:12:GLU:CA	2.67	0.41
2:B:57:PHE:CE1	2:B:199:TYR:CE1	3.09	0.41
2:B:236:TYR:HD2	2:B:239:VAL:HG21	1.86	0.41
3:C:121:ALA:O	3:C:124:ILE:N	2.54	0.41
3:C:188:LEU:HD11	3:C:195:VAL:CG2	2.49	0.41
5:E:33:VAL:HG21	5:E:108:ALA:HB1	2.03	0.41
5:E:40:ARG:C	5:E:41:VAL:HG23	2.47	0.41
5:E:78:HIS:CD2	5:E:143:ARG:O	2.74	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:80:ILE:HD12	5:E:80:ILE:C	2.45	0.41
5:E:144:THR:CB	5:E:146:ALA:H	2.34	0.41
5:E:148:VAL:O	5:E:151:LEU:N	2.45	0.41
6:F:28:ARG:O	6:F:29:ALA:C	2.61	0.41
6:F:55:ASP:HA	6:F:56:PRO:HD2	1.83	0.41
8:H:20:TYR:N	8:H:20:TYR:CD2	2.89	0.41
8:H:29:SER:O	8:H:30:ARG:C	2.64	0.41
9:I:127:LYS:N	9:I:127:LYS:CD	2.84	0.41
11:K:123:LYS:C	11:K:125:PHE:N	2.79	0.41
16:P:64:ALA:O	16:P:66:PRO:HD3	2.20	0.41
17:Q:8:GLY:CA	17:Q:22:LEU:O	2.69	0.41
17:Q:68:ARG:H	17:Q:70:ARG:NH1	2.19	0.41
17:Q:95:TYR:C	17:Q:97:SER:H	2.28	0.41
1:A:28:G:C5	1:A:541:G:C2	3.09	0.40
1:A:70:G:H2'	1:A:71:G:C8	2.54	0.40
1:A:100:C:O2	1:A:375:C:H4'	2.21	0.40
1:A:152:G:H2'	1:A:153:G:H8	1.85	0.40
1:A:331:C:H2'	1:A:332:C:H6	1.81	0.40
1:A:470:G:O2'	1:A:471:U:H6	2.04	0.40
1:A:692:C:O2'	1:A:693:G:H5'	2.21	0.40
1:A:855:C:O2	8:H:3:THR:CG2	2.69	0.40
1:A:878:A:C6	1:A:879:A:C6	3.09	0.40
1:A:907:G:O2'	1:A:908:C:H5'	2.22	0.40
1:A:917:G:N3	1:A:1358:A:H2	2.20	0.40
1:A:932:G:H2'	1:A:933:U:H6	1.87	0.40
1:A:961:A:N3	1:A:961:A:H3'	2.35	0.40
1:A:1091:G:H5''	3:C:176:HIS:CE1	2.56	0.40
1:A:1174:C:H2'	1:A:1175:G:O5'	2.21	0.40
1:A:1212:C:O2	13:M:126:LYS:O	2.39	0.40
1:A:1327:U:OP1	9:I:120:ARG:HD3	2.22	0.40
22:A:1524:KSG:N3	22:A:1524:KSG:C9	2.84	0.40
2:B:132:LYS:HA	2:B:135:GLN:CB	2.51	0.40
2:B:170:GLU:O	2:B:173:ALA:N	2.54	0.40
2:B:231:GLU:HB2	2:B:232:PRO:CD	2.51	0.40
3:C:70:VAL:HG11	3:C:76:VAL:CG2	2.51	0.40
3:C:129:ALA:O	3:C:130:VAL:C	2.64	0.40
3:C:174:PRO:CB	3:C:177:THR:HG22	2.47	0.40
3:C:188:LEU:HD22	3:C:188:LEU:HA	1.91	0.40
4:D:173:TRP:CD1	4:D:174:LEU:CD2	3.04	0.40
4:D:200:GLU:O	4:D:203:VAL:N	2.54	0.40
5:E:12:LEU:HD22	5:E:13:ILE:N	2.35	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:27:ILE:O	7:G:28:ASN:C	2.63	0.40
9:I:121:ARG:HD3	9:I:121:ARG:O	2.21	0.40
10:J:54:PHE:CD2	10:J:55:LYS:HG2	2.51	0.40
10:J:56:HIS:O	10:J:58:ASP:N	2.54	0.40
11:K:125:PHE:N	11:K:125:PHE:CD1	2.88	0.40
12:L:38:THR:C	12:L:39:VAL:HG23	2.46	0.40
12:L:38:THR:HB	12:L:57:LYS:HB2	2.03	0.40
13:M:13:LYS:O	13:M:14:ARG:O	2.39	0.40
13:M:53:VAL:O	13:M:56:LEU:HB2	2.21	0.40
15:O:43:LEU:C	15:O:45:VAL:N	2.79	0.40
18:R:47:THR:CG2	18:R:48:GLY:N	2.84	0.40
18:R:47:THR:OG1	18:R:49:LYS:HE3	2.20	0.40
20:T:89:ARG:HE	20:T:104:LEU:HD22	1.86	0.40
1:A:316:C:H2'	1:A:317:A:C8	2.56	0.40
1:A:319:U:OP1	20:T:26:ASN:ND2	2.48	0.40
1:A:549:U:C5	1:A:550:G:H2'	2.55	0.40
1:A:709:G:N3	1:A:710:C:C6	2.89	0.40
1:A:776:A:O2'	1:A:777:U:O5'	2.39	0.40
1:A:898:U:O2'	1:A:899:U:H5'	2.21	0.40
1:A:964:A:N1	1:A:1202:G:C6	2.89	0.40
1:A:1200:C:H2'	1:A:1201:U:C5	2.54	0.40
1:A:1213:G:C5	1:A:1214:U:C5	3.09	0.40
1:A:1432:A:O2'	1:A:1433:C:OP1	2.32	0.40
1:A:1482:G:O2'	1:A:1483:G:P	2.79	0.40
2:B:29:ALA:C	2:B:31:TYR:N	2.80	0.40
3:C:186:PHE:HE1	3:C:198:VAL:H	1.68	0.40
4:D:8:VAL:C	4:D:10:ARG:N	2.71	0.40
7:G:15:ASP:OD1	7:G:17:VAL:N	2.39	0.40
7:G:75:VAL:CG1	7:G:86:GLN:HB3	2.45	0.40
8:H:104:ARG:NH1	8:H:138:TRP:CH2	2.89	0.40
10:J:80:LYS:HA	10:J:83:GLU:HB2	2.03	0.40
14:N:49:HIS:C	14:N:51:GLY:H	2.29	0.40
15:O:78:TYR:O	15:O:79:ARG:C	2.64	0.40
16:P:30:GLY:O	16:P:31:LYS:C	2.64	0.40
17:Q:61:GLU:HA	17:Q:71:PHE:CE1	2.56	0.40
19:S:22:LEU:CD2	19:S:28:LYS:HD2	2.50	0.40
1:A:117:C:H6	1:A:117:C:O5'	2.04	0.40
1:A:147:A:C6	1:A:165:U:O2	2.74	0.40
1:A:268:C:C2'	1:A:269:A:H5'	2.51	0.40
1:A:276:C:C2	17:Q:38:ARG:HG3	2.56	0.40
1:A:325:A:H4'	1:A:326:C:OP1	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:352:A:C2	1:A:353:G:H1'	2.56	0.40
1:A:504:A:N1	1:A:520:C:H1'	2.36	0.40
1:A:598:A:H2'	1:A:599:C:O4'	2.21	0.40
1:A:756:U:C4	1:A:757:G:N7	2.90	0.40
1:A:791:A:C5	1:A:792:C:C5	3.09	0.40
1:A:901:A:C6	1:A:902:C:N3	2.89	0.40
1:A:901:A:N6	1:A:1375:G:O6	2.54	0.40
1:A:1081:C:O2'	1:A:1082:G:H5'	2.22	0.40
1:A:1111:C:C4	1:A:1122:G:C6	3.08	0.40
1:A:1132:C:C2	1:A:1133:U:C5	3.09	0.40
1:A:1228:C:O2'	1:A:1229:U:H5'	2.21	0.40
1:A:1287:G:C5'	21:U:4:GLY:CA	2.99	0.40
2:B:67:THR:HA	2:B:90:MET:HE1	2.03	0.40
2:B:92:TYR:CD2	2:B:92:TYR:N	2.89	0.40
2:B:118:LEU:HD23	2:B:118:LEU:HA	1.92	0.40
2:B:136:VAL:C	2:B:138:LEU:N	2.77	0.40
3:C:125:GLU:HG3	3:C:189:ALA:HB1	2.04	0.40
3:C:174:PRO:C	3:C:176:HIS:N	2.80	0.40
3:C:190:ARG:NH1	3:C:190:ARG:CB	2.85	0.40
4:D:19:LEU:O	4:D:21:LEU:N	2.52	0.40
4:D:55:ALA:O	4:D:56:VAL:C	2.64	0.40
5:E:71:LEU:HD21	5:E:115:VAL:N	2.36	0.40
8:H:44:PHE:HB3	8:H:80:ILE:CG1	2.51	0.40
8:H:51:VAL:HG12	8:H:52:ASP:N	2.36	0.40
9:I:24:GLY:HA2	9:I:60:ASP:HA	2.02	0.40
9:I:93:ARG:O	9:I:95:LYS:N	2.55	0.40
10:J:12:ASP:OD1	10:J:14:LYS:HB2	2.21	0.40
10:J:49:VAL:O	10:J:61:GLU:N	2.54	0.40
11:K:16:SER:HA	11:K:79:SER:HB3	2.03	0.40
15:O:6:GLU:O	15:O:8:LYS:N	2.54	0.40
17:Q:29:HIS:O	17:Q:31:LEU:N	2.55	0.40
17:Q:59:ILE:HG23	17:Q:71:PHE:HB3	2.03	0.40
21:U:24:ARG:O	21:U:25:LYS:CB	2.69	0.40
1:A:65:G:H4'	1:A:66:U:O5'	2.21	0.40
1:A:242:A:H62	1:A:277:G:H1'	1.83	0.40
1:A:271:G:H5'	17:Q:14:LYS:CD	2.47	0.40
1:A:275:A:C6	17:Q:98:LEU:HD13	2.56	0.40
1:A:348:C:N3	1:A:352:A:N6	2.69	0.40
1:A:393:A:H5''	1:A:393:A:N3	2.37	0.40
1:A:421:G:H4'	4:D:45:GLN:HE22	1.87	0.40
1:A:732:C:O2'	1:A:733:C:P	2.79	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:761:A:C2	1:A:762:G:H1'	2.57	0.40
1:A:858:C:OP1	12:L:8:ASN:ND2	2.54	0.40
1:A:964:A:C6	1:A:965:G:C6	3.08	0.40
1:A:974:A:H2'	1:A:975:U:C6	2.56	0.40
1:A:981:G:O5'	1:A:981:G:H8	2.04	0.40
1:A:983:A:H3'	1:A:1004:U:O4	2.22	0.40
1:A:1192:C:C5'	1:A:1196:C:N4	2.85	0.40
1:A:1308:C:OP2	21:U:6:ARG:NH1	2.55	0.40
1:A:1342:A:O2'	1:A:1343:G:H5'	2.22	0.40
2:B:111:ARG:O	2:B:114:ARG:HB3	2.21	0.40
3:C:28:GLN:HA	3:C:31:HIS:HD2	1.85	0.40
3:C:49:SER:C	3:C:51:GLY:N	2.78	0.40
3:C:95:THR:C	3:C:97:LYS:H	2.29	0.40
4:D:3:ARG:HH22	4:D:74:GLN:CD	2.29	0.40
4:D:32:ALA:O	4:D:34:GLU:N	2.54	0.40
5:E:126:ARG:O	5:E:127:ASN:C	2.65	0.40
7:G:68:ASN:HD21	7:G:128:ALA:HA	1.85	0.40
7:G:136:LYS:O	7:G:140:ASP:N	2.39	0.40
8:H:33:GLU:O	8:H:34:GLU:C	2.65	0.40
9:I:11:LYS:O	9:I:11:LYS:HG2	2.22	0.40
10:J:47:PHE:CZ	14:N:37:PHE:CE1	3.10	0.40
10:J:87:THR:O	10:J:88:LEU:HD23	2.21	0.40
11:K:87:THR:HG23	11:K:91:ARG:NH2	2.36	0.40
13:M:65:LYS:CG	13:M:69:GLU:HG2	2.52	0.40
15:O:5:LYS:O	15:O:8:LYS:HB3	2.21	0.40
15:O:74:ASP:HA	15:O:75:PRO:HD2	1.85	0.40
16:P:4:ILE:HA	16:P:20:VAL:O	2.21	0.40
17:Q:3:LYS:HB3	17:Q:61:GLU:HB3	2.04	0.40
19:S:42:PRO:C	19:S:44:MET:N	2.79	0.40
1:A:11:A:H2'	1:A:12:G:C8	2.42	0.40
1:A:208:C:N4	1:A:212:G:H1	2.19	0.40
1:A:458:A:C2'	1:A:459:G:H5'	2.51	0.40
1:A:547:A:C8	1:A:551:G:O4'	2.75	0.40
1:A:559:G:C6	1:A:805:G:N7	2.89	0.40
1:A:694:G:H2'	1:A:695:G:O4'	2.21	0.40
1:A:757:G:H2'	1:A:758:G:H8	1.87	0.40
1:A:802:G:C3'	1:A:803:A:H5''	2.49	0.40
1:A:939:U:N3	1:A:961:A:C5	2.90	0.40
1:A:993:A:C2	19:S:34:TRP:CE2	3.10	0.40
1:A:1074:U:C2	1:A:1078:U:C4	3.10	0.40
1:A:1255:G:N2	1:A:1256:G:H1'	2.37	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1296:C:H2'	1:A:1297:U:C6	2.57	0.40
1:A:1421:G:C5	1:A:1422:C:C4	3.09	0.40
1:A:1435:G:H5'	20:T:36:LEU:HD21	2.03	0.40
1:A:1481:A:O2'	1:A:1482:G:P	2.80	0.40
2:B:14:GLY:C	2:B:15:VAL:CG2	2.95	0.40
2:B:16:HIS:C	2:B:17:PHE:O	2.64	0.40
3:C:11:ARG:O	3:C:13:GLY:N	2.54	0.40
4:D:98:GLU:OE2	4:D:107:ARG:NE	2.55	0.40
4:D:178:VAL:O	4:D:179:GLU:O	2.39	0.40
5:E:41:VAL:O	5:E:136:MET:HE1	2.22	0.40
7:G:60:LYS:C	7:G:62:PHE:N	2.76	0.40
7:G:114:ARG:NH1	7:G:114:ARG:HG2	2.35	0.40
9:I:7:THR:CG2	9:I:8:GLY:N	2.71	0.40
9:I:50:LEU:C	9:I:52:ALA:N	2.80	0.40
11:K:30:VAL:CG1	11:K:31:THR:N	2.85	0.40
11:K:72:ALA:C	11:K:77:MET:HB2	2.46	0.40
12:L:11:VAL:HG13	17:Q:29:HIS:CD2	2.57	0.40
12:L:40:VAL:HA	12:L:55:VAL:O	2.22	0.40
13:M:123:ALA:O	13:M:124:PRO:C	2.65	0.40
14:N:35:ARG:O	14:N:36:PHE:C	2.63	0.40
15:O:56:LEU:O	15:O:57:LEU:C	2.63	0.40
16:P:33:ILE:HG13	16:P:33:ILE:H	1.73	0.40
16:P:43:LYS:HA	16:P:48:TRP:HB3	2.03	0.40
18:R:76:LEU:C	18:R:78:LEU:H	2.29	0.40
18:R:78:LEU:HD23	18:R:78:LEU:HA	1.64	0.40
21:U:9:ARG:HD2	21:U:9:ARG:HA	1.79	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	
2	B	232/256 (91%)	134 (58%)	57 (25%)	41 (18%)	0	0
3	C	204/239 (85%)	114 (56%)	55 (27%)	35 (17%)	0	0
4	D	206/209 (99%)	131 (64%)	49 (24%)	26 (13%)	0	1
5	E	148/162 (91%)	99 (67%)	38 (26%)	11 (7%)	1	5
6	F	99/101 (98%)	73 (74%)	22 (22%)	4 (4%)	2	14
7	G	153/156 (98%)	103 (67%)	37 (24%)	13 (8%)	0	4
8	H	136/138 (99%)	108 (79%)	19 (14%)	9 (7%)	1	6
9	I	125/128 (98%)	80 (64%)	29 (23%)	16 (13%)	0	1
10	J	96/105 (91%)	56 (58%)	20 (21%)	20 (21%)	0	0
11	K	117/129 (91%)	78 (67%)	29 (25%)	10 (8%)	0	4
12	L	122/135 (90%)	89 (73%)	20 (16%)	13 (11%)	0	2
13	M	123/126 (98%)	69 (56%)	33 (27%)	21 (17%)	0	0
14	N	58/61 (95%)	35 (60%)	14 (24%)	9 (16%)	0	0
15	O	86/89 (97%)	47 (55%)	28 (33%)	11 (13%)	0	1
16	P	81/88 (92%)	57 (70%)	20 (25%)	4 (5%)	1	10
17	Q	102/105 (97%)	73 (72%)	15 (15%)	14 (14%)	0	0
18	R	71/88 (81%)	46 (65%)	16 (22%)	9 (13%)	0	1
19	S	78/93 (84%)	50 (64%)	18 (23%)	10 (13%)	0	1
20	T	97/106 (92%)	44 (45%)	38 (39%)	15 (16%)	0	0
21	U	22/27 (82%)	18 (82%)	2 (9%)	2 (9%)	0	3
All	All	2356/2541 (93%)	1504 (64%)	559 (24%)	293 (12%)	0	1

All (293) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	B	8	LYS
2	B	17	PHE
2	B	23	ARG
2	B	24	TRP
2	B	29	ALA
2	B	30	ARG
2	B	78	GLN
2	B	171	ALA
2	B	211	ILE
3	C	4	LYS
3	C	12	LEU

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Mol	Chain	Res	Type
3	C	75	VAL
3	C	101	LEU
3	C	168	ALA
3	C	178	LEU
3	C	179	ARG
3	C	181	ASN
3	C	189	ALA
4	D	9	CYS
4	D	29	PRO
4	D	36	ARG
4	D	110	PHE
4	D	178	VAL
4	D	179	GLU
4	D	191	ARG
5	E	16	THR
5	E	37	ARG
7	G	155	ARG
8	H	91	ARG
9	I	7	THR
9	I	43	ALA
9	I	44	VAL
9	I	45	ALA
9	I	101	PHE
10	J	32	ALA
10	J	34	VAL
10	J	39	PRO
10	J	40	LEU
10	J	54	PHE
10	J	79	ARG
10	J	82	ILE
10	J	86	MET
11	K	50	TYR
11	K	57	THR
11	K	126	ARG
12	L	45	PRO
12	L	47	LYS
12	L	116	SER
12	L	121	GLY
13	M	5	ALA
13	M	27	LYS
13	M	28	ALA
13	M	60	VAL

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Mol	Chain	Res	Type
13	M	63	THR
13	M	67	GLU
13	M	106	ASN
13	M	123	ALA
13	M	124	PRO
14	N	12	ARG
14	N	22	THR
15	O	88	ARG
17	Q	69	LYS
17	Q	80	GLY
17	Q	83	ASP
17	Q	97	SER
17	Q	98	LEU
17	Q	104	LYS
18	R	49	LYS
18	R	58	LEU
18	R	77	GLY
18	R	87	ARG
19	S	3	ARG
19	S	6	LYS
20	T	11	SER
20	T	49	ALA
20	T	50	GLU
20	T	94	ALA
20	T	95	ALA
2	B	14	GLY
2	B	16	HIS
2	B	18	GLY
2	B	20	GLU
2	B	27	LYS
2	B	49	GLU
2	B	83	MET
2	B	101	MET
2	B	121	LEU
2	B	143	GLU
2	B	150	SER
2	B	154	LEU
2	B	204	ASN
2	B	208	ILE
3	C	15	THR
3	C	16	ARG
3	C	50	ALA

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Mol	Chain	Res	Type
3	C	53	ALA
3	C	57	ILE
3	C	66	VAL
3	C	74	GLY
3	C	100	ALA
3	C	128	PHE
3	C	130	VAL
3	C	163	ALA
3	C	180	ALA
3	C	205	GLY
4	D	3	ARG
4	D	72	GLU
5	E	96	PRO
5	E	142	LEU
5	E	153	LYS
6	F	35	ALA
6	F	39	LYS
6	F	65	VAL
7	G	7	ALA
7	G	42	ILE
7	G	90	GLU
7	G	149	ARG
8	H	29	SER
9	I	33	PHE
9	I	85	LEU
9	I	88	TYR
9	I	121	ARG
10	J	57	LYS
10	J	60	ARG
10	J	73	ASP
11	K	27	ASN
11	K	89	ALA
11	K	124	LYS
12	L	27	LEU
12	L	28	LYS
12	L	51	ALA
12	L	118	SER
12	L	126	LYS
13	M	4	ILE
13	M	6	GLY
13	M	14	ARG
13	M	18	ALA

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Mol	Chain	Res	Type
13	M	19	LEU
13	M	53	VAL
13	M	61	GLU
13	M	74	VAL
13	M	85	GLY
14	N	6	LEU
14	N	13	THR
14	N	17	LYS
14	N	19	ARG
14	N	36	PHE
15	O	32	LEU
16	P	24	ALA
17	Q	30	PRO
17	Q	87	LYS
18	R	20	ALA
18	R	37	VAL
18	R	62	GLU
19	S	17	GLU
19	S	35	SER
19	S	43	GLU
19	S	45	VAL
20	T	39	LYS
20	T	63	ILE
20	T	92	LEU
20	T	96	GLY
20	T	102	GLY
21	U	3	LYS
21	U	9	ARG
2	B	15	VAL
2	B	60	ASP
2	B	66	GLY
2	B	74	LYS
2	B	135	GLN
2	B	214	ILE
3	C	47	LEU
3	C	61	ALA
3	C	121	ALA
3	C	139	GLN
3	C	206	GLU
4	D	4	TYR
4	D	92	VAL
4	D	180	GLY

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Mol	Chain	Res	Type
5	E	71	LEU
5	E	138	ALA
7	G	66	VAL
7	G	96	GLN
7	G	146	GLU
8	H	76	PRO
8	H	121	ASP
9	I	60	ASP
9	I	71	SER
9	I	78	LYS
9	I	94	ALA
10	J	26	ALA
10	J	35	SER
10	J	59	SER
10	J	90	LEU
11	K	15	ALA
11	K	35	PRO
11	K	48	ILE
12	L	14	GLY
14	N	11	LYS
15	O	30	ALA
15	O	33	THR
15	O	71	GLN
17	Q	47	PRO
17	Q	88	TYR
18	R	34	TYR
18	R	63	GLN
19	S	68	GLY
19	S	71	LEU
2	B	95	GLN
2	B	142	LEU
3	C	77	ILE
3	C	84	ILE
4	D	89	THR
4	D	90	GLY
4	D	102	ASP
4	D	153	ARG
4	D	157	LEU
5	E	39	GLY
5	E	79	GLU
8	H	105	ARG
9	I	56	LEU

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Mol	Chain	Res	Type
9	I	118	LYS
10	J	25	GLU
10	J	72	VAL
11	K	117	ASN
12	L	6	THR
12	L	48	PRO
12	L	115	LYS
13	M	73	GLU
14	N	23	ARG
15	O	34	LEU
15	O	47	LYS
15	O	82	ILE
16	P	10	GLY
17	Q	33	GLY
17	Q	48	GLU
19	S	14	HIS
19	S	16	LEU
20	T	9	ASN
2	B	9	GLU
2	B	26	PRO
2	B	47	THR
2	B	82	ARG
2	B	89	GLY
2	B	131	PRO
2	B	183	PRO
2	B	213	LEU
3	C	60	ALA
3	C	146	ALA
4	D	31	CYS
4	D	45	GLN
4	D	204	ILE
6	F	23	LYS
7	G	93	PRO
7	G	127	ALA
8	H	18	ARG
8	H	30	ARG
8	H	86	ILE
9	I	11	LYS
10	J	30	SER
15	O	12	ILE
17	Q	68	ARG
20	T	38	LYS

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Mol	Chain	Res	Type
2	B	125	PRO
2	B	126	GLU
3	C	42	LEU
3	C	73	PRO
4	D	63	LYS
4	D	200	GLU
5	E	107	ARG
7	G	62	PHE
15	O	72	ARG
16	P	41	PRO
16	P	81	ARG
20	T	73	HIS
3	C	80	GLY
4	D	5	ILE
5	E	115	VAL
10	J	24	VAL
20	T	33	ILE
3	C	51	GLY
8	H	97	VAL
15	O	36	ILE
20	T	97	ALA
4	D	136	PRO
13	M	78	ILE
4	D	133	VAL
4	D	203	VAL
7	G	50	ILE
7	G	87	VAL
10	J	36	GLY
13	M	15	VAL
17	Q	85	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
2	B	202/220 (92%)	176 (87%)	26 (13%)	4 16

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
3	C	160/188 (85%)	138 (86%)	22 (14%)	3	14
4	D	180/181 (99%)	162 (90%)	18 (10%)	7	26
5	E	115/123 (94%)	97 (84%)	18 (16%)	2	10
6	F	90/90 (100%)	86 (96%)	4 (4%)	25	51
7	G	126/127 (99%)	121 (96%)	5 (4%)	28	53
8	H	119/119 (100%)	110 (92%)	9 (8%)	12	38
9	I	98/99 (99%)	90 (92%)	8 (8%)	10	35
10	J	88/92 (96%)	81 (92%)	7 (8%)	11	36
11	K	90/99 (91%)	83 (92%)	7 (8%)	11	37
12	L	104/111 (94%)	96 (92%)	8 (8%)	12	37
13	M	100/101 (99%)	86 (86%)	14 (14%)	3	13
14	N	49/50 (98%)	45 (92%)	4 (8%)	10	35
15	O	79/80 (99%)	72 (91%)	7 (9%)	9	31
16	P	72/74 (97%)	68 (94%)	4 (6%)	19	46
17	Q	96/97 (99%)	90 (94%)	6 (6%)	16	43
18	R	64/77 (83%)	59 (92%)	5 (8%)	11	37
19	S	71/80 (89%)	66 (93%)	5 (7%)	14	40
20	T	75/82 (92%)	64 (85%)	11 (15%)	3	12
21	U	19/22 (86%)	18 (95%)	1 (5%)	20	48
All	All	1997/2112 (95%)	1808 (90%)	189 (10%)	8	29

All (189) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	B	8	LYS
2	B	9	GLU
2	B	12	GLU
2	B	17	PHE
2	B	23	ARG
2	B	25	ASN
2	B	26	PRO
2	B	41	ILE
2	B	59	GLU
2	B	69	LEU
2	B	75	LYS

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Mol	Chain	Res	Type
2	B	91	PRO
2	B	114	ARG
2	B	121	LEU
2	B	139	LYS
2	B	142	LEU
2	B	144	ARG
2	B	147	LYS
2	B	153	ARG
2	B	157	ARG
2	B	170	GLU
2	B	181	PHE
2	B	187	LEU
2	B	196	LEU
2	B	200	ILE
2	B	231	GLU
3	C	3	ASN
3	C	15	THR
3	C	26	LYS
3	C	29	TYR
3	C	32	LEU
3	C	33	LEU
3	C	37	GLN
3	C	47	LEU
3	C	82	GLU
3	C	91	LEU
3	C	98	ASN
3	C	99	VAL
3	C	101	LEU
3	C	139	GLN
3	C	157	ILE
3	C	162	GLN
3	C	167	TRP
3	C	188	LEU
3	C	192	THR
3	C	193	TYR
3	C	195	VAL
3	C	201	TYR
4	D	9	CYS
4	D	10	ARG
4	D	11	LEU
4	D	15	GLU
4	D	29	PRO

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Mol	Chain	Res	Type
4	D	50	ARG
4	D	53	ASP
4	D	58	LEU
4	D	65	ARG
4	D	92	VAL
4	D	106	TYR
4	D	122	ARG
4	D	135	LEU
4	D	138	TYR
4	D	150	GLU
4	D	153	ARG
4	D	157	LEU
4	D	176	LEU
5	E	10	MET
5	E	11	ILE
5	E	12	LEU
5	E	15	ARG
5	E	26	PHE
5	E	43	LEU
5	E	53	LEU
5	E	64	ARG
5	E	68	GLU
5	E	75	THR
5	E	80	ILE
5	E	89	ILE
5	E	96	PRO
5	E	101	ILE
5	E	115	VAL
5	E	120	THR
5	E	147	ASP
5	E	150	ARG
6	F	24	GLU
6	F	65	VAL
6	F	69	GLU
6	F	95	GLU
7	G	8	GLU
7	G	12	LEU
7	G	51	GLN
7	G	113	GLU
7	G	140	ASP
8	H	18	ARG
8	H	38	ILE

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Mol	Chain	Res	Type
8	H	39	LEU
8	H	46	LYS
8	H	57	PRO
8	H	63	LEU
8	H	85	ARG
8	H	91	ARG
8	H	105	ARG
9	I	2	GLU
9	I	12	GLU
9	I	38	GLN
9	I	44	VAL
9	I	58	ARG
9	I	78	LYS
9	I	95	LYS
9	I	121	ARG
10	J	15	THR
10	J	38	ILE
10	J	45	ARG
10	J	71	LEU
10	J	73	ASP
10	J	83	GLU
10	J	95	GLU
11	K	29	ILE
11	K	31	THR
11	K	35	PRO
11	K	36	ASP
11	K	51	LYS
11	K	54	ARG
11	K	91	ARG
12	L	10	LEU
12	L	17	LYS
12	L	59	ARG
12	L	64	TYR
12	L	67	THR
12	L	81	SER
12	L	98	TYR
12	L	126	LYS
13	M	9	ILE
13	M	14	ARG
13	M	16	ASP
13	M	46	LYS
13	M	63	THR

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Mol	Chain	Res	Type
13	M	70	LEU
13	M	81	LEU
13	M	102	ARG
13	M	105	THR
13	M	106	ASN
13	M	109	THR
13	M	110	ARG
13	M	117	VAL
13	M	124	PRO
14	N	17	LYS
14	N	31	ARG
14	N	41	ARG
14	N	44	LEU
15	O	6	GLU
15	O	32	LEU
15	O	39	LEU
15	O	40	SER
15	O	70	LEU
15	O	81	LEU
15	O	83	GLU
16	P	2	VAL
16	P	20	VAL
16	P	61	SER
16	P	62	VAL
17	Q	34	LYS
17	Q	35	VAL
17	Q	38	ARG
17	Q	60	ILE
17	Q	68	ARG
17	Q	98	LEU
18	R	28	GLU
18	R	38	GLU
18	R	55	ARG
18	R	75	ILE
18	R	82	THR
19	S	15	LEU
19	S	30	LEU
19	S	42	PRO
19	S	43	GLU
19	S	60	VAL
20	T	10	LEU
20	T	13	LEU

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Mol	Chain	Res	Type
20	T	24	LEU
20	T	42	GLN
20	T	50	GLU
20	T	57	ARG
20	T	68	LYS
20	T	72	LEU
20	T	73	HIS
20	T	75	ASN
20	T	84	LEU
21	U	8	THR

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (67) such sidechains are listed below:

Mol	Chain	Res	Type
2	B	25	ASN
2	B	40	HIS
2	B	45	GLN
2	B	94	ASN
2	B	110	GLN
2	B	146	GLN
2	B	204	ASN
2	B	212	GLN
3	C	3	ASN
3	C	6	HIS
3	C	37	GLN
3	C	63	ASN
3	C	69	HIS
3	C	110	ASN
3	C	118	GLN
3	C	123	GLN
3	C	139	GLN
4	D	42	GLN
4	D	45	GLN
4	D	62	GLN
4	D	77	ASN
4	D	123	HIS
4	D	160	GLN
4	D	199	ASN
5	E	73	ASN
6	F	13	ASN
6	F	18	GLN
6	F	27	GLN

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Mol	Chain	Res	Type
6	F	32	ASN
6	F	57	GLN
6	F	64	GLN
6	F	94	GLN
6	F	100	ASN
7	G	28	ASN
7	G	37	ASN
7	G	64	GLN
7	G	68	ASN
7	G	106	GLN
7	G	122	HIS
8	H	82	HIS
9	I	3	GLN
9	I	23	ASN
9	I	31	GLN
9	I	73	GLN
9	I	117	HIS
10	J	62	HIS
10	J	76	ASN
10	J	84	GLN
11	K	13	GLN
11	K	62	GLN
11	K	93	GLN
11	K	116	HIS
11	K	117	ASN
12	L	75	HIS
13	M	12	ASN
13	M	40	ASN
13	M	62	ASN
15	O	13	GLN
15	O	37	ASN
16	P	16	HIS
16	P	82	GLN
17	Q	16	GLN
18	R	36	ASN
19	S	23	ASN
19	S	47	HIS
19	S	53	ASN
20	T	42	GLN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	A	1505/1522 (98%)	290 (19%)	164 (10%)

All (290) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	A	7	G
1	A	8	G
1	A	9	A
1	A	10	G
1	A	14	U
1	A	15	U
1	A	32	G
1	A	33	A
1	A	40	G
1	A	48	C
1	A	49	C
1	A	50	U
1	A	51	A
1	A	52	A
1	A	53	G
1	A	62	G
1	A	65	G
1	A	66	U
1	A	67	G
1	A	80	U
1	A	103	A
1	A	104	C
1	A	110	A
1	A	114	A
1	A	115	C
1	A	116	G
1	A	124	G
1	A	125	A
1	A	177	U
1	A	190	U
1	A	191	G
1	A	192	G
1	A	202	A
1	A	204	A
1	A	205	G
1	A	210	U
1	A	211	U
1	A	212	G

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Mol	Chain	Res	Type
1	A	240	U
1	A	241	C
1	A	243	G
1	A	247	G
1	A	248	U
1	A	262	G
1	A	263	C
1	A	271	G
1	A	275	A
1	A	276	C
1	A	277	G
1	A	278	A
1	A	285	G
1	A	301	G
1	A	302	G
1	A	312	G
1	A	324	C
1	A	325	A
1	A	326	C
1	A	328	G
1	A	340	A
1	A	341	C
1	A	342	G
1	A	348	C
1	A	349	A
1	A	350	G
1	A	363	U
1	A	364	U
1	A	369	A
1	A	384	G
1	A	385	A
1	A	393	A
1	A	394	C
1	A	402	G
1	A	408	A
1	A	409	G
1	A	417	U
1	A	418	C
1	A	419	G
1	A	424	G
1	A	425	U
1	A	426	A

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Mol	Chain	Res	Type
1	A	435	A
1	A	446	A
1	A	447	A
1	A	455	A
1	A	456	C
1	A	457	G
1	A	466	G
1	A	469	G
1	A	470	G
1	A	471	U
1	A	480	A
1	A	481	A
1	A	482	U
1	A	484	G
1	A	492	C
1	A	493	A
1	A	494	A
1	A	495	C
1	A	502	C
1	A	503	C
1	A	511	G
1	A	516	A
1	A	517	A
1	A	518	U
1	A	520	C
1	A	532	G
1	A	543	A
1	A	544	U
1	A	545	U
1	A	546	C
1	A	547	A
1	A	550	G
1	A	551	G
1	A	556	A
1	A	557	A
1	A	559	G
1	A	560	G
1	A	561	G
1	A	579	G
1	A	580	C
1	A	626	A
1	A	636	U

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Mol	Chain	Res	Type
1	A	637	A
1	A	649	A
1	A	670	U
1	A	672	G
1	A	679	A
1	A	685	C
1	A	686	A
1	A	687	G
1	A	688	A
1	A	701	C
1	A	702	G
1	A	705	G
1	A	706	A
1	A	707	U
1	A	715	G
1	A	733	C
1	A	737	A
1	A	738	C
1	A	739	G
1	A	761	A
1	A	765	A
1	A	776	A
1	A	777	U
1	A	796	C
1	A	797	U
1	A	799	A
1	A	800	A
1	A	801	C
1	A	802	G
1	A	803	A
1	A	804	U
1	A	805	G
1	A	812	A
1	A	823	U
1	A	824	C
1	A	825	U
1	A	849	U
1	A	850	A
1	A	851	A
1	A	852	G
1	A	862	U
1	A	863	G

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Mol	Chain	Res	Type
1	A	867	A
1	A	868	G
1	A	869	U
1	A	880	G
1	A	892	A
1	A	904	G
1	A	905	G
1	A	912	C
1	A	913	A
1	A	923	G
1	A	938	U
1	A	939	U
1	A	944	G
1	A	946	A
1	A	947	A
1	A	949	G
1	A	950	C
1	A	952	A
1	A	953	A
1	A	954	G
1	A	955	A
1	A	960	U
1	A	961	A
1	A	969	U
1	A	970	U
1	A	971	G
1	A	972	A
1	A	983	A
1	A	984	A
1	A	1002	G
1	A	1003	G
1	A	1005	G
1	A	1007	C
1	A	1033	G
1	A	1037	C
1	A	1047	G
1	A	1048	U
1	A	1049	C
1	A	1051	G
1	A	1068	U
1	A	1069	U
1	A	1077	G

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Mol	Chain	Res	Type
1	A	1084	A
1	A	1085	A
1	A	1100	G
1	A	1107	G
1	A	1108	U
1	A	1109	U
1	A	1112	C
1	A	1113	A
1	A	1114	G
1	A	1120	C
1	A	1121	G
1	A	1122	G
1	A	1128	C
1	A	1129	A
1	A	1141	C
1	A	1142	U
1	A	1143	G
1	A	1165	A
1	A	1166	G
1	A	1173	A
1	A	1174	C
1	A	1178	U
1	A	1179	G
1	A	1183	A
1	A	1184	G
1	A	1194	U
1	A	1197	G
1	A	1207	A
1	A	1208	C
1	A	1209	A
1	A	1220	A
1	A	1221	A
1	A	1222	U
1	A	1223	G
1	A	1239	U
1	A	1240	G
1	A	1260	U
1	A	1261	A
1	A	1264	C
1	A	1267	A
1	A	1268	A
1	A	1269	A

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Mol	Chain	Res	Type
1	A	1281	A
1	A	1282	G
1	A	1283	U
1	A	1285	C
1	A	1287	G
1	A	1302	C
1	A	1304	C
1	A	1314	A
1	A	1319	G
1	A	1327	U
1	A	1328	A
1	A	1329	G
1	A	1330	U
1	A	1346	A
1	A	1347	U
1	A	1348	G
1	A	1353	G
1	A	1364	U
1	A	1378	C
1	A	1379	A
1	A	1380	C
1	A	1381	A
1	A	1382	C
1	A	1383	C
1	A	1384	G
1	A	1425	G
1	A	1427	A
1	A	1428	G
1	A	1433	C
1	A	1434	G
1	A	1468	C
1	A	1477	A
1	A	1480	A
1	A	1481	A
1	A	1482	G
1	A	1483	G
1	A	1484	U
1	A	1485	A
1	A	1495	G
1	A	1498	G
1	A	1507	G
1	A	1508	G

All (164) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	A	6	U
1	A	8	G
1	A	9	A
1	A	14	U
1	A	31	U
1	A	32	G
1	A	48	C
1	A	49	C
1	A	50	U
1	A	51	A
1	A	52	A
1	A	61	A
1	A	65	G
1	A	103	A
1	A	109	G
1	A	113	A
1	A	115	C
1	A	124	G
1	A	168	U
1	A	176	G
1	A	190	U
1	A	191	G
1	A	204	A
1	A	209	U
1	A	211	U
1	A	239	A
1	A	240	U
1	A	242	A
1	A	246	A
1	A	247	G
1	A	262	G
1	A	270	A
1	A	275	A
1	A	276	C
1	A	277	G
1	A	301	G
1	A	323	A
1	A	324	C
1	A	325	A
1	A	340	A
1	A	341	C
1	A	347	G

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Mol	Chain	Res	Type
1	A	362	C
1	A	363	U
1	A	368	C
1	A	384	G
1	A	417	U
1	A	424	G
1	A	425	U
1	A	434	G
1	A	446	A
1	A	469	G
1	A	470	G
1	A	480	A
1	A	481	A
1	A	483	A
1	A	492	C
1	A	493	A
1	A	495	C
1	A	502	C
1	A	515	U
1	A	517	A
1	A	519	A
1	A	531	A
1	A	543	A
1	A	544	U
1	A	545	U
1	A	546	C
1	A	550	G
1	A	559	G
1	A	560	G
1	A	579	G
1	A	625	U
1	A	636	U
1	A	637	A
1	A	671	A
1	A	685	C
1	A	687	G
1	A	701	C
1	A	705	G
1	A	732	C
1	A	736	G
1	A	737	A
1	A	776	A

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Mol	Chain	Res	Type
1	A	796	C
1	A	799	A
1	A	801	C
1	A	802	G
1	A	803	A
1	A	804	U
1	A	824	C
1	A	848	U
1	A	849	U
1	A	850	A
1	A	851	A
1	A	862	U
1	A	867	A
1	A	868	G
1	A	891	A
1	A	912	C
1	A	938	U
1	A	943	A
1	A	946	A
1	A	949	G
1	A	952	A
1	A	953	A
1	A	954	G
1	A	960	U
1	A	970	U
1	A	971	G
1	A	1032	U
1	A	1047	G
1	A	1048	U
1	A	1050	A
1	A	1068	U
1	A	1077	G
1	A	1084	A
1	A	1112	C
1	A	1128	C
1	A	1134	A
1	A	1140	A
1	A	1142	U
1	A	1164	G
1	A	1165	A
1	A	1172	G
1	A	1178	U

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Mol	Chain	Res	Type
1	A	1183	A
1	A	1196	C
1	A	1206	G
1	A	1208	C
1	A	1221	A
1	A	1222	U
1	A	1238	A
1	A	1239	U
1	A	1260	U
1	A	1262	A
1	A	1263	U
1	A	1267	A
1	A	1282	G
1	A	1284	U
1	A	1301	A
1	A	1304	C
1	A	1313	G
1	A	1327	U
1	A	1328	A
1	A	1329	G
1	A	1346	A
1	A	1347	U
1	A	1363	U
1	A	1377	A
1	A	1379	A
1	A	1380	C
1	A	1382	C
1	A	1383	C
1	A	1432	A
1	A	1433	C
1	A	1476	U
1	A	1480	A
1	A	1481	A
1	A	1482	G
1	A	1483	G
1	A	1484	U
1	A	1506	U
1	A	1507	G

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

2 ligands 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	$\# Z > 2$
22	KSG	A	1524	-	26,27,27	1.27	2 (7%)	31,40,40	1.27	2 (6%)
22	KSG	A	1523	-	26,27,27	1.26	2 (7%)	31,40,40	1.26	2 (6%)

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
22	KSG	A	1524	-	-	1/10/52/52	0/2/2/2
22	KSG	A	1523	-	-	3/10/52/52	0/2/2/2

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
22	A	1524	KSG	O8-C14	5.08	1.35	1.22
22	A	1523	KSG	O8-C14	5.06	1.35	1.22
22	A	1524	KSG	O9-C14	-3.21	1.21	1.30
22	A	1523	KSG	O9-C14	-3.21	1.21	1.30

All (4) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	A	1524	KSG	C1-O1-C2	-4.72	106.80	117.98
22	A	1523	KSG	C1-O1-C2	-4.70	106.83	117.98

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	A	1524	KSG	C1-O7-C8	-3.56	107.55	113.63
22	A	1523	KSG	C1-O7-C8	-3.55	107.58	113.63

There are no chirality outliers.

All (4) torsion outliers are listed below:

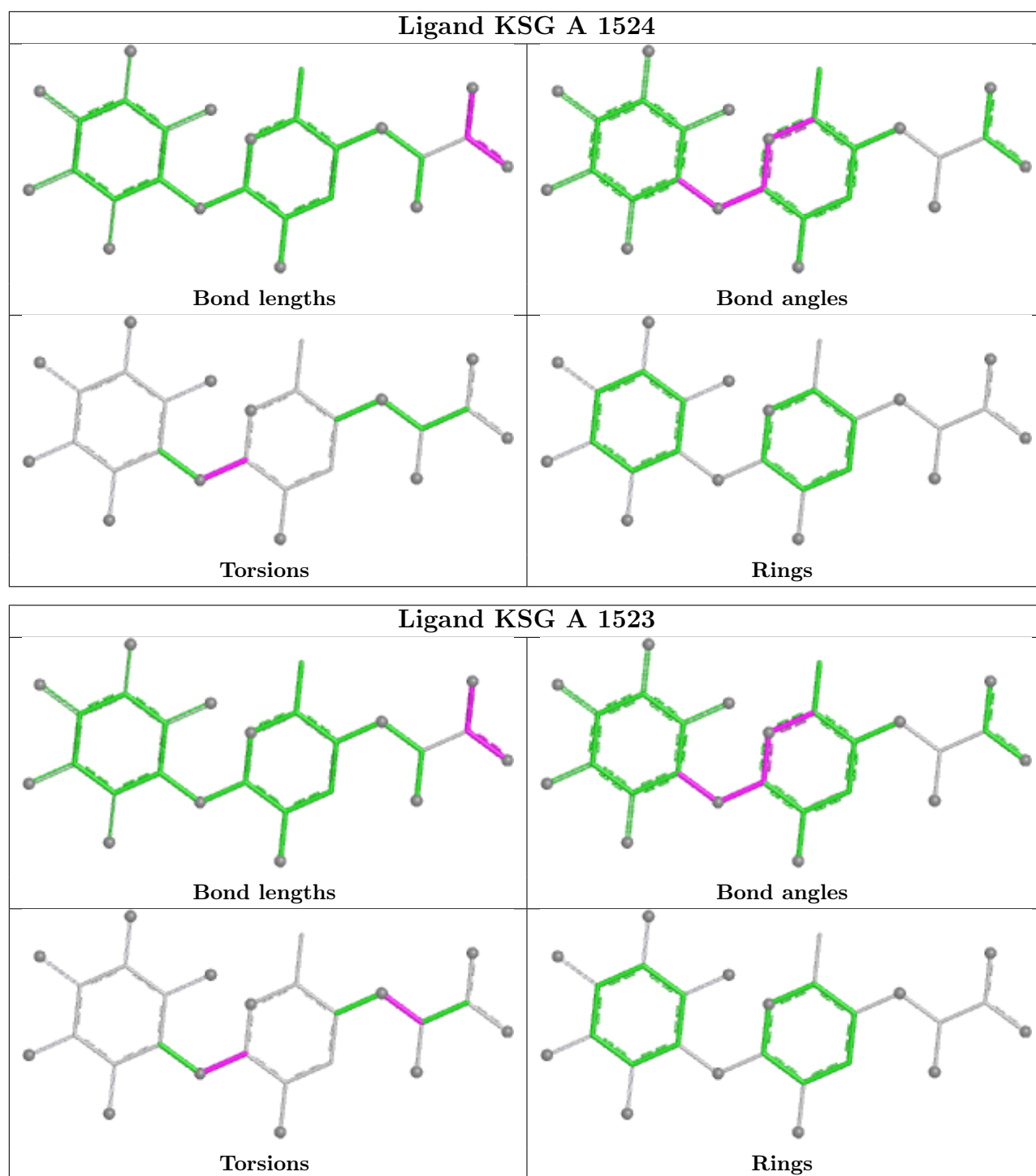
Mol	Chain	Res	Type	Atoms
22	A	1523	KSG	C14-C13-N2-C10
22	A	1523	KSG	N3-C13-N2-C10
22	A	1523	KSG	O7-C1-O1-C2
22	A	1524	KSG	O7-C1-O1-C2

There are no ring outliers.

2 monomers are involved in 12 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
22	A	1524	KSG	7	0
22	A	1523	KSG	5	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.



5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Fit of model and data ⓘ

6.1 Protein, DNA and RNA chains ⓘ

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	A	1503/1522 (98%)	0.12	93 (6%) 26 20	1, 29, 110, 161	0
2	B	234/256 (91%)	0.83	27 (11%) 9 10	4, 41, 109, 134	0
3	C	206/239 (86%)	0.44	10 (4%) 35 25	7, 46, 83, 93	0
4	D	208/209 (99%)	0.32	19 (9%) 15 13	1, 27, 57, 70	0
5	E	150/162 (92%)	-0.30	2 (1%) 75 61	1, 10, 35, 60	0
6	F	101/101 (100%)	0.48	4 (3%) 42 29	25, 52, 71, 80	0
7	G	155/156 (99%)	0.66	14 (9%) 15 13	27, 54, 85, 102	0
8	H	138/138 (100%)	-0.39	1 (0%) 84 73	1, 6, 34, 41	0
9	I	127/128 (99%)	0.71	13 (10%) 12 11	9, 59, 87, 96	0
10	J	98/105 (93%)	1.46	27 (27%) 1 2	15, 78, 118, 124	0
11	K	119/129 (92%)	0.40	9 (7%) 20 16	18, 39, 66, 110	0
12	L	124/135 (91%)	0.21	2 (1%) 70 55	1, 32, 55, 98	0
13	M	125/126 (99%)	1.04	17 (13%) 7 7	32, 53, 94, 133	0
14	N	60/61 (98%)	0.67	5 (8%) 17 14	15, 37, 78, 93	0
15	O	88/89 (98%)	0.01	1 (1%) 78 65	2, 30, 61, 95	0
16	P	83/88 (94%)	-0.11	0 100 100	3, 22, 42, 75	0
17	Q	104/105 (99%)	0.26	9 (8%) 16 14	1, 22, 93, 153	0
18	R	73/88 (82%)	0.24	2 (2%) 56 41	10, 33, 95, 136	0
19	S	80/93 (86%)	1.49	14 (17%) 4 5	47, 64, 106, 120	0
20	T	99/106 (93%)	0.38	8 (8%) 18 15	22, 37, 80, 87	0
21	U	24/27 (88%)	0.61	2 (8%) 17 14	27, 38, 62, 78	0
All	All	3899/4063 (95%)	0.33	279 (7%) 21 17	1, 35, 95, 161	0

All (279) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
2	B	234	PRO	13.4
2	B	235	SER	13.2
2	B	233	SER	12.0
1	A	1112	C	11.9
19	S	3	ARG	9.9
13	M	124	PRO	9.7
1	A	1011	C	9.6
2	B	231	GLU	9.1
1	A	1006	C	8.9
17	Q	105	ALA	8.5
2	B	238	LEU	8.5
4	D	31	CYS	8.4
1	A	1005	G	8.2
13	M	123	ALA	8.0
13	M	8	GLU	7.9
13	M	121	LYS	7.7
10	J	73	ASP	7.6
1	A	1013	A	7.4
17	Q	100	LYS	7.3
13	M	126	LYS	7.2
2	B	232	PRO	6.8
11	K	129	SER	6.7
20	T	103	GLY	6.6
4	D	2	GLY	6.5
2	B	16	HIS	6.5
10	J	71	LEU	6.4
10	J	72	VAL	6.3
2	B	230	VAL	6.1
1	A	1108	U	6.1
1	A	1455	C	6.1
1	A	1456	C	5.9
1	A	1012	G	5.9
1	A	1109	U	5.9
2	B	237	ALA	5.8
1	A	456	C	5.8
4	D	26	CYS	5.8
9	I	128	ARG	5.7
17	Q	103	GLY	5.7
2	B	236	TYR	5.6
17	Q	104	LYS	5.6
1	A	1116	G	5.5
2	B	229	VAL	5.4
1	A	1110	G	5.4

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Mol	Chain	Res	Type	RSRZ
7	G	156	TRP	5.4
2	B	239	VAL	5.2
1	A	1004	U	5.2
10	J	35	SER	5.1
1	A	1107	G	5.1
1	A	1010	G	4.9
1	A	1400	G	4.9
1	A	1014	G	4.9
19	S	2	PRO	4.8
19	S	37	ARG	4.8
17	Q	102	GLY	4.8
18	R	16	PRO	4.7
1	A	1399	G	4.7
1	A	1009	C	4.7
13	M	125	ARG	4.7
7	G	85	TYR	4.6
1	A	1469	G	4.6
17	Q	101	ARG	4.6
1	A	1398	G	4.5
1	A	1263	U	4.5
1	A	1260	U	4.5
19	S	38	SER	4.4
2	B	7	VAL	4.4
13	M	11	ARG	4.4
1	A	982	G	4.4
11	K	38	ASN	4.4
1	A	983	A	4.4
20	T	12	ALA	4.3
4	D	37	PRO	4.3
7	G	5	ARG	4.3
1	A	1001	G	4.2
4	D	9	CYS	4.2
1	A	984	A	4.1
11	K	36	ASP	4.1
1	A	80	U	4.1
10	J	36	GLY	4.1
7	G	80	VAL	4.0
10	J	74	ILE	4.0
1	A	516	A	3.9
7	G	81	GLY	3.9
1	A	1402	G	3.9
9	I	126	SER	3.9

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Mol	Chain	Res	Type	RSRZ
4	D	35	ARG	3.8
21	U	6	ARG	3.8
20	T	73	HIS	3.8
10	J	57	LYS	3.7
1	A	1468	C	3.6
2	B	10	LEU	3.6
13	M	6	GLY	3.6
19	S	4	SER	3.6
2	B	133	LYS	3.6
1	A	985	C	3.5
13	M	3	ARG	3.5
9	I	8	GLY	3.5
3	C	107	GLN	3.5
3	C	178	LEU	3.5
10	J	6	ILE	3.5
1	A	1111	C	3.5
1	A	1002	G	3.5
1	A	1015	G	3.5
2	B	130	ARG	3.5
1	A	1427	A	3.4
1	A	1122	G	3.4
2	B	96	ARG	3.4
1	A	81	U	3.4
1	A	987	C	3.4
21	U	25	LYS	3.4
2	B	19	HIS	3.4
10	J	33	GLN	3.3
10	J	100	THR	3.3
7	G	26	PHE	3.3
10	J	90	LEU	3.3
4	D	33	MET	3.3
1	A	1007	C	3.3
11	K	52	GLY	3.3
13	M	9	ILE	3.3
14	N	7	ILE	3.3
9	I	93	ARG	3.3
3	C	207	VAL	3.2
7	G	55	GLY	3.2
19	S	7	LYS	3.2
1	A	1025	G	3.2
13	M	120	LYS	3.2
3	C	99	VAL	3.2

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Mol	Chain	Res	Type	RSRZ
1	A	1147	G	3.2
1	A	1240	G	3.1
4	D	24	GLU	3.1
1	A	65	G	3.1
17	Q	96	GLN	3.1
1	A	1026	C	3.1
13	M	122	LYS	3.1
1	A	1114	G	3.1
4	D	7	PRO	3.1
19	S	5	LEU	3.0
1	A	1003	G	3.0
4	D	3	ARG	3.0
1	A	1394	C	3.0
20	T	97	ALA	3.0
10	J	88	LEU	3.0
10	J	20	ALA	3.0
2	B	240	GLN	3.0
1	A	73	C	3.0
1	A	1397	U	3.0
11	K	12	ARG	2.9
1	A	1395	C	2.9
11	K	34	ASP	2.9
1	A	1008	C	2.9
10	J	34	VAL	2.9
8	H	1	MET	2.9
10	J	70	ARG	2.9
10	J	7	LYS	2.9
1	A	979	A	2.9
1	A	1262	A	2.9
7	G	62	PHE	2.9
18	R	17	SER	2.9
19	S	33	THR	2.9
13	M	119	GLY	2.8
1	A	1403	C	2.8
4	D	168	ARG	2.8
7	G	61	VAL	2.8
13	M	7	VAL	2.8
3	C	95	THR	2.8
7	G	146	GLU	2.8
1	A	409	G	2.8
13	M	10	PRO	2.8
10	J	85	LEU	2.8

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Mol	Chain	Res	Type	RSRZ
10	J	54	PHE	2.8
1	A	1021	C	2.8
1	A	971	G	2.8
1	A	1453	G	2.8
17	Q	99	SER	2.8
2	B	206	ASP	2.7
4	D	23	GLY	2.7
1	A	1425	G	2.7
6	F	3	ARG	2.7
2	B	8	LYS	2.7
3	C	64	VAL	2.7
4	D	156	GLU	2.7
1	A	1457	C	2.7
20	T	98	PRO	2.7
10	J	39	PRO	2.7
7	G	79	ARG	2.7
10	J	93	GLY	2.7
19	S	15	LEU	2.7
20	T	9	ASN	2.7
1	A	1022	C	2.6
1	A	1000	G	2.6
10	J	38	ILE	2.6
1	A	988	G	2.6
1	A	1467	G	2.6
3	C	119	ARG	2.6
1	A	1476	U	2.6
7	G	69	VAL	2.6
1	A	978	U	2.5
20	T	74	LYS	2.5
13	M	2	ALA	2.5
10	J	98	ILE	2.5
1	A	1128	C	2.5
1	A	209	U	2.5
5	E	153	LYS	2.5
11	K	89	ALA	2.5
1	A	1461	A	2.5
12	L	29	GLY	2.5
1	A	1117	G	2.5
3	C	17	ASP	2.5
17	Q	98	LEU	2.5
19	S	81	ARG	2.5
5	E	154	GLY	2.5

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Mol	Chain	Res	Type	RSRZ
1	A	1016	G	2.4
1	A	1115	C	2.4
1	A	1241	C	2.4
7	G	58	PRO	2.4
15	O	30	ALA	2.4
3	C	65	ALA	2.4
1	A	1017	G	2.4
19	S	28	LYS	2.4
14	N	37	PHE	2.4
12	L	92	ASP	2.4
10	J	82	ILE	2.4
2	B	137	ARG	2.4
9	I	35	GLU	2.4
2	B	11	LEU	2.3
1	A	1018	A	2.3
6	F	77	ARG	2.3
19	S	8	GLY	2.3
3	C	100	ALA	2.3
9	I	63	ILE	2.3
4	D	21	LEU	2.3
1	A	986	C	2.3
9	I	56	LEU	2.3
14	N	57	ARG	2.3
1	A	992	G	2.2
11	K	128	ALA	2.2
1	A	707	U	2.2
1	A	1238	A	2.2
2	B	122	PHE	2.2
4	D	209	ARG	2.2
10	J	28	ARG	2.2
10	J	3	LYS	2.2
1	A	1401	A	2.2
20	T	100	ILE	2.2
1	A	1156	G	2.2
14	N	10	ALA	2.2
4	D	22	LYS	2.2
10	J	37	PRO	2.2
1	A	615	G	2.2
1	A	1279	C	2.1
2	B	22	LYS	2.1
4	D	12	CYS	2.1
9	I	7	THR	2.1

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Mol	Chain	Res	Type	RSRZ
14	N	13	THR	2.1
6	F	63	TYR	2.1
1	A	1406	G	2.1
9	I	12	GLU	2.1
11	K	90	GLY	2.1
9	I	105	ASP	2.1
19	S	49	ILE	2.1
6	F	65	VAL	2.1
1	A	1407	C	2.1
9	I	66	ARG	2.1
4	D	167	GLY	2.1
2	B	121	LEU	2.1
10	J	23	ILE	2.1
1	A	1019	G	2.1
1	A	1428	G	2.1
1	A	168	U	2.0
4	D	134	ASP	2.0
9	I	2	GLU	2.0
1	A	1020	C	2.0
1	A	1462	C	2.0
9	I	11	LYS	2.0
7	G	7	ALA	2.0
13	M	16	ASP	2.0
2	B	131	PRO	2.0
1	A	349	A	2.0
19	S	29	ARG	2.0

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

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

6.3 Carbohydrates [i](#)

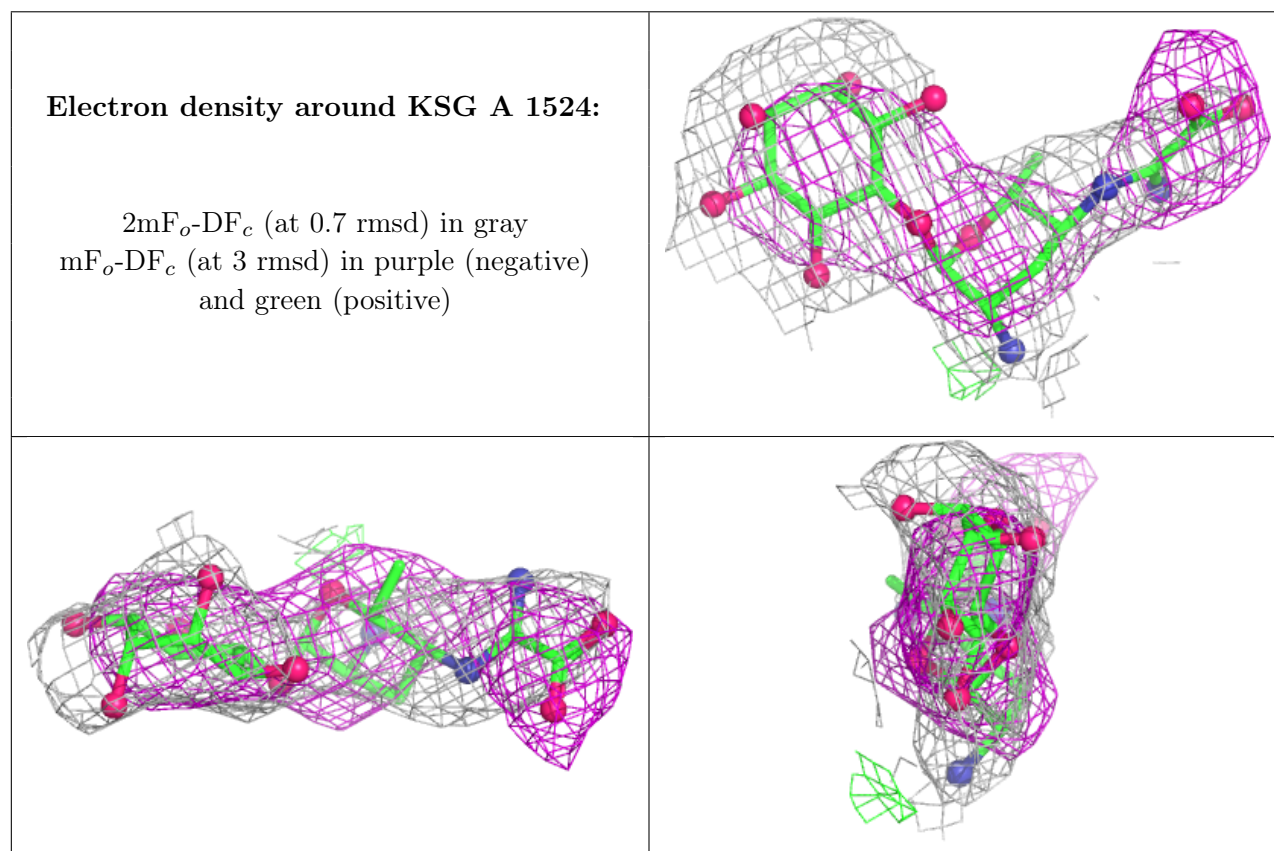
There are no oligosaccharides in this entry.

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.

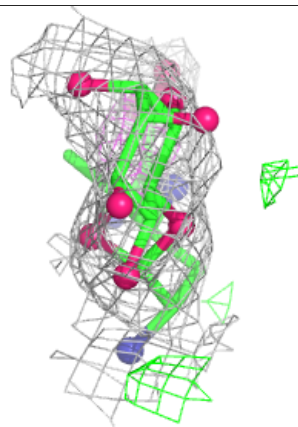
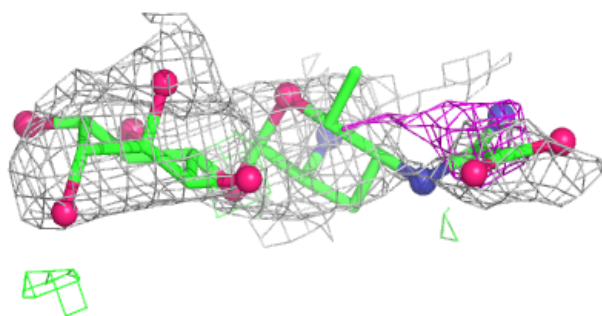
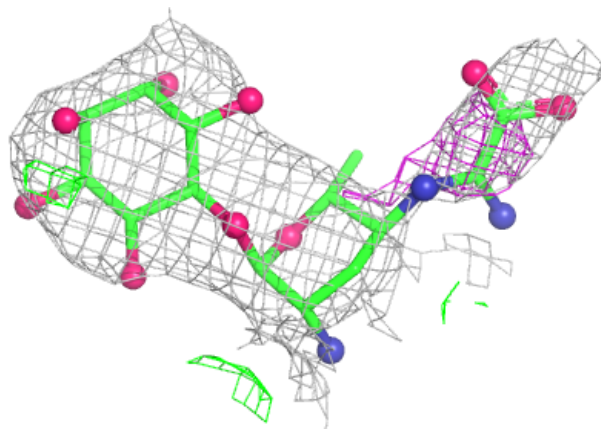
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
22	KSG	A	1524	26/26	0.59	0.16	28,32,34,36	0
22	KSG	A	1523	26/26	0.86	0.15	27,31,32,33	0

The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation to approximate a three-dimensional view.



Electron density around KSG A 1523:

$2mF_o - DF_c$ (at 0.7 rmsd) in gray
 $mF_o - DF_c$ (at 3 rmsd) in purple (negative)
and green (positive)



6.5 Other polymers [i](#)

There are no such residues in this entry.