



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 9, 2026 – 09:45 PM UTC

PDB ID : 2RKJ / pdb_00002rkj
Title : Cocrystal structure of a tyrosyl-tRNA synthetase splicing factor with a group I intron RNA
Authors : Paukstelis, P.J.; Chen, J.-H.; Chase, E.; Lambowitz, A.M.; Golden, B.L.
Deposited on : 2007-10-16
Resolution : 4.50 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
Xtriage (Phenix)	:	2.0
EDS	:	3.0
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4	:	9.0.010 (Gargrove)
Density-Fitness	:	1.0.12
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.49

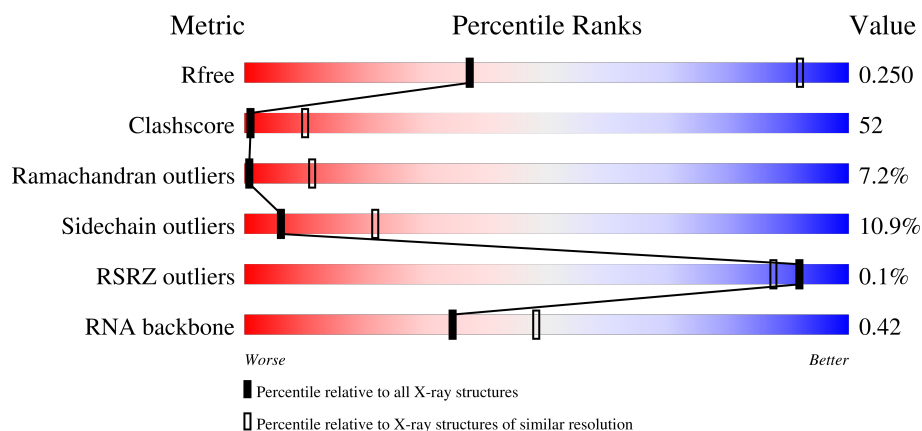
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 4.50 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.



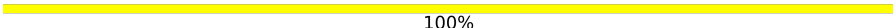
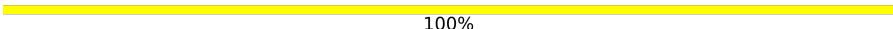
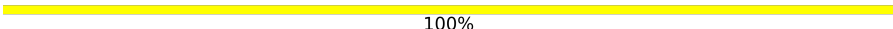
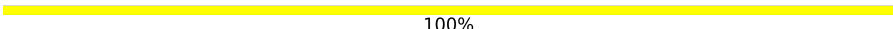
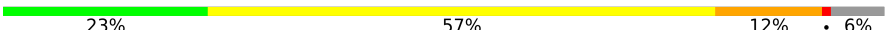
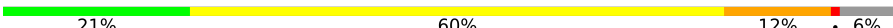
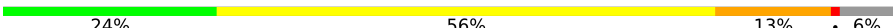
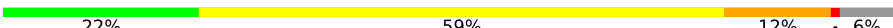
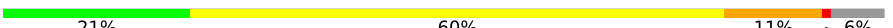
Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	180053	1127 (5.10-3.90)
Clashscore	190562	1002 (5.06-3.94)
Ramachandran outliers	187476	1060 (5.10-3.90)
Sidechain outliers	187428	1043 (5.10-3.90)
RSRZ outliers	180081	1122 (5.10-3.90)
RNA backbone	3983	1039 (5.90-3.10)

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	C	246	20% 55% 15% 7% .
1	G	246	18% 57% 15% 7% .
1	K	246	17% 57% 16% 7% .
1	O	246	20% 55% 15% 7% .

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Mol	Chain	Length	Quality of chain
2	D	4	 100%
2	H	4	 100%
2	L	4	 100%
2	P	4	 100%
3	A	392	 23% 57% 12% • 6%
3	B	392	 25% 56% 12% • 6%
3	E	392	 21% 60% 12% • 6%
3	F	392	 24% 56% 13% • 6%
3	I	392	 22% 59% 12% • 6%
3	J	392	 26% 55% 12% • 6%
3	M	392	 21% 60% 11% • 6%
3	N	392	 26% 55% 12% • 6%

2 Entry composition

There are 3 unique types of molecules in this entry. The entry contains 44328 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 RNA (238-MER).

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	C	238	Total	C	N	O	P	0	0	0
			5096	2282	938	1638	238			
1	G	238	Total	C	N	O	P	0	0	0
			5096	2282	938	1638	238			
1	K	238	Total	C	N	O	P	0	0	0
			5096	2282	938	1638	238			
1	O	238	Total	C	N	O	P	0	0	0
			5096	2282	938	1638	238			

- Molecule 2 is a RNA chain called RNA (5'-R(P*GP*CP*UP*U)-3').

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	D	4	Total	C	N	O	P	0	0	0
			84	37	12	31	4			
2	H	4	Total	C	N	O	P	0	0	0
			84	37	12	31	4			
2	L	4	Total	C	N	O	P	0	0	0
			84	37	12	31	4			
2	P	4	Total	C	N	O	P	0	0	0
			84	37	12	31	4			

- Molecule 3 is a protein called Tyrosyl-tRNA synthetase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	A	367	Total	C	N	O	S	0	0	0
			2951	1876	515	544	16			
3	B	367	Total	C	N	O	S	0	0	0
			2951	1876	515	544	16			
3	E	367	Total	C	N	O	S	0	0	0
			2951	1876	515	544	16			
3	F	367	Total	C	N	O	S	0	0	0
			2951	1876	515	544	16			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	I	367	Total	C	N	O	S	0	0	0
			2951	1876	515	544	16			
3	J	367	Total	C	N	O	S	0	0	0
			2951	1876	515	544	16			
3	M	367	Total	C	N	O	S	0	0	0
			2951	1876	515	544	16			
3	N	367	Total	C	N	O	S	0	0	0
			2951	1876	515	544	16			

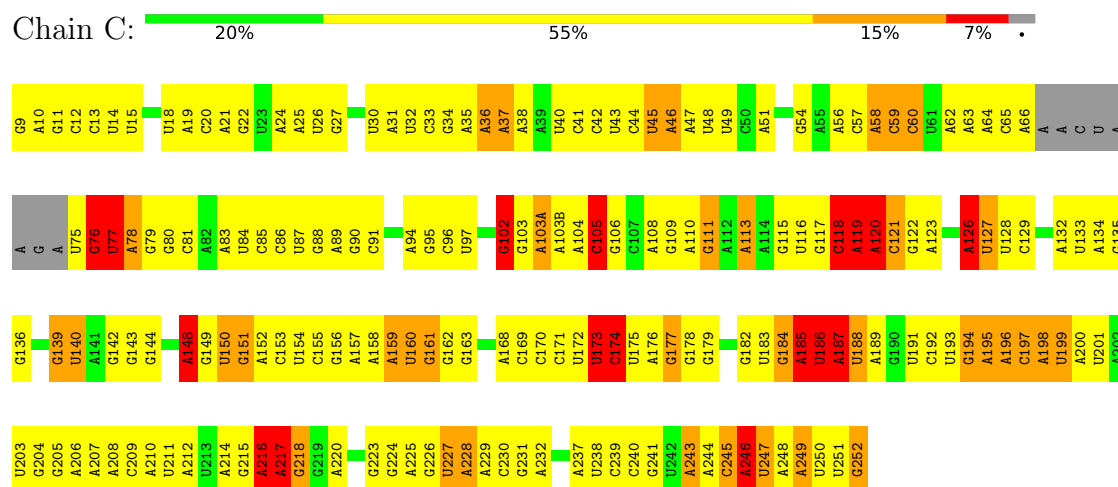
There are 8 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	32	MET	-	initiating methionine	UNP P12063
B	32	MET	-	initiating methionine	UNP P12063
E	32	MET	-	initiating methionine	UNP P12063
F	32	MET	-	initiating methionine	UNP P12063
I	32	MET	-	initiating methionine	UNP P12063
J	32	MET	-	initiating methionine	UNP P12063
M	32	MET	-	initiating methionine	UNP P12063
N	32	MET	-	initiating methionine	UNP P12063

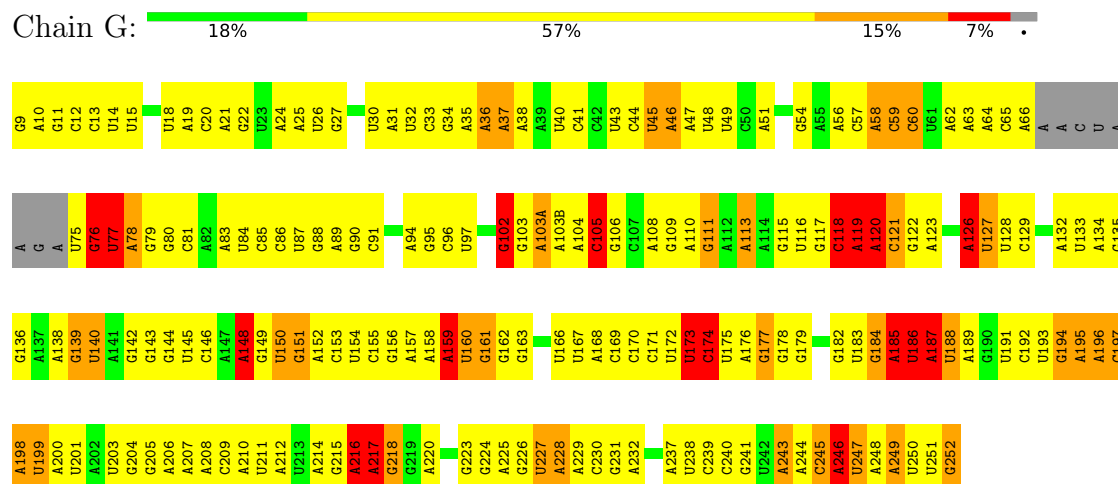
3 Residue-property plots

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: RNA (238-MER)

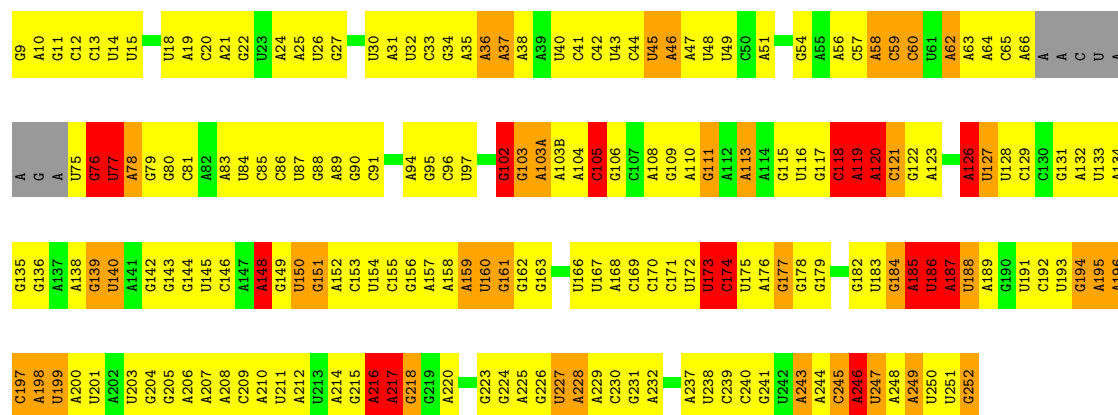


• Molecule 1: RNA (238-MER)

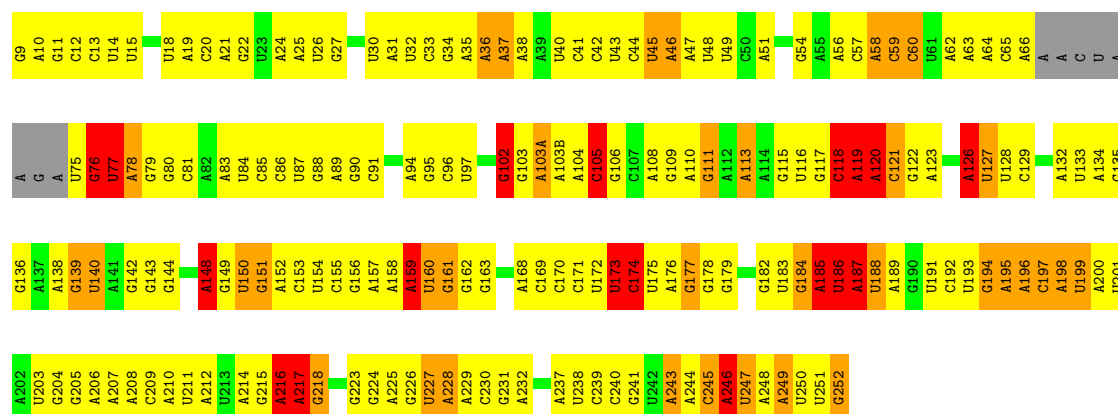


• Molecule 1: RNA (238-MER)





• Molecule 1: RNA (238-MER)



• Molecule 2: RNA (5'-R(P*GP*CP*UP*U)-3')



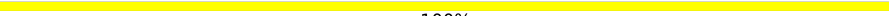
• Molecule 2: RNA (5'-R(P*GP*CP*UP*U)-3')



• Molecule 2: RNA (5'-R(P*GP*CP*UP*U)-3')



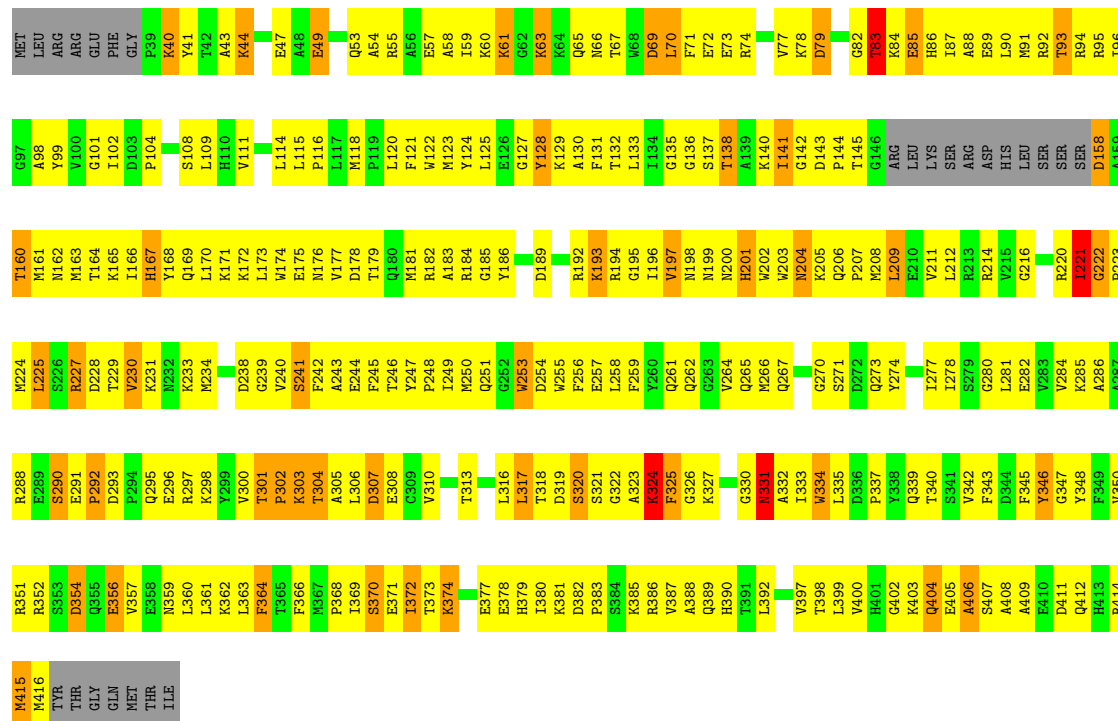
• Molecule 2: RNA (5'-R(P*GP*CP*UP*U)-3')

Chain P:  100%

G1
C2
U3
U4

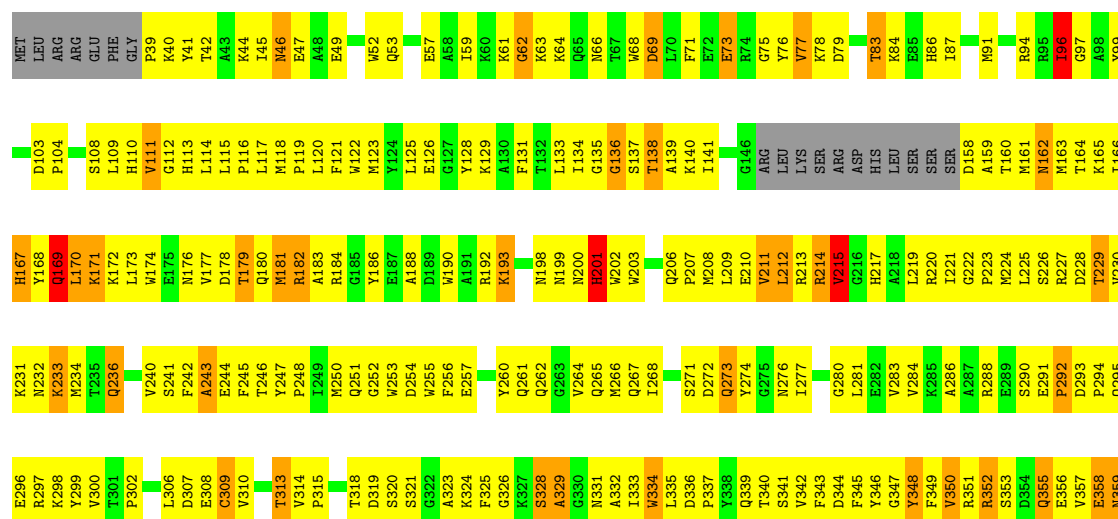
• Molecule 3: Tyrosyl-tRNA synthetase

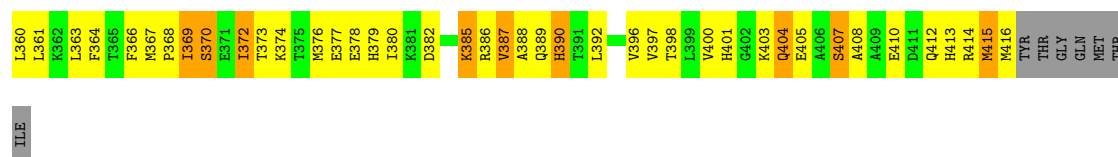
Chain A:  23% 57% 12% 6%



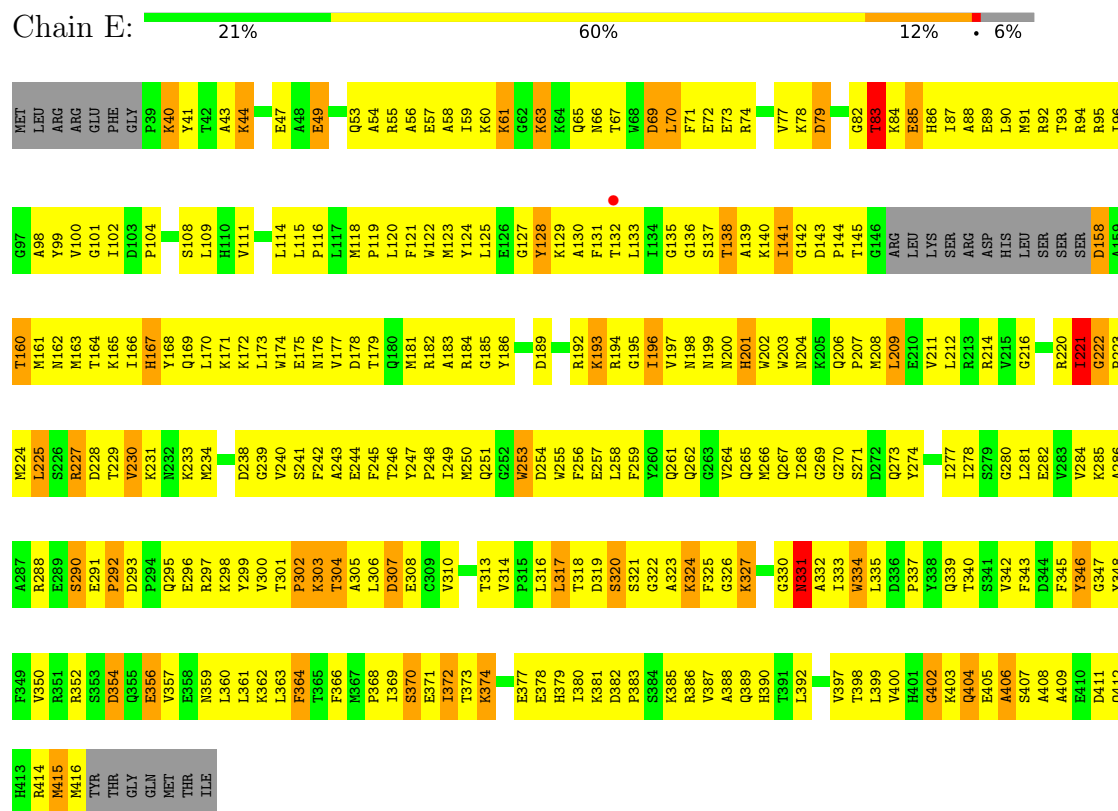
• Molecule 3: Tyrosyl-tRNA synthetase

Chain B:  25% 56% 12% 6%

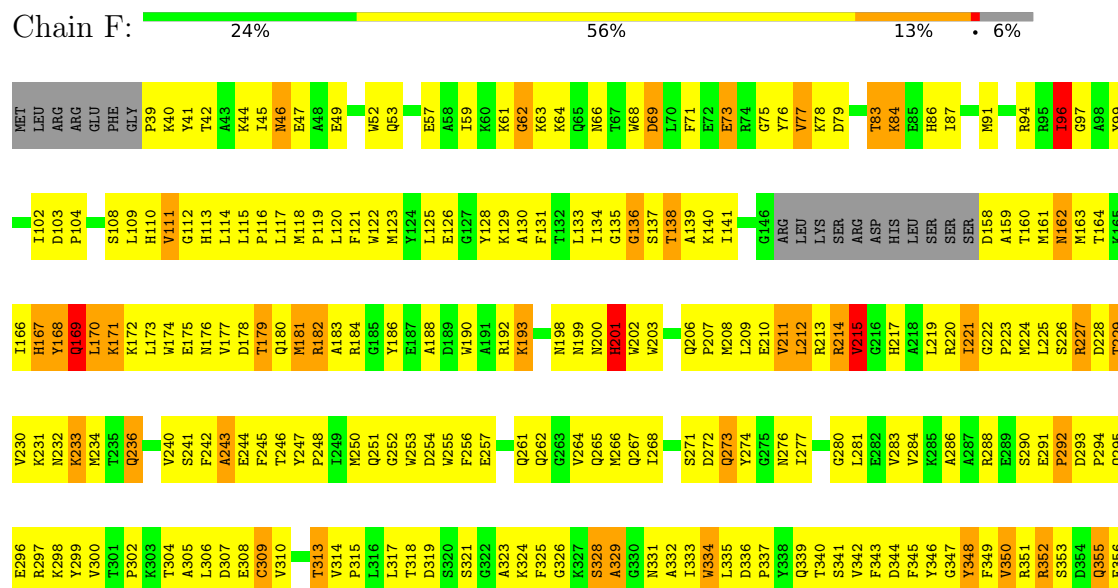


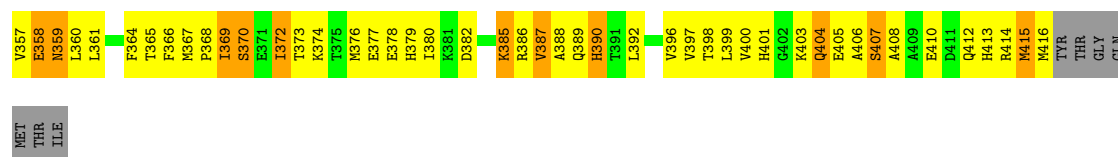


• Molecule 3: Tyrosyl-tRNA synthetase



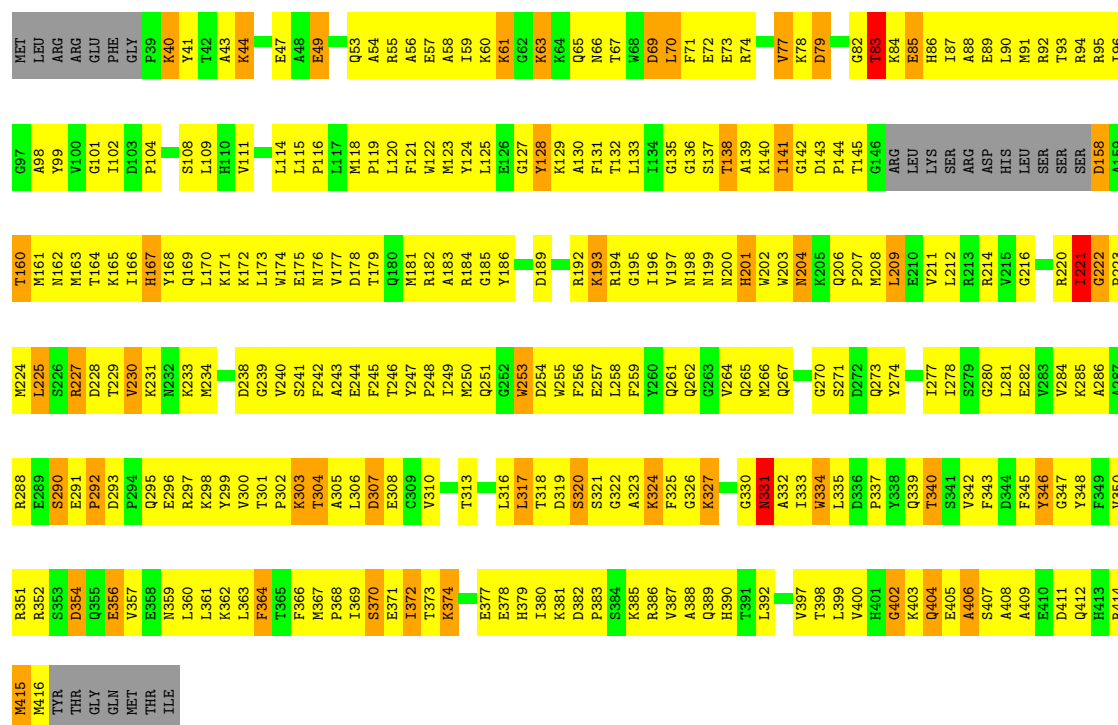
• Molecule 3: Tyrosyl-tRNA synthetase





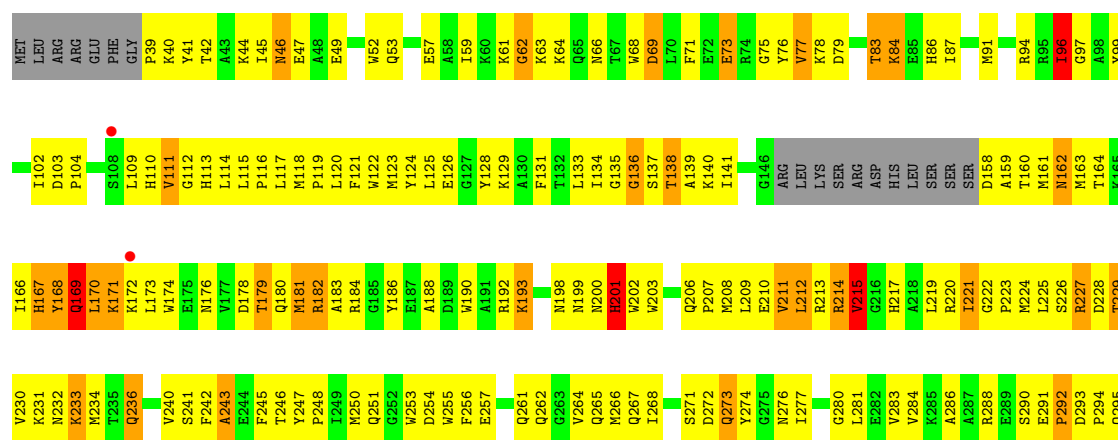
• Molecule 3: Tyrosyl-tRNA synthetase

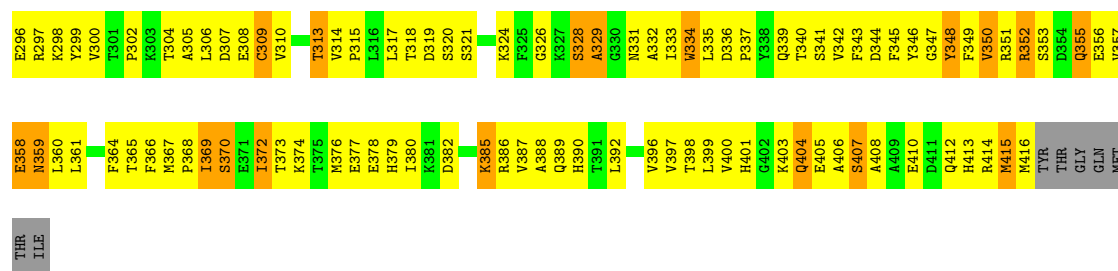
Chain I: 22% 59% 12% 6%



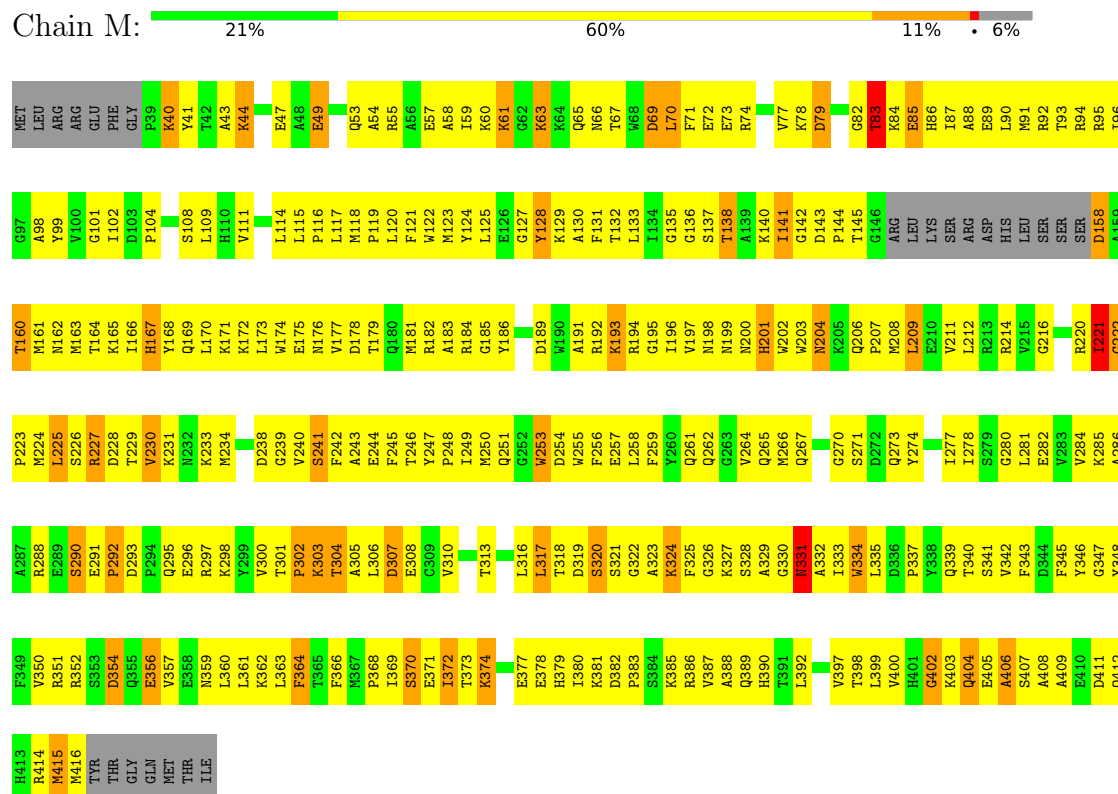
• Molecule 3: Tyrosyl-tRNA synthetase

Chain J: 26% 55% 12% 6%

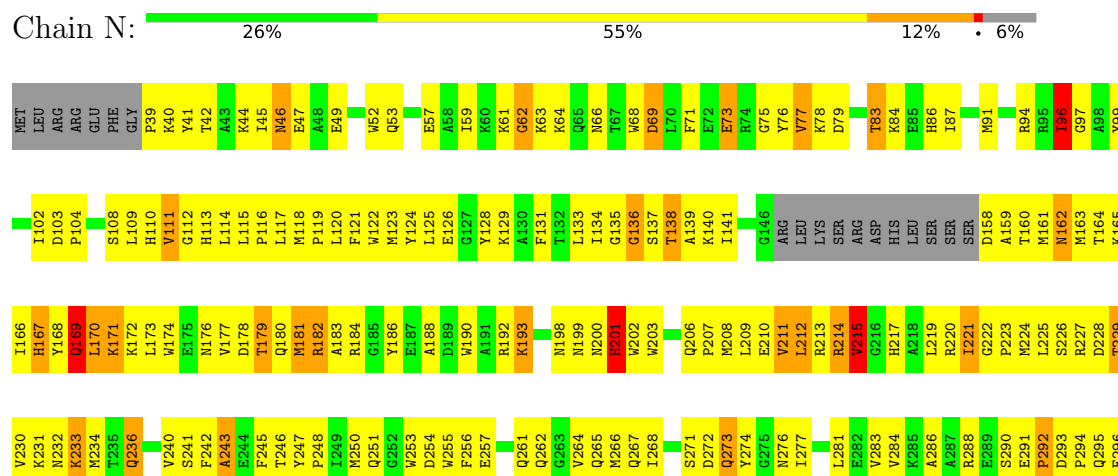




• Molecule 3: Tyrosyl-tRNA synthetase



• Molecule 3: Tyrosyl-tRNA synthetase



R297	K298	Y299	V300	T301	P302	L306	D307	E308	C309	V310	T313	V314	P315	T318	D319	S320	S321	G322	A323	K324	F325	G326	K327	S328	A329	G330	N331	A332	I333	W334	L335	D336	P337	Y338	Q339	T340	S341	V342	F343	D344	F345	Y346	G347	Y348	F349	V350	R351	R352	S353	D354	Q355	E356	V357	E358	N359	L360
L361	K362	L363	F364	F365	F366	M367	P368	I369	S370	E371	I372	T373	K374	M376	E377	E378	H379	I380	K381	D382	K385	R386	V387	A388	Q389	H390	T391	L392	V396	V397	T398	L399	V400	H401	G402	K403	Q404	E405	A406	S407	A408	A409	E410	D411	Q412	H413	R414	M415	M416	TYR	THR	GLY	GLN	MET	THR	ILE

4 Data and refinement statistics

Property	Value	Source
Space group	P 1 2 1	Depositor
Cell constants a, b, c, α , β , γ	231.06Å 123.53Å 235.23Å 90.00° 90.26° 90.00°	Depositor
Resolution (Å)	47.88 – 4.50 47.88 – 4.50	Depositor EDS
% Data completeness (in resolution range)	83.3 (47.88-4.50) 82.3 (47.88-4.50)	Depositor EDS
R_{merge}	0.09	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	2.10 (at 4.45Å)	Xtriage
Refinement program	CNS 1.2	Depositor
R, R_{free}	0.235 , 0.249 0.235 , 0.250	Depositor DCC
R_{free} test set	3334 reflections (4.14%)	wwPDB-VP
Wilson B-factor (Å ²)	167.2	Xtriage
Anisotropy	0.414	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.25 , 544.0	EDS
L-test for twinning ²	$\langle L \rangle = 0.48$, $\langle L^2 \rangle = 0.31$	Xtriage
Estimated twinning fraction	0.247 for l,k,-h 0.388 for h,-k,-l 0.257 for l,-k,h	Xtriage
F_o, F_c correlation	0.92	EDS
Total number of atoms	44328	wwPDB-VP
Average B, all atoms (Å ²)	211.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.69% 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

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	C	0.45	0/5710	0.84	18/8894 (0.2%)
1	G	0.45	0/5710	0.84	17/8894 (0.2%)
1	K	0.48	1/5710 (0.0%)	0.86	18/8894 (0.2%)
1	O	0.45	0/5710	0.84	19/8894 (0.2%)
2	D	0.67	0/92	0.82	0/139
2	H	0.69	0/92	0.82	0/139
2	L	0.68	0/92	0.83	0/139
2	P	0.65	0/92	0.81	0/139
3	A	0.57	1/3023 (0.0%)	0.96	11/4083 (0.3%)
3	B	0.59	0/3023	0.93	6/4083 (0.1%)
3	E	0.60	1/3023 (0.0%)	0.96	9/4083 (0.2%)
3	F	0.59	0/3023	0.93	7/4083 (0.2%)
3	I	0.58	1/3023 (0.0%)	0.96	9/4083 (0.2%)
3	J	0.59	0/3023	0.93	6/4083 (0.1%)
3	M	0.56	1/3023 (0.0%)	0.96	9/4083 (0.2%)
3	N	0.60	0/3023	0.93	7/4083 (0.2%)
All	All	0.53	5/47392 (0.0%)	0.89	136/68796 (0.2%)

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	C	0	9
1	G	0	9
1	K	0	9
1	O	0	9
All	All	0	36

All (5) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	K	105	C	P-OP2	7.32	1.63	1.49
3	A	415	MET	SD-CE	6.61	1.96	1.79
3	E	415	MET	SD-CE	6.21	1.95	1.79
3	I	415	MET	SD-CE	5.63	1.93	1.79
3	M	415	MET	SD-CE	5.39	1.93	1.79

All (136) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	K	102	G	C3'-C2'-O2'	12.98	130.17	110.70
1	K	103	G	C3'-C2'-O2'	10.29	126.13	110.70
1	G	187	A	C2'-C3'-O3'	7.57	120.86	109.50
1	G	102	G	C3'-C2'-O2'	7.50	121.95	110.70
1	C	102	G	C3'-C2'-O2'	7.36	121.74	110.70
3	E	141	ILE	N-CA-C	-7.28	105.87	111.62
1	O	102	G	C3'-C2'-O2'	7.19	121.48	110.70
1	C	187	A	C2'-C3'-O3'	7.16	120.23	109.50
1	O	187	A	C2'-C3'-O3'	7.09	120.14	109.50
1	G	186	U	N1-C1'-C2'	7.07	122.60	112.00
1	O	186	U	N1-C1'-C2'	7.07	122.60	112.00
1	K	187	A	C2'-C3'-O3'	6.98	119.97	109.50
1	C	186	U	N1-C1'-C2'	6.92	122.38	112.00
1	K	186	U	N1-C1'-C2'	6.85	122.28	112.00
3	E	364	PHE	N-CA-C	6.83	121.29	112.41
3	I	364	PHE	N-CA-C	6.75	121.19	112.41
3	I	141	ILE	N-CA-C	-6.74	106.30	111.62
1	G	66	A	N9-C1'-C2'	6.71	122.07	112.00
3	E	54	ALA	N-CA-C	-6.71	103.99	111.71
3	A	364	PHE	N-CA-C	6.68	121.09	112.41
3	M	54	ALA	N-CA-C	-6.65	104.07	111.71
1	C	120	A	C2'-C3'-O3'	6.60	119.40	109.50
1	O	216	A	C2'-C3'-O3'	6.53	119.30	109.50
1	G	216	A	C2'-C3'-O3'	6.53	119.29	109.50
3	A	54	ALA	N-CA-C	-6.49	104.25	111.71
1	G	120	A	C2'-C3'-O3'	6.48	119.22	109.50
1	K	120	A	C2'-C3'-O3'	6.48	119.22	109.50
1	C	216	A	C2'-C3'-O3'	6.46	119.19	109.50
3	I	54	ALA	N-CA-C	-6.46	104.28	111.71
3	E	120	LEU	N-CA-C	-6.46	103.93	110.97
1	K	216	A	C2'-C3'-O3'	6.44	119.15	109.50
3	M	364	PHE	N-CA-C	6.43	120.77	112.41
3	A	120	LEU	N-CA-C	-6.40	103.99	110.97
1	K	66	A	N9-C1'-C2'	6.39	121.59	112.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	M	120	LEU	N-CA-C	-6.31	104.09	110.97
1	O	120	A	C2'-C3'-O3'	6.27	118.91	109.50
1	C	66	A	N9-C1'-C2'	6.26	121.40	112.00
1	O	66	A	N9-C1'-C2'	6.26	121.39	112.00
3	J	77	VAL	N-CA-C	6.22	117.98	108.71
3	F	77	VAL	N-CA-C	6.15	117.87	108.71
3	I	120	LEU	N-CA-C	-6.12	104.30	110.97
3	N	372	ILE	N-CA-C	-6.10	104.56	110.72
3	J	372	ILE	N-CA-C	-6.06	104.60	110.72
1	C	173	U	C2'-C3'-O3'	5.96	118.43	109.50
3	B	372	ILE	N-CA-C	-5.95	104.71	110.72
1	G	173	U	C2'-C3'-O3'	5.94	118.42	109.50
3	A	141	ILE	N-CA-C	-5.94	106.93	111.62
1	C	217	A	C2'-C3'-O3'	5.92	118.38	109.50
1	K	173	U	C2'-C3'-O3'	5.91	118.37	109.50
1	O	173	U	C2'-C3'-O3'	5.90	118.35	109.50
3	N	77	VAL	N-CA-C	5.89	117.08	108.53
3	B	77	VAL	N-CA-C	5.89	117.07	108.53
1	G	217	A	C2'-C3'-O3'	5.87	118.31	109.50
3	A	193	LYS	N-CA-C	5.85	118.19	108.13
1	O	217	A	C2'-C3'-O3'	5.83	118.24	109.50
1	K	246	A	C2'-C3'-O3'	5.82	118.24	109.50
3	M	77	VAL	N-CA-C	5.81	116.53	107.28
3	I	193	LYS	N-CA-C	5.80	118.11	108.13
3	M	193	LYS	N-CA-C	5.79	118.08	108.13
1	O	246	A	C2'-C3'-O3'	5.76	118.14	109.50
3	E	193	LYS	N-CA-C	5.76	118.03	108.13
1	C	118	C	C2'-C3'-O3'	5.74	118.11	109.50
3	F	372	ILE	N-CA-C	-5.71	104.95	110.72
1	K	126	A	C2'-C3'-O3'	-5.71	105.14	113.70
1	K	119	A	C2'-C3'-O3'	5.70	118.05	109.50
1	G	246	A	C2'-C3'-O3'	5.70	118.05	109.50
3	J	69	ASP	N-CA-C	-5.69	105.16	111.36
1	C	246	A	C2'-C3'-O3'	5.68	118.02	109.50
1	K	217	A	C2'-C3'-O3'	5.66	117.98	109.50
3	A	253	TRP	N-CA-C	-5.65	105.27	111.82
3	I	77	VAL	N-CA-C	5.64	116.25	107.28
3	B	162	ASN	N-CA-C	-5.64	104.34	111.11
1	G	252	G	C4'-C3'-O3'	5.64	121.45	113.00
1	G	118	C	C2'-C3'-O3'	5.62	117.93	109.50
3	A	77	VAL	N-CA-C	5.61	116.20	107.28
1	G	119	A	C2'-C3'-O3'	5.60	117.90	109.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	E	77	VAL	N-CA-C	5.58	116.15	107.28
1	K	118	C	C2'-C3'-O3'	5.57	117.86	109.50
3	E	403	LYS	N-CA-C	5.54	117.00	111.07
3	I	403	LYS	N-CA-C	5.50	116.96	111.07
1	K	185	A	C2'-C3'-O3'	5.50	117.75	109.50
1	C	252	G	C4'-C3'-O3'	5.48	121.22	113.00
3	M	253	TRP	N-CA-C	-5.46	105.49	111.82
1	G	126	A	C2'-C3'-O3'	-5.45	105.52	113.70
1	O	118	C	C2'-C3'-O3'	5.45	117.67	109.50
1	C	119	A	C2'-C3'-O3'	5.44	117.66	109.50
1	G	185	A	C2'-C3'-O3'	5.43	117.65	109.50
3	I	253	TRP	N-CA-C	-5.43	105.52	111.82
1	O	119	A	C2'-C3'-O3'	5.43	117.64	109.50
3	N	162	ASN	N-CA-C	-5.43	104.59	111.11
3	F	227	ARG	N-CA-C	-5.43	102.01	110.10
3	E	253	TRP	N-CA-C	-5.42	105.53	111.82
3	F	69	ASP	N-CA-C	-5.39	105.48	111.36
3	N	177	VAL	N-CA-C	-5.38	105.08	110.30
1	O	126	A	C2'-C3'-O3'	-5.36	105.66	113.70
1	O	185	A	C2'-C3'-O3'	5.35	117.53	109.50
1	K	62	A	C4'-C3'-O3'	-5.32	105.02	113.00
3	M	141	ILE	N-CA-C	-5.31	107.42	111.62
3	F	162	ASN	N-CA-C	-5.30	104.75	111.11
3	A	70	LEU	N-CA-C	-5.30	105.17	111.69
3	B	177	VAL	N-CA-C	-5.28	105.18	110.30
3	J	227	ARG	N-CA-C	-5.28	102.24	110.10
1	C	185	A	C2'-C3'-O3'	5.28	117.41	109.50
1	K	76	G	N9-C1'-C2'	5.26	119.90	112.00
1	O	252	G	C4'-C3'-O3'	5.23	120.85	113.00
3	I	70	LEU	N-CA-C	-5.23	105.26	111.69
3	B	69	ASP	N-CA-C	-5.22	105.67	111.36
1	K	174	C	N1-C1'-C2'	5.20	119.80	112.00
3	A	403	LYS	N-CA-C	5.20	116.63	111.07
1	C	174	C	N1-C1'-C2'	5.20	119.79	112.00
1	C	126	A	C2'-C3'-O3'	-5.19	105.92	113.70
1	K	252	G	C4'-C3'-O3'	5.18	120.77	113.00
1	O	174	C	N1-C1'-C2'	5.17	119.76	112.00
3	J	162	ASN	N-CA-C	-5.17	104.91	111.11
1	O	148	A	N9-C1'-C2'	5.15	119.73	112.00
1	G	76	G	N9-C1'-C2'	5.14	119.72	112.00
3	N	227	ARG	N-CA-C	-5.14	102.44	110.10
3	B	227	ARG	N-CA-C	-5.14	102.44	110.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	C	148	A	N9-C1'-C2'	5.13	119.70	112.00
3	E	70	LEU	N-CA-C	-5.13	105.38	111.69
1	O	159	A	C2'-C3'-O3'	5.12	117.18	109.50
3	F	177	VAL	N-CA-C	-5.12	104.91	110.23
1	C	76	G	N9-C1'-C2'	5.11	119.67	112.00
3	M	70	LEU	N-CA-C	-5.11	105.41	111.69
1	C	217	A	C4'-C3'-O3'	5.09	117.03	109.40
3	F	102	ILE	N-CA-C	5.09	115.98	107.18
1	O	217	A	C4'-C3'-O3'	5.08	117.02	109.40
1	O	76	G	N9-C1'-C2'	5.07	119.61	112.00
3	J	102	ILE	N-CA-C	5.07	115.94	107.18
3	M	403	LYS	N-CA-C	5.06	116.49	111.07
3	N	102	ILE	N-CA-C	5.06	115.93	107.18
3	N	69	ASP	N-CA-C	-5.05	105.85	111.36
1	G	174	C	N1-C1'-C2'	5.04	119.56	112.00
3	A	301	THR	N-CA-C	5.04	115.77	109.57
3	A	197	VAL	CB-CA-C	-5.03	104.86	111.70
1	G	159	A	C2'-C3'-O3'	5.01	117.02	109.50

There are no chirality outliers.

All (36) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	C	102	G	Sidechain
1	C	105	C	Sidechain
1	C	148	A	Sidechain
1	C	193	U	Sidechain
1	C	227	U	Sidechain
1	C	45	U	Sidechain
1	C	75	U	Sidechain
1	C	76	G	Sidechain
1	C	77	U	Sidechain
1	G	102	G	Sidechain
1	G	105	C	Sidechain
1	G	148	A	Sidechain
1	G	193	U	Sidechain
1	G	227	U	Sidechain
1	G	45	U	Sidechain
1	G	75	U	Sidechain
1	G	76	G	Sidechain
1	G	77	U	Sidechain
1	K	102	G	Sidechain

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Mol	Chain	Res	Type	Group
1	K	105	C	Sidechain
1	K	148	A	Sidechain
1	K	193	U	Sidechain
1	K	227	U	Sidechain
1	K	45	U	Sidechain
1	K	75	U	Sidechain
1	K	76	G	Sidechain
1	K	77	U	Sidechain
1	O	102	G	Sidechain
1	O	105	C	Sidechain
1	O	148	A	Sidechain
1	O	193	U	Sidechain
1	O	227	U	Sidechain
1	O	45	U	Sidechain
1	O	75	U	Sidechain
1	O	76	G	Sidechain
1	O	77	U	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	C	5096	0	2564	307	0
1	G	5096	0	2564	303	0
1	K	5096	0	2564	314	0
1	O	5096	0	2564	309	0
2	D	84	0	43	9	0
2	H	84	0	43	9	0
2	L	84	0	43	9	0
2	P	84	0	43	9	0
3	A	2951	0	2903	370	0
3	B	2951	0	2903	342	0
3	E	2951	0	2903	375	0
3	F	2951	0	2903	356	0
3	I	2951	0	2903	382	0
3	J	2951	0	2903	347	0
3	M	2951	0	2903	378	0
3	N	2951	0	2903	355	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
All	All	44328	0	33652	4006	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 52.

All (4006) 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)
3:E:108:SER:HA	3:E:169:GLN:HE22	1.15	1.11
3:M:108:SER:HA	3:M:169:GLN:HE22	1.16	1.09
3:A:108:SER:HA	3:A:169:GLN:HE22	1.17	1.07
3:I:108:SER:HA	3:I:169:GLN:HE22	1.14	1.05
1:K:102:G:N2	1:K:105:C:N3	2.05	1.02
1:C:126:A:H1'	1:C:158:A:N1	1.74	1.01
1:O:126:A:H1'	1:O:158:A:N1	1.75	1.00
1:G:126:A:H1'	1:G:158:A:N1	1.76	1.00
1:G:216:A:H61	1:G:246:A:H5'	1.29	0.98
1:K:126:A:H1'	1:K:158:A:N1	1.78	0.98
1:K:229:A:C2	1:K:230:C:H5	1.83	0.97
1:O:160:U:O2	1:O:184:G:H2'	1.64	0.96
1:C:216:A:H61	1:C:246:A:H5'	1.28	0.96
3:A:141:ILE:HD12	3:A:243:ALA:HB1	1.48	0.96
1:K:105:C:OP2	1:K:105:C:C6	2.19	0.96
1:K:160:U:O2	1:K:184:G:H2'	1.65	0.96
3:M:319:ASP:HB2	3:M:352:ARG:NH1	1.81	0.96
1:C:160:U:O2	1:C:184:G:H2'	1.65	0.96
1:O:216:A:H61	1:O:246:A:H5'	1.28	0.96
3:A:319:ASP:HB2	3:A:352:ARG:NH1	1.81	0.95
1:K:126:A:H5'	1:K:127:U:OP1	1.67	0.95
3:I:319:ASP:HB2	3:I:352:ARG:NH1	1.81	0.95
3:M:141:ILE:HD12	3:M:243:ALA:HB1	1.49	0.95
1:K:216:A:H61	1:K:246:A:H5'	1.28	0.95
1:C:229:A:C2	1:C:230:C:H5	1.84	0.95
1:G:229:A:C2	1:G:230:C:H5	1.84	0.95
3:E:319:ASP:HB2	3:E:352:ARG:NH1	1.81	0.95
3:I:335:LEU:HD22	3:I:400:VAL:HG11	1.48	0.95
1:O:229:A:C2	1:O:230:C:H5	1.85	0.95
1:O:78:A:H2'	1:O:79:G:C8	2.02	0.94
3:I:141:ILE:HD12	3:I:243:ALA:HB1	1.50	0.94
1:K:78:A:H2'	1:K:79:G:C8	2.02	0.94
1:K:56:A:H2'	1:K:57:C:H5'	1.49	0.94

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:78:A:H2'	1:C:79:G:C8	2.02	0.94
1:O:56:A:H2'	1:O:57:C:H5'	1.48	0.94
1:O:126:A:H5'	1:O:127:U:OP1	1.67	0.94
3:N:138:THR:HG22	3:N:199:ASN:ND2	1.82	0.94
3:E:335:LEU:HD22	3:E:400:VAL:HG11	1.48	0.94
1:G:126:A:H5'	1:G:127:U:OP1	1.68	0.94
3:F:138:THR:HG22	3:F:199:ASN:ND2	1.83	0.93
1:C:216:A:N6	1:C:246:A:H5'	1.83	0.93
1:G:160:U:O2	1:G:184:G:H2'	1.67	0.93
1:G:216:A:N6	1:G:246:A:H5'	1.83	0.93
1:K:216:A:N6	1:K:246:A:H5'	1.83	0.93
1:O:216:A:N6	1:O:246:A:H5'	1.83	0.93
3:E:141:ILE:HD12	3:E:243:ALA:HB1	1.49	0.93
1:G:78:A:H2'	1:G:79:G:C8	2.04	0.93
3:B:335:LEU:HD22	3:B:400:VAL:HG11	1.49	0.93
1:C:56:A:H2'	1:C:57:C:H5'	1.49	0.93
1:C:126:A:H5'	1:C:127:U:OP1	1.69	0.93
3:B:138:THR:HG22	3:B:199:ASN:ND2	1.84	0.92
3:J:138:THR:HG22	3:J:199:ASN:ND2	1.83	0.92
3:F:369:ILE:O	3:F:372:ILE:HG22	1.69	0.91
3:J:335:LEU:HD22	3:J:400:VAL:HG11	1.50	0.91
1:G:56:A:H2'	1:G:57:C:H5'	1.50	0.91
3:J:369:ILE:O	3:J:372:ILE:HG22	1.70	0.91
3:F:140:LYS:O	3:F:141:ILE:HD13	1.70	0.91
3:F:415:MET:HE2	3:F:415:MET:HA	1.52	0.90
3:J:415:MET:HE2	3:J:415:MET:HA	1.54	0.90
3:F:335:LEU:HD22	3:F:400:VAL:HG11	1.52	0.89
3:M:335:LEU:HD22	3:M:400:VAL:HG11	1.53	0.89
3:N:415:MET:HE2	3:N:415:MET:HA	1.51	0.89
3:A:335:LEU:HD22	3:A:400:VAL:HG11	1.53	0.89
3:N:140:LYS:O	3:N:141:ILE:HD13	1.69	0.89
3:N:335:LEU:HD22	3:N:400:VAL:HG11	1.52	0.89
3:B:415:MET:HE2	3:B:415:MET:HA	1.52	0.89
3:J:140:LYS:O	3:J:141:ILE:HD13	1.71	0.89
3:M:91:MET:HE3	3:M:123:MET:HE3	1.55	0.89
3:N:44:LYS:HD3	3:N:190:TRP:NE1	1.87	0.89
3:N:369:ILE:O	3:N:372:ILE:HG22	1.72	0.89
1:O:60:C:H42	1:O:79:G:H1	1.15	0.89
1:G:60:C:H42	1:G:79:G:H1	1.19	0.88
3:B:44:LYS:HD3	3:B:190:TRP:NE1	1.88	0.88
3:A:295:GLN:O	3:A:298:LYS:HE2	1.73	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:60:C:H42	1:C:79:G:H1	1.17	0.88
1:K:159:A:H1'	1:K:185:A:N6	1.89	0.88
3:A:91:MET:HE3	3:A:123:MET:HE3	1.56	0.88
3:B:140:LYS:O	3:B:141:ILE:HD13	1.71	0.88
3:B:369:ILE:O	3:B:372:ILE:HG22	1.73	0.88
3:M:295:GLN:O	3:M:298:LYS:HE2	1.74	0.88
1:O:159:A:H1'	1:O:185:A:N6	1.88	0.88
1:G:159:A:H1'	1:G:185:A:N6	1.88	0.87
3:J:44:LYS:HD3	3:J:190:TRP:NE1	1.89	0.87
3:E:102:ILE:HD12	3:E:170:LEU:HD11	1.57	0.87
1:O:102:G:N2	1:O:105:C:N3	2.21	0.87
1:K:103(B):A:H2'	1:K:104:A:O4'	1.75	0.87
3:M:318:THR:HG22	3:M:324:LYS:HA	1.54	0.87
1:C:159:A:H1'	1:C:185:A:N6	1.88	0.87
1:C:102:G:N2	1:C:105:C:N3	2.22	0.87
3:B:382:ASP:CG	3:B:385:LYS:HB2	2.00	0.87
3:M:331:ASN:HD22	3:M:334:TRP:HE1	1.23	0.87
3:I:102:ILE:HD12	3:I:170:LEU:HD11	1.57	0.87
3:A:57:GLU:HG3	3:A:61:LYS:HE3	1.57	0.86
3:E:91:MET:HE3	3:E:123:MET:HE3	1.57	0.86
3:F:44:LYS:HD3	3:F:190:TRP:NE1	1.90	0.86
3:B:83:THR:HB	3:B:86:HIS:HB2	1.58	0.86
3:A:331:ASN:HD22	3:A:334:TRP:HE1	1.24	0.86
3:E:318:THR:HG22	3:E:324:LYS:HA	1.56	0.86
1:G:102:G:N2	1:G:105:C:N3	2.23	0.86
3:M:57:GLU:HG3	3:M:61:LYS:HE3	1.58	0.86
3:E:57:GLU:HG3	3:E:61:LYS:HE3	1.57	0.86
3:A:318:THR:HG22	3:A:324:LYS:HA	1.55	0.86
1:K:60:C:H42	1:K:79:G:H1	1.18	0.86
3:A:102:ILE:HD12	3:A:170:LEU:HD11	1.57	0.86
3:I:318:THR:HG22	3:I:324:LYS:HA	1.57	0.86
3:N:382:ASP:CG	3:N:385:LYS:HB2	2.01	0.85
3:N:83:THR:HB	3:N:86:HIS:HB2	1.58	0.85
3:I:295:GLN:O	3:I:298:LYS:HE2	1.76	0.85
3:M:102:ILE:HD12	3:M:170:LEU:HD11	1.58	0.85
3:I:91:MET:HE3	3:I:123:MET:HE3	1.58	0.85
1:C:103(B):A:H2'	1:C:104:A:O4'	1.76	0.85
1:G:103(B):A:H2'	1:G:104:A:O4'	1.76	0.85
3:I:57:GLU:HG3	3:I:61:LYS:HE3	1.57	0.85
1:K:105:C:OP2	1:K:105:C:H6	1.58	0.84
3:E:295:GLN:O	3:E:298:LYS:HE2	1.77	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:E:326:GLY:O	3:E:333:ILE:HD12	1.77	0.84
1:G:149:G:C6	1:G:230:C:N4	2.46	0.84
1:O:103(B):A:H2'	1:O:104:A:O4'	1.77	0.84
3:A:326:GLY:O	3:A:333:ILE:HD12	1.77	0.84
1:C:149:G:C6	1:C:230:C:N4	2.45	0.84
3:M:326:GLY:O	3:M:333:ILE:HD12	1.78	0.83
3:J:382:ASP:CG	3:J:385:LYS:HB2	2.02	0.83
3:F:83:THR:HB	3:F:86:HIS:HB2	1.60	0.83
3:F:225:LEU:O	3:F:225:LEU:HD23	1.78	0.83
3:F:382:ASP:CG	3:F:385:LYS:HB2	2.02	0.83
1:O:149:G:C6	1:O:230:C:N4	2.46	0.83
3:E:317:LEU:O	3:E:325:PHE:HB2	1.79	0.83
3:J:188:ALA:HA	3:J:192:ARG:HH11	1.41	0.83
1:C:148:A:N6	1:C:232:A:H5'	1.94	0.83
3:I:317:LEU:O	3:I:325:PHE:HB2	1.79	0.83
1:O:148:A:N6	1:O:232:A:H5'	1.94	0.82
3:N:78:LYS:HD3	3:N:315:PRO:HA	1.61	0.82
3:B:318:THR:HG22	3:B:324:LYS:HA	1.61	0.82
3:E:331:ASN:HD22	3:E:334:TRP:HE1	1.26	0.82
1:G:218:G:H4'	1:G:218:G:OP1	1.80	0.82
1:K:149:G:C6	1:K:230:C:N4	2.46	0.82
3:M:317:LEU:O	3:M:325:PHE:HB2	1.79	0.82
3:A:317:LEU:O	3:A:325:PHE:HB2	1.80	0.81
3:J:83:THR:HB	3:J:86:HIS:HB2	1.60	0.81
3:N:207:PRO:O	3:N:211:VAL:HG23	1.80	0.81
1:G:148:A:N6	1:G:232:A:H5'	1.96	0.81
3:B:207:PRO:O	3:B:211:VAL:HG23	1.79	0.81
3:J:225:LEU:HD23	3:J:225:LEU:O	1.79	0.81
3:N:40:LYS:HG3	3:N:41:TYR:H	1.44	0.81
3:B:188:ALA:HA	3:B:192:ARG:HH11	1.44	0.81
1:O:49:U:O4	1:O:117:G:H1'	1.80	0.81
3:F:288:ARG:CZ	3:F:302:PRO:HG3	2.11	0.81
3:I:331:ASN:HD22	3:I:334:TRP:HE1	1.27	0.81
3:N:188:ALA:HA	3:N:192:ARG:HH11	1.44	0.81
1:K:78:A:H2'	1:K:79:G:H8	1.46	0.81
3:F:188:ALA:HA	3:F:192:ARG:HH11	1.42	0.81
3:F:318:THR:HG22	3:F:324:LYS:HA	1.62	0.81
3:N:318:THR:HG22	3:N:324:LYS:HA	1.62	0.81
3:B:40:LYS:HG3	3:B:41:TYR:H	1.44	0.81
3:F:78:LYS:HD3	3:F:315:PRO:HA	1.61	0.81
1:K:218:G:OP1	1:K:218:G:H4'	1.79	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:J:44:LYS:HD3	3:J:190:TRP:HE1	1.46	0.80
3:B:78:LYS:HD3	3:B:315:PRO:HA	1.63	0.80
1:K:148:A:N6	1:K:232:A:H5'	1.97	0.80
3:J:288:ARG:CZ	3:J:302:PRO:HG3	2.10	0.80
3:N:44:LYS:HD3	3:N:190:TRP:HE1	1.43	0.80
3:E:359:ASN:HA	3:E:362:LYS:HE2	1.62	0.80
3:I:326:GLY:O	3:I:333:ILE:HD12	1.79	0.80
3:I:359:ASN:HA	3:I:362:LYS:HE2	1.64	0.80
3:B:44:LYS:HD3	3:B:190:TRP:HE1	1.44	0.80
3:B:225:LEU:HD23	3:B:225:LEU:O	1.81	0.80
3:M:359:ASN:HA	3:M:362:LYS:HE2	1.63	0.80
3:E:179:THR:HA	3:E:182:ARG:NH1	1.97	0.80
3:J:78:LYS:HD3	3:J:315:PRO:HA	1.63	0.80
3:N:225:LEU:O	3:N:225:LEU:HD23	1.82	0.80
3:N:288:ARG:CZ	3:N:302:PRO:HG3	2.11	0.80
2:D:1:G:H3'	2:D:1:G:OP2	1.82	0.79
1:K:49:U:O4	1:K:117:G:H1'	1.82	0.79
1:O:78:A:H2'	1:O:79:G:H8	1.44	0.79
3:B:288:ARG:CZ	3:B:302:PRO:HG3	2.11	0.79
1:C:49:U:O4	1:C:117:G:H1'	1.82	0.79
3:E:334:TRP:HB2	3:E:340:THR:OG1	1.83	0.79
1:G:158:A:H8	1:G:188:U:H3	1.27	0.79
3:J:39:PRO:HG2	3:J:42:THR:OG1	1.83	0.79
3:J:40:LYS:HG3	3:J:41:TYR:H	1.46	0.79
3:J:319:ASP:OD1	3:J:321:SER:HB3	1.83	0.79
3:A:359:ASN:HA	3:A:362:LYS:HE2	1.64	0.79
1:C:158:A:H8	1:C:188:U:H3	1.31	0.79
2:H:1:G:H3'	2:H:1:G:OP2	1.83	0.79
3:F:207:PRO:O	3:F:211:VAL:HG23	1.83	0.79
1:O:218:G:H4'	1:O:218:G:OP1	1.81	0.79
3:I:273:GLN:O	3:I:277:ILE:HG13	1.83	0.79
3:J:318:THR:HG22	3:J:324:LYS:HA	1.64	0.79
3:N:159:ALA:HA	3:N:162:ASN:HD22	1.46	0.78
1:C:78:A:H2'	1:C:79:G:H8	1.44	0.78
3:B:234:MET:HG2	3:B:240:VAL:HG12	1.66	0.78
2:P:1:G:H3'	2:P:1:G:OP2	1.83	0.78
3:B:159:ALA:HA	3:B:162:ASN:HD22	1.47	0.78
1:K:158:A:H8	1:K:188:U:H3	1.28	0.78
3:F:40:LYS:HG3	3:F:41:TYR:H	1.47	0.78
3:N:39:PRO:HG2	3:N:42:THR:OG1	1.84	0.78
1:G:78:A:H2'	1:G:79:G:H8	1.47	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:39:PRO:HG2	3:B:42:THR:OG1	1.84	0.78
1:K:224:G:H2'	1:K:225:A:O4'	1.84	0.78
3:A:44:LYS:NZ	3:A:44:LYS:HB3	1.99	0.78
3:N:234:MET:HG2	3:N:240:VAL:HG12	1.66	0.78
3:F:319:ASP:OD1	3:F:321:SER:HB3	1.84	0.78
1:G:49:U:O4	1:G:117:G:H1'	1.84	0.78
2:L:1:G:H3'	2:L:1:G:OP2	1.84	0.78
3:F:39:PRO:HG2	3:F:42:THR:OG1	1.83	0.78
3:I:334:TRP:HB2	3:I:340:THR:OG1	1.84	0.78
3:F:44:LYS:HD3	3:F:190:TRP:HE1	1.46	0.77
3:F:386:ARG:HB3	3:F:389:GLN:HB2	1.65	0.77
1:C:218:G:OP1	1:C:218:G:H4'	1.82	0.77
3:I:44:LYS:NZ	3:I:44:LYS:HB3	1.98	0.77
1:G:224:G:H2'	1:G:225:A:O4'	1.84	0.77
3:B:236:GLN:OE1	3:B:236:GLN:HA	1.83	0.77
3:E:273:GLN:O	3:E:277:ILE:HG13	1.84	0.77
1:C:149:G:C8	1:C:231:G:N2	2.53	0.77
1:O:158:A:H8	1:O:188:U:H3	1.32	0.77
1:O:224:G:H2'	1:O:225:A:O4'	1.85	0.77
3:F:236:GLN:OE1	3:F:236:GLN:HA	1.84	0.77
3:I:179:THR:HA	3:I:182:ARG:NH1	1.98	0.77
3:J:159:ALA:HA	3:J:162:ASN:HD22	1.48	0.77
3:J:207:PRO:O	3:J:211:VAL:HG23	1.84	0.77
1:K:102:G:N2	1:K:105:C:C2	2.49	0.77
3:B:415:MET:HA	3:B:415:MET:CE	2.15	0.77
1:C:31:A:H2'	1:C:32:U:H6	1.50	0.77
1:K:31:A:H2'	1:K:32:U:C6	2.20	0.77
3:E:137:SER:HA	3:E:140:LYS:HE3	1.67	0.76
3:N:415:MET:HA	3:N:415:MET:CE	2.15	0.76
1:C:224:G:H2'	1:C:225:A:O4'	1.85	0.76
1:O:149:G:C8	1:O:231:G:N2	2.53	0.76
3:F:234:MET:HG2	3:F:240:VAL:HG12	1.66	0.76
3:J:398:THR:HG23	3:J:403:LYS:HA	1.67	0.76
3:F:159:ALA:HA	3:F:162:ASN:HD22	1.47	0.76
3:J:236:GLN:OE1	3:J:236:GLN:HA	1.84	0.76
3:M:44:LYS:HB3	3:M:44:LYS:NZ	2.00	0.76
1:C:31:A:H2'	1:C:32:U:C6	2.21	0.76
3:J:386:ARG:HB3	3:J:389:GLN:HB2	1.65	0.76
3:M:334:TRP:HB2	3:M:340:THR:OG1	1.86	0.76
3:N:319:ASP:OD1	3:N:321:SER:HB3	1.85	0.76
3:B:83:THR:CB	3:B:86:HIS:HB2	2.16	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:J:76:TYR:O	3:J:314:VAL:HA	1.86	0.76
3:J:234:MET:HG2	3:J:240:VAL:HG12	1.65	0.76
3:N:236:GLN:OE1	3:N:236:GLN:HA	1.84	0.76
3:B:386:ARG:HB3	3:B:389:GLN:HB2	1.67	0.76
3:A:334:TRP:HB2	3:A:340:THR:OG1	1.86	0.76
3:B:398:THR:HG23	3:B:403:LYS:HA	1.66	0.76
3:I:94:ARG:HH22	3:I:304:THR:HG23	1.51	0.76
1:K:149:G:C8	1:K:231:G:N2	2.54	0.75
1:K:229:A:C2	1:K:230:C:C5	2.73	0.75
3:A:224:MET:HB3	3:A:245:PHE:HE2	1.51	0.75
3:E:44:LYS:HB3	3:E:44:LYS:NZ	2.00	0.75
3:F:385:LYS:O	3:F:385:LYS:HD3	1.86	0.75
3:M:224:MET:HB3	3:M:245:PHE:HE2	1.51	0.75
1:O:57:C:O2'	1:O:58:A:H5'	1.87	0.75
3:N:333:ILE:HG21	3:N:348:TYR:CD1	2.21	0.75
1:K:31:A:H2'	1:K:32:U:H6	1.49	0.75
1:O:31:A:H2'	1:O:32:U:H6	1.51	0.75
3:B:333:ILE:HG21	3:B:348:TYR:CD1	2.21	0.75
3:M:118:MET:HE2	3:M:364:PHE:HA	1.69	0.75
1:G:31:A:H2'	1:G:32:U:C6	2.21	0.75
3:M:304:THR:HG23	3:M:307:ASP:HB2	1.67	0.75
3:N:83:THR:CB	3:N:86:HIS:HB2	2.17	0.75
3:E:94:ARG:HH22	3:E:304:THR:HG23	1.49	0.75
3:F:415:MET:HA	3:F:415:MET:CE	2.16	0.75
1:C:132:A:N6	1:G:135:G:O2'	2.19	0.75
3:A:304:THR:HG23	3:A:307:ASP:HB2	1.68	0.75
3:J:385:LYS:O	3:J:385:LYS:HD3	1.87	0.75
3:N:386:ARG:HB2	3:N:386:ARG:NH1	2.01	0.75
1:G:149:G:C8	1:G:231:G:N2	2.54	0.75
3:B:319:ASP:OD1	3:B:321:SER:HB3	1.85	0.75
3:J:353:SER:HB2	3:J:356:GLU:HB2	1.68	0.75
3:N:360:LEU:HB3	3:N:392:LEU:HD21	1.67	0.75
1:O:31:A:H2'	1:O:32:U:C6	2.22	0.75
3:F:350:VAL:HG13	3:F:351:ARG:HG3	1.69	0.75
3:M:240:VAL:HG23	3:M:244:GLU:HB2	1.69	0.75
3:B:360:LEU:HB3	3:B:392:LEU:HD21	1.68	0.75
3:M:179:THR:HA	3:M:182:ARG:NH1	2.01	0.75
3:N:40:LYS:HG3	3:N:41:TYR:N	2.01	0.75
3:N:350:VAL:HG13	3:N:351:ARG:HG3	1.69	0.75
3:B:40:LYS:HG3	3:B:41:TYR:N	2.01	0.74
3:B:122:TRP:CZ2	3:B:366:PHE:HA	2.22	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:E:208:MET:HE2	3:F:208:MET:SD	2.26	0.74
3:F:333:ILE:HG21	3:F:348:TYR:CD1	2.22	0.74
3:F:353:SER:HB2	3:F:356:GLU:HB2	1.68	0.74
1:O:60:C:N4	1:O:79:G:H1	1.85	0.74
3:B:350:VAL:HG13	3:B:351:ARG:HG3	1.69	0.74
3:J:122:TRP:CZ2	3:J:366:PHE:HA	2.22	0.74
3:N:76:TYR:O	3:N:314:VAL:HA	1.87	0.74
3:N:122:TRP:CZ2	3:N:366:PHE:HA	2.22	0.74
1:C:57:C:O2'	1:C:58:A:H5'	1.88	0.74
3:A:118:MET:HE2	3:A:364:PHE:HA	1.70	0.74
3:A:240:VAL:HG23	3:A:244:GLU:HB2	1.69	0.74
3:F:398:THR:HG23	3:F:403:LYS:HA	1.68	0.74
3:N:386:ARG:HB3	3:N:389:GLN:HB2	1.69	0.74
3:F:76:TYR:O	3:F:314:VAL:HA	1.86	0.74
3:I:208:MET:HE2	3:J:208:MET:SD	2.28	0.74
3:A:179:THR:HA	3:A:182:ARG:NH1	2.02	0.74
3:M:137:SER:HA	3:M:140:LYS:HE3	1.70	0.74
1:G:229:A:C2	1:G:230:C:C5	2.74	0.74
3:A:137:SER:HA	3:A:140:LYS:HE3	1.70	0.74
3:B:353:SER:HB2	3:B:356:GLU:HB2	1.69	0.74
3:F:180:GLN:O	3:F:183:ALA:HB3	1.88	0.74
1:G:126:A:H1'	1:G:158:A:C2	2.23	0.74
3:F:360:LEU:HB3	3:F:392:LEU:HD21	1.68	0.74
3:J:415:MET:HA	3:J:415:MET:CE	2.17	0.74
3:I:118:MET:HE2	3:I:364:PHE:HA	1.68	0.74
3:I:304:THR:HG23	3:I:307:ASP:HB2	1.69	0.74
3:J:350:VAL:HG13	3:J:351:ARG:HG3	1.70	0.74
3:N:398:THR:HG23	3:N:403:LYS:HA	1.68	0.74
1:G:31:A:H2'	1:G:32:U:H6	1.51	0.74
3:A:94:ARG:HH22	3:A:304:THR:HG23	1.53	0.74
3:A:273:GLN:O	3:A:277:ILE:HG13	1.86	0.74
3:B:76:TYR:O	3:B:314:VAL:HA	1.88	0.74
3:B:386:ARG:NH1	3:B:386:ARG:HB2	2.03	0.74
1:G:212:A:H1'	3:F:295:GLN:NE2	2.02	0.73
3:M:94:ARG:HH22	3:M:304:THR:HG23	1.53	0.73
1:O:126:A:H1'	1:O:158:A:C2	2.23	0.73
3:A:259:PHE:HA	3:A:264:VAL:H	1.53	0.73
3:E:127:GLY:HA2	3:E:192:ARG:HG3	1.70	0.73
3:F:122:TRP:CZ2	3:F:366:PHE:HA	2.24	0.73
1:C:60:C:N4	1:C:79:G:H1	1.86	0.73
1:C:126:A:H1'	1:C:158:A:C2	2.23	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:J:386:ARG:NH1	3:J:386:ARG:HB2	2.03	0.73
3:F:386:ARG:HB2	3:F:386:ARG:NH1	2.04	0.73
3:J:333:ILE:HG21	3:J:348:TYR:CD1	2.23	0.73
1:K:57:C:O2'	1:K:58:A:H5'	1.88	0.73
3:E:304:THR:HG23	3:E:307:ASP:HB2	1.68	0.73
3:I:137:SER:HA	3:I:140:LYS:HE3	1.69	0.73
3:I:224:MET:HB3	3:I:245:PHE:HE2	1.53	0.73
3:M:392:LEU:HD23	3:M:392:LEU:C	2.13	0.73
3:E:224:MET:HB3	3:E:245:PHE:HE2	1.52	0.73
3:J:39:PRO:O	3:J:42:THR:HB	1.88	0.73
1:G:57:C:O2'	1:G:58:A:H5'	1.88	0.73
1:G:143:G:H1'	1:G:191:U:O2'	1.88	0.73
1:K:60:C:N4	1:K:79:G:H1	1.87	0.73
1:K:212:A:H1'	3:J:295:GLN:NE2	2.03	0.73
1:O:149:G:H21	1:O:150:U:H1'	1.54	0.73
3:F:40:LYS:HG3	3:F:41:TYR:N	2.04	0.73
3:J:40:LYS:HG3	3:J:41:TYR:N	2.03	0.73
3:J:360:LEU:HB3	3:J:392:LEU:HD21	1.69	0.72
1:G:149:G:H21	1:G:150:U:H1'	1.53	0.72
3:M:382:ASP:OD2	3:M:385:LYS:HG2	1.89	0.72
1:C:149:G:H21	1:C:150:U:H1'	1.55	0.72
3:N:353:SER:HB2	3:N:356:GLU:HB2	1.70	0.72
1:C:212:A:H1'	3:B:295:GLN:NE2	2.04	0.72
3:A:127:GLY:HA2	3:A:192:ARG:HG3	1.72	0.72
3:A:392:LEU:HD23	3:A:392:LEU:C	2.14	0.72
3:E:392:LEU:HD23	3:E:392:LEU:C	2.14	0.72
3:F:83:THR:CB	3:F:86:HIS:HB2	2.20	0.72
3:F:400:VAL:O	3:F:400:VAL:HG12	1.90	0.72
3:F:39:PRO:O	3:F:42:THR:HB	1.90	0.72
3:I:259:PHE:HA	3:I:264:VAL:H	1.53	0.72
3:M:259:PHE:HA	3:M:264:VAL:H	1.54	0.72
3:N:385:LYS:O	3:N:385:LYS:HD3	1.88	0.72
1:G:105:C:OP2	1:G:105:C:H6	1.73	0.72
1:K:149:G:H21	1:K:150:U:H1'	1.54	0.72
3:E:259:PHE:HA	3:E:264:VAL:H	1.54	0.72
1:G:60:C:N4	1:G:79:G:H1	1.88	0.72
1:K:143:G:H1'	1:K:191:U:O2'	1.90	0.72
3:A:209:LEU:HD12	3:B:203:TRP:HB3	1.72	0.72
3:B:385:LYS:O	3:B:385:LYS:HD3	1.88	0.72
3:J:356:GLU:HB3	3:J:360:LEU:HD12	1.72	0.72
3:N:351:ARG:O	3:N:352:ARG:HG2	1.89	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:24:A:H2'	1:C:25:A:C8	2.25	0.72
1:G:159:A:H1'	1:G:185:A:H61	1.55	0.72
1:G:199:U:O4	1:G:214:A:N1	2.23	0.72
3:E:240:VAL:HG23	3:E:244:GLU:HB2	1.70	0.72
3:I:111:VAL:HA	3:I:114:LEU:CD1	2.19	0.72
3:I:240:VAL:HG23	3:I:244:GLU:HB2	1.70	0.72
3:I:392:LEU:HD23	3:I:392:LEU:C	2.15	0.72
3:N:198:ASN:O	3:N:201:HIS:HB2	1.90	0.72
1:C:199:U:O4	1:C:214:A:N1	2.23	0.71
1:O:57:C:C2'	1:O:58:A:H5'	2.19	0.71
1:O:199:U:O4	1:O:214:A:N1	2.23	0.71
3:J:180:GLN:O	3:J:183:ALA:HB3	1.90	0.71
1:K:24:A:H2'	1:K:25:A:C8	2.25	0.71
3:A:111:VAL:HA	3:A:114:LEU:CD1	2.20	0.71
3:A:221:ILE:HD11	3:B:234:MET:HE3	1.71	0.71
3:I:171:LYS:O	3:I:175:GLU:HG3	1.90	0.71
3:J:83:THR:CB	3:J:86:HIS:HB2	2.20	0.71
3:E:82:GLY:O	3:E:87:ILE:HD11	1.90	0.71
3:F:356:GLU:HB3	3:F:360:LEU:HD12	1.72	0.71
3:M:221:ILE:HD11	3:N:234:MET:HE3	1.70	0.71
1:C:57:C:C2'	1:C:58:A:H5'	2.20	0.71
1:K:57:C:O2	1:K:57:C:H2'	1.90	0.71
3:A:137:SER:HB3	3:B:209:LEU:HD21	1.72	0.71
3:A:208:MET:HE2	3:B:208:MET:SD	2.30	0.71
1:K:57:C:C2'	1:K:58:A:H5'	2.21	0.71
1:O:24:A:H2'	1:O:25:A:C8	2.26	0.71
1:O:56:A:C2'	1:O:57:C:H5'	2.21	0.71
3:B:198:ASN:O	3:B:201:HIS:HB2	1.90	0.71
3:E:111:VAL:HA	3:E:114:LEU:CD1	2.20	0.71
3:M:127:GLY:HA2	3:M:192:ARG:HG3	1.73	0.71
3:M:273:GLN:O	3:M:277:ILE:HG13	1.89	0.71
1:C:229:A:C2	1:C:230:C:C5	2.74	0.71
3:B:42:THR:O	3:B:45:ILE:HG22	1.91	0.71
3:N:273:GLN:O	3:N:277:ILE:HG13	1.91	0.71
1:O:159:A:H1'	1:O:185:A:H61	1.55	0.71
3:A:142:GLY:O	3:A:144:PRO:HD3	1.90	0.71
3:A:197:VAL:HG12	3:A:198:ASN:H	1.54	0.71
3:M:137:SER:HB3	3:N:209:LEU:HD21	1.72	0.71
3:M:220:ARG:HE	3:N:240:VAL:H	1.38	0.71
3:F:214:ARG:O	3:F:215:VAL:HG13	1.91	0.71
1:C:105:C:H2'	1:C:106:G:H5'	1.73	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:199:U:O4	1:K:214:A:N1	2.23	0.71
3:B:351:ARG:O	3:B:352:ARG:HG2	1.90	0.71
1:C:56:A:C2'	1:C:57:C:H5'	2.21	0.70
1:G:158:A:H8	1:G:188:U:N3	1.88	0.70
1:C:159:A:H1'	1:C:185:A:H61	1.55	0.70
1:O:105:C:H2'	1:O:106:G:H5'	1.73	0.70
3:A:111:VAL:HA	3:A:114:LEU:HD12	1.73	0.70
3:A:197:VAL:HG12	3:A:198:ASN:N	2.06	0.70
3:E:290:SER:O	3:E:292:PRO:HD3	1.91	0.70
3:M:111:VAL:HA	3:M:114:LEU:CD1	2.21	0.70
1:C:90:G:H1	1:C:116:U:H3	1.38	0.70
3:A:382:ASP:OD2	3:A:385:LYS:HG2	1.92	0.70
3:J:351:ARG:O	3:J:352:ARG:HG2	1.90	0.70
1:G:105:C:OP2	1:G:105:C:C6	2.45	0.70
3:E:319:ASP:OD2	3:E:323:ALA:HB3	1.91	0.70
3:I:44:LYS:HB3	3:I:44:LYS:HZ2	1.53	0.70
1:G:83:A:H2'	1:G:84:U:H5'	1.74	0.70
1:O:229:A:C2	1:O:230:C:C5	2.74	0.70
3:E:209:LEU:HD12	3:F:203:TRP:HB3	1.74	0.70
3:I:127:GLY:HA2	3:I:192:ARG:HG3	1.72	0.70
3:I:209:LEU:HD12	3:J:203:TRP:HB3	1.72	0.70
1:G:24:A:H2'	1:G:25:A:C8	2.25	0.70
1:K:126:A:H1'	1:K:158:A:C2	2.25	0.70
3:A:204:ASN:HA	3:B:209:LEU:HD12	1.72	0.70
3:F:367:MET:HE2	3:F:372:ILE:HG13	1.72	0.70
3:J:367:MET:HE2	3:J:372:ILE:HG13	1.73	0.70
3:N:39:PRO:O	3:N:42:THR:HB	1.92	0.70
3:A:319:ASP:OD2	3:A:323:ALA:HB3	1.89	0.70
3:F:198:ASN:O	3:F:201:HIS:HB2	1.92	0.70
3:I:319:ASP:OD2	3:I:323:ALA:HB3	1.91	0.70
3:M:142:GLY:O	3:M:144:PRO:HD3	1.91	0.70
3:M:290:SER:O	3:M:292:PRO:HD3	1.92	0.70
3:N:42:THR:O	3:N:45:ILE:HG22	1.92	0.70
1:G:203:U:H2'	1:G:204:G:H8	1.57	0.70
1:K:158:A:H8	1:K:188:U:N3	1.89	0.70
3:E:118:MET:HE2	3:E:364:PHE:HA	1.71	0.70
3:M:171:LYS:O	3:M:175:GLU:HG3	1.91	0.70
1:G:57:C:C2'	1:G:58:A:H5'	2.22	0.70
1:O:57:C:O2	1:O:57:C:H2'	1.90	0.70
1:O:143:G:H1'	1:O:191:U:O2'	1.91	0.70
3:B:39:PRO:O	3:B:42:THR:HB	1.92	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:180:GLN:O	3:B:183:ALA:HB3	1.92	0.70
3:A:290:SER:O	3:A:292:PRO:HD3	1.92	0.70
3:I:220:ARG:HE	3:J:240:VAL:H	1.39	0.70
1:C:143:G:H1'	1:C:191:U:O2'	1.91	0.69
3:E:142:GLY:O	3:E:144:PRO:HD3	1.91	0.69
3:F:351:ARG:O	3:F:352:ARG:HG2	1.92	0.69
3:I:305:ALA:O	3:I:308:GLU:HG2	1.92	0.69
1:K:159:A:H1'	1:K:185:A:H61	1.56	0.69
3:I:142:GLY:O	3:I:144:PRO:HD3	1.92	0.69
3:I:290:SER:O	3:I:292:PRO:HD3	1.91	0.69
3:M:197:VAL:HG12	3:M:198:ASN:H	1.56	0.69
1:K:35:A:H2'	1:K:35:A:N3	2.08	0.69
3:B:367:MET:HE2	3:B:372:ILE:HG13	1.73	0.69
3:M:319:ASP:OD2	3:M:323:ALA:HB3	1.90	0.69
3:N:180:GLN:O	3:N:183:ALA:HB3	1.93	0.69
3:N:214:ARG:O	3:N:215:VAL:HG13	1.91	0.69
3:M:82:GLY:O	3:M:87:ILE:HD11	1.93	0.69
1:G:105:C:H2'	1:G:106:G:H5'	1.74	0.69
1:O:105:C:OP2	1:O:105:C:H6	1.74	0.69
3:E:350:VAL:HG22	3:E:386:ARG:NH2	2.07	0.69
3:I:350:VAL:HG22	3:I:386:ARG:NH2	2.07	0.69
3:J:214:ARG:O	3:J:215:VAL:HG13	1.92	0.69
1:O:90:G:H1	1:O:116:U:H3	1.39	0.69
3:E:326:GLY:C	3:E:333:ILE:HD12	2.18	0.69
3:M:209:LEU:HD12	3:N:203:TRP:HB3	1.74	0.69
1:C:57:C:O2	1:C:57:C:H2'	1.92	0.69
1:O:83:A:H2'	1:O:84:U:H5'	1.75	0.69
1:O:212:A:H1'	3:N:295:GLN:NE2	2.08	0.69
3:I:59:ILE:HB	3:I:92:ARG:HG3	1.74	0.69
3:I:317:LEU:C	3:I:325:PHE:HB2	2.18	0.69
3:M:197:VAL:HG12	3:M:198:ASN:N	2.08	0.69
3:N:356:GLU:HB3	3:N:360:LEU:HD12	1.72	0.69
1:G:90:G:H1	1:G:116:U:H3	1.40	0.69
1:K:212:A:H1'	3:J:295:GLN:HE22	1.57	0.69
3:B:356:GLU:HB3	3:B:360:LEU:HD12	1.73	0.69
3:E:171:LYS:O	3:E:175:GLU:HG3	1.92	0.69
1:C:105:C:OP2	1:C:105:C:H6	1.75	0.69
3:A:59:ILE:HB	3:A:92:ARG:HG3	1.75	0.69
3:B:273:GLN:O	3:B:277:ILE:HG13	1.93	0.69
3:J:198:ASN:O	3:J:201:HIS:HB2	1.93	0.69
3:M:111:VAL:HA	3:M:114:LEU:HD12	1.75	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:158:A:H8	1:C:188:U:N3	1.91	0.68
1:G:57:C:O2	1:G:57:C:H2'	1.91	0.68
3:B:214:ARG:O	3:B:215:VAL:HG13	1.92	0.68
3:F:273:GLN:O	3:F:277:ILE:HG13	1.93	0.68
3:I:137:SER:HB3	3:J:209:LEU:HD21	1.74	0.68
3:I:197:VAL:HG12	3:I:198:ASN:H	1.59	0.68
3:M:317:LEU:C	3:M:325:PHE:HB2	2.18	0.68
3:M:331:ASN:ND2	3:M:334:TRP:HE1	1.89	0.68
1:C:35:A:H2'	1:C:35:A:N3	2.07	0.68
3:F:319:ASP:C	3:F:321:SER:H	2.02	0.68
3:M:59:ILE:HB	3:M:92:ARG:HG3	1.75	0.68
1:K:83:A:H2'	1:K:84:U:H5'	1.74	0.68
3:E:197:VAL:HG12	3:E:198:ASN:H	1.57	0.68
1:O:105:C:OP2	1:O:105:C:C6	2.46	0.68
3:A:141:ILE:HD12	3:A:243:ALA:CB	2.23	0.68
3:A:220:ARG:HE	3:B:240:VAL:H	1.41	0.68
3:I:259:PHE:HE1	3:I:288:ARG:NE	1.91	0.68
3:I:324:LYS:HB3	3:I:324:LYS:NZ	2.08	0.68
1:G:35:A:N3	1:G:35:A:H2'	2.08	0.68
1:K:90:G:H1	1:K:116:U:H3	1.40	0.68
1:O:35:A:N3	1:O:35:A:H2'	2.07	0.68
1:O:158:A:H8	1:O:188:U:N3	1.91	0.68
3:A:171:LYS:O	3:A:175:GLU:HG3	1.93	0.68
3:I:82:GLY:O	3:I:87:ILE:HD11	1.92	0.68
3:J:400:VAL:O	3:J:400:VAL:HG12	1.93	0.68
1:C:148:A:H62	1:C:232:A:H5'	1.59	0.68
1:G:102:G:H2'	1:G:103:G:C8	2.29	0.68
3:I:382:ASP:OD2	3:I:385:LYS:HG2	1.94	0.68
3:J:232:ASN:C	3:J:234:MET:H	2.02	0.68
3:M:83:THR:OG1	3:M:86:HIS:HB3	1.94	0.68
1:C:105:C:OP2	1:C:105:C:C6	2.46	0.68
1:O:148:A:H62	1:O:232:A:H5'	1.59	0.68
3:I:111:VAL:HA	3:I:114:LEU:HD12	1.75	0.68
3:I:204:ASN:HA	3:J:209:LEU:HD12	1.76	0.68
3:N:357:VAL:HG21	3:N:388:ALA:CB	2.23	0.68
3:A:82:GLY:O	3:A:87:ILE:HD11	1.94	0.68
3:A:331:ASN:ND2	3:A:334:TRP:HE1	1.90	0.68
3:E:83:THR:OG1	3:E:86:HIS:HB3	1.94	0.68
3:E:111:VAL:HA	3:E:114:LEU:HD12	1.76	0.68
3:E:305:ALA:O	3:E:308:GLU:HG2	1.93	0.68
3:F:232:ASN:C	3:F:234:MET:H	2.02	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:N:367:MET:HE2	3:N:372:ILE:HG13	1.74	0.68
3:M:204:ASN:HA	3:N:209:LEU:HD12	1.75	0.68
3:M:259:PHE:HE1	3:M:288:ARG:NE	1.92	0.68
3:M:305:ALA:O	3:M:308:GLU:HG2	1.93	0.68
1:K:105:C:H2'	1:K:106:G:H5'	1.75	0.67
1:O:102:G:H2'	1:O:103:G:C8	2.28	0.67
3:M:350:VAL:HG22	3:M:386:ARG:NH2	2.08	0.67
1:C:83:A:H2'	1:C:84:U:H5'	1.76	0.67
3:A:350:VAL:HG22	3:A:386:ARG:NH2	2.08	0.67
3:E:317:LEU:C	3:E:325:PHE:HB2	2.18	0.67
3:M:141:ILE:HD12	3:M:243:ALA:CB	2.23	0.67
3:N:400:VAL:O	3:N:400:VAL:HG12	1.94	0.67
1:G:204:G:H1	1:G:209:C:H42	1.43	0.67
1:K:56:A:C2'	1:K:57:C:H5'	2.21	0.67
3:E:204:ASN:HA	3:F:209:LEU:HD12	1.77	0.67
3:N:232:ASN:C	3:N:234:MET:H	2.02	0.67
1:G:56:A:C2'	1:G:57:C:H5'	2.23	0.67
1:K:149:G:O6	1:K:229:A:N6	2.27	0.67
3:B:357:VAL:HG21	3:B:388:ALA:CB	2.24	0.67
3:E:220:ARG:HE	3:F:240:VAL:H	1.41	0.67
3:F:96:ILE:HD12	3:F:97:GLY:N	2.10	0.67
3:I:415:MET:O	3:I:416:MET:HB2	1.94	0.67
1:G:212:A:H1'	3:F:295:GLN:HE22	1.57	0.67
3:A:317:LEU:C	3:A:325:PHE:HB2	2.19	0.67
3:B:166:ILE:HA	3:B:169:GLN:HE21	1.59	0.67
3:E:59:ILE:HB	3:E:92:ARG:HG3	1.74	0.67
3:E:197:VAL:HG12	3:E:198:ASN:N	2.10	0.67
3:E:222:GLY:C	3:E:224:MET:H	2.03	0.67
3:F:357:VAL:HG21	3:F:388:ALA:CB	2.25	0.67
3:F:390:HIS:CE1	3:F:410:GLU:HG3	2.30	0.67
3:M:324:LYS:NZ	3:M:324:LYS:HB3	2.10	0.67
1:K:203:U:H2'	1:K:204:G:H8	1.58	0.67
3:A:305:ALA:O	3:A:308:GLU:HG2	1.94	0.67
3:E:331:ASN:ND2	3:E:334:TRP:HE1	1.92	0.67
3:E:382:ASP:OD2	3:E:385:LYS:HG2	1.93	0.67
3:J:273:GLN:O	3:J:277:ILE:HG13	1.95	0.67
3:J:319:ASP:C	3:J:321:SER:H	2.01	0.67
1:C:102:G:H2'	1:C:103:G:C8	2.29	0.67
3:A:324:LYS:HB3	3:A:324:LYS:NZ	2.10	0.67
3:B:392:LEU:O	3:B:392:LEU:HD12	1.94	0.67
3:J:42:THR:O	3:J:45:ILE:HG22	1.95	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:J:357:VAL:HG21	3:J:388:ALA:CB	2.25	0.67
3:M:208:MET:HE2	3:N:208:MET:SD	2.35	0.67
1:C:149:G:O6	1:C:229:A:N6	2.28	0.67
3:E:324:LYS:NZ	3:E:324:LYS:HB3	2.09	0.67
3:J:96:ILE:HD12	3:J:97:GLY:N	2.10	0.67
3:M:222:GLY:C	3:M:224:MET:H	2.03	0.67
3:B:369:ILE:HD13	3:B:370:SER:H	1.58	0.67
3:E:179:THR:HA	3:E:182:ARG:HH12	1.57	0.67
3:M:109:LEU:HD11	3:M:166:ILE:HG23	1.77	0.67
3:N:166:ILE:HA	3:N:169:GLN:HE21	1.60	0.67
3:E:301:THR:O	3:E:303:LYS:HG3	1.95	0.66
3:I:207:PRO:HA	3:J:206:GLN:O	1.95	0.66
3:I:241:SER:HA	3:J:219:LEU:O	1.95	0.66
3:J:166:ILE:HA	3:J:169:GLN:HE21	1.60	0.66
1:O:149:G:O6	1:O:229:A:N6	2.29	0.66
3:B:390:HIS:CE1	3:B:410:GLU:HG3	2.30	0.66
3:E:259:PHE:HE1	3:E:288:ARG:NE	1.92	0.66
3:F:294:PRO:HG2	3:F:295:GLN:H	1.60	0.66
3:I:141:ILE:HD12	3:I:243:ALA:CB	2.24	0.66
3:J:390:HIS:CE1	3:J:410:GLU:HG3	2.29	0.66
3:N:122:TRP:HZ2	3:N:366:PHE:HA	1.59	0.66
3:N:159:ALA:O	3:N:162:ASN:HB2	1.95	0.66
3:N:378:GLU:HB3	3:N:387:VAL:HG11	1.77	0.66
3:N:390:HIS:CE1	3:N:410:GLU:HG3	2.30	0.66
1:K:149:G:H21	1:K:150:U:C1'	2.08	0.66
3:B:232:ASN:C	3:B:234:MET:H	2.03	0.66
3:F:386:ARG:HH12	3:F:390:HIS:CD2	2.14	0.66
3:M:326:GLY:C	3:M:333:ILE:HD12	2.18	0.66
3:N:178:ASP:O	3:N:181:MET:HB3	1.95	0.66
3:A:259:PHE:HE1	3:A:288:ARG:NE	1.94	0.66
3:F:122:TRP:HZ2	3:F:366:PHE:HA	1.61	0.66
3:I:301:THR:O	3:I:303:LYS:HG3	1.95	0.66
3:M:301:THR:O	3:M:303:LYS:HG3	1.94	0.66
1:C:203:U:H2'	1:C:204:G:H8	1.59	0.66
1:O:203:U:H2'	1:O:204:G:H8	1.59	0.66
3:B:122:TRP:HZ2	3:B:366:PHE:HA	1.60	0.66
3:B:378:GLU:HB3	3:B:387:VAL:HG11	1.78	0.66
3:E:258:LEU:HB3	3:E:264:VAL:HG21	1.76	0.66
3:E:398:THR:O	3:E:402:GLY:N	2.27	0.66
3:I:61:LYS:HZ3	3:I:63:LYS:HD2	1.61	0.66
3:I:179:THR:HA	3:I:182:ARG:HH12	1.58	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:102:G:H1	1:K:105:C:N4	1.93	0.66
3:A:222:GLY:C	3:A:224:MET:H	2.04	0.66
3:B:400:VAL:O	3:B:400:VAL:HG12	1.95	0.66
3:E:61:LYS:HZ3	3:E:63:LYS:HD2	1.60	0.66
3:I:197:VAL:HG12	3:I:198:ASN:N	2.10	0.66
3:F:42:THR:O	3:F:45:ILE:HG22	1.96	0.66
3:J:392:LEU:O	3:J:392:LEU:HD12	1.95	0.66
3:N:294:PRO:HG2	3:N:295:GLN:H	1.61	0.66
1:G:149:G:H21	1:G:150:U:C1'	2.08	0.66
3:M:241:SER:HA	3:N:219:LEU:O	1.95	0.66
1:G:214:A:O2'	1:G:215:G:H5'	1.95	0.66
3:E:44:LYS:HB3	3:E:44:LYS:HZ2	1.60	0.66
3:E:137:SER:HB3	3:F:209:LEU:HD21	1.76	0.66
3:F:166:ILE:HA	3:F:169:GLN:HE21	1.59	0.66
3:I:222:GLY:C	3:I:224:MET:H	2.04	0.66
3:M:133:LEU:HD12	3:M:197:VAL:HB	1.78	0.66
3:B:158:ASP:CG	3:B:159:ALA:H	2.03	0.65
3:B:266:MET:HA	3:B:310:VAL:O	1.96	0.65
3:E:79:ASP:HB3	3:E:274:TYR:CE1	2.31	0.65
3:J:369:ILE:HD13	3:J:370:SER:H	1.61	0.65
3:M:79:ASP:HB3	3:M:274:TYR:CE1	2.31	0.65
3:N:392:LEU:HD12	3:N:392:LEU:O	1.95	0.65
1:C:149:G:H21	1:C:150:U:C1'	2.09	0.65
1:K:204:G:H1	1:K:209:C:H42	1.43	0.65
1:O:149:G:H21	1:O:150:U:C1'	2.09	0.65
1:O:228:A:C2	1:O:229:A:C8	2.84	0.65
3:A:79:ASP:HB3	3:A:274:TYR:CE1	2.31	0.65
3:A:326:GLY:C	3:A:333:ILE:HD12	2.19	0.65
3:J:213:ARG:HG3	3:J:217:HIS:CD2	2.30	0.65
3:M:179:THR:HA	3:M:182:ARG:HH12	1.61	0.65
3:M:324:LYS:HB3	3:M:324:LYS:HZ3	1.62	0.65
1:C:159:A:O2'	1:C:160:U:OP1	2.13	0.65
1:K:36:A:H2'	1:K:37:A:O4'	1.96	0.65
1:K:188:U:H2'	1:K:189:A:H8	1.61	0.65
3:E:61:LYS:HZ3	3:E:63:LYS:CD	2.09	0.65
3:J:158:ASP:CG	3:J:159:ALA:H	2.03	0.65
1:G:142:G:H1	1:G:155:C:H42	1.43	0.65
1:G:149:G:O6	1:G:229:A:N6	2.28	0.65
3:A:83:THR:OG1	3:A:86:HIS:HB3	1.97	0.65
3:A:301:THR:O	3:A:303:LYS:HG3	1.96	0.65
3:B:294:PRO:HG2	3:B:295:GLN:H	1.61	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:I:380:ILE:HD12	3:I:381:LYS:HG3	1.79	0.65
3:M:258:LEU:HB3	3:M:264:VAL:HG21	1.79	0.65
3:M:415:MET:O	3:M:416:MET:HB2	1.96	0.65
3:N:96:ILE:HD12	3:N:97:GLY:N	2.11	0.65
1:G:14:U:H1'	1:G:34:G:N2	2.11	0.65
1:K:214:A:O2'	1:K:215:G:H5'	1.96	0.65
3:E:141:ILE:HD12	3:E:243:ALA:CB	2.23	0.65
3:E:207:PRO:HA	3:F:206:GLN:O	1.96	0.65
3:E:380:ILE:HD12	3:E:381:LYS:HG3	1.78	0.65
3:I:326:GLY:C	3:I:333:ILE:HD12	2.21	0.65
3:N:369:ILE:HD13	3:N:370:SER:H	1.60	0.65
1:C:151:G:O2'	1:C:152:A:H5'	1.96	0.65
3:B:96:ILE:HD12	3:B:97:GLY:N	2.11	0.65
3:F:392:LEU:HD12	3:F:392:LEU:O	1.96	0.65
3:M:130:ALA:O	3:M:131:PHE:CD2	2.50	0.65
1:K:148:A:H62	1:K:232:A:H5'	1.62	0.65
3:A:324:LYS:HB3	3:A:324:LYS:HZ3	1.62	0.65
3:E:397:VAL:HG12	3:E:406:ALA:HB2	1.78	0.65
3:F:96:ILE:HD12	3:F:96:ILE:C	2.22	0.65
3:M:380:ILE:HD12	3:M:381:LYS:HG3	1.79	0.65
3:B:159:ALA:O	3:B:162:ASN:HB2	1.97	0.65
3:B:319:ASP:C	3:B:321:SER:H	2.03	0.65
3:E:49:GLU:O	3:E:53:GLN:HG2	1.96	0.65
3:F:369:ILE:HD13	3:F:370:SER:H	1.60	0.65
3:I:398:THR:O	3:I:402:GLY:N	2.29	0.65
3:N:158:ASP:CG	3:N:159:ALA:H	2.03	0.65
3:N:266:MET:HA	3:N:310:VAL:O	1.97	0.65
1:O:151:G:O2'	1:O:152:A:H5'	1.96	0.65
3:A:415:MET:O	3:A:416:MET:HB2	1.96	0.65
3:E:98:ALA:HB2	3:E:266:MET:HB3	1.79	0.65
3:I:61:LYS:HZ3	3:I:63:LYS:CD	2.10	0.65
3:I:83:THR:OG1	3:I:86:HIS:HB3	1.96	0.65
3:I:397:VAL:HG12	3:I:406:ALA:HB2	1.79	0.65
3:N:319:ASP:C	3:N:321:SER:H	2.04	0.65
3:N:357:VAL:HG21	3:N:388:ALA:HB1	1.79	0.65
3:A:49:GLU:O	3:A:53:GLN:HG2	1.96	0.65
3:A:130:ALA:O	3:A:131:PHE:CD2	2.50	0.65
3:F:97:GLY:HA2	3:F:129:LYS:O	1.97	0.65
3:I:181:MET:O	3:I:186:TYR:HB2	1.97	0.65
3:M:181:MET:O	3:M:186:TYR:HB2	1.97	0.65
3:A:380:ILE:HD12	3:A:381:LYS:HG3	1.79	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:E:326:GLY:O	3:E:332:ALA:HB1	1.96	0.64
3:F:159:ALA:O	3:F:162:ASN:HB2	1.97	0.64
3:I:49:GLU:O	3:I:53:GLN:HG2	1.98	0.64
3:I:98:ALA:HB2	3:I:266:MET:HB3	1.79	0.64
3:J:122:TRP:HZ2	3:J:366:PHE:HA	1.59	0.64
3:M:49:GLU:O	3:M:53:GLN:HG2	1.96	0.64
3:M:207:PRO:HA	3:N:206:GLN:O	1.97	0.64
1:O:36:A:H2'	1:O:37:A:O4'	1.97	0.64
3:A:258:LEU:HB3	3:A:264:VAL:HG21	1.79	0.64
3:B:355:GLN:OE1	3:B:356:GLU:HG3	1.97	0.64
3:E:123:MET:O	3:E:128:TYR:HD1	1.79	0.64
3:E:335:LEU:CD2	3:E:400:VAL:HG11	2.26	0.64
3:J:357:VAL:HG21	3:J:388:ALA:HB1	1.79	0.64
1:G:227:U:H1'	1:G:229:A:C2	2.33	0.64
3:B:357:VAL:HG21	3:B:388:ALA:HB1	1.79	0.64
3:E:133:LEU:HD12	3:E:197:VAL:HB	1.80	0.64
3:F:357:VAL:HG13	3:F:358:GLU:N	2.12	0.64
3:I:183:ALA:C	3:I:185:GLY:H	2.05	0.64
1:C:204:G:H1	1:C:209:C:H42	1.44	0.64
1:C:214:A:O2'	1:C:215:G:H5'	1.97	0.64
1:K:14:U:H1'	1:K:34:G:N2	2.12	0.64
1:K:102:G:H2'	1:K:103:G:C8	2.33	0.64
3:J:96:ILE:HD12	3:J:96:ILE:C	2.23	0.64
3:N:355:GLN:OE1	3:N:356:GLU:HG3	1.98	0.64
1:C:247:U:H2'	1:C:248:A:C4	2.33	0.64
1:G:36:A:H2'	1:G:37:A:O4'	1.97	0.64
1:G:188:U:H2'	1:G:189:A:H8	1.61	0.64
1:O:227:U:H1'	1:O:229:A:C2	2.32	0.64
3:A:179:THR:HA	3:A:182:ARG:HH12	1.62	0.64
3:A:207:PRO:HA	3:B:206:GLN:O	1.97	0.64
3:E:183:ALA:C	3:E:185:GLY:H	2.06	0.64
3:J:386:ARG:HH12	3:J:390:HIS:CD2	2.15	0.64
3:M:98:ALA:HB2	3:M:266:MET:HB3	1.78	0.64
3:N:347:GLY:HA3	3:N:351:ARG:HH12	1.62	0.64
1:C:212:A:H1'	3:B:295:GLN:HE22	1.60	0.64
3:B:96:ILE:HD12	3:B:96:ILE:C	2.22	0.64
3:F:355:GLN:OE1	3:F:356:GLU:HG3	1.98	0.64
3:I:79:ASP:HB3	3:I:274:TYR:CE1	2.33	0.64
3:I:109:LEU:HD11	3:I:166:ILE:HG23	1.78	0.64
1:C:36:A:H2'	1:C:37:A:O4'	1.97	0.64
1:O:247:U:H2'	1:O:248:A:C4	2.33	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:347:GLY:HA3	3:B:351:ARG:HH12	1.62	0.64
3:M:183:ALA:C	3:M:185:GLY:H	2.06	0.64
1:C:227:U:H1'	1:C:229:A:C2	2.32	0.64
3:A:44:LYS:HB3	3:A:44:LYS:HZ2	1.60	0.64
3:I:73:GLU:HG2	3:I:369:ILE:HG13	1.80	0.64
3:I:108:SER:HA	3:I:169:GLN:NE2	2.00	0.64
3:I:130:ALA:O	3:I:131:PHE:CD2	2.51	0.64
3:J:294:PRO:HG2	3:J:295:GLN:H	1.63	0.64
1:O:160:U:O2	1:O:184:G:C2'	2.44	0.64
3:A:133:LEU:HD12	3:A:197:VAL:HB	1.80	0.64
3:F:357:VAL:HG21	3:F:388:ALA:HB1	1.79	0.64
3:I:326:GLY:O	3:I:332:ALA:HB1	1.97	0.64
3:M:326:GLY:O	3:M:332:ALA:HB1	1.98	0.64
3:A:398:THR:O	3:A:402:GLY:N	2.31	0.64
3:E:240:VAL:HG23	3:E:244:GLU:OE2	1.98	0.64
1:C:142:G:H1	1:C:155:C:H42	1.45	0.63
1:G:148:A:H62	1:G:232:A:H5'	1.61	0.63
1:G:185:A:O2'	1:G:186:U:OP2	2.16	0.63
1:K:251:U:O2'	1:K:252:G:H5'	1.99	0.63
3:F:158:ASP:CG	3:F:159:ALA:H	2.04	0.63
1:C:160:U:O2	1:C:184:G:C2'	2.45	0.63
1:G:238:U:H2'	1:G:239:C:C6	2.34	0.63
1:K:142:G:H1	1:K:155:C:H42	1.45	0.63
1:K:247:U:H2'	1:K:248:A:C4	2.33	0.63
1:O:25:A:H1'	1:O:171:C:C4'	2.28	0.63
3:A:208:MET:HG2	3:A:212:LEU:HD12	1.80	0.63
3:B:178:ASP:O	3:B:181:MET:HB3	1.98	0.63
3:M:398:THR:O	3:M:402:GLY:N	2.31	0.63
1:O:142:G:H1	1:O:155:C:H42	1.44	0.63
1:O:214:A:O2'	1:O:215:G:H5'	1.98	0.63
3:B:386:ARG:HH12	3:B:390:HIS:CD2	2.15	0.63
3:E:241:SER:HA	3:F:219:LEU:O	1.97	0.63
3:N:386:ARG:HH12	3:N:390:HIS:CD2	2.15	0.63
3:F:213:ARG:HG3	3:F:217:HIS:CD2	2.33	0.63
3:F:266:MET:HA	3:F:310:VAL:O	1.98	0.63
3:F:355:GLN:CD	3:F:356:GLU:N	2.56	0.63
3:I:258:LEU:HB3	3:I:264:VAL:HG21	1.80	0.63
3:M:240:VAL:HG23	3:M:244:GLU:OE2	1.97	0.63
1:G:251:U:O2'	1:G:252:G:H5'	1.98	0.63
3:E:415:MET:O	3:E:416:MET:HB2	1.96	0.63
3:J:159:ALA:O	3:J:162:ASN:HB2	1.97	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:N:297:ARG:HA	3:N:300:VAL:CG2	2.29	0.63
1:C:188:U:H2'	1:C:189:A:H8	1.61	0.63
1:G:15:U:O4'	1:G:35:A:N6	2.32	0.63
1:G:247:U:H2'	1:G:248:A:C4	2.34	0.63
1:K:228:A:C2	1:K:229:A:C8	2.86	0.63
3:B:213:ARG:HG3	3:B:217:HIS:CD2	2.34	0.63
3:E:411:ASP:O	3:E:415:MET:HB2	1.98	0.63
3:I:331:ASN:ND2	3:I:334:TRP:HE1	1.94	0.63
3:J:355:GLN:CD	3:J:356:GLU:N	2.56	0.63
3:J:355:GLN:NE2	3:J:356:GLU:N	2.46	0.63
3:M:397:VAL:HG12	3:M:406:ALA:HB2	1.80	0.63
3:F:378:GLU:HB3	3:F:387:VAL:HG11	1.80	0.63
3:J:357:VAL:HG13	3:J:358:GLU:N	2.14	0.63
1:K:151:G:O2'	1:K:152:A:H5'	1.99	0.63
3:A:183:ALA:C	3:A:185:GLY:H	2.07	0.63
3:B:97:GLY:HA2	3:B:129:LYS:O	1.99	0.63
3:F:230:VAL:HG12	3:F:234:MET:SD	2.39	0.63
3:F:390:HIS:HE1	3:F:410:GLU:HG3	1.64	0.63
3:I:270:GLY:H	3:I:273:GLN:HG3	1.62	0.63
3:I:411:ASP:O	3:I:415:MET:HB2	1.99	0.63
3:J:355:GLN:OE1	3:J:356:GLU:HG3	1.99	0.63
3:J:403:LYS:HG3	3:J:404:GLN:N	2.13	0.63
3:M:44:LYS:HB3	3:M:44:LYS:HZ2	1.62	0.63
1:O:204:G:H1	1:O:209:C:H42	1.45	0.63
3:A:109:LEU:HD11	3:A:166:ILE:HG23	1.81	0.63
3:B:403:LYS:HG3	3:B:404:GLN:N	2.14	0.63
3:F:178:ASP:O	3:F:181:MET:HB3	1.99	0.63
3:I:335:LEU:CD2	3:I:400:VAL:HG11	2.27	0.63
3:J:97:GLY:HA2	3:J:129:LYS:O	1.98	0.63
3:J:378:GLU:HB3	3:J:387:VAL:HG11	1.79	0.63
1:C:251:U:O2'	1:C:252:G:H5'	1.99	0.62
3:I:123:MET:O	3:I:128:TYR:HD1	1.82	0.62
3:M:63:LYS:NZ	3:M:63:LYS:HB3	2.13	0.62
1:G:105:C:H2'	1:G:106:G:C5'	2.29	0.62
1:K:45:U:H5''	1:K:46:A:OP1	1.99	0.62
1:O:15:U:O4'	1:O:35:A:N6	2.31	0.62
3:A:270:GLY:H	3:A:273:GLN:HG3	1.63	0.62
3:A:326:GLY:O	3:A:332:ALA:HB1	1.99	0.62
3:E:181:MET:O	3:E:186:TYR:HB2	1.99	0.62
3:I:40:LYS:O	3:I:43:ALA:HB3	1.99	0.62
3:J:178:ASP:O	3:J:181:MET:HB3	1.98	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:14:U:H1'	1:C:34:G:N2	2.14	0.62
3:A:241:SER:HA	3:B:219:LEU:O	1.98	0.62
3:A:397:VAL:HG12	3:A:406:ALA:HB2	1.81	0.62
3:B:390:HIS:HE1	3:B:410:GLU:HG3	1.64	0.62
1:C:228:A:C2	1:C:229:A:C8	2.87	0.62
1:O:185:A:O2'	1:O:186:U:OP2	2.16	0.62
1:O:212:A:H1'	3:N:295:GLN:HE22	1.62	0.62
3:B:297:ARG:HA	3:B:300:VAL:CG2	2.30	0.62
3:F:46:ASN:O	3:F:49:GLU:HB3	2.00	0.62
3:F:297:ARG:HA	3:F:300:VAL:CG2	2.29	0.62
3:I:196:ILE:HD12	3:I:196:ILE:N	2.14	0.62
3:J:139:ALA:C	3:J:141:ILE:H	2.07	0.62
3:J:266:MET:HA	3:J:310:VAL:O	1.99	0.62
3:N:96:ILE:HD12	3:N:97:GLY:C	2.25	0.62
3:N:355:GLN:CD	3:N:356:GLU:N	2.57	0.62
3:A:181:MET:O	3:A:186:TYR:HB2	1.99	0.62
3:B:355:GLN:CD	3:B:356:GLU:N	2.57	0.62
3:E:40:LYS:O	3:E:43:ALA:HB3	1.98	0.62
3:F:403:LYS:HG3	3:F:404:GLN:N	2.13	0.62
1:G:159:A:O2'	1:G:160:U:OP1	2.16	0.62
3:A:63:LYS:NZ	3:A:63:LYS:HB3	2.13	0.62
3:I:104:PRO:CB	3:I:166:ILE:HD13	2.29	0.62
3:M:40:LYS:O	3:M:43:ALA:HB3	2.00	0.62
1:O:188:U:H2'	1:O:189:A:H8	1.62	0.62
3:A:277:ILE:O	3:A:281:LEU:HG	2.00	0.62
3:B:355:GLN:NE2	3:B:356:GLU:N	2.47	0.62
3:E:130:ALA:O	3:E:131:PHE:CD2	2.52	0.62
3:E:221:ILE:HD11	3:F:234:MET:HE3	1.80	0.62
3:I:63:LYS:NZ	3:I:63:LYS:HB3	2.15	0.62
3:N:333:ILE:HG12	3:N:348:TYR:CE1	2.34	0.62
3:N:355:GLN:NE2	3:N:356:GLU:N	2.47	0.62
1:C:15:U:O4'	1:C:35:A:N6	2.32	0.62
1:K:159:A:O2'	1:K:160:U:OP1	2.15	0.62
1:K:238:U:H2'	1:K:239:C:C6	2.35	0.62
3:F:355:GLN:NE2	3:F:356:GLU:N	2.47	0.62
3:J:46:ASN:O	3:J:49:GLU:HB3	1.99	0.62
3:M:121:PHE:O	3:M:125:LEU:HG	1.98	0.62
3:N:96:ILE:HD12	3:N:96:ILE:C	2.24	0.62
3:N:357:VAL:HG13	3:N:358:GLU:N	2.14	0.62
1:C:25:A:H1'	1:C:171:C:C4'	2.30	0.62
1:C:105:C:H2'	1:C:106:G:C5'	2.30	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:98:ALA:HB2	3:A:266:MET:HB3	1.80	0.62
3:M:220:ARG:HE	3:N:240:VAL:N	1.97	0.62
3:N:213:ARG:HG3	3:N:217:HIS:CD2	2.35	0.62
3:N:334:TRP:N	3:N:334:TRP:CD1	2.68	0.62
3:N:390:HIS:HE1	3:N:410:GLU:HG3	1.65	0.62
1:C:89:A:OP1	3:B:171:LYS:HD2	1.99	0.62
1:C:247:U:H2'	1:C:248:A:C5	2.35	0.62
1:G:228:A:C2	1:G:229:A:C8	2.87	0.62
3:E:73:GLU:HG2	3:E:369:ILE:HG13	1.80	0.62
3:E:108:SER:HA	3:E:169:GLN:NE2	2.00	0.62
3:E:270:GLY:H	3:E:273:GLN:HG3	1.64	0.62
1:C:34:G:N2	1:C:36:A:H61	1.97	0.61
1:K:34:G:N2	1:K:36:A:H61	1.98	0.61
3:B:357:VAL:HG13	3:B:358:GLU:N	2.15	0.61
3:E:196:ILE:N	3:E:196:ILE:HD12	2.15	0.61
3:E:277:ILE:O	3:E:281:LEU:HG	2.00	0.61
1:C:79:G:O2'	1:C:80:G:H5'	2.00	0.61
1:K:185:A:O2'	1:K:186:U:OP2	2.17	0.61
1:K:227:U:H1'	1:K:229:A:C2	2.35	0.61
3:A:240:VAL:HG23	3:A:244:GLU:OE2	1.99	0.61
3:M:270:GLY:H	3:M:273:GLN:HG3	1.64	0.61
1:O:14:U:H1'	1:O:34:G:N2	2.15	0.61
1:O:105:C:H2'	1:O:106:G:C5'	2.30	0.61
1:O:251:U:O2'	1:O:252:G:H5'	2.00	0.61
3:I:225:LEU:HD23	3:I:225:LEU:C	2.26	0.61
3:J:138:THR:H	3:J:199:ASN:HD21	1.48	0.61
3:M:277:ILE:O	3:M:281:LEU:HG	2.00	0.61
1:G:211:U:O2'	1:G:212:A:H5'	2.00	0.61
1:K:20:C:O5'	1:K:20:C:H6	1.83	0.61
3:A:121:PHE:O	3:A:125:LEU:HG	2.00	0.61
3:F:179:THR:HA	3:F:182:ARG:CZ	2.29	0.61
3:I:121:PHE:O	3:I:125:LEU:HG	2.01	0.61
1:G:120:A:O2'	1:G:121:C:OP1	2.14	0.61
1:G:217:A:O2'	1:G:218:G:O5'	2.17	0.61
1:K:25:A:H1'	1:K:171:C:C4'	2.30	0.61
3:B:139:ALA:C	3:B:141:ILE:H	2.08	0.61
3:B:333:ILE:HG12	3:B:348:TYR:CE1	2.35	0.61
3:F:271:SER:HA	3:F:313:THR:OG1	2.01	0.61
1:G:171:C:C2	1:G:178:G:N2	2.69	0.61
1:K:105:C:H2'	1:K:106:G:C5'	2.30	0.61
3:B:179:THR:HA	3:B:182:ARG:CZ	2.29	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:E:111:VAL:HG21	3:E:333:ILE:HD13	1.82	0.61
3:E:208:MET:HG2	3:E:212:LEU:HD12	1.83	0.61
3:E:266:MET:HA	3:E:310:VAL:O	1.99	0.61
3:F:169:GLN:O	3:F:170:LEU:C	2.43	0.61
3:I:111:VAL:HG21	3:I:333:ILE:HD13	1.83	0.61
3:I:221:ILE:HD11	3:J:234:MET:HE3	1.83	0.61
3:J:96:ILE:HD12	3:J:97:GLY:C	2.26	0.61
3:J:390:HIS:HE1	3:J:410:GLU:HG3	1.64	0.61
3:N:139:ALA:C	3:N:141:ILE:H	2.08	0.61
3:N:403:LYS:HG3	3:N:404:GLN:N	2.16	0.61
1:G:25:A:C2	1:G:179:G:H1'	2.36	0.61
1:K:12:C:H2'	1:K:13:C:C6	2.36	0.61
1:O:79:G:O2'	1:O:80:G:H5'	2.01	0.61
3:F:138:THR:H	3:F:199:ASN:HD21	1.49	0.61
1:G:139:G:O2'	1:G:140:U:P	2.58	0.61
1:K:79:G:O2'	1:K:80:G:H5'	2.01	0.61
3:A:123:MET:O	3:A:128:TYR:HD1	1.83	0.61
3:M:267:GLN:NE2	3:M:277:ILE:HG12	2.16	0.61
1:K:211:U:O2'	1:K:212:A:H5'	2.01	0.61
3:A:411:ASP:O	3:A:415:MET:HB2	2.01	0.61
3:N:291:GLU:HG2	3:N:300:VAL:HG21	1.82	0.61
1:C:15:U:O2	1:C:33:C:H1'	2.01	0.61
3:E:109:LEU:HD11	3:E:166:ILE:HG23	1.82	0.61
3:E:121:PHE:O	3:E:125:LEU:HG	2.00	0.61
3:F:79:ASP:HB2	3:F:313:THR:CG2	2.31	0.61
3:J:254:ASP:O	3:J:257:GLU:HB2	2.01	0.61
3:N:79:ASP:HB2	3:N:313:THR:CG2	2.31	0.61
1:C:217:A:O2'	1:C:218:G:O5'	2.19	0.60
1:K:139:G:O2'	1:K:140:U:P	2.58	0.60
1:O:120:A:O2'	1:O:121:C:OP1	2.14	0.60
3:A:266:MET:HA	3:A:310:VAL:O	2.01	0.60
3:J:291:GLU:HG2	3:J:300:VAL:HG21	1.83	0.60
3:J:297:ARG:HA	3:J:300:VAL:CG2	2.31	0.60
3:J:347:GLY:HA3	3:J:351:ARG:HH12	1.65	0.60
1:K:160:U:O2	1:K:184:G:C2'	2.45	0.60
3:A:61:LYS:HZ3	3:A:63:LYS:HD2	1.65	0.60
3:B:291:GLU:HG2	3:B:300:VAL:HG21	1.83	0.60
3:I:133:LEU:HD12	3:I:197:VAL:HB	1.84	0.60
3:M:123:MET:O	3:M:128:TYR:HD1	1.84	0.60
1:C:211:U:O2'	1:C:212:A:H5'	2.00	0.60
1:G:79:G:O2'	1:G:80:G:H5'	2.01	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:25:A:C2	1:K:179:G:H1'	2.36	0.60
1:O:25:A:H1'	1:O:171:C:H4'	1.82	0.60
1:O:217:A:O2'	1:O:218:G:O5'	2.19	0.60
3:B:254:ASP:O	3:B:257:GLU:HB2	2.01	0.60
3:B:334:TRP:CD1	3:B:334:TRP:N	2.69	0.60
3:E:104:PRO:CB	3:E:166:ILE:HD13	2.31	0.60
3:F:215:VAL:HG12	3:F:286:ALA:HB3	1.83	0.60
3:I:277:ILE:O	3:I:281:LEU:HG	2.01	0.60
3:N:271:SER:HA	3:N:313:THR:OG1	2.01	0.60
1:C:12:C:H2'	1:C:13:C:C6	2.36	0.60
1:C:185:A:O2'	1:C:186:U:OP2	2.18	0.60
1:G:247:U:H2'	1:G:248:A:C5	2.37	0.60
1:K:58:A:H4'	1:K:59:C:O5'	2.01	0.60
1:O:102:G:N2	1:O:105:C:C2	2.65	0.60
1:O:247:U:H2'	1:O:248:A:C5	2.37	0.60
3:A:40:LYS:O	3:A:43:ALA:HB3	2.02	0.60
3:B:79:ASP:HB2	3:B:313:THR:CG2	2.32	0.60
3:B:272:ASP:C	3:B:274:TYR:H	2.10	0.60
3:F:181:MET:O	3:F:186:TYR:HB2	2.01	0.60
3:J:94:ARG:HG2	3:J:96:ILE:HG22	1.83	0.60
3:J:230:VAL:HG12	3:J:234:MET:SD	2.41	0.60
3:M:208:MET:HG2	3:M:212:LEU:HD12	1.83	0.60
3:N:97:GLY:HA2	3:N:129:LYS:O	2.02	0.60
3:N:138:THR:HG22	3:N:199:ASN:HD21	1.65	0.60
3:N:181:MET:O	3:N:186:TYR:HB2	1.99	0.60
1:C:102:G:H1	1:C:105:C:N4	1.99	0.60
1:C:149:G:N1	1:C:230:C:N4	2.50	0.60
1:G:25:A:H1'	1:G:171:C:C4'	2.31	0.60
1:K:15:U:O4'	1:K:35:A:N6	2.34	0.60
1:O:238:U:H2'	1:O:239:C:C6	2.36	0.60
3:A:108:SER:HA	3:A:169:GLN:NE2	2.02	0.60
3:F:347:GLY:HA3	3:F:351:ARG:HH12	1.65	0.60
3:J:215:VAL:HG12	3:J:286:ALA:HB3	1.84	0.60
3:N:94:ARG:HG2	3:N:96:ILE:HG22	1.82	0.60
3:A:267:GLN:NE2	3:A:277:ILE:HG12	2.17	0.60
3:F:333:ILE:HG12	3:F:348:TYR:CE1	2.36	0.60
3:I:67:THR:O	3:I:70:LEU:HB3	2.01	0.60
3:I:266:MET:HA	3:I:310:VAL:O	2.01	0.60
3:J:179:THR:HA	3:J:182:ARG:CZ	2.32	0.60
3:M:108:SER:HA	3:M:169:GLN:NE2	2.01	0.60
1:O:102:G:H1	1:O:105:C:N4	1.98	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:O:215:G:H21	1:O:244:A:H61	1.50	0.60
3:F:139:ALA:C	3:F:141:ILE:H	2.08	0.60
3:J:290:SER:O	3:J:291:GLU:C	2.44	0.60
3:N:83:THR:HB	3:N:86:HIS:H	1.66	0.60
1:O:12:C:H2'	1:O:13:C:C6	2.37	0.60
3:A:104:PRO:CB	3:A:166:ILE:HD13	2.31	0.60
3:F:96:ILE:HD12	3:F:97:GLY:C	2.26	0.60
3:M:87:ILE:HG23	3:M:310:VAL:HG21	1.84	0.60
3:M:225:LEU:HD23	3:M:225:LEU:C	2.25	0.60
1:C:215:G:O6	1:C:246:A:C6	2.55	0.60
1:G:12:C:H2'	1:G:13:C:C6	2.37	0.60
1:K:103(A):A:C2	1:O:228:A:C2	2.89	0.60
3:B:96:ILE:HD12	3:B:97:GLY:C	2.27	0.60
3:J:272:ASP:C	3:J:274:TYR:H	2.10	0.60
3:N:247:TYR:N	3:N:248:PRO:HD2	2.17	0.60
1:C:139:G:O2'	1:C:140:U:P	2.59	0.60
1:G:20:C:H6	1:G:20:C:O5'	1.84	0.60
1:K:247:U:H2'	1:K:248:A:C5	2.36	0.60
1:O:171:C:C2	1:O:178:G:N2	2.70	0.60
3:E:63:LYS:NZ	3:E:63:LYS:HB3	2.17	0.60
3:I:234:MET:HA	3:I:239:GLY:HA2	1.83	0.60
3:J:333:ILE:HG12	3:J:348:TYR:CE1	2.37	0.60
1:C:238:U:H2'	1:C:239:C:C6	2.36	0.59
1:O:25:A:C2	1:O:179:G:H1'	2.37	0.59
1:O:34:G:N2	1:O:36:A:H61	1.99	0.59
3:A:225:LEU:HD23	3:A:225:LEU:C	2.26	0.59
3:M:415:MET:O	3:M:416:MET:CB	2.50	0.59
3:N:288:ARG:HB3	3:N:300:VAL:O	2.01	0.59
1:O:211:U:O2'	1:O:212:A:H5'	2.01	0.59
3:A:234:MET:HA	3:A:239:GLY:HA2	1.84	0.59
3:I:415:MET:O	3:I:416:MET:CB	2.50	0.59
3:M:240:VAL:O	3:N:220:ARG:HA	2.01	0.59
3:M:266:MET:HA	3:M:310:VAL:O	2.02	0.59
1:G:45:U:H5''	1:G:46:A:OP1	2.01	0.59
1:G:102:G:H1	1:G:105:C:N4	2.00	0.59
1:K:171:C:C2	1:K:178:G:N2	2.69	0.59
1:O:20:C:O5'	1:O:20:C:H6	1.85	0.59
3:F:272:ASP:C	3:F:274:TYR:H	2.10	0.59
3:F:290:SER:O	3:F:291:GLU:C	2.46	0.59
1:C:34:G:H21	1:C:36:A:H61	1.50	0.59
1:G:149:G:N1	1:G:230:C:N4	2.49	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:O:96:C:O5'	1:O:96:C:H6	1.86	0.59
3:B:271:SER:HA	3:B:313:THR:OG1	2.02	0.59
3:M:73:GLU:HG2	3:M:369:ILE:HG13	1.84	0.59
3:M:104:PRO:CB	3:M:166:ILE:HD13	2.32	0.59
3:M:411:ASP:O	3:M:415:MET:HB2	2.02	0.59
3:N:272:ASP:C	3:N:274:TYR:H	2.11	0.59
1:C:96:C:O5'	1:C:96:C:H6	1.86	0.59
1:O:149:G:N1	1:O:230:C:N4	2.51	0.59
3:I:55:ARG:NH2	3:I:128:TYR:OH	2.36	0.59
3:M:61:LYS:HZ3	3:M:63:LYS:HD2	1.67	0.59
3:M:234:MET:HA	3:M:239:GLY:HA2	1.84	0.59
1:C:102:G:N2	1:C:105:C:C2	2.66	0.59
1:G:250:U:O2'	1:G:251:U:H5'	2.03	0.59
1:K:215:G:O6	1:K:246:A:C6	2.56	0.59
1:O:15:U:O2	1:O:33:C:H1'	2.03	0.59
3:B:46:ASN:O	3:B:49:GLU:HB3	2.02	0.59
3:F:230:VAL:O	3:F:233:LYS:N	2.35	0.59
3:J:288:ARG:HB3	3:J:300:VAL:O	2.02	0.59
3:M:240:VAL:CG2	3:M:244:GLU:HB2	2.32	0.59
3:N:179:THR:HA	3:N:182:ARG:CZ	2.31	0.59
1:G:151:G:O2'	1:G:152:A:H5'	2.01	0.59
1:O:45:U:H5''	1:O:46:A:OP1	2.03	0.59
1:O:139:G:O2'	1:O:140:U:P	2.60	0.59
3:A:78:LYS:HB3	3:A:313:THR:O	2.03	0.59
3:B:83:THR:HB	3:B:86:HIS:H	1.68	0.59
3:F:254:ASP:O	3:F:257:GLU:HB2	2.02	0.59
3:I:125:LEU:HA	3:I:192:ARG:NH2	2.17	0.59
3:I:240:VAL:HG23	3:I:244:GLU:OE2	2.01	0.59
3:M:111:VAL:HG21	3:M:333:ILE:HD13	1.84	0.59
1:C:20:C:O5'	1:C:20:C:H6	1.85	0.59
1:C:25:A:H1'	1:C:171:C:H4'	1.84	0.59
1:C:25:A:C2	1:C:179:G:H1'	2.37	0.59
1:K:34:G:H21	1:K:36:A:H61	1.50	0.59
1:O:250:U:O2'	1:O:251:U:H5'	2.02	0.59
2:P:1:G:H8	2:P:1:G:OP1	1.86	0.59
3:B:181:MET:O	3:B:186:TYR:HB2	2.01	0.59
3:E:121:PHE:O	3:E:124:TYR:HB3	2.03	0.59
3:J:230:VAL:O	3:J:233:LYS:N	2.36	0.59
1:O:168:A:O2'	1:O:169:C:H5'	2.02	0.59
3:A:111:VAL:HG21	3:A:333:ILE:HD13	1.84	0.59
3:A:220:ARG:HD3	3:A:222:GLY:H	1.68	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:J:118:MET:HE2	3:J:364:PHE:HA	1.85	0.59
3:J:169:GLN:O	3:J:170:LEU:C	2.45	0.59
3:J:181:MET:O	3:J:186:TYR:HB2	2.02	0.59
3:J:334:TRP:CD1	3:J:334:TRP:N	2.71	0.59
1:C:58:A:H4'	1:C:59:C:O5'	2.01	0.59
1:G:25:A:H1'	1:G:171:C:H4'	1.84	0.59
1:G:123:A:O3'	3:F:39:PRO:HB3	2.02	0.59
3:A:361:LEU:HD13	3:A:392:LEU:HB2	1.85	0.59
3:B:290:SER:O	3:B:291:GLU:C	2.46	0.59
3:E:55:ARG:NH2	3:E:128:TYR:OH	2.36	0.59
3:E:267:GLN:NE2	3:E:277:ILE:HG12	2.17	0.59
3:J:99:TYR:HE1	3:J:133:LEU:HD23	1.68	0.59
1:C:171:C:C2	1:C:178:G:N2	2.71	0.58
1:G:103(A):A:O2'	1:G:103(B):A:H5'	2.03	0.58
3:A:73:GLU:HG2	3:A:369:ILE:HG13	1.84	0.58
3:I:368:PRO:C	3:I:370:SER:N	2.60	0.58
3:J:403:LYS:HG3	3:J:404:GLN:H	1.68	0.58
3:M:67:THR:O	3:M:70:LEU:HB3	2.03	0.58
3:N:46:ASN:O	3:N:49:GLU:HB3	2.02	0.58
3:N:214:ARG:HD2	3:N:290:SER:HB2	1.85	0.58
1:K:25:A:H1'	1:K:171:C:H4'	1.84	0.58
1:K:102:G:H1	1:K:105:C:H42	1.47	0.58
3:A:240:VAL:CG2	3:A:244:GLU:HB2	2.33	0.58
3:A:415:MET:O	3:A:416:MET:CB	2.52	0.58
3:B:118:MET:HE2	3:B:364:PHE:HA	1.85	0.58
3:J:271:SER:HA	3:J:313:THR:OG1	2.02	0.58
3:M:94:ARG:HH21	3:M:306:LEU:HB2	1.68	0.58
1:O:58:A:H4'	1:O:59:C:O5'	2.01	0.58
3:B:346:TYR:CE2	3:B:410:GLU:HA	2.39	0.58
3:E:67:THR:O	3:E:70:LEU:HB3	2.04	0.58
3:E:125:LEU:HA	3:E:192:ARG:NH2	2.18	0.58
3:F:297:ARG:HA	3:F:300:VAL:HG22	1.85	0.58
3:J:79:ASP:HB2	3:J:313:THR:CG2	2.32	0.58
3:N:346:TYR:CE2	3:N:410:GLU:HA	2.39	0.58
1:C:250:U:O2'	1:C:251:U:H5'	2.03	0.58
1:G:34:G:N2	1:G:36:A:H61	1.99	0.58
1:G:215:G:O6	1:G:246:A:C6	2.56	0.58
3:F:94:ARG:HG2	3:F:96:ILE:HG22	1.86	0.58
3:F:334:TRP:N	3:F:334:TRP:CD1	2.71	0.58
1:G:96:C:O5'	1:G:96:C:H6	1.86	0.58
1:G:102:G:N2	1:G:105:C:C2	2.66	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:55:ARG:NH2	3:A:128:TYR:OH	2.37	0.58
3:A:196:ILE:HD12	3:A:196:ILE:N	2.17	0.58
3:I:208:MET:HG2	3:I:212:LEU:HD12	1.83	0.58
3:I:240:VAL:O	3:J:220:ARG:HA	2.04	0.58
1:K:245:C:H3'	1:K:246:A:H5''	1.86	0.58
1:O:34:G:H21	1:O:36:A:H61	1.51	0.58
3:B:247:TYR:N	3:B:248:PRO:HD2	2.18	0.58
3:B:288:ARG:HB3	3:B:300:VAL:O	2.03	0.58
3:E:225:LEU:HD23	3:E:225:LEU:C	2.28	0.58
1:K:250:U:O2'	1:K:251:U:H5'	2.03	0.58
2:L:1:G:H8	2:L:1:G:OP1	1.87	0.58
1:O:102:G:H2'	1:O:103:G:H8	1.68	0.58
3:A:67:THR:O	3:A:70:LEU:HB3	2.04	0.58
3:F:118:MET:HE2	3:F:364:PHE:HA	1.84	0.58
3:I:212:LEU:O	3:I:216:GLY:HA3	2.04	0.58
3:I:293:ASP:HB3	3:I:296:GLU:HB2	1.85	0.58
3:M:196:ILE:N	3:M:196:ILE:HD12	2.18	0.58
3:N:254:ASP:O	3:N:257:GLU:HB2	2.03	0.58
1:K:188:U:OP2	1:K:189:A:OP2	2.22	0.58
3:B:94:ARG:HG2	3:B:96:ILE:HG22	1.84	0.58
3:B:138:THR:HG22	3:B:199:ASN:HD21	1.67	0.58
3:B:347:GLY:O	3:B:349:PHE:N	2.37	0.58
3:E:172:LYS:HA	3:E:175:GLU:OE2	2.04	0.58
3:I:172:LYS:HA	3:I:175:GLU:OE2	2.04	0.58
3:M:361:LEU:HD13	3:M:392:LEU:HB2	1.86	0.58
3:N:347:GLY:O	3:N:349:PHE:N	2.37	0.58
1:G:58:A:H4'	1:G:59:C:O5'	2.02	0.58
1:K:87:U:O2'	1:K:88:G:H5'	2.04	0.58
1:K:155:C:H2'	1:K:156:G:H5'	1.85	0.58
1:O:89:A:OP1	3:N:171:LYS:HD2	2.03	0.58
1:O:215:G:O6	1:O:246:A:C6	2.57	0.58
3:I:350:VAL:HG22	3:I:386:ARG:HH22	1.67	0.58
1:K:232:A:H8	1:K:232:A:O5'	1.87	0.58
3:A:94:ARG:HH21	3:A:306:LEU:HB2	1.69	0.58
3:A:293:ASP:HB3	3:A:296:GLU:HB2	1.86	0.58
3:B:99:TYR:HE1	3:B:133:LEU:HD23	1.67	0.58
3:B:215:VAL:HG12	3:B:286:ALA:HB3	1.85	0.58
3:E:234:MET:HA	3:E:239:GLY:HA2	1.85	0.58
3:N:297:ARG:HA	3:N:300:VAL:HG22	1.84	0.58
1:C:45:U:H5''	1:C:46:A:OP1	2.04	0.57
1:C:46:A:H2'	1:C:47:A:C8	2.39	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:120:A:O2'	1:C:121:C:OP1	2.16	0.57
3:F:288:ARG:HB3	3:F:300:VAL:O	2.03	0.57
3:F:291:GLU:HG2	3:F:300:VAL:HG21	1.85	0.57
3:F:403:LYS:HG3	3:F:404:GLN:H	1.67	0.57
3:J:347:GLY:O	3:J:349:PHE:N	2.37	0.57
3:M:220:ARG:HD3	3:M:222:GLY:H	1.69	0.57
3:N:215:VAL:HG12	3:N:286:ALA:HB3	1.85	0.57
1:C:239:C:O2'	1:C:240:C:H5'	2.04	0.57
2:D:1:G:H8	2:D:1:G:OP1	1.87	0.57
1:G:155:C:H2'	1:G:156:G:H5'	1.85	0.57
1:K:149:G:N1	1:K:230:C:N4	2.51	0.57
3:A:176:ASN:HA	3:A:179:THR:OG1	2.05	0.57
3:E:212:LEU:O	3:E:216:GLY:HA3	2.04	0.57
3:F:99:TYR:HE1	3:F:133:LEU:HD23	1.69	0.57
3:I:176:ASN:HA	3:I:179:THR:OG1	2.03	0.57
3:N:230:VAL:O	3:N:233:LYS:N	2.36	0.57
1:G:102:G:H2'	1:G:103:G:H8	1.69	0.57
1:G:232:A:H8	1:G:232:A:O5'	1.87	0.57
3:J:176:ASN:HA	3:J:179:THR:HB	1.86	0.57
3:M:55:ARG:NH2	3:M:128:TYR:OH	2.37	0.57
3:N:99:TYR:HE1	3:N:133:LEU:HD23	1.68	0.57
3:N:138:THR:H	3:N:199:ASN:HD21	1.50	0.57
1:G:37:A:H2'	1:G:38:A:O4'	2.05	0.57
1:G:245:C:H3'	1:G:246:A:H5''	1.87	0.57
1:O:239:C:O2'	1:O:240:C:H5'	2.04	0.57
3:B:230:VAL:HG12	3:B:234:MET:SD	2.44	0.57
3:E:83:THR:O	3:E:87:ILE:HG13	2.04	0.57
3:E:293:ASP:HB3	3:E:296:GLU:HB2	1.85	0.57
3:I:361:LEU:HD13	3:I:392:LEU:HB2	1.87	0.57
3:M:293:ASP:HB3	3:M:296:GLU:HB2	1.86	0.57
1:C:37:A:H2'	1:C:38:A:O4'	2.04	0.57
2:H:1:G:H8	2:H:1:G:OP1	1.88	0.57
1:K:96:C:O5'	1:K:96:C:H6	1.88	0.57
3:A:220:ARG:HE	3:B:240:VAL:N	2.02	0.57
3:B:297:ARG:HA	3:B:300:VAL:HG22	1.85	0.57
3:J:346:TYR:CE2	3:J:410:GLU:HA	2.40	0.57
3:M:392:LEU:HD23	3:M:392:LEU:O	2.04	0.57
3:M:416:MET:HE2	3:M:416:MET:HA	1.86	0.57
3:N:192:ARG:HH21	3:N:192:ARG:HG3	1.67	0.57
1:G:51:A:OP1	3:F:261:GLN:HG2	2.04	0.57
1:K:51:A:OP1	3:J:261:GLN:HG2	2.05	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:O:30:U:H2'	1:O:31:A:C8	2.40	0.57
1:O:37:A:H2'	1:O:38:A:O4'	2.05	0.57
3:A:61:LYS:HZ3	3:A:63:LYS:CD	2.16	0.57
3:E:392:LEU:HD23	3:E:392:LEU:O	2.04	0.57
3:F:347:GLY:O	3:F:349:PHE:N	2.38	0.57
3:I:220:ARG:HE	3:J:240:VAL:N	2.02	0.57
3:I:374:LYS:HA	3:I:374:LYS:HZ2	1.68	0.57
3:M:78:LYS:HB3	3:M:313:THR:O	2.04	0.57
2:L:1:G:H8	2:L:1:G:P	2.28	0.57
1:O:46:A:H2'	1:O:47:A:C8	2.39	0.57
3:A:350:VAL:HG22	3:A:386:ARG:HH22	1.68	0.57
3:I:121:PHE:O	3:I:124:TYR:HB3	2.05	0.57
1:G:34:G:H21	1:G:36:A:H61	1.52	0.57
1:G:102:G:H1	1:G:105:C:H42	1.51	0.57
1:K:123:A:O3'	3:J:39:PRO:HB3	2.05	0.57
1:O:245:C:H3'	1:O:246:A:H5''	1.85	0.57
2:P:1:G:H8	2:P:1:G:P	2.27	0.57
3:A:293:ASP:O	3:A:297:ARG:HG3	2.04	0.57
3:B:192:ARG:HH21	3:B:192:ARG:HG3	1.68	0.57
3:E:125:LEU:HB3	3:E:186:TYR:CE2	2.39	0.57
3:J:297:ARG:HA	3:J:300:VAL:HG22	1.86	0.57
3:N:290:SER:O	3:N:291:GLU:C	2.47	0.57
1:G:58:A:C4	1:G:58:A:OP2	2.58	0.57
1:G:89:A:OP1	3:F:171:LYS:HD2	2.04	0.57
1:K:103(A):A:O2'	1:K:103(B):A:H5'	2.04	0.57
1:K:196:A:OP2	1:K:197:C:N4	2.38	0.57
1:K:215:G:H21	1:K:244:A:H61	1.53	0.57
3:A:87:ILE:HG23	3:A:310:VAL:HG21	1.87	0.57
3:A:240:VAL:O	3:B:220:ARG:HA	2.04	0.57
3:A:368:PRO:C	3:A:370:SER:N	2.61	0.57
3:B:345:PHE:O	3:B:346:TYR:C	2.47	0.57
3:E:240:VAL:CG2	3:E:244:GLU:HB2	2.34	0.57
3:E:350:VAL:HG22	3:E:386:ARG:HH22	1.68	0.57
3:F:158:ASP:C	3:F:160:THR:N	2.63	0.57
3:F:198:ASN:ND2	3:F:200:ASN:HD21	2.02	0.57
3:I:125:LEU:HB3	3:I:186:TYR:CE2	2.39	0.57
3:M:83:THR:O	3:M:87:ILE:HG13	2.04	0.57
1:C:58:A:C5	1:C:58:A:OP2	2.58	0.57
1:C:155:C:H2'	1:C:156:G:H5'	1.87	0.57
3:A:121:PHE:O	3:A:124:TYR:HB3	2.05	0.57
3:E:176:ASN:HA	3:E:179:THR:OG1	2.04	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:E:368:PRO:C	3:E:370:SER:N	2.60	0.57
3:I:138:THR:HG22	3:I:199:ASN:ND2	2.20	0.57
3:I:256:PHE:O	3:I:257:GLU:C	2.48	0.57
3:I:392:LEU:HD23	3:I:392:LEU:O	2.04	0.57
1:C:103(A):A:O2'	1:C:103(B):A:H5'	2.04	0.56
1:C:215:G:H21	1:C:244:A:H61	1.53	0.56
3:A:392:LEU:HD23	3:A:392:LEU:O	2.04	0.56
3:B:169:GLN:O	3:B:170:LEU:C	2.46	0.56
3:B:403:LYS:HG3	3:B:404:GLN:H	1.69	0.56
3:E:240:VAL:O	3:F:220:ARG:HA	2.04	0.56
3:I:267:GLN:NE2	3:I:277:ILE:HG12	2.19	0.56
3:I:278:ILE:O	3:I:281:LEU:HB2	2.05	0.56
3:M:61:LYS:HZ3	3:M:63:LYS:HG3	1.70	0.56
3:M:122:TRP:HA	3:M:125:LEU:HD12	1.86	0.56
3:M:259:PHE:CE1	3:M:288:ARG:NE	2.73	0.56
3:N:333:ILE:HG21	3:N:348:TYR:HD1	1.69	0.56
1:C:51:A:OP1	3:B:261:GLN:HG2	2.04	0.56
1:C:245:C:H3'	1:C:246:A:H5''	1.86	0.56
1:G:168:A:O2'	1:G:169:C:H5'	2.05	0.56
1:G:196:A:OP2	1:G:197:C:N4	2.38	0.56
1:O:155:C:H2'	1:O:156:G:H5'	1.88	0.56
1:O:227:U:H2'	1:O:229:A:OP2	2.04	0.56
3:B:138:THR:H	3:B:199:ASN:HD21	1.52	0.56
3:I:61:LYS:HZ3	3:I:63:LYS:HG3	1.70	0.56
3:M:172:LYS:HA	3:M:175:GLU:OE2	2.04	0.56
3:N:345:PHE:O	3:N:346:TYR:C	2.48	0.56
1:C:58:A:OP2	1:C:58:A:C4	2.58	0.56
1:G:15:U:O2	1:G:33:C:H1'	2.05	0.56
1:G:227:U:H2'	1:G:229:A:OP2	2.06	0.56
2:H:1:G:H8	2:H:1:G:P	2.28	0.56
1:K:58:A:OP2	1:K:58:A:C4	2.58	0.56
1:O:102:G:H1	1:O:105:C:H42	1.49	0.56
1:O:103(A):A:O2'	1:O:103(B):A:H5'	2.04	0.56
3:A:83:THR:O	3:A:87:ILE:HG13	2.04	0.56
3:E:94:ARG:HH21	3:E:306:LEU:HB2	1.70	0.56
3:E:415:MET:O	3:E:416:MET:CB	2.52	0.56
3:F:386:ARG:HH12	3:F:390:HIS:HD2	1.53	0.56
3:I:259:PHE:CE1	3:I:288:ARG:NE	2.73	0.56
3:J:192:ARG:HH21	3:J:192:ARG:HG3	1.70	0.56
3:J:214:ARG:HD2	3:J:290:SER:HB2	1.86	0.56
3:M:61:LYS:HZ3	3:M:63:LYS:CD	2.17	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:M:240:VAL:CG1	3:N:221:ILE:HG12	2.36	0.56
3:M:256:PHE:O	3:M:257:GLU:C	2.48	0.56
3:M:368:PRO:C	3:M:370:SER:N	2.61	0.56
3:N:118:MET:HE2	3:N:364:PHE:HA	1.87	0.56
3:N:169:GLN:O	3:N:170:LEU:C	2.46	0.56
1:C:168:A:O2'	1:C:169:C:H5'	2.05	0.56
1:G:171:C:C2	1:G:178:G:C2	2.93	0.56
1:G:185:A:H4'	1:G:186:U:C5'	2.36	0.56
1:K:58:A:OP2	1:K:58:A:C5	2.59	0.56
3:B:333:ILE:HG21	3:B:348:TYR:HD1	1.69	0.56
3:M:138:THR:HG22	3:M:199:ASN:ND2	2.20	0.56
3:M:293:ASP:O	3:M:297:ARG:HG3	2.05	0.56
1:G:46:A:H2'	1:G:47:A:C8	2.40	0.56
1:G:58:A:OP2	1:G:58:A:C5	2.59	0.56
3:I:405:GLU:O	3:I:408:ALA:N	2.38	0.56
3:I:416:MET:HE2	3:I:416:MET:HA	1.87	0.56
3:J:59:ILE:HG21	3:J:66:ASN:HB2	1.87	0.56
3:M:350:VAL:HG22	3:M:386:ARG:HH22	1.69	0.56
1:C:30:U:H2'	1:C:31:A:C8	2.41	0.56
1:C:196:A:H2	1:C:250:U:H3	1.52	0.56
1:G:149:G:N2	1:G:150:U:H1'	2.20	0.56
1:G:188:U:OP2	1:G:189:A:OP2	2.24	0.56
1:O:196:A:OP2	1:O:197:C:N4	2.39	0.56
3:A:49:GLU:OE1	3:A:49:GLU:HA	2.04	0.56
3:E:405:GLU:O	3:E:408:ALA:N	2.39	0.56
3:M:325:PHE:HE2	3:M:348:TYR:HE1	1.51	0.56
3:M:372:ILE:HG22	3:M:373:THR:N	2.20	0.56
1:G:87:U:O2'	1:G:88:G:H5'	2.05	0.56
3:A:125:LEU:HA	3:A:192:ARG:NH2	2.20	0.56
3:F:192:ARG:HH21	3:F:192:ARG:HG3	1.69	0.56
3:I:49:GLU:OE1	3:I:49:GLU:HA	2.03	0.56
3:I:87:ILE:HG23	3:I:310:VAL:HG21	1.87	0.56
3:I:94:ARG:HH21	3:I:306:LEU:HB2	1.70	0.56
3:I:357:VAL:O	3:I:361:LEU:HB2	2.05	0.56
3:J:83:THR:HB	3:J:86:HIS:H	1.70	0.56
3:M:176:ASN:HA	3:M:179:THR:OG1	2.06	0.56
3:N:110:HIS:CE1	3:N:112:GLY:HA3	2.41	0.56
1:G:185:A:H4'	1:G:186:U:H5''	1.87	0.56
1:K:37:A:H2'	1:K:38:A:O4'	2.05	0.56
1:K:239:C:O2'	1:K:240:C:H5'	2.05	0.56
3:B:349:PHE:CE2	3:B:396:VAL:HG21	2.40	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:346:TYR:CE2	3:F:410:GLU:HA	2.40	0.56
3:J:319:ASP:C	3:J:321:SER:N	2.63	0.56
3:M:249:ILE:HG13	3:N:242:PHE:CE2	2.40	0.56
2:D:1:G:H8	2:D:1:G:P	2.29	0.56
1:G:30:U:H2'	1:G:31:A:C8	2.40	0.56
1:K:30:U:H2'	1:K:31:A:C8	2.40	0.56
1:O:196:A:H2	1:O:250:U:H3	1.52	0.56
3:E:70:LEU:C	3:E:70:LEU:HD23	2.31	0.56
3:I:70:LEU:HD23	3:I:70:LEU:C	2.31	0.56
3:I:240:VAL:CG2	3:I:244:GLU:HB2	2.34	0.56
3:I:300:VAL:HG23	3:I:301:THR:N	2.21	0.56
3:M:125:LEU:HA	3:M:192:ARG:NH2	2.20	0.56
3:M:319:ASP:O	3:M:321:SER:N	2.39	0.56
1:C:94:A:H61	1:C:113:A:H62	1.54	0.56
1:C:102:G:H1	1:C:105:C:H42	1.49	0.56
1:K:246:A:H1'	1:K:247:U:C5	2.40	0.56
1:O:58:A:C5	1:O:58:A:OP2	2.59	0.56
3:B:59:ILE:HG21	3:B:66:ASN:HB2	1.88	0.56
3:E:259:PHE:CE1	3:E:288:ARG:NE	2.73	0.56
3:J:180:GLN:O	3:J:184:ARG:HG2	2.06	0.56
3:N:230:VAL:HG12	3:N:234:MET:SD	2.46	0.56
3:N:403:LYS:HG3	3:N:404:GLN:H	1.70	0.56
1:C:123:A:O3'	3:B:39:PRO:HB3	2.06	0.55
1:C:196:A:OP2	1:C:197:C:N4	2.40	0.55
1:G:246:A:H1'	1:G:247:U:C5	2.41	0.55
1:O:171:C:C2	1:O:178:G:C2	2.94	0.55
1:O:188:U:OP2	1:O:189:A:OP2	2.25	0.55
1:O:246:A:H1'	1:O:247:U:C5	2.41	0.55
3:E:319:ASP:O	3:E:321:SER:N	2.39	0.55
3:E:325:PHE:HE2	3:E:348:TYR:HE1	1.53	0.55
3:I:220:ARG:HD3	3:I:222:GLY:H	1.70	0.55
3:I:325:PHE:HE2	3:I:348:TYR:HE1	1.52	0.55
3:M:121:PHE:O	3:M:124:TYR:HB3	2.06	0.55
1:G:30:U:H2'	1:G:31:A:H8	1.71	0.55
3:A:61:LYS:HZ3	3:A:63:LYS:HG3	1.71	0.55
3:A:259:PHE:CE1	3:A:288:ARG:NE	2.74	0.55
3:E:220:ARG:HD3	3:E:222:GLY:H	1.70	0.55
3:E:357:VAL:O	3:E:361:LEU:HB2	2.07	0.55
3:J:133:LEU:HD21	3:J:254:ASP:OD2	2.06	0.55
1:C:227:U:H2'	1:C:229:A:OP2	2.06	0.55
1:C:232:A:H8	1:C:232:A:O5'	1.90	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:239:C:O2'	1:G:240:C:H5'	2.06	0.55
1:K:171:C:C2	1:K:178:G:C2	2.94	0.55
3:A:172:LYS:HA	3:A:175:GLU:OE2	2.06	0.55
3:B:230:VAL:O	3:B:233:LYS:N	2.39	0.55
3:E:49:GLU:OE1	3:E:49:GLU:HA	2.04	0.55
3:E:224:MET:HB3	3:E:245:PHE:CE2	2.39	0.55
3:J:138:THR:HG22	3:J:199:ASN:HD21	1.67	0.55
3:J:158:ASP:C	3:J:160:THR:N	2.61	0.55
3:M:278:ILE:O	3:M:281:LEU:HB2	2.06	0.55
1:G:160:U:O2	1:G:184:G:C2'	2.48	0.55
1:K:46:A:H2'	1:K:47:A:C8	2.41	0.55
1:K:120:A:O2'	1:K:121:C:OP1	2.16	0.55
1:K:227:U:H2'	1:K:229:A:OP2	2.07	0.55
3:B:110:HIS:CE1	3:B:112:GLY:HA3	2.42	0.55
3:E:138:THR:HG22	3:E:199:ASN:ND2	2.21	0.55
3:F:180:GLN:O	3:F:184:ARG:HG2	2.06	0.55
3:I:83:THR:O	3:I:87:ILE:HG13	2.05	0.55
1:C:172:U:O2'	1:C:177:G:N2	2.40	0.55
1:O:51:A:OP1	3:N:261:GLN:HG2	2.06	0.55
1:O:134:A:H2'	1:O:135:G:H5'	1.88	0.55
3:B:214:ARG:HD2	3:B:290:SER:HB2	1.88	0.55
3:E:300:VAL:HG23	3:E:301:THR:N	2.22	0.55
3:F:214:ARG:HD2	3:F:290:SER:HB2	1.88	0.55
3:F:328:SER:O	3:F:329:ALA:HB3	2.06	0.55
3:M:49:GLU:OE1	3:M:49:GLU:HA	2.05	0.55
3:N:180:GLN:O	3:N:184:ARG:HG2	2.06	0.55
1:C:134:A:H2'	1:C:135:G:H5'	1.88	0.55
1:C:171:C:C2	1:C:178:G:C2	2.95	0.55
1:K:94:A:H61	1:K:113:A:H62	1.53	0.55
1:K:168:A:O2'	1:K:169:C:H5'	2.06	0.55
1:O:57:C:C2'	1:O:57:C:O2	2.54	0.55
3:J:198:ASN:ND2	3:J:200:ASN:HD21	2.04	0.55
3:N:273:GLN:OE1	3:N:276:ASN:OD1	2.25	0.55
1:G:22:G:N2	1:G:24:A:H3'	2.21	0.55
1:K:57:C:O2	1:K:57:C:C2'	2.54	0.55
1:K:102:G:H2'	1:K:103:G:H8	1.70	0.55
1:O:30:U:H2'	1:O:31:A:H8	1.70	0.55
1:O:123:A:O3'	3:N:39:PRO:HB3	2.07	0.55
3:A:138:THR:HG22	3:A:199:ASN:ND2	2.22	0.55
3:E:256:PHE:O	3:E:257:GLU:C	2.49	0.55
3:F:83:THR:HB	3:F:86:HIS:H	1.71	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:J:232:ASN:O	3:J:234:MET:N	2.39	0.55
1:K:103:G:O2'	1:K:103(B):A:N7	2.39	0.55
1:O:22:G:N2	1:O:24:A:H3'	2.22	0.55
1:O:87:U:O2'	1:O:88:G:H5'	2.07	0.55
1:O:153:C:O2'	1:O:154:U:H5'	2.06	0.55
3:A:212:LEU:O	3:A:216:GLY:HA3	2.06	0.55
3:E:145:THR:HG23	3:E:145:THR:O	2.07	0.55
3:E:208:MET:HE1	3:F:211:VAL:HB	1.89	0.55
3:F:133:LEU:HD21	3:F:254:ASP:OD2	2.07	0.55
3:F:247:TYR:N	3:F:248:PRO:HD2	2.22	0.55
3:I:173:LEU:O	3:I:177:VAL:HG23	2.07	0.55
1:C:188:U:OP2	1:C:189:A:OP2	2.25	0.55
1:G:94:A:H61	1:G:113:A:H62	1.54	0.55
1:G:142:G:H1	1:G:155:C:N4	2.04	0.55
1:O:94:A:H61	1:O:113:A:H62	1.55	0.55
1:O:232:A:H8	1:O:232:A:O5'	1.90	0.55
3:A:82:GLY:O	3:A:83:THR:C	2.49	0.55
3:A:325:PHE:HE2	3:A:348:TYR:HE1	1.53	0.55
3:E:78:LYS:HB3	3:E:313:THR:O	2.07	0.55
3:E:87:ILE:HG23	3:E:310:VAL:HG21	1.87	0.55
3:E:173:LEU:O	3:E:177:VAL:HG23	2.06	0.55
3:F:319:ASP:C	3:F:321:SER:N	2.64	0.55
3:M:61:LYS:HB2	3:M:61:LYS:NZ	2.21	0.55
1:K:142:G:H1	1:K:155:C:N4	2.05	0.55
3:A:84:LYS:H	3:A:84:LYS:HD2	1.71	0.55
3:A:300:VAL:HG23	3:A:301:THR:N	2.21	0.55
3:A:319:ASP:O	3:A:321:SER:N	2.40	0.55
3:I:122:TRP:HA	3:I:125:LEU:HD12	1.89	0.55
3:I:208:MET:HE1	3:J:211:VAL:HB	1.88	0.55
3:M:208:MET:HE1	3:N:211:VAL:HB	1.89	0.55
3:N:328:SER:O	3:N:329:ALA:HB3	2.07	0.55
1:G:139:G:O2'	1:G:140:U:O5'	2.25	0.54
1:G:172:U:O2'	1:G:177:G:N2	2.40	0.54
1:O:58:A:OP2	1:O:58:A:C4	2.60	0.54
1:O:142:G:H1	1:O:155:C:N4	2.05	0.54
3:A:102:ILE:HD13	3:A:109:LEU:HD21	1.89	0.54
3:A:124:TYR:CE1	3:A:194:ARG:HB3	2.42	0.54
3:A:125:LEU:HB3	3:A:186:TYR:CE2	2.42	0.54
3:A:357:VAL:O	3:A:361:LEU:HB2	2.06	0.54
3:B:125:LEU:HB3	3:B:186:TYR:CE1	2.42	0.54
3:B:281:LEU:O	3:B:284:VAL:HB	2.06	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:E:179:THR:CA	3:E:182:ARG:HH12	2.18	0.54
3:E:278:ILE:O	3:E:281:LEU:HB2	2.07	0.54
3:E:361:LEU:HD13	3:E:392:LEU:HB2	1.88	0.54
3:F:87:ILE:HG23	3:F:310:VAL:HG21	1.88	0.54
3:I:63:LYS:HB3	3:I:63:LYS:HZ2	1.70	0.54
3:J:158:ASP:C	3:J:160:THR:H	2.15	0.54
3:J:342:VAL:HG23	3:J:343:PHE:N	2.22	0.54
3:M:220:ARG:HA	3:N:241:SER:HA	1.89	0.54
3:M:357:VAL:HG21	3:M:389:GLN:NE2	2.22	0.54
3:N:176:ASN:HA	3:N:179:THR:HB	1.87	0.54
1:C:246:A:H1'	1:C:247:U:C5	2.43	0.54
3:J:87:ILE:HG23	3:J:310:VAL:HG21	1.89	0.54
3:J:328:SER:O	3:J:329:ALA:HB3	2.07	0.54
3:M:125:LEU:HB3	3:M:186:TYR:CE2	2.42	0.54
3:M:414:ARG:HG2	3:M:414:ARG:O	2.07	0.54
3:N:288:ARG:CB	3:N:302:PRO:HD3	2.38	0.54
1:C:121:C:C5	1:C:195:A:O4'	2.60	0.54
1:O:103(A):A:C2'	1:O:103(B):A:H5'	2.38	0.54
1:O:149:G:N2	1:O:150:U:H1'	2.22	0.54
1:O:246:A:O2'	1:O:247:U:O5'	2.25	0.54
3:E:59:ILE:CB	3:E:92:ARG:HG3	2.37	0.54
3:I:78:LYS:HB3	3:I:313:THR:O	2.08	0.54
3:M:137:SER:HB2	3:M:199:ASN:HD21	1.72	0.54
3:M:224:MET:HB3	3:M:245:PHE:CE2	2.39	0.54
1:C:142:G:H1	1:C:155:C:N4	2.05	0.54
1:C:185:A:H4'	1:C:186:U:H5''	1.89	0.54
1:K:172:U:O2'	1:K:177:G:N2	2.40	0.54
3:A:278:ILE:O	3:A:281:LEU:HB2	2.07	0.54
3:B:292:PRO:HG2	3:B:293:ASP:H	1.70	0.54
3:F:176:ASN:HA	3:F:179:THR:HB	1.89	0.54
3:I:306:LEU:C	3:I:308:GLU:H	2.15	0.54
3:N:125:LEU:HB3	3:N:186:TYR:CE1	2.43	0.54
3:N:332:ALA:HB3	3:N:334:TRP:NE1	2.22	0.54
1:C:22:G:N2	1:C:24:A:H3'	2.23	0.54
1:C:139:G:O2'	1:C:140:U:O5'	2.26	0.54
1:C:239:C:H2'	1:C:240:C:H6	1.72	0.54
1:G:57:C:C2'	1:G:57:C:O2	2.55	0.54
1:O:159:A:O2'	1:O:160:U:OP1	2.16	0.54
3:A:416:MET:HE2	3:A:416:MET:HA	1.88	0.54
3:F:94:ARG:C	3:F:96:ILE:H	2.16	0.54
3:I:59:ILE:CB	3:I:92:ARG:HG3	2.37	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:I:145:THR:HG23	3:I:145:THR:O	2.07	0.54
3:I:293:ASP:O	3:I:297:ARG:HG3	2.07	0.54
3:J:319:ASP:HB2	3:J:352:ARG:HH12	1.72	0.54
3:M:173:LEU:O	3:M:177:VAL:HG23	2.06	0.54
3:M:331:ASN:HD22	3:M:334:TRP:NE1	2.00	0.54
3:M:357:VAL:O	3:M:361:LEU:HB2	2.06	0.54
1:K:134:A:H2'	1:K:135:G:H5'	1.89	0.54
1:K:185:A:H4'	1:K:186:U:H5''	1.89	0.54
3:A:256:PHE:O	3:A:257:GLU:C	2.50	0.54
3:A:306:LEU:C	3:A:308:GLU:H	2.16	0.54
3:E:416:MET:HE2	3:E:416:MET:HA	1.89	0.54
3:F:138:THR:HG22	3:F:199:ASN:HD21	1.68	0.54
3:I:84:LYS:H	3:I:84:LYS:HD2	1.70	0.54
3:M:82:GLY:O	3:M:83:THR:C	2.49	0.54
3:M:222:GLY:O	3:M:224:MET:N	2.41	0.54
1:C:149:G:N2	1:C:150:U:H1'	2.23	0.54
1:O:200:A:H2'	1:O:201:U:O4'	2.08	0.54
1:O:239:C:H2'	1:O:240:C:H6	1.72	0.54
3:A:122:TRP:HA	3:A:125:LEU:HD12	1.89	0.54
3:A:224:MET:HB3	3:A:245:PHE:CE2	2.39	0.54
3:A:372:ILE:HG22	3:A:373:THR:N	2.22	0.54
3:B:198:ASN:ND2	3:B:200:ASN:HD21	2.05	0.54
3:F:292:PRO:HG2	3:F:293:ASP:H	1.73	0.54
3:I:319:ASP:O	3:I:321:SER:N	2.41	0.54
3:I:414:ARG:O	3:I:414:ARG:HG2	2.07	0.54
3:J:288:ARG:CB	3:J:302:PRO:HD3	2.38	0.54
3:J:292:PRO:HG2	3:J:293:ASP:H	1.71	0.54
3:M:145:THR:HG23	3:M:145:THR:O	2.08	0.54
3:N:59:ILE:HG21	3:N:66:ASN:HB2	1.90	0.54
1:C:30:U:H2'	1:C:31:A:H8	1.71	0.54
1:K:105:C:C2'	1:K:106:G:H5'	2.38	0.54
1:K:149:G:N2	1:K:150:U:H1'	2.21	0.54
1:O:139:G:O2'	1:O:140:U:O5'	2.26	0.54
3:B:180:GLN:O	3:B:184:ARG:HG2	2.07	0.54
3:E:137:SER:HB2	3:E:199:ASN:HD21	1.72	0.54
3:E:293:ASP:O	3:E:297:ARG:HG3	2.08	0.54
3:E:306:LEU:C	3:E:308:GLU:H	2.15	0.54
3:F:79:ASP:HB2	3:F:313:THR:HG23	1.89	0.54
3:N:319:ASP:HB2	3:N:352:ARG:HH12	1.73	0.54
3:N:386:ARG:HB2	3:N:386:ARG:CZ	2.38	0.54
1:G:34:G:H4'	1:G:35:A:C8	2.42	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:139:G:C2'	1:G:140:U:OP2	2.56	0.54
1:G:215:G:H21	1:G:244:A:H61	1.55	0.54
1:K:89:A:OP1	3:J:171:LYS:HD2	2.07	0.54
1:O:159:A:C2'	1:O:160:U:H5''	2.38	0.54
1:O:245:C:H3'	1:O:246:A:C5'	2.38	0.54
3:A:240:VAL:CG1	3:B:221:ILE:HG12	2.38	0.54
3:B:176:ASN:HA	3:B:179:THR:HB	1.88	0.54
3:E:414:ARG:HG2	3:E:414:ARG:O	2.08	0.54
3:F:284:VAL:HG11	3:F:309:CYS:SG	2.48	0.54
3:I:61:LYS:HB2	3:I:61:LYS:NZ	2.23	0.54
3:J:333:ILE:HG21	3:J:348:TYR:HD1	1.72	0.54
3:M:212:LEU:O	3:M:216:GLY:HA3	2.07	0.54
1:C:87:U:O2'	1:C:88:G:H5'	2.08	0.54
1:G:105:C:C2'	1:G:106:G:H5'	2.37	0.54
1:G:149:G:N2	1:G:150:U:C1'	2.71	0.54
1:G:196:A:H2	1:G:250:U:H3	1.53	0.54
1:K:30:U:H2'	1:K:31:A:H8	1.71	0.54
3:B:83:THR:HB	3:B:86:HIS:CB	2.35	0.54
3:E:82:GLY:O	3:E:83:THR:C	2.51	0.54
3:E:84:LYS:H	3:E:84:LYS:HD2	1.72	0.54
3:E:179:THR:CA	3:E:182:ARG:NH1	2.69	0.54
3:F:357:VAL:HG13	3:F:358:GLU:H	1.73	0.54
3:J:110:HIS:CE1	3:J:112:GLY:HA3	2.43	0.54
1:C:102:G:H2'	1:C:103:G:H8	1.70	0.53
1:C:148:A:C6	1:C:232:A:O4'	2.61	0.53
1:C:188:U:O2'	1:C:189:A:H5'	2.08	0.53
1:C:200:A:H2'	1:C:201:U:O4'	2.08	0.53
1:G:239:C:H2'	1:G:240:C:H6	1.73	0.53
1:K:139:G:O2'	1:K:140:U:O5'	2.26	0.53
3:A:173:LEU:O	3:A:177:VAL:HG23	2.07	0.53
3:B:288:ARG:CB	3:B:302:PRO:HD3	2.38	0.53
3:B:332:ALA:HB3	3:B:334:TRP:NE1	2.23	0.53
3:J:247:TYR:N	3:J:248:PRO:HD2	2.22	0.53
3:J:342:VAL:HG23	3:J:343:PHE:H	1.72	0.53
3:M:102:ILE:HD13	3:M:109:LEU:HD21	1.90	0.53
3:N:133:LEU:HD21	3:N:254:ASP:OD2	2.07	0.53
3:N:213:ARG:O	3:N:215:VAL:N	2.40	0.53
3:N:232:ASN:O	3:N:234:MET:N	2.41	0.53
1:C:84:U:O2'	1:C:85:C:H5'	2.08	0.53
1:G:103(A):A:C2'	1:G:103(B):A:H5'	2.39	0.53
1:K:22:G:N2	1:K:24:A:H3'	2.22	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:103(A):A:C2'	1:K:103(B):A:H5'	2.39	0.53
1:K:245:C:H3'	1:K:246:A:C5'	2.38	0.53
1:O:185:A:H4'	1:O:186:U:C5'	2.38	0.53
3:A:70:LEU:HD23	3:A:70:LEU:C	2.33	0.53
3:A:222:GLY:O	3:A:224:MET:N	2.41	0.53
3:B:158:ASP:C	3:B:160:THR:H	2.17	0.53
3:B:349:PHE:CZ	3:B:396:VAL:HG11	2.43	0.53
3:E:222:GLY:O	3:E:224:MET:N	2.41	0.53
3:F:59:ILE:HG21	3:F:66:ASN:HB2	1.88	0.53
3:F:288:ARG:CB	3:F:302:PRO:HD3	2.37	0.53
3:F:398:THR:HG23	3:F:403:LYS:CA	2.38	0.53
3:N:198:ASN:ND2	3:N:200:ASN:HD21	2.05	0.53
3:N:292:PRO:HG2	3:N:293:ASP:H	1.71	0.53
3:N:342:VAL:HG23	3:N:343:PHE:N	2.22	0.53
1:G:109:G:OP1	3:F:182:ARG:CZ	2.57	0.53
1:K:153:C:O2'	1:K:154:U:H5'	2.08	0.53
1:O:139:G:O2'	1:O:140:U:H6	1.91	0.53
1:O:185:A:H4'	1:O:186:U:H5''	1.90	0.53
1:O:228:A:C2	1:O:229:A:N7	2.76	0.53
3:B:62:GLY:O	3:B:63:LYS:HG3	2.08	0.53
3:E:61:LYS:HB2	3:E:61:LYS:NZ	2.23	0.53
3:E:372:ILE:HG22	3:E:373:THR:N	2.23	0.53
3:F:342:VAL:HG23	3:F:343:PHE:N	2.23	0.53
3:M:70:LEU:C	3:M:70:LEU:HD23	2.32	0.53
3:M:135:GLY:CA	3:M:138:THR:HG23	2.39	0.53
1:C:57:C:C2'	1:C:57:C:O2	2.56	0.53
1:G:153:C:O2'	1:G:154:U:H5'	2.08	0.53
1:K:15:U:O2	1:K:33:C:H1'	2.08	0.53
3:A:145:THR:HG23	3:A:145:THR:O	2.09	0.53
3:A:331:ASN:HD22	3:A:334:TRP:NE1	2.00	0.53
3:A:357:VAL:HG21	3:A:389:GLN:NE2	2.24	0.53
3:B:319:ASP:HB2	3:B:352:ARG:HH12	1.73	0.53
3:E:61:LYS:HZ3	3:E:63:LYS:HG3	1.71	0.53
3:E:220:ARG:HE	3:F:240:VAL:N	2.04	0.53
3:F:57:GLU:OE2	3:F:61:LYS:HG3	2.08	0.53
3:F:125:LEU:HB3	3:F:186:TYR:CE1	2.43	0.53
3:F:169:GLN:O	3:F:171:LYS:N	2.42	0.53
3:I:249:ILE:HG13	3:J:242:PHE:CE2	2.44	0.53
3:I:386:ARG:NH1	3:I:389:GLN:HG2	2.23	0.53
3:J:57:GLU:OE2	3:J:61:LYS:HG3	2.09	0.53
3:M:59:ILE:CB	3:M:92:ARG:HG3	2.38	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:185:A:H4'	1:C:186:U:C5'	2.39	0.53
1:G:134:A:H2'	1:G:135:G:H5'	1.90	0.53
1:K:185:A:H4'	1:K:186:U:C5'	2.39	0.53
1:O:172:U:O2'	1:O:177:G:N2	2.42	0.53
3:A:59:ILE:CB	3:A:92:ARG:HG3	2.38	0.53
3:F:288:ARG:HB3	3:F:302:PRO:HD3	1.90	0.53
3:F:361:LEU:CD2	3:F:392:LEU:HB2	2.39	0.53
3:N:57:GLU:OE2	3:N:61:LYS:HG3	2.07	0.53
3:N:62:GLY:O	3:N:63:LYS:HG3	2.08	0.53
3:N:79:ASP:HB2	3:N:313:THR:HG23	1.90	0.53
3:N:83:THR:HB	3:N:86:HIS:CB	2.35	0.53
3:N:385:LYS:HA	3:N:385:LYS:NZ	2.23	0.53
1:C:105:C:C2'	1:C:106:G:H5'	2.38	0.53
1:O:159:A:N3	1:O:185:A:C6	2.77	0.53
3:A:89:GLU:HA	3:A:89:GLU:OE2	2.08	0.53
3:A:137:SER:HB2	3:A:199:ASN:HD21	1.73	0.53
3:A:221:ILE:HD11	3:B:234:MET:CE	2.39	0.53
3:I:135:GLY:CA	3:I:138:THR:HG23	2.38	0.53
3:J:213:ARG:C	3:J:215:VAL:H	2.17	0.53
3:J:333:ILE:HD12	3:J:333:ILE:N	2.23	0.53
3:N:158:ASP:C	3:N:160:THR:H	2.17	0.53
1:C:171:C:H2'	1:C:172:U:O4'	2.09	0.53
1:K:109:G:OP1	3:J:182:ARG:CZ	2.57	0.53
1:K:121:C:C5	1:K:195:A:O4'	2.61	0.53
1:O:172:U:H1'	1:O:177:G:H22	1.73	0.53
3:A:414:ARG:O	3:A:414:ARG:HG2	2.09	0.53
3:B:328:SER:O	3:B:329:ALA:HB3	2.09	0.53
3:E:249:ILE:HG13	3:F:242:PHE:CE2	2.44	0.53
3:F:62:GLY:O	3:F:63:LYS:HG3	2.08	0.53
3:I:137:SER:HB2	3:I:199:ASN:HD21	1.73	0.53
3:J:349:PHE:CZ	3:J:396:VAL:HG11	2.44	0.53
3:M:84:LYS:H	3:M:84:LYS:HD2	1.73	0.53
3:N:223:PRO:HA	3:N:226:SER:HB2	1.90	0.53
3:N:347:GLY:HA2	3:N:350:VAL:HG12	1.91	0.53
1:C:139:G:O2'	1:C:140:U:H6	1.92	0.53
1:C:159:A:N3	1:C:185:A:C6	2.77	0.53
1:G:159:A:N3	1:G:185:A:C6	2.77	0.53
1:G:245:C:H3'	1:G:246:A:C5'	2.39	0.53
1:K:34:G:H4'	1:K:35:A:C8	2.43	0.53
1:O:148:A:C6	1:O:232:A:O4'	2.62	0.53
3:B:158:ASP:CG	3:B:159:ALA:N	2.67	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:342:VAL:HG23	3:B:343:PHE:N	2.23	0.53
3:F:213:ARG:O	3:F:215:VAL:N	2.42	0.53
3:F:232:ASN:O	3:F:234:MET:N	2.40	0.53
3:F:345:PHE:O	3:F:346:TYR:C	2.51	0.53
3:F:349:PHE:CE2	3:F:396:VAL:HG21	2.43	0.53
3:F:349:PHE:CZ	3:F:396:VAL:HG11	2.44	0.53
3:I:82:GLY:O	3:I:83:THR:C	2.51	0.53
3:J:79:ASP:HB2	3:J:313:THR:HG23	1.91	0.53
3:N:342:VAL:HG23	3:N:343:PHE:H	1.73	0.53
1:C:245:C:H3'	1:C:246:A:C5'	2.39	0.53
1:G:97:U:C2	1:G:111:G:N2	2.77	0.53
1:K:149:G:N2	1:K:150:U:C1'	2.71	0.53
1:K:223:G:H2'	1:K:224:G:H5'	1.91	0.53
1:K:246:A:O2'	1:K:247:U:O5'	2.25	0.53
3:B:232:ASN:O	3:B:234:MET:N	2.42	0.53
3:J:281:LEU:O	3:J:284:VAL:HB	2.09	0.53
3:J:288:ARG:HB3	3:J:302:PRO:HD3	1.91	0.53
1:C:159:A:C2'	1:C:160:U:H5''	2.39	0.53
1:G:185:A:H4'	1:G:186:U:O5'	2.09	0.53
1:G:223:G:H2'	1:G:224:G:H5'	1.91	0.53
1:K:159:A:C2'	1:K:160:U:H5''	2.39	0.53
1:O:153:C:H2'	1:O:154:U:H6	1.74	0.53
3:A:135:GLY:CA	3:A:138:THR:HG23	2.39	0.53
3:A:374:LYS:HA	3:A:374:LYS:NZ	2.24	0.53
3:B:386:ARG:HB2	3:B:386:ARG:CZ	2.39	0.53
3:B:398:THR:HG23	3:B:403:LYS:CA	2.37	0.53
3:E:124:TYR:CE1	3:E:194:ARG:HB3	2.44	0.53
3:F:294:PRO:HA	3:F:297:ARG:HD3	1.91	0.53
3:I:222:GLY:O	3:I:224:MET:N	2.41	0.53
3:J:349:PHE:CE2	3:J:396:VAL:HG21	2.44	0.53
3:N:69:ASP:O	3:N:73:GLU:HB2	2.09	0.53
1:C:153:C:O2'	1:C:154:U:H5'	2.09	0.52
1:G:121:C:C5	1:G:195:A:O4'	2.62	0.52
1:K:196:A:H2	1:K:250:U:H3	1.53	0.52
1:O:105:C:C2'	1:O:106:G:H5'	2.38	0.52
1:O:128:U:H2'	1:O:129:C:H6	1.74	0.52
3:A:249:ILE:HG13	3:B:242:PHE:CE2	2.44	0.52
3:B:57:GLU:OE2	3:B:61:LYS:HG3	2.08	0.52
3:B:133:LEU:HD21	3:B:254:ASP:OD2	2.09	0.52
3:B:347:GLY:HA2	3:B:350:VAL:HG12	1.91	0.52
3:J:213:ARG:O	3:J:215:VAL:N	2.42	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:M:243:ALA:HA	3:N:212:LEU:CD2	2.39	0.52
3:M:300:VAL:HG23	3:M:301:THR:N	2.23	0.52
3:N:288:ARG:HB3	3:N:302:PRO:HD3	1.91	0.52
1:C:160:U:H1'	1:C:184:G:C4	2.44	0.52
1:C:162:G:H2'	1:C:163:G:C8	2.45	0.52
1:K:97:U:C2	1:K:111:G:N2	2.77	0.52
1:O:84:U:O2'	1:O:85:C:H5'	2.09	0.52
1:O:97:U:C2	1:O:111:G:N2	2.77	0.52
3:F:319:ASP:HB2	3:F:352:ARG:HH12	1.73	0.52
3:I:179:THR:CA	3:I:182:ARG:HH12	2.20	0.52
3:I:222:GLY:C	3:I:224:MET:N	2.67	0.52
3:I:374:LYS:HA	3:I:374:LYS:NZ	2.24	0.52
3:J:94:ARG:C	3:J:96:ILE:H	2.17	0.52
3:N:247:TYR:OH	3:N:251:GLN:NE2	2.42	0.52
1:C:172:U:H1'	1:C:177:G:H22	1.73	0.52
1:G:128:U:H2'	1:G:129:C:H6	1.74	0.52
1:K:153:C:H2'	1:K:154:U:H6	1.75	0.52
1:K:239:C:H2'	1:K:240:C:H6	1.74	0.52
3:A:208:MET:HE1	3:B:211:VAL:HB	1.92	0.52
3:E:135:GLY:CA	3:E:138:THR:HG23	2.39	0.52
3:J:345:PHE:O	3:J:346:TYR:C	2.51	0.52
3:J:386:ARG:HH12	3:J:390:HIS:HD2	1.55	0.52
3:J:398:THR:HG23	3:J:403:LYS:CA	2.37	0.52
3:M:306:LEU:C	3:M:308:GLU:H	2.17	0.52
3:N:94:ARG:C	3:N:96:ILE:H	2.15	0.52
1:C:103(A):A:C2'	1:C:103(B):A:H5'	2.40	0.52
1:C:153:C:H2'	1:C:154:U:H6	1.75	0.52
1:O:121:C:C5	1:O:195:A:O4'	2.62	0.52
3:B:79:ASP:HB2	3:B:313:THR:HG23	1.91	0.52
3:B:213:ARG:O	3:B:215:VAL:N	2.42	0.52
3:E:102:ILE:HD13	3:E:109:LEU:HD21	1.91	0.52
3:E:379:HIS:CB	3:E:388:ALA:HB2	2.39	0.52
3:I:125:LEU:HA	3:I:192:ARG:HH22	1.75	0.52
3:M:124:TYR:CE1	3:M:194:ARG:HB3	2.44	0.52
3:M:221:ILE:HG12	3:N:240:VAL:HG13	1.90	0.52
3:M:379:HIS:CB	3:M:388:ALA:HB2	2.40	0.52
3:N:333:ILE:N	3:N:333:ILE:HD12	2.25	0.52
1:G:48:U:H1'	1:G:116:U:O2'	2.10	0.52
1:G:84:U:OP1	2:H:4:U:O2'	2.26	0.52
1:K:139:G:O2'	1:K:140:U:H6	1.92	0.52
1:O:62:A:N1	1:O:77:U:O4	2.42	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:O:173:U:O2'	1:O:174:C:OP1	2.23	0.52
1:O:188:U:O2'	1:O:189:A:H5'	2.09	0.52
3:A:61:LYS:HB2	3:A:61:LYS:NZ	2.24	0.52
3:A:379:HIS:CB	3:A:388:ALA:HB2	2.40	0.52
3:E:281:LEU:O	3:E:284:VAL:HB	2.09	0.52
3:F:273:GLN:OE1	3:F:276:ASN:OD1	2.28	0.52
3:I:360:LEU:HD23	3:I:363:LEU:HD12	1.91	0.52
3:N:349:PHE:CE2	3:N:396:VAL:HG21	2.44	0.52
1:G:162:G:H2'	1:G:163:G:C8	2.45	0.52
1:K:103(A):A:C6	1:O:228:A:N3	2.78	0.52
1:K:172:U:H1'	1:K:177:G:H22	1.74	0.52
1:K:228:A:C2	1:K:229:A:N7	2.78	0.52
3:A:335:LEU:CD2	3:A:400:VAL:HG11	2.32	0.52
3:F:332:ALA:HB3	3:F:334:TRP:NE1	2.24	0.52
3:F:333:ILE:HG21	3:F:348:TYR:HD1	1.71	0.52
3:F:385:LYS:HA	3:F:385:LYS:NZ	2.25	0.52
3:J:180:GLN:HA	3:J:183:ALA:HB3	1.91	0.52
3:M:222:GLY:C	3:M:224:MET:N	2.66	0.52
1:C:223:G:H2'	1:C:224:G:H5'	1.92	0.52
1:G:243:A:H2'	1:G:244:A:C8	2.45	0.52
1:O:90:G:H2'	1:O:91:C:O4'	2.10	0.52
3:A:320:SER:HB2	3:A:356:GLU:CD	2.33	0.52
3:B:158:ASP:C	3:B:160:THR:N	2.62	0.52
3:B:288:ARG:HB3	3:B:302:PRO:HD3	1.92	0.52
3:B:342:VAL:HG23	3:B:343:PHE:H	1.73	0.52
3:E:360:LEU:HD23	3:E:363:LEU:HD12	1.92	0.52
3:E:374:LYS:HA	3:E:374:LYS:NZ	2.25	0.52
3:F:213:ARG:C	3:F:215:VAL:H	2.17	0.52
3:I:357:VAL:HB	3:I:389:GLN:HE21	1.75	0.52
3:I:372:ILE:HG22	3:I:373:THR:N	2.24	0.52
3:J:125:LEU:HB3	3:J:186:TYR:CE1	2.44	0.52
3:N:398:THR:HG23	3:N:403:LYS:CA	2.38	0.52
1:C:90:G:H2'	1:C:91:C:O4'	2.10	0.52
1:G:84:U:O2'	1:G:85:C:H5'	2.09	0.52
1:K:103(A):A:N1	1:O:228:A:C2	2.78	0.52
1:K:128:U:H2'	1:K:129:C:H6	1.74	0.52
1:K:159:A:N3	1:K:185:A:C6	2.78	0.52
1:K:228:A:C6	1:K:229:A:N7	2.78	0.52
1:O:25:A:N3	1:O:171:C:H1'	2.25	0.52
1:O:171:C:H2'	1:O:172:U:O4'	2.10	0.52
3:B:87:ILE:HG23	3:B:310:VAL:HG21	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:333:ILE:HD12	3:B:333:ILE:N	2.25	0.52
3:E:115:LEU:HB3	3:E:116:PRO:HD3	1.91	0.52
3:E:293:ASP:OD1	3:E:296:GLU:HB2	2.10	0.52
3:E:386:ARG:NH1	3:E:389:GLN:HG2	2.25	0.52
3:I:89:GLU:HA	3:I:89:GLU:OE2	2.09	0.52
3:I:115:LEU:HB3	3:I:116:PRO:HD3	1.92	0.52
3:J:62:GLY:O	3:J:63:LYS:HG3	2.08	0.52
3:M:83:THR:OG1	3:M:86:HIS:CB	2.58	0.52
3:M:221:ILE:HD12	3:M:221:ILE:O	2.10	0.52
3:M:240:VAL:HG13	3:N:221:ILE:HG23	1.91	0.52
3:N:158:ASP:CG	3:N:159:ALA:N	2.68	0.52
3:N:357:VAL:HG13	3:N:358:GLU:H	1.75	0.52
1:C:34:G:H4'	1:C:35:A:C8	2.44	0.52
1:C:62:A:N1	1:C:77:U:O4	2.43	0.52
1:C:128:U:H2'	1:C:129:C:H6	1.75	0.52
1:G:109:G:OP1	3:F:182:ARG:NH2	2.43	0.52
1:G:188:U:O2'	1:G:189:A:H5'	2.09	0.52
1:K:139:G:C2'	1:K:140:U:OP2	2.58	0.52
3:B:213:ARG:C	3:B:215:VAL:H	2.17	0.52
3:B:272:ASP:O	3:B:274:TYR:N	2.43	0.52
3:F:247:TYR:OH	3:F:251:GLN:NE2	2.43	0.52
3:F:342:VAL:HG23	3:F:343:PHE:H	1.73	0.52
3:F:386:ARG:HB2	3:F:386:ARG:CZ	2.40	0.52
3:J:361:LEU:CD2	3:J:392:LEU:HB2	2.40	0.52
3:N:281:LEU:O	3:N:284:VAL:HB	2.09	0.52
1:G:171:C:H2'	1:G:172:U:O4'	2.09	0.52
1:K:188:U:O2'	1:K:189:A:H5'	2.10	0.52
1:K:200:A:H2'	1:K:201:U:O4'	2.10	0.52
1:O:223:G:H2'	1:O:224:G:H5'	1.92	0.52
3:A:374:LYS:HA	3:A:374:LYS:HZ2	1.75	0.52
3:A:386:ARG:NH1	3:A:389:GLN:HG2	2.25	0.52
3:B:223:PRO:HA	3:B:226:SER:HB2	1.91	0.52
3:E:122:TRP:HA	3:E:125:LEU:HD12	1.91	0.52
3:F:281:LEU:O	3:F:284:VAL:HB	2.09	0.52
3:I:168:TYR:C	3:I:168:TYR:CD2	2.86	0.52
3:I:208:MET:HG3	3:J:208:MET:SD	2.50	0.52
3:I:221:ILE:HD12	3:I:221:ILE:O	2.10	0.52
1:G:148:A:C6	1:G:232:A:O4'	2.63	0.51
1:K:90:G:H2'	1:K:91:C:O4'	2.10	0.51
3:A:405:GLU:O	3:A:408:ALA:N	2.43	0.51
3:E:83:THR:OG1	3:E:86:HIS:CB	2.57	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:E:320:SER:HB2	3:E:356:GLU:CD	2.34	0.51
3:I:99:TYR:HA	3:I:131:PHE:O	2.10	0.51
3:I:214:ARG:NH2	3:I:291:GLU:OE1	2.44	0.51
3:J:294:PRO:HA	3:J:297:ARG:HD3	1.92	0.51
3:N:213:ARG:C	3:N:215:VAL:H	2.17	0.51
1:G:200:A:H2'	1:G:201:U:O4'	2.10	0.51
1:O:162:G:H2'	1:O:163:G:C8	2.46	0.51
3:E:225:LEU:O	3:E:231:LYS:HB2	2.10	0.51
3:E:238:ASP:CG	3:E:239:GLY:N	2.68	0.51
3:J:223:PRO:HA	3:J:226:SER:HB2	1.91	0.51
3:M:61:LYS:HZ3	3:M:61:LYS:HB2	1.75	0.51
3:M:225:LEU:O	3:M:231:LYS:HB2	2.09	0.51
3:M:335:LEU:CD2	3:M:400:VAL:HG11	2.32	0.51
1:C:246:A:O2'	1:C:247:U:P	2.68	0.51
1:K:171:C:H2'	1:K:172:U:O4'	2.10	0.51
1:K:197:C:H5''	1:K:198:A:OP2	2.10	0.51
3:B:245:PHE:O	3:B:248:PRO:HD2	2.10	0.51
3:B:273:GLN:OE1	3:B:276:ASN:OD1	2.29	0.51
3:E:357:VAL:HG21	3:E:389:GLN:NE2	2.25	0.51
3:I:357:VAL:HG21	3:I:389:GLN:NE2	2.26	0.51
3:M:320:SER:HB2	3:M:356:GLU:CD	2.34	0.51
3:N:294:PRO:HA	3:N:297:ARG:HD3	1.91	0.51
3:N:349:PHE:O	3:N:351:ARG:N	2.44	0.51
1:C:97:U:C2	1:C:111:G:N2	2.78	0.51
1:G:90:G:H2'	1:G:91:C:O4'	2.11	0.51
1:O:109:G:OP1	3:N:182:ARG:CZ	2.59	0.51
1:O:160:U:H1'	1:O:184:G:C4	2.45	0.51
1:O:228:A:N3	1:O:229:A:C8	2.79	0.51
3:B:294:PRO:O	3:B:295:GLN:C	2.53	0.51
3:E:357:VAL:HB	3:E:389:GLN:HE21	1.76	0.51
3:F:69:ASP:O	3:F:73:GLU:HB2	2.11	0.51
3:F:158:ASP:C	3:F:160:THR:H	2.17	0.51
3:F:294:PRO:O	3:F:295:GLN:C	2.53	0.51
3:J:169:GLN:O	3:J:171:LYS:N	2.43	0.51
3:J:247:TYR:OH	3:J:251:GLN:NE2	2.43	0.51
3:J:355:GLN:NE2	3:J:355:GLN:C	2.69	0.51
3:J:357:VAL:HG13	3:J:358:GLU:H	1.75	0.51
1:C:109:G:H2'	1:C:110:A:H8	1.75	0.51
1:K:243:A:H2'	1:K:244:A:C8	2.44	0.51
1:O:38:A:C2	1:O:182:G:C4	2.99	0.51
1:O:149:G:N2	1:O:150:U:C1'	2.73	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:221:ILE:HG23	3:B:240:VAL:O	2.10	0.51
3:I:293:ASP:OD1	3:I:296:GLU:HB2	2.11	0.51
3:M:374:LYS:HA	3:M:374:LYS:NZ	2.26	0.51
1:C:25:A:N3	1:C:171:C:H1'	2.26	0.51
1:G:139:G:O2'	1:G:140:U:H6	1.93	0.51
1:G:172:U:H1'	1:G:177:G:H22	1.75	0.51
1:K:148:A:C6	1:K:232:A:O4'	2.63	0.51
1:K:162:G:H2'	1:K:163:G:C8	2.45	0.51
1:O:197:C:H5''	1:O:198:A:OP2	2.10	0.51
3:A:98:ALA:HA	3:A:266:MET:O	2.11	0.51
3:A:221:ILE:HD12	3:A:221:ILE:O	2.11	0.51
3:B:385:LYS:HA	3:B:385:LYS:NZ	2.25	0.51
3:E:379:HIS:HB2	3:E:388:ALA:HB2	1.91	0.51
3:I:378:GLU:OE2	3:I:378:GLU:O	2.29	0.51
3:J:73:GLU:C	3:J:75:GLY:H	2.19	0.51
3:J:288:ARG:NE	3:J:302:PRO:HG3	2.25	0.51
3:J:332:ALA:HB3	3:J:334:TRP:NE1	2.25	0.51
3:J:350:VAL:CG1	3:J:351:ARG:HG3	2.39	0.51
3:J:379:HIS:HB2	3:J:388:ALA:HB2	1.92	0.51
3:J:386:ARG:HB2	3:J:386:ARG:CZ	2.40	0.51
3:M:379:HIS:HB2	3:M:388:ALA:HB2	1.92	0.51
3:N:158:ASP:C	3:N:160:THR:N	2.62	0.51
1:G:18:U:H2'	1:G:19:A:C8	2.46	0.51
1:K:84:U:O2'	1:K:85:C:H5'	2.10	0.51
1:K:203:U:H2'	1:K:204:G:C8	2.44	0.51
1:O:185:A:H4'	1:O:186:U:O5'	2.10	0.51
1:O:228:A:C6	1:O:229:A:N7	2.79	0.51
3:A:221:ILE:HG12	3:B:240:VAL:HG13	1.91	0.51
3:B:94:ARG:C	3:B:96:ILE:H	2.17	0.51
3:B:233:LYS:O	3:B:233:LYS:HG3	2.10	0.51
3:B:250:MET:O	3:B:253:TRP:N	2.44	0.51
3:B:355:GLN:NE2	3:B:355:GLN:C	2.69	0.51
3:E:125:LEU:HA	3:E:192:ARG:HH22	1.76	0.51
3:F:223:PRO:HA	3:F:226:SER:HB2	1.92	0.51
3:F:349:PHE:O	3:F:351:ARG:N	2.44	0.51
3:J:158:ASP:CG	3:J:159:ALA:N	2.69	0.51
3:J:385:LYS:HA	3:J:385:LYS:NZ	2.25	0.51
3:M:405:GLU:O	3:M:408:ALA:N	2.43	0.51
3:N:180:GLN:HA	3:N:183:ALA:HB3	1.93	0.51
1:C:139:G:C2'	1:C:140:U:OP2	2.58	0.51
1:C:149:G:N2	1:C:150:U:CI'	2.73	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:228:A:C2	1:G:229:A:N7	2.79	0.51
3:A:222:GLY:C	3:A:224:MET:N	2.67	0.51
3:A:225:LEU:O	3:A:231:LYS:HB2	2.10	0.51
3:A:281:LEU:O	3:A:284:VAL:HB	2.11	0.51
3:B:173:LEU:O	3:B:174:TRP:C	2.54	0.51
3:E:224:MET:O	3:E:227:ARG:HB2	2.11	0.51
3:F:350:VAL:CG1	3:F:351:ARG:HG3	2.39	0.51
3:F:379:HIS:HB2	3:F:388:ALA:HB2	1.93	0.51
3:J:272:ASP:O	3:J:274:TYR:N	2.44	0.51
3:M:183:ALA:O	3:M:185:GLY:N	2.44	0.51
3:M:200:ASN:HB2	3:M:204:ASN:ND2	2.26	0.51
1:C:38:A:C2	1:C:182:G:C4	2.99	0.51
1:G:62:A:N1	1:G:77:U:O4	2.44	0.51
1:K:109:G:OP1	3:J:182:ARG:NH2	2.44	0.51
1:O:47:A:H2	1:O:115:G:N3	2.09	0.51
3:B:69:ASP:O	3:B:73:GLU:HB2	2.11	0.51
3:B:210:GLU:O	3:B:211:VAL:C	2.54	0.51
3:B:294:PRO:HA	3:B:297:ARG:HD3	1.92	0.51
3:E:89:GLU:OE2	3:E:89:GLU:HA	2.10	0.51
3:E:220:ARG:C	3:E:222:GLY:H	2.18	0.51
3:F:180:GLN:HA	3:F:183:ALA:HB3	1.92	0.51
3:F:233:LYS:HG3	3:F:233:LYS:O	2.11	0.51
3:I:195:GLY:C	3:I:196:ILE:HD12	2.36	0.51
3:I:379:HIS:CB	3:I:388:ALA:HB2	2.41	0.51
3:J:163:MET:O	3:J:164:THR:C	2.53	0.51
3:J:273:GLN:OE1	3:J:276:ASN:OD1	2.28	0.51
3:M:89:GLU:OE2	3:M:89:GLU:HA	2.10	0.51
3:M:247:TYR:O	3:M:248:PRO:C	2.51	0.51
3:M:404:GLN:H	3:M:404:GLN:CD	2.19	0.51
1:C:228:A:C2	1:C:229:A:N7	2.79	0.51
1:C:228:A:C6	1:C:229:A:N7	2.79	0.51
1:G:47:A:H2	1:G:115:G:N3	2.08	0.51
1:G:246:A:O2'	1:G:247:U:P	2.69	0.51
1:O:12:C:O5'	1:O:12:C:H6	1.95	0.51
1:O:34:G:H4'	1:O:35:A:C8	2.45	0.51
1:O:84:U:OP1	2:P:4:U:O2'	2.18	0.51
3:A:115:LEU:HB3	3:A:116:PRO:HD3	1.92	0.51
3:A:132:THR:HG23	3:A:174:TRP:HZ2	1.75	0.51
3:A:216:GLY:O	3:B:241:SER:OG	2.29	0.51
3:B:374:LYS:O	3:B:374:LYS:HD3	2.11	0.51
3:E:214:ARG:NH2	3:E:291:GLU:OE1	2.44	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:E:247:TYR:N	3:E:248:PRO:HD2	2.26	0.51
3:F:59:ILE:HG12	3:F:64:LYS:O	2.11	0.51
3:F:158:ASP:CG	3:F:159:ALA:N	2.69	0.51
3:F:253:TRP:O	3:F:254:ASP:C	2.54	0.51
3:F:333:ILE:N	3:F:333:ILE:HD12	2.26	0.51
3:I:183:ALA:O	3:I:185:GLY:N	2.45	0.51
3:J:233:LYS:O	3:J:233:LYS:HG3	2.11	0.51
1:C:159:A:C5	1:C:161:G:C5	2.99	0.50
1:C:243:A:H2'	1:C:244:A:C8	2.46	0.50
1:G:159:A:C2'	1:G:160:U:H5''	2.41	0.50
1:K:62:A:N1	1:K:77:U:O4	2.44	0.50
1:O:243:A:H2'	1:O:244:A:C8	2.46	0.50
3:E:132:THR:HG23	3:E:174:TRP:HZ2	1.75	0.50
3:M:179:THR:CA	3:M:182:ARG:HH12	2.23	0.50
3:N:358:GLU:HG3	3:N:359:ASN:N	2.26	0.50
1:G:95:G:H1'	1:G:163:G:O2'	2.12	0.50
1:G:197:C:H5''	1:G:198:A:OP2	2.11	0.50
3:A:227:ARG:CZ	3:A:229:THR:OG1	2.59	0.50
3:E:61:LYS:HZ3	3:E:63:LYS:CG	2.25	0.50
3:E:221:ILE:HD12	3:E:221:ILE:O	2.11	0.50
3:I:102:ILE:HD13	3:I:109:LEU:HD21	1.91	0.50
3:I:203:TRP:CZ2	3:I:253:TRP:HB3	2.46	0.50
3:I:240:VAL:HG13	3:J:221:ILE:HG23	1.92	0.50
3:J:349:PHE:O	3:J:351:ARG:N	2.43	0.50
3:M:238:ASP:CG	3:M:239:GLY:N	2.69	0.50
1:C:12:C:O5'	1:C:12:C:H6	1.95	0.50
3:A:247:TYR:O	3:A:248:PRO:C	2.51	0.50
3:A:379:HIS:HB2	3:A:388:ALA:HB2	1.93	0.50
3:B:163:MET:O	3:B:164:THR:C	2.53	0.50
3:B:180:GLN:HA	3:B:183:ALA:HB3	1.93	0.50
3:B:357:VAL:HG13	3:B:358:GLU:H	1.76	0.50
3:B:361:LEU:CD2	3:B:392:LEU:HB2	2.42	0.50
3:E:168:TYR:CD2	3:E:168:TYR:C	2.87	0.50
3:F:94:ARG:O	3:F:96:ILE:HG23	2.12	0.50
3:I:281:LEU:O	3:I:284:VAL:HB	2.11	0.50
3:J:324:LYS:C	3:J:326:GLY:H	2.19	0.50
3:J:347:GLY:HA2	3:J:350:VAL:HG12	1.94	0.50
3:M:227:ARG:CZ	3:M:229:THR:OG1	2.59	0.50
1:G:153:C:H2'	1:G:154:U:H6	1.75	0.50
1:G:203:U:H2'	1:G:204:G:C8	2.42	0.50
1:G:228:A:C6	1:G:229:A:N7	2.80	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:18:U:H2'	1:K:19:A:C8	2.46	0.50
1:K:25:A:N3	1:K:171:C:H1'	2.27	0.50
1:K:185:A:H4'	1:K:186:U:O5'	2.12	0.50
1:O:139:G:C2'	1:O:140:U:OP2	2.59	0.50
3:A:124:TYR:CZ	3:A:194:ARG:HD3	2.46	0.50
3:B:319:ASP:C	3:B:321:SER:N	2.65	0.50
3:F:59:ILE:HD13	3:F:66:ASN:HA	1.94	0.50
3:F:110:HIS:CE1	3:F:112:GLY:HA3	2.46	0.50
3:I:58:ALA:HB1	3:I:63:LYS:HB2	1.94	0.50
3:J:294:PRO:O	3:J:295:GLN:C	2.54	0.50
3:M:168:TYR:CD2	3:M:168:TYR:C	2.87	0.50
3:M:374:LYS:HA	3:M:374:LYS:HZ2	1.76	0.50
3:N:173:LEU:O	3:N:174:TRP:C	2.54	0.50
3:N:272:ASP:O	3:N:274:TYR:N	2.45	0.50
3:N:288:ARG:HH12	3:N:307:ASP:HB3	1.76	0.50
1:C:197:C:H5''	1:C:198:A:OP2	2.11	0.50
1:G:246:A:O2'	1:G:247:U:O5'	2.24	0.50
1:K:47:A:H2	1:K:115:G:N3	2.10	0.50
3:A:220:ARG:HA	3:B:241:SER:HA	1.94	0.50
3:B:59:ILE:HD13	3:B:66:ASN:HA	1.94	0.50
3:E:220:ARG:O	3:E:222:GLY:N	2.44	0.50
3:E:414:ARG:HH11	3:E:414:ARG:HG3	1.76	0.50
3:F:288:ARG:HH12	3:F:307:ASP:HB3	1.77	0.50
3:I:225:LEU:O	3:I:231:LYS:HB2	2.12	0.50
3:J:288:ARG:HH12	3:J:307:ASP:HB3	1.76	0.50
3:M:221:ILE:HG23	3:N:240:VAL:O	2.11	0.50
3:N:87:ILE:HG23	3:N:310:VAL:HG21	1.94	0.50
1:C:18:U:H2'	1:C:19:A:C8	2.46	0.50
1:O:48:U:H1'	1:O:116:U:O2'	2.11	0.50
1:O:135:G:H2'	1:O:136:G:H8	1.75	0.50
3:A:179:THR:CA	3:A:182:ARG:HH12	2.23	0.50
3:A:200:ASN:HB2	3:A:204:ASN:ND2	2.26	0.50
3:A:390:HIS:HB3	3:A:414:ARG:NH2	2.27	0.50
3:E:222:GLY:C	3:E:224:MET:N	2.66	0.50
3:F:294:PRO:O	3:F:297:ARG:N	2.45	0.50
3:I:238:ASP:CG	3:I:239:GLY:N	2.68	0.50
3:I:247:TYR:HA	3:I:250:MET:HE3	1.94	0.50
3:I:320:SER:HB2	3:I:356:GLU:CD	2.36	0.50
3:J:91:MET:HE2	3:J:128:TYR:CE2	2.47	0.50
3:M:360:LEU:HD23	3:M:363:LEU:HD12	1.92	0.50
3:M:386:ARG:NH1	3:M:389:GLN:HG2	2.27	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:N:104:PRO:HB2	3:N:163:MET:HA	1.93	0.50
3:N:349:PHE:CZ	3:N:396:VAL:HG11	2.46	0.50
3:N:374:LYS:O	3:N:374:LYS:HD3	2.12	0.50
1:G:109:G:H2'	1:G:110:A:H8	1.77	0.50
1:O:109:G:H2'	1:O:110:A:H8	1.76	0.50
3:A:183:ALA:O	3:A:185:GLY:N	2.45	0.50
3:B:247:TYR:OH	3:B:251:GLN:NE2	2.45	0.50
3:B:349:PHE:O	3:B:351:ARG:N	2.45	0.50
3:E:115:LEU:HB3	3:E:116:PRO:CD	2.41	0.50
3:E:203:TRP:CZ2	3:E:253:TRP:HB3	2.46	0.50
3:F:73:GLU:C	3:F:75:GLY:H	2.18	0.50
3:I:83:THR:OG1	3:I:86:HIS:CB	2.59	0.50
3:I:124:TYR:CE1	3:I:194:ARG:HB3	2.46	0.50
3:I:125:LEU:C	3:I:192:ARG:HH22	2.20	0.50
3:I:132:THR:HG23	3:I:174:TRP:HZ2	1.76	0.50
3:I:335:LEU:HD22	3:I:400:VAL:CG1	2.32	0.50
3:I:379:HIS:HB2	3:I:388:ALA:HB2	1.93	0.50
3:I:392:LEU:C	3:I:392:LEU:CD2	2.85	0.50
3:J:138:THR:N	3:J:199:ASN:HD21	2.10	0.50
3:J:253:TRP:O	3:J:254:ASP:C	2.53	0.50
3:J:294:PRO:O	3:J:297:ARG:N	2.45	0.50
3:M:95:ARG:HG2	3:M:95:ARG:O	2.12	0.50
1:C:198:A:OP1	1:C:198:A:C8	2.65	0.50
1:G:12:C:O5'	1:G:12:C:H6	1.93	0.50
1:O:161:G:C2	1:O:162:G:C8	2.99	0.50
1:O:246:A:O2'	1:O:247:U:P	2.70	0.50
3:A:83:THR:OG1	3:A:86:HIS:CB	2.60	0.50
3:E:73:GLU:HG2	3:E:73:GLU:O	2.11	0.50
3:E:392:LEU:C	3:E:392:LEU:CD2	2.84	0.50
3:F:347:GLY:HA2	3:F:350:VAL:HG12	1.92	0.50
3:F:355:GLN:NE2	3:F:355:GLN:C	2.70	0.50
3:I:345:PHE:O	3:I:346:TYR:C	2.55	0.50
3:I:354:ASP:O	3:I:357:VAL:HG12	2.12	0.50
3:J:166:ILE:HG22	3:J:170:LEU:CD1	2.42	0.50
3:M:224:MET:O	3:M:227:ARG:HB2	2.12	0.50
3:N:355:GLN:NE2	3:N:355:GLN:C	2.70	0.50
3:N:361:LEU:CD2	3:N:392:LEU:HB2	2.42	0.50
1:C:47:A:H2	1:C:115:G:N3	2.10	0.50
1:C:95:G:H1'	1:C:163:G:O2'	2.12	0.50
1:K:48:U:H1'	1:K:116:U:O2'	2.11	0.50
3:A:95:ARG:O	3:A:95:ARG:HG2	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:281:LEU:O	3:A:282:GLU:C	2.55	0.50
3:A:345:PHE:O	3:A:346:TYR:C	2.55	0.50
3:A:382:ASP:CG	3:A:385:LYS:HG2	2.36	0.50
3:A:404:GLN:CD	3:A:404:GLN:H	2.20	0.50
3:B:167:HIS:O	3:B:168:TYR:C	2.55	0.50
3:E:95:ARG:O	3:E:95:ARG:HG2	2.12	0.50
3:F:104:PRO:HB2	3:F:163:MET:HA	1.94	0.50
3:F:135:GLY:O	3:F:137:SER:N	2.45	0.50
3:I:404:GLN:CD	3:I:404:GLN:H	2.19	0.50
3:J:176:ASN:O	3:J:179:THR:HB	2.12	0.50
3:N:245:PHE:O	3:N:248:PRO:HD2	2.11	0.50
1:G:25:A:N3	1:G:171:C:H1'	2.27	0.49
1:G:38:A:C2	1:G:182:G:C4	2.99	0.49
3:A:168:TYR:C	3:A:168:TYR:CD2	2.88	0.49
3:B:358:GLU:HG3	3:B:359:ASN:N	2.27	0.49
3:B:380:ILE:C	3:B:380:ILE:HD12	2.37	0.49
3:E:79:ASP:HB3	3:E:274:TYR:CD1	2.47	0.49
3:E:195:GLY:C	3:E:196:ILE:HD12	2.37	0.49
3:E:390:HIS:HB3	3:E:414:ARG:NH2	2.27	0.49
3:F:167:HIS:O	3:F:168:TYR:C	2.55	0.49
3:I:61:LYS:HZ3	3:I:63:LYS:CG	2.24	0.49
3:I:179:THR:CA	3:I:182:ARG:NH1	2.70	0.49
3:I:203:TRP:HZ2	3:I:253:TRP:HB3	1.77	0.49
3:J:284:VAL:HG11	3:J:309:CYS:SG	2.52	0.49
3:M:73:GLU:HG2	3:M:73:GLU:O	2.10	0.49
3:M:293:ASP:OD1	3:M:296:GLU:HB2	2.11	0.49
3:M:325:PHE:HE2	3:M:348:TYR:CE1	2.30	0.49
1:G:20:C:H2'	1:G:21:A:H5'	1.93	0.49
1:G:188:U:H2'	1:G:189:A:C8	2.45	0.49
1:K:95:G:O2'	1:K:96:C:H5'	2.12	0.49
1:K:160:U:H1'	1:K:184:G:C4	2.47	0.49
1:O:25:A:C1'	1:O:171:C:H4'	2.41	0.49
3:A:195:GLY:C	3:A:196:ILE:HD12	2.37	0.49
3:A:238:ASP:CG	3:A:239:GLY:N	2.69	0.49
3:B:215:VAL:HG11	3:B:283:VAL:HG13	1.94	0.49
3:B:288:ARG:HH12	3:B:307:ASP:HB3	1.77	0.49
3:E:247:TYR:O	3:E:248:PRO:C	2.52	0.49
3:F:87:ILE:HG12	3:F:310:VAL:HG21	1.94	0.49
3:F:374:LYS:O	3:F:374:LYS:HD3	2.12	0.49
3:I:361:LEU:HA	3:I:392:LEU:HD12	1.94	0.49
3:J:347:GLY:C	3:J:349:PHE:N	2.70	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:M:369:ILE:HA	3:M:372:ILE:HB	1.94	0.49
1:C:184:G:H8	1:C:184:G:O5'	1.96	0.49
1:C:187:A:O2'	1:C:188:U:P	2.70	0.49
1:C:203:U:H2'	1:C:204:G:C8	2.45	0.49
1:C:246:A:O2'	1:C:247:U:O5'	2.24	0.49
1:G:160:U:H1'	1:G:184:G:C4	2.47	0.49
3:I:256:PHE:O	3:I:259:PHE:N	2.46	0.49
3:I:324:LYS:HB3	3:I:324:LYS:HZ3	1.74	0.49
3:J:173:LEU:O	3:J:174:TRP:C	2.56	0.49
3:J:374:LYS:O	3:J:374:LYS:HD3	2.12	0.49
3:M:115:LEU:HB3	3:M:116:PRO:HD3	1.93	0.49
3:M:382:ASP:CG	3:M:385:LYS:HG2	2.37	0.49
3:N:288:ARG:NE	3:N:302:PRO:HG3	2.26	0.49
1:C:48:U:H1'	1:C:116:U:O2'	2.12	0.49
1:K:12:C:O5'	1:K:12:C:H6	1.94	0.49
1:K:210:A:O2'	1:K:211:U:H5'	2.13	0.49
1:K:217:A:O2'	1:K:218:G:O5'	2.18	0.49
1:O:109:G:OP1	3:N:182:ARG:NH2	2.45	0.49
1:O:198:A:OP1	1:O:198:A:C8	2.66	0.49
3:A:53:GLN:NE2	3:A:53:GLN:HA	2.27	0.49
3:A:73:GLU:HG2	3:A:73:GLU:O	2.11	0.49
3:A:85:GLU:CD	3:A:85:GLU:H	2.19	0.49
3:A:360:LEU:HD23	3:A:363:LEU:HD12	1.93	0.49
3:A:369:ILE:HA	3:A:372:ILE:HB	1.94	0.49
3:B:169:GLN:O	3:B:171:LYS:N	2.45	0.49
3:B:386:ARG:HH12	3:B:390:HIS:HD2	1.56	0.49
3:F:159:ALA:HA	3:F:162:ASN:ND2	2.24	0.49
3:F:358:GLU:HG3	3:F:359:ASN:N	2.28	0.49
3:I:85:GLU:CD	3:I:85:GLU:H	2.20	0.49
3:I:95:ARG:O	3:I:95:ARG:HG2	2.13	0.49
3:I:224:MET:HB3	3:I:245:PHE:CE2	2.41	0.49
3:M:361:LEU:HA	3:M:392:LEU:HD12	1.94	0.49
3:M:416:MET:HA	3:M:416:MET:CE	2.41	0.49
3:N:163:MET:O	3:N:164:THR:C	2.54	0.49
3:N:379:HIS:HB2	3:N:388:ALA:HB2	1.94	0.49
1:K:135:G:H2'	1:K:136:G:H8	1.78	0.49
1:K:198:A:OP1	1:K:198:A:C8	2.66	0.49
3:A:115:LEU:HB3	3:A:116:PRO:CD	2.43	0.49
3:A:361:LEU:HA	3:A:392:LEU:HD12	1.94	0.49
3:B:73:GLU:C	3:B:75:GLY:H	2.20	0.49
3:B:379:HIS:HB2	3:B:388:ALA:HB2	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:E:57:GLU:O	3:E:58:ALA:C	2.55	0.49
3:E:247:TYR:HA	3:E:250:MET:HE3	1.95	0.49
3:F:173:LEU:O	3:F:174:TRP:C	2.54	0.49
3:F:272:ASP:O	3:F:274:TYR:N	2.46	0.49
3:I:57:GLU:O	3:I:58:ALA:C	2.55	0.49
3:I:115:LEU:HB3	3:I:116:PRO:CD	2.42	0.49
3:I:224:MET:O	3:I:227:ARG:HB2	2.12	0.49
3:J:109:LEU:HD22	3:J:113:HIS:ND1	2.27	0.49
3:M:63:LYS:HB3	3:M:63:LYS:HZ2	1.77	0.49
3:M:179:THR:CA	3:M:182:ARG:NH1	2.73	0.49
3:M:247:TYR:N	3:M:248:PRO:HD2	2.28	0.49
3:M:378:GLU:O	3:M:378:GLU:OE2	2.30	0.49
3:N:138:THR:N	3:N:199:ASN:HD21	2.11	0.49
3:N:294:PRO:O	3:N:297:ARG:N	2.45	0.49
1:K:20:C:H2'	1:K:21:A:H5'	1.93	0.49
1:K:102:G:C2	1:K:105:C:N3	2.78	0.49
1:O:194:G:C8	1:O:194:G:H3'	2.47	0.49
1:O:203:U:H2'	1:O:204:G:C8	2.45	0.49
3:B:294:PRO:O	3:B:297:ARG:N	2.46	0.49
3:E:94:ARG:NH2	3:E:304:THR:HG23	2.24	0.49
3:I:220:ARG:O	3:I:222:GLY:N	2.45	0.49
3:M:195:GLY:C	3:M:196:ILE:HD12	2.38	0.49
3:N:59:ILE:HD13	3:N:66:ASN:HA	1.95	0.49
3:N:94:ARG:O	3:N:96:ILE:HG23	2.12	0.49
3:N:167:HIS:O	3:N:168:TYR:C	2.55	0.49
3:N:176:ASN:O	3:N:179:THR:HB	2.12	0.49
1:C:134:A:C2'	1:C:135:G:H5'	2.43	0.49
1:C:135:G:H2'	1:C:136:G:H8	1.76	0.49
1:G:14:U:H2'	1:G:35:A:H61	1.78	0.49
1:G:210:A:O2'	1:G:211:U:H5'	2.13	0.49
1:K:109:G:H2'	1:K:110:A:H8	1.76	0.49
1:K:225:A:H5'	1:K:226:G:OP2	2.13	0.49
1:K:251:U:H3'	1:K:251:U:H6	1.77	0.49
1:O:95:G:H1'	1:O:163:G:O2'	2.13	0.49
1:O:225:A:H5'	1:O:226:G:OP2	2.12	0.49
3:A:220:ARG:C	3:A:222:GLY:H	2.21	0.49
3:B:284:VAL:HG11	3:B:309:CYS:SG	2.53	0.49
3:B:347:GLY:C	3:B:349:PHE:N	2.70	0.49
3:E:58:ALA:HB1	3:E:63:LYS:HB2	1.95	0.49
3:M:227:ARG:NH1	3:M:229:THR:OG1	2.46	0.49
3:N:250:MET:O	3:N:253:TRP:N	2.46	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:N:294:PRO:O	3:N:295:GLN:C	2.55	0.49
1:C:188:U:H2'	1:C:189:A:C8	2.45	0.49
1:K:161:G:C2	1:K:162:G:C8	3.00	0.49
1:O:139:G:HO2'	1:O:140:U:H6	1.56	0.49
3:A:203:TRP:CZ2	3:A:253:TRP:HB3	2.47	0.49
3:F:91:MET:HE2	3:F:128:TYR:CE2	2.48	0.49
3:F:343:PHE:CD1	3:F:412:GLN:HB2	2.48	0.49
3:I:369:ILE:HA	3:I:372:ILE:HB	1.95	0.49
3:J:87:ILE:HG12	3:J:310:VAL:HG21	1.95	0.49
3:M:85:GLU:H	3:M:85:GLU:CD	2.20	0.49
3:M:256:PHE:O	3:M:259:PHE:N	2.45	0.49
3:M:281:LEU:O	3:M:282:GLU:C	2.56	0.49
3:N:378:GLU:OE1	3:N:378:GLU:HA	2.13	0.49
1:C:10:A:H2'	1:C:11:G:C8	2.47	0.49
1:K:246:A:O2'	1:K:247:U:P	2.71	0.49
3:A:202:TRP:CD1	3:A:203:TRP:N	2.81	0.49
3:A:345:PHE:O	3:A:347:GLY:N	2.45	0.49
3:B:104:PRO:HB2	3:B:163:MET:HA	1.95	0.49
3:B:176:ASN:O	3:B:179:THR:HB	2.12	0.49
3:E:99:TYR:HA	3:E:131:PHE:O	2.12	0.49
3:E:331:ASN:HD22	3:E:334:TRP:NE1	2.02	0.49
3:E:382:ASP:CG	3:E:385:LYS:HG2	2.38	0.49
3:F:83:THR:HB	3:F:86:HIS:CB	2.39	0.49
3:F:210:GLU:O	3:F:211:VAL:C	2.54	0.49
3:F:288:ARG:NE	3:F:302:PRO:HG3	2.26	0.49
3:F:324:LYS:C	3:F:326:GLY:H	2.20	0.49
3:I:390:HIS:HB3	3:I:414:ARG:NH2	2.28	0.49
3:J:104:PRO:HB2	3:J:163:MET:HA	1.95	0.49
3:J:228:ASP:O	3:J:229:THR:C	2.56	0.49
3:M:203:TRP:CZ2	3:M:253:TRP:HB3	2.48	0.49
3:N:386:ARG:HH12	3:N:390:HIS:HD2	1.55	0.49
1:C:225:A:H5'	1:C:226:G:OP2	2.12	0.49
1:G:194:G:C8	1:G:194:G:H3'	2.48	0.49
1:K:184:G:H5''	1:K:185:A:OP2	2.13	0.49
1:O:134:A:C2'	1:O:135:G:H5'	2.43	0.49
1:O:159:A:C5	1:O:161:G:C5	3.01	0.49
3:A:224:MET:O	3:A:227:ARG:HB2	2.12	0.49
3:B:288:ARG:NE	3:B:302:PRO:HG3	2.27	0.49
3:E:58:ALA:HA	3:E:63:LYS:HB2	1.95	0.49
3:E:352:ARG:HD3	3:E:356:GLU:OE2	2.13	0.49
3:F:163:MET:O	3:F:164:THR:C	2.54	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:I:247:TYR:N	3:I:248:PRO:HD2	2.27	0.49
3:M:58:ALA:HB1	3:M:63:LYS:HB2	1.95	0.49
3:M:98:ALA:HA	3:M:266:MET:O	2.13	0.49
3:N:347:GLY:C	3:N:349:PHE:N	2.70	0.49
1:C:20:C:H2'	1:C:21:A:H5'	1.95	0.48
1:C:95:G:O2'	1:C:96:C:H5'	2.13	0.48
1:K:38:A:C2	1:K:182:G:C4	3.01	0.48
1:K:194:G:C8	1:K:194:G:H3'	2.48	0.48
1:K:228:A:N3	1:K:229:A:C8	2.81	0.48
1:O:18:U:H2'	1:O:19:A:C8	2.48	0.48
1:O:97:U:C2	1:O:111:G:C2	3.02	0.48
3:A:227:ARG:NH2	3:A:229:THR:OG1	2.46	0.48
3:A:316:LEU:HD11	3:A:324:LYS:HD3	1.95	0.48
3:A:333:ILE:O	3:A:334:TRP:O	2.31	0.48
3:E:374:LYS:HA	3:E:374:LYS:HZ2	1.78	0.48
3:I:345:PHE:O	3:I:347:GLY:N	2.46	0.48
3:I:414:ARG:HH11	3:I:414:ARG:HG3	1.78	0.48
3:J:210:GLU:O	3:J:211:VAL:C	2.55	0.48
3:M:281:LEU:O	3:M:284:VAL:HB	2.13	0.48
1:C:185:A:H4'	1:C:186:U:O5'	2.12	0.48
1:C:194:G:C8	1:C:194:G:H3'	2.48	0.48
1:K:14:U:H2'	1:K:35:A:H61	1.78	0.48
1:K:25:A:C1'	1:K:171:C:H4'	2.43	0.48
1:K:187:A:O2'	1:K:188:U:P	2.71	0.48
1:K:218:G:OP1	1:K:218:G:C4'	2.58	0.48
1:K:245:C:O2	1:K:246:A:C8	2.65	0.48
1:O:20:C:H2'	1:O:21:A:H5'	1.95	0.48
1:O:40:U:H2'	1:O:41:C:H6	1.78	0.48
3:A:179:THR:CA	3:A:182:ARG:NH1	2.73	0.48
3:E:98:ALA:HA	3:E:266:MET:O	2.13	0.48
3:E:124:TYR:CZ	3:E:194:ARG:HD3	2.47	0.48
3:E:200:ASN:HB2	3:E:204:ASN:ND2	2.28	0.48
3:F:138:THR:N	3:F:199:ASN:HD21	2.10	0.48
3:M:44:LYS:O	3:M:47:GLU:HB3	2.12	0.48
3:M:202:TRP:CD1	3:M:203:TRP:N	2.81	0.48
3:M:390:HIS:HB3	3:M:414:ARG:NH2	2.28	0.48
3:M:392:LEU:C	3:M:392:LEU:CD2	2.83	0.48
3:N:166:ILE:HG22	3:N:170:LEU:CD1	2.43	0.48
3:N:405:GLU:HA	3:N:405:GLU:OE2	2.13	0.48
1:G:161:G:C2	1:G:162:G:C8	3.01	0.48
1:K:95:G:H1'	1:K:163:G:O2'	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:103(A):A:C5	1:O:228:A:C4	3.02	0.48
3:A:220:ARG:O	3:A:222:GLY:N	2.47	0.48
3:A:378:GLU:O	3:A:378:GLU:OE2	2.31	0.48
3:A:392:LEU:C	3:A:392:LEU:CD2	2.84	0.48
3:E:345:PHE:O	3:E:346:TYR:C	2.54	0.48
3:E:404:GLN:NE2	3:E:404:GLN:H	2.12	0.48
3:I:124:TYR:CZ	3:I:194:ARG:HD3	2.48	0.48
3:I:247:TYR:O	3:I:248:PRO:C	2.53	0.48
3:I:371:GLU:OE2	3:I:374:LYS:HB3	2.13	0.48
3:I:404:GLN:H	3:I:404:GLN:NE2	2.11	0.48
3:J:167:HIS:O	3:J:168:TYR:C	2.56	0.48
3:J:261:GLN:O	3:J:262:GLN:HG2	2.14	0.48
3:M:99:TYR:HA	3:M:131:PHE:O	2.12	0.48
3:M:135:GLY:O	3:M:137:SER:N	2.46	0.48
3:M:316:LEU:HD11	3:M:324:LYS:HD3	1.95	0.48
3:N:73:GLU:C	3:N:75:GLY:H	2.21	0.48
1:C:47:A:OP1	3:B:44:LYS:NZ	2.47	0.48
1:C:132:A:N6	1:G:134:A:C6	2.81	0.48
1:G:135:G:H2'	1:G:136:G:H8	1.78	0.48
1:G:198:A:OP1	1:G:198:A:C8	2.67	0.48
3:A:58:ALA:HB1	3:A:63:LYS:HB2	1.95	0.48
3:A:247:TYR:N	3:A:248:PRO:HD2	2.29	0.48
3:A:405:GLU:OE2	3:A:409:ALA:HB2	2.12	0.48
3:B:53:GLN:HA	3:B:53:GLN:NE2	2.28	0.48
3:E:85:GLU:H	3:E:85:GLU:CD	2.20	0.48
3:E:183:ALA:O	3:E:185:GLY:N	2.45	0.48
3:E:203:TRP:HZ2	3:E:253:TRP:HB3	1.77	0.48
3:E:354:ASP:O	3:E:357:VAL:HG12	2.13	0.48
3:E:404:GLN:H	3:E:404:GLN:CD	2.20	0.48
3:F:111:VAL:CG1	3:F:345:PHE:HE1	2.27	0.48
3:I:58:ALA:CA	3:I:63:LYS:HB2	2.43	0.48
3:I:94:ARG:NH2	3:I:304:THR:HG23	2.25	0.48
3:I:405:GLU:O	3:I:407:SER:N	2.46	0.48
3:J:340:THR:O	3:J:341:SER:C	2.57	0.48
3:M:125:LEU:HA	3:M:192:ARG:HH22	1.77	0.48
1:C:204:G:N2	1:C:209:C:N3	2.51	0.48
1:G:32:U:H2'	1:G:33:C:O4'	2.13	0.48
1:G:225:A:H5'	1:G:226:G:OP2	2.14	0.48
1:K:159:A:C5	1:K:161:G:C5	3.01	0.48
3:A:325:PHE:HE2	3:A:348:TYR:CE1	2.32	0.48
3:B:166:ILE:HG22	3:B:170:LEU:CD1	2.43	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:E:227:ARG:CZ	3:E:229:THR:OG1	2.62	0.48
3:F:166:ILE:HG22	3:F:170:LEU:CD1	2.43	0.48
3:F:188:ALA:CA	3:F:192:ARG:HH11	2.22	0.48
3:F:250:MET:O	3:F:253:TRP:N	2.46	0.48
3:I:227:ARG:CZ	3:I:229:THR:OG1	2.61	0.48
3:M:414:ARG:HH11	3:M:414:ARG:HG3	1.77	0.48
1:C:24:A:H1'	1:C:172:U:H5'	1.95	0.48
1:C:161:G:C2	1:C:162:G:C8	3.01	0.48
1:K:24:A:H1'	1:K:172:U:H5'	1.95	0.48
1:K:32:U:H2'	1:K:33:C:O4'	2.13	0.48
1:O:47:A:OP1	3:N:44:LYS:NZ	2.47	0.48
3:A:61:LYS:HZ3	3:A:61:LYS:HB2	1.79	0.48
3:A:125:LEU:HA	3:A:192:ARG:HH22	1.77	0.48
3:A:256:PHE:O	3:A:259:PHE:N	2.46	0.48
3:B:272:ASP:C	3:B:274:TYR:N	2.71	0.48
3:E:181:MET:HG2	3:E:186:TYR:HB2	1.95	0.48
3:F:243:ALA:O	3:F:246:THR:N	2.44	0.48
3:F:261:GLN:O	3:F:262:GLN:HG2	2.14	0.48
3:I:58:ALA:HA	3:I:63:LYS:HB2	1.95	0.48
3:I:83:THR:O	3:I:84:LYS:C	2.56	0.48
3:I:291:GLU:C	3:I:293:ASP:H	2.22	0.48
3:J:59:ILE:HG12	3:J:64:LYS:O	2.14	0.48
3:J:215:VAL:HG11	3:J:283:VAL:HG13	1.95	0.48
3:M:200:ASN:HB2	3:M:204:ASN:HD22	1.78	0.48
3:M:239:GLY:HA3	3:N:220:ARG:HE	1.79	0.48
3:M:245:PHE:HB2	3:N:221:ILE:HG21	1.96	0.48
3:N:96:ILE:HD12	3:N:97:GLY:CA	2.44	0.48
3:N:135:GLY:O	3:N:137:SER:N	2.47	0.48
3:N:233:LYS:HG3	3:N:233:LYS:O	2.13	0.48
1:C:245:C:O2	1:C:246:A:C8	2.66	0.48
1:G:159:A:C5	1:G:161:G:C5	3.01	0.48
1:G:173:U:O2'	1:G:174:C:OP1	2.24	0.48
1:G:251:U:H3'	1:G:251:U:H6	1.78	0.48
1:K:10:A:H2'	1:K:11:G:C8	2.49	0.48
1:K:223:G:C2'	1:K:224:G:H5'	2.44	0.48
3:A:243:ALA:HA	3:B:212:LEU:CD2	2.44	0.48
3:A:247:TYR:HA	3:A:250:MET:HE3	1.94	0.48
3:A:357:VAL:HB	3:A:389:GLN:HE21	1.78	0.48
3:E:94:ARG:NH2	3:E:307:ASP:N	2.62	0.48
3:E:378:GLU:O	3:E:378:GLU:OE2	2.32	0.48
3:F:176:ASN:O	3:F:179:THR:HB	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:I:73:GLU:HG2	3:I:73:GLU:O	2.13	0.48
3:I:98:ALA:HA	3:I:266:MET:O	2.13	0.48
3:I:200:ASN:HB2	3:I:204:ASN:ND2	2.28	0.48
3:I:220:ARG:C	3:I:222:GLY:N	2.72	0.48
3:J:343:PHE:CD1	3:J:412:GLN:HB2	2.48	0.48
3:M:124:TYR:CZ	3:M:194:ARG:HD3	2.48	0.48
3:M:220:ARG:C	3:M:222:GLY:H	2.22	0.48
3:N:357:VAL:HG21	3:N:388:ALA:HB3	1.95	0.48
1:C:14:U:H4'	1:C:37:A:C2	2.49	0.48
1:C:97:U:C2	1:C:111:G:C2	3.02	0.48
1:G:25:A:C1'	1:G:171:C:H4'	2.43	0.48
1:G:95:G:O2'	1:G:96:C:H5'	2.13	0.48
1:O:24:A:H1'	1:O:172:U:H5'	1.96	0.48
1:O:177:G:O2'	1:O:178:G:H5'	2.14	0.48
1:O:187:A:O2'	1:O:188:U:P	2.71	0.48
3:B:138:THR:N	3:B:199:ASN:HD21	2.12	0.48
3:E:285:LYS:HA	3:E:288:ARG:HD3	1.96	0.48
3:I:79:ASP:HB3	3:I:274:TYR:CD1	2.49	0.48
3:I:135:GLY:O	3:I:137:SER:N	2.47	0.48
3:I:202:TRP:CD1	3:I:203:TRP:N	2.81	0.48
3:J:94:ARG:O	3:J:96:ILE:HG23	2.13	0.48
3:M:79:ASP:HB3	3:M:274:TYR:CD1	2.49	0.48
3:M:216:GLY:O	3:N:241:SER:OG	2.32	0.48
3:N:96:ILE:HD11	3:N:123:MET:HE1	1.95	0.48
3:N:253:TRP:O	3:N:254:ASP:C	2.56	0.48
3:N:284:VAL:HG11	3:N:309:CYS:SG	2.54	0.48
3:N:294:PRO:O	3:N:297:ARG:HB2	2.14	0.48
1:C:25:A:C1'	1:C:171:C:H4'	2.43	0.48
1:C:251:U:H3'	1:C:251:U:H6	1.77	0.48
1:G:184:G:H5''	1:G:185:A:OP2	2.14	0.48
1:K:134:A:C2'	1:K:135:G:H5'	2.44	0.48
3:A:79:ASP:HB3	3:A:274:TYR:CD1	2.49	0.48
3:A:200:ASN:HB2	3:A:204:ASN:HD22	1.78	0.48
3:A:203:TRP:HZ2	3:A:253:TRP:HB3	1.78	0.48
3:E:83:THR:O	3:E:84:LYS:C	2.57	0.48
3:E:202:TRP:CD1	3:E:203:TRP:N	2.82	0.48
3:F:84:LYS:H	3:F:84:LYS:HG2	1.34	0.48
3:F:109:LEU:HD22	3:F:113:HIS:ND1	2.28	0.48
3:I:345:PHE:C	3:I:347:GLY:N	2.72	0.48
3:M:61:LYS:HZ3	3:M:63:LYS:CG	2.27	0.48
3:M:220:ARG:O	3:M:222:GLY:N	2.47	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:228:A:N3	1:C:229:A:C8	2.82	0.48
1:G:24:A:H1'	1:G:172:U:H5'	1.95	0.48
1:G:97:U:C2	1:G:111:G:C2	3.02	0.48
1:G:245:C:O2	1:G:246:A:C8	2.67	0.48
1:O:184:G:O5'	1:O:184:G:H8	1.97	0.48
3:A:99:TYR:HA	3:A:131:PHE:O	2.13	0.48
3:A:245:PHE:HB2	3:B:221:ILE:HG21	1.96	0.48
3:A:345:PHE:C	3:A:347:GLY:N	2.71	0.48
3:B:253:TRP:O	3:B:254:ASP:C	2.57	0.48
3:B:405:GLU:OE2	3:B:405:GLU:HA	2.14	0.48
3:E:73:GLU:CG	3:E:369:ILE:HG13	2.43	0.48
3:E:208:MET:HG3	3:F:208:MET:SD	2.54	0.48
3:F:96:ILE:C	3:F:96:ILE:CD1	2.86	0.48
3:F:198:ASN:OD1	3:F:200:ASN:ND2	2.47	0.48
3:F:340:THR:O	3:F:341:SER:C	2.56	0.48
3:I:73:GLU:CG	3:I:369:ILE:HG13	2.43	0.48
3:I:220:ARG:HA	3:J:241:SER:HA	1.95	0.48
3:I:246:THR:O	3:I:247:TYR:C	2.56	0.48
3:J:59:ILE:HD13	3:J:66:ASN:HA	1.94	0.48
3:J:111:VAL:CG1	3:J:345:PHE:HE1	2.26	0.48
3:J:358:GLU:HG3	3:J:359:ASN:N	2.27	0.48
3:M:115:LEU:HB3	3:M:116:PRO:CD	2.44	0.48
3:M:404:GLN:H	3:M:404:GLN:NE2	2.12	0.48
3:N:169:GLN:O	3:N:171:LYS:N	2.46	0.48
1:C:32:U:H2'	1:C:33:C:O4'	2.14	0.47
1:C:84:U:OP1	2:D:4:U:O2'	2.22	0.47
1:G:14:U:O2	1:G:34:G:C2	2.66	0.47
1:K:200:A:H5'	1:K:243:A:C2	2.49	0.47
1:O:223:G:C2'	1:O:224:G:H5'	2.44	0.47
3:E:371:GLU:OE2	3:E:374:LYS:HB3	2.14	0.47
3:E:405:GLU:O	3:E:407:SER:N	2.47	0.47
3:F:272:ASP:C	3:F:274:TYR:N	2.71	0.47
3:I:240:VAL:CG1	3:J:221:ILE:HG12	2.43	0.47
3:I:357:VAL:CB	3:I:389:GLN:HE21	2.27	0.47
3:J:243:ALA:O	3:J:246:THR:N	2.44	0.47
3:M:357:VAL:HB	3:M:389:GLN:HE21	1.78	0.47
3:N:59:ILE:HG12	3:N:64:LYS:O	2.14	0.47
3:N:109:LEU:HD22	3:N:113:HIS:ND1	2.28	0.47
3:N:210:GLU:O	3:N:211:VAL:C	2.57	0.47
1:O:118:C:O2'	1:O:119:A:P	2.73	0.47
3:A:352:ARG:HD3	3:A:356:GLU:OE2	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:161:MET:O	3:B:162:ASN:C	2.57	0.47
3:E:200:ASN:OD1	3:E:201:HIS:N	2.47	0.47
3:E:345:PHE:O	3:E:347:GLY:N	2.48	0.47
3:I:94:ARG:NH2	3:I:307:ASP:N	2.62	0.47
3:I:200:ASN:HB2	3:I:204:ASN:HD22	1.79	0.47
3:I:319:ASP:HB2	3:I:352:ARG:HH11	1.75	0.47
3:J:386:ARG:HB2	3:J:386:ARG:HH11	1.79	0.47
3:M:291:GLU:C	3:M:293:ASP:H	2.22	0.47
3:N:135:GLY:HA3	3:N:138:THR:HG23	1.95	0.47
3:N:334:TRP:CD1	3:N:334:TRP:H	2.32	0.47
1:G:9:G:H2'	1:G:9:G:N3	2.30	0.47
1:G:149:G:N2	1:G:150:U:O4'	2.47	0.47
1:O:95:G:O2'	1:O:96:C:H5'	2.14	0.47
1:O:159:A:O2'	1:O:160:U:H5''	2.14	0.47
1:O:246:A:C1'	1:O:247:U:C5	2.97	0.47
3:A:61:LYS:HZ3	3:A:63:LYS:CG	2.27	0.47
3:A:227:ARG:NH1	3:A:229:THR:OG1	2.48	0.47
3:E:70:LEU:HD23	3:E:70:LEU:O	2.14	0.47
3:E:227:ARG:NH2	3:E:229:THR:OG1	2.47	0.47
3:E:369:ILE:HA	3:E:372:ILE:HB	1.95	0.47
3:F:135:GLY:HA3	3:F:138:THR:HG23	1.96	0.47
3:F:215:VAL:HG11	3:F:283:VAL:HG13	1.96	0.47
3:I:94:ARG:HH22	3:I:304:THR:CG2	2.25	0.47
3:I:352:ARG:HD3	3:I:356:GLU:OE2	2.14	0.47
3:I:405:GLU:OE2	3:I:409:ALA:HB2	2.14	0.47
3:M:203:TRP:HZ2	3:M:253:TRP:HB3	1.79	0.47
3:N:340:THR:O	3:N:341:SER:C	2.57	0.47
1:C:9:G:N3	1:C:9:G:H2'	2.29	0.47
1:C:43:U:H2'	1:C:44:C:C6	2.50	0.47
1:G:223:G:C2'	1:G:224:G:H5'	2.44	0.47
1:K:149:G:N2	1:K:150:U:O4'	2.47	0.47
1:K:159:A:O2'	1:K:160:U:H5''	2.14	0.47
2:L:1:G:OP1	2:L:1:G:C8	2.68	0.47
1:O:10:A:H2'	1:O:11:G:C8	2.49	0.47
1:O:188:U:H2'	1:O:189:A:C8	2.47	0.47
3:A:94:ARG:NH2	3:A:307:ASP:N	2.62	0.47
3:A:200:ASN:OD1	3:A:201:HIS:N	2.48	0.47
3:B:135:GLY:HA3	3:B:138:THR:HG23	1.96	0.47
3:B:340:THR:O	3:B:341:SER:C	2.57	0.47
3:E:63:LYS:HB3	3:E:63:LYS:HZ2	1.79	0.47
3:E:265:GLN:HE22	3:E:307:ASP:HA	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:E:281:LEU:O	3:E:282:GLU:C	2.57	0.47
3:E:291:GLU:C	3:E:293:ASP:H	2.23	0.47
3:I:66:ASN:O	3:I:69:ASP:N	2.48	0.47
3:I:200:ASN:OD1	3:I:201:HIS:N	2.47	0.47
3:I:220:ARG:C	3:I:222:GLY:H	2.20	0.47
3:I:281:LEU:O	3:I:282:GLU:C	2.56	0.47
3:I:382:ASP:CG	3:I:385:LYS:HG2	2.39	0.47
3:J:135:GLY:O	3:J:137:SER:N	2.47	0.47
3:J:135:GLY:HA3	3:J:138:THR:HG23	1.95	0.47
3:M:94:ARG:NH2	3:M:307:ASP:N	2.62	0.47
3:M:247:TYR:HA	3:M:250:MET:HE3	1.95	0.47
3:N:161:MET:O	3:N:162:ASN:C	2.57	0.47
1:C:109:G:OP1	3:B:182:ARG:CZ	2.63	0.47
1:G:43:U:H2'	1:G:44:C:C6	2.49	0.47
1:K:14:U:O2	1:K:34:G:C2	2.68	0.47
1:K:97:U:C2	1:K:111:G:C2	3.02	0.47
1:K:139:G:HO2'	1:K:140:U:H6	1.60	0.47
3:A:214:ARG:NH2	3:A:291:GLU:OE1	2.47	0.47
3:B:68:TRP:O	3:B:71:PHE:HB2	2.15	0.47
3:B:109:LEU:HD22	3:B:113:HIS:ND1	2.29	0.47
3:B:122:TRP:O	3:B:125:LEU:HB2	2.15	0.47
3:B:337:PRO:C	3:B:339:GLN:H	2.23	0.47
3:B:350:VAL:CG1	3:B:351:ARG:HG3	2.40	0.47
3:B:357:VAL:HG21	3:B:388:ALA:HB3	1.97	0.47
3:E:335:LEU:HD22	3:E:400:VAL:CG1	2.32	0.47
3:F:200:ASN:O	3:F:202:TRP:N	2.48	0.47
3:I:227:ARG:NH2	3:I:229:THR:OG1	2.47	0.47
3:I:239:GLY:HA3	3:J:220:ARG:HE	1.79	0.47
3:J:228:ASP:O	3:J:230:VAL:N	2.48	0.47
3:J:245:PHE:O	3:J:248:PRO:HD2	2.14	0.47
3:J:276:ASN:HD22	3:J:276:ASN:N	2.12	0.47
3:M:53:GLN:HA	3:M:53:GLN:NE2	2.29	0.47
3:M:227:ARG:NH2	3:M:229:THR:OG1	2.47	0.47
3:N:350:VAL:CG1	3:N:351:ARG:HG3	2.40	0.47
1:G:246:A:C1'	1:G:247:U:C5	2.98	0.47
1:K:43:U:H2'	1:K:44:C:C6	2.49	0.47
1:O:32:U:H2'	1:O:33:C:O4'	2.15	0.47
1:O:184:G:H5''	1:O:185:A:OP2	2.14	0.47
1:O:251:U:H3'	1:O:251:U:H6	1.78	0.47
3:A:404:GLN:H	3:A:404:GLN:NE2	2.12	0.47
3:E:125:LEU:C	3:E:192:ARG:HH22	2.21	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:353:SER:HB3	3:F:355:GLN:HG3	1.95	0.47
3:J:250:MET:O	3:J:253:TRP:N	2.47	0.47
3:M:200:ASN:OD1	3:M:201:HIS:N	2.48	0.47
3:N:200:ASN:O	3:N:202:TRP:N	2.48	0.47
3:N:272:ASP:C	3:N:274:TYR:N	2.72	0.47
3:N:380:ILE:C	3:N:380:ILE:HD12	2.39	0.47
1:C:109:G:OP1	3:B:182:ARG:NH2	2.48	0.47
1:C:159:A:C2	1:C:161:G:C8	3.03	0.47
1:C:210:A:O2'	1:C:211:U:H5'	2.15	0.47
1:G:10:A:H2'	1:G:11:G:C8	2.49	0.47
1:K:173:U:O2'	1:K:174:C:OP1	2.25	0.47
1:K:184:G:H8	1:K:184:G:O5'	1.97	0.47
1:O:210:A:O2'	1:O:211:U:H5'	2.15	0.47
3:A:44:LYS:O	3:A:47:GLU:HB3	2.14	0.47
3:A:57:GLU:O	3:A:58:ALA:C	2.58	0.47
3:A:83:THR:O	3:A:84:LYS:C	2.58	0.47
3:A:208:MET:HG3	3:B:208:MET:SD	2.55	0.47
3:A:246:THR:O	3:A:247:TYR:C	2.58	0.47
3:A:291:GLU:C	3:A:293:ASP:H	2.22	0.47
3:A:414:ARG:HH11	3:A:414:ARG:HG3	1.78	0.47
3:B:247:TYR:HE2	3:B:276:ASN:OD1	1.98	0.47
3:B:378:GLU:OE1	3:B:378:GLU:HA	2.15	0.47
3:E:44:LYS:O	3:E:47:GLU:HB3	2.15	0.47
3:E:58:ALA:CA	3:E:63:LYS:HB2	2.44	0.47
3:E:221:ILE:HG12	3:F:240:VAL:HG13	1.97	0.47
3:E:397:VAL:HG12	3:E:406:ALA:CB	2.44	0.47
3:E:405:GLU:CD	3:E:405:GLU:C	2.83	0.47
3:F:96:ILE:HD12	3:F:97:GLY:CA	2.45	0.47
3:F:247:TYR:HE2	3:F:276:ASN:OD1	1.96	0.47
3:F:368:PRO:O	3:F:369:ILE:C	2.57	0.47
3:J:122:TRP:O	3:J:125:LEU:HB2	2.15	0.47
3:J:380:ILE:C	3:J:380:ILE:HD12	2.40	0.47
3:J:397:VAL:O	3:J:401:HIS:HB2	2.14	0.47
3:M:60:LYS:HE3	3:M:92:ARG:HH12	1.79	0.47
3:M:66:ASN:O	3:M:69:ASP:N	2.47	0.47
3:M:183:ALA:C	3:M:185:GLY:N	2.73	0.47
3:M:208:MET:HG3	3:N:208:MET:SD	2.55	0.47
3:M:214:ARG:NH2	3:M:291:GLU:OE1	2.47	0.47
3:N:324:LYS:C	3:N:326:GLY:H	2.22	0.47
1:C:96:C:H2'	1:C:97:U:C6	2.49	0.47
1:K:228:A:C2	1:O:103(A):A:C2	3.03	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:O:194:G:H3'	1:O:194:G:H8	1.80	0.47
3:B:41:TYR:O	3:B:44:LYS:HB2	2.15	0.47
3:B:59:ILE:HG12	3:B:64:LYS:O	2.15	0.47
3:E:61:LYS:NZ	3:E:63:LYS:HG3	2.30	0.47
3:I:265:GLN:HE22	3:I:307:ASP:HA	1.78	0.47
3:N:41:TYR:O	3:N:44:LYS:HB2	2.15	0.47
3:N:111:VAL:CG1	3:N:345:PHE:HE1	2.28	0.47
3:N:386:ARG:HB2	3:N:386:ARG:HH11	1.78	0.47
1:C:159:A:O2'	1:C:160:U:H5''	2.15	0.47
1:K:191:U:C5	1:K:192:C:C5	3.03	0.47
1:O:248:A:H2'	1:O:249:A:O4'	2.15	0.47
3:A:70:LEU:HD23	3:A:70:LEU:O	2.15	0.47
3:B:343:PHE:CD1	3:B:412:GLN:HB2	2.50	0.47
3:E:256:PHE:O	3:E:259:PHE:N	2.47	0.47
3:E:405:GLU:OE2	3:E:409:ALA:HB2	2.15	0.47
3:F:400:VAL:O	3:F:400:VAL:CG1	2.61	0.47
3:I:325:PHE:HE2	3:I:348:TYR:CE1	2.32	0.47
3:I:354:ASP:OD2	3:I:354:ASP:N	2.46	0.47
3:M:70:LEU:HD23	3:M:70:LEU:O	2.15	0.47
3:M:181:MET:HG2	3:M:186:TYR:HB2	1.96	0.47
3:M:405:GLU:OE2	3:M:409:ALA:HB2	2.14	0.47
3:N:215:VAL:HG11	3:N:283:VAL:HG13	1.97	0.47
1:C:223:G:C2'	1:C:224:G:H5'	2.45	0.47
1:G:51:A:H4'	3:F:261:GLN:OE1	2.15	0.47
1:G:194:G:H3'	1:G:194:G:H8	1.80	0.47
1:G:228:A:N3	1:G:229:A:C8	2.83	0.47
1:K:108:A:H2'	1:K:109:G:C8	2.50	0.47
1:K:148:A:N6	1:K:232:A:C5'	2.75	0.47
1:O:15:U:H5'	1:O:35:A:N1	2.29	0.47
3:A:135:GLY:O	3:A:137:SER:N	2.48	0.47
3:A:181:MET:HG2	3:A:186:TYR:HB2	1.97	0.47
3:B:111:VAL:CG1	3:B:345:PHE:HE1	2.28	0.47
3:B:368:PRO:O	3:B:369:ILE:C	2.58	0.47
3:I:243:ALA:HA	3:J:212:LEU:CD2	2.45	0.47
3:I:285:LYS:HA	3:I:288:ARG:HD3	1.97	0.47
3:J:69:ASP:O	3:J:73:GLU:HB2	2.14	0.47
3:J:200:ASN:O	3:J:202:TRP:N	2.48	0.47
3:M:241:SER:O	3:M:242:PHE:C	2.58	0.47
3:M:371:GLU:OE2	3:M:374:LYS:HB3	2.15	0.47
3:N:198:ASN:OD1	3:N:200:ASN:ND2	2.47	0.47
1:C:40:U:H2'	1:C:41:C:H6	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:126:A:N1	1:C:159:A:C8	2.83	0.46
1:C:194:G:H3'	1:C:194:G:H8	1.80	0.46
1:C:248:A:H2'	1:C:249:A:O4'	2.15	0.46
1:G:40:U:O2'	1:G:41:C:H5'	2.15	0.46
1:G:46:A:H2'	1:G:47:A:O4'	2.15	0.46
1:G:200:A:H5'	1:G:243:A:C2	2.50	0.46
1:K:246:A:C1'	1:K:247:U:C5	2.98	0.46
1:O:43:U:H2'	1:O:44:C:C6	2.50	0.46
1:O:204:G:N2	1:O:209:C:N3	2.52	0.46
3:A:125:LEU:C	3:A:192:ARG:HH22	2.23	0.46
3:A:285:LYS:HA	3:A:288:ARG:HD3	1.97	0.46
3:A:405:GLU:C	3:A:405:GLU:CD	2.82	0.46
3:E:53:GLN:HA	3:E:53:GLN:NE2	2.30	0.46
3:F:122:TRP:O	3:F:125:LEU:HB2	2.15	0.46
3:I:162:ASN:C	3:I:166:ILE:HD12	2.40	0.46
3:I:227:ARG:NH1	3:I:229:THR:OG1	2.48	0.46
3:J:247:TYR:HE2	3:J:276:ASN:OD1	1.98	0.46
3:J:349:PHE:C	3:J:351:ARG:N	2.72	0.46
3:M:83:THR:O	3:M:84:LYS:C	2.58	0.46
3:M:132:THR:HG23	3:M:174:TRP:HZ2	1.80	0.46
3:N:261:GLN:O	3:N:262:GLN:HG2	2.15	0.46
3:N:357:VAL:CG2	3:N:388:ALA:HB1	2.45	0.46
1:G:15:U:H5'	1:G:35:A:N1	2.30	0.46
1:G:139:G:H2'	1:G:140:U:OP2	2.15	0.46
1:G:248:A:H2'	1:G:249:A:O4'	2.16	0.46
1:O:191:U:C5	1:O:192:C:C5	3.03	0.46
1:O:245:C:O2	1:O:246:A:C8	2.68	0.46
3:A:74:ARG:HB3	3:A:362:LYS:O	2.16	0.46
3:B:87:ILE:HG12	3:B:310:VAL:HG21	1.97	0.46
3:B:193:LYS:HB2	3:B:193:LYS:NZ	2.29	0.46
3:E:361:LEU:HA	3:E:392:LEU:HD12	1.96	0.46
3:F:337:PRO:C	3:F:339:GLN:H	2.23	0.46
3:I:44:LYS:O	3:I:47:GLU:HB3	2.15	0.46
3:I:53:GLN:NE2	3:I:53:GLN:HA	2.30	0.46
3:I:61:LYS:NZ	3:I:63:LYS:HG3	2.30	0.46
3:I:111:VAL:CA	3:I:114:LEU:HD12	2.44	0.46
3:I:397:VAL:HG12	3:I:406:ALA:CB	2.45	0.46
3:I:416:MET:HA	3:I:416:MET:CE	2.44	0.46
3:J:255:TRP:O	3:J:256:PHE:C	2.58	0.46
3:M:125:LEU:C	3:M:192:ARG:HH22	2.23	0.46
3:M:352:ARG:HD3	3:M:356:GLU:OE2	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:N:247:TYR:HE2	3:N:276:ASN:OD1	1.99	0.46
1:C:14:U:H2'	1:C:35:A:H61	1.80	0.46
1:G:115:G:H2'	1:G:116:U:H6	1.78	0.46
1:K:109:G:OP1	3:J:182:ARG:NH1	2.48	0.46
1:K:118:C:O2'	1:K:119:A:P	2.74	0.46
1:O:148:A:N6	1:O:232:A:C5'	2.72	0.46
3:A:111:VAL:CA	3:A:114:LEU:HD12	2.44	0.46
3:B:96:ILE:HD11	3:B:123:MET:HE1	1.97	0.46
3:B:324:LYS:C	3:B:326:GLY:H	2.22	0.46
3:E:85:GLU:O	3:E:86:HIS:C	2.59	0.46
3:E:220:ARG:C	3:E:222:GLY:N	2.70	0.46
3:E:325:PHE:HE2	3:E:348:TYR:CE1	2.32	0.46
3:E:371:GLU:O	3:E:374:LYS:HB3	2.15	0.46
3:F:139:ALA:C	3:F:141:ILE:N	2.74	0.46
3:I:55:ARG:HG2	3:I:55:ARG:NH1	2.31	0.46
3:I:60:LYS:HE3	3:I:92:ARG:HH12	1.81	0.46
3:I:85:GLU:O	3:I:88:ALA:HB3	2.15	0.46
3:I:181:MET:HG2	3:I:186:TYR:HB2	1.96	0.46
3:J:83:THR:HB	3:J:86:HIS:CB	2.38	0.46
3:M:74:ARG:HB3	3:M:362:LYS:O	2.16	0.46
3:M:405:GLU:CD	3:M:405:GLU:C	2.82	0.46
3:N:122:TRP:O	3:N:125:LEU:HB2	2.16	0.46
1:C:192:C:O2	1:C:192:C:H2'	2.15	0.46
1:G:63:A:C2	1:G:64:A:H1'	2.51	0.46
1:G:159:A:O2'	1:G:160:U:H5''	2.16	0.46
1:G:184:G:H8	1:G:184:G:O5'	1.98	0.46
1:K:103:G:N2	1:K:104:A:OP2	2.49	0.46
1:O:63:A:C2	1:O:64:A:H1'	2.51	0.46
3:A:265:GLN:HE22	3:A:307:ASP:HA	1.80	0.46
3:B:135:GLY:O	3:B:137:SER:N	2.48	0.46
3:J:41:TYR:O	3:J:44:LYS:HB2	2.15	0.46
3:J:135:GLY:CA	3:J:138:THR:CG2	2.93	0.46
3:J:193:LYS:HB2	3:J:193:LYS:NZ	2.31	0.46
3:J:198:ASN:OD1	3:J:200:ASN:ND2	2.48	0.46
3:M:345:PHE:O	3:M:346:TYR:C	2.59	0.46
3:N:135:GLY:CA	3:N:138:THR:CG2	2.93	0.46
3:N:193:LYS:HB2	3:N:193:LYS:NZ	2.30	0.46
3:N:343:PHE:CD1	3:N:412:GLN:HB2	2.50	0.46
1:C:184:G:H5''	1:C:185:A:OP2	2.16	0.46
1:G:200:A:O4'	1:G:243:A:C6	2.68	0.46
1:K:40:U:O2'	1:K:41:C:H5'	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:200:A:O4'	1:K:243:A:C6	2.69	0.46
1:K:248:A:H2'	1:K:249:A:O4'	2.16	0.46
1:O:76:G:H2'	1:O:77:U:O4'	2.16	0.46
1:O:126:A:N1	1:O:159:A:C8	2.84	0.46
1:O:144:G:H8	1:O:144:G:O5'	1.99	0.46
3:B:135:GLY:CA	3:B:138:THR:CG2	2.93	0.46
3:B:334:TRP:CD1	3:B:334:TRP:H	2.34	0.46
3:E:200:ASN:HB2	3:E:204:ASN:HD22	1.80	0.46
3:E:243:ALA:HA	3:F:212:LEU:CD2	2.45	0.46
3:F:96:ILE:HD11	3:F:123:MET:HE1	1.97	0.46
3:F:380:ILE:C	3:F:380:ILE:HD12	2.41	0.46
3:F:405:GLU:HA	3:F:405:GLU:OE2	2.15	0.46
3:I:241:SER:O	3:I:242:PHE:C	2.58	0.46
3:J:40:LYS:O	3:J:41:TYR:C	2.58	0.46
3:J:96:ILE:HD12	3:J:97:GLY:CA	2.45	0.46
3:M:345:PHE:C	3:M:347:GLY:N	2.72	0.46
3:N:337:PRO:C	3:N:339:GLN:H	2.24	0.46
3:N:349:PHE:C	3:N:351:ARG:N	2.72	0.46
1:C:144:G:H8	1:C:144:G:O5'	1.99	0.46
1:K:9:G:N3	1:K:9:G:H2'	2.30	0.46
1:K:103(A):A:C2	1:K:103(B):A:C4	3.03	0.46
1:K:194:G:H3'	1:K:194:G:H8	1.81	0.46
1:O:9:G:H2'	1:O:9:G:N3	2.31	0.46
1:O:14:U:H4'	1:O:37:A:C2	2.51	0.46
3:A:240:VAL:HG13	3:B:221:ILE:HG23	1.97	0.46
3:E:227:ARG:NH1	3:E:229:THR:OG1	2.48	0.46
3:F:397:VAL:O	3:F:401:HIS:HB2	2.15	0.46
3:J:135:GLY:HA3	3:J:138:THR:CG2	2.46	0.46
3:J:378:GLU:OE1	3:J:378:GLU:HA	2.16	0.46
3:M:246:THR:O	3:M:247:TYR:C	2.59	0.46
3:N:267:GLN:HG3	3:N:268:ILE:N	2.31	0.46
1:C:149:G:N2	1:C:150:U:O4'	2.48	0.46
1:C:173:U:O2'	1:C:174:C:OP1	2.23	0.46
1:C:191:U:C5	1:C:192:C:C5	3.03	0.46
1:G:14:U:H4'	1:G:37:A:C2	2.51	0.46
1:G:77:U:H2'	1:G:78:A:C8	2.51	0.46
1:O:227:U:H2'	1:O:228:A:H3'	1.98	0.46
3:A:58:ALA:HA	3:A:63:LYS:HB2	1.97	0.46
3:A:368:PRO:O	3:A:369:ILE:C	2.59	0.46
3:A:390:HIS:CB	3:A:414:ARG:NH2	2.79	0.46
3:B:261:GLN:O	3:B:262:GLN:HG2	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:357:VAL:CG2	3:B:388:ALA:HB1	2.46	0.46
3:E:357:VAL:CB	3:E:389:GLN:HE21	2.28	0.46
3:F:161:MET:O	3:F:162:ASN:C	2.59	0.46
3:F:179:THR:O	3:F:180:GLN:C	2.59	0.46
3:I:72:GLU:OE1	3:I:72:GLU:HA	2.16	0.46
3:J:337:PRO:C	3:J:339:GLN:H	2.24	0.46
3:M:333:ILE:O	3:M:334:TRP:O	2.34	0.46
1:C:34:G:H21	1:C:36:A:N6	2.14	0.46
1:C:103:G:N2	1:C:104:A:OP2	2.49	0.46
1:C:148:A:N6	1:C:232:A:C5'	2.72	0.46
1:C:160:U:H1'	1:C:184:G:C5	2.51	0.46
3:E:135:GLY:O	3:E:137:SER:N	2.48	0.46
3:F:245:PHE:O	3:F:248:PRO:HD2	2.15	0.46
3:F:382:ASP:OD1	3:F:385:LYS:HB2	2.16	0.46
3:I:55:ARG:HG2	3:I:55:ARG:HH11	1.81	0.46
3:J:272:ASP:C	3:J:274:TYR:N	2.71	0.46
3:J:405:GLU:OE2	3:J:405:GLU:HA	2.15	0.46
3:M:73:GLU:CG	3:M:369:ILE:HG13	2.45	0.46
3:N:397:VAL:O	3:N:401:HIS:HB2	2.15	0.46
1:C:246:A:C1'	1:C:247:U:C5	2.99	0.46
1:G:96:C:H2'	1:G:97:U:C6	2.50	0.46
1:G:126:A:N1	1:G:159:A:C8	2.84	0.46
1:G:134:A:C2'	1:G:135:G:H5'	2.45	0.46
1:G:139:G:H8	1:G:139:G:O5'	1.99	0.46
1:K:54:G:N1	1:K:85:C:C5	2.84	0.46
1:K:105:C:H2'	1:K:106:G:O5'	2.16	0.46
1:K:216:A:H4'	1:K:217:A:OP2	2.16	0.46
3:A:174:TRP:CD1	3:A:196:ILE:HD11	2.50	0.46
3:A:241:SER:O	3:A:242:PHE:C	2.59	0.46
3:A:293:ASP:OD1	3:A:296:GLU:HB2	2.15	0.46
3:B:94:ARG:O	3:B:96:ILE:HG23	2.16	0.46
3:B:96:ILE:HD12	3:B:97:GLY:CA	2.46	0.46
3:B:386:ARG:HB2	3:B:386:ARG:HH11	1.79	0.46
3:E:111:VAL:CA	3:E:114:LEU:HD12	2.45	0.46
3:E:241:SER:O	3:E:242:PHE:C	2.59	0.46
3:F:319:ASP:HB2	3:F:352:ARG:NH1	2.31	0.46
3:I:316:LEU:HD11	3:I:324:LYS:HD3	1.98	0.46
3:J:115:LEU:N	3:J:116:PRO:HD2	2.31	0.46
3:J:353:SER:HB3	3:J:355:GLN:HG3	1.98	0.46
3:J:382:ASP:OD1	3:J:385:LYS:HB2	2.16	0.46
3:M:221:ILE:HD11	3:N:234:MET:CE	2.41	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:N:319:ASP:C	3:N:321:SER:N	2.67	0.46
1:C:15:U:H5'	1:C:35:A:N1	2.30	0.46
1:C:63:A:C2	1:C:64:A:H1'	2.51	0.46
1:G:183:U:H3'	1:G:184:G:C8	2.51	0.46
1:K:126:A:N1	1:K:159:A:C8	2.84	0.46
1:O:108:A:H2'	1:O:109:G:C8	2.51	0.46
1:O:149:G:N2	1:O:150:U:O4'	2.48	0.46
3:A:354:ASP:OD2	3:A:354:ASP:N	2.48	0.46
3:B:220:ARG:HH11	3:B:220:ARG:HG3	1.81	0.46
3:F:135:GLY:CA	3:F:138:THR:CG2	2.94	0.46
3:F:140:LYS:O	3:F:141:ILE:CD1	2.55	0.46
3:F:232:ASN:C	3:F:234:MET:N	2.69	0.46
3:J:331:ASN:HD21	3:J:334:TRP:HZ2	1.64	0.46
3:M:94:ARG:HH22	3:M:304:THR:CG2	2.27	0.46
3:M:161:MET:HE2	3:M:162:ASN:ND2	2.31	0.46
3:M:397:VAL:HG12	3:M:406:ALA:CB	2.46	0.46
3:N:91:MET:HE2	3:N:128:TYR:CE2	2.50	0.46
3:N:200:ASN:O	3:N:201:HIS:C	2.58	0.46
1:G:177:G:O2'	1:G:178:G:H5'	2.16	0.45
1:K:46:A:H2'	1:K:47:A:O4'	2.15	0.45
1:O:14:U:H2'	1:O:35:A:H61	1.80	0.45
1:O:161:G:N3	1:O:162:G:C8	2.84	0.45
3:B:200:ASN:O	3:B:202:TRP:N	2.49	0.45
3:E:66:ASN:O	3:E:69:ASP:N	2.49	0.45
3:E:164:THR:O	3:E:165:LYS:C	2.59	0.45
3:E:414:ARG:HG3	3:E:414:ARG:NH1	2.31	0.45
3:I:66:ASN:O	3:I:67:THR:C	2.60	0.45
3:I:71:PHE:HZ	3:I:123:MET:HG3	1.81	0.45
3:I:366:PHE:HE2	3:I:399:LEU:HD11	1.81	0.45
3:I:371:GLU:O	3:I:374:LYS:HB3	2.16	0.45
3:M:44:LYS:HB3	3:M:44:LYS:HZ3	1.81	0.45
3:M:206:GLN:OE1	3:M:207:PRO:HD2	2.17	0.45
3:M:368:PRO:O	3:M:369:ILE:C	2.59	0.45
3:N:68:TRP:O	3:N:71:PHE:HB2	2.16	0.45
3:N:135:GLY:HA3	3:N:138:THR:CG2	2.46	0.45
3:N:357:VAL:CG1	3:N:358:GLU:N	2.80	0.45
3:N:368:PRO:O	3:N:369:ILE:C	2.59	0.45
1:K:159:A:C2	1:K:161:G:C8	3.05	0.45
1:K:188:U:H2'	1:K:189:A:C8	2.46	0.45
1:O:103(A):A:C2	1:O:103(B):A:C4	3.05	0.45
2:P:1:G:OP1	2:P:1:G:C8	2.67	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:60:LYS:HE3	3:A:92:ARG:HH12	1.81	0.45
3:A:94:ARG:HH22	3:A:304:THR:CG2	2.27	0.45
3:A:280:GLY:O	3:A:281:LEU:C	2.59	0.45
3:B:198:ASN:OD1	3:B:200:ASN:ND2	2.48	0.45
3:F:41:TYR:O	3:F:44:LYS:HB2	2.16	0.45
3:I:85:GLU:O	3:I:86:HIS:C	2.59	0.45
3:I:174:TRP:CD1	3:I:196:ILE:HD11	2.51	0.45
3:I:202:TRP:CD1	3:I:203:TRP:H	2.35	0.45
3:J:220:ARG:HH11	3:J:220:ARG:HG3	1.81	0.45
3:J:299:TYR:N	3:J:299:TYR:CD1	2.84	0.45
3:J:400:VAL:O	3:J:400:VAL:CG1	2.64	0.45
3:M:55:ARG:NH1	3:M:55:ARG:HG2	2.30	0.45
3:M:60:LYS:HB2	3:M:92:ARG:NH1	2.31	0.45
3:M:221:ILE:HD12	3:M:221:ILE:C	2.42	0.45
3:M:285:LYS:HA	3:M:288:ARG:HD3	1.98	0.45
3:M:354:ASP:O	3:M:357:VAL:HG12	2.16	0.45
1:C:108:A:H2'	1:C:109:G:C8	2.52	0.45
1:G:121:C:H5	1:G:195:A:H1'	1.82	0.45
1:G:216:A:H4'	1:G:217:A:OP2	2.16	0.45
1:K:24:A:H1'	1:K:172:U:C5'	2.47	0.45
1:K:40:U:H2'	1:K:41:C:H6	1.81	0.45
1:K:115:G:H2'	1:K:116:U:H6	1.80	0.45
1:O:159:A:C2	1:O:161:G:C8	3.05	0.45
3:A:58:ALA:CA	3:A:63:LYS:HB2	2.45	0.45
3:A:66:ASN:O	3:A:69:ASP:N	2.49	0.45
3:B:228:ASP:O	3:B:229:THR:C	2.59	0.45
3:E:71:PHE:HZ	3:E:123:MET:HG3	1.81	0.45
3:E:390:HIS:CB	3:E:414:ARG:NH2	2.80	0.45
3:I:40:LYS:HG2	3:I:41:TYR:N	2.32	0.45
3:I:206:GLN:OE1	3:I:207:PRO:HD2	2.16	0.45
3:M:285:LYS:O	3:M:286:ALA:C	2.59	0.45
1:C:126:A:C1'	1:C:158:A:N1	2.63	0.45
1:C:183:U:H2'	1:C:184:G:H5'	1.97	0.45
1:G:103:G:N2	1:G:104:A:OP2	2.50	0.45
1:K:131:G:N2	1:K:134:A:OP2	2.43	0.45
1:K:188:U:P	1:K:188:U:H3'	2.56	0.45
1:O:96:C:H2'	1:O:97:U:C6	2.51	0.45
3:A:161:MET:HE2	3:A:162:ASN:ND2	2.32	0.45
3:A:162:ASN:C	3:A:166:ILE:HD12	2.41	0.45
3:B:158:ASP:O	3:B:160:THR:N	2.49	0.45
3:B:255:TRP:O	3:B:256:PHE:C	2.59	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:267:GLN:HG3	3:B:268:ILE:N	2.32	0.45
3:B:294:PRO:O	3:B:297:ARG:HB2	2.16	0.45
3:E:60:LYS:HE3	3:E:92:ARG:HH12	1.82	0.45
3:E:202:TRP:CD1	3:E:203:TRP:H	2.35	0.45
3:F:228:ASP:O	3:F:229:THR:C	2.59	0.45
3:F:357:VAL:HG21	3:F:388:ALA:HB3	1.98	0.45
3:I:70:LEU:HD23	3:I:70:LEU:O	2.16	0.45
3:J:161:MET:O	3:J:162:ASN:C	2.58	0.45
3:J:188:ALA:CA	3:J:192:ARG:HH11	2.20	0.45
3:J:349:PHE:O	3:J:350:VAL:C	2.59	0.45
3:M:58:ALA:HA	3:M:63:LYS:HB2	1.98	0.45
3:M:265:GLN:HE22	3:M:307:ASP:HA	1.81	0.45
3:N:297:ARG:CA	3:N:300:VAL:HG22	2.47	0.45
1:C:177:G:O2'	1:C:178:G:H5'	2.17	0.45
1:G:40:U:H2'	1:G:41:C:H6	1.81	0.45
1:K:139:G:H8	1:K:139:G:O5'	2.00	0.45
3:B:40:LYS:O	3:B:41:TYR:C	2.59	0.45
3:B:253:TRP:O	3:B:256:PHE:HB3	2.16	0.45
3:B:397:VAL:O	3:B:401:HIS:HB2	2.16	0.45
3:E:94:ARG:NH2	3:E:304:THR:CG2	2.79	0.45
3:E:240:VAL:CG1	3:F:221:ILE:HG12	2.47	0.45
3:E:356:GLU:HB2	3:E:360:LEU:HD12	1.99	0.45
3:E:377:GLU:O	3:E:377:GLU:HG2	2.17	0.45
3:F:193:LYS:HB2	3:F:193:LYS:NZ	2.31	0.45
3:F:230:VAL:O	3:F:231:LYS:C	2.60	0.45
3:F:347:GLY:C	3:F:349:PHE:N	2.72	0.45
3:F:349:PHE:C	3:F:351:ARG:N	2.73	0.45
3:F:378:GLU:OE1	3:F:378:GLU:HA	2.16	0.45
3:I:405:GLU:C	3:I:405:GLU:CD	2.84	0.45
3:M:40:LYS:HG2	3:M:41:TYR:N	2.32	0.45
3:N:109:LEU:HG	3:N:169:GLN:NE2	2.30	0.45
1:C:207:A:O2'	1:C:208:A:H5'	2.17	0.45
1:K:229:A:N3	1:K:230:C:C5	2.84	0.45
1:O:192:C:O2	1:O:192:C:H2'	2.16	0.45
3:A:85:GLU:O	3:A:86:HIS:C	2.59	0.45
3:A:164:THR:O	3:A:165:LYS:C	2.59	0.45
3:B:171:LYS:O	3:B:172:LYS:C	2.59	0.45
3:B:200:ASN:O	3:B:201:HIS:C	2.59	0.45
3:B:234:MET:HG2	3:B:240:VAL:CG1	2.41	0.45
3:E:109:LEU:HD12	3:E:109:LEU:N	2.32	0.45
3:E:230:VAL:O	3:E:233:LYS:N	2.49	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:E:239:GLY:HA3	3:F:220:ARG:HE	1.82	0.45
3:E:324:LYS:HB3	3:E:324:LYS:HZ2	1.80	0.45
3:F:53:GLN:NE2	3:F:53:GLN:HA	2.31	0.45
3:F:68:TRP:O	3:F:71:PHE:HB2	2.17	0.45
3:F:200:ASN:O	3:F:201:HIS:C	2.59	0.45
3:F:331:ASN:HD21	3:F:334:TRP:HZ2	1.65	0.45
3:I:60:LYS:HB2	3:I:92:ARG:NH1	2.32	0.45
3:I:254:ASP:O	3:I:255:TRP:C	2.60	0.45
3:M:72:GLU:OE1	3:M:72:GLU:HA	2.16	0.45
3:M:345:PHE:O	3:M:347:GLY:N	2.49	0.45
3:M:357:VAL:CB	3:M:389:GLN:HE21	2.29	0.45
3:M:357:VAL:CG2	3:M:389:GLN:HE21	2.30	0.45
3:N:40:LYS:O	3:N:41:TYR:C	2.59	0.45
3:N:122:TRP:O	3:N:123:MET:C	2.59	0.45
3:N:353:SER:HB3	3:N:355:GLN:HG3	1.99	0.45
1:G:47:A:OP1	3:F:44:LYS:NZ	2.42	0.45
1:G:105:C:H2'	1:G:106:G:O5'	2.16	0.45
1:G:108:A:H2'	1:G:109:G:C8	2.51	0.45
1:G:191:U:C5	1:G:192:C:C5	3.04	0.45
1:G:207:A:O2'	1:G:208:A:H5'	2.17	0.45
2:H:2:C:O2'	2:H:3:U:H5'	2.16	0.45
1:K:139:G:H2'	1:K:140:U:OP2	2.17	0.45
1:K:183:U:H3'	1:K:184:G:C8	2.52	0.45
1:O:103:G:N2	1:O:104:A:OP2	2.50	0.45
1:O:160:U:H1'	1:O:184:G:C5	2.52	0.45
3:E:416:MET:HA	3:E:416:MET:CE	2.47	0.45
3:I:342:VAL:HG23	3:I:343:PHE:N	2.32	0.45
3:J:368:PRO:O	3:J:369:ILE:C	2.59	0.45
3:M:85:GLU:O	3:M:86:HIS:C	2.59	0.45
3:N:220:ARG:HG3	3:N:220:ARG:HH11	1.82	0.45
3:N:228:ASP:O	3:N:230:VAL:N	2.49	0.45
3:N:382:ASP:OD1	3:N:385:LYS:HB2	2.15	0.45
1:C:118:C:O2'	1:C:119:A:P	2.75	0.45
1:C:200:A:O4'	1:C:243:A:C6	2.69	0.45
1:K:96:C:H2'	1:K:97:U:C6	2.52	0.45
1:O:115:G:H2'	1:O:116:U:H6	1.80	0.45
1:O:119:A:O2'	1:O:120:A:P	2.75	0.45
1:O:152:A:H2'	1:O:153:C:O4'	2.17	0.45
3:A:221:ILE:HD12	3:A:221:ILE:C	2.42	0.45
3:B:349:PHE:C	3:B:351:ARG:N	2.74	0.45
3:B:353:SER:HB3	3:B:355:GLN:HG3	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:369:ILE:HD13	3:B:369:ILE:N	2.31	0.45
3:E:74:ARG:HB3	3:E:362:LYS:O	2.16	0.45
3:E:316:LEU:HD11	3:E:324:LYS:HD3	1.98	0.45
3:E:345:PHE:C	3:E:347:GLY:N	2.73	0.45
3:F:228:ASP:O	3:F:230:VAL:N	2.49	0.45
3:F:234:MET:HG2	3:F:240:VAL:CG1	2.41	0.45
3:F:253:TRP:O	3:F:256:PHE:HB3	2.17	0.45
3:J:158:ASP:O	3:J:160:THR:N	2.50	0.45
3:J:253:TRP:O	3:J:256:PHE:HB3	2.17	0.45
3:J:340:THR:O	3:J:340:THR:HG22	2.16	0.45
3:M:73:GLU:CD	3:M:369:ILE:HG13	2.41	0.45
3:M:85:GLU:O	3:M:88:ALA:HB3	2.16	0.45
3:N:228:ASP:O	3:N:229:THR:C	2.59	0.45
3:N:276:ASN:N	3:N:276:ASN:HD22	2.15	0.45
1:G:229:A:N3	1:G:230:C:C5	2.85	0.45
2:P:2:C:O2'	2:P:3:U:H5'	2.16	0.45
3:A:202:TRP:CD1	3:A:203:TRP:H	2.34	0.45
3:A:220:ARG:C	3:A:222:GLY:N	2.73	0.45
3:A:397:VAL:HG12	3:A:406:ALA:CB	2.46	0.45
3:B:135:GLY:HA3	3:B:138:THR:CG2	2.47	0.45
3:B:213:ARG:C	3:B:215:VAL:N	2.75	0.45
3:E:115:LEU:HD13	3:E:364:PHE:CZ	2.52	0.45
3:E:221:ILE:HG23	3:F:240:VAL:O	2.16	0.45
3:F:213:ARG:C	3:F:215:VAL:N	2.75	0.45
3:F:369:ILE:HG12	3:F:370:SER:N	2.31	0.45
3:I:104:PRO:CA	3:I:166:ILE:HD13	2.47	0.45
3:I:109:LEU:N	3:I:109:LEU:HD12	2.32	0.45
3:M:203:TRP:CH2	3:M:250:MET:HG2	2.51	0.45
3:N:131:PHE:CE2	3:N:262:GLN:HG3	2.52	0.45
1:C:51:A:H4'	3:B:261:GLN:OE1	2.16	0.45
1:G:24:A:H1'	1:G:172:U:C5'	2.47	0.45
1:G:110:A:H2'	1:G:111:G:O4'	2.17	0.45
1:K:14:U:H4'	1:K:37:A:C2	2.51	0.45
1:O:183:U:H2'	1:O:184:G:H5'	1.98	0.45
1:O:216:A:H4'	1:O:217:A:OP2	2.16	0.45
3:A:102:ILE:HD11	3:A:170:LEU:HD21	1.99	0.45
3:A:357:VAL:CB	3:A:389:GLN:HE21	2.29	0.45
3:B:91:MET:HE2	3:B:128:TYR:CE2	2.51	0.45
3:B:109:LEU:HG	3:B:169:GLN:NE2	2.31	0.45
3:E:57:GLU:O	3:E:60:LYS:N	2.50	0.45
3:E:240:VAL:HG13	3:F:221:ILE:HG23	1.97	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:334:TRP:CD1	3:F:334:TRP:H	2.35	0.45
3:I:161:MET:HE2	3:I:162:ASN:ND2	2.32	0.45
3:I:221:ILE:HD12	3:I:221:ILE:C	2.42	0.45
3:I:356:GLU:HB2	3:I:360:LEU:HD12	1.99	0.45
3:I:390:HIS:CB	3:I:414:ARG:NH2	2.80	0.45
3:J:357:VAL:CG1	3:J:358:GLU:N	2.80	0.45
3:M:354:ASP:OD2	3:M:354:ASP:N	2.49	0.45
3:M:356:GLU:HB2	3:M:360:LEU:HD12	1.99	0.45
3:N:234:MET:HG2	3:N:240:VAL:CG1	2.41	0.45
3:N:255:TRP:O	3:N:256:PHE:C	2.59	0.45
1:C:64:A:C2'	1:C:65:C:H5'	2.47	0.44
1:C:200:A:H5'	1:C:243:A:C2	2.52	0.44
1:G:148:A:N6	1:G:232:A:C5'	2.74	0.44
1:G:205:G:H8	1:G:205:G:O5'	2.00	0.44
1:G:227:U:H2'	1:G:228:A:H3'	1.98	0.44
1:K:207:A:O2'	1:K:208:A:H5'	2.17	0.44
3:A:371:GLU:OE2	3:A:374:LYS:HB3	2.18	0.44
3:B:323:ALA:O	3:B:324:LYS:C	2.60	0.44
3:E:55:ARG:NH1	3:E:55:ARG:HG2	2.33	0.44
3:E:162:ASN:C	3:E:166:ILE:HD12	2.42	0.44
3:E:254:ASP:O	3:E:255:TRP:C	2.60	0.44
3:F:40:LYS:O	3:F:41:TYR:C	2.60	0.44
3:F:91:MET:HE1	3:F:123:MET:HE3	1.99	0.44
3:F:109:LEU:HD22	3:F:113:HIS:HD1	1.82	0.44
3:F:131:PHE:CE2	3:F:262:GLN:HG3	2.52	0.44
3:I:221:ILE:HG12	3:J:240:VAL:HG13	1.98	0.44
3:J:134:ILE:HG22	3:J:136:GLY:H	1.82	0.44
3:J:230:VAL:O	3:J:231:LYS:C	2.60	0.44
3:J:298:LYS:HB3	3:J:299:TYR:CE1	2.53	0.44
3:J:319:ASP:CG	3:J:321:SER:HB3	2.42	0.44
3:M:58:ALA:CA	3:M:63:LYS:HB2	2.46	0.44
3:M:59:ILE:HD12	3:M:92:ARG:HG3	2.00	0.44
3:M:61:LYS:NZ	3:M:63:LYS:HG3	2.33	0.44
3:M:174:TRP:CD1	3:M:196:ILE:HD11	2.51	0.44
3:M:202:TRP:CD1	3:M:203:TRP:H	2.34	0.44
3:N:213:ARG:C	3:N:215:VAL:N	2.75	0.44
3:N:349:PHE:O	3:N:350:VAL:C	2.60	0.44
1:C:239:C:C2	1:C:240:C:C5	3.05	0.44
2:D:2:C:O2'	2:D:3:U:H5'	2.17	0.44
1:K:63:A:C2	1:K:64:A:H1'	2.53	0.44
1:K:83:A:C2'	1:K:84:U:H5'	2.45	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:161:G:N3	1:K:162:G:C8	2.86	0.44
1:K:172:U:H1'	1:K:177:G:H1	1.82	0.44
1:K:177:G:O2'	1:K:178:G:H5'	2.18	0.44
1:O:14:U:O2	1:O:34:G:C2	2.70	0.44
1:O:34:G:H21	1:O:36:A:N6	2.15	0.44
1:O:228:A:C5	1:O:229:A:N7	2.85	0.44
3:A:63:LYS:HB3	3:A:63:LYS:HZ3	1.82	0.44
3:B:347:GLY:O	3:B:348:TYR:C	2.59	0.44
3:E:73:GLU:CD	3:E:369:ILE:HG13	2.42	0.44
3:E:354:ASP:OD2	3:E:354:ASP:N	2.47	0.44
3:E:368:PRO:O	3:E:369:ILE:C	2.60	0.44
3:F:117:LEU:O	3:F:120:LEU:HB3	2.16	0.44
3:I:86:HIS:O	3:I:87:ILE:C	2.60	0.44
3:J:397:VAL:O	3:J:401:HIS:N	2.50	0.44
3:M:111:VAL:CA	3:M:114:LEU:HD12	2.45	0.44
3:M:164:THR:O	3:M:165:LYS:C	2.60	0.44
3:M:167:HIS:O	3:M:168:TYR:C	2.60	0.44
3:N:53:GLN:NE2	3:N:53:GLN:HA	2.32	0.44
1:G:132:A:C2	1:G:133:U:C2	3.06	0.44
1:G:227:U:H1'	1:G:229:A:H2	1.82	0.44
2:H:1:G:OP1	2:H:1:G:C8	2.69	0.44
2:L:2:C:O2'	2:L:3:U:H5'	2.18	0.44
1:O:139:G:H8	1:O:139:G:O5'	2.01	0.44
1:O:218:G:C4	1:O:241:G:N2	2.86	0.44
3:A:71:PHE:HZ	3:A:123:MET:HG3	1.82	0.44
3:A:197:VAL:CG1	3:A:198:ASN:H	2.28	0.44
3:A:416:MET:HA	3:A:416:MET:CE	2.43	0.44
3:B:121:PHE:CZ	3:B:173:LEU:HD21	2.53	0.44
3:B:382:ASP:OD1	3:B:385:LYS:HB2	2.16	0.44
3:E:216:GLY:O	3:F:241:SER:OG	2.35	0.44
3:E:220:ARG:HA	3:F:241:SER:HA	1.99	0.44
3:F:353:SER:HB2	3:F:356:GLU:CB	2.44	0.44
3:I:241:SER:C	3:I:243:ALA:N	2.75	0.44
3:I:285:LYS:O	3:I:286:ALA:C	2.61	0.44
3:J:91:MET:HE1	3:J:123:MET:HE3	1.99	0.44
3:J:171:LYS:O	3:J:172:LYS:C	2.60	0.44
3:J:200:ASN:O	3:J:201:HIS:C	2.60	0.44
3:N:200:ASN:C	3:N:202:TRP:N	2.76	0.44
3:N:228:ASP:HA	3:N:231:LYS:HD3	1.98	0.44
3:N:306:LEU:C	3:N:308:GLU:H	2.26	0.44
1:C:139:G:H8	1:C:139:G:O5'	2.01	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:15:U:H5'	1:K:35:A:N1	2.32	0.44
1:K:34:G:H21	1:K:36:A:N6	2.14	0.44
3:A:72:GLU:OE1	3:A:72:GLU:HA	2.17	0.44
3:A:73:GLU:CG	3:A:369:ILE:HG13	2.47	0.44
3:A:377:GLU:O	3:A:377:GLU:HG2	2.18	0.44
3:B:276:ASN:N	3:B:276:ASN:HD22	2.15	0.44
3:B:331:ASN:HD21	3:B:334:TRP:HZ2	1.65	0.44
3:E:60:LYS:HB2	3:E:92:ARG:NH1	2.33	0.44
3:E:72:GLU:OE1	3:E:72:GLU:HA	2.17	0.44
3:E:246:THR:O	3:E:247:TYR:C	2.59	0.44
3:E:333:ILE:O	3:E:334:TRP:O	2.34	0.44
3:F:171:LYS:O	3:F:172:LYS:C	2.60	0.44
3:I:167:HIS:O	3:I:168:TYR:C	2.60	0.44
3:I:333:ILE:O	3:I:334:TRP:O	2.35	0.44
3:J:139:ALA:C	3:J:141:ILE:N	2.73	0.44
3:J:294:PRO:O	3:J:297:ARG:HB2	2.17	0.44
3:J:319:ASP:HB2	3:J:352:ARG:NH1	2.32	0.44
3:M:57:GLU:O	3:M:58:ALA:C	2.57	0.44
3:M:371:GLU:O	3:M:374:LYS:HB3	2.18	0.44
3:M:390:HIS:CB	3:M:414:ARG:NH2	2.81	0.44
3:M:405:GLU:O	3:M:407:SER:N	2.50	0.44
3:N:340:THR:O	3:N:340:THR:HG22	2.16	0.44
3:N:347:GLY:O	3:N:348:TYR:C	2.59	0.44
1:C:14:U:O2	1:C:34:G:C2	2.70	0.44
1:C:103(A):A:C2	1:C:103(B):A:C4	3.06	0.44
1:C:115:G:H2'	1:C:116:U:H6	1.81	0.44
1:G:159:A:C2	1:G:161:G:C8	3.05	0.44
1:G:218:G:C4	1:G:241:G:N2	2.86	0.44
1:K:239:C:C2	1:K:240:C:C5	3.05	0.44
3:A:405:GLU:O	3:A:407:SER:N	2.49	0.44
3:B:135:GLY:O	3:B:138:THR:HG23	2.17	0.44
3:B:297:ARG:CA	3:B:300:VAL:HG22	2.48	0.44
3:B:299:TYR:N	3:B:299:TYR:CD1	2.85	0.44
3:B:369:ILE:HG12	3:B:370:SER:N	2.31	0.44
3:E:174:TRP:CD1	3:E:196:ILE:HD11	2.53	0.44
3:E:206:GLN:OE1	3:E:207:PRO:HD2	2.17	0.44
3:E:221:ILE:HD11	3:F:234:MET:CE	2.46	0.44
3:I:164:THR:O	3:I:165:LYS:C	2.60	0.44
3:I:233:LYS:HG3	3:I:239:GLY:O	2.18	0.44
3:I:261:GLN:O	3:I:262:GLN:HG2	2.18	0.44
3:J:110:HIS:O	3:J:112:GLY:N	2.50	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:M:220:ARG:C	3:M:222:GLY:N	2.74	0.44
1:C:229:A:N3	1:C:230:C:C5	2.85	0.44
1:G:183:U:H2'	1:G:184:G:H5'	1.99	0.44
1:K:77:U:O2'	1:K:78:A:H5'	2.17	0.44
1:K:227:U:H2'	1:K:228:A:H3'	2.00	0.44
1:O:24:A:H1'	1:O:172:U:C5'	2.47	0.44
1:O:64:A:C2'	1:O:65:C:H5'	2.47	0.44
1:O:139:G:H2'	1:O:140:U:OP2	2.18	0.44
3:A:40:LYS:HG2	3:A:41:TYR:N	2.33	0.44
3:A:86:HIS:O	3:A:87:ILE:C	2.60	0.44
3:A:160:THR:O	3:A:161:MET:C	2.60	0.44
3:A:354:ASP:O	3:A:357:VAL:HG12	2.17	0.44
3:E:161:MET:HE2	3:E:162:ASN:ND2	2.32	0.44
3:E:203:TRP:CH2	3:E:250:MET:HG2	2.53	0.44
3:E:342:VAL:HG23	3:E:343:PHE:N	2.32	0.44
3:F:158:ASP:O	3:F:160:THR:N	2.51	0.44
3:F:299:TYR:N	3:F:299:TYR:CD1	2.85	0.44
3:F:319:ASP:CG	3:F:321:SER:HB3	2.43	0.44
3:I:412:GLN:O	3:I:415:MET:HB3	2.18	0.44
3:M:118:MET:O	3:M:121:PHE:HB2	2.18	0.44
3:M:240:VAL:HG13	3:N:221:ILE:HG12	1.99	0.44
3:N:243:ALA:O	3:N:246:THR:N	2.43	0.44
3:N:253:TRP:O	3:N:256:PHE:HB3	2.17	0.44
3:N:331:ASN:HD21	3:N:334:TRP:HZ2	1.65	0.44
1:C:76:G:H2'	1:C:77:U:O4'	2.18	0.44
1:C:139:G:HO2'	1:C:140:U:H6	1.59	0.44
1:G:83:A:C2'	1:G:84:U:H5'	2.44	0.44
1:K:51:A:H4'	3:J:261:GLN:OE1	2.18	0.44
1:K:121:C:H5	1:K:195:A:H1'	1.82	0.44
1:K:218:G:C4	1:K:241:G:N2	2.85	0.44
3:A:167:HIS:O	3:A:168:TYR:C	2.61	0.44
3:B:159:ALA:HA	3:B:162:ASN:ND2	2.23	0.44
3:B:228:ASP:O	3:B:230:VAL:N	2.50	0.44
3:E:368:PRO:C	3:E:370:SER:H	2.25	0.44
3:F:122:TRP:O	3:F:123:MET:C	2.61	0.44
3:F:135:GLY:HA3	3:F:138:THR:CG2	2.48	0.44
3:I:57:GLU:O	3:I:60:LYS:N	2.50	0.44
3:I:94:ARG:NH2	3:I:304:THR:CG2	2.81	0.44
3:I:203:TRP:CH2	3:I:250:MET:HG2	2.52	0.44
3:J:68:TRP:O	3:J:71:PHE:HB2	2.18	0.44
3:J:84:LYS:H	3:J:84:LYS:HG2	1.33	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:J:179:THR:O	3:J:180:GLN:C	2.59	0.44
3:M:160:THR:O	3:M:161:MET:C	2.60	0.44
3:N:87:ILE:HG12	3:N:310:VAL:HG21	2.00	0.44
3:N:109:LEU:HD22	3:N:113:HIS:HD1	1.83	0.44
3:N:121:PHE:CZ	3:N:173:LEU:HD21	2.53	0.44
3:N:141:ILE:HD12	3:N:243:ALA:HB1	2.00	0.44
3:N:159:ALA:HA	3:N:162:ASN:ND2	2.23	0.44
3:N:171:LYS:O	3:N:172:LYS:C	2.61	0.44
3:N:179:THR:O	3:N:180:GLN:C	2.61	0.44
1:C:24:A:H1'	1:C:172:U:C5'	2.48	0.44
1:C:216:A:H4'	1:C:217:A:OP2	2.17	0.44
1:C:225:A:C5'	1:C:226:G:OP2	2.65	0.44
2:D:1:G:OP1	2:D:1:G:C8	2.69	0.44
1:G:121:C:H2'	1:G:122:G:O4'	2.18	0.44
1:K:64:A:C2'	1:K:65:C:H5'	2.48	0.44
3:A:206:GLN:OE1	3:A:207:PRO:HD2	2.18	0.44
3:A:371:GLU:O	3:A:374:LYS:HB3	2.18	0.44
3:B:357:VAL:CG1	3:B:358:GLU:N	2.81	0.44
3:E:197:VAL:CG1	3:E:198:ASN:N	2.79	0.44
3:F:59:ILE:CD1	3:F:66:ASN:HA	2.48	0.44
3:F:220:ARG:HG3	3:F:220:ARG:HH11	1.83	0.44
3:F:255:TRP:O	3:F:256:PHE:C	2.60	0.44
3:F:336:ASP:HB3	3:F:339:GLN:HB3	2.00	0.44
3:F:357:VAL:CG1	3:F:358:GLU:N	2.79	0.44
3:F:369:ILE:CG1	3:F:370:SER:N	2.81	0.44
3:I:115:LEU:HD13	3:I:364:PHE:CZ	2.52	0.44
3:I:350:VAL:O	3:I:386:ARG:NH2	2.50	0.44
3:J:213:ARG:C	3:J:215:VAL:N	2.74	0.44
3:M:383:PRO:O	3:M:386:ARG:HG2	2.18	0.44
1:C:139:G:H2'	1:C:140:U:OP2	2.18	0.44
1:C:162:G:H2'	1:C:163:G:H8	1.83	0.44
1:K:110:A:H2'	1:K:111:G:O4'	2.18	0.44
1:K:204:G:H1	1:K:209:C:N4	2.15	0.44
1:K:228:A:C5	1:K:229:A:N7	2.86	0.44
1:O:126:A:C1'	1:O:158:A:N1	2.64	0.44
3:A:335:LEU:HD22	3:A:400:VAL:CG1	2.37	0.44
3:B:75:GLY:O	3:B:363:LEU:HD21	2.18	0.44
3:B:131:PHE:CE2	3:B:262:GLN:HG3	2.53	0.44
3:B:306:LEU:C	3:B:308:GLU:H	2.26	0.44
3:E:85:GLU:O	3:E:88:ALA:HB3	2.17	0.44
3:E:261:GLN:O	3:E:262:GLN:HG2	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:I:331:ASN:HB3	3:I:332:ALA:H	1.61	0.44
3:M:208:MET:HE1	3:N:211:VAL:CB	2.48	0.44
1:C:119:A:O2'	1:C:120:A:P	2.76	0.43
1:C:160:U:C4	1:C:188:U:H1'	2.53	0.43
1:C:218:G:C4	1:C:241:G:N2	2.86	0.43
1:G:54:G:N1	1:G:85:C:C5	2.86	0.43
1:G:237:A:H2'	1:G:238:U:O4'	2.18	0.43
1:O:228:A:C4	1:O:229:A:N7	2.86	0.43
3:A:203:TRP:CH2	3:A:250:MET:HG2	2.52	0.43
3:A:357:VAL:CG2	3:A:389:GLN:HE21	2.31	0.43
3:B:179:THR:O	3:B:180:GLN:C	2.61	0.43
3:B:243:ALA:O	3:B:246:THR:N	2.43	0.43
3:E:104:PRO:CA	3:E:166:ILE:HD13	2.47	0.43
3:E:178:ASP:O	3:E:179:THR:C	2.61	0.43
3:E:357:VAL:CG2	3:E:389:GLN:HE21	2.31	0.43
3:F:200:ASN:C	3:F:202:TRP:N	2.75	0.43
3:F:298:LYS:HB3	3:F:299:TYR:CE1	2.53	0.43
3:I:208:MET:HE1	3:J:211:VAL:CB	2.48	0.43
3:M:57:GLU:O	3:M:60:LYS:N	2.50	0.43
3:M:335:LEU:HD22	3:M:400:VAL:CG1	2.37	0.43
3:N:135:GLY:O	3:N:138:THR:HG23	2.18	0.43
3:N:299:TYR:N	3:N:299:TYR:CD1	2.85	0.43
1:G:77:U:O2'	1:G:78:A:H5'	2.18	0.43
1:K:205:G:H8	1:K:205:G:O5'	2.00	0.43
1:O:25:A:H2	1:O:178:G:H21	1.65	0.43
1:O:200:A:O4'	1:O:243:A:C6	2.71	0.43
3:A:59:ILE:HD12	3:A:92:ARG:HG3	2.01	0.43
3:A:118:MET:O	3:A:121:PHE:HB2	2.18	0.43
3:A:285:LYS:O	3:A:286:ALA:C	2.61	0.43
3:B:340:THR:O	3:B:340:THR:HG22	2.17	0.43
3:E:183:ALA:C	3:E:185:GLY:N	2.74	0.43
3:E:248:PRO:O	3:E:251:GLN:N	2.51	0.43
3:F:114:LEU:O	3:F:115:LEU:C	2.62	0.43
3:F:180:GLN:C	3:F:183:ALA:HB3	2.43	0.43
3:F:200:ASN:OD1	3:F:201:HIS:N	2.51	0.43
3:F:294:PRO:O	3:F:297:ARG:HB2	2.18	0.43
3:F:349:PHE:O	3:F:350:VAL:C	2.60	0.43
3:J:114:LEU:O	3:J:115:LEU:C	2.60	0.43
3:J:405:GLU:O	3:J:406:ALA:C	2.62	0.43
3:M:86:HIS:O	3:M:87:ILE:C	2.61	0.43
3:M:102:ILE:HD11	3:M:170:LEU:HD21	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:M:377:GLU:O	3:M:377:GLU:HG2	2.18	0.43
3:N:228:ASP:C	3:N:230:VAL:N	2.76	0.43
1:C:25:A:H2	1:C:178:G:H21	1.65	0.43
1:C:121:C:H5	1:C:195:A:H1'	1.82	0.43
1:C:228:A:C5	1:C:229:A:N7	2.86	0.43
1:G:103(A):A:C2	1:G:103(B):A:C4	3.07	0.43
1:G:161:G:N3	1:G:162:G:C8	2.86	0.43
1:G:207:A:N6	1:G:208:A:N1	2.66	0.43
1:O:13:C:O2	2:P:1:G:C2	2.71	0.43
1:O:77:U:H2'	1:O:78:A:C8	2.52	0.43
1:O:200:A:H5'	1:O:243:A:C2	2.53	0.43
1:O:206:A:N1	1:O:207:A:C2	2.87	0.43
3:A:57:GLU:O	3:A:60:LYS:N	2.50	0.43
3:A:61:LYS:NZ	3:A:63:LYS:HG3	2.34	0.43
3:A:301:THR:HA	3:A:302:PRO:HD3	1.90	0.43
3:F:347:GLY:O	3:F:348:TYR:C	2.61	0.43
3:I:59:ILE:HD12	3:I:92:ARG:HG3	2.00	0.43
3:I:168:TYR:HD2	3:I:168:TYR:O	2.02	0.43
3:I:270:GLY:N	3:I:273:GLN:HG3	2.32	0.43
3:J:109:LEU:HD22	3:J:113:HIS:HD1	1.82	0.43
3:J:369:ILE:HG12	3:J:370:SER:N	2.33	0.43
3:M:55:ARG:HG2	3:M:55:ARG:HH11	1.82	0.43
3:M:366:PHE:HE2	3:M:399:LEU:HD11	1.84	0.43
3:N:318:THR:HA	3:N:325:PHE:N	2.33	0.43
1:C:40:U:O2'	1:C:41:C:H5'	2.17	0.43
1:C:46:A:H2'	1:C:47:A:O4'	2.19	0.43
1:C:205:G:H8	1:C:205:G:O5'	2.01	0.43
1:C:227:U:H2'	1:C:228:A:H3'	2.00	0.43
1:C:237:A:H2'	1:C:238:U:O4'	2.18	0.43
1:G:160:U:H1'	1:G:184:G:C5	2.54	0.43
1:K:144:G:H8	1:K:144:G:O5'	2.01	0.43
1:O:46:A:H2'	1:O:47:A:O4'	2.19	0.43
3:A:55:ARG:HG2	3:A:55:ARG:NH1	2.32	0.43
3:A:60:LYS:HB2	3:A:92:ARG:NH1	2.33	0.43
3:A:85:GLU:O	3:A:88:ALA:HB3	2.18	0.43
3:B:200:ASN:C	3:B:202:TRP:N	2.77	0.43
3:B:318:THR:HA	3:B:325:PHE:N	2.33	0.43
3:E:40:LYS:HG2	3:E:41:TYR:N	2.33	0.43
3:F:228:ASP:HA	3:F:231:LYS:HD3	2.00	0.43
3:F:293:ASP:OD2	3:F:294:PRO:HD2	2.19	0.43
3:F:361:LEU:HD21	3:F:392:LEU:HB2	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:J:96:ILE:HD11	3:J:123:MET:HE1	2.00	0.43
3:J:334:TRP:CD1	3:J:334:TRP:H	2.36	0.43
3:M:197:VAL:CG1	3:M:198:ASN:H	2.29	0.43
3:N:137:SER:OG	3:N:200:ASN:HB3	2.19	0.43
3:N:158:ASP:O	3:N:160:THR:N	2.51	0.43
3:N:323:ALA:O	3:N:324:LYS:C	2.61	0.43
1:C:110:A:H2'	1:C:111:G:O4'	2.18	0.43
1:C:172:U:H1'	1:C:177:G:H1	1.82	0.43
1:G:109:G:OP1	3:F:182:ARG:NH1	2.51	0.43
1:G:126:A:C5'	1:G:127:U:OP1	2.55	0.43
1:K:84:U:OP1	2:L:4:U:O2'	2.28	0.43
1:O:121:C:H2'	1:O:122:G:O4'	2.19	0.43
3:B:109:LEU:HD22	3:B:113:HIS:HD1	1.84	0.43
3:B:228:ASP:C	3:B:230:VAL:N	2.76	0.43
3:E:281:LEU:O	3:E:284:VAL:N	2.51	0.43
3:I:102:ILE:O	3:I:104:PRO:HD3	2.18	0.43
3:I:160:THR:O	3:I:161:MET:C	2.61	0.43
3:I:221:ILE:HG23	3:J:240:VAL:O	2.18	0.43
3:I:230:VAL:O	3:I:233:LYS:N	2.49	0.43
3:M:228:ASP:O	3:M:229:THR:C	2.61	0.43
3:M:342:VAL:HG23	3:M:343:PHE:N	2.32	0.43
3:M:414:ARG:HG3	3:M:414:ARG:NH1	2.33	0.43
3:N:200:ASN:OD1	3:N:201:HIS:N	2.51	0.43
1:C:152:A:H2'	1:C:153:C:O4'	2.18	0.43
1:C:161:G:N3	1:C:162:G:C8	2.86	0.43
1:C:239:C:H2'	1:C:240:C:C6	2.53	0.43
1:G:34:G:H21	1:G:36:A:N6	2.16	0.43
1:G:118:C:O2'	1:G:119:A:P	2.76	0.43
1:G:119:A:O2'	1:G:120:A:P	2.77	0.43
1:G:128:U:H2'	1:G:129:C:C6	2.54	0.43
1:G:128:U:C4	1:G:138:A:C2	3.07	0.43
1:G:228:A:C5	1:G:229:A:N7	2.87	0.43
1:O:121:C:H5	1:O:195:A:H1'	1.82	0.43
1:O:160:U:C4	1:O:188:U:H1'	2.54	0.43
1:O:237:A:H2'	1:O:238:U:O4'	2.18	0.43
3:A:94:ARG:NH2	3:A:304:THR:HG23	2.27	0.43
3:A:178:ASP:O	3:A:179:THR:C	2.62	0.43
3:A:239:GLY:HA3	3:B:220:ARG:HE	1.84	0.43
3:A:240:VAL:HG13	3:B:221:ILE:HG12	2.00	0.43
3:B:141:ILE:HD12	3:B:243:ALA:HB1	2.01	0.43
3:B:200:ASN:OD1	3:B:201:HIS:N	2.51	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:E:86:HIS:O	3:E:87:ILE:C	2.61	0.43
3:E:102:ILE:HD11	3:E:170:LEU:HD21	2.01	0.43
3:E:221:ILE:HD12	3:E:221:ILE:C	2.44	0.43
3:E:233:LYS:HG3	3:E:239:GLY:O	2.18	0.43
3:F:198:ASN:CG	3:F:200:ASN:ND2	2.76	0.43
3:F:357:VAL:CG2	3:F:388:ALA:HB1	2.47	0.43
3:I:74:ARG:HB3	3:I:362:LYS:O	2.19	0.43
3:I:143:ASP:OD2	3:I:143:ASP:C	2.62	0.43
3:I:414:ARG:HG3	3:I:414:ARG:NH1	2.33	0.43
3:J:59:ILE:HD13	3:J:66:ASN:CB	2.49	0.43
3:J:131:PHE:CE2	3:J:262:GLN:HG3	2.54	0.43
3:J:228:ASP:HA	3:J:231:LYS:HD3	2.01	0.43
3:J:234:MET:HG2	3:J:240:VAL:CG1	2.41	0.43
3:M:65:GLN:HG2	3:M:66:ASN:N	2.33	0.43
3:M:66:ASN:O	3:M:67:THR:C	2.61	0.43
1:C:206:A:N1	1:C:207:A:C2	2.87	0.43
1:G:64:A:C2'	1:G:65:C:H5'	2.49	0.43
1:K:206:A:N1	1:K:207:A:C2	2.86	0.43
1:K:237:A:H2'	1:K:238:U:O4'	2.19	0.43
1:O:25:A:H1'	1:O:171:C:O4'	2.19	0.43
1:O:215:G:H2'	1:O:245:C:N4	2.33	0.43
3:B:97:GLY:C	3:B:264:VAL:HG13	2.43	0.43
3:B:110:HIS:O	3:B:112:GLY:N	2.51	0.43
3:B:117:LEU:O	3:B:120:LEU:HB3	2.17	0.43
3:B:122:TRP:O	3:B:123:MET:C	2.61	0.43
3:B:349:PHE:O	3:B:350:VAL:C	2.61	0.43
3:E:118:MET:O	3:E:121:PHE:HB2	2.18	0.43
3:E:366:PHE:HE2	3:E:399:LEU:HD11	1.82	0.43
3:E:412:GLN:O	3:E:415:MET:HB3	2.19	0.43
3:F:276:ASN:N	3:F:276:ASN:HD22	2.15	0.43
3:F:297:ARG:CA	3:F:300:VAL:HG22	2.49	0.43
3:F:306:LEU:C	3:F:308:GLU:H	2.27	0.43
3:J:53:GLN:HA	3:J:53:GLN:NE2	2.32	0.43
3:M:233:LYS:HG3	3:M:239:GLY:O	2.19	0.43
3:M:368:PRO:O	3:M:370:SER:N	2.51	0.43
3:N:369:ILE:HD13	3:N:369:ILE:N	2.33	0.43
3:N:369:ILE:HG12	3:N:370:SER:N	2.33	0.43
1:G:76:G:H2'	1:G:77:U:O4'	2.18	0.43
1:G:172:U:H1'	1:G:177:G:H1	1.82	0.43
1:K:128:U:H2'	1:K:129:C:C6	2.53	0.43
1:K:160:U:C4	1:K:188:U:H1'	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:162:G:H2'	1:K:163:G:H8	1.83	0.43
1:K:192:C:O2	1:K:192:C:H2'	2.18	0.43
1:O:229:A:N3	1:O:230:C:C5	2.86	0.43
3:E:55:ARG:HG2	3:E:55:ARG:HH11	1.83	0.43
3:E:167:HIS:O	3:E:168:TYR:C	2.61	0.43
3:E:324:LYS:HB3	3:E:324:LYS:HZ3	1.83	0.43
3:F:267:GLN:HG3	3:F:268:ILE:N	2.33	0.43
3:F:397:VAL:O	3:F:401:HIS:N	2.52	0.43
3:I:357:VAL:CG2	3:I:389:GLN:HE21	2.31	0.43
3:I:368:PRO:O	3:I:369:ILE:C	2.61	0.43
3:I:377:GLU:HG2	3:I:377:GLU:O	2.18	0.43
3:J:59:ILE:CD1	3:J:66:ASN:HA	2.48	0.43
3:J:135:GLY:O	3:J:138:THR:HG23	2.19	0.43
3:J:347:GLY:O	3:J:348:TYR:C	2.61	0.43
3:M:71:PHE:HZ	3:M:123:MET:HG3	1.83	0.43
3:M:102:ILE:HG21	3:M:109:LEU:HD21	1.99	0.43
3:M:137:SER:HB2	3:M:199:ASN:ND2	2.33	0.43
3:M:234:MET:HE3	3:N:221:ILE:HG12	2.01	0.43
3:N:59:ILE:CD1	3:N:66:ASN:HA	2.49	0.43
3:N:397:VAL:O	3:N:401:HIS:N	2.51	0.43
1:C:43:U:H2'	1:C:44:C:H6	1.84	0.43
1:C:194:G:H2'	1:C:195:A:C5'	2.49	0.43
1:G:102:G:C2	1:G:105:C:N3	2.86	0.43
1:G:187:A:O2'	1:G:188:U:P	2.76	0.43
1:K:25:A:H2	1:K:178:G:H21	1.66	0.43
1:K:77:U:H2'	1:K:78:A:C8	2.53	0.43
1:K:132:A:C2	1:K:133:U:C2	3.07	0.43
1:K:159:A:O2'	1:K:160:U:H3'	2.19	0.43
1:O:109:G:OP1	3:N:182:ARG:NH1	2.52	0.43
1:O:183:U:H3'	1:O:184:G:C8	2.53	0.43
1:O:207:A:O2'	1:O:208:A:H5'	2.19	0.43
3:A:63:LYS:HB3	3:A:63:LYS:HZ2	1.84	0.43
3:A:281:LEU:O	3:A:284:VAL:N	2.52	0.43
3:B:59:ILE:CD1	3:B:66:ASN:HA	2.49	0.43
3:B:164:THR:O	3:B:165:LYS:C	2.62	0.43
3:E:104:PRO:HA	3:E:166:ILE:HD13	2.01	0.43
3:E:228:ASP:O	3:E:229:THR:C	2.62	0.43
3:E:347:GLY:O	3:E:350:VAL:HG12	2.19	0.43
3:F:340:THR:O	3:F:340:THR:HG22	2.18	0.43
3:I:368:PRO:C	3:I:370:SER:H	2.25	0.43
3:I:368:PRO:O	3:I:370:SER:N	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:J:140:LYS:O	3:J:141:ILE:CD1	2.56	0.43
3:J:267:GLN:HG3	3:J:268:ILE:N	2.34	0.43
3:M:189:ASP:HB3	3:M:192:ARG:HB2	2.01	0.43
3:N:293:ASP:OD2	3:N:294:PRO:HD2	2.19	0.43
1:C:121:C:H2'	1:C:122:G:O4'	2.19	0.43
1:C:134:A:N6	1:G:132:A:N6	2.67	0.43
1:G:126:A:C1'	1:G:158:A:N1	2.65	0.43
1:O:194:G:H2'	1:O:195:A:C5'	2.49	0.43
1:O:239:C:H2'	1:O:240:C:C6	2.53	0.43
1:O:239:C:C2	1:O:240:C:C5	3.06	0.43
3:A:228:ASP:O	3:A:229:THR:C	2.62	0.43
3:A:368:PRO:C	3:A:370:SER:H	2.26	0.43
3:A:368:PRO:O	3:A:370:SER:N	2.52	0.43
3:B:120:LEU:O	3:B:121:PHE:C	2.62	0.43
3:B:180:GLN:O	3:B:181:MET:C	2.61	0.43
3:B:369:ILE:CG1	3:B:370:SER:N	2.81	0.43
3:B:373:THR:O	3:B:376:MET:HB2	2.18	0.43
3:E:160:THR:O	3:E:161:MET:C	2.61	0.43
3:F:134:ILE:HG22	3:F:136:GLY:H	1.84	0.43
3:F:228:ASP:C	3:F:230:VAL:N	2.77	0.43
3:I:102:ILE:HD11	3:I:170:LEU:HD21	2.01	0.43
3:I:125:LEU:C	3:I:192:ARG:NH2	2.76	0.43
3:I:248:PRO:O	3:I:251:GLN:N	2.52	0.43
3:J:306:LEU:C	3:J:308:GLU:H	2.26	0.43
3:M:115:LEU:HD13	3:M:364:PHE:CZ	2.54	0.43
3:M:162:ASN:C	3:M:166:ILE:HD12	2.44	0.43
3:N:336:ASP:HB3	3:N:339:GLN:HB3	2.01	0.43
1:C:229:A:C4	1:C:230:C:C5	3.07	0.42
1:G:188:U:P	1:G:188:U:H3'	2.59	0.42
1:G:204:G:N2	1:G:209:C:N3	2.50	0.42
1:G:239:C:H2'	1:G:240:C:C6	2.54	0.42
1:K:14:U:C2'	1:K:35:A:H61	2.32	0.42
1:K:183:U:H2'	1:K:184:G:H5'	2.00	0.42
1:O:37:A:N6	2:P:1:G:N3	2.66	0.42
1:O:83:A:C2'	1:O:84:U:H5'	2.45	0.42
3:A:356:GLU:HB2	3:A:360:LEU:HD12	2.00	0.42
3:B:52:TRP:HE1	3:B:94:ARG:N	2.17	0.42
3:B:66:ASN:O	3:B:69:ASP:N	2.51	0.42
3:B:397:VAL:O	3:B:401:HIS:N	2.51	0.42
3:E:125:LEU:C	3:E:192:ARG:NH2	2.77	0.42
3:E:129:LYS:HA	3:E:193:LYS:O	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:E:137:SER:HB2	3:E:199:ASN:ND2	2.34	0.42
3:E:208:MET:O	3:E:209:LEU:C	2.61	0.42
3:E:319:ASP:HB2	3:E:352:ARG:HH11	1.76	0.42
3:F:113:HIS:O	3:F:116:PRO:HG2	2.19	0.42
3:F:336:ASP:HA	3:F:337:PRO:HD2	1.89	0.42
3:I:73:GLU:CD	3:I:369:ILE:HG13	2.44	0.42
3:I:162:ASN:O	3:I:163:MET:C	2.62	0.42
3:I:245:PHE:HB2	3:J:221:ILE:HG21	2.00	0.42
3:J:109:LEU:HG	3:J:169:GLN:NE2	2.34	0.42
3:J:200:ASN:C	3:J:202:TRP:N	2.76	0.42
3:J:373:THR:O	3:J:376:MET:HB2	2.19	0.42
3:M:104:PRO:CA	3:M:166:ILE:HD13	2.49	0.42
3:M:248:PRO:O	3:M:249:ILE:C	2.62	0.42
3:M:254:ASP:O	3:M:255:TRP:C	2.61	0.42
3:M:301:THR:HA	3:M:302:PRO:HD3	1.89	0.42
3:N:108:SER:HB3	3:N:334:TRP:CE3	2.54	0.42
3:N:230:VAL:O	3:N:231:LYS:C	2.61	0.42
1:O:54:G:N1	1:O:85:C:C5	2.87	0.42
3:A:104:PRO:CA	3:A:166:ILE:HD13	2.49	0.42
3:A:115:LEU:HD13	3:A:364:PHE:CZ	2.54	0.42
3:B:228:ASP:HA	3:B:231:LYS:HD3	2.00	0.42
3:E:44:LYS:HB3	3:E:44:LYS:HZ3	1.81	0.42
3:E:59:ILE:HD12	3:E:92:ARG:HG3	2.01	0.42
3:E:102:ILE:O	3:E:104:PRO:HD3	2.19	0.42
3:E:285:LYS:O	3:E:286:ALA:C	2.61	0.42
3:F:214:ARG:C	3:F:215:VAL:HG22	2.44	0.42
3:F:369:ILE:HD13	3:F:369:ILE:N	2.34	0.42
3:I:118:MET:O	3:I:121:PHE:HB2	2.19	0.42
3:I:221:ILE:HD12	3:I:225:LEU:HB3	2.01	0.42
3:I:248:PRO:O	3:I:249:ILE:C	2.62	0.42
3:I:383:PRO:O	3:I:386:ARG:HG2	2.19	0.42
3:J:200:ASN:OD1	3:J:201:HIS:N	2.52	0.42
3:J:369:ILE:HD13	3:J:369:ILE:N	2.35	0.42
3:M:94:ARG:NH2	3:M:304:THR:HG23	2.27	0.42
3:M:333:ILE:HD11	3:M:348:TYR:CZ	2.54	0.42
3:M:368:PRO:C	3:M:370:SER:H	2.26	0.42
3:N:52:TRP:HE1	3:N:94:ARG:N	2.17	0.42
1:C:77:U:H2'	1:C:78:A:C8	2.54	0.42
1:C:251:U:C3'	1:C:251:U:C6	3.02	0.42
1:G:83:A:H2'	1:G:84:U:C5'	2.47	0.42
1:G:239:C:C2	1:G:240:C:C5	3.07	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:O:40:U:H2'	1:O:41:C:C6	2.54	0.42
1:O:128:U:H2'	1:O:129:C:C6	2.54	0.42
1:O:205:G:H8	1:O:205:G:O5'	2.02	0.42
1:O:207:A:N6	1:O:208:A:N1	2.66	0.42
3:A:183:ALA:C	3:A:185:GLY:N	2.74	0.42
3:E:142:GLY:O	3:E:144:PRO:CD	2.66	0.42
3:F:66:ASN:O	3:F:69:ASP:N	2.51	0.42
3:J:117:LEU:O	3:J:120:LEU:HB3	2.18	0.42
3:J:341:SER:HB3	3:J:344:ASP:CG	2.44	0.42
3:J:355:GLN:CD	3:J:356:GLU:H	2.27	0.42
3:J:357:VAL:CG2	3:J:388:ALA:HB1	2.47	0.42
3:M:241:SER:C	3:M:243:ALA:N	2.75	0.42
3:M:290:SER:O	3:M:292:PRO:CD	2.66	0.42
3:M:351:ARG:NH2	3:M:352:ARG:HH22	2.18	0.42
3:M:398:THR:O	3:M:399:LEU:C	2.63	0.42
3:N:97:GLY:C	3:N:264:VAL:HG13	2.44	0.42
3:N:114:LEU:O	3:N:115:LEU:C	2.62	0.42
3:N:296:GLU:O	3:N:297:ARG:C	2.61	0.42
1:C:54:G:N1	1:C:85:C:C5	2.87	0.42
1:C:220:A:H2	1:C:238:U:O2	2.02	0.42
1:K:12:C:H2'	1:K:13:C:O4'	2.19	0.42
3:A:94:ARG:NH2	3:A:304:THR:CG2	2.83	0.42
3:A:248:PRO:O	3:A:251:GLN:N	2.53	0.42
3:A:290:SER:O	3:A:292:PRO:CD	2.66	0.42
3:B:280:GLY:O	3:B:281:LEU:C	2.61	0.42
3:E:368:PRO:O	3:E:370:SER:N	2.52	0.42
3:F:135:GLY:O	3:F:138:THR:HG23	2.20	0.42
3:J:214:ARG:C	3:J:215:VAL:HG22	2.44	0.42
3:M:102:ILE:O	3:M:104:PRO:HD3	2.20	0.42
3:M:258:LEU:HB3	3:M:264:VAL:CG2	2.49	0.42
1:K:26:U:H2'	1:K:27:G:H8	1.84	0.42
1:K:160:U:H1'	1:K:184:G:C5	2.54	0.42
1:O:43:U:H2'	1:O:44:C:H6	1.85	0.42
3:A:342:VAL:HG23	3:A:343:PHE:N	2.34	0.42
3:B:298:LYS:HB3	3:B:299:TYR:CE1	2.55	0.42
3:B:392:LEU:HD12	3:B:392:LEU:C	2.45	0.42
3:F:110:HIS:O	3:F:112:GLY:N	2.52	0.42
3:F:341:SER:HB3	3:F:344:ASP:CG	2.45	0.42
3:F:373:THR:O	3:F:376:MET:HB2	2.19	0.42
3:I:58:ALA:CB	3:I:63:LYS:HB2	2.49	0.42
3:J:357:VAL:HG21	3:J:388:ALA:HB3	1.97	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:J:407:SER:O	3:J:408:ALA:C	2.62	0.42
3:M:208:MET:HE1	3:N:211:VAL:CG1	2.49	0.42
3:M:301:THR:O	3:M:303:LYS:N	2.52	0.42
3:N:120:LEU:O	3:N:121:PHE:C	2.63	0.42
1:C:13:C:O2	2:D:1:G:C2	2.72	0.42
1:G:13:C:O2	2:H:1:G:C2	2.72	0.42
1:G:194:G:H2'	1:G:195:A:C5'	2.49	0.42
1:G:229:A:C4	1:G:230:C:C5	3.07	0.42
1:K:76:G:H2'	1:K:77:U:O4'	2.19	0.42
1:K:152:A:H2'	1:K:153:C:O4'	2.20	0.42
1:K:215:G:H2'	1:K:245:C:N4	2.35	0.42
1:K:251:U:O2'	1:K:252:G:C5'	2.67	0.42
1:O:40:U:O2'	1:O:41:C:H5'	2.18	0.42
3:A:66:ASN:O	3:A:67:THR:C	2.62	0.42
3:A:143:ASP:C	3:A:143:ASP:OD2	2.61	0.42
3:A:337:PRO:C	3:A:339:GLN:H	2.28	0.42
3:A:366:PHE:HE2	3:A:399:LEU:HD11	1.85	0.42
3:E:130:ALA:O	3:E:194:ARG:HA	2.19	0.42
3:E:280:GLY:O	3:E:284:VAL:HG23	2.19	0.42
3:E:301:THR:O	3:E:303:LYS:N	2.53	0.42
3:I:104:PRO:HA	3:I:166:ILE:HD13	2.02	0.42
3:I:203:TRP:C	3:J:209:LEU:HD12	2.44	0.42
3:I:208:MET:HE1	3:J:211:VAL:CG1	2.50	0.42
3:J:293:ASP:OD2	3:J:294:PRO:HD2	2.19	0.42
3:N:39:PRO:HG2	3:N:42:THR:HG1	1.83	0.42
3:N:115:LEU:O	3:N:119:PRO:HD2	2.18	0.42
3:N:319:ASP:HB2	3:N:352:ARG:NH1	2.32	0.42
1:G:14:U:C2'	1:G:35:A:H61	2.32	0.42
1:G:43:U:H2'	1:G:44:C:H6	1.85	0.42
1:K:225:A:C5'	1:K:226:G:OP2	2.68	0.42
1:O:83:A:H2'	1:O:84:U:C5'	2.47	0.42
1:O:172:U:H1'	1:O:177:G:H1	1.83	0.42
1:O:251:U:C3'	1:O:251:U:C6	3.03	0.42
3:A:102:ILE:HG21	3:A:109:LEU:HD21	2.00	0.42
3:A:258:LEU:HB3	3:A:264:VAL:CG2	2.49	0.42
3:A:351:ARG:NH2	3:A:352:ARG:HH22	2.18	0.42
3:A:414:ARG:HG3	3:A:414:ARG:NH1	2.34	0.42
3:B:108:SER:HB3	3:B:334:TRP:CE3	2.55	0.42
3:B:296:GLU:O	3:B:297:ARG:C	2.61	0.42
3:E:61:LYS:HB2	3:E:63:LYS:HG3	2.02	0.42
3:E:66:ASN:O	3:E:67:THR:C	2.62	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:I:189:ASP:HB3	3:I:192:ARG:HB2	2.02	0.42
3:I:228:ASP:O	3:I:229:THR:C	2.62	0.42
3:J:365:THR:OG1	3:J:367:MET:HB2	2.19	0.42
3:M:94:ARG:NH2	3:M:304:THR:CG2	2.83	0.42
3:M:101:GLY:HA2	3:M:133:LEU:O	2.19	0.42
3:M:166:ILE:O	3:M:167:HIS:C	2.61	0.42
3:M:357:VAL:HG21	3:M:389:GLN:HE21	1.84	0.42
3:N:124:TYR:O	3:N:192:ARG:NH2	2.51	0.42
3:N:385:LYS:HA	3:N:385:LYS:HZ2	1.83	0.42
3:N:392:LEU:HD12	3:N:392:LEU:C	2.45	0.42
1:C:77:U:O2'	1:C:78:A:H5'	2.20	0.42
1:G:192:C:O2	1:G:192:C:H2'	2.18	0.42
1:K:34:G:N1	2:L:1:G:C5	2.88	0.42
1:K:251:U:C3'	1:K:251:U:C6	3.02	0.42
3:A:248:PRO:O	3:A:249:ILE:C	2.62	0.42
3:A:383:PRO:O	3:A:386:ARG:HG2	2.20	0.42
3:B:319:ASP:CG	3:B:321:SER:HB3	2.44	0.42
3:E:166:ILE:O	3:E:167:HIS:C	2.63	0.42
3:F:365:THR:OG1	3:F:367:MET:HB2	2.20	0.42
3:I:130:ALA:O	3:I:194:ARG:HA	2.19	0.42
3:I:158:ASP:C	3:I:160:THR:N	2.77	0.42
3:I:398:THR:O	3:I:399:LEU:C	2.63	0.42
3:N:140:LYS:O	3:N:141:ILE:CD1	2.55	0.42
1:C:105:C:H2'	1:C:106:G:O5'	2.20	0.42
1:C:183:U:H3'	1:C:184:G:C8	2.54	0.42
1:G:152:A:H2'	1:G:153:C:O4'	2.19	0.42
2:L:1:G:H2'	2:L:2:C:O4'	2.19	0.42
1:O:188:U:P	1:O:188:U:H3'	2.59	0.42
1:O:200:A:O2'	1:O:201:U:H5'	2.20	0.42
1:O:225:A:C5'	1:O:226:G:OP2	2.67	0.42
3:A:102:ILE:O	3:A:104:PRO:HD3	2.20	0.42
3:A:129:LYS:HA	3:A:193:LYS:O	2.19	0.42
3:A:158:ASP:C	3:A:160:THR:N	2.76	0.42
3:E:144:PRO:HB3	3:E:244:GLU:HB3	2.01	0.42
3:E:258:LEU:HB3	3:E:264:VAL:CG2	2.46	0.42
3:E:333:ILE:HD11	3:E:348:TYR:CZ	2.54	0.42
3:F:180:GLN:O	3:F:181:MET:C	2.62	0.42
3:F:223:PRO:O	3:F:227:ARG:NH1	2.53	0.42
3:F:323:ALA:O	3:F:324:LYS:C	2.63	0.42
3:I:225:LEU:HD12	3:J:225:LEU:HD13	2.02	0.42
3:J:180:GLN:O	3:J:181:MET:C	2.63	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:J:198:ASN:CG	3:J:200:ASN:ND2	2.78	0.42
3:J:228:ASP:C	3:J:230:VAL:N	2.75	0.42
3:J:361:LEU:HD21	3:J:392:LEU:HB2	2.01	0.42
3:M:168:TYR:HD2	3:M:168:TYR:O	2.03	0.42
3:M:221:ILE:HD12	3:M:225:LEU:HB3	2.02	0.42
3:M:230:VAL:O	3:M:233:LYS:N	2.50	0.42
3:M:280:GLY:O	3:M:281:LEU:C	2.63	0.42
3:N:134:ILE:HG22	3:N:136:GLY:H	1.85	0.42
3:N:164:THR:O	3:N:165:LYS:C	2.63	0.42
3:N:319:ASP:CG	3:N:321:SER:HB3	2.45	0.42
3:N:373:THR:O	3:N:376:MET:HB2	2.19	0.42
1:C:25:A:H1'	1:C:171:C:O4'	2.20	0.42
1:C:87:U:O5'	1:C:87:U:H6	2.03	0.42
1:G:10:A:H2'	1:G:11:G:H8	1.85	0.42
1:G:34:G:N1	2:H:1:G:C5	2.87	0.42
1:G:251:U:C3'	1:G:251:U:C6	3.03	0.42
1:K:43:U:H2'	1:K:44:C:H6	1.84	0.42
1:K:194:G:H2'	1:K:195:A:C5'	2.50	0.42
1:K:251:U:H3'	1:K:251:U:C6	2.55	0.42
1:O:87:U:O5'	1:O:87:U:H6	2.03	0.42
3:A:109:LEU:N	3:A:109:LEU:HD12	2.34	0.42
3:A:319:ASP:HB2	3:A:352:ARG:HH11	1.75	0.42
3:A:382:ASP:N	3:A:383:PRO:HD3	2.34	0.42
3:A:412:GLN:O	3:A:415:MET:HB3	2.20	0.42
3:B:137:SER:OG	3:B:200:ASN:HB3	2.20	0.42
3:B:232:ASN:N	3:B:232:ASN:HD22	2.18	0.42
3:E:67:THR:HB	3:E:91:MET:HE2	2.01	0.42
3:E:143:ASP:OD2	3:E:143:ASP:C	2.62	0.42
3:E:162:ASN:O	3:E:163:MET:C	2.63	0.42
3:E:383:PRO:O	3:E:386:ARG:HG2	2.20	0.42
3:F:109:LEU:HG	3:F:169:GLN:NE2	2.34	0.42
3:F:318:THR:HA	3:F:325:PHE:N	2.35	0.42
3:I:61:LYS:HZ3	3:I:61:LYS:HB2	1.85	0.42
3:I:101:GLY:HA2	3:I:133:LEU:O	2.20	0.42
3:I:129:LYS:HA	3:I:193:LYS:O	2.19	0.42
3:I:197:VAL:CG1	3:I:198:ASN:H	2.31	0.42
3:I:280:GLY:O	3:I:281:LEU:C	2.62	0.42
3:I:327:LYS:HA	3:I:332:ALA:HA	2.02	0.42
3:J:115:LEU:HD21	3:J:314:VAL:HB	2.02	0.42
3:J:392:LEU:HD12	3:J:392:LEU:C	2.45	0.42
3:M:143:ASP:OD2	3:M:143:ASP:C	2.61	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:M:178:ASP:O	3:M:179:THR:C	2.63	0.42
3:M:347:GLY:O	3:M:350:VAL:HG12	2.20	0.42
3:N:240:VAL:HG13	3:N:240:VAL:O	2.19	0.42
1:C:80:G:O2'	1:C:81:C:H5'	2.19	0.41
1:C:95:G:C2'	1:C:96:C:H5'	2.50	0.41
1:K:119:A:O2'	1:K:120:A:P	2.77	0.41
1:K:126:A:C5'	1:K:127:U:OP1	2.53	0.41
1:O:95:G:C2'	1:O:96:C:H5'	2.50	0.41
1:O:194:G:C8	1:O:194:G:C3'	3.02	0.41
3:A:142:GLY:O	3:A:144:PRO:CD	2.65	0.41
3:A:333:ILE:HD11	3:A:348:TYR:CZ	2.55	0.41
3:B:115:LEU:N	3:B:116:PRO:HD2	2.35	0.41
3:B:319:ASP:HB2	3:B:352:ARG:NH1	2.33	0.41
3:E:111:VAL:CG2	3:E:326:GLY:HA2	2.50	0.41
3:E:225:LEU:HD12	3:F:225:LEU:HD13	2.02	0.41
3:F:355:GLN:CD	3:F:356:GLU:H	2.28	0.41
3:I:178:ASP:O	3:I:179:THR:C	2.62	0.41
3:I:301:THR:O	3:I:303:LYS:N	2.53	0.41
3:I:333:ILE:HD11	3:I:348:TYR:CZ	2.55	0.41
3:M:90:LEU:HD13	3:M:306:LEU:O	2.19	0.41
3:M:108:SER:O	3:M:334:TRP:HZ3	2.03	0.41
3:M:248:PRO:O	3:M:251:GLN:N	2.53	0.41
3:M:412:GLN:O	3:M:415:MET:HB3	2.20	0.41
3:N:94:ARG:C	3:N:96:ILE:N	2.78	0.41
3:N:110:HIS:O	3:N:112:GLY:N	2.53	0.41
3:N:407:SER:O	3:N:408:ALA:C	2.63	0.41
1:C:63:A:C8	1:C:206:A:N1	2.88	0.41
1:G:160:U:C4	1:G:188:U:H1'	2.55	0.41
1:K:103(B):A:C8	1:K:104:A:C8	3.08	0.41
1:K:200:A:O2'	1:K:201:U:H5'	2.20	0.41
1:O:63:A:C8	1:O:206:A:N1	2.88	0.41
1:O:102:G:C2	1:O:105:C:N3	2.85	0.41
1:O:132:A:C2	1:O:133:U:C2	3.08	0.41
1:O:140:U:O4	1:O:157:A:N7	2.53	0.41
3:A:55:ARG:HG2	3:A:55:ARG:HH11	1.84	0.41
3:A:254:ASP:O	3:A:255:TRP:C	2.60	0.41
3:B:114:LEU:O	3:B:115:LEU:C	2.63	0.41
3:B:198:ASN:CG	3:B:200:ASN:ND2	2.78	0.41
3:E:119:PRO:O	3:E:123:MET:HG3	2.20	0.41
3:E:138:THR:O	3:E:139:ALA:C	2.63	0.41
3:E:270:GLY:N	3:E:273:GLN:HG3	2.34	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:296:GLU:O	3:F:297:ARG:C	2.62	0.41
3:I:326:GLY:O	3:I:332:ALA:CB	2.67	0.41
3:J:52:TRP:HE1	3:J:94:ARG:N	2.19	0.41
3:J:223:PRO:O	3:J:227:ARG:NH1	2.52	0.41
3:M:82:GLY:O	3:M:87:ILE:CD1	2.67	0.41
3:M:191:ALA:O	3:M:192:ARG:C	2.63	0.41
3:N:66:ASN:O	3:N:69:ASP:N	2.52	0.41
3:N:198:ASN:CG	3:N:200:ASN:ND2	2.77	0.41
3:N:355:GLN:CD	3:N:356:GLU:H	2.27	0.41
1:C:139:G:H2'	1:C:156:G:H1	1.84	0.41
1:C:188:U:P	1:C:188:U:H3'	2.59	0.41
1:G:166:U:O2'	1:G:167:U:H5'	2.20	0.41
1:G:230:C:H2'	1:G:231:G:O4'	2.20	0.41
1:G:251:U:O2'	1:G:252:G:C5'	2.67	0.41
1:K:42:C:H2'	1:K:43:U:C6	2.56	0.41
1:K:121:C:H2'	1:K:122:G:O4'	2.20	0.41
1:K:140:U:O4	1:K:157:A:N7	2.54	0.41
1:K:204:G:N2	1:K:209:C:N3	2.51	0.41
1:O:77:U:O2'	1:O:78:A:H5'	2.21	0.41
1:O:185:A:C2	1:O:188:U:O4	2.73	0.41
2:P:1:G:H2'	2:P:2:C:O4'	2.21	0.41
3:A:73:GLU:CD	3:A:369:ILE:HG13	2.44	0.41
3:E:248:PRO:O	3:E:249:ILE:C	2.63	0.41
3:E:317:LEU:HB3	3:E:325:PHE:CD1	2.55	0.41
3:F:241:SER:HB3	3:F:244:GLU:HG2	2.02	0.41
3:I:216:GLY:O	3:J:241:SER:OG	2.35	0.41
3:J:83:THR:O	3:J:84:LYS:C	2.64	0.41
3:M:225:LEU:HD12	3:N:225:LEU:HD13	2.02	0.41
3:M:319:ASP:HB2	3:M:352:ARG:HH11	1.74	0.41
3:M:350:VAL:O	3:M:386:ARG:NH2	2.51	0.41
3:N:59:ILE:HD13	3:N:66:ASN:CB	2.51	0.41
1:C:228:A:C4	1:C:229:A:N7	2.88	0.41
1:G:206:A:N1	1:G:207:A:C2	2.88	0.41
1:K:220:A:H2	1:K:238:U:O2	2.04	0.41
1:K:229:A:C4	1:K:230:C:C5	3.08	0.41
1:O:229:A:C4	1:O:230:C:C5	3.08	0.41
3:A:185:GLY:O	3:A:186:TYR:CD1	2.73	0.41
3:A:189:ASP:HB3	3:A:192:ARG:HB2	2.03	0.41
3:A:198:ASN:CG	3:A:200:ASN:OD1	2.63	0.41
3:A:208:MET:HE1	3:B:211:VAL:CB	2.50	0.41
3:A:317:LEU:HB3	3:A:325:PHE:CD1	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:59:ILE:HD13	3:B:66:ASN:CB	2.51	0.41
3:E:58:ALA:CB	3:E:63:LYS:HB2	2.50	0.41
3:E:221:ILE:HD12	3:E:225:LEU:HB3	2.03	0.41
3:I:281:LEU:O	3:I:284:VAL:N	2.53	0.41
3:I:386:ARG:HH11	3:I:389:GLN:HG2	1.84	0.41
3:J:97:GLY:C	3:J:264:VAL:HG13	2.46	0.41
3:J:122:TRP:O	3:J:123:MET:C	2.62	0.41
1:C:194:G:C8	1:C:194:G:C3'	3.03	0.41
1:G:40:U:H2'	1:G:41:C:C6	2.56	0.41
1:G:80:G:O2'	1:G:81:C:H5'	2.20	0.41
1:G:194:G:C8	1:G:194:G:C3'	3.02	0.41
1:G:225:A:C5'	1:G:226:G:OP2	2.69	0.41
1:O:51:A:H4'	3:N:261:GLN:OE1	2.20	0.41
1:O:62:A:H4'	1:O:206:A:H2	1.86	0.41
3:A:230:VAL:O	3:A:233:LYS:N	2.50	0.41
3:A:241:SER:C	3:A:243:ALA:N	2.76	0.41
3:A:301:THR:O	3:A:303:LYS:N	2.54	0.41
3:A:350:VAL:O	3:A:386:ARG:NH1	2.53	0.41
3:E:168:TYR:C	3:E:168:TYR:HD2	2.29	0.41
3:F:347:GLY:CA	3:F:351:ARG:HH12	2.33	0.41
3:F:359:ASN:N	3:F:359:ASN:OD1	2.54	0.41
3:I:61:LYS:HB2	3:I:63:LYS:HG3	2.03	0.41
3:I:198:ASN:CG	3:I:200:ASN:OD1	2.64	0.41
3:I:208:MET:O	3:I:209:LEU:C	2.63	0.41
3:I:270:GLY:O	3:I:273:GLN:HB2	2.21	0.41
3:J:198:ASN:HD21	3:J:200:ASN:HD21	1.69	0.41
3:M:118:MET:N	3:M:119:PRO:HD2	2.35	0.41
3:M:337:PRO:C	3:M:339:GLN:H	2.29	0.41
3:N:115:LEU:HD21	3:N:314:VAL:HB	2.02	0.41
3:N:296:GLU:O	3:N:300:VAL:HG22	2.20	0.41
1:C:148:A:HO2'	1:C:149:G:P	2.43	0.41
1:C:251:U:H3'	1:C:251:U:C6	2.55	0.41
1:G:25:A:H2	1:G:178:G:H21	1.67	0.41
1:G:171:C:N3	1:G:178:G:C2	2.89	0.41
1:K:13:C:O2	2:L:1:G:C2	2.73	0.41
1:K:185:A:C2	1:K:188:U:O4	2.74	0.41
1:K:207:A:N6	1:K:208:A:N1	2.69	0.41
1:K:228:A:C4	1:K:229:A:N7	2.88	0.41
1:K:230:C:H2'	1:K:231:G:O4'	2.20	0.41
1:O:110:A:H2'	1:O:111:G:O4'	2.20	0.41
3:A:166:ILE:O	3:A:167:HIS:C	2.62	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:293:ASP:OD2	3:B:294:PRO:HD2	2.20	0.41
3:B:355:GLN:CD	3:B:356:GLU:H	2.28	0.41
3:E:101:GLY:HA2	3:E:133:LEU:O	2.19	0.41
3:E:337:PRO:C	3:E:339:GLN:H	2.28	0.41
3:I:137:SER:HB2	3:I:199:ASN:ND2	2.35	0.41
3:J:288:ARG:HB2	3:J:302:PRO:HD3	2.03	0.41
3:M:108:SER:O	3:M:334:TRP:CZ3	2.74	0.41
3:M:129:LYS:HA	3:M:193:LYS:O	2.19	0.41
3:M:158:ASP:C	3:M:160:THR:N	2.77	0.41
3:M:185:GLY:O	3:M:186:TYR:CD1	2.74	0.41
3:M:328:SER:O	3:M:329:ALA:HB3	2.20	0.41
3:N:115:LEU:N	3:N:116:PRO:HD2	2.36	0.41
3:N:400:VAL:O	3:N:400:VAL:CG1	2.64	0.41
1:C:10:A:H2'	1:C:11:G:H8	1.84	0.41
1:C:128:U:O2'	1:C:129:C:H5'	2.21	0.41
1:C:170:C:O2	1:C:179:G:N2	2.54	0.41
1:G:170:C:O2	1:G:179:G:N2	2.54	0.41
1:G:218:G:OP1	1:G:218:G:C4'	2.58	0.41
1:K:194:G:C8	1:K:194:G:C3'	3.03	0.41
1:K:239:C:H2'	1:K:240:C:C6	2.54	0.41
1:O:148:A:HO2'	1:O:149:G:P	2.43	0.41
3:A:108:SER:O	3:A:334:TRP:HZ3	2.04	0.41
3:A:225:LEU:HD12	3:B:225:LEU:HD13	2.02	0.41
3:A:233:LYS:HG3	3:A:239:GLY:O	2.21	0.41
3:B:188:ALA:CA	3:B:192:ARG:HH11	2.23	0.41
3:B:274:TYR:O	3:B:277:ILE:N	2.53	0.41
3:B:336:ASP:HB3	3:B:339:GLN:HB3	2.03	0.41
3:E:168:TYR:HD2	3:E:168:TYR:O	2.03	0.41
3:E:172:LYS:O	3:E:175:GLU:HB2	2.20	0.41
3:E:301:THR:HA	3:E:302:PRO:HD3	1.91	0.41
3:F:97:GLY:C	3:F:264:VAL:HG13	2.45	0.41
3:F:115:LEU:N	3:F:116:PRO:HD2	2.36	0.41
3:F:119:PRO:O	3:F:120:LEU:C	2.63	0.41
3:F:298:LYS:HB3	3:F:299:TYR:CD1	2.56	0.41
3:F:405:GLU:O	3:F:406:ALA:C	2.63	0.41
3:I:297:ARG:C	3:I:299:TYR:H	2.29	0.41
3:I:297:ARG:C	3:I:299:TYR:N	2.78	0.41
3:J:137:SER:OG	3:J:200:ASN:HB3	2.20	0.41
3:J:206:GLN:HA	3:J:207:PRO:HD3	1.92	0.41
3:M:58:ALA:CB	3:M:63:LYS:HB2	2.50	0.41
3:M:87:ILE:HG23	3:M:310:VAL:CG2	2.49	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:M:261:GLN:O	3:M:262:GLN:HG2	2.20	0.41
3:M:340:THR:O	3:M:341:SER:C	2.63	0.41
3:N:76:TYR:CD1	3:N:119:PRO:HD3	2.55	0.41
3:N:180:GLN:O	3:N:181:MET:C	2.63	0.41
3:N:341:SER:HB3	3:N:344:ASP:CG	2.46	0.41
3:N:369:ILE:CG1	3:N:370:SER:N	2.83	0.41
1:C:12:C:H2'	1:C:13:C:O4'	2.21	0.41
1:C:83:A:C2'	1:C:84:U:H5'	2.46	0.41
1:C:102:G:C2	1:C:105:C:N3	2.86	0.41
1:G:12:C:H2'	1:G:13:C:O4'	2.20	0.41
1:G:26:U:H2'	1:G:27:G:H8	1.85	0.41
1:G:139:G:H2'	1:G:156:G:H1	1.84	0.41
1:K:128:U:C4	1:K:138:A:C2	3.08	0.41
1:K:170:C:O2	1:K:179:G:N2	2.53	0.41
1:O:26:U:H2'	1:O:27:G:H8	1.86	0.41
1:O:105:C:H2'	1:O:106:G:O5'	2.20	0.41
1:O:218:G:OP1	1:O:218:G:C4'	2.59	0.41
1:O:230:C:H2'	1:O:231:G:O4'	2.20	0.41
3:A:65:GLN:HG2	3:A:66:ASN:N	2.35	0.41
3:A:137:SER:HB2	3:A:199:ASN:ND2	2.35	0.41
3:A:168:TYR:O	3:A:168:TYR:HD2	2.04	0.41
3:A:212:LEU:HD22	3:B:243:ALA:HA	2.02	0.41
3:A:221:ILE:HD12	3:A:225:LEU:HB3	2.03	0.41
3:E:56:ALA:O	3:E:92:ARG:NH1	2.54	0.41
3:E:181:MET:HG2	3:E:186:TYR:CB	2.50	0.41
3:E:245:PHE:HB2	3:F:221:ILE:HG21	2.00	0.41
3:E:280:GLY:O	3:E:281:LEU:C	2.64	0.41
3:F:108:SER:HB3	3:F:334:TRP:CE3	2.56	0.41
3:F:172:LYS:O	3:F:175:GLU:HB3	2.21	0.41
3:F:250:MET:C	3:F:252:GLY:N	2.78	0.41
3:F:407:SER:O	3:F:408:ALA:C	2.64	0.41
3:I:172:LYS:O	3:I:175:GLU:HB2	2.21	0.41
3:I:234:MET:HE3	3:J:221:ILE:HG12	2.02	0.41
3:I:280:GLY:O	3:I:284:VAL:HG23	2.20	0.41
3:I:331:ASN:HD22	3:I:334:TRP:NE1	2.04	0.41
3:I:347:GLY:O	3:I:350:VAL:HG12	2.21	0.41
3:J:353:SER:HB2	3:J:356:GLU:CB	2.44	0.41
3:M:198:ASN:CG	3:M:200:ASN:OD1	2.64	0.41
3:N:274:TYR:HA	3:N:277:ILE:HD12	2.02	0.41
3:N:288:ARG:HB2	3:N:302:PRO:HD3	2.02	0.41
3:N:405:GLU:O	3:N:406:ALA:C	2.62	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:9:G:O2'	1:C:57:C:H5'	2.21	0.41
1:C:26:U:H2'	1:C:27:G:H8	1.86	0.41
1:C:95:G:H2'	1:C:96:C:C5'	2.51	0.41
1:C:128:U:H2'	1:C:129:C:C6	2.56	0.41
1:G:105:C:C2'	1:G:106:G:C5'	2.98	0.41
1:G:144:G:H8	1:G:144:G:O5'	2.03	0.41
1:G:145:U:H2'	1:G:146:C:H6	1.85	0.41
1:G:220:A:H2	1:G:238:U:O2	2.04	0.41
1:G:228:A:C4	1:G:229:A:N7	2.89	0.41
2:H:1:G:H2'	2:H:2:C:O4'	2.20	0.41
1:K:95:G:C2'	1:K:96:C:H5'	2.51	0.41
1:K:103:G:O2'	1:K:103(B):A:C8	2.73	0.41
1:O:14:U:C2'	1:O:35:A:H61	2.34	0.41
1:O:80:G:O2'	1:O:81:C:H5'	2.20	0.41
1:O:251:U:H3'	1:O:251:U:C6	2.56	0.41
3:A:58:ALA:CB	3:A:63:LYS:HB2	2.51	0.41
3:A:82:GLY:O	3:A:87:ILE:CD1	2.67	0.41
3:A:90:LEU:HD13	3:A:306:LEU:O	2.20	0.41
3:A:101:GLY:HA2	3:A:133:LEU:O	2.20	0.41
3:A:331:ASN:HB3	3:A:332:ALA:H	1.56	0.41
3:A:347:GLY:O	3:A:350:VAL:HG12	2.21	0.41
3:B:134:ILE:HG22	3:B:136:GLY:H	1.86	0.41
3:B:250:MET:C	3:B:252:GLY:N	2.77	0.41
3:B:356:GLU:O	3:B:357:VAL:C	2.63	0.41
3:E:108:SER:O	3:E:334:TRP:CZ3	2.74	0.41
3:E:108:SER:O	3:E:334:TRP:HZ3	2.04	0.41
3:E:158:ASP:C	3:E:160:THR:N	2.78	0.41
3:E:198:ASN:CG	3:E:200:ASN:OD1	2.63	0.41
3:E:241:SER:C	3:E:243:ALA:N	2.77	0.41
3:E:247:TYR:C	3:E:247:TYR:CD2	2.99	0.41
3:E:255:TRP:HZ3	3:E:277:ILE:HG23	1.86	0.41
3:F:52:TRP:HE1	3:F:94:ARG:N	2.18	0.41
3:F:94:ARG:C	3:F:96:ILE:N	2.78	0.41
3:F:121:PHE:CZ	3:F:173:LEU:HD21	2.56	0.41
3:F:137:SER:OG	3:F:200:ASN:HB3	2.20	0.41
3:F:304:THR:OG1	3:F:305:ALA:N	2.54	0.41
3:F:372:ILE:CG2	3:F:373:THR:N	2.84	0.41
3:F:386:ARG:HB2	3:F:386:ARG:HH11	1.79	0.41
3:F:392:LEU:HD12	3:F:392:LEU:C	2.46	0.41
3:I:111:VAL:CG2	3:I:326:GLY:HA2	2.51	0.41
3:I:119:PRO:O	3:I:123:MET:HG3	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:J:66:ASN:O	3:J:69:ASP:N	2.50	0.41
3:J:94:ARG:C	3:J:96:ILE:N	2.79	0.41
3:J:141:ILE:HD12	3:J:243:ALA:HB1	2.02	0.41
3:J:336:ASP:HB3	3:J:339:GLN:HB3	2.02	0.41
3:J:347:GLY:CA	3:J:351:ARG:HH12	2.33	0.41
3:M:109:LEU:HD12	3:M:109:LEU:N	2.35	0.41
3:M:142:GLY:O	3:M:144:PRO:CD	2.66	0.41
3:M:225:LEU:HD23	3:M:226:SER:N	2.36	0.41
3:M:317:LEU:HB3	3:M:325:PHE:CD1	2.55	0.41
3:N:117:LEU:O	3:N:120:LEU:HB3	2.20	0.41
3:N:232:ASN:N	3:N:232:ASN:HD22	2.19	0.41
3:N:298:LYS:HB3	3:N:299:TYR:CE1	2.56	0.41
1:C:200:A:O2'	1:C:201:U:H5'	2.21	0.41
1:K:40:U:H2'	1:K:41:C:C6	2.56	0.41
1:K:128:U:O2'	1:K:129:C:H5'	2.21	0.41
1:O:12:C:H2'	1:O:13:C:O4'	2.21	0.41
3:A:398:THR:O	3:A:399:LEU:C	2.64	0.41
3:B:240:VAL:O	3:B:240:VAL:HG13	2.21	0.41
3:B:341:SER:HB3	3:B:344:ASP:CG	2.46	0.41
3:E:65:GLN:HG2	3:E:66:ASN:N	2.36	0.41
3:E:90:LEU:HD13	3:E:306:LEU:O	2.21	0.41
3:E:297:ARG:C	3:E:299:TYR:N	2.79	0.41
3:F:130:ALA:C	3:F:131:PHE:CD1	2.99	0.41
3:I:56:ALA:O	3:I:92:ARG:NH1	2.52	0.41
3:I:90:LEU:HD13	3:I:306:LEU:O	2.21	0.41
3:I:102:ILE:HG21	3:I:109:LEU:HD21	2.02	0.41
3:I:138:THR:O	3:I:139:ALA:C	2.64	0.41
3:I:241:SER:O	3:I:243:ALA:N	2.54	0.41
3:I:317:LEU:HB3	3:I:325:PHE:CD1	2.56	0.41
3:I:333:ILE:HG12	3:I:348:TYR:CG	2.56	0.41
3:I:385:LYS:HA	3:I:385:LYS:HD3	1.92	0.41
3:M:208:MET:HE1	3:N:211:VAL:HG11	2.03	0.41
3:M:295:GLN:H	3:M:295:GLN:HG2	1.68	0.41
3:N:336:ASP:OD2	3:N:336:ASP:C	2.64	0.41
3:N:343:PHE:HE1	3:N:413:HIS:N	2.18	0.41
3:N:356:GLU:O	3:N:357:VAL:C	2.64	0.41
1:C:159:A:C6	1:C:161:G:C4	3.09	0.40
1:C:215:G:H2'	1:C:245:C:N4	2.36	0.40
1:C:230:C:H2'	1:C:231:G:O4'	2.21	0.40
1:G:118:C:O2'	1:G:119:A:OP2	2.37	0.40
1:K:80:G:O2'	1:K:81:C:H5'	2.20	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:95:G:H2'	1:K:96:C:C5'	2.51	0.40
1:K:166:U:O2'	1:K:167:U:H5'	2.21	0.40
1:O:128:U:C4	1:O:138:A:C2	3.09	0.40
3:A:89:GLU:O	3:A:93:THR:HG23	2.21	0.40
3:A:162:ASN:O	3:A:163:MET:C	2.63	0.40
3:A:261:GLN:O	3:A:262:GLN:HG2	2.20	0.40
3:A:295:GLN:H	3:A:295:GLN:HG2	1.68	0.40
3:A:350:VAL:O	3:A:386:ARG:NH2	2.52	0.40
3:A:386:ARG:HH11	3:A:389:GLN:HG2	1.86	0.40
3:B:230:VAL:O	3:B:231:LYS:C	2.63	0.40
3:E:327:LYS:HA	3:E:332:ALA:HA	2.02	0.40
3:I:166:ILE:O	3:I:167:HIS:C	2.63	0.40
3:I:183:ALA:C	3:I:185:GLY:N	2.74	0.40
3:J:113:HIS:O	3:J:116:PRO:HG2	2.20	0.40
3:N:111:VAL:O	3:N:114:LEU:HD12	2.21	0.40
3:N:294:PRO:HG2	3:N:295:GLN:N	2.33	0.40
1:C:40:U:H2'	1:C:41:C:C6	2.56	0.40
1:C:140:U:O4	1:C:157:A:N7	2.54	0.40
1:G:198:A:H8	1:G:198:A:H5''	1.86	0.40
1:K:139:G:H2'	1:K:156:G:H1	1.86	0.40
1:K:198:A:H5''	1:K:198:A:H8	1.85	0.40
1:O:95:G:H2'	1:O:96:C:C5'	2.51	0.40
1:O:170:C:O2	1:O:179:G:N2	2.54	0.40
3:A:205:LYS:O	3:A:207:PRO:HD3	2.21	0.40
3:A:357:VAL:HG21	3:A:389:GLN:HE21	1.86	0.40
3:B:111:VAL:O	3:B:114:LEU:HD12	2.21	0.40
3:B:241:SER:HB3	3:B:244:GLU:HG2	2.03	0.40
3:B:372:ILE:CG2	3:B:373:THR:N	2.85	0.40
3:F:40:LYS:HE2	3:F:40:LYS:HB2	1.96	0.40
3:F:59:ILE:HD13	3:F:66:ASN:CB	2.50	0.40
3:I:65:GLN:HG2	3:I:66:ASN:N	2.36	0.40
3:I:293:ASP:CB	3:I:296:GLU:HB2	2.51	0.40
3:J:280:GLY:O	3:J:281:LEU:C	2.65	0.40
3:J:296:GLU:O	3:J:297:ARG:C	2.64	0.40
3:J:297:ARG:CA	3:J:300:VAL:HG22	2.50	0.40
3:J:336:ASP:OD2	3:J:336:ASP:C	2.64	0.40
3:J:369:ILE:CG1	3:J:370:SER:N	2.83	0.40
3:M:162:ASN:O	3:M:163:MET:C	2.64	0.40
3:N:135:GLY:C	3:N:137:SER:H	2.29	0.40
3:N:214:ARG:C	3:N:215:VAL:HG22	2.46	0.40
1:C:37:A:N6	2:D:1:G:N3	2.68	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:159:A:O2'	1:C:160:U:P	2.79	0.40
1:C:251:U:O2'	1:C:252:G:C5'	2.67	0.40
1:G:140:U:O4	1:G:157:A:N7	2.54	0.40
1:G:159:A:O2'	1:G:160:U:H3'	2.21	0.40
1:K:20:C:C6	1:K:20:C:H3'	2.57	0.40
1:K:145:U:H2'	1:K:146:C:H6	1.86	0.40
1:O:9:G:O2'	1:O:57:C:H5'	2.21	0.40
1:O:128:U:O2'	1:O:129:C:H5'	2.21	0.40
1:O:139:G:H2'	1:O:156:G:H1	1.85	0.40
3:A:108:SER:O	3:A:334:TRP:CZ3	2.74	0.40
3:A:208:MET:HE1	3:B:211:VAL:CG1	2.51	0.40
3:E:109:LEU:HB2	3:E:335:LEU:HD12	2.03	0.40
3:F:366:PHE:CZ	3:F:399:LEU:HD22	2.57	0.40
3:F:385:LYS:HA	3:F:385:LYS:HZ3	1.85	0.40
3:I:72:GLU:OE1	3:I:77:VAL:HG21	2.22	0.40
3:I:108:SER:O	3:I:334:TRP:HZ3	2.05	0.40
3:I:125:LEU:CA	3:I:192:ARG:HH22	2.34	0.40
3:I:209:LEU:HD12	3:J:203:TRP:C	2.47	0.40
3:I:351:ARG:NH2	3:I:352:ARG:HH22	2.19	0.40
3:J:76:TYR:CD1	3:J:119:PRO:HD3	2.56	0.40
3:J:317:LEU:HD12	3:J:317:LEU:HA	1.92	0.40
3:M:61:LYS:HB2	3:M:63:LYS:HG3	2.02	0.40
3:M:84:LYS:HD2	3:M:85:GLU:OE2	2.21	0.40
3:M:225:LEU:HD12	3:N:225:LEU:CD1	2.52	0.40
3:M:255:TRP:HB3	3:M:284:VAL:HG22	2.04	0.40
3:M:331:ASN:HB3	3:M:332:ALA:H	1.57	0.40
3:M:382:ASP:N	3:M:383:PRO:HD3	2.36	0.40
3:N:75:GLY:O	3:N:363:LEU:HD21	2.21	0.40
3:N:232:ASN:C	3:N:234:MET:N	2.69	0.40
3:N:246:THR:C	3:N:248:PRO:HD2	2.46	0.40
3:N:274:TYR:O	3:N:277:ILE:N	2.54	0.40
1:C:18:U:H2'	1:C:19:A:H8	1.86	0.40
1:C:42:C:H2'	1:C:43:U:C6	2.55	0.40
1:C:103(B):A:C8	1:C:104:A:C8	3.10	0.40
1:C:159:A:C4	1:C:161:G:N7	2.90	0.40
1:O:95:G:H2'	1:O:96:C:H5'	2.02	0.40
1:O:161:G:C2	1:O:162:G:C5	3.09	0.40
3:B:115:LEU:O	3:B:119:PRO:HD2	2.20	0.40
3:B:359:ASN:N	3:B:359:ASN:OD1	2.53	0.40
3:B:407:SER:O	3:B:408:ALA:C	2.64	0.40
3:E:82:GLY:O	3:E:87:ILE:CD1	2.64	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:I:367:MET:HA	3:I:368:PRO:HD3	1.97	0.40
3:J:121:PHE:CZ	3:J:173:LEU:HD21	2.56	0.40
3:J:124:TYR:O	3:J:192:ARG:NH2	2.54	0.40
3:J:180:GLN:C	3:J:183:ALA:HB3	2.44	0.40
3:J:304:THR:OG1	3:J:305:ALA:N	2.55	0.40
3:J:366:PHE:CZ	3:J:399:LEU:HD22	2.57	0.40
3:M:104:PRO:HA	3:M:166:ILE:HD13	2.02	0.40
3:M:117:LEU:HD23	3:M:117:LEU:HA	1.90	0.40
3:M:350:VAL:O	3:M:386:ARG:NH1	2.54	0.40
3:N:136:GLY:N	3:N:199:ASN:OD1	2.54	0.40
1:C:62:A:H4'	1:C:206:A:H2	1.87	0.40
1:C:132:A:C2	1:C:133:U:C2	3.09	0.40
2:D:1:G:H2'	2:D:2:C:O4'	2.22	0.40
1:G:63:A:C8	1:G:206:A:N1	2.89	0.40
1:K:10:A:H2'	1:K:11:G:H8	1.85	0.40
1:K:87:U:O5'	1:K:87:U:H6	2.04	0.40
1:O:42:C:H2'	1:O:43:U:C6	2.56	0.40
3:A:208:MET:O	3:A:209:LEU:C	2.62	0.40
3:B:94:ARG:C	3:B:96:ILE:N	2.80	0.40
3:B:140:LYS:O	3:B:141:ILE:CD1	2.57	0.40
3:B:214:ARG:C	3:B:215:VAL:HG22	2.45	0.40
3:B:257:GLU:O	3:B:260:TYR:N	2.54	0.40
3:E:100:VAL:HG22	3:E:268:ILE:O	2.21	0.40
3:E:189:ASP:HB3	3:E:192:ARG:HB2	2.02	0.40
3:E:269:GLY:O	3:E:314:VAL:HG22	2.21	0.40
3:E:293:ASP:CG	3:E:296:GLU:HB2	2.46	0.40
3:E:386:ARG:HH11	3:E:389:GLN:HG2	1.86	0.40
3:F:141:ILE:HD12	3:F:243:ALA:HB1	2.03	0.40
3:F:167:HIS:O	3:F:169:GLN:N	2.55	0.40
3:F:280:GLY:O	3:F:281:LEU:C	2.63	0.40
3:F:288:ARG:H	3:F:288:ARG:HG3	1.75	0.40
3:F:294:PRO:HG2	3:F:295:GLN:N	2.32	0.40
3:F:317:LEU:HD12	3:F:317:LEU:HA	1.91	0.40
3:I:142:GLY:O	3:I:144:PRO:CD	2.67	0.40
3:I:197:VAL:CG1	3:I:198:ASN:N	2.79	0.40
3:I:306:LEU:C	3:I:308:GLU:N	2.78	0.40
3:I:337:PRO:C	3:I:339:GLN:H	2.29	0.40

There are no symmetry-related clashes.

5.3 Torsion angles

5.3.1 Protein backbone

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	
3	A	363/392 (93%)	257 (71%)	81 (22%)	25 (7%)	1	12
3	B	363/392 (93%)	256 (70%)	80 (22%)	27 (7%)	1	10
3	E	363/392 (93%)	257 (71%)	81 (22%)	25 (7%)	1	12
3	F	363/392 (93%)	256 (70%)	80 (22%)	27 (7%)	1	10
3	I	363/392 (93%)	258 (71%)	79 (22%)	26 (7%)	1	11
3	J	363/392 (93%)	256 (70%)	79 (22%)	28 (8%)	1	10
3	M	363/392 (93%)	258 (71%)	81 (22%)	24 (7%)	1	12
3	N	363/392 (93%)	257 (71%)	79 (22%)	27 (7%)	1	10
All	All	2904/3136 (93%)	2055 (71%)	640 (22%)	209 (7%)	1	11

All (209) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	A	320	SER
3	A	334	TRP
3	B	96	ILE
3	B	169	GLN
3	B	358	GLU
3	B	370	SER
3	E	303	LYS
3	E	320	SER
3	E	334	TRP
3	F	96	ILE
3	F	169	GLN
3	F	358	GLU
3	F	370	SER
3	I	320	SER
3	I	334	TRP
3	J	96	ILE
3	J	169	GLN

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Mol	Chain	Res	Type
3	J	358	GLU
3	J	370	SER
3	M	320	SER
3	M	334	TRP
3	N	96	ILE
3	N	169	GLN
3	N	358	GLU
3	N	370	SER
3	A	93	THR
3	A	128	TYR
3	A	136	GLY
3	A	184	ARG
3	A	221	ILE
3	A	303	LYS
3	A	331	ASN
3	A	406	ALA
3	B	62	GLY
3	B	136	GLY
3	B	167	HIS
3	B	171	LYS
3	B	214	ARG
3	B	215	VAL
3	B	233	LYS
3	B	243	ALA
3	B	273	GLN
3	B	348	TYR
3	E	93	THR
3	E	128	TYR
3	E	136	GLY
3	E	184	ARG
3	E	221	ILE
3	E	331	ASN
3	E	406	ALA
3	F	62	GLY
3	F	136	GLY
3	F	167	HIS
3	F	170	LEU
3	F	171	LYS
3	F	214	ARG
3	F	215	VAL
3	F	233	LYS
3	F	243	ALA

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Mol	Chain	Res	Type
3	F	273	GLN
3	F	348	TYR
3	I	93	THR
3	I	128	TYR
3	I	136	GLY
3	I	184	ARG
3	I	221	ILE
3	I	303	LYS
3	I	331	ASN
3	I	406	ALA
3	J	62	GLY
3	J	136	GLY
3	J	167	HIS
3	J	170	LEU
3	J	171	LYS
3	J	214	ARG
3	J	215	VAL
3	J	233	LYS
3	J	243	ALA
3	J	273	GLN
3	J	348	TYR
3	M	93	THR
3	M	128	TYR
3	M	136	GLY
3	M	184	ARG
3	M	221	ILE
3	M	303	LYS
3	M	331	ASN
3	M	406	ALA
3	N	136	GLY
3	N	167	HIS
3	N	171	LYS
3	N	214	ARG
3	N	215	VAL
3	N	233	LYS
3	N	243	ALA
3	N	273	GLN
3	N	348	TYR
3	A	201	HIS
3	A	222	GLY
3	A	302	PRO
3	B	111	VAL

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Mol	Chain	Res	Type
3	B	170	LEU
3	B	181	MET
3	B	201	HIS
3	B	222	GLY
3	B	229	THR
3	B	329	ALA
3	B	359	ASN
3	E	201	HIS
3	E	222	GLY
3	E	302	PRO
3	F	111	VAL
3	F	181	MET
3	F	201	HIS
3	F	211	VAL
3	F	222	GLY
3	F	229	THR
3	F	329	ALA
3	F	359	ASN
3	I	201	HIS
3	I	222	GLY
3	I	302	PRO
3	I	322	GLY
3	J	111	VAL
3	J	181	MET
3	J	201	HIS
3	J	211	VAL
3	J	222	GLY
3	J	229	THR
3	J	359	ASN
3	M	201	HIS
3	M	222	GLY
3	M	302	PRO
3	N	62	GLY
3	N	111	VAL
3	N	170	LEU
3	N	181	MET
3	N	201	HIS
3	N	222	GLY
3	N	229	THR
3	N	329	ALA
3	N	359	ASN
3	A	83	THR

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Mol	Chain	Res	Type
3	A	167	HIS
3	A	223	PRO
3	A	290	SER
3	A	322	GLY
3	B	211	VAL
3	B	350	VAL
3	E	83	THR
3	E	167	HIS
3	E	290	SER
3	E	307	ASP
3	E	322	GLY
3	F	350	VAL
3	I	83	THR
3	I	167	HIS
3	I	290	SER
3	I	307	ASP
3	J	329	ALA
3	J	350	VAL
3	M	83	THR
3	M	167	HIS
3	M	322	GLY
3	N	211	VAL
3	N	350	VAL
3	A	307	ASP
3	A	330	GLY
3	A	346	TYR
3	B	292	PRO
3	E	223	PRO
3	E	330	GLY
3	F	292	PRO
3	I	223	PRO
3	I	330	GLY
3	I	340	THR
3	I	346	TYR
3	J	179	THR
3	J	292	PRO
3	M	223	PRO
3	M	290	SER
3	M	307	ASP
3	M	330	GLY
3	N	292	PRO
3	A	324	LYS

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Mol	Chain	Res	Type
3	B	179	THR
3	B	320	SER
3	E	346	TYR
3	F	168	TYR
3	F	179	THR
3	J	168	TYR
3	J	320	SER
3	N	179	THR
3	N	320	SER
3	A	96	ILE
3	A	292	PRO
3	E	96	ILE
3	E	292	PRO
3	I	292	PRO
3	I	402	GLY
3	M	96	ILE
3	M	292	PRO
3	A	211	VAL
3	E	402	GLY
3	I	96	ILE
3	I	211	VAL
3	M	211	VAL
3	M	402	GLY
3	E	211	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	
3	A	310/333 (93%)	277 (89%)	33 (11%)	6	22
3	B	310/333 (93%)	274 (88%)	36 (12%)	5	19
3	E	310/333 (93%)	279 (90%)	31 (10%)	7	24
3	F	310/333 (93%)	273 (88%)	37 (12%)	5	19
3	I	310/333 (93%)	279 (90%)	31 (10%)	7	24

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
3	J	310/333 (93%)	275 (89%)	35 (11%)	5	20
3	M	310/333 (93%)	278 (90%)	32 (10%)	7	23
3	N	310/333 (93%)	274 (88%)	36 (12%)	5	19
All	All	2480/2664 (93%)	2209 (89%)	271 (11%)	6	21

All (271) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	A	40	LYS
3	A	44	LYS
3	A	49	GLU
3	A	61	LYS
3	A	63	LYS
3	A	69	ASP
3	A	79	ASP
3	A	83	THR
3	A	85	GLU
3	A	138	THR
3	A	158	ASP
3	A	160	THR
3	A	204	ASN
3	A	209	LEU
3	A	221	ILE
3	A	225	LEU
3	A	227	ARG
3	A	230	VAL
3	A	241	SER
3	A	271	SER
3	A	304	THR
3	A	317	LEU
3	A	324	LYS
3	A	325	PHE
3	A	327	LYS
3	A	331	ASN
3	A	354	ASP
3	A	356	GLU
3	A	370	SER
3	A	372	ILE
3	A	374	LYS
3	A	387	VAL
3	A	404	GLN

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Mol	Chain	Res	Type
3	B	46	ASN
3	B	47	GLU
3	B	73	GLU
3	B	77	VAL
3	B	83	THR
3	B	84	LYS
3	B	96	ILE
3	B	103	ASP
3	B	126	GLU
3	B	138	THR
3	B	169	GLN
3	B	182	ARG
3	B	193	LYS
3	B	201	HIS
3	B	212	LEU
3	B	215	VAL
3	B	224	MET
3	B	236	GLN
3	B	265	GLN
3	B	309	CYS
3	B	313	THR
3	B	328	SER
3	B	334	TRP
3	B	352	ARG
3	B	355	GLN
3	B	369	ILE
3	B	377	GLU
3	B	385	LYS
3	B	387	VAL
3	B	390	HIS
3	B	404	GLN
3	B	407	SER
3	B	413	HIS
3	B	414	ARG
3	B	415	MET
3	B	416	MET
3	E	40	LYS
3	E	44	LYS
3	E	49	GLU
3	E	61	LYS
3	E	63	LYS
3	E	69	ASP

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Mol	Chain	Res	Type
3	E	79	ASP
3	E	83	THR
3	E	85	GLU
3	E	138	THR
3	E	158	ASP
3	E	160	THR
3	E	196	ILE
3	E	209	LEU
3	E	221	ILE
3	E	225	LEU
3	E	227	ARG
3	E	230	VAL
3	E	271	SER
3	E	304	THR
3	E	317	LEU
3	E	324	LYS
3	E	327	LYS
3	E	331	ASN
3	E	354	ASP
3	E	356	GLU
3	E	370	SER
3	E	372	ILE
3	E	374	LYS
3	E	387	VAL
3	E	404	GLN
3	F	46	ASN
3	F	47	GLU
3	F	73	GLU
3	F	77	VAL
3	F	83	THR
3	F	84	LYS
3	F	96	ILE
3	F	103	ASP
3	F	126	GLU
3	F	138	THR
3	F	169	GLN
3	F	182	ARG
3	F	193	LYS
3	F	201	HIS
3	F	212	LEU
3	F	215	VAL
3	F	221	ILE

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Mol	Chain	Res	Type
3	F	224	MET
3	F	236	GLN
3	F	265	GLN
3	F	309	CYS
3	F	313	THR
3	F	328	SER
3	F	334	TRP
3	F	352	ARG
3	F	355	GLN
3	F	369	ILE
3	F	377	GLU
3	F	385	LYS
3	F	387	VAL
3	F	390	HIS
3	F	404	GLN
3	F	407	SER
3	F	413	HIS
3	F	414	ARG
3	F	415	MET
3	F	416	MET
3	I	40	LYS
3	I	44	LYS
3	I	49	GLU
3	I	61	LYS
3	I	63	LYS
3	I	69	ASP
3	I	79	ASP
3	I	83	THR
3	I	85	GLU
3	I	138	THR
3	I	158	ASP
3	I	160	THR
3	I	204	ASN
3	I	209	LEU
3	I	221	ILE
3	I	225	LEU
3	I	227	ARG
3	I	230	VAL
3	I	271	SER
3	I	304	THR
3	I	317	LEU
3	I	324	LYS

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Mol	Chain	Res	Type
3	I	327	LYS
3	I	331	ASN
3	I	354	ASP
3	I	356	GLU
3	I	370	SER
3	I	372	ILE
3	I	374	LYS
3	I	387	VAL
3	I	404	GLN
3	J	46	ASN
3	J	47	GLU
3	J	73	GLU
3	J	77	VAL
3	J	83	THR
3	J	84	LYS
3	J	96	ILE
3	J	103	ASP
3	J	126	GLU
3	J	138	THR
3	J	169	GLN
3	J	182	ARG
3	J	193	LYS
3	J	201	HIS
3	J	212	LEU
3	J	215	VAL
3	J	221	ILE
3	J	224	MET
3	J	236	GLN
3	J	265	GLN
3	J	309	CYS
3	J	313	THR
3	J	328	SER
3	J	334	TRP
3	J	352	ARG
3	J	355	GLN
3	J	369	ILE
3	J	377	GLU
3	J	385	LYS
3	J	404	GLN
3	J	407	SER
3	J	413	HIS
3	J	414	ARG

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Mol	Chain	Res	Type
3	J	415	MET
3	J	416	MET
3	M	40	LYS
3	M	44	LYS
3	M	49	GLU
3	M	61	LYS
3	M	63	LYS
3	M	69	ASP
3	M	79	ASP
3	M	83	THR
3	M	85	GLU
3	M	138	THR
3	M	158	ASP
3	M	160	THR
3	M	204	ASN
3	M	209	LEU
3	M	221	ILE
3	M	225	LEU
3	M	227	ARG
3	M	230	VAL
3	M	241	SER
3	M	271	SER
3	M	304	THR
3	M	317	LEU
3	M	324	LYS
3	M	327	LYS
3	M	331	ASN
3	M	354	ASP
3	M	356	GLU
3	M	370	SER
3	M	372	ILE
3	M	374	LYS
3	M	387	VAL
3	M	404	GLN
3	N	46	ASN
3	N	47	GLU
3	N	73	GLU
3	N	77	VAL
3	N	83	THR
3	N	84	LYS
3	N	96	ILE
3	N	103	ASP

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Mol	Chain	Res	Type
3	N	126	GLU
3	N	138	THR
3	N	169	GLN
3	N	182	ARG
3	N	193	LYS
3	N	201	HIS
3	N	212	LEU
3	N	215	VAL
3	N	221	ILE
3	N	224	MET
3	N	236	GLN
3	N	265	GLN
3	N	309	CYS
3	N	313	THR
3	N	328	SER
3	N	334	TRP
3	N	352	ARG
3	N	355	GLN
3	N	369	ILE
3	N	377	GLU
3	N	385	LYS
3	N	390	HIS
3	N	404	GLN
3	N	407	SER
3	N	413	HIS
3	N	414	ARG
3	N	415	MET
3	N	416	MET

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (146) such sidechains are listed below:

Mol	Chain	Res	Type
3	A	46	ASN
3	A	51	ASN
3	A	53	GLN
3	A	66	ASN
3	A	86	HIS
3	A	169	GLN
3	A	176	ASN
3	A	201	HIS
3	A	204	ASN
3	A	217	HIS

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Mol	Chain	Res	Type
3	A	232	ASN
3	A	236	GLN
3	A	251	GLN
3	A	261	GLN
3	A	331	ASN
3	A	379	HIS
3	A	389	GLN
3	A	390	HIS
3	A	404	GLN
3	B	53	GLN
3	B	66	ASN
3	B	110	HIS
3	B	162	ASN
3	B	169	GLN
3	B	200	ASN
3	B	201	HIS
3	B	206	GLN
3	B	232	ASN
3	B	251	GLN
3	B	273	GLN
3	B	295	GLN
3	B	331	ASN
3	B	339	GLN
3	B	379	HIS
3	B	389	GLN
3	B	401	HIS
3	B	413	HIS
3	E	46	ASN
3	E	51	ASN
3	E	53	GLN
3	E	66	ASN
3	E	86	HIS
3	E	169	GLN
3	E	176	ASN
3	E	201	HIS
3	E	204	ASN
3	E	217	HIS
3	E	232	ASN
3	E	236	GLN
3	E	261	GLN
3	E	331	ASN
3	E	379	HIS

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Mol	Chain	Res	Type
3	E	389	GLN
3	E	390	HIS
3	E	404	GLN
3	F	53	GLN
3	F	66	ASN
3	F	110	HIS
3	F	162	ASN
3	F	169	GLN
3	F	200	ASN
3	F	201	HIS
3	F	217	HIS
3	F	232	ASN
3	F	251	GLN
3	F	265	GLN
3	F	273	GLN
3	F	295	GLN
3	F	331	ASN
3	F	339	GLN
3	F	379	HIS
3	F	389	GLN
3	F	412	GLN
3	F	413	HIS
3	I	46	ASN
3	I	51	ASN
3	I	53	GLN
3	I	66	ASN
3	I	86	HIS
3	I	169	GLN
3	I	176	ASN
3	I	201	HIS
3	I	204	ASN
3	I	217	HIS
3	I	232	ASN
3	I	236	GLN
3	I	261	GLN
3	I	331	ASN
3	I	379	HIS
3	I	389	GLN
3	I	390	HIS
3	I	401	HIS
3	I	404	GLN
3	J	53	GLN

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Mol	Chain	Res	Type
3	J	66	ASN
3	J	110	HIS
3	J	162	ASN
3	J	169	GLN
3	J	200	ASN
3	J	232	ASN
3	J	251	GLN
3	J	265	GLN
3	J	273	GLN
3	J	295	GLN
3	J	331	ASN
3	J	339	GLN
3	J	379	HIS
3	J	389	GLN
3	J	412	GLN
3	J	413	HIS
3	M	46	ASN
3	M	51	ASN
3	M	53	GLN
3	M	66	ASN
3	M	86	HIS
3	M	169	GLN
3	M	176	ASN
3	M	201	HIS
3	M	204	ASN
3	M	217	HIS
3	M	232	ASN
3	M	236	GLN
3	M	251	GLN
3	M	261	GLN
3	M	331	ASN
3	M	379	HIS
3	M	389	GLN
3	M	390	HIS
3	M	404	GLN
3	N	53	GLN
3	N	66	ASN
3	N	110	HIS
3	N	162	ASN
3	N	169	GLN
3	N	200	ASN
3	N	201	HIS

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Mol	Chain	Res	Type
3	N	232	ASN
3	N	251	GLN
3	N	273	GLN
3	N	295	GLN
3	N	331	ASN
3	N	339	GLN
3	N	379	HIS
3	N	389	GLN
3	N	412	GLN
3	N	413	HIS

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	C	236/246 (95%)	49 (20%)	14 (5%)
1	G	236/246 (95%)	49 (20%)	14 (5%)
1	K	236/246 (95%)	49 (20%)	14 (5%)
1	O	236/246 (95%)	49 (20%)	14 (5%)
2	D	3/4 (75%)	0	0
2	H	3/4 (75%)	0	0
2	L	3/4 (75%)	0	0
2	P	3/4 (75%)	0	0
All	All	956/1000 (95%)	196 (20%)	56 (5%)

All (196) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	C	36	A
1	C	37	A
1	C	46	A
1	C	58	A
1	C	59	C
1	C	60	C
1	C	77	U
1	C	78	A
1	C	86	C
1	C	103(A)	A
1	C	105	C
1	C	111	G
1	C	113	A
1	C	118	C

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Mol	Chain	Res	Type
1	C	119	A
1	C	120	A
1	C	121	C
1	C	126	A
1	C	127	U
1	C	140	U
1	C	148	A
1	C	150	U
1	C	151	G
1	C	160	U
1	C	161	G
1	C	173	U
1	C	174	C
1	C	175	U
1	C	176	A
1	C	177	G
1	C	184	G
1	C	185	A
1	C	186	U
1	C	187	A
1	C	188	U
1	C	194	G
1	C	195	A
1	C	196	A
1	C	197	C
1	C	198	A
1	C	199	U
1	C	217	A
1	C	218	G
1	C	228	A
1	C	243	A
1	C	245	C
1	C	246	A
1	C	247	U
1	C	249	A
1	G	36	A
1	G	37	A
1	G	46	A
1	G	58	A
1	G	59	C
1	G	60	C
1	G	77	U

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Mol	Chain	Res	Type
1	G	78	A
1	G	86	C
1	G	103(A)	A
1	G	105	C
1	G	111	G
1	G	113	A
1	G	118	C
1	G	119	A
1	G	120	A
1	G	121	C
1	G	126	A
1	G	127	U
1	G	140	U
1	G	148	A
1	G	150	U
1	G	151	G
1	G	160	U
1	G	161	G
1	G	173	U
1	G	174	C
1	G	175	U
1	G	176	A
1	G	177	G
1	G	184	G
1	G	185	A
1	G	186	U
1	G	187	A
1	G	188	U
1	G	194	G
1	G	195	A
1	G	196	A
1	G	197	C
1	G	198	A
1	G	199	U
1	G	217	A
1	G	218	G
1	G	228	A
1	G	243	A
1	G	245	C
1	G	246	A
1	G	247	U
1	G	249	A

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Mol	Chain	Res	Type
1	K	36	A
1	K	37	A
1	K	46	A
1	K	58	A
1	K	59	C
1	K	60	C
1	K	77	U
1	K	78	A
1	K	86	C
1	K	103(A)	A
1	K	105	C
1	K	111	G
1	K	113	A
1	K	118	C
1	K	119	A
1	K	120	A
1	K	121	C
1	K	126	A
1	K	127	U
1	K	140	U
1	K	148	A
1	K	150	U
1	K	151	G
1	K	160	U
1	K	161	G
1	K	173	U
1	K	174	C
1	K	175	U
1	K	176	A
1	K	177	G
1	K	184	G
1	K	185	A
1	K	186	U
1	K	187	A
1	K	188	U
1	K	194	G
1	K	195	A
1	K	196	A
1	K	197	C
1	K	198	A
1	K	199	U
1	K	217	A

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Mol	Chain	Res	Type
1	K	218	G
1	K	228	A
1	K	243	A
1	K	245	C
1	K	246	A
1	K	247	U
1	K	249	A
1	O	36	A
1	O	37	A
1	O	46	A
1	O	58	A
1	O	59	C
1	O	60	C
1	O	77	U
1	O	78	A
1	O	86	C
1	O	103(A)	A
1	O	105	C
1	O	111	G
1	O	113	A
1	O	118	C
1	O	119	A
1	O	120	A
1	O	121	C
1	O	126	A
1	O	127	U
1	O	140	U
1	O	148	A
1	O	150	U
1	O	151	G
1	O	160	U
1	O	161	G
1	O	173	U
1	O	174	C
1	O	175	U
1	O	176	A
1	O	177	G
1	O	184	G
1	O	185	A
1	O	186	U
1	O	187	A
1	O	188	U

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Mol	Chain	Res	Type
1	O	194	G
1	O	195	A
1	O	196	A
1	O	197	C
1	O	198	A
1	O	199	U
1	O	217	A
1	O	218	G
1	O	228	A
1	O	243	A
1	O	245	C
1	O	246	A
1	O	247	U
1	O	249	A

All (56) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	C	58	A
1	C	118	C
1	C	119	A
1	C	120	A
1	C	139	G
1	C	159	A
1	C	160	U
1	C	173	U
1	C	184	G
1	C	185	A
1	C	187	A
1	C	216	A
1	C	217	A
1	C	246	A
1	G	58	A
1	G	118	C
1	G	119	A
1	G	120	A
1	G	139	G
1	G	159	A
1	G	160	U
1	G	173	U
1	G	184	G
1	G	185	A

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Mol	Chain	Res	Type
1	G	187	A
1	G	216	A
1	G	217	A
1	G	246	A
1	K	58	A
1	K	118	C
1	K	119	A
1	K	120	A
1	K	139	G
1	K	159	A
1	K	160	U
1	K	173	U
1	K	184	G
1	K	185	A
1	K	187	A
1	K	216	A
1	K	217	A
1	K	246	A
1	O	58	A
1	O	118	C
1	O	119	A
1	O	120	A
1	O	139	G
1	O	159	A
1	O	160	U
1	O	173	U
1	O	184	G
1	O	185	A
1	O	187	A
1	O	216	A
1	O	217	A
1	O	246	A

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry

There are no ligands in this entry.

5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

6 Fit of model and data

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	C	238/246 (96%)	-0.81	0	100	100	185, 211, 244, 250	0
1	G	238/246 (96%)	-0.82	0	100	100	185, 211, 244, 250	0
1	K	238/246 (96%)	-0.82	0	100	100	185, 211, 244, 250	0
1	O	238/246 (96%)	-0.81	0	100	100	185, 211, 244, 250	0
2	D	4/4 (100%)	-0.55	0	100	100	198, 208, 211, 236	0
2	H	4/4 (100%)	-0.66	0	100	100	198, 208, 211, 236	0
2	L	4/4 (100%)	-0.67	0	100	100	198, 208, 211, 236	0
2	P	4/4 (100%)	-0.86	0	100	100	198, 208, 211, 236	0
3	A	367/392 (93%)	-0.57	0	100	100	191, 213, 229, 240	0
3	B	367/392 (93%)	-0.55	0	100	100	187, 209, 225, 233	0
3	E	367/392 (93%)	-0.53	1 (0%)	90	80	191, 213, 229, 240	0
3	F	367/392 (93%)	-0.53	0	100	100	187, 209, 225, 233	0
3	I	367/392 (93%)	-0.45	0	100	100	191, 213, 229, 240	0
3	J	367/392 (93%)	-0.56	2 (0%)	87	75	187, 209, 225, 233	0
3	M	367/392 (93%)	-0.55	0	100	100	191, 213, 229, 240	0
3	N	367/392 (93%)	-0.53	0	100	100	187, 209, 225, 233	0
All	All	3904/4136 (94%)	-0.60	3 (0%)	92	87	185, 211, 232, 250	0

All (3) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
3	J	108	SER	2.8
3	E	132	THR	2.4
3	J	172	LYS	2.1

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](#)

There are no ligands in this entry.

6.5 Other polymers [i](#)

There are no such residues in this entry.