



Full wwPDB X-ray Structure Validation Report ⓘ

Aug 2, 2023 – 09:02 PM EDT

PDB ID : 1HR0
Title : CRYSTAL STRUCTURE OF INITIATION FACTOR IF1 BOUND TO THE 30S RIBOSOMAL SUBUNIT
Authors : Carter, A.P.; Clemons Jr., W.M.; Brodersen, D.E.; Morgan-Warren, R.J.; Wimberly, B.T.; Ramakrishnan, V.
Deposited on : 2000-12-20
Resolution : 3.20 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 : 4.02b-467
Xtriage (Phenix) : 1.13
EDS : 2.34
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac : 5.8.0158
CCP4 : 7.0.044 (Gargrove)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.34

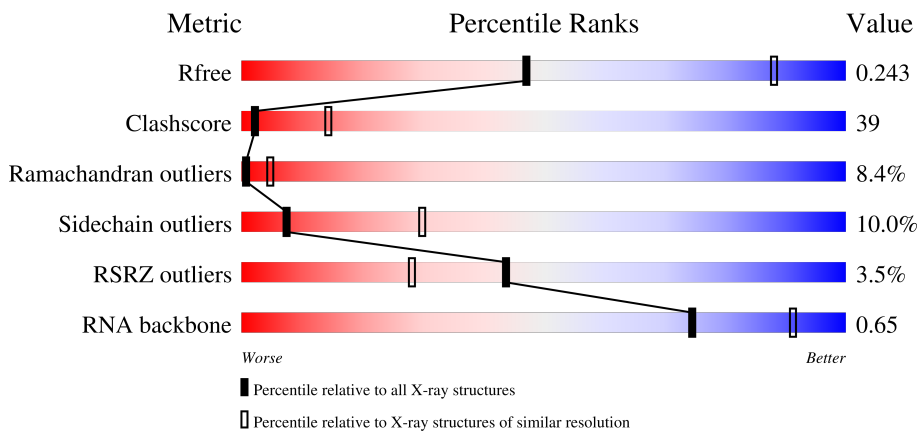
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.20 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.






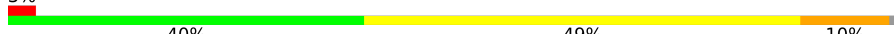
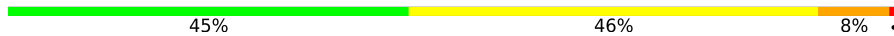
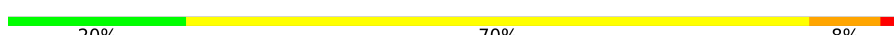

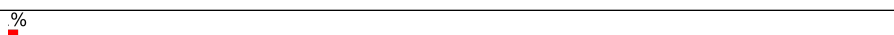
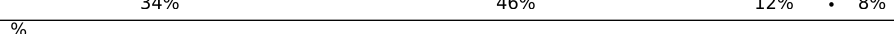
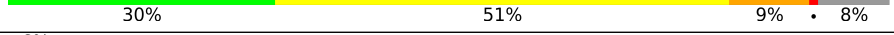
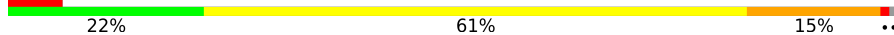
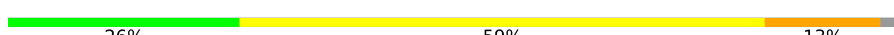

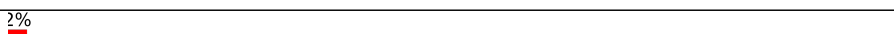

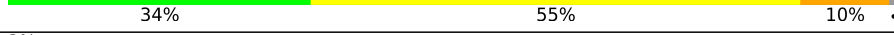
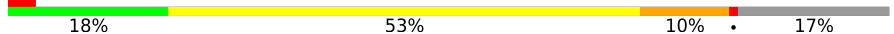
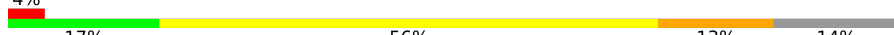

Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	1133 (3.20-3.20)
Clashscore	141614	1253 (3.20-3.20)
Ramachandran outliers	138981	1234 (3.20-3.20)
Sidechain outliers	138945	1233 (3.20-3.20)
RSRZ outliers	127900	1095 (3.20-3.20)
RNA backbone	3102	1010 (3.50-2.90)

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

Mol	Chain	Length	Quality of chain
1	A	1522	<div style="display: flex; align-items: center;"> <div style="width: 6%; height: 10px; background-color: red; margin-right: 5px;"></div> <div style="width: 25%; height: 10px; background-color: green; margin-right: 5px;"></div> <div style="width: 59%; height: 10px; background-color: yellow; margin-right: 5px;"></div> <div style="width: 13%; height: 10px; background-color: orange; margin-right: 5px;"></div> <div style="width: 2%; height: 10px; background-color: red; margin-right: 5px;"></div> <div style="width: 2%; height: 10px; background-color: grey;"></div> </div> <p style="margin-left: 20px;">6% 25% 59% 13% ••</p>
2	X	6	<div style="display: flex; align-items: center;"> <div style="width: 33%; height: 10px; background-color: red; margin-right: 5px;"></div> <div style="width: 67%; height: 10px; background-color: green; margin-right: 5px;"></div> <div style="width: 33%; height: 10px; background-color: yellow;"></div> </div> <p style="margin-left: 20px;">33% 67% 33%</p>
3	B	256	<div style="display: flex; align-items: center;"> <div style="width: 4%; height: 10px; background-color: red; margin-right: 5px;"></div> <div style="width: 16%; height: 10px; background-color: green; margin-right: 5px;"></div> <div style="width: 58%; height: 10px; background-color: yellow; margin-right: 5px;"></div> <div style="width: 15%; height: 10px; background-color: orange; margin-right: 5px;"></div> <div style="width: 2%; height: 10px; background-color: red; margin-right: 5px;"></div> <div style="width: 9%; height: 10px; background-color: grey;"></div> </div> <p style="margin-left: 20px;">4% 16% 58% 15% • 9%</p>
4	C	239	<div style="display: flex; align-items: center;"> <div style="width: 21%; height: 10px; background-color: green; margin-right: 5px;"></div> <div style="width: 49%; height: 10px; background-color: yellow; margin-right: 5px;"></div> <div style="width: 15%; height: 10px; background-color: orange; margin-right: 5px;"></div> <div style="width: 2%; height: 10px; background-color: red; margin-right: 5px;"></div> <div style="width: 14%; height: 10px; background-color: grey;"></div> </div> <p style="margin-left: 20px;">21% 49% 15% • 14%</p>

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Mol	Chain	Length	Quality of chain
5	D	209	
6	E	162	
7	F	101	
8	G	156	
9	H	138	
10	I	128	
11	J	105	
12	K	129	
13	L	135	
14	M	126	
15	N	61	
16	O	89	
17	P	88	
18	Q	105	
19	R	88	
20	S	93	
21	T	106	
22	V	26	
23	W	71	

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

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
24	MG	A	1547	-	-	-	X
24	MG	A	1548	-	-	-	X
24	MG	A	1549	-	-	-	X
24	MG	A	1561	-	-	-	X
24	MG	A	1565	-	-	-	X

Continued on next page...

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
24	MG	A	1570	-	-	-	X
24	MG	A	1573	-	-	-	X
24	MG	A	1584	-	-	-	X
24	MG	A	1591	-	-	-	X
24	MG	A	1592	-	-	-	X
24	MG	A	1596	-	-	-	X

2 Entry composition [i](#)

There are 25 unique types of molecules in this entry. The entry contains 52365 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a RNA chain called 16S RIBOSOMAL RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
1	A	1507	32382	14418	6002	10459	1503	22	0	0

- Molecule 2 is a RNA chain called FRAGMENT OF MESSENGER RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
2	X	6	117	54	14	44	5	0	0	0

- Molecule 3 is a protein called 30S RIBOSOMAL PROTEIN S2.

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

- Molecule 4 is a protein called 30S RIBOSOMAL PROTEIN S3.

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

- Molecule 5 is a protein called 30S RIBOSOMAL PROTEIN S4.

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

- Molecule 6 is a protein called 30S RIBOSOMAL PROTEIN S5.

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

- Molecule 7 is a protein called 30S RIBOSOMAL PROTEIN S6.

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

- Molecule 8 is a protein called 30S RIBOSOMAL PROTEIN S7.

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

- Molecule 9 is a protein called 30S RIBOSOMAL PROTEIN S8.

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

- Molecule 10 is a protein called 30S RIBOSOMAL PROTEIN S9.

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

- Molecule 11 is a protein called 30S RIBOSOMAL PROTEIN S10.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
11	J	98	792	498	156	137	1	0	0	0

- Molecule 12 is a protein called 30S RIBOSOMAL PROTEIN S11.

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

- Molecule 13 is a protein called 30S RIBOSOMAL PROTEIN S12.

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

- Molecule 14 is a protein called 30S RIBOSOMAL PROTEIN S13.

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

- Molecule 15 is a protein called 30S RIBOSOMAL PROTEIN S14.

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

- Molecule 16 is a protein called 30S RIBOSOMAL PROTEIN S15.

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

- Molecule 17 is a protein called 30S RIBOSOMAL PROTEIN S16.

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

- Molecule 18 is a protein called 30S RIBOSOMAL PROTEIN S17.

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

- Molecule 19 is a protein called 30S RIBOSOMAL PROTEIN S18.

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

- Molecule 20 is a protein called 30S RIBOSOMAL PROTEIN S19.

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

- Molecule 21 is a protein called 30S RIBOSOMAL PROTEIN S20.

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

- Molecule 22 is a protein called 30S RIBOSOMAL PROTEIN THX.

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

- Molecule 23 is a protein called TRANSLATION INITIATION FACTOR.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
23	W	71	Total	C	N	O	S	0	0	0
			570	362	103	103	2			

- Molecule 24 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
24	A	64	Total	Mg	0	0
			64	64		
24	W	1	Total	Mg	0	0
			1	1		

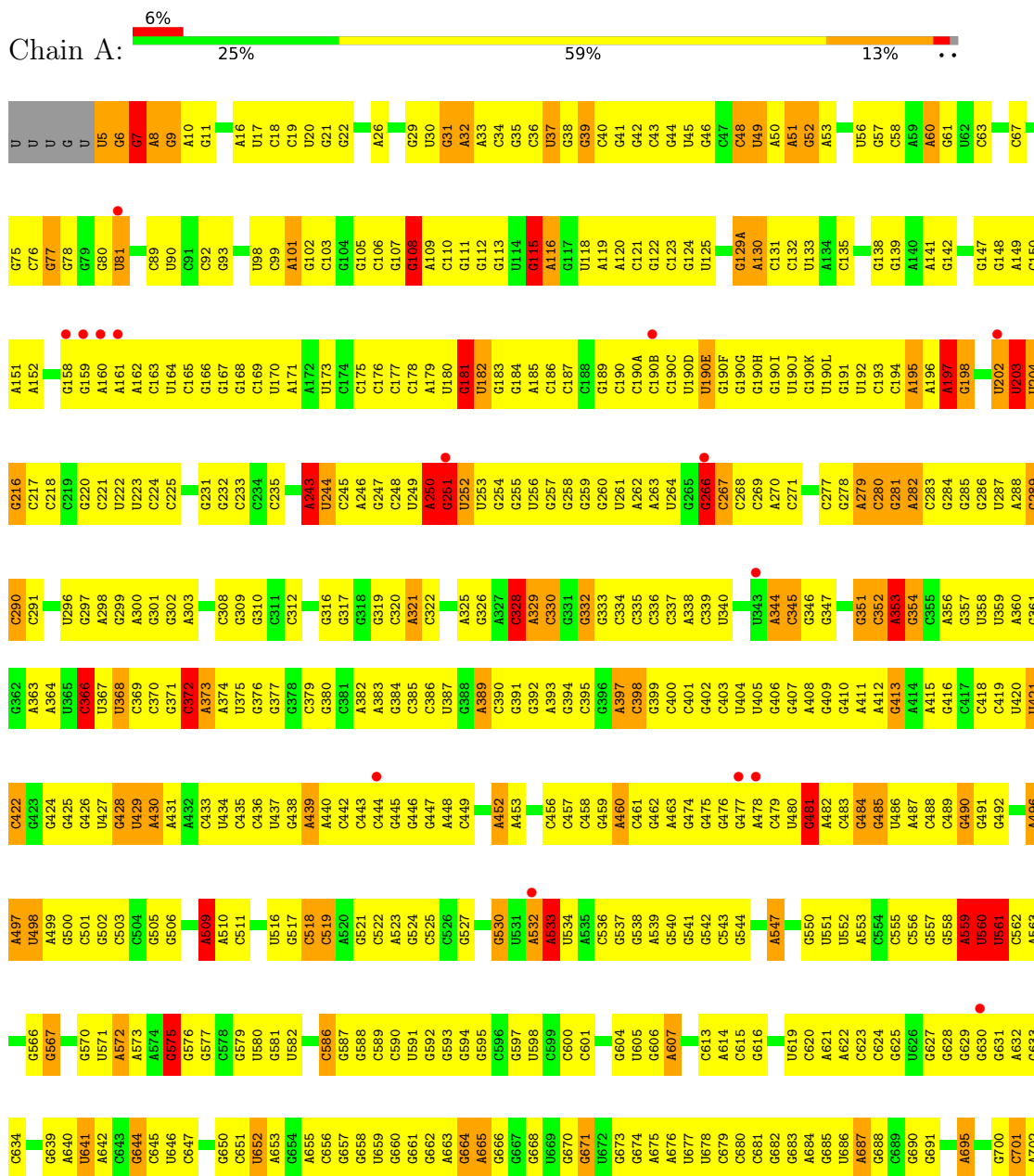
- Molecule 25 is ZINC ION (three-letter code: ZN) (formula: Zn).

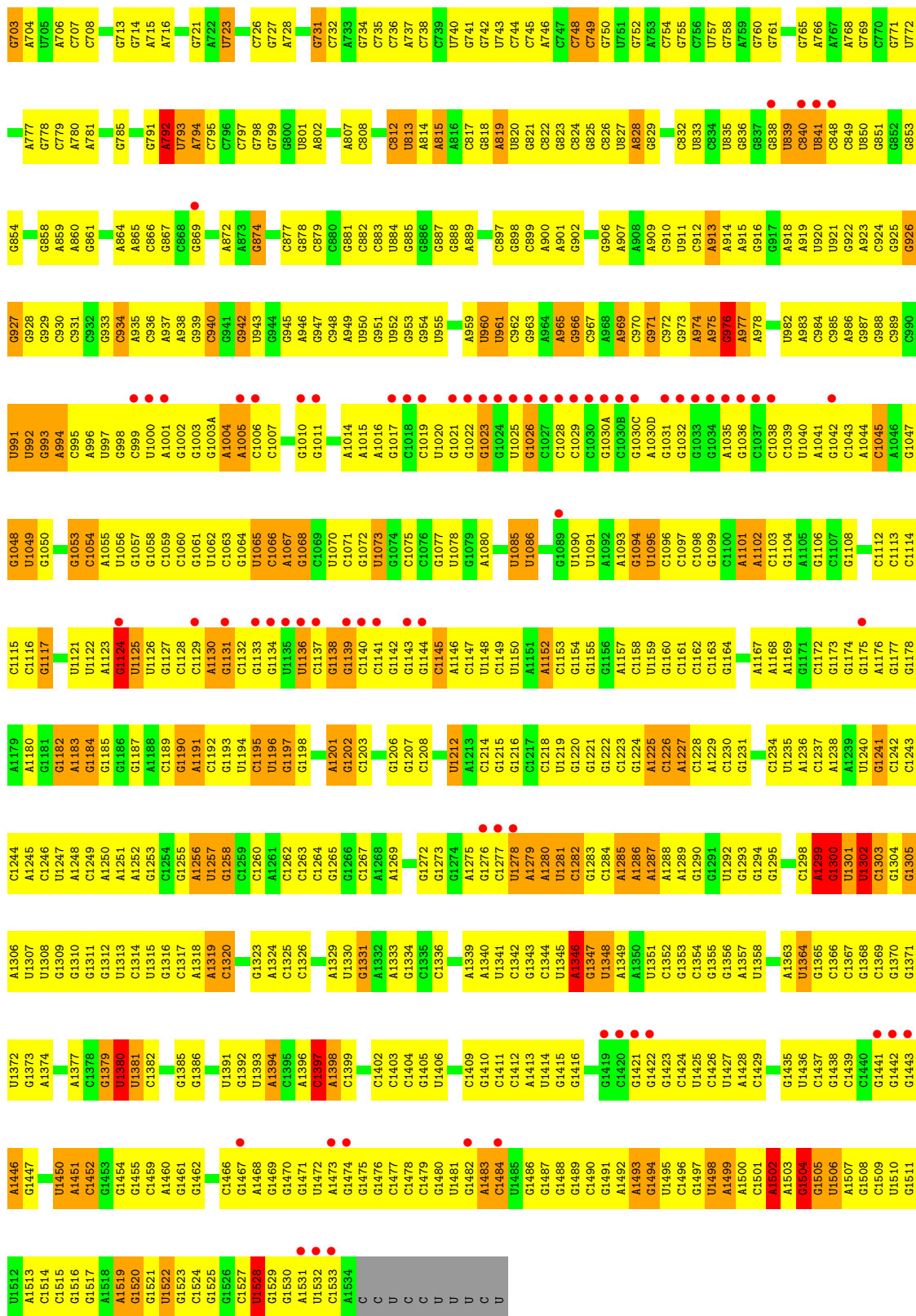
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
25	D	1	Total	Zn	0	0
			1	1		
25	N	1	Total	Zn	0	0
			1	1		

3 Residue-property plots

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

• Molecule 1: 16S RIBOSOMAL RNA



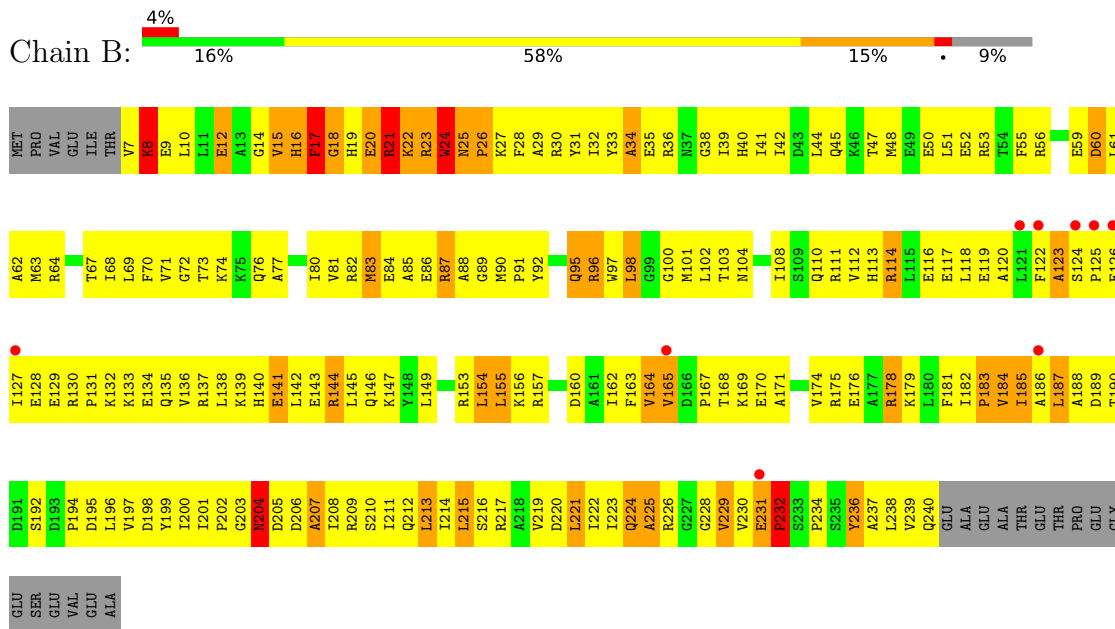


● Molecule 2: FRAGMENT OF MESSENGER RNA

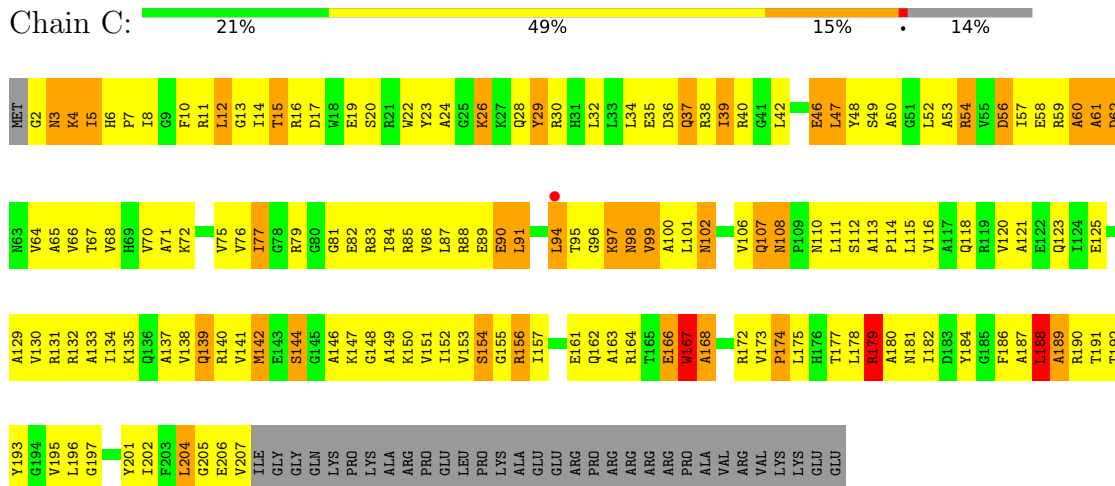




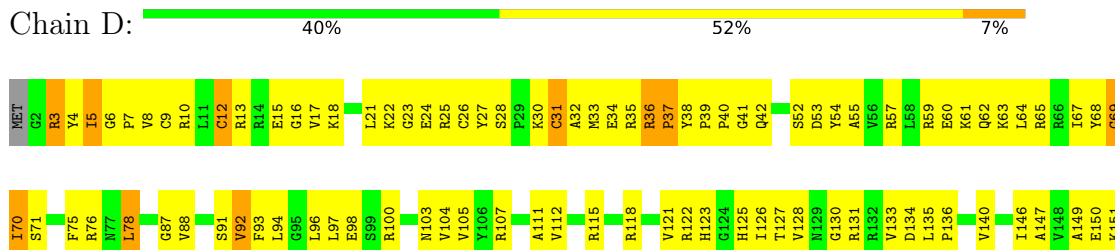
• Molecule 3: 30S RIBOSOMAL PROTEIN S2

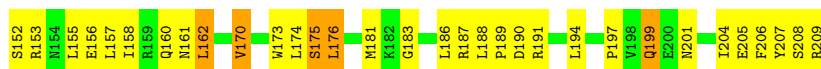


• Molecule 4: 30S RIBOSOMAL PROTEIN S3

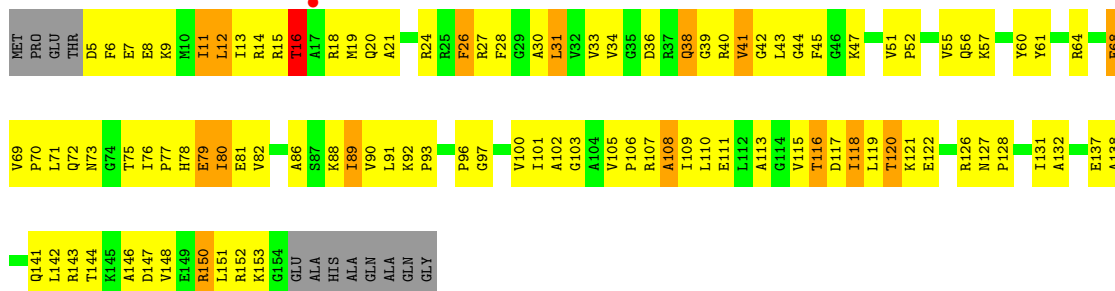


• Molecule 5: 30S RIBOSOMAL PROTEIN S4

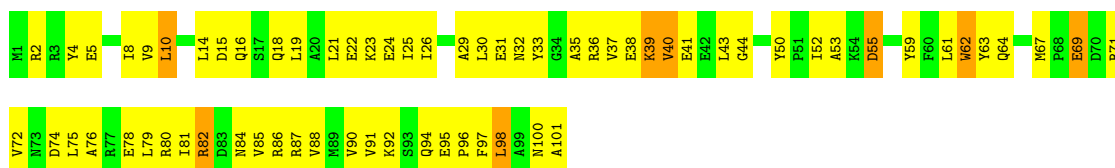




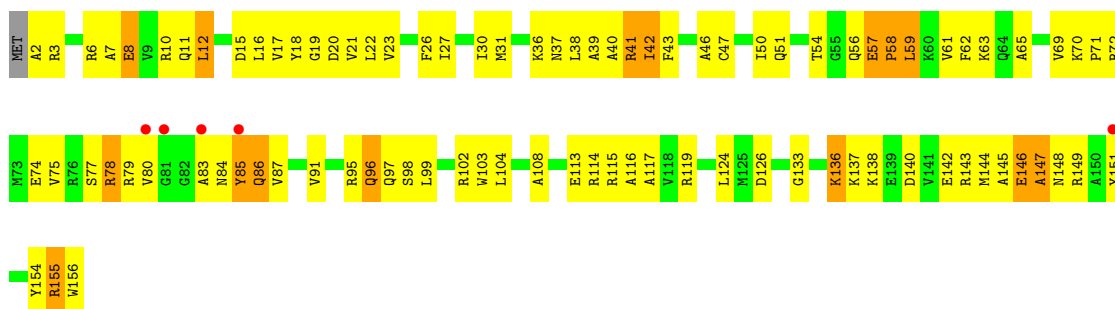
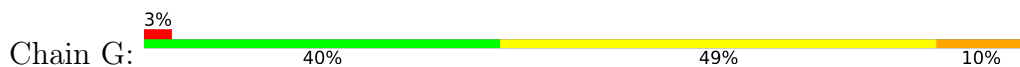
• Molecule 6: 30S RIBOSOMAL PROTEIN S5



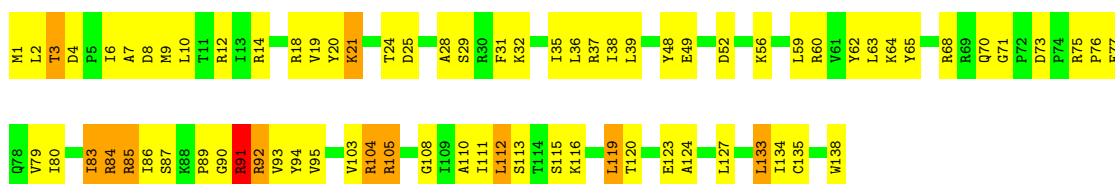
• Molecule 7: 30S RIBOSOMAL PROTEIN S6



• Molecule 8: 30S RIBOSOMAL PROTEIN S7



• Molecule 9: 30S RIBOSOMAL PROTEIN S8




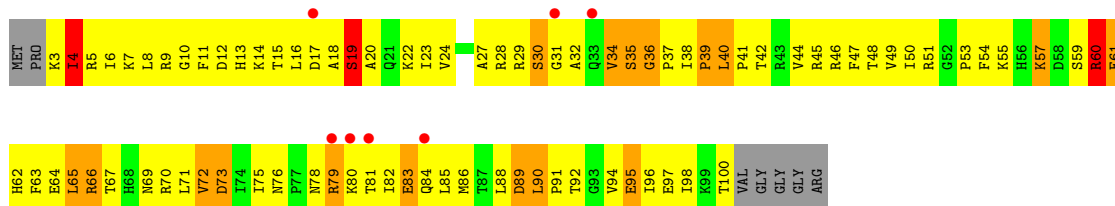
- Molecule 10: 30S RIBOSOMAL PROTEIN S9

Chain I: 




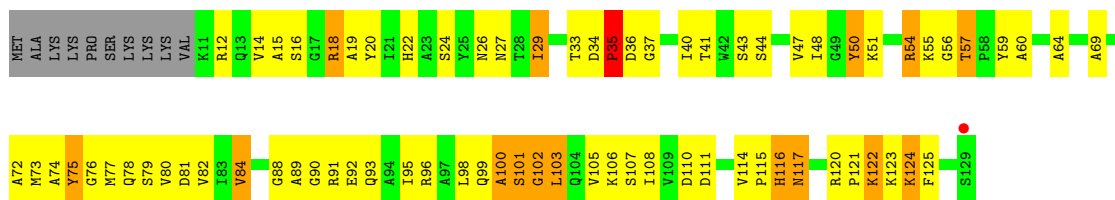
- Molecule 11: 30S RIBOSOMAL PROTEIN S10

Chain J: 



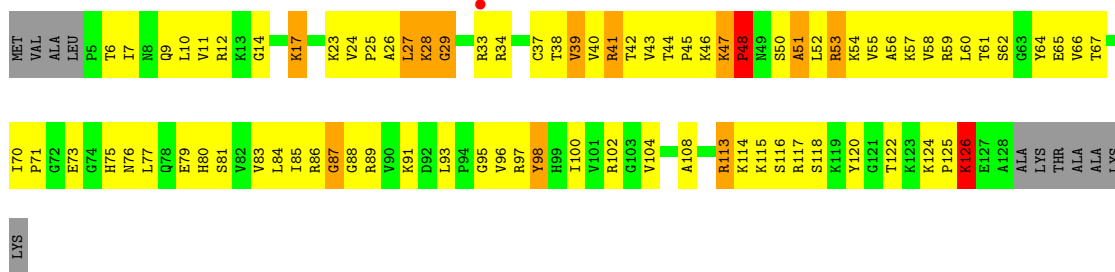
- Molecule 12: 30S RIBOSOMAL PROTEIN S11

Chain K: 



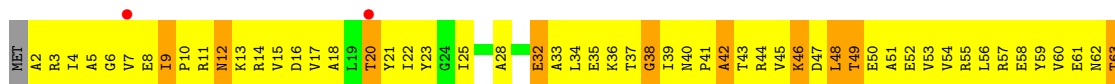
- Molecule 13: 30S RIBOSOMAL PROTEIN S12

Chain L: 



- Molecule 14: 30S RIBOSOMAL PROTEIN S13

Chain M: 



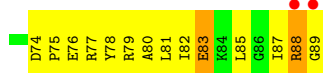
● Molecule 15: 30S RIBOSOMAL PROTEIN S14

Chain N: 26% 59% 13%



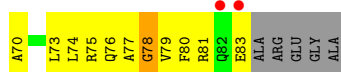
● Molecule 16: 30S RIBOSOMAL PROTEIN S15

Chain O: 2% 33% 61% 6%



● Molecule 17: 30S RIBOSOMAL PROTEIN S16

Chain P: 2% 36% 51% 7% 6%



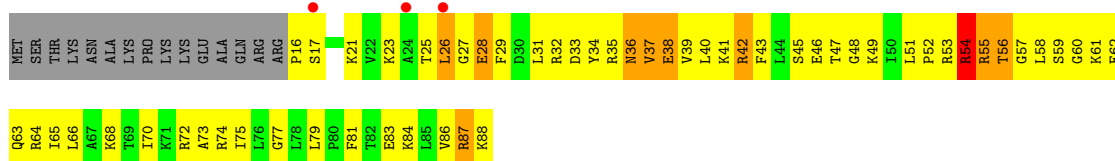
● Molecule 18: 30S RIBOSOMAL PROTEIN S17

Chain Q: 5% 34% 55% 10%

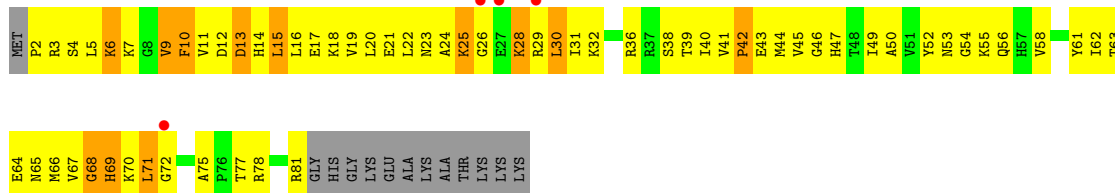
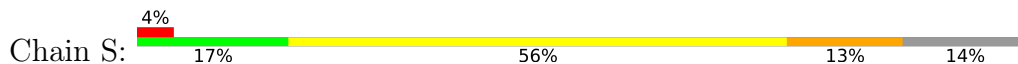


● Molecule 19: 30S RIBOSOMAL PROTEIN S18

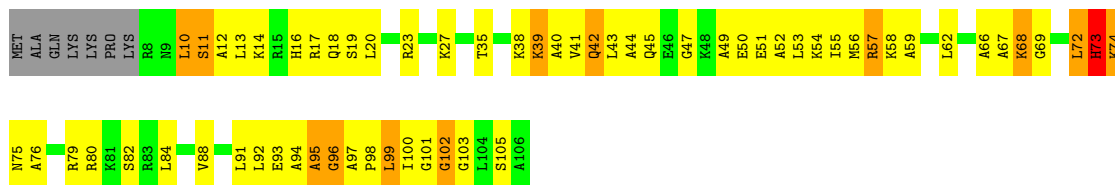
Chain R: 3% 18% 53% 10% 17%



- Molecule 20: 30S RIBOSOMAL PROTEIN S19



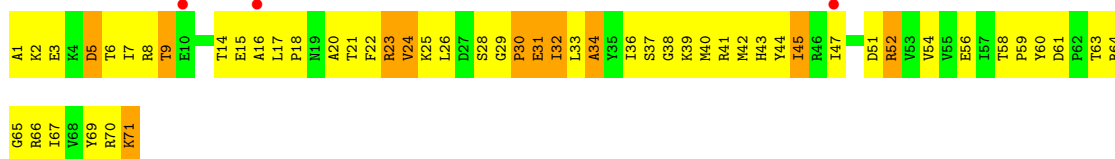
- Molecule 21: 30S RIBOSOMAL PROTEIN S20



- Molecule 22: 30S RIBOSOMAL PROTEIN THX



- Molecule 23: TRANSLATION INITIATION FACTOR



4 Data and refinement statistics

Property	Value	Source
Space group	P 41 21 2	Depositor
Cell constants a, b, c, α , β , γ	399.58Å 399.58Å 176.32Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	28.90 – 3.20 29.75 – 3.08	Depositor EDS
% Data completeness (in resolution range)	91.5 (28.90-3.20) 89.6 (29.75-3.08)	Depositor EDS
R_{merge}	0.14	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.88 (at 3.06Å)	Xtrriage
Refinement program	CNS	Depositor
R, R_{free}	0.218 , 0.261 0.202 , 0.243	Depositor DCC
R_{free} test set	11800 reflections (5.06%)	wwPDB-VP
Wilson B-factor (Å ²)	77.4	Xtrriage
Anisotropy	0.307	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.31 , 86.5	EDS
L-test for twinning ²	$\langle L \rangle = 0.48$, $\langle L^2 \rangle = 0.31$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
F_o, F_c correlation	0.91	EDS
Total number of atoms	52365	wwPDB-VP
Average B, all atoms (Å ²)	80.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.53% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

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

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: ZN, MG

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
1	A	0.51	0/36247	0.75	45/56569 (0.1%)
2	X	0.56	0/128	0.73	0/196
3	B	0.37	0/1935	0.70	0/2609
4	C	0.38	0/1636	0.63	0/2205
5	D	0.40	0/1733	0.65	0/2318
6	E	0.47	0/1162	0.75	0/1564
7	F	0.34	0/856	0.61	0/1154
8	G	0.36	0/1276	0.61	0/1709
9	H	0.45	0/1136	0.77	1/1527 (0.1%)
10	I	0.36	0/1029	0.67	0/1378
11	J	0.38	0/805	0.73	1/1082 (0.1%)
12	K	0.38	0/900	0.70	0/1213
13	L	0.42	0/986	0.74	0/1320
14	M	0.36	0/1008	0.69	0/1347
15	N	0.45	0/501	0.85	0/664
16	O	0.38	0/745	0.62	0/992
17	P	0.44	0/716	0.77	0/963
18	Q	0.45	0/870	0.78	0/1159
19	R	0.39	0/603	0.66	0/799
20	S	0.35	0/661	0.69	0/890
21	T	0.39	0/764	0.72	0/1006
22	V	0.45	0/212	0.67	0/277
23	W	0.39	0/580	0.70	0/782
All	All	0.47	0/56489	0.74	47/83723 (0.1%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	3	39

There are no bond length outliers.

All (47) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	559	A	C2'-C3'-O3'	9.71	130.87	109.50
1	A	366	C	C2'-C3'-O3'	8.88	129.03	109.50
1	A	1498	U	C2'-C3'-O3'	8.70	128.64	109.50
1	A	1528	U	C2'-C3'-O3'	8.48	128.15	109.50
1	A	1302	U	C2'-C3'-O3'	8.21	127.56	109.50
1	A	60	A	C2'-C3'-O3'	8.08	127.28	109.50
1	A	181	G	C2'-C3'-O3'	8.08	127.28	109.50
1	A	5	U	C2'-C3'-O3'	8.03	127.16	109.50
1	A	575	G	C2'-C3'-O3'	8.02	127.14	109.50
1	A	567	G	O5'-C5'-C4'	7.70	126.33	111.70
1	A	687	A	C2'-C3'-O3'	7.67	126.37	109.50
1	A	484	G	C2'-C3'-O3'	7.42	125.83	109.50
1	A	1504	G	C2'-C3'-O3'	7.32	125.61	109.50
1	A	792	A	C2'-C3'-O3'	7.13	125.19	109.50
1	A	7	G	C2'-C3'-O3'	7.03	124.96	109.50
1	A	115	G	C2'-C3'-O3'	6.97	124.85	113.70
1	A	266	G	C2'-C3'-O3'	6.77	124.53	113.70
1	A	197	A	C2'-C3'-O3'	6.56	124.19	113.70
1	A	509	A	C2'-C3'-O3'	6.55	124.18	113.70
1	A	1502	A	N9-C1'-C2'	6.47	122.42	114.00
1	A	372	C	C2'-C3'-O3'	6.31	123.79	113.70
1	A	243	A	N9-C1'-C2'	6.24	122.11	114.00
1	A	1346	A	C2'-C3'-O3'	6.06	123.40	113.70
1	A	108	G	O4'-C1'-N9	6.02	113.02	108.20
9	H	112	LEU	CA-CB-CG	5.95	128.97	115.30
1	A	389	A	C5'-C4'-C3'	5.93	125.50	116.00
1	A	63	C	C5'-C4'-C3'	-5.87	106.60	116.00
1	A	353	A	C5'-C4'-O4'	-5.82	102.12	109.10
1	A	1124	G	N9-C1'-C2'	5.80	121.55	114.00
1	A	1498	U	C4'-C3'-O3'	5.79	124.58	113.00
1	A	560	U	C2'-C3'-O3'	5.77	122.94	113.70
1	A	586	C	N1-C1'-C2'	-5.59	105.85	112.00
1	A	266	G	N9-C1'-C2'	5.56	121.22	114.00
1	A	976	G	C5'-C4'-O4'	5.46	115.65	109.10
1	A	1528	U	C4'-C3'-O3'	5.43	123.87	113.00
1	A	913	A	N9-C1'-C2'	5.38	121.00	114.00
1	A	115	G	N9-C1'-C2'	5.36	120.97	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	533	A	C2'-C3'-O3'	5.36	122.28	113.70
1	A	530	G	N9-C1'-C2'	5.30	120.89	114.00
1	A	266	G	O4'-C1'-N9	-5.29	103.97	108.20
1	A	243	A	C2'-C3'-O3'	5.27	122.14	113.70
11	J	60	ARG	N-CA-C	5.22	125.10	111.00
1	A	328	C	C1'-O4'-C4'	-5.13	105.79	109.90
1	A	1397	C	O5'-C5'-C4'	5.07	121.33	111.70
1	A	1195	C	N1-C1'-C2'	5.06	120.57	114.00
1	A	1380	U	C2'-C3'-O3'	5.04	121.76	113.70
1	A	5	U	OP2-P-O3'	5.01	116.22	105.20

All (3) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
1	A	559	A	C3'
1	A	1498	U	C3'
1	A	1528	U	C3'

All (39) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	1048	G	Sidechain
1	A	1073	U	Sidechain
1	A	1077	G	Sidechain
1	A	1139	G	Sidechain
1	A	115	G	Sidechain
1	A	1299	A	Sidechain
1	A	1300	G	Sidechain
1	A	1331	G	Sidechain
1	A	1450	U	Sidechain
1	A	1483	A	Sidechain
1	A	1502	A	Sidechain
1	A	1506	U	Sidechain
1	A	1519	A	Sidechain
1	A	1522	U	Sidechain
1	A	197	A	Sidechain
1	A	203	U	Sidechain
1	A	250	A	Sidechain
1	A	251	G	Sidechain
1	A	266	G	Sidechain
1	A	290	C	Sidechain
1	A	303	A	Sidechain

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Mol	Chain	Res	Type	Group
1	A	368	U	Sidechain
1	A	37	U	Sidechain
1	A	380	G	Sidechain
1	A	481	G	Sidechain
1	A	490	G	Sidechain
1	A	561	U	Sidechain
1	A	572	A	Sidechain
1	A	575	G	Sidechain
1	A	641	U	Sidechain
1	A	644	G	Sidechain
1	A	664	G	Sidechain
1	A	727	G	Sidechain
1	A	77	G	Sidechain
1	A	785	G	Sidechain
1	A	879	C	Sidechain
1	A	898	G	Sidechain
1	A	940	C	Sidechain
1	A	942	G	Sidechain

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	32382	0	16356	1335	0
2	X	117	0	64	1	0
3	B	1900	0	1951	296	0
4	C	1612	0	1677	271	0
5	D	1703	0	1765	158	0
6	E	1146	0	1207	116	0
7	F	843	0	857	84	0
8	G	1257	0	1296	102	0
9	H	1116	0	1177	98	0
10	I	1011	0	1043	155	0
11	J	792	0	835	163	0
12	K	885	0	904	84	0
13	L	970	0	1057	134	0
14	M	997	0	1072	136	0
15	N	492	0	529	73	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
16	O	734	0	771	76	0
17	P	700	0	720	61	0
18	Q	857	0	930	103	0
19	R	597	0	668	94	0
20	S	647	0	673	99	0
21	T	762	0	859	85	0
22	V	208	0	221	25	0
23	W	570	0	599	82	0
24	A	64	0	0	0	0
24	W	1	0	0	0	0
25	D	1	0	0	0	0
25	N	1	0	0	0	0
All	All	52365	0	37231	3507	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 39.

All (3507) 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)
10:I:8:GLY:HA2	10:I:79:LEU:HD12	1.19	1.18
3:B:77:ALA:HB2	3:B:211:ILE:HD13	1.22	1.17
5:D:36:ARG:H	5:D:37:PRO:HD3	1.04	1.17
13:L:33:ARG:HD3	13:L:62:SER:HB3	1.20	1.11
1:A:1256:A:H4'	1:A:1257:U:H5'	1.35	1.09
20:S:55:LYS:HG2	20:S:56:GLN:HE21	1.19	1.07
19:R:55:ARG:HB3	19:R:55:ARG:HH11	1.15	1.06
1:A:243:A:H4'	1:A:244:U:H5'	1.34	1.06
13:L:46:LYS:HG2	13:L:47:LYS:H	1.17	1.06
13:L:60:LEU:HD11	13:L:85:ILE:HD12	1.34	1.05
8:G:78:ARG:HB2	8:G:156:TRP:HZ3	1.18	1.03
6:E:80:ILE:HD13	6:E:91:LEU:HB2	1.38	1.03
11:J:32:ALA:HB2	11:J:76:ASN:HB2	1.39	1.03
1:A:1443:G:H5''	1:A:1446:A:H5'	1.07	1.03
3:B:101:MET:HA	3:B:108:ILE:HD12	1.38	1.03
11:J:51:ARG:HB2	11:J:59:SER:HB3	1.36	1.03
23:W:14:THR:HB	23:W:23:ARG:HB3	1.40	1.03
1:A:1190:G:OP1	4:C:4:LYS:HA	1.60	1.01
1:A:1493:A:H2'	23:W:20:ALA:H	1.24	1.01
12:K:110:ASP:HB2	19:R:88:LYS:HD2	1.42	1.00
1:A:839:U:H5'	1:A:840:C:H5	1.25	0.98

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:T:39:LYS:HD2	21:T:55:ILE:HD13	1.42	0.98
3:B:84:GLU:HB3	3:B:219:VAL:HG21	1.44	0.97
1:A:839:U:H5'	1:A:840:C:C5	1.99	0.97
20:S:40:ILE:HD13	20:S:62:ILE:HD13	1.46	0.96
12:K:54:ARG:HB3	12:K:54:ARG:HH11	1.25	0.96
13:L:27:LEU:HG	13:L:28:LYS:H	1.29	0.96
12:K:40:ILE:HG22	12:K:41:THR:HG23	1.47	0.96
6:E:110:LEU:HD13	6:E:118:ILE:HD12	1.46	0.95
1:A:1057:G:H5''	4:C:154:SER:HB2	1.44	0.95
1:A:579:G:H5'	1:A:728:A:H1'	1.47	0.95
1:A:1125:U:H3	11:J:5:ARG:HH21	1.13	0.94
14:M:10:PRO:HB2	14:M:18:ALA:HB1	1.48	0.94
8:G:54:THR:HG22	8:G:56:GLN:H	1.27	0.94
1:A:1443:G:C5'	1:A:1446:A:H5'	1.97	0.94
4:C:102:ASN:N	4:C:102:ASN:HD22	1.63	0.93
11:J:31:GLY:HA2	11:J:78:ASN:HD22	1.34	0.93
18:Q:97:SER:HB2	18:Q:102:GLY:C	1.88	0.93
10:I:50:LEU:HB3	10:I:55:ALA:HB3	1.50	0.93
4:C:14:ILE:HG22	4:C:15:THR:H	1.32	0.93
1:A:1101:A:H4'	1:A:1102:A:O5'	1.66	0.92
4:C:83:ARG:HA	4:C:86:VAL:HG23	1.51	0.92
1:A:1278:U:H5''	1:A:1279:A:O4'	1.69	0.92
4:C:70:VAL:HG12	4:C:72:LYS:H	1.35	0.92
1:A:877:C:O2	9:H:3:THR:HG21	1.70	0.92
3:B:21:ARG:HD3	3:B:21:ARG:H	1.32	0.92
7:F:100:ASN:HD22	19:R:23:LYS:HG2	1.32	0.92
4:C:191:THR:HG22	4:C:193:TYR:H	1.33	0.91
7:F:10:LEU:HD12	7:F:59:TYR:HB3	1.52	0.91
16:O:70:LEU:HD12	16:O:78:TYR:HB2	1.52	0.91
22:V:6:ARG:HD3	22:V:15:ARG:HH22	1.33	0.91
3:B:124:SER:HB2	3:B:125:PRO:HD2	1.52	0.91
13:L:41:ARG:HG2	13:L:42:THR:H	1.35	0.91
5:D:150:GLU:H	5:D:150:GLU:CD	1.72	0.90
15:N:8:GLU:O	15:N:11:LYS:HB3	1.71	0.90
22:V:6:ARG:HD3	22:V:15:ARG:NH2	1.86	0.90
10:I:19:LEU:HD11	10:I:85:LEU:HD12	1.54	0.90
13:L:70:ILE:HD13	13:L:77:LEU:HD12	1.54	0.90
1:A:1443:G:H5''	1:A:1446:A:C5'	1.99	0.90
1:A:1116:C:H2'	1:A:1117:G:H5''	1.54	0.90
11:J:6:ILE:HG22	11:J:98:ILE:HG12	1.52	0.90
1:A:566:G:HO3'	1:A:567:G:HO5'	1.08	0.90

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:J:30:SER:HB3	11:J:84:GLN:HE21	1.36	0.89
1:A:129(A):G:O2'	1:A:190(E):U:H2'	1.72	0.88
16:O:78:TYR:CZ	16:O:82:ILE:HD11	2.08	0.88
1:A:243:A:C4'	1:A:244:U:H5'	2.04	0.88
11:J:31:GLY:HA2	11:J:78:ASN:ND2	1.88	0.88
1:A:1086:U:H3	1:A:1099:G:N2	1.70	0.88
7:F:36:ARG:HH12	7:F:38:GLU:HG2	1.38	0.88
1:A:1025:U:H2'	1:A:1026:G:C8	2.08	0.87
1:A:447:G:H2'	1:A:485:G:N2	1.89	0.87
1:A:1086:U:H3	1:A:1099:G:H22	0.87	0.87
5:D:151:LYS:H	5:D:151:LYS:HD2	1.35	0.87
1:A:235:C:H5'	18:Q:70:ARG:HG2	1.57	0.87
1:A:1022:G:H2'	1:A:1023:G:H8	1.39	0.87
1:A:1021:G:H2'	1:A:1022:G:O4'	1.74	0.87
1:A:1281:U:H5'	1:A:1282:C:H5	1.39	0.87
1:A:664:G:H22	1:A:741:G:H1	1.20	0.87
1:A:1277:C:H2'	1:A:1278:U:H5'	1.53	0.87
6:E:81:GLU:HG2	6:E:90:VAL:HG22	1.57	0.87
4:C:64:VAL:H	4:C:99:VAL:HB	1.40	0.87
23:W:45:ILE:HD13	23:W:70:ARG:HD3	1.55	0.87
4:C:64:VAL:HB	4:C:99:VAL:HG21	1.57	0.86
13:L:27:LEU:O	13:L:29:GLY:N	2.07	0.86
19:R:47:THR:HA	19:R:83:GLU:HB2	1.55	0.86
5:D:36:ARG:N	5:D:37:PRO:HD3	1.89	0.86
11:J:61:GLU:OE1	15:N:45:ARG:HD2	1.75	0.86
15:N:26:ARG:HH12	15:N:47:LEU:HD21	1.38	0.86
17:P:28:ARG:HG3	17:P:29:ASP:OD2	1.76	0.86
19:R:55:ARG:HB3	19:R:55:ARG:NH1	1.90	0.86
1:A:1343:G:H1'	10:I:121:ARG:HH12	1.41	0.86
12:K:54:ARG:O	12:K:57:THR:HG22	1.74	0.85
14:M:81:LEU:H	14:M:81:LEU:CD2	1.87	0.85
1:A:1502:A:H2	1:A:1505:G:H1	1.24	0.85
1:A:1250:A:H4'	10:I:68:GLY:H	1.41	0.85
8:G:78:ARG:HB2	8:G:156:TRP:CZ3	2.09	0.85
21:T:14:LYS:O	21:T:18:GLN:HG3	1.77	0.85
1:A:243:A:H4'	1:A:244:U:C5'	2.05	0.85
5:D:36:ARG:H	5:D:37:PRO:CD	1.86	0.85
21:T:68:LYS:HE3	21:T:68:LYS:HA	1.58	0.85
1:A:173:U:H5''	1:A:197:A:H5'	1.59	0.85
5:D:70:ILE:HD11	5:D:100:ARG:CZ	2.07	0.85
6:E:41:VAL:HG22	6:E:113:ALA:HA	1.59	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:S:13:ASP:HA	20:S:16:LEU:HB3	1.58	0.84
1:A:1305:G:HO2'	1:A:1306:A:H8	0.88	0.84
3:B:132:LYS:HA	3:B:135:GLN:HB3	1.60	0.84
10:I:8:GLY:CA	10:I:79:LEU:HD12	2.06	0.83
3:B:124:SER:O	3:B:127:ILE:HG13	1.78	0.83
1:A:371:G:O2'	1:A:372:C:H5'	1.77	0.83
1:A:1298:C:H2'	8:G:114:ARG:HH12	1.43	0.83
4:C:6:HIS:CD2	4:C:8:ILE:HB	2.14	0.83
8:G:23:VAL:O	8:G:27:ILE:HG13	1.76	0.83
1:A:250:A:H4'	1:A:251:G:O5'	1.79	0.83
12:K:19:ALA:HB2	12:K:80:VAL:HG11	1.59	0.83
16:O:16:ALA:HB1	16:O:21:ASP:HB3	1.57	0.83
20:S:28:LYS:HG2	20:S:29:ARG:H	1.42	0.83
1:A:1116:C:C2'	1:A:1117:G:H5''	2.09	0.83
6:E:43:LEU:HD11	6:E:132:ALA:HB1	1.60	0.83
12:K:84:VAL:HG11	12:K:95:ILE:HD11	1.61	0.83
23:W:52:ARG:HB2	23:W:52:ARG:HH11	1.44	0.83
1:A:1250:A:H4'	10:I:68:GLY:N	1.93	0.83
7:F:82:ARG:HB2	7:F:85:VAL:HG23	1.59	0.82
4:C:179:ARG:O	4:C:179:ARG:HG2	1.79	0.82
1:A:1132:C:H2'	1:A:1133:G:C8	2.14	0.82
1:A:1238:A:H5'	1:A:1336:C:H41	1.42	0.82
1:A:1356:G:H2'	1:A:1357:A:C8	2.15	0.82
4:C:20:SER:HB3	4:C:22:TRP:HE1	1.43	0.82
13:L:38:THR:HG22	13:L:39:VAL:HG22	1.61	0.82
1:A:939:G:H5''	8:G:102:ARG:NH2	1.94	0.82
13:L:47:LYS:HB2	13:L:48:PRO:HD3	1.60	0.82
1:A:1056:U:H5'	4:C:163:ALA:HB2	1.61	0.82
4:C:206:GLU:HG2	4:C:207:VAL:H	1.45	0.82
6:E:31:LEU:HD22	6:E:43:LEU:HD21	1.61	0.82
10:I:127:LYS:HB2	14:M:126:LYS:HZ1	1.44	0.82
23:W:17:LEU:HB3	23:W:18:PRO:HD2	1.60	0.82
1:A:141:A:H1'	1:A:182:U:O2	1.80	0.81
6:E:80:ILE:CD1	6:E:91:LEU:HB2	2.08	0.81
11:J:39:PRO:O	11:J:40:LEU:HB2	1.80	0.81
3:B:16:HIS:NE2	3:B:214:ILE:HG12	1.95	0.81
1:A:1226:C:H4'	1:A:1227:A:OP1	1.80	0.81
12:K:110:ASP:HB2	19:R:88:LYS:CD	2.10	0.81
1:A:31:G:H1	1:A:48:C:H5''	1.46	0.81
20:S:40:ILE:HG21	20:S:62:ILE:HD11	1.62	0.81
9:H:9:MET:SD	9:H:32:LYS:HG2	2.19	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:M:11:ARG:HG3	14:M:12:ASN:H	1.44	0.81
3:B:76:GLN:HG3	3:B:206:ASP:OD1	1.78	0.81
4:C:150:LYS:HE2	4:C:152:ILE:HD11	1.63	0.81
4:C:130:VAL:HG21	4:C:157:ILE:HG23	1.63	0.81
19:R:42:ARG:NH1	19:R:42:ARG:HB3	1.95	0.81
13:L:25:PRO:C	13:L:27:LEU:H	1.81	0.81
23:W:15:GLU:HB3	23:W:23:ARG:HB2	1.62	0.81
21:T:50:GLU:HB2	21:T:99:LEU:HD12	1.64	0.80
23:W:25:LYS:HA	23:W:31:GLU:HB3	1.61	0.80
1:A:566:G:O3'	1:A:567:G:O5'	1.90	0.80
1:A:1396:A:H4'	1:A:1397:C:H5''	1.62	0.80
1:A:1366:C:H2'	1:A:1367:C:H6	1.44	0.80
3:B:23:ARG:HH11	3:B:24:TRP:N	1.79	0.80
1:A:173:U:H5'	1:A:197:A:O4'	1.82	0.80
19:R:53:ARG:HD2	19:R:58:LEU:O	1.80	0.80
4:C:77:ILE:HG22	4:C:81:GLY:HA2	1.61	0.80
14:M:34:LEU:HD13	14:M:41:PRO:HA	1.64	0.80
15:N:24:CYS:HB3	15:N:28:GLY:H	1.45	0.80
1:A:192:U:H1'	21:T:103:GLY:HA2	1.63	0.79
1:A:1475:G:H2'	1:A:1476:G:H8	1.46	0.79
1:A:761:G:H4'	18:Q:103:GLY:N	1.97	0.79
1:A:1257:U:H4'	1:A:1258:G:O5'	1.80	0.79
13:L:28:LYS:HD2	13:L:33:ARG:HH12	1.46	0.79
1:A:382:A:H2'	1:A:383:A:C8	2.17	0.79
5:D:35:ARG:O	5:D:36:ARG:HB2	1.81	0.79
22:V:9:ARG:NH1	22:V:22:ARG:HA	1.96	0.79
1:A:974:A:OP1	15:N:31:ARG:HG2	1.82	0.79
1:A:370:C:O2'	1:A:371:G:H5'	1.81	0.79
1:A:1216:G:H5''	15:N:5:ALA:HB2	1.64	0.79
11:J:44:VAL:HG21	11:J:66:ARG:HH21	1.46	0.79
3:B:178:ARG:HH11	3:B:178:ARG:HG3	1.47	0.79
3:B:101:MET:CA	3:B:108:ILE:HD12	2.12	0.79
3:B:21:ARG:HG2	3:B:23:ARG:HD2	1.63	0.79
1:A:818:G:O2'	1:A:819:A:H5''	1.83	0.79
1:A:1305:G:O2'	1:A:1306:A:H8	1.64	0.79
4:C:108:ASN:ND2	4:C:111:LEU:HG	1.98	0.79
10:I:44:VAL:HG12	10:I:51:ARG:HH12	1.47	0.78
11:J:62:HIS:HB3	15:N:59:ALA:HB3	1.63	0.78
4:C:10:PHE:CZ	4:C:178:LEU:HD13	2.18	0.78
19:R:53:ARG:NH1	19:R:60:GLY:N	2.31	0.78
3:B:98:LEU:HD23	3:B:98:LEU:N	1.98	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:E:101:ILE:O	6:E:120:THR:HB	1.82	0.78
1:A:31:G:N1	1:A:48:C:H5''	1.98	0.78
1:A:838:G:H2'	1:A:839:U:H5''	1.65	0.78
3:B:77:ALA:HB2	3:B:211:ILE:CD1	2.11	0.78
14:M:78:ILE:HA	14:M:81:LEU:HD21	1.65	0.78
1:A:1158:C:H5''	3:B:133:LYS:HE3	1.66	0.78
13:L:24:VAL:HG13	13:L:98:TYR:CE2	2.19	0.78
6:E:110:LEU:HD13	6:E:118:ILE:CD1	2.14	0.78
10:I:81:ILE:O	10:I:85:LEU:HD13	1.84	0.78
14:M:49:THR:HG22	14:M:52:GLU:H	1.46	0.78
8:G:85:TYR:HD1	8:G:154:TYR:HE1	1.32	0.78
13:L:46:LYS:HG2	13:L:47:LYS:N	1.99	0.78
23:W:15:GLU:H	23:W:23:ARG:HB2	1.47	0.78
7:F:10:LEU:CD1	7:F:59:TYR:HB3	2.14	0.78
10:I:70:LYS:O	10:I:74:ILE:HG13	1.83	0.78
11:J:38:ILE:CD1	11:J:71:LEU:HB3	2.14	0.78
14:M:3:ARG:HA	14:M:8:GLU:O	1.84	0.77
4:C:102:ASN:N	4:C:102:ASN:ND2	2.30	0.77
10:I:5:TYR:O	10:I:84:ALA:HA	1.83	0.77
17:P:34:GLU:OE2	17:P:55:ARG:HD3	1.83	0.77
23:W:34:ALA:HA	23:W:65:GLY:O	1.84	0.77
1:A:946:A:H2'	1:A:947:G:C8	2.19	0.77
1:A:664:G:OP1	19:R:64:ARG:HD2	1.84	0.77
5:D:61:LYS:HD2	5:D:207:TYR:OH	1.85	0.77
4:C:38:ARG:HH11	4:C:38:ARG:HG3	1.50	0.77
1:A:1133:G:H2'	1:A:1134:G:H8	1.49	0.77
1:A:1476:G:H2'	1:A:1477:C:C6	2.20	0.77
4:C:130:VAL:HG12	4:C:134:ILE:HD11	1.65	0.77
10:I:127:LYS:HB2	14:M:126:LYS:NZ	1.99	0.77
3:B:178:ARG:HH22	9:H:68:ARG:HH22	1.30	0.77
1:A:382:A:H2'	1:A:383:A:H8	1.50	0.77
6:E:80:ILE:N	6:E:80:ILE:HD12	2.00	0.77
10:I:4:TYR:CE2	10:I:88:TYR:HA	2.19	0.77
14:M:50:GLU:O	14:M:54:VAL:HG23	1.85	0.77
16:O:4:THR:OG1	16:O:7:GLU:HG3	1.85	0.76
18:Q:95:TYR:O	18:Q:97:SER:N	2.17	0.76
20:S:40:ILE:HG21	20:S:62:ILE:CD1	2.15	0.76
1:A:1003(A):G:C2	1:A:1004:A:H1'	2.20	0.76
1:A:1128:C:H1'	1:A:1146:A:H61	1.49	0.76
1:A:1152:A:H5''	11:J:13:HIS:CD2	2.20	0.76
1:A:1168:A:H2'	1:A:1169:A:C8	2.20	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:L:27:LEU:HD23	13:L:28:LYS:HE3	1.68	0.76
1:A:1441:G:H4'	1:A:1442:G:C5	2.21	0.76
1:A:161:A:H2'	1:A:162:A:C8	2.20	0.76
1:A:911:U:O2'	1:A:912:C:H5'	1.86	0.76
1:A:1125:U:H3	11:J:5:ARG:NH2	1.83	0.76
3:B:21:ARG:HA	3:B:39:ILE:HG12	1.66	0.76
3:B:84:GLU:OE1	3:B:216:SER:HA	1.85	0.76
15:N:37:PHE:CE2	15:N:53:LEU:HD13	2.21	0.76
1:A:80:G:H3'	1:A:81:U:H5''	1.67	0.76
1:A:1038:C:H2'	1:A:1039:C:C6	2.21	0.76
1:A:107:G:H2'	1:A:108:G:H5'	1.67	0.76
1:A:113:G:H1'	1:A:354:G:H5'	1.67	0.76
1:A:673:G:H2'	1:A:674:G:C8	2.20	0.76
16:O:26:GLU:OE1	16:O:77:ARG:HD2	1.86	0.76
1:A:1367:C:H5'	11:J:60:ARG:NH1	2.01	0.76
19:R:42:ARG:HB3	19:R:42:ARG:HH11	1.51	0.76
1:A:17:U:H2'	1:A:18:C:C6	2.21	0.75
1:A:1493:A:H4'	1:A:1494:G:OP1	1.86	0.75
5:D:173:TRP:CD2	5:D:189:PRO:HB3	2.20	0.75
1:A:1216:G:H5''	15:N:5:ALA:CB	2.16	0.75
1:A:1285:A:H4'	1:A:1286:A:O5'	1.87	0.75
1:A:524:G:H2'	1:A:525:C:C6	2.21	0.75
4:C:42:LEU:HD12	4:C:94:LEU:HD12	1.68	0.75
9:H:6:ILE:HD11	9:H:31:PHE:HD2	1.52	0.75
9:H:92:ARG:HG2	9:H:92:ARG:HH11	1.51	0.75
17:P:43:LYS:HG3	17:P:48:TRP:CE3	2.22	0.75
1:A:434:U:H2'	1:A:435:C:C6	2.22	0.75
11:J:38:ILE:HD11	11:J:71:LEU:HB3	1.67	0.75
1:A:254:G:OP1	18:Q:67:LYS:O	2.04	0.75
1:A:519:C:H5'	23:W:66:ARG:HH21	1.52	0.75
3:B:36:ARG:HD2	3:B:41:ILE:HD11	1.69	0.75
3:B:140:HIS:HA	3:B:143:GLU:HG2	1.69	0.75
14:M:81:LEU:H	14:M:81:LEU:HD23	1.52	0.75
11:J:8:LEU:HD21	11:J:96:ILE:HG12	1.67	0.75
1:A:107:G:C2'	1:A:108:G:H5'	2.17	0.75
5:D:162:LEU:HD12	5:D:181:MET:HG2	1.69	0.75
14:M:11:ARG:HG3	14:M:12:ASN:N	2.01	0.75
14:M:36:LYS:HD2	14:M:59:TYR:CZ	2.22	0.75
16:O:75:PRO:HB2	16:O:79:ARG:HH12	1.52	0.75
1:A:192:U:C1'	21:T:103:GLY:HA2	2.17	0.75
13:L:46:LYS:CG	13:L:47:LYS:H	1.97	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1131:G:H1	1:A:1143:G:H21	1.31	0.74
1:A:357:G:O2'	1:A:358:U:H5'	1.87	0.74
5:D:187:ARG:HE	5:D:188:LEU:H	1.34	0.74
11:J:60:ARG:HD2	11:J:60:ARG:N	2.02	0.74
23:W:54:VAL:HB	23:W:69:TYR:HB2	1.69	0.74
4:C:16:ARG:HG3	4:C:17:ASP:H	1.52	0.74
5:D:3:ARG:HD2	5:D:69:GLY:O	1.87	0.74
8:G:145:ALA:O	8:G:147:ALA:N	2.19	0.74
4:C:188:LEU:CD1	4:C:189:ALA:H	1.99	0.74
9:H:119:LEU:HD12	9:H:124:ALA:HA	1.70	0.74
11:J:38:ILE:CG1	11:J:71:LEU:HB3	2.17	0.74
1:A:743:U:H2'	1:A:744:C:C6	2.23	0.74
14:M:22:ILE:HD12	14:M:25:ILE:HD12	1.69	0.74
3:B:16:HIS:HE2	3:B:214:ILE:HG12	1.52	0.74
11:J:38:ILE:HG13	11:J:71:LEU:HB3	1.70	0.74
1:A:328:C:O2	1:A:328:C:H2'	1.87	0.74
1:A:1367:C:H4'	11:J:48:THR:HG21	1.70	0.74
3:B:72:GLY:HA3	3:B:81:VAL:HG21	1.69	0.74
7:F:4:TYR:OH	7:F:69:GLU:HB3	1.88	0.74
8:G:72:ARG:HG2	8:G:142:GLU:OE1	1.87	0.73
1:A:840:C:H5''	1:A:841:U:OP1	1.87	0.73
1:A:1438:G:H2'	1:A:1439:C:C6	2.23	0.73
10:I:26:VAL:HB	10:I:33:PHE:HB2	1.70	0.73
20:S:10:PHE:HD2	20:S:11:VAL:N	1.86	0.73
3:B:200:ILE:HG22	3:B:202:PRO:HD3	1.70	0.73
5:D:151:LYS:H	5:D:151:LYS:CD	2.01	0.73
9:H:95:VAL:HG11	9:H:133:LEU:HD12	1.70	0.73
19:R:86:VAL:O	19:R:87:ARG:HB2	1.86	0.73
1:A:620:C:N1	5:D:135:LEU:HD13	2.03	0.73
4:C:91:LEU:HD21	4:C:99:VAL:HG13	1.68	0.73
5:D:32:ALA:C	5:D:34:GLU:H	1.92	0.73
6:E:57:LYS:HG2	6:E:61:TYR:CE2	2.24	0.73
9:H:24:THR:HG22	9:H:63:LEU:HD21	1.71	0.73
1:A:8:A:N6	5:D:209:ARG:HB2	2.04	0.73
16:O:31:LEU:HD12	16:O:31:LEU:H	1.52	0.73
7:F:98:LEU:HD22	7:F:101:ALA:HB2	1.70	0.73
15:N:26:ARG:HH12	15:N:47:LEU:CD2	2.01	0.73
21:T:39:LYS:HD2	21:T:55:ILE:CD1	2.18	0.73
1:A:186:C:O3'	21:T:82:SER:HB3	1.88	0.73
1:A:1030(A):G:H22	1:A:1030(C):G:H3'	1.54	0.73
1:A:1330:U:H2'	1:A:1331:G:H5'	1.71	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:M:4:ILE:HG22	14:M:5:ALA:N	2.03	0.73
1:A:351:G:H4'	1:A:352:C:OP1	1.87	0.73
1:A:1030(A):G:N2	1:A:1030(C):G:H3'	2.04	0.73
5:D:199:GLN:HA	5:D:199:GLN:HE21	1.54	0.73
7:F:10:LEU:HD11	7:F:59:TYR:HD2	1.54	0.73
15:N:14:PRO:C	15:N:16:PHE:H	1.91	0.73
1:A:287:U:O2'	1:A:288:A:H5'	1.88	0.72
1:A:518:C:O2'	13:L:50:SER:HB3	1.89	0.72
1:A:1030(C):G:H2'	1:A:1030(D):A:C8	2.24	0.72
12:K:57:THR:HG23	12:K:60:ALA:H	1.53	0.72
20:S:41:VAL:HG23	20:S:43:GLU:HG2	1.71	0.72
15:N:37:PHE:HE2	15:N:53:LEU:HD13	1.51	0.72
16:O:87:ILE:O	16:O:88:ARG:HB2	1.89	0.72
1:A:1533:C:O2	1:A:1533:C:H2'	1.89	0.72
9:H:29:SER:OG	9:H:32:LYS:HB2	1.89	0.72
10:I:19:LEU:CD1	10:I:85:LEU:HD12	2.20	0.72
1:A:447:G:H2'	1:A:485:G:H22	1.54	0.72
7:F:9:VAL:HB	7:F:87:ARG:HB2	1.71	0.72
15:N:27:CYS:SG	15:N:29:ARG:HB2	2.28	0.72
17:P:26:ARG:HD2	17:P:31:LYS:O	1.89	0.72
20:S:10:PHE:CD2	20:S:11:VAL:N	2.58	0.72
1:A:731:G:OP1	1:A:766:A:H1'	1.90	0.72
4:C:174:PRO:HB2	4:C:177:THR:HG22	1.72	0.72
23:W:25:LYS:HE3	23:W:29:GLY:O	1.89	0.72
23:W:52:ARG:HB2	23:W:52:ARG:NH1	2.02	0.72
11:J:51:ARG:CB	11:J:59:SER:HB3	2.18	0.72
13:L:37:CYS:HB2	13:L:79:GLU:O	1.90	0.72
20:S:52:TYR:HA	20:S:56:GLN:O	1.89	0.72
1:A:443:C:H2'	1:A:444:C:H6	1.53	0.72
1:A:1281:U:H5'	1:A:1282:C:C5	2.24	0.72
5:D:7:PRO:HG2	5:D:10:ARG:HD2	1.71	0.72
1:A:1369:C:H2'	1:A:1370:G:C8	2.24	0.71
4:C:116:VAL:HG21	4:C:202:ILE:HD11	1.71	0.71
5:D:30:LYS:C	5:D:32:ALA:H	1.93	0.71
14:M:94:ARG:HH12	20:S:81:ARG:HD3	1.54	0.71
1:A:135:C:O2	17:P:1:MET:HB2	1.89	0.71
1:A:853:G:O2'	1:A:854:G:H5'	1.91	0.71
1:A:701:C:H5'	1:A:703:G:O4'	1.91	0.71
14:M:11:ARG:CG	14:M:12:ASN:N	2.52	0.71
1:A:67:C:O2'	1:A:171:A:H1'	1.90	0.71
3:B:42:ILE:HD11	3:B:189:ASP:HB2	1.72	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:T:54:LYS:HE3	21:T:100:ILE:HD11	1.71	0.71
1:A:918:A:H2'	1:A:919:A:C8	2.26	0.71
3:B:164:VAL:HG12	3:B:186:ALA:CB	2.21	0.71
4:C:191:THR:HG22	4:C:192:THR:N	2.05	0.71
12:K:27:ASN:HA	12:K:56:GLY:HA2	1.72	0.71
19:R:25:THR:O	19:R:26:LEU:HB2	1.89	0.71
4:C:156:ARG:HH21	4:C:161:GLU:HA	1.55	0.71
17:P:8:ARG:HB2	17:P:28:ARG:NH1	2.06	0.71
1:A:80:G:C3'	1:A:81:U:H5''	2.21	0.71
1:A:953:G:H1'	14:M:125:ARG:HA	1.72	0.71
1:A:1038:C:H2'	1:A:1039:C:H6	1.53	0.71
5:D:151:LYS:HD2	5:D:151:LYS:N	2.05	0.71
1:A:1137:C:H4'	1:A:1138:G:C2	2.26	0.71
1:A:1189:C:OP1	11:J:51:ARG:NH2	2.24	0.71
1:A:1218:C:H2'	1:A:1219:U:C6	2.26	0.71
12:K:84:VAL:HG23	12:K:110:ASP:HA	1.72	0.71
14:M:5:ALA:HB3	14:M:8:GLU:HG3	1.73	0.71
3:B:122:PHE:HE2	3:B:139:LYS:HD3	1.54	0.70
1:A:953:G:C1'	14:M:125:ARG:HA	2.21	0.70
1:A:1251:A:H2'	1:A:1252:A:C8	2.26	0.70
3:B:126:GLU:HG2	3:B:129:GLU:OE1	1.90	0.70
4:C:191:THR:HG21	4:C:193:TYR:CZ	2.26	0.70
15:N:26:ARG:NH1	15:N:47:LEU:HD21	2.06	0.70
23:W:15:GLU:H	23:W:23:ARG:CB	2.04	0.70
1:A:929:G:H5''	1:A:1533:C:H41	1.56	0.70
7:F:76:ALA:O	7:F:80:ARG:HG3	1.91	0.70
1:A:1148:U:H2'	1:A:1149:C:O4'	1.91	0.70
3:B:149:LEU:O	3:B:153:ARG:HG2	1.92	0.70
3:B:178:ARG:NH2	9:H:68:ARG:HH22	1.88	0.70
5:D:62:GLN:HE22	5:D:65:ARG:NH1	1.89	0.70
13:L:45:PRO:HD3	13:L:51:ALA:O	1.91	0.70
18:Q:95:TYR:C	18:Q:97:SER:H	1.94	0.70
1:A:1495:U:H2'	1:A:1496:C:C6	2.27	0.70
3:B:18:GLY:HA2	3:B:42:ILE:H	1.57	0.70
7:F:35:ALA:HA	7:F:67:MET:HB3	1.74	0.70
7:F:100:ASN:ND2	19:R:23:LYS:HG2	2.07	0.70
9:H:56:LYS:HD2	9:H:56:LYS:N	2.07	0.70
1:A:99:C:H2'	1:A:101:A:C8	2.27	0.70
1:A:1415:G:O2'	1:A:1416:G:H5'	1.92	0.70
12:K:69:ALA:O	12:K:73:MET:HG2	1.91	0.70
1:A:1256:A:C4'	1:A:1257:U:H5'	2.19	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:D:32:ALA:C	5:D:34:GLU:N	2.43	0.70
10:I:118:LYS:O	10:I:119:ALA:HB3	1.90	0.70
20:S:20:LEU:HD12	20:S:21:GLU:N	2.07	0.70
21:T:50:GLU:O	21:T:100:ILE:HD12	1.91	0.70
21:T:54:LYS:HG3	21:T:100:ILE:CD1	2.22	0.70
1:A:1480:G:H2'	1:A:1481:U:C6	2.27	0.70
8:G:113:GLU:HG2	8:G:119:ARG:HG2	1.73	0.70
11:J:30:SER:HB3	11:J:84:GLN:NE2	2.06	0.70
12:K:84:VAL:HG21	19:R:88:LYS:HD3	1.74	0.70
11:J:39:PRO:HA	11:J:70:ARG:HH11	1.56	0.69
1:A:897:C:H5'	18:Q:101:ARG:HH22	1.57	0.69
1:A:1022:G:H2'	1:A:1023:G:C8	2.23	0.69
1:A:1391:U:H2'	1:A:1392:G:C8	2.27	0.69
6:E:31:LEU:CD2	6:E:43:LEU:HD21	2.21	0.69
14:M:81:LEU:HD12	14:M:88:ARG:HD3	1.72	0.69
1:A:646:U:H2'	1:A:647:C:C6	2.27	0.69
1:A:1064:G:H4'	1:A:1065:U:C5'	2.22	0.69
1:A:1141:C:H2'	1:A:1142:G:C8	2.27	0.69
1:A:1182:G:H4'	1:A:1183:A:O5'	1.91	0.69
1:A:1486:G:H2'	1:A:1487:G:O4'	1.92	0.69
10:I:19:LEU:HD23	10:I:61:ALA:HB2	1.72	0.69
12:K:48:ILE:HD11	12:K:64:ALA:HA	1.74	0.69
3:B:178:ARG:HH21	3:B:196:LEU:HA	1.57	0.69
7:F:8:ILE:HD11	7:F:79:LEU:HD13	1.73	0.69
9:H:108:GLY:HA3	9:H:138:TRP:HB3	1.74	0.69
4:C:58:GLU:HB2	4:C:65:ALA:HB2	1.74	0.69
13:L:24:VAL:HG13	13:L:98:TYR:HE2	1.55	0.69
13:L:75:HIS:HD2	13:L:77:LEU:HB2	1.57	0.69
18:Q:10:VAL:O	18:Q:53:LEU:HD12	1.92	0.69
22:V:2:GLY:O	22:V:4:GLY:N	2.25	0.69
21:T:44:ALA:HB2	21:T:88:VAL:HG13	1.75	0.69
1:A:1368:G:O2'	1:A:1369:C:H5'	1.92	0.69
1:A:1435:G:H2'	1:A:1436:U:C6	2.28	0.69
3:B:45:GLN:CD	3:B:45:GLN:H	1.95	0.69
4:C:20:SER:HB3	4:C:22:TRP:NE1	2.08	0.69
11:J:5:ARG:HA	11:J:73:ASP:OD1	1.93	0.69
11:J:90:LEU:H	11:J:91:PRO:HD2	1.57	0.69
13:L:60:LEU:CD1	13:L:85:ILE:HD12	2.18	0.69
21:T:10:LEU:O	21:T:12:ALA:N	2.25	0.69
1:A:1251:A:H4'	10:I:12:GLU:OE2	1.93	0.69
3:B:21:ARG:O	3:B:39:ILE:HA	1.93	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:74:LYS:HZ2	3:B:206:ASP:HA	1.57	0.69
1:A:457:C:H2'	1:A:458:C:H6	1.57	0.69
1:A:1060:C:O2'	1:A:1061:G:H5'	1.93	0.69
4:C:91:LEU:HD11	4:C:99:VAL:HG22	1.75	0.69
10:I:43:ALA:C	10:I:45:ALA:H	1.95	0.69
10:I:43:ALA:O	10:I:45:ALA:N	2.26	0.69
19:R:26:LEU:HD11	19:R:39:VAL:HG23	1.75	0.69
23:W:52:ARG:HH11	23:W:52:ARG:CB	2.05	0.69
1:A:243:A:C5'	1:A:244:U:H5'	2.22	0.69
1:A:1522:U:O2'	1:A:1523:G:H5'	1.92	0.69
6:E:115:VAL:HG11	6:E:118:ILE:CD1	2.23	0.69
11:J:35:SER:HB2	11:J:72:VAL:O	1.93	0.69
23:W:45:ILE:CD1	23:W:70:ARG:HD3	2.22	0.69
1:A:216:G:H2'	1:A:217:C:C6	2.28	0.68
1:A:991:U:O2'	1:A:992:U:H5'	1.93	0.68
1:A:1095:U:H2'	1:A:1096:C:C6	2.28	0.68
1:A:1241:G:H2'	1:A:1242:C:C6	2.28	0.68
1:A:1531:A:O5'	1:A:1531:A:H8	1.76	0.68
3:B:68:ILE:HB	3:B:90:MET:HE3	1.75	0.68
1:A:1279:A:H5''	1:A:1280:A:OP1	1.93	0.68
3:B:97:TRP:HZ2	3:B:102:LEU:HD13	1.59	0.68
1:A:1502:A:H2	1:A:1505:G:N1	1.91	0.68
13:L:6:THR:OG1	13:L:9:GLN:HG3	1.93	0.68
13:L:28:LYS:HD2	13:L:33:ARG:NH1	2.08	0.68
17:P:22:THR:HA	17:P:33:ILE:HD12	1.75	0.68
1:A:180:U:H2'	1:A:181:G:H5'	1.75	0.68
1:A:542:G:OP1	5:D:10:ARG:NH2	2.26	0.68
1:A:939:G:H2'	1:A:940:C:C6	2.28	0.68
1:A:1141:C:H2'	1:A:1142:G:H8	1.59	0.68
5:D:150:GLU:HG3	5:D:153:ARG:HH21	1.57	0.68
1:A:976:G:OP2	1:A:1358:U:H1'	1.93	0.68
1:A:1476:G:H2'	1:A:1477:C:H6	1.57	0.68
3:B:197:VAL:HB	3:B:200:ILE:HG13	1.74	0.68
1:A:1396:A:O3'	1:A:1397:C:O5'	2.10	0.68
3:B:23:ARG:NH1	3:B:24:TRP:N	2.41	0.68
3:B:127:ILE:HG22	3:B:128:GLU:OE2	1.93	0.68
9:H:8:ASP:O	9:H:12:ARG:HG3	1.93	0.68
11:J:38:ILE:HD11	11:J:71:LEU:HD12	1.74	0.68
13:L:33:ARG:CD	13:L:62:SER:HB3	2.13	0.68
18:Q:27:PHE:CZ	18:Q:36:ILE:HD11	2.28	0.68
21:T:76:ALA:O	21:T:80:ARG:HG3	1.94	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:C:29:TYR:CZ	15:N:54:PRO:HG2	2.29	0.68
1:A:838:G:C2'	1:A:839:U:H5''	2.24	0.68
1:A:1307:U:H5'	14:M:109:THR:HG21	1.74	0.68
1:A:405:U:H3'	1:A:406:G:H5'	1.76	0.68
1:A:1016:A:H2'	1:A:1017:G:O4'	1.94	0.68
11:J:20:ALA:HA	11:J:23:ILE:HD13	1.75	0.68
14:M:125:ARG:HH11	14:M:125:ARG:HG3	1.59	0.68
1:A:518:C:HO2'	13:L:50:SER:HB3	1.59	0.67
1:A:723:U:O2	1:A:723:U:H2'	1.94	0.67
1:A:1002:G:H2'	1:A:1003:G:C8	2.29	0.67
3:B:209:ARG:HE	3:B:239:VAL:HG11	1.58	0.67
4:C:188:LEU:CD1	4:C:195:VAL:HG13	2.23	0.67
11:J:23:ILE:HD12	11:J:23:ILE:H	1.58	0.67
19:R:45:SER:C	19:R:47:THR:H	1.96	0.67
6:E:116:THR:HG23	6:E:117:ASP:OD2	1.94	0.67
1:A:448:A:OP2	1:A:485:G:N2	2.26	0.67
3:B:25:ASN:HD22	3:B:25:ASN:C	1.98	0.67
3:B:139:LYS:O	3:B:143:GLU:HG2	1.94	0.67
3:B:185:ILE:HG23	3:B:199:TYR:HB2	1.77	0.67
4:C:14:ILE:HG22	4:C:15:THR:N	2.07	0.67
4:C:14:ILE:O	4:C:16:ARG:N	2.27	0.67
4:C:107:GLN:H	4:C:107:GLN:CD	1.93	0.67
4:C:172:ARG:HH12	4:C:174:PRO:HG3	1.59	0.67
6:E:51:VAL:HB	6:E:52:PRO:HD3	1.76	0.67
3:B:53:ARG:NH1	3:B:199:TYR:CD2	2.63	0.67
16:O:11:VAL:HG21	16:O:34:LEU:HD12	1.76	0.67
7:F:44:GLY:HA2	7:F:59:TYR:CE1	2.29	0.67
9:H:10:LEU:HD22	9:H:83:ILE:HD11	1.75	0.67
18:Q:66:SER:O	18:Q:70:ARG:NH1	2.27	0.67
1:A:581:G:O2'	18:Q:105:ALA:HB1	1.95	0.67
1:A:839:U:O2	1:A:839:U:H2'	1.93	0.67
7:F:95:GLU:CD	7:F:95:GLU:H	1.98	0.67
20:S:70:LYS:O	20:S:72:GLY:N	2.27	0.67
3:B:30:ARG:HG3	3:B:31:TYR:CD2	2.30	0.67
5:D:191:ARG:O	5:D:191:ARG:HD2	1.94	0.67
1:A:1277:C:C2'	1:A:1278:U:H5'	2.24	0.67
7:F:21:LEU:O	7:F:24:GLU:HB3	1.95	0.67
1:A:1142:G:H2'	1:A:1143:G:O4'	1.95	0.67
13:L:42:THR:HG21	13:L:52:LEU:HB3	1.74	0.67
19:R:35:ARG:O	19:R:37:VAL:HG23	1.95	0.67
1:A:371:G:C2'	1:A:372:C:H5'	2.25	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:74:LYS:NZ	3:B:206:ASP:HA	2.10	0.66
4:C:58:GLU:HB3	11:J:92:THR:HG21	1.76	0.66
13:L:126:LYS:N	13:L:126:LYS:HD2	2.09	0.66
19:R:59:SER:OG	19:R:62:GLU:HG3	1.95	0.66
1:A:190(F):G:H4'	1:A:190(G):G:OP2	1.93	0.66
1:A:794:A:H2'	1:A:795:C:C6	2.30	0.66
3:B:143:GLU:O	3:B:147:LYS:HG3	1.96	0.66
10:I:93:ARG:HE	10:I:97:LYS:HE3	1.61	0.66
4:C:5:ILE:HD13	4:C:10:PHE:HB2	1.77	0.66
12:K:88:GLY:O	12:K:90:GLY:N	2.29	0.66
14:M:40:ASN:HD22	14:M:41:PRO:CD	2.09	0.66
1:A:376:G:OP2	17:P:67:THR:HG21	1.96	0.66
1:A:435:C:H2'	1:A:436:C:H6	1.61	0.66
3:B:132:LYS:O	3:B:136:VAL:HG23	1.94	0.66
18:Q:45:HIS:NE2	18:Q:47:PRO:HG3	2.10	0.66
21:T:57:ARG:HH21	21:T:100:ILE:CG2	2.07	0.66
1:A:168:G:O2'	1:A:169:C:H5'	1.95	0.66
1:A:522:C:H41	13:L:53:ARG:HH22	1.42	0.66
11:J:94:VAL:HG12	11:J:95:GLU:N	2.09	0.66
13:L:27:LEU:HG	13:L:28:LYS:N	2.06	0.66
18:Q:12:SER:HB3	18:Q:20:THR:HB	1.77	0.66
1:A:791:G:H2'	1:A:792:A:H5'	1.77	0.66
3:B:102:LEU:HD21	3:B:162:ILE:CD1	2.25	0.66
3:B:223:ILE:C	3:B:225:ALA:H	1.98	0.66
4:C:97:LYS:O	4:C:98:ASN:HB3	1.96	0.66
8:G:23:VAL:HG12	8:G:27:ILE:HD11	1.77	0.66
10:I:95:LYS:O	10:I:98:PRO:HD2	1.95	0.66
15:N:29:ARG:HG2	15:N:29:ARG:HH11	1.61	0.66
19:R:33:ASP:OD2	19:R:36:ASN:HB2	1.94	0.66
1:A:232:G:H1'	1:A:262:A:N1	2.11	0.66
3:B:184:VAL:HG12	3:B:198:ASP:H	1.60	0.66
4:C:112:SER:HB2	4:C:115:LEU:HD12	1.76	0.66
10:I:48:GLU:N	10:I:49:PRO:HD2	2.10	0.66
13:L:70:ILE:HG12	13:L:100:ILE:HD12	1.78	0.66
21:T:100:ILE:C	21:T:102:GLY:H	1.96	0.66
1:A:7:G:H5'	1:A:298:A:O4'	1.96	0.66
1:A:1475:G:H2'	1:A:1476:G:C8	2.29	0.66
5:D:57:ARG:HB3	5:D:206:PHE:HB2	1.78	0.66
11:J:22:LYS:HE2	11:J:90:LEU:HD12	1.77	0.66
19:R:73:ALA:HB3	19:R:79:LEU:HD12	1.77	0.66
23:W:15:GLU:CB	23:W:23:ARG:HB2	2.25	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:390:C:H2'	1:A:391:G:C8	2.31	0.66
3:B:21:ARG:HD3	3:B:21:ARG:N	2.09	0.66
4:C:107:GLN:H	4:C:107:GLN:NE2	1.94	0.66
7:F:10:LEU:HD11	7:F:59:TYR:CD2	2.31	0.66
22:V:24:ARG:O	22:V:25:LYS:HB2	1.95	0.66
23:W:66:ARG:HB3	23:W:66:ARG:NH1	2.10	0.66
1:A:1006:C:H2'	1:A:1007:C:H6	1.61	0.66
1:A:1262:C:H2'	1:A:1263:C:C6	2.31	0.66
1:A:1381:U:O2'	1:A:1382:C:H5'	1.96	0.66
1:A:1425:U:H2'	1:A:1426:C:C6	2.31	0.66
3:B:88:ALA:C	3:B:90:MET:H	2.00	0.66
4:C:38:ARG:HB3	4:C:94:LEU:HD21	1.78	0.66
7:F:86:ARG:O	7:F:87:ARG:HG2	1.96	0.66
13:L:34:ARG:O	13:L:61:THR:HG23	1.95	0.66
1:A:1112:C:H1'	4:C:179:ARG:HH21	1.61	0.65
10:I:19:LEU:HD11	10:I:85:LEU:CD1	2.26	0.65
19:R:46:GLU:H	19:R:46:GLU:CD	2.00	0.65
1:A:129(A):G:O2'	1:A:130:A:OP2	2.14	0.65
1:A:948:C:OP1	14:M:109:THR:HG22	1.96	0.65
4:C:107:GLN:O	4:C:108:ASN:HB3	1.95	0.65
7:F:69:GLU:HA	7:F:72:VAL:HG23	1.78	0.65
9:H:6:ILE:HD11	9:H:31:PHE:CD2	2.31	0.65
21:T:50:GLU:HG3	21:T:100:ILE:HG13	1.78	0.65
11:J:51:ARG:H	11:J:59:SER:HB2	1.60	0.65
19:R:36:ASN:ND2	19:R:38:GLU:HG2	2.11	0.65
20:S:11:VAL:HB	20:S:16:LEU:HD22	1.77	0.65
20:S:28:LYS:HG2	20:S:29:ARG:N	2.11	0.65
3:B:71:VAL:O	3:B:165:VAL:HG23	1.97	0.65
13:L:41:ARG:NH1	13:L:41:ARG:HB3	2.11	0.65
14:M:49:THR:HB	14:M:52:GLU:OE1	1.95	0.65
18:Q:60:ILE:HD13	18:Q:61:GLU:N	2.12	0.65
20:S:41:VAL:HG22	20:S:44:MET:CE	2.26	0.65
1:A:501:C:H2'	1:A:502:G:H8	1.61	0.65
1:A:1065:U:H4'	1:A:1066:C:O5'	1.95	0.65
4:C:191:THR:CG2	4:C:192:THR:N	2.59	0.65
5:D:23:GLY:HA3	5:D:112:VAL:HG12	1.78	0.65
5:D:152:SER:HB3	5:D:155:LEU:HD12	1.76	0.65
8:G:62:PHE:HA	8:G:124:LEU:HD22	1.78	0.65
13:L:26:ALA:O	13:L:27:LEU:O	2.15	0.65
20:S:15:LEU:HD12	20:S:16:LEU:N	2.12	0.65
22:V:9:ARG:HH12	22:V:23:PRO:HD2	1.61	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:566:G:O3'	1:A:567:G:C5'	2.44	0.65
3:B:45:GLN:H	3:B:45:GLN:NE2	1.94	0.65
4:C:113:ALA:HB3	4:C:114:PRO:HD3	1.79	0.65
16:O:71:GLN:HB2	16:O:78:TYR:CD1	2.31	0.65
1:A:627:G:H2'	1:A:628:G:H8	1.62	0.65
1:A:1262:C:H42	1:A:1273:G:H1	1.43	0.65
1:A:1352:C:H2'	1:A:1353:G:C8	2.32	0.65
3:B:27:LYS:HD3	3:B:195:ASP:OD2	1.97	0.65
3:B:73:THR:HG23	3:B:95:GLN:O	1.97	0.65
4:C:29:TYR:OH	15:N:54:PRO:HG2	1.96	0.65
12:K:80:VAL:HG21	12:K:103:LEU:HD13	1.77	0.65
1:A:1056:U:C5'	4:C:163:ALA:HB2	2.27	0.65
1:A:1072:G:H2'	1:A:1073:U:C6	2.31	0.65
1:A:1194:U:O2'	1:A:1195:C:H5'	1.97	0.65
1:A:1228:C:OP1	14:M:115:LYS:HG3	1.95	0.65
1:A:1236:A:H4'	1:A:1304:G:H4'	1.79	0.65
11:J:8:LEU:HD23	11:J:96:ILE:HA	1.78	0.65
19:R:48:GLY:O	19:R:74:ARG:NH2	2.29	0.65
1:A:449:C:O2	17:P:42:ARG:HD2	1.96	0.65
1:A:1195:C:H2'	1:A:1197:G:H5'	1.78	0.65
3:B:7:VAL:HG11	3:B:224:GLN:HE22	1.62	0.65
9:H:119:LEU:HD23	9:H:119:LEU:N	2.11	0.65
21:T:96:GLY:O	21:T:97:ALA:HB3	1.97	0.65
1:A:1056:U:H5'	4:C:163:ALA:CB	2.27	0.64
20:S:55:LYS:HG2	20:S:56:GLN:NE2	2.03	0.64
4:C:50:ALA:HB1	4:C:70:VAL:HG11	1.78	0.64
8:G:18:TYR:CD2	8:G:59:LEU:HB2	2.32	0.64
10:I:5:TYR:CG	10:I:6:GLY:N	2.63	0.64
1:A:1277:C:O2'	1:A:1279:A:H1'	1.97	0.64
5:D:92:VAL:O	5:D:96:LEU:HD13	1.97	0.64
7:F:19:LEU:C	7:F:19:LEU:HD23	2.18	0.64
7:F:82:ARG:HB2	7:F:85:VAL:CG2	2.25	0.64
19:R:53:ARG:HH11	19:R:59:SER:C	2.00	0.64
1:A:992:U:H4'	1:A:993:G:O5'	1.97	0.64
1:A:1015:A:H2'	1:A:1016:A:C8	2.33	0.64
3:B:53:ARG:HA	3:B:56:ARG:HE	1.62	0.64
4:C:6:HIS:HD2	4:C:8:ILE:HB	1.60	0.64
4:C:190:ARG:HB3	4:C:190:ARG:NH1	2.13	0.64
14:M:86:CYS:SG	14:M:88:ARG:HB3	2.37	0.64
14:M:94:ARG:NH1	20:S:81:ARG:HD3	2.13	0.64
16:O:7:GLU:OE1	16:O:38:ARG:NH2	2.30	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:R:34:TYR:CD1	19:R:35:ARG:HG3	2.32	0.64
1:A:761:G:C2	18:Q:105:ALA:HB3	2.33	0.64
1:A:1305:G:H5'	22:V:4:GLY:HA3	1.79	0.64
15:N:24:CYS:HB3	15:N:28:GLY:N	2.10	0.64
1:A:149:A:H2'	1:A:150:C:C6	2.32	0.64
1:A:266:G:O3'	18:Q:67:LYS:HB2	1.97	0.64
1:A:613:C:O2'	1:A:614:A:H5'	1.98	0.64
3:B:39:ILE:HG22	3:B:40:HIS:O	1.97	0.64
11:J:3:LYS:HG2	11:J:75:ILE:HG12	1.79	0.64
13:L:86:ARG:HH11	13:L:86:ARG:HG3	1.62	0.64
15:N:23:ARG:HD3	15:N:30:ALA:HB2	1.80	0.64
20:S:30:LEU:O	20:S:31:ILE:HD13	1.97	0.64
1:A:411:A:N9	1:A:413:G:H1'	2.13	0.64
1:A:765:G:H1	1:A:812:C:H2'	1.63	0.64
1:A:1191:A:OP1	4:C:4:LYS:HE2	1.97	0.64
5:D:104:VAL:HG11	5:D:146:ILE:CD1	2.28	0.64
7:F:26:ILE:HG21	7:F:63:TYR:HE2	1.62	0.64
8:G:116:ALA:HA	8:G:119:ARG:CZ	2.27	0.64
19:R:52:PRO:HB2	19:R:54:ARG:HD3	1.80	0.64
1:A:502:G:H4'	1:A:550:G:H4'	1.78	0.64
1:A:1238:A:H5'	1:A:1336:C:N4	2.12	0.64
11:J:59:SER:O	11:J:60:ARG:HB2	1.98	0.64
12:K:54:ARG:HH11	12:K:54:ARG:CB	2.04	0.64
15:N:9:LYS:HD3	15:N:9:LYS:C	2.19	0.64
18:Q:97:SER:HB2	18:Q:103:GLY:N	2.11	0.64
1:A:344:A:H4'	1:A:345:C:OP2	1.98	0.64
1:A:353:A:H5'	1:A:353:A:H8	1.63	0.64
1:A:393:A:O2'	1:A:394:G:H5'	1.98	0.64
3:B:224:GLN:O	3:B:224:GLN:HG2	1.96	0.64
11:J:12:ASP:O	11:J:15:THR:HG22	1.98	0.64
7:F:14:LEU:HA	7:F:18:GLN:NE2	2.13	0.64
20:S:15:LEU:HA	20:S:18:LYS:HB3	1.79	0.64
20:S:22:LEU:HD22	20:S:28:LYS:HD2	1.78	0.64
21:T:53:LEU:O	21:T:57:ARG:HD2	1.98	0.64
1:A:80:G:H3'	1:A:81:U:C5'	2.28	0.63
1:A:1381:U:H2'	1:A:1382:C:H6	1.63	0.63
9:H:89:PRO:HA	9:H:92:ARG:NH1	2.13	0.63
9:H:119:LEU:HD12	9:H:124:ALA:CA	2.27	0.63
10:I:64:THR:HG22	10:I:65:VAL:H	1.63	0.63
1:A:269:C:H2'	1:A:270:A:C8	2.33	0.63
1:A:824:C:H2'	1:A:825:G:H8	1.63	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:556:C:O2'	1:A:557:G:H5'	1.98	0.63
9:H:65:TYR:HA	9:H:79:VAL:HG23	1.79	0.63
14:M:3:ARG:HG2	14:M:9:ILE:HG23	1.80	0.63
16:O:10:LYS:O	16:O:10:LYS:HE3	1.98	0.63
1:A:1425:U:H2'	1:A:1426:C:H6	1.64	0.63
5:D:28:SER:O	5:D:30:LYS:N	2.30	0.63
20:S:5:LEU:HD11	20:S:70:LYS:NZ	2.13	0.63
4:C:99:VAL:HG23	4:C:100:ALA:N	2.13	0.63
6:E:79:GLU:HA	6:E:91:LEU:O	1.98	0.63
9:H:90:GLY:O	9:H:91:ARG:HB2	1.98	0.63
14:M:81:LEU:HD23	14:M:81:LEU:N	2.10	0.63
19:R:61:LYS:O	19:R:65:ILE:HG13	1.98	0.63
21:T:10:LEU:O	21:T:13:LEU:HD12	1.99	0.63
23:W:40:MET:HE2	23:W:47:ILE:HD11	1.79	0.63
1:A:397:A:H5'	1:A:398:C:OP1	1.99	0.63
1:A:1041:A:H2'	1:A:1042:G:H8	1.62	0.63
1:A:1148:U:H4'	10:I:14:VAL:HG11	1.80	0.63
4:C:188:LEU:HD13	4:C:189:ALA:H	1.62	0.63
14:M:40:ASN:HD22	14:M:41:PRO:HD2	1.64	0.63
1:A:437:U:C2'	1:A:438:G:H5'	2.29	0.63
1:A:897:C:C5'	18:Q:101:ARG:HH22	2.11	0.63
1:A:1262:C:H2'	1:A:1263:C:H6	1.60	0.63
3:B:134:GLU:HG2	3:B:137:ARG:NH2	2.14	0.63
3:B:140:HIS:HA	3:B:143:GLU:CG	2.28	0.63
4:C:156:ARG:NH2	4:C:161:GLU:HA	2.14	0.63
11:J:8:LEU:HD22	11:J:94:VAL:HG11	1.81	0.63
13:L:79:GLU:O	13:L:81:SER:N	2.31	0.63
16:O:4:THR:HB	16:O:6:GLU:OE2	1.99	0.63
1:A:330:C:H6	1:A:330:C:H5''	1.63	0.63
1:A:977:A:H2'	1:A:978:A:H5''	1.80	0.63
1:A:1513:A:H2'	1:A:1514:C:C6	2.34	0.63
4:C:179:ARG:CD	4:C:206:GLU:HG2	2.29	0.63
13:L:25:PRO:C	13:L:27:LEU:N	2.52	0.63
15:N:3:ARG:CZ	15:N:6:LEU:HG	2.29	0.63
20:S:45:VAL:HG12	20:S:46:GLY:N	2.13	0.63
1:A:1176:A:H2'	1:A:1177:G:C8	2.34	0.63
1:A:1281:U:H4'	1:A:1282:C:OP2	1.99	0.63
4:C:6:HIS:HD2	4:C:8:ILE:H	1.47	0.63
5:D:127:THR:HG23	5:D:130:GLY:O	1.99	0.63
6:E:12:LEU:HD22	6:E:12:LEU:C	2.20	0.63
3:B:84:GLU:HB3	3:B:219:VAL:CG2	2.25	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:Q:48:GLU:C	18:Q:50:LYS:H	2.02	0.62
1:A:202:U:H5''	1:A:203:U:OP2	1.99	0.62
1:A:551:U:H2'	1:A:552:U:C6	2.34	0.62
1:A:953:G:H1'	14:M:125:ARG:CA	2.29	0.62
8:G:146:GLU:C	8:G:148:ASN:H	2.01	0.62
23:W:5:ASP:O	23:W:59:PRO:HD3	1.99	0.62
1:A:390:C:O3'	17:P:28:ARG:NH2	2.32	0.62
1:A:1041:A:H2'	1:A:1042:G:C8	2.34	0.62
1:A:1343:G:H2'	1:A:1344:C:C6	2.34	0.62
4:C:23:TYR:CD2	4:C:24:ALA:N	2.66	0.62
5:D:199:GLN:OE1	5:D:201:ASN:HB3	1.99	0.62
11:J:80:LYS:HA	11:J:83:GLU:HB2	1.81	0.62
20:S:20:LEU:HA	20:S:23:ASN:ND2	2.14	0.62
1:A:560:U:H5'	1:A:566:G:N2	2.15	0.62
1:A:1241:G:H2'	1:A:1242:C:H6	1.64	0.62
13:L:87:GLY:H	13:L:98:TYR:HB3	1.65	0.62
23:W:36:ILE:O	23:W:41:ARG:HD2	1.98	0.62
1:A:1472:U:H2'	1:A:1473:A:H8	1.64	0.62
3:B:33:TYR:O	3:B:34:ALA:HB2	2.00	0.62
3:B:134:GLU:HG2	3:B:137:ARG:HH21	1.64	0.62
4:C:114:PRO:O	4:C:118:GLN:HG3	1.99	0.62
11:J:27:ALA:HB2	11:J:85:LEU:HD21	1.81	0.62
13:L:75:HIS:CD2	13:L:77:LEU:HB2	2.34	0.62
1:A:490:G:H2'	1:A:491:G:H8	1.63	0.62
1:A:1057:G:H5''	4:C:154:SER:CB	2.27	0.62
6:E:43:LEU:HD23	6:E:44:GLY:N	2.14	0.62
7:F:38:GLU:O	7:F:39:LYS:HB3	1.99	0.62
12:K:91:ARG:NH1	19:R:88:LYS:HE3	2.15	0.62
1:A:427:U:OP1	5:D:13:ARG:NH2	2.33	0.62
1:A:1053:G:C3'	1:A:1054:C:H5'	2.29	0.62
3:B:45:GLN:O	3:B:48:MET:HB2	2.00	0.62
1:A:954:G:H21	1:A:1227:A:H62	1.46	0.62
1:A:1532:U:O5'	1:A:1532:U:H6	1.82	0.62
3:B:19:HIS:CD2	3:B:205:ASP:OD1	2.53	0.62
14:M:37:THR:HG22	14:M:37:THR:O	2.00	0.62
15:N:29:ARG:HB3	15:N:40:CYS:HB3	1.82	0.62
1:A:328:C:H4'	1:A:329:A:O5'	1.99	0.62
4:C:52:LEU:N	4:C:52:LEU:HD23	2.15	0.62
4:C:70:VAL:HG12	4:C:72:LYS:N	2.11	0.62
11:J:32:ALA:CB	11:J:76:ASN:HD22	2.13	0.62
13:L:27:LEU:CD2	13:L:28:LYS:HE3	2.29	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:748:C:OP2	1:A:748:C:H6	1.83	0.62
1:A:1495:U:H2'	1:A:1496:C:H6	1.64	0.62
6:E:148:VAL:O	6:E:152:ARG:HG3	2.00	0.62
8:G:18:TYR:HB3	8:G:59:LEU:HD22	1.81	0.62
9:H:60:ARG:HH11	9:H:60:ARG:HG3	1.64	0.62
10:I:50:LEU:CB	10:I:55:ALA:HB3	2.28	0.62
18:Q:74:LEU:HD23	18:Q:74:LEU:C	2.20	0.62
6:E:105:VAL:HB	6:E:106:PRO:HD3	1.82	0.61
17:P:39:TYR:O	17:P:41:PRO:HD3	1.99	0.61
20:S:81:ARG:O	20:S:81:ARG:HG2	2.00	0.61
1:A:835:U:OP1	19:R:64:ARG:NH2	2.32	0.61
1:A:1504:G:OP1	1:A:1507:A:H4'	2.00	0.61
4:C:23:TYR:OH	11:J:9:ARG:HD3	2.00	0.61
5:D:149:ALA:HB3	5:D:152:SER:HB2	1.81	0.61
13:L:27:LEU:HD13	13:L:64:TYR:HE1	1.64	0.61
17:P:81:ARG:CG	17:P:83:GLU:HG2	2.30	0.61
1:A:149:A:O2'	1:A:150:C:H5'	2.00	0.61
3:B:68:ILE:N	3:B:90:MET:HE3	2.15	0.61
3:B:184:VAL:N	3:B:198:ASP:OD2	2.30	0.61
10:I:111:ARG:HD3	10:I:112:LYS:N	2.16	0.61
1:A:142:G:O2'	1:A:196:A:N1	2.31	0.61
1:A:1293:G:O2'	1:A:1294:G:H5'	1.99	0.61
11:J:51:ARG:H	11:J:59:SER:CB	2.13	0.61
21:T:100:ILE:C	21:T:102:GLY:N	2.54	0.61
23:W:5:ASP:HB2	23:W:59:PRO:HG3	1.82	0.61
1:A:1095:U:H2'	1:A:1096:C:H6	1.65	0.61
1:A:1366:C:H2'	1:A:1367:C:C6	2.32	0.61
5:D:121:VAL:O	5:D:134:ASP:HA	2.01	0.61
5:D:127:THR:HB	5:D:147:ALA:HB3	1.82	0.61
5:D:150:GLU:HA	5:D:153:ARG:HE	1.64	0.61
6:E:93:PRO:HG2	9:H:105:ARG:HH21	1.65	0.61
8:G:12:LEU:HD12	8:G:12:LEU:N	2.15	0.61
11:J:6:ILE:HG22	11:J:98:ILE:CG1	2.26	0.61
11:J:49:VAL:O	11:J:60:ARG:O	2.18	0.61
13:L:10:LEU:HB3	18:Q:32:TYR:CE1	2.35	0.61
13:L:79:GLU:C	13:L:81:SER:H	2.03	0.61
17:P:17:TYR:HE1	17:P:41:PRO:HG2	1.65	0.61
23:W:36:ILE:HG22	23:W:41:ARG:HG3	1.80	0.61
23:W:45:ILE:HG23	23:W:71:LYS:HE3	1.82	0.61
1:A:954:G:H2'	1:A:955:U:H6	1.66	0.61
10:I:58:ARG:CG	10:I:58:ARG:HH11	2.13	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:I:93:ARG:NE	10:I:97:LYS:HZ2	1.97	0.61
13:L:41:ARG:CG	13:L:42:THR:H	2.07	0.61
13:L:47:LYS:CB	13:L:48:PRO:HD3	2.30	0.61
20:S:42:PRO:O	20:S:45:VAL:HG23	2.00	0.61
1:A:129(A):G:N3	1:A:190(E):U:H5'	2.16	0.61
1:A:403:C:O2'	1:A:404:U:H5'	2.01	0.61
1:A:1342:C:O2'	1:A:1343:G:H5'	2.01	0.61
4:C:70:VAL:C	4:C:106:VAL:HG23	2.21	0.61
4:C:99:VAL:CG2	4:C:100:ALA:N	2.63	0.61
5:D:174:LEU:O	5:D:175:SER:HB3	2.00	0.61
16:O:70:LEU:HD12	16:O:78:TYR:CB	2.28	0.61
1:A:1114:C:H2'	1:A:1115:C:H6	1.64	0.61
1:A:1481:U:H2'	1:A:1482:G:O4'	2.01	0.61
5:D:150:GLU:HG3	5:D:153:ARG:NH2	2.16	0.61
10:I:93:ARG:HB3	10:I:97:LYS:HE3	1.82	0.61
23:W:66:ARG:HB3	23:W:66:ARG:HH11	1.65	0.61
1:A:148:G:H2'	1:A:149:A:H8	1.66	0.61
1:A:254:G:O2'	1:A:255:G:H5'	2.00	0.61
3:B:114:ARG:NH1	3:B:118:LEU:HD21	2.15	0.61
12:K:27:ASN:OD1	12:K:55:LYS:HG2	2.01	0.61
13:L:41:ARG:HG2	13:L:42:THR:N	2.12	0.61
13:L:50:SER:O	13:L:51:ALA:HB2	2.00	0.61
14:M:78:ILE:HG22	14:M:82:MET:CE	2.30	0.61
22:V:5:ASP:O	22:V:11:GLY:HA3	2.01	0.61
23:W:25:LYS:CA	23:W:31:GLU:HB3	2.31	0.61
1:A:192:U:O2'	1:A:193:C:H5'	2.01	0.61
1:A:666:G:H5'	1:A:726:C:H1'	1.82	0.61
1:A:923:A:OP1	6:E:21:ALA:HB2	2.01	0.61
7:F:50:TYR:CE1	19:R:77:GLY:HA2	2.35	0.61
8:G:21:VAL:HG23	8:G:22:LEU:N	2.16	0.61
14:M:15:VAL:HG23	14:M:43:THR:O	2.01	0.61
14:M:78:ILE:HG22	14:M:82:MET:HE3	1.82	0.61
1:A:392:G:H2'	1:A:393:A:H8	1.64	0.60
8:G:71:PRO:HD3	8:G:103:TRP:CZ3	2.35	0.60
11:J:3:LYS:N	11:J:75:ILE:HA	2.16	0.60
1:A:9:G:H5''	6:E:122:GLU:OE2	2.01	0.60
1:A:353:A:H5'	1:A:353:A:C8	2.35	0.60
1:A:538:G:OP2	13:L:115:LYS:HG3	2.01	0.60
4:C:60:ALA:O	4:C:61:ALA:HB3	2.01	0.60
9:H:24:THR:CG2	9:H:63:LEU:HD21	2.30	0.60
12:K:14:VAL:HG21	12:K:40:ILE:HD11	1.81	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:R:74:ARG:HB3	19:R:81:PHE:CE1	2.35	0.60
1:A:1003:G:H22	1:A:1039:C:H1'	1.65	0.60
1:A:1347:G:O2'	1:A:1348:U:P	2.58	0.60
3:B:164:VAL:HG12	3:B:186:ALA:HB2	1.83	0.60
9:H:14:ARG:O	9:H:18:ARG:HD3	2.01	0.60
1:A:849:C:O2'	1:A:850:U:H5'	2.01	0.60
4:C:64:VAL:HB	4:C:99:VAL:CG2	2.30	0.60
4:C:84:ILE:O	4:C:88:ARG:HB2	2.01	0.60
11:J:44:VAL:CG2	11:J:66:ARG:HH21	2.12	0.60
15:N:54:PRO:O	15:N:56:VAL:HG23	2.01	0.60
17:P:43:LYS:HG3	17:P:48:TRP:CD2	2.36	0.60
1:A:437:U:H5''	5:D:155:LEU:HD22	1.82	0.60
1:A:474:G:H2'	1:A:475:G:H8	1.66	0.60
1:A:519:C:O2	23:W:2:LYS:HE2	2.02	0.60
3:B:164:VAL:HG12	3:B:186:ALA:HB1	1.82	0.60
8:G:95:ARG:HG3	8:G:95:ARG:HH11	1.65	0.60
13:L:126:LYS:H	13:L:126:LYS:CD	2.13	0.60
19:R:47:THR:HG23	19:R:83:GLU:H	1.67	0.60
1:A:35:G:H2'	1:A:36:C:C6	2.37	0.60
1:A:1060:C:C5	4:C:2:GLY:N	2.68	0.60
3:B:124:SER:HB2	3:B:125:PRO:CD	2.30	0.60
4:C:8:ILE:HG23	4:C:16:ARG:HG2	1.83	0.60
4:C:151:VAL:O	4:C:167:TRP:O	2.20	0.60
7:F:22:GLU:OE2	7:F:84:ASN:HB2	2.01	0.60
16:O:29:VAL:HG12	16:O:85:LEU:CD1	2.31	0.60
17:P:51:VAL:O	17:P:53:VAL:N	2.35	0.60
20:S:5:LEU:O	20:S:6:LYS:HB2	2.01	0.60
20:S:49:ILE:HD12	20:S:71:LEU:HD21	1.83	0.60
1:A:1040:U:H2'	1:A:1041:A:C8	2.37	0.60
4:C:19:GLU:HB3	4:C:40:ARG:HH21	1.66	0.60
6:E:40:ARG:HG2	6:E:40:ARG:HH11	1.66	0.60
13:L:58:VAL:O	13:L:65:GLU:HA	2.02	0.60
17:P:20:VAL:CG1	17:P:21:VAL:N	2.64	0.60
18:Q:67:LYS:HA	18:Q:70:ARG:HH12	1.66	0.60
19:R:36:ASN:O	19:R:39:VAL:HG12	2.02	0.60
1:A:113:G:C1'	1:A:354:G:H5'	2.32	0.60
5:D:62:GLN:HA	5:D:62:GLN:NE2	2.16	0.60
6:E:80:ILE:HD13	6:E:91:LEU:CB	2.24	0.60
9:H:38:ILE:N	9:H:38:ILE:HD12	2.16	0.60
1:A:1191:A:P	4:C:3:ASN:HD22	2.24	0.60
3:B:22:LYS:HD2	3:B:35:GLU:OE1	2.02	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:118:LEU:HD11	3:B:141:GLU:OE1	2.02	0.60
4:C:26:LYS:H	4:C:26:LYS:CD	2.14	0.60
5:D:16:GLY:O	5:D:33:MET:HE2	2.02	0.60
8:G:114:ARG:HG2	8:G:114:ARG:HH11	1.67	0.60
10:I:97:LYS:C	10:I:100:GLY:H	2.05	0.60
11:J:19:SER:HB2	11:J:91:PRO:HG3	1.84	0.60
11:J:39:PRO:HA	11:J:70:ARG:NH1	2.16	0.60
17:P:17:TYR:CE1	17:P:41:PRO:HG2	2.37	0.60
21:T:45:GLN:HA	21:T:91:LEU:HD22	1.83	0.60
1:A:575:G:OP1	1:A:575:G:H4'	2.02	0.60
1:A:1347:G:N2	1:A:1373:G:H2'	2.17	0.60
5:D:170:VAL:CG1	5:D:174:LEU:HB2	2.32	0.60
8:G:18:TYR:HD2	8:G:59:LEU:HD22	1.66	0.60
8:G:75:VAL:HG21	8:G:144:MET:HB3	1.84	0.60
14:M:122:LYS:HD2	14:M:123:ALA:H	1.67	0.60
1:A:954:G:H2'	1:A:955:U:C6	2.37	0.59
1:A:411:A:C4	1:A:413:G:H1'	2.37	0.59
1:A:509:A:H5'	5:D:54:TYR:HD2	1.67	0.59
1:A:646:U:H2'	1:A:647:C:H6	1.67	0.59
1:A:1149:C:H2'	1:A:1150:U:C6	2.37	0.59
1:A:1225:A:H5'	1:A:1226:C:OP2	2.02	0.59
1:A:1346:A:C4	8:G:10:ARG:NH2	2.71	0.59
3:B:118:LEU:CD1	3:B:141:GLU:HB3	2.32	0.59
4:C:191:THR:HG21	4:C:193:TYR:CE1	2.36	0.59
5:D:150:GLU:CD	5:D:150:GLU:N	2.50	0.59
7:F:80:ARG:NH1	7:F:88:VAL:HB	2.16	0.59
12:K:84:VAL:CG2	19:R:88:LYS:HD3	2.32	0.59
12:K:91:ARG:HD3	19:R:88:LYS:HE2	1.84	0.59
13:L:54:LYS:N	13:L:54:LYS:HD2	2.17	0.59
14:M:117:VAL:HG12	14:M:118:ALA:N	2.16	0.59
1:A:1343:G:H1'	10:I:121:ARG:NH1	2.16	0.59
4:C:102:ASN:ND2	4:C:102:ASN:H	2.00	0.59
13:L:40:VAL:O	13:L:40:VAL:HG12	2.02	0.59
13:L:124:LYS:HD2	13:L:125:PRO:HD2	1.84	0.59
16:O:75:PRO:HB2	16:O:79:ARG:NH1	2.17	0.59
20:S:13:ASP:HA	20:S:16:LEU:CB	2.31	0.59
21:T:16:HIS:HE1	21:T:20:LEU:HD11	1.67	0.59
1:A:166:G:O2'	1:A:167:G:H5'	2.03	0.59
1:A:761:G:H1'	18:Q:103:GLY:O	2.01	0.59
1:A:1158:C:H5''	3:B:133:LYS:CE	2.33	0.59
1:A:1178:G:N2	1:A:1180:A:H3'	2.18	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1230:C:O2'	1:A:1231:G:H5'	2.01	0.59
8:G:23:VAL:HG13	8:G:43:PHE:CE2	2.37	0.59
8:G:133:GLY:O	8:G:137:LYS:HG3	2.02	0.59
12:K:19:ALA:HB2	12:K:80:VAL:CG1	2.31	0.59
14:M:77:ASN:O	14:M:80:ARG:HB3	2.03	0.59
16:O:27:VAL:O	16:O:30:ALA:HB3	2.03	0.59
18:Q:12:SER:HB3	18:Q:20:THR:CB	2.33	0.59
1:A:33:A:H2'	1:A:34:C:C6	2.37	0.59
1:A:184:G:C4'	1:A:224:C:H4'	2.32	0.59
1:A:1230:C:O2'	14:M:126:LYS:HG2	2.03	0.59
1:A:1413:A:O2'	1:A:1414:U:H5'	2.02	0.59
7:F:4:TYR:CZ	7:F:72:VAL:HG21	2.38	0.59
13:L:41:ARG:HH22	13:L:57:LYS:HE2	1.67	0.59
13:L:89:ARG:CZ	13:L:97:ARG:HG2	2.32	0.59
18:Q:96:GLN:HG2	18:Q:96:GLN:O	2.01	0.59
19:R:55:ARG:HH11	19:R:55:ARG:CB	2.02	0.59
23:W:20:ALA:HB1	23:W:36:ILE:HD12	1.84	0.59
1:A:105:G:H2'	1:A:106:C:C6	2.38	0.59
1:A:420:U:H2'	1:A:422:C:C5	2.38	0.59
1:A:1152:A:H4'	11:J:17:ASP:OD2	2.03	0.59
1:A:1314:C:OP2	20:S:6:LYS:HG2	2.02	0.59
3:B:187:LEU:HD11	3:B:204:ASN:O	2.01	0.59
5:D:126:ILE:HG22	5:D:127:THR:N	2.17	0.59
7:F:14:LEU:HA	7:F:18:GLN:HE21	1.67	0.59
12:K:33:THR:HG22	12:K:34:ASP:O	2.03	0.59
16:O:40:SER:O	16:O:44:LYS:HG2	2.02	0.59
23:W:70:ARG:C	23:W:71:LYS:HD2	2.23	0.59
1:A:270:A:H2'	1:A:271:C:C6	2.38	0.59
1:A:644:G:C5	1:A:645:C:C5	2.90	0.59
1:A:792:A:H4'	1:A:793:U:H5''	1.85	0.59
1:A:1330:U:C2'	1:A:1331:G:H5'	2.33	0.59
3:B:17:PHE:CD1	3:B:18:GLY:N	2.71	0.59
5:D:140:VAL:HG11	5:D:146:ILE:HD11	1.84	0.59
8:G:65:ALA:O	8:G:69:VAL:HG23	2.02	0.59
14:M:16:ASP:OD1	14:M:17:VAL:N	2.34	0.59
16:O:64:ARG:NH1	16:O:64:ARG:HB2	2.18	0.59
1:A:130:A:OP2	1:A:190(E):U:H2'	2.03	0.59
1:A:260:G:H2'	1:A:261:U:C6	2.37	0.59
1:A:489:C:H2'	1:A:490:G:H8	1.68	0.59
1:A:791:G:H2'	1:A:792:A:C5'	2.32	0.59
1:A:1064:G:H4'	1:A:1065:U:H5'	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1133:G:H2'	1:A:1134:G:C8	2.35	0.59
1:A:1351:U:H2'	1:A:1352:C:H6	1.66	0.59
3:B:7:VAL:HG11	3:B:224:GLN:NE2	2.18	0.59
4:C:137:ALA:HA	4:C:140:ARG:NH1	2.18	0.59
10:I:111:ARG:HD3	10:I:112:LYS:C	2.23	0.59
21:T:72:LEU:HD11	21:T:80:ARG:HD2	1.85	0.59
1:A:566:G:HO3'	1:A:567:G:C5'	2.12	0.59
1:A:613:C:H2'	1:A:614:A:H8	1.68	0.59
1:A:797:C:O2'	1:A:798:G:H5'	2.02	0.59
1:A:1004:A:H5''	1:A:1025:U:O4	2.03	0.59
1:A:1054:C:OP1	1:A:1197:G:OP1	2.21	0.59
4:C:129:ALA:HB3	4:C:132:ARG:HD2	1.85	0.59
4:C:179:ARG:HD2	4:C:206:GLU:HG2	1.85	0.59
5:D:25:ARG:C	5:D:27:TYR:H	2.04	0.59
8:G:18:TYR:CD2	8:G:59:LEU:HD22	2.38	0.59
8:G:78:ARG:HG2	8:G:80:VAL:HG23	1.85	0.59
1:A:80:G:H2'	1:A:81:U:H5''	1.84	0.58
1:A:309:G:O2'	1:A:310:G:H5'	2.03	0.58
1:A:1423:G:H2'	1:A:1424:C:H6	1.68	0.58
9:H:86:ILE:HD13	9:H:133:LEU:HD22	1.85	0.58
14:M:54:VAL:O	14:M:58:GLU:HG2	2.02	0.58
19:R:53:ARG:HH11	19:R:60:GLY:N	2.01	0.58
1:A:1323:G:H2'	1:A:1324:A:C8	2.38	0.58
4:C:156:ARG:HB2	4:C:196:LEU:HD21	1.85	0.58
8:G:79:ARG:HG2	8:G:84:ASN:OD1	2.03	0.58
10:I:18:PHE:HD1	10:I:62:TYR:HD2	1.49	0.58
11:J:45:ARG:HB2	11:J:65:LEU:H	1.67	0.58
16:O:87:ILE:HG22	16:O:88:ARG:N	2.17	0.58
1:A:778:G:O2'	1:A:779:C:H5'	2.03	0.58
1:A:972:C:O5'	11:J:57:LYS:HD2	2.02	0.58
1:A:1005:A:H2'	1:A:1006:C:O4'	2.02	0.58
1:A:1319:A:H5'	1:A:1320:C:OP1	2.03	0.58
3:B:15:VAL:CG1	3:B:209:ARG:HG3	2.33	0.58
4:C:177:THR:HG23	4:C:177:THR:O	2.03	0.58
4:C:188:LEU:HD11	4:C:195:VAL:HG13	1.85	0.58
10:I:19:LEU:HB3	10:I:59:PHE:CE2	2.38	0.58
1:A:685:G:O2'	1:A:686:U:H5'	2.03	0.58
11:J:15:THR:O	11:J:19:SER:HB3	2.04	0.58
17:P:81:ARG:HG3	17:P:83:GLU:HG2	1.84	0.58
1:A:175:C:H2'	1:A:176:C:H6	1.68	0.58
1:A:401:C:O2'	1:A:402:G:H5'	2.04	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:G:85:TYR:HD1	8:G:154:TYR:CE1	2.18	0.58
13:L:55:VAL:HG12	13:L:56:ALA:H	1.68	0.58
14:M:9:ILE:HD12	14:M:9:ILE:N	2.18	0.58
1:A:130:A:C8	18:Q:63:ARG:HG3	2.38	0.58
1:A:489:C:H2'	1:A:490:G:C8	2.38	0.58
3:B:102:LEU:HD21	3:B:162:ILE:HD12	1.85	0.58
7:F:91:VAL:HG12	7:F:92:LYS:O	2.04	0.58
7:F:91:VAL:HG13	19:R:72:ARG:NH2	2.19	0.58
12:K:95:ILE:HG21	12:K:108:ILE:HD13	1.85	0.58
14:M:8:GLU:HG3	14:M:22:ILE:HG23	1.84	0.58
17:P:67:THR:HG22	17:P:68:ASP:N	2.18	0.58
19:R:88:LYS:OXT	19:R:88:LYS:HG2	2.02	0.58
20:S:16:LEU:O	20:S:19:VAL:HG12	2.03	0.58
1:A:173:U:C5'	1:A:197:A:H5'	2.33	0.58
1:A:437:U:O2'	1:A:438:G:H5'	2.03	0.58
1:A:457:C:H2'	1:A:458:C:C6	2.37	0.58
1:A:760:G:O6	18:Q:105:ALA:HB2	2.03	0.58
1:A:953:G:H2'	1:A:954:G:O4'	2.04	0.58
1:A:975:A:H4'	1:A:976:G:OP2	2.03	0.58
11:J:6:ILE:HG13	11:J:71:LEU:O	2.03	0.58
12:K:40:ILE:HG23	12:K:75:TYR:CD2	2.38	0.58
14:M:32:GLU:O	14:M:35:GLU:HB3	2.04	0.58
15:N:22:THR:O	15:N:23:ARG:HB2	2.02	0.58
18:Q:97:SER:OG	18:Q:98:LEU:N	2.37	0.58
23:W:25:LYS:HA	23:W:31:GLU:CB	2.34	0.58
1:A:518:C:H5''	1:A:519:C:C6	2.38	0.58
1:A:1300:G:O2'	1:A:1301:U:H6	1.87	0.58
1:A:1483:A:H2'	1:A:1484:C:H5'	1.84	0.58
4:C:110:ASN:ND2	4:C:140:ARG:HB3	2.19	0.58
9:H:113:SER:HB2	9:H:134:ILE:HD11	1.85	0.58
20:S:5:LEU:O	20:S:6:LYS:CB	2.51	0.58
20:S:41:VAL:HG22	20:S:44:MET:HE3	1.85	0.58
1:A:1062:U:H2'	1:A:1063:C:C6	2.38	0.58
4:C:70:VAL:O	4:C:106:VAL:HG23	2.04	0.58
8:G:78:ARG:HD2	8:G:156:TRP:CE3	2.39	0.58
10:I:78:LYS:HD3	10:I:101:PHE:HD2	1.68	0.58
1:A:1193:G:O2'	1:A:1194:U:H5'	2.04	0.58
1:A:1256:A:H62	1:A:1278:U:H1'	1.68	0.58
3:B:74:LYS:HZ1	3:B:206:ASP:HB2	1.68	0.58
10:I:121:ARG:HG2	10:I:121:ARG:HH11	1.69	0.58
11:J:22:LYS:HE2	11:J:90:LEU:HB2	1.86	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:J:63:PHE:CZ	15:N:45:ARG:HG3	2.39	0.58
11:J:92:THR:HG22	11:J:92:THR:O	2.03	0.58
23:W:45:ILE:HG12	23:W:70:ARG:HH11	1.68	0.58
1:A:190:C:H2'	1:A:190(A):C:C6	2.38	0.57
1:A:501:C:H2'	1:A:502:G:C8	2.39	0.57
1:A:1207:G:O2'	1:A:1208:C:H5'	2.04	0.57
4:C:47:LEU:H	4:C:47:LEU:CD1	2.17	0.57
4:C:94:LEU:HD22	4:C:95:THR:CG2	2.33	0.57
4:C:147:LYS:HE2	4:C:205:GLY:HA2	1.85	0.57
5:D:62:GLN:HA	5:D:62:GLN:HE21	1.69	0.57
6:E:31:LEU:HD22	6:E:43:LEU:CD2	2.33	0.57
14:M:122:LYS:O	14:M:123:ALA:HB3	2.04	0.57
1:A:170:U:O2'	1:A:171:A:H5'	2.04	0.57
3:B:87:ARG:NH2	3:B:220:ASP:OD1	2.35	0.57
4:C:110:ASN:HD21	4:C:140:ARG:HB3	1.69	0.57
14:M:69:GLU:O	14:M:72:ALA:HB3	2.04	0.57
20:S:18:LYS:O	20:S:22:LEU:HG	2.04	0.57
1:A:448:A:C4	1:A:487:A:C2	2.92	0.57
1:A:807:A:H2'	1:A:808:C:C6	2.38	0.57
1:A:881:G:P	13:L:12:ARG:HH22	2.28	0.57
1:A:959:A:H3'	1:A:960:U:H5''	1.85	0.57
1:A:1402:C:O2	1:A:1500:A:N1	2.37	0.57
4:C:86:VAL:O	4:C:89:GLU:HB3	2.04	0.57
6:E:8:GLU:HG3	6:E:34:VAL:HG22	1.86	0.57
6:E:76:ILE:HD13	6:E:142:LEU:HD11	1.86	0.57
20:S:16:LEU:O	20:S:20:LEU:HG	2.04	0.57
1:A:502:G:H2'	1:A:503:C:H6	1.70	0.57
1:A:542:G:H5'	5:D:41:GLY:HA3	1.85	0.57
1:A:812:C:O2'	1:A:813:U:P	2.62	0.57
1:A:1085:U:O3'	1:A:1086:U:H6	1.87	0.57
3:B:98:LEU:HG	3:B:101:MET:HE2	1.85	0.57
3:B:215:LEU:O	3:B:219:VAL:HG23	2.04	0.57
4:C:108:ASN:HD21	4:C:111:LEU:HG	1.67	0.57
10:I:93:ARG:CZ	10:I:97:LYS:HZ2	2.17	0.57
1:A:401:C:H2'	1:A:402:G:H8	1.68	0.57
1:A:543:C:O2'	1:A:544:G:H5'	2.04	0.57
1:A:628:G:H2'	1:A:629:G:C8	2.39	0.57
1:A:743:U:H2'	1:A:744:C:H6	1.68	0.57
3:B:130:ARG:HB3	3:B:134:GLU:OE1	2.04	0.57
3:B:221:LEU:O	3:B:221:LEU:HD13	2.03	0.57
8:G:75:VAL:CG1	8:G:86:GLN:HB3	2.34	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:H:6:ILE:HG13	9:H:31:PHE:HE2	1.67	0.57
10:I:112:LYS:C	10:I:112:LYS:HD3	2.25	0.57
16:O:3:ILE:HD13	16:O:34:LEU:HD22	1.87	0.57
19:R:47:THR:HA	19:R:83:GLU:CB	2.33	0.57
1:A:363:A:O2'	1:A:364:A:H5'	2.04	0.57
1:A:761:G:H5''	18:Q:102:GLY:HA3	1.85	0.57
1:A:961:U:C2'	1:A:962:C:H5'	2.35	0.57
1:A:1413:A:H2'	1:A:1414:U:C6	2.40	0.57
4:C:155:GLY:O	4:C:156:ARG:HB2	2.05	0.57
5:D:62:GLN:NE2	5:D:65:ARG:NH1	2.51	0.57
17:P:34:GLU:HG2	17:P:35:LYS:O	2.04	0.57
1:A:80:G:C2'	1:A:81:U:H5''	2.34	0.57
1:A:109:A:H2'	1:A:326:G:N2	2.19	0.57
10:I:106:ALA:O	10:I:108:VAL:HG23	2.04	0.57
16:O:87:ILE:CG2	16:O:88:ARG:N	2.67	0.57
19:R:39:VAL:HG13	19:R:40:LEU:N	2.19	0.57
20:S:13:ASP:O	20:S:17:GLU:HG2	2.05	0.57
23:W:15:GLU:N	23:W:23:ARG:HB2	2.19	0.57
1:A:266:G:C8	1:A:266:G:H5''	2.40	0.57
1:A:566:G:O3'	1:A:567:G:H5'	2.05	0.57
1:A:818:G:C2'	1:A:819:A:H5''	2.34	0.57
1:A:883:C:O2'	1:A:884:U:H5'	2.05	0.57
1:A:939:G:H2'	1:A:940:C:H6	1.69	0.57
1:A:1222:G:OP1	20:S:77:THR:HG21	2.05	0.57
3:B:98:LEU:HG	3:B:101:MET:CE	2.35	0.57
4:C:188:LEU:HD13	4:C:195:VAL:HG13	1.86	0.57
5:D:55:ALA:O	5:D:59:ARG:HG2	2.05	0.57
8:G:108:ALA:O	8:G:119:ARG:HB3	2.05	0.57
12:K:74:ALA:C	12:K:76:GLY:H	2.08	0.57
20:S:44:MET:O	20:S:47:HIS:HB2	2.05	0.57
1:A:1510:U:H2'	1:A:1511:G:C8	2.39	0.57
8:G:59:LEU:HD11	8:G:63:LYS:HE3	1.87	0.57
9:H:29:SER:OG	9:H:32:LYS:HE3	2.04	0.57
9:H:95:VAL:CG1	9:H:133:LEU:HD12	2.34	0.57
14:M:37:THR:HG23	14:M:55:ARG:HB3	1.87	0.57
1:A:103:C:P	21:T:17:ARG:HH11	2.28	0.57
1:A:370:C:C2'	1:A:371:G:H5'	2.35	0.57
1:A:959:A:C2	1:A:1222:G:O4'	2.58	0.57
10:I:9:ARG:HG2	10:I:14:VAL:HG22	1.86	0.57
18:Q:76:LEU:C	18:Q:76:LEU:HD23	2.25	0.57
1:A:620:C:C2	5:D:135:LEU:HD13	2.40	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:920:U:H2'	1:A:921:U:C6	2.40	0.56
1:A:1021:G:C2	1:A:1022:G:H1'	2.40	0.56
1:A:1300:G:HO2'	1:A:1301:U:H6	1.49	0.56
1:A:1329:A:P	14:M:28:ALA:HB3	2.45	0.56
1:A:1364:U:O2'	1:A:1365:G:H5'	2.04	0.56
3:B:98:LEU:HD23	3:B:98:LEU:H	1.70	0.56
3:B:231:GLU:HB2	3:B:232:PRO:HD2	1.86	0.56
4:C:10:PHE:CE2	4:C:178:LEU:HD13	2.39	0.56
4:C:26:LYS:HD3	4:C:26:LYS:N	2.20	0.56
4:C:36:ASP:HA	4:C:39:ILE:HD12	1.87	0.56
11:J:63:PHE:CE1	15:N:45:ARG:HG3	2.40	0.56
14:M:74:VAL:O	14:M:77:ASN:HB2	2.04	0.56
19:R:87:ARG:HG2	19:R:87:ARG:HH11	1.70	0.56
1:A:1132:C:H2'	1:A:1133:G:H8	1.67	0.56
3:B:7:VAL:CG1	3:B:224:GLN:HE22	2.18	0.56
9:H:91:ARG:HG3	13:L:7:ILE:HG13	1.87	0.56
14:M:81:LEU:H	14:M:81:LEU:HD22	1.66	0.56
1:A:551:U:H2'	1:A:552:U:H6	1.70	0.56
1:A:639:G:O2'	1:A:640:A:H5'	2.06	0.56
1:A:1245:A:H2'	1:A:1246:C:C6	2.41	0.56
3:B:42:ILE:HD12	3:B:203:GLY:HA2	1.88	0.56
3:B:103:THR:HB	3:B:176:GLU:OE1	2.06	0.56
3:B:213:LEU:HD23	3:B:213:LEU:C	2.24	0.56
4:C:59:ARG:NH1	4:C:97:LYS:HE3	2.20	0.56
4:C:130:VAL:O	4:C:134:ILE:HG13	2.05	0.56
4:C:154:SER:HB3	4:C:197:GLY:H	1.70	0.56
5:D:30:LYS:C	5:D:32:ALA:N	2.59	0.56
9:H:92:ARG:HH11	9:H:92:ARG:CG	2.18	0.56
11:J:34:VAL:C	11:J:36:GLY:H	2.08	0.56
12:K:14:VAL:O	12:K:15:ALA:HB3	2.05	0.56
12:K:80:VAL:HG23	12:K:103:LEU:HB3	1.87	0.56
12:K:110:ASP:OD2	19:R:88:LYS:NZ	2.30	0.56
1:A:281:G:O2'	1:A:282:A:OP2	2.18	0.56
1:A:1459:C:O2'	1:A:1460:A:H5'	2.05	0.56
6:E:151:LEU:HD11	9:H:77:GLU:OE2	2.05	0.56
10:I:99:LEU:HB2	10:I:101:PHE:HE1	1.70	0.56
13:L:42:THR:CG2	13:L:52:LEU:HB3	2.35	0.56
15:N:57:ARG:HG2	15:N:58:LYS:H	1.70	0.56
16:O:10:LYS:HE3	16:O:14:GLU:HB2	1.86	0.56
1:A:285:G:O2'	1:A:286:G:H5'	2.06	0.56
1:A:865:A:H5'	1:A:1078:U:O4	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:992:U:O2'	1:A:993:G:OP2	2.23	0.56
1:A:1309:G:N7	14:M:99:ARG:NH2	2.54	0.56
3:B:178:ARG:HG3	3:B:178:ARG:NH1	2.19	0.56
17:P:20:VAL:HG13	17:P:32:TYR:HB2	1.86	0.56
1:A:1085:U:O3'	1:A:1086:U:C6	2.59	0.56
3:B:140:HIS:CA	3:B:143:GLU:HG2	2.35	0.56
3:B:144:ARG:HG3	3:B:145:LEU:N	2.19	0.56
3:B:178:ARG:O	9:H:71:GLY:HA2	2.06	0.56
6:E:12:LEU:HD13	6:E:31:LEU:HB2	1.87	0.56
9:H:28:ALA:HB2	9:H:59:LEU:HG	1.86	0.56
11:J:32:ALA:HB2	11:J:76:ASN:CB	2.27	0.56
11:J:40:LEU:HB3	11:J:69:ASN:HB2	1.87	0.56
11:J:46:ARG:HA	11:J:63:PHE:O	2.06	0.56
11:J:71:LEU:O	11:J:71:LEU:HD13	2.05	0.56
15:N:53:LEU:HB3	15:N:56:VAL:HG21	1.86	0.56
1:A:392:G:H2'	1:A:393:A:C8	2.41	0.56
1:A:580:U:H2'	1:A:581:G:O4'	2.05	0.56
1:A:628:G:H2'	1:A:629:G:H8	1.71	0.56
1:A:1202:G:C2'	1:A:1203:C:H5'	2.35	0.56
1:A:1329:A:O2'	1:A:1330:U:H5'	2.05	0.56
3:B:42:ILE:CD1	3:B:203:GLY:HA2	2.35	0.56
3:B:80:ILE:HD11	3:B:208:ILE:HG23	1.87	0.56
4:C:15:THR:HG21	4:C:179:ARG:HA	1.88	0.56
18:Q:66:SER:OG	18:Q:69:LYS:HD3	2.05	0.56
20:S:18:LYS:O	20:S:18:LYS:HG2	2.04	0.56
1:A:627:G:O2'	1:A:628:G:H5'	2.05	0.56
1:A:1136:U:H5''	1:A:1137:C:OP2	2.06	0.56
1:A:1478:C:H2'	1:A:1479:C:C6	2.40	0.56
21:T:93:GLU:HA	21:T:93:GLU:OE2	2.05	0.56
1:A:255:G:H1'	18:Q:16:GLN:NE2	2.20	0.56
1:A:352:C:H4'	1:A:354:G:OP1	2.05	0.56
1:A:390:C:H2'	1:A:391:G:H8	1.70	0.56
1:A:972:C:OP1	11:J:57:LYS:NZ	2.29	0.56
1:A:1116:C:H2'	1:A:1117:G:C5'	2.32	0.56
4:C:121:ALA:O	4:C:125:GLU:HG3	2.06	0.56
4:C:172:ARG:HB3	4:C:172:ARG:HH11	1.71	0.56
5:D:64:LEU:O	5:D:64:LEU:HD23	2.06	0.56
14:M:52:GLU:HG2	14:M:55:ARG:HH21	1.70	0.56
19:R:86:VAL:O	19:R:87:ARG:CB	2.52	0.56
1:A:555:C:H2'	1:A:556:C:C6	2.41	0.56
1:A:640:A:O2'	1:A:641:U:H5'	2.06	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1064:G:H4'	1:A:1065:U:H5''	1.87	0.56
4:C:47:LEU:H	4:C:47:LEU:HD12	1.71	0.56
5:D:16:GLY:O	5:D:33:MET:CE	2.54	0.56
8:G:149:ARG:HD2	12:K:59:TYR:CE1	2.41	0.56
13:L:46:LYS:HE3	13:L:47:LYS:HE3	1.88	0.56
19:R:27:GLY:O	19:R:29:PHE:HD2	1.89	0.56
23:W:61:ASP:OD2	23:W:63:THR:HB	2.06	0.56
1:A:37:U:O2'	1:A:38:G:H5'	2.06	0.55
1:A:112:G:H4'	1:A:389:A:H5''	1.88	0.55
1:A:650:G:O2'	1:A:651:C:H5'	2.05	0.55
1:A:662:G:H2'	1:A:663:A:C8	2.41	0.55
4:C:134:ILE:O	4:C:138:VAL:HG23	2.07	0.55
4:C:167:TRP:O	4:C:168:ALA:HB3	2.06	0.55
7:F:30:LEU:HD11	7:F:63:TYR:CD2	2.41	0.55
7:F:100:ASN:HD22	19:R:23:LYS:CG	2.14	0.55
12:K:48:ILE:HD11	12:K:64:ALA:CA	2.36	0.55
1:A:52:G:O2'	1:A:53:A:H5'	2.07	0.55
1:A:190(H):G:O2'	1:A:190(I):G:H5'	2.06	0.55
1:A:972:C:P	11:J:57:LYS:HD2	2.47	0.55
1:A:1525:G:OP1	12:K:120:ARG:NH2	2.38	0.55
9:H:1:MET:HG2	9:H:2:LEU:N	2.21	0.55
11:J:7:LYS:HG3	11:J:71:LEU:HD23	1.89	0.55
17:P:20:VAL:CG1	17:P:32:TYR:HB2	2.36	0.55
20:S:23:ASN:HA	20:S:26:GLY:O	2.06	0.55
1:A:437:U:O2'	5:D:123:HIS:CD2	2.60	0.55
1:A:440:A:H5'	1:A:442:C:OP2	2.06	0.55
3:B:17:PHE:HD1	3:B:17:PHE:C	2.10	0.55
3:B:118:LEU:HD11	3:B:141:GLU:HB3	1.88	0.55
4:C:52:LEU:HD23	4:C:52:LEU:H	1.71	0.55
11:J:8:LEU:HD22	11:J:94:VAL:CG1	2.36	0.55
13:L:53:ARG:N	13:L:53:ARG:HD2	2.21	0.55
1:A:26:A:N6	1:A:558:G:H1'	2.21	0.55
1:A:92:C:O2'	1:A:93:G:H5'	2.07	0.55
1:A:148:G:H2'	1:A:149:A:C8	2.41	0.55
1:A:620:C:C6	5:D:135:LEU:HD13	2.41	0.55
1:A:1275:A:H2'	1:A:1276:G:O4'	2.07	0.55
4:C:47:LEU:HD12	4:C:47:LEU:N	2.21	0.55
5:D:25:ARG:C	5:D:27:TYR:N	2.60	0.55
11:J:10:GLY:N	11:J:16:LEU:HD11	2.22	0.55
21:T:100:ILE:HG22	21:T:102:GLY:H	1.72	0.55
1:A:1138:G:C6	1:A:1140:C:H1'	2.42	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1152:A:H5''	11:J:13:HIS:HD2	1.72	0.55
1:A:1236:A:H2'	1:A:1237:C:C6	2.41	0.55
1:A:1411:C:H4'	13:L:43:VAL:HG13	1.87	0.55
3:B:100:GLY:O	3:B:104:ASN:N	2.34	0.55
7:F:61:LEU:O	7:F:62:TRP:HB2	2.06	0.55
11:J:44:VAL:HG12	11:J:45:ARG:N	2.22	0.55
21:T:67:ALA:HA	21:T:73:HIS:H	1.71	0.55
1:A:1131:G:H1	1:A:1143:G:N2	2.04	0.55
1:A:1229:A:H2'	1:A:1230:C:H6	1.70	0.55
4:C:131:ARG:HG2	4:C:135:LYS:HE3	1.88	0.55
6:E:110:LEU:O	6:E:113:ALA:HB3	2.07	0.55
8:G:41:ARG:O	8:G:42:ILE:C	2.44	0.55
12:K:33:THR:HG21	12:K:37:GLY:CA	2.36	0.55
13:L:38:THR:HB	13:L:57:LYS:HB2	1.89	0.55
16:O:36:ILE:HD13	16:O:60:VAL:HG22	1.87	0.55
21:T:57:ARG:HE	21:T:100:ILE:HG21	1.72	0.55
1:A:253:U:H2'	1:A:254:G:H8	1.70	0.55
1:A:373:A:O2'	1:A:374:A:H5'	2.06	0.55
1:A:1191:A:P	4:C:3:ASN:ND2	2.80	0.55
1:A:1461:G:O2'	1:A:1462:G:H5'	2.07	0.55
5:D:24:GLU:O	5:D:25:ARG:HB3	2.05	0.55
9:H:80:ILE:O	9:H:80:ILE:HG22	2.07	0.55
9:H:119:LEU:CD1	9:H:124:ALA:HA	2.35	0.55
13:L:6:THR:HG1	13:L:9:GLN:HG3	1.71	0.55
1:A:478:A:O2'	1:A:479:C:H5'	2.06	0.55
1:A:761:G:H4'	18:Q:102:GLY:C	2.27	0.55
7:F:69:GLU:HA	7:F:72:VAL:CG2	2.37	0.55
10:I:112:LYS:HD3	10:I:112:LYS:O	2.07	0.55
11:J:82:ILE:O	11:J:86:MET:HB2	2.07	0.55
20:S:12:ASP:H	20:S:38:SER:HB3	1.72	0.55
1:A:115:G:H1'	1:A:116:A:N7	2.22	0.55
1:A:627:G:H2'	1:A:628:G:C8	2.40	0.55
1:A:952:U:H1'	14:M:126:LYS:O	2.06	0.55
4:C:58:GLU:H	4:C:65:ALA:HB3	1.70	0.55
4:C:154:SER:OG	4:C:196:LEU:HA	2.05	0.55
5:D:70:ILE:HD11	5:D:100:ARG:NH1	2.22	0.55
5:D:204:ILE:HD13	6:E:97:GLY:O	2.06	0.55
12:K:78:GLN:O	12:K:103:LEU:HA	2.07	0.55
17:P:20:VAL:HG11	17:P:32:TYR:CB	2.37	0.55
18:Q:69:LYS:C	18:Q:70:ARG:HD2	2.27	0.55
21:T:44:ALA:CB	21:T:88:VAL:HG13	2.37	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:537:G:OP1	13:L:113:ARG:NH2	2.39	0.55
14:M:17:VAL:O	14:M:20:THR:HB	2.06	0.55
14:M:63:THR:HG22	14:M:64:TRP:CD1	2.42	0.55
23:W:58:THR:CG2	23:W:60:TYR:HB2	2.37	0.55
1:A:606:G:H2'	1:A:631:G:N2	2.22	0.54
1:A:645:C:O2'	1:A:646:U:H5'	2.07	0.54
1:A:1325:C:O3'	22:V:17:THR:HG21	2.07	0.54
4:C:14:ILE:CG2	4:C:15:THR:H	2.15	0.54
4:C:172:ARG:HB3	4:C:172:ARG:NH1	2.23	0.54
5:D:62:GLN:HE22	5:D:65:ARG:HH12	1.53	0.54
10:I:53:VAL:O	10:I:54:ASP:HB2	2.06	0.54
23:W:44:TYR:O	23:W:45:ILE:HB	2.07	0.54
1:A:522:C:O2'	1:A:523:A:H5'	2.08	0.54
1:A:543:C:C2'	1:A:544:G:H5'	2.37	0.54
1:A:1262:C:N4	1:A:1273:G:H1	2.05	0.54
3:B:17:PHE:CD1	3:B:17:PHE:C	2.81	0.54
4:C:83:ARG:HA	4:C:86:VAL:CG2	2.29	0.54
5:D:98:GLU:HG2	5:D:189:PRO:HG3	1.89	0.54
8:G:21:VAL:HG23	8:G:22:LEU:H	1.71	0.54
14:M:125:ARG:HG3	14:M:125:ARG:NH1	2.23	0.54
17:P:21:VAL:O	17:P:33:ILE:HB	2.06	0.54
21:T:54:LYS:HA	21:T:57:ARG:CD	2.37	0.54
23:W:15:GLU:HG3	23:W:17:LEU:HG	1.90	0.54
1:A:707:C:H4'	12:K:20:TYR:CD1	2.42	0.54
1:A:998:G:O2'	1:A:999:C:H5'	2.07	0.54
3:B:184:VAL:CG1	3:B:197:VAL:HA	2.38	0.54
10:I:85:LEU:HB3	10:I:92:TYR:HD1	1.72	0.54
12:K:108:ILE:HB	19:R:87:ARG:O	2.07	0.54
18:Q:3:LYS:HB3	18:Q:61:GLU:HB3	1.88	0.54
19:R:53:ARG:C	19:R:55:ARG:H	2.09	0.54
1:A:818:G:C3'	1:A:819:A:C5'	2.84	0.54
3:B:23:ARG:NH1	3:B:23:ARG:C	2.60	0.54
3:B:181:PHE:CD2	9:H:70:GLN:HB3	2.43	0.54
4:C:123:GLN:HE22	4:C:140:ARG:HH22	1.54	0.54
4:C:175:LEU:HD11	4:C:201:TYR:CE2	2.43	0.54
7:F:80:ARG:HG2	7:F:80:ARG:HH11	1.73	0.54
10:I:43:ALA:HA	10:I:74:ILE:HD13	1.88	0.54
16:O:41:GLU:OE2	16:O:41:GLU:HA	2.07	0.54
1:A:358:U:H2'	1:A:359:U:H6	1.72	0.54
1:A:1220:G:O2'	1:A:1221:G:H5'	2.08	0.54
1:A:1231:G:H4'	10:I:126:SER:HB3	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1264:C:H2'	1:A:1265:G:C8	2.42	0.54
8:G:138:LYS:HD3	8:G:138:LYS:C	2.28	0.54
16:O:87:ILE:O	16:O:88:ARG:CB	2.56	0.54
19:R:38:GLU:OE1	19:R:38:GLU:N	2.37	0.54
20:S:10:PHE:CD2	20:S:10:PHE:C	2.81	0.54
21:T:39:LYS:O	21:T:43:LEU:HG	2.07	0.54
21:T:56:MET:CE	21:T:88:VAL:HG11	2.38	0.54
1:A:818:G:H3'	1:A:819:A:C5'	2.38	0.54
1:A:1090:U:O2'	1:A:1091:U:H5'	2.08	0.54
1:A:1106:G:H5''	4:C:172:ARG:HG2	1.90	0.54
1:A:1163:C:H2'	1:A:1164:G:H8	1.72	0.54
1:A:1195:C:H3'	1:A:1196:U:C5'	2.37	0.54
3:B:47:THR:HA	3:B:202:PRO:HG2	1.88	0.54
6:E:11:ILE:HB	6:E:31:LEU:HB3	1.88	0.54
14:M:78:ILE:O	14:M:81:LEU:HD23	2.06	0.54
20:S:22:LEU:CD2	20:S:28:LYS:HD2	2.38	0.54
1:A:818:G:H3'	1:A:819:A:H5'	1.90	0.54
1:A:1238:A:N7	1:A:1303:C:H1'	2.22	0.54
1:A:1370:G:O2'	1:A:1371:G:H5'	2.08	0.54
1:A:1380:U:O2'	1:A:1381:U:OP2	2.24	0.54
8:G:146:GLU:C	8:G:148:ASN:N	2.61	0.54
11:J:79:ARG:HH11	11:J:79:ARG:HA	1.71	0.54
18:Q:92:ARG:O	18:Q:95:TYR:HB2	2.07	0.54
20:S:22:LEU:C	20:S:24:ALA:H	2.11	0.54
20:S:53:ASN:HD22	20:S:53:ASN:N	2.05	0.54
1:A:192:U:O4'	21:T:103:GLY:HA2	2.08	0.54
1:A:308:C:H2'	1:A:309:G:H8	1.73	0.54
1:A:505:G:H2'	1:A:506:G:C8	2.43	0.54
1:A:1158:C:C5'	3:B:133:LYS:HE3	2.37	0.54
6:E:79:GLU:OE1	6:E:79:GLU:N	2.41	0.54
6:E:93:PRO:HG2	9:H:105:ARG:NH2	2.22	0.54
7:F:94:GLN:HB2	19:R:32:ARG:HD3	1.89	0.54
11:J:60:ARG:O	11:J:61:GLU:O	2.26	0.54
1:A:761:G:H4'	18:Q:103:GLY:H	1.73	0.54
1:A:1064:G:C4'	1:A:1065:U:H5'	2.38	0.54
1:A:1157:A:H4'	1:A:1158:C:O5'	2.08	0.54
3:B:197:VAL:HB	3:B:200:ILE:CG1	2.38	0.54
4:C:12:LEU:HD11	15:N:51:GLY:HA2	1.90	0.54
8:G:75:VAL:HG11	8:G:86:GLN:HB3	1.89	0.54
9:H:1:MET:HG2	9:H:2:LEU:H	1.73	0.54
17:P:22:THR:CA	17:P:33:ILE:HD12	2.38	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:267:C:OP2	18:Q:67:LYS:HD2	2.08	0.54
1:A:268:C:O2'	1:A:269:C:H5'	2.08	0.54
1:A:812:C:O2'	1:A:813:U:OP2	2.25	0.54
3:B:69:LEU:HB3	3:B:162:ILE:HG12	1.89	0.54
4:C:134:ILE:HG22	4:C:168:ALA:HB3	1.89	0.54
4:C:195:VAL:HG12	4:C:196:LEU:N	2.22	0.54
7:F:26:ILE:HG21	7:F:63:TYR:CE2	2.43	0.54
10:I:64:THR:HG22	10:I:65:VAL:N	2.22	0.54
12:K:18:ARG:HD3	12:K:33:THR:HG22	1.89	0.54
1:A:481:G:O2'	1:A:482:A:C8	2.55	0.53
1:A:792:A:H4'	1:A:793:U:C5'	2.39	0.53
1:A:825:G:O2'	1:A:826:C:H5'	2.08	0.53
1:A:1117:G:H5'	1:A:1117:G:H8	1.73	0.53
5:D:176:LEU:O	5:D:176:LEU:HD23	2.07	0.53
7:F:36:ARG:HG2	7:F:36:ARG:HH11	1.72	0.53
18:Q:44:ALA:CB	18:Q:59:ILE:HD11	2.38	0.53
22:V:17:THR:O	22:V:22:ARG:HD3	2.08	0.53
23:W:58:THR:HG22	23:W:60:TYR:HB2	1.90	0.53
1:A:129(A):G:H4'	1:A:130:A:O5'	2.08	0.53
1:A:942:G:O2'	1:A:943:U:H5'	2.07	0.53
3:B:181:PHE:HD2	9:H:70:GLN:HB3	1.71	0.53
4:C:47:LEU:HD23	4:C:68:VAL:HG11	1.89	0.53
5:D:70:ILE:HD11	5:D:100:ARG:NE	2.22	0.53
13:L:24:VAL:O	13:L:24:VAL:HG12	2.08	0.53
13:L:27:LEU:C	13:L:29:GLY:N	2.61	0.53
17:P:20:VAL:HG13	17:P:21:VAL:N	2.24	0.53
18:Q:96:GLN:O	18:Q:96:GLN:CG	2.56	0.53
20:S:64:GLU:O	20:S:67:VAL:HG23	2.08	0.53
21:T:42:GLN:NE2	21:T:42:GLN:C	2.62	0.53
1:A:16:A:C2'	1:A:17:U:H5'	2.38	0.53
1:A:1466:C:H2'	1:A:1467:G:O4'	2.08	0.53
3:B:77:ALA:CB	3:B:211:ILE:HD13	2.15	0.53
6:E:15:ARG:HD3	6:E:26:PHE:CB	2.38	0.53
6:E:102:ALA:HB1	6:E:120:THR:HG21	1.90	0.53
7:F:30:LEU:HA	7:F:75:LEU:HD21	1.89	0.53
10:I:93:ARG:NH2	10:I:97:LYS:NZ	2.55	0.53
1:A:403:C:H2'	1:A:404:U:H6	1.74	0.53
1:A:974:A:P	15:N:29:ARG:HH22	2.31	0.53
1:A:1096:C:O2'	1:A:1097:C:H5'	2.08	0.53
1:A:1300:G:O2'	1:A:1301:U:C6	2.61	0.53
1:A:1311:G:N7	20:S:2:PRO:HA	2.24	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:16:HIS:CE1	3:B:210:SER:HA	2.43	0.53
3:B:129:GLU:O	3:B:130:ARG:HB2	2.09	0.53
6:E:20:GLN:O	6:E:21:ALA:C	2.47	0.53
6:E:40:ARG:NH1	6:E:68:GLU:OE1	2.42	0.53
6:E:144:THR:HG22	6:E:146:ALA:H	1.73	0.53
10:I:126:SER:OG	10:I:127:LYS:N	2.41	0.53
11:J:6:ILE:HD11	11:J:72:VAL:HB	1.90	0.53
11:J:47:PHE:CE2	15:N:37:PHE:HE1	2.26	0.53
18:Q:27:PHE:HB2	18:Q:28:PRO:HD2	1.90	0.53
18:Q:97:SER:HB2	18:Q:102:GLY:O	2.08	0.53
1:A:253:U:H2'	1:A:254:G:C8	2.44	0.53
1:A:660:G:OP1	16:O:5:LYS:HD3	2.08	0.53
1:A:1172:C:H2'	1:A:1173:G:H8	1.73	0.53
1:A:1310:G:O6	20:S:2:PRO:HB3	2.08	0.53
1:A:1367:C:H5'	11:J:60:ARG:HH12	1.72	0.53
3:B:23:ARG:HD3	3:B:23:ARG:N	2.24	0.53
3:B:35:GLU:HA	3:B:39:ILE:O	2.09	0.53
5:D:67:ILE:HG22	5:D:68:TYR:N	2.24	0.53
10:I:44:VAL:HG12	10:I:44:VAL:O	2.09	0.53
13:L:97:ARG:HB2	13:L:98:TYR:CE1	2.44	0.53
13:L:120:TYR:O	13:L:122:THR:HG23	2.07	0.53
21:T:101:GLY:O	21:T:102:GLY:C	2.45	0.53
1:A:761:G:H4'	18:Q:102:GLY:CA	2.38	0.53
1:A:1035:A:H2'	1:A:1036:G:H8	1.73	0.53
4:C:34:LEU:CD1	15:N:25:VAL:HG21	2.39	0.53
4:C:48:TYR:HA	4:C:52:LEU:HD22	1.91	0.53
4:C:178:LEU:O	4:C:179:ARG:HB2	2.08	0.53
5:D:7:PRO:CG	5:D:10:ARG:HD2	2.35	0.53
10:I:8:GLY:HA2	10:I:79:LEU:CD1	2.13	0.53
10:I:95:LYS:C	10:I:98:PRO:HD2	2.28	0.53
10:I:97:LYS:CG	10:I:102:LEU:HD12	2.38	0.53
11:J:22:LYS:CE	11:J:90:LEU:HD12	2.37	0.53
12:K:50:TYR:HD1	12:K:60:ALA:HB2	1.74	0.53
14:M:3:ARG:HG2	14:M:9:ILE:CG2	2.39	0.53
1:A:398:C:O2'	1:A:399:G:H5'	2.08	0.53
1:A:496:A:H4'	1:A:497:A:OP1	2.09	0.53
1:A:522:C:C2'	1:A:523:A:H5'	2.39	0.53
1:A:959:A:H2'	1:A:960:U:O4'	2.09	0.53
1:A:1345:U:C2	1:A:1377:A:C2	2.97	0.53
1:A:1372:U:OP1	10:I:71:SER:HB3	2.09	0.53
3:B:206:ASP:CG	3:B:207:ALA:N	2.62	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:C:137:ALA:HA	4:C:140:ARG:HH11	1.73	0.53
5:D:5:ILE:H	5:D:115:ARG:NH2	2.06	0.53
10:I:11:LYS:O	10:I:11:LYS:HG2	2.07	0.53
14:M:5:ALA:HB3	14:M:8:GLU:CG	2.38	0.53
14:M:46:LYS:HE2	14:M:47:ASP:N	2.23	0.53
18:Q:78:GLU:HG3	18:Q:78:GLU:O	2.09	0.53
1:A:924:C:H5'	1:A:1399:C:OP2	2.09	0.53
1:A:1412:C:H4'	13:L:95:GLY:HA3	1.90	0.53
3:B:61:LEU:HD21	3:B:160:ASP:HB2	1.91	0.53
3:B:102:LEU:HD21	3:B:162:ILE:HD11	1.91	0.53
4:C:36:ASP:O	4:C:39:ILE:HB	2.09	0.53
4:C:60:ALA:O	4:C:61:ALA:CB	2.57	0.53
10:I:121:ARG:C	10:I:121:ARG:HD3	2.30	0.53
11:J:82:ILE:O	11:J:82:ILE:HG22	2.08	0.53
15:N:6:LEU:HB3	15:N:23:ARG:NH2	2.24	0.53
17:P:1:MET:HE3	17:P:3:LYS:HE3	1.91	0.53
20:S:62:ILE:HD12	20:S:63:THR:N	2.24	0.53
1:A:132:C:O2'	1:A:133:U:H5'	2.09	0.53
1:A:163:C:O2'	1:A:164:U:H5'	2.09	0.53
1:A:522:C:H41	13:L:53:ARG:NH2	2.07	0.53
1:A:918:A:H2'	1:A:919:A:H8	1.72	0.53
1:A:1225:A:H2'	1:A:1225:A:N3	2.24	0.53
1:A:1396:A:O3'	1:A:1397:C:C5'	2.57	0.53
3:B:19:HIS:HD2	3:B:205:ASP:OD1	1.92	0.53
3:B:138:LEU:HA	3:B:141:GLU:HB2	1.90	0.53
4:C:186:PHE:CG	4:C:187:ALA:N	2.77	0.53
5:D:209:ARG:HG2	5:D:209:ARG:HH11	1.74	0.53
8:G:95:ARG:HG3	8:G:95:ARG:NH1	2.23	0.53
9:H:119:LEU:HB2	9:H:123:GLU:HB2	1.91	0.53
10:I:50:LEU:HD23	10:I:85:LEU:HD11	1.90	0.53
10:I:114:TYR:CE1	11:J:60:ARG:HB2	2.44	0.53
1:A:532:A:H2'	1:A:532:A:N3	2.24	0.53
4:C:180:ALA:HB3	4:C:182:ILE:HG13	1.91	0.53
5:D:61:LYS:NZ	5:D:62:GLN:NE2	2.57	0.53
9:H:119:LEU:HD12	9:H:124:ALA:N	2.23	0.53
10:I:97:LYS:HA	10:I:100:GLY:HA2	1.90	0.53
18:Q:79:SER:O	18:Q:80:GLY:O	2.27	0.53
1:A:163:C:H2'	1:A:164:U:H6	1.73	0.52
1:A:189:G:H2'	1:A:190:C:C6	2.44	0.52
1:A:300:A:H2'	1:A:301:G:O4'	2.09	0.52
1:A:334:C:H2'	1:A:335:C:C6	2.43	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:452:A:HO2'	1:A:453:A:H8	1.54	0.52
1:A:502:G:H2'	1:A:503:C:C6	2.43	0.52
1:A:1347:G:C2'	1:A:1348:U:OP2	2.57	0.52
1:A:1499:A:H1'	1:A:1520:G:H5'	1.91	0.52
4:C:108:ASN:OD1	4:C:110:ASN:HB2	2.08	0.52
11:J:20:ALA:O	11:J:24:VAL:HG23	2.08	0.52
14:M:14:ARG:NH1	14:M:16:ASP:OD2	2.41	0.52
14:M:62:ASN:O	14:M:63:THR:CB	2.56	0.52
15:N:9:LYS:HG3	15:N:21:TYR:O	2.09	0.52
16:O:77:ARG:O	16:O:80:ALA:HB3	2.10	0.52
18:Q:80:GLY:O	18:Q:81:ARG:HB3	2.09	0.52
20:S:67:VAL:HG12	20:S:68:GLY:N	2.24	0.52
22:V:7:ARG:O	22:V:7:ARG:HG3	2.08	0.52
1:A:999:C:H2'	1:A:1000:U:C6	2.43	0.52
1:A:1253:G:N1	1:A:1285:A:N6	2.57	0.52
1:A:1394:A:C5	1:A:1501:C:H4'	2.44	0.52
1:A:1525:G:P	12:K:120:ARG:HH22	2.32	0.52
3:B:23:ARG:O	3:B:24:TRP:O	2.27	0.52
4:C:35:GLU:OE2	4:C:97:LYS:HG3	2.09	0.52
4:C:179:ARG:HD3	4:C:206:GLU:HG2	1.92	0.52
5:D:30:LYS:O	5:D:32:ALA:N	2.42	0.52
6:E:102:ALA:HB2	6:E:120:THR:HB	1.90	0.52
10:I:17:VAL:HG11	10:I:81:ILE:HG12	1.90	0.52
10:I:114:TYR:CG	11:J:60:ARG:HG2	2.44	0.52
17:P:1:MET:O	17:P:24:ALA:HB2	2.09	0.52
21:T:57:ARG:HH21	21:T:100:ILE:HG23	1.74	0.52
1:A:839:U:O2	1:A:839:U:C2'	2.57	0.52
1:A:982:U:H5''	15:N:6:LEU:HD11	1.90	0.52
1:A:1191:A:H2'	1:A:1192:C:C6	2.44	0.52
3:B:222:ILE:O	3:B:226:ARG:HG3	2.09	0.52
4:C:188:LEU:HD12	4:C:189:ALA:H	1.74	0.52
5:D:57:ARG:NH2	5:D:205:GLU:OE2	2.42	0.52
12:K:22:HIS:HD2	12:K:29:ILE:HG23	1.75	0.52
16:O:2:PRO:C	16:O:38:ARG:HH12	2.12	0.52
23:W:17:LEU:HB3	23:W:18:PRO:CD	2.37	0.52
23:W:32:ILE:HD13	23:W:32:ILE:H	1.75	0.52
1:A:336:C:O2'	1:A:337:C:H5'	2.09	0.52
1:A:1521:G:H2'	1:A:1522:U:C6	2.45	0.52
4:C:195:VAL:CG1	4:C:196:LEU:N	2.72	0.52
9:H:91:ARG:HG2	13:L:7:ILE:HG21	1.91	0.52
18:Q:24:GLU:CD	18:Q:37:LYS:HD3	2.30	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:S:41:VAL:HG22	20:S:44:MET:HE2	1.91	0.52
23:W:1:ALA:O	23:W:2:LYS:HB2	2.10	0.52
1:A:243:A:H5''	1:A:244:U:H5'	1.90	0.52
1:A:1049:U:H1'	1:A:1201:A:N7	2.25	0.52
3:B:8:LYS:O	3:B:9:GLU:HB3	2.09	0.52
4:C:34:LEU:HD23	4:C:34:LEU:O	2.10	0.52
4:C:52:LEU:HG	4:C:52:LEU:O	2.09	0.52
4:C:64:VAL:O	4:C:99:VAL:HG23	2.09	0.52
5:D:3:ARG:NH1	5:D:118:ARG:HH12	2.08	0.52
5:D:107:ARG:CD	5:D:173:TRP:HZ2	2.23	0.52
10:I:93:ARG:NH2	10:I:97:LYS:HZ1	2.08	0.52
11:J:12:ASP:HB3	11:J:15:THR:CG2	2.39	0.52
17:P:20:VAL:HG11	17:P:32:TYR:HB3	1.90	0.52
1:A:818:G:C3'	1:A:819:A:H5''	2.40	0.52
1:A:882:C:O2'	1:A:883:C:H5'	2.09	0.52
1:A:949:A:N7	14:M:106:ASN:ND2	2.57	0.52
1:A:1355:G:O2'	1:A:1356:G:H5'	2.10	0.52
4:C:8:ILE:O	4:C:11:ARG:N	2.42	0.52
14:M:36:LYS:HD2	14:M:59:TYR:OH	2.10	0.52
15:N:29:ARG:HB3	15:N:40:CYS:CB	2.39	0.52
1:A:164:U:H2'	1:A:165:C:C6	2.45	0.52
1:A:269:C:H2'	1:A:270:A:H8	1.74	0.52
1:A:308:C:H2'	1:A:309:G:C8	2.45	0.52
1:A:415:A:H2'	1:A:416:G:C8	2.44	0.52
1:A:437:U:H2'	1:A:438:G:H5'	1.91	0.52
1:A:556:C:C2'	1:A:557:G:H5'	2.40	0.52
1:A:1405:G:O4'	1:A:1519:A:H4'	2.09	0.52
3:B:62:ALA:C	3:B:64:ARG:H	2.10	0.52
11:J:75:ILE:HG22	11:J:76:ASN:N	2.25	0.52
16:O:27:VAL:O	16:O:31:LEU:HD12	2.10	0.52
21:T:40:ALA:HB2	21:T:55:ILE:HG22	1.90	0.52
1:A:559:A:OP2	6:E:126:ARG:NH2	2.38	0.52
1:A:690:G:H2'	1:A:691:G:O4'	2.09	0.52
1:A:1007:C:H42	1:A:1022:G:H22	1.56	0.52
1:A:1035:A:H2'	1:A:1036:G:C8	2.45	0.52
1:A:1515:C:O2'	1:A:1516:G:H5'	2.10	0.52
1:A:1520:G:O2'	1:A:1521:G:H5'	2.10	0.52
4:C:32:LEU:HD22	4:C:59:ARG:NH1	2.25	0.52
5:D:199:GLN:CA	5:D:199:GLN:NE2	2.73	0.52
9:H:4:ASP:OD2	9:H:85:ARG:HD2	2.09	0.52
10:I:4:TYR:CZ	10:I:88:TYR:HD1	2.28	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:L:46:LYS:HG2	13:L:47:LYS:HG3	1.91	0.52
19:R:51:LEU:HD13	19:R:55:ARG:HH12	1.75	0.52
20:S:10:PHE:HD2	20:S:10:PHE:C	2.13	0.52
1:A:8:A:C6	5:D:209:ARG:HB2	2.45	0.52
1:A:243:A:N6	1:A:281:G:O2'	2.43	0.52
1:A:443:C:O2'	1:A:444:C:H5'	2.10	0.52
1:A:491:G:H2'	1:A:492:G:H8	1.74	0.52
1:A:1392:G:H2'	1:A:1393:U:H6	1.75	0.52
3:B:111:ARG:HB3	3:B:149:LEU:HD11	1.91	0.52
3:B:122:PHE:CE2	3:B:139:LYS:HD3	2.40	0.52
8:G:57:GLU:OE1	8:G:57:GLU:N	2.39	0.52
9:H:83:ILE:HG23	9:H:83:ILE:O	2.09	0.52
13:L:27:LEU:HD13	13:L:64:TYR:CE1	2.45	0.52
1:A:333:G:H4'	21:T:16:HIS:CD2	2.45	0.52
1:A:530:G:O2'	23:W:39:LYS:HD3	2.10	0.52
1:A:716:A:N3	12:K:117:ASN:O	2.43	0.52
1:A:1014:A:C2	1:A:1219:U:H1'	2.44	0.52
1:A:1472:U:H2'	1:A:1473:A:C8	2.43	0.52
4:C:110:ASN:HB3	4:C:144:SER:CB	2.39	0.52
19:R:36:ASN:HB3	19:R:39:VAL:HG12	1.92	0.52
21:T:92:LEU:O	21:T:94:ALA:N	2.43	0.52
1:A:738:C:OP2	7:F:92:LYS:HE3	2.09	0.51
1:A:792:A:H1'	1:A:794:A:N7	2.25	0.51
1:A:824:C:H2'	1:A:825:G:C8	2.44	0.51
1:A:1260:C:H4'	1:A:1284:C:H5'	1.91	0.51
1:A:1421:G:H2'	1:A:1422:G:C8	2.45	0.51
4:C:191:THR:HG21	4:C:193:TYR:CE2	2.45	0.51
5:D:173:TRP:HB2	5:D:187:ARG:O	2.10	0.51
8:G:31:MET:HB2	8:G:39:ALA:HB2	1.91	0.51
8:G:116:ALA:HA	8:G:119:ARG:NH2	2.25	0.51
10:I:49:PRO:HD3	10:I:78:LYS:HG2	1.91	0.51
10:I:57:GLY:O	10:I:58:ARG:HB2	2.10	0.51
10:I:93:ARG:HH21	10:I:97:LYS:HZ1	1.58	0.51
15:N:14:PRO:C	15:N:16:PHE:N	2.62	0.51
17:P:21:VAL:HG21	17:P:59:TRP:CD1	2.45	0.51
20:S:40:ILE:O	20:S:67:VAL:HG13	2.10	0.51
21:T:54:LYS:HG3	21:T:100:ILE:HD13	1.92	0.51
1:A:393:A:C2	1:A:394:G:C8	2.98	0.51
1:A:1392:G:O2'	1:A:1502:A:H5''	2.10	0.51
3:B:17:PHE:HA	3:B:44:LEU:HD21	1.91	0.51
4:C:6:HIS:CD2	4:C:8:ILE:H	2.26	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:C:188:LEU:HD11	4:C:195:VAL:HG22	1.92	0.51
8:G:78:ARG:NH1	8:G:154:TYR:O	2.44	0.51
10:I:10:ARG:HG2	10:I:75:ASP:HB2	1.92	0.51
13:L:10:LEU:O	13:L:14:GLY:N	2.43	0.51
16:O:55:GLY:HA2	16:O:58:MET:HE2	1.92	0.51
19:R:46:GLU:CD	19:R:46:GLU:N	2.63	0.51
1:A:106:C:O2	1:A:379:C:H4'	2.10	0.51
1:A:477:G:H2'	1:A:478:A:C8	2.46	0.51
1:A:559:A:P	6:E:126:ARG:HH22	2.32	0.51
1:A:1330:U:OP1	14:M:23:TYR:O	2.29	0.51
3:B:209:ARG:HE	3:B:239:VAL:CG1	2.24	0.51
6:E:120:THR:HG23	6:E:121:LYS:N	2.24	0.51
12:K:33:THR:CG2	12:K:34:ASP:N	2.73	0.51
13:L:17:LYS:HA	13:L:17:LYS:HE3	1.91	0.51
20:S:15:LEU:HD12	20:S:16:LEU:H	1.75	0.51
23:W:7:ILE:HG22	23:W:8:ARG:N	2.25	0.51
1:A:657:G:O4'	16:O:28:GLN:NE2	2.43	0.51
1:A:1115:C:H1'	15:N:61:TRP:O	2.10	0.51
1:A:1255:G:H2'	1:A:1279:A:H62	1.75	0.51
1:A:1285:A:H8	1:A:1285:A:OP1	1.94	0.51
4:C:77:ILE:CG2	4:C:81:GLY:HA2	2.36	0.51
4:C:97:LYS:O	4:C:98:ASN:CB	2.58	0.51
6:E:19:MET:CE	6:E:24:ARG:NH1	2.73	0.51
10:I:49:PRO:O	10:I:52:ALA:HB3	2.10	0.51
16:O:70:LEU:HD13	16:O:70:LEU:C	2.30	0.51
1:A:1174:G:O2'	1:A:1175:G:H5'	2.11	0.51
1:A:1223:C:H3'	1:A:1224:G:H5''	1.93	0.51
1:A:1454:G:H5''	21:T:35:THR:HG21	1.90	0.51
3:B:124:SER:CB	3:B:125:PRO:HD2	2.31	0.51
3:B:206:ASP:O	3:B:207:ALA:HB3	2.10	0.51
4:C:11:ARG:HH12	4:C:178:LEU:HA	1.76	0.51
5:D:176:LEU:HA	5:D:183:GLY:HA2	1.92	0.51
8:G:50:ILE:O	8:G:54:THR:HB	2.10	0.51
13:L:89:ARG:NH1	13:L:97:ARG:HG2	2.26	0.51
18:Q:74:LEU:HD23	18:Q:75:ARG:HB3	1.91	0.51
19:R:47:THR:O	19:R:49:LYS:N	2.38	0.51
22:V:2:GLY:C	22:V:4:GLY:H	2.14	0.51
1:A:277:C:OP1	18:Q:41:LYS:HE3	2.11	0.51
1:A:613:C:H2'	1:A:614:A:C8	2.46	0.51
1:A:947:G:H2'	1:A:948:C:C6	2.45	0.51
3:B:88:ALA:C	3:B:90:MET:N	2.64	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:98:LEU:N	3:B:98:LEU:CD2	2.71	0.51
3:B:168:THR:OG1	3:B:192:SER:HB3	2.11	0.51
4:C:28:GLN:O	4:C:30:ARG:N	2.43	0.51
4:C:77:ILE:HA	4:C:84:ILE:HB	1.91	0.51
7:F:36:ARG:HG2	7:F:36:ARG:NH1	2.25	0.51
10:I:120:ARG:O	10:I:121:ARG:C	2.47	0.51
13:L:89:ARG:NH1	13:L:97:ARG:HE	2.07	0.51
14:M:22:ILE:CD1	14:M:25:ILE:HD12	2.40	0.51
20:S:19:VAL:HG13	20:S:20:LEU:N	2.26	0.51
1:A:182:U:O4	1:A:223:U:H1'	2.10	0.51
1:A:190(K):G:H2'	1:A:190(L):U:C6	2.46	0.51
1:A:192:U:H1'	21:T:103:GLY:CA	2.40	0.51
1:A:1346:A:H2'	8:G:10:ARG:HH22	1.76	0.51
4:C:13:GLY:HA3	15:N:57:ARG:CZ	2.41	0.51
5:D:64:LEU:HD21	5:D:97:LEU:HD13	1.93	0.51
1:A:476:G:O2'	1:A:477:G:H5'	2.11	0.51
1:A:808:C:OP2	16:O:48:LYS:HE2	2.10	0.51
3:B:238:LEU:N	3:B:238:LEU:HD12	2.25	0.51
4:C:83:ARG:C	4:C:85:ARG:N	2.64	0.51
19:R:51:LEU:HD22	19:R:55:ARG:NH1	2.26	0.51
1:A:629:G:O2'	1:A:630:G:H5'	2.10	0.51
1:A:677:U:H3	1:A:713:G:H22	1.59	0.51
1:A:734:G:H21	19:R:75:ILE:HD11	1.76	0.51
1:A:1108:G:H5'	1:A:1191:A:H4'	1.92	0.51
1:A:1474:G:H2'	1:A:1475:G:H8	1.76	0.51
3:B:21:ARG:HH11	3:B:21:ARG:HG3	1.75	0.51
3:B:88:ALA:O	3:B:90:MET:N	2.43	0.51
3:B:156:LYS:O	3:B:156:LYS:HD3	2.11	0.51
3:B:223:ILE:HG21	3:B:230:VAL:HG23	1.93	0.51
4:C:83:ARG:C	4:C:85:ARG:H	2.13	0.51
6:E:122:GLU:OE1	6:E:131:ILE:HG21	2.11	0.51
8:G:15:ASP:O	8:G:19:GLY:HA2	2.10	0.51
8:G:156:TRP:OXT	8:G:156:TRP:HD1	1.94	0.51
9:H:116:LYS:NZ	9:H:127:LEU:HD12	2.26	0.51
14:M:81:LEU:CD2	14:M:81:LEU:N	2.60	0.51
14:M:122:LYS:O	14:M:123:ALA:CB	2.58	0.51
18:Q:81:ARG:HG3	18:Q:81:ARG:O	2.10	0.51
1:A:425:G:O2'	1:A:426:G:H5'	2.11	0.51
1:A:965:A:H4'	1:A:966:G:O5'	2.10	0.51
1:A:1316:G:H4'	15:N:18:VAL:CG1	2.40	0.51
1:A:1411:C:H5''	23:W:64:ARG:HH22	1.76	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:28:PHE:CZ	3:B:189:ASP:HA	2.46	0.51
3:B:97:TRP:CZ3	3:B:176:GLU:OE2	2.64	0.51
3:B:162:ILE:O	3:B:185:ILE:HG13	2.11	0.51
3:B:187:LEU:HD23	3:B:201:ILE:HG22	1.93	0.51
10:I:36:TYR:CD2	10:I:37:PHE:CE2	2.99	0.51
12:K:99:GLN:HA	12:K:105:VAL:CG2	2.41	0.51
13:L:27:LEU:O	13:L:28:LYS:C	2.48	0.51
13:L:117:ARG:HB3	13:L:122:THR:OG1	2.11	0.51
22:V:24:ARG:O	22:V:25:LYS:CB	2.59	0.51
1:A:248:C:C2'	1:A:249:U:H5'	2.41	0.50
1:A:519:C:H5'	23:W:66:ARG:NH2	2.23	0.50
1:A:682:G:O2'	1:A:683:G:H5'	2.10	0.50
1:A:707:C:O2'	1:A:708:C:H5'	2.12	0.50
1:A:942:G:C2	1:A:943:U:C6	2.99	0.50
1:A:960:U:H1'	1:A:1223:C:H5'	1.93	0.50
1:A:983:A:H5'	1:A:984:C:OP2	2.10	0.50
1:A:1346:A:C8	1:A:1348:U:C2	2.99	0.50
1:A:1423:G:H2'	1:A:1424:C:C6	2.45	0.50
5:D:64:LEU:O	5:D:67:ILE:HB	2.11	0.50
6:E:102:ALA:CB	6:E:120:THR:HG21	2.40	0.50
8:G:15:ASP:OD1	8:G:17:VAL:N	2.43	0.50
8:G:155:ARG:O	8:G:156:TRP:HB3	2.11	0.50
11:J:12:ASP:OD1	11:J:14:LYS:N	2.43	0.50
16:O:70:LEU:CD1	16:O:78:TYR:HB2	2.32	0.50
20:S:7:LYS:HG3	20:S:7:LYS:O	2.10	0.50
21:T:73:HIS:C	21:T:74:LYS:HG3	2.32	0.50
1:A:633:G:H2'	1:A:634:C:C6	2.46	0.50
1:A:974:A:OP1	1:A:974:A:H8	1.94	0.50
1:A:1240:U:O3'	8:G:38:LEU:HD21	2.11	0.50
1:A:1515:C:H2'	1:A:1516:G:H8	1.75	0.50
3:B:16:HIS:O	3:B:17:PHE:O	2.28	0.50
13:L:126:LYS:N	13:L:126:LYS:CD	2.71	0.50
14:M:53:VAL:O	14:M:53:VAL:HG12	2.12	0.50
16:O:62:GLN:OE1	16:O:65:ARG:NH2	2.44	0.50
17:P:67:THR:HG22	17:P:69:THR:H	1.77	0.50
1:A:22:G:H4'	1:A:885:G:C8	2.46	0.50
1:A:179:A:H2'	1:A:180:U:C6	2.46	0.50
1:A:358:U:H2'	1:A:359:U:C6	2.46	0.50
1:A:385:C:O2'	1:A:386:C:H5'	2.11	0.50
1:A:1003:G:C6	1:A:1003(A):G:C6	2.99	0.50
1:A:1048:G:H5''	15:N:3:ARG:HG2	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1230:C:H1'	14:M:126:LYS:HA	1.93	0.50
1:A:1257:U:O2'	1:A:1258:G:OP2	2.26	0.50
1:A:1307:U:C5'	14:M:109:THR:HG21	2.41	0.50
3:B:53:ARG:NH1	3:B:199:TYR:CE2	2.79	0.50
3:B:154:LEU:O	3:B:155:LEU:C	2.50	0.50
3:B:212:GLN:HG3	3:B:239:VAL:HG21	1.92	0.50
4:C:7:PRO:HG2	4:C:184:TYR:CB	2.41	0.50
4:C:58:GLU:HB2	4:C:65:ALA:CB	2.41	0.50
4:C:94:LEU:HD22	4:C:95:THR:HG23	1.94	0.50
4:C:139:GLN:O	4:C:140:ARG:C	2.48	0.50
5:D:60:GLU:OE1	5:D:60:GLU:HA	2.11	0.50
6:E:15:ARG:HD3	6:E:26:PHE:HB3	1.94	0.50
6:E:33:VAL:HG11	6:E:109:ILE:HA	1.93	0.50
8:G:79:ARG:HG2	8:G:84:ASN:CG	2.32	0.50
9:H:7:ALA:HB2	9:H:85:ARG:HD2	1.93	0.50
10:I:7:THR:O	10:I:15:ALA:O	2.30	0.50
1:A:409:G:H2'	1:A:410:G:O4'	2.10	0.50
1:A:521:G:OP1	13:L:73:GLU:O	2.29	0.50
1:A:961:U:O2'	1:A:962:C:H5'	2.11	0.50
4:C:16:ARG:HG3	4:C:17:ASP:N	2.22	0.50
10:I:10:ARG:HG2	10:I:75:ASP:CB	2.42	0.50
10:I:93:ARG:HE	10:I:97:LYS:CE	2.24	0.50
10:I:97:LYS:O	10:I:100:GLY:N	2.44	0.50
1:A:458:C:C2	1:A:459:G:C8	3.00	0.50
1:A:820:U:H4'	1:A:821:G:OP2	2.12	0.50
1:A:828:A:H2'	1:A:829:G:O4'	2.11	0.50
1:A:960:U:O2	1:A:960:U:H2'	2.09	0.50
1:A:997:U:H2'	1:A:998:G:O4'	2.11	0.50
1:A:1014:A:H2'	1:A:1015:A:C8	2.46	0.50
1:A:1405:G:O2'	1:A:1406:U:H5'	2.11	0.50
1:A:1438:G:H2'	1:A:1439:C:H6	1.75	0.50
4:C:70:VAL:HG12	4:C:71:ALA:N	2.26	0.50
4:C:110:ASN:O	4:C:111:LEU:HD23	2.12	0.50
4:C:110:ASN:HD22	4:C:144:SER:HB2	1.76	0.50
9:H:111:ILE:O	9:H:134:ILE:HB	2.11	0.50
15:N:45:ARG:HG2	15:N:49:HIS:CD2	2.46	0.50
20:S:15:LEU:O	20:S:19:VAL:N	2.44	0.50
1:A:279:A:H4'	1:A:280:C:OP2	2.10	0.50
1:A:373:A:H1'	1:A:481:G:H1'	1.93	0.50
1:A:560:U:O2'	1:A:561:U:OP2	2.26	0.50
1:A:570:G:H1'	1:A:820:U:C4	2.47	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:881:G:OP2	13:L:12:ARG:NH2	2.45	0.50
1:A:1102:A:H2'	1:A:1103:C:C6	2.47	0.50
1:A:1112:C:N3	4:C:178:LEU:N	2.59	0.50
3:B:74:LYS:HZ1	3:B:206:ASP:CB	2.25	0.50
5:D:88:VAL:O	5:D:92:VAL:HG23	2.12	0.50
10:I:79:LEU:CD1	10:I:83:ARG:HD2	2.42	0.50
11:J:12:ASP:HB3	11:J:15:THR:HG22	1.94	0.50
11:J:96:ILE:HG22	11:J:97:GLU:N	2.26	0.50
20:S:12:ASP:HB3	20:S:14:HIS:CD2	2.45	0.50
1:A:160:A:H2'	1:A:161:A:O4'	2.11	0.50
1:A:281:G:HO2'	1:A:282:A:P	2.34	0.50
1:A:458:C:H2'	1:A:459:G:O4'	2.11	0.50
1:A:913:A:O3'	1:A:914:A:O5'	2.27	0.50
1:A:1256:A:N6	1:A:1278:U:H1'	2.26	0.50
5:D:33:MET:HE3	5:D:37:PRO:HB3	1.94	0.50
5:D:62:GLN:NE2	5:D:65:ARG:HH12	2.10	0.50
10:I:48:GLU:N	10:I:49:PRO:CD	2.73	0.50
11:J:94:VAL:CG1	11:J:95:GLU:N	2.74	0.50
14:M:88:ARG:HG3	14:M:98:VAL:CG1	2.42	0.50
21:T:94:ALA:O	21:T:95:ALA:HB3	2.11	0.50
1:A:187:C:N3	21:T:105:SER:HB2	2.27	0.50
1:A:263:A:H2'	1:A:264:U:C6	2.47	0.50
1:A:1091:U:O2	1:A:1093:A:C8	2.65	0.50
1:A:1130:A:OP2	1:A:1131:G:OP2	2.28	0.50
1:A:1413:A:H2'	1:A:1414:U:H6	1.76	0.50
3:B:91:PRO:HB3	3:B:154:LEU:HB2	1.92	0.50
3:B:95:GLN:OE1	3:B:95:GLN:HA	2.11	0.50
3:B:219:VAL:O	3:B:222:ILE:HB	2.12	0.50
4:C:23:TYR:CG	4:C:24:ALA:N	2.80	0.50
5:D:134:ASP:O	5:D:136:PRO:HD3	2.12	0.50
8:G:156:TRP:OXT	8:G:156:TRP:CD1	2.64	0.50
9:H:86:ILE:HB	9:H:133:LEU:O	2.12	0.50
13:L:55:VAL:HG12	13:L:56:ALA:N	2.26	0.50
15:N:27:CYS:SG	15:N:29:ARG:CB	3.00	0.50
1:A:129(A):G:HO2'	1:A:190(E):U:H2'	1.75	0.50
1:A:913:A:H1'	1:A:914:A:O4'	2.12	0.50
1:A:915:A:H2'	1:A:916:G:H5'	1.94	0.50
4:C:179:ARG:O	4:C:179:ARG:CG	2.57	0.50
4:C:179:ARG:HD2	4:C:206:GLU:CG	2.41	0.50
5:D:140:VAL:CG1	5:D:146:ILE:HD11	2.42	0.50
6:E:13:ILE:HG22	6:E:30:ALA:HB2	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:E:15:ARG:O	6:E:16:THR:O	2.30	0.50
11:J:6:ILE:CD1	11:J:72:VAL:HB	2.41	0.50
18:Q:63:ARG:HG2	18:Q:64:PRO:HD2	1.94	0.50
19:R:87:ARG:HG2	19:R:87:ARG:NH1	2.26	0.50
20:S:28:LYS:CG	20:S:29:ARG:H	2.11	0.50
20:S:45:VAL:C	20:S:47:HIS:H	2.15	0.50
23:W:2:LYS:NZ	23:W:2:LYS:HB3	2.26	0.50
1:A:281:G:O2'	1:A:282:A:P	2.69	0.49
1:A:598:U:H4'	9:H:94:TYR:CD1	2.47	0.49
1:A:1250:A:H5'	10:I:68:GLY:O	2.12	0.49
1:A:1347:G:O2'	1:A:1348:U:OP2	2.30	0.49
9:H:119:LEU:HD23	9:H:119:LEU:H	1.77	0.49
10:I:125:TYR:CD1	10:I:128:ARG:HB2	2.46	0.49
12:K:116:HIS:O	12:K:117:ASN:HB2	2.11	0.49
16:O:38:ARG:O	16:O:41:GLU:HB3	2.12	0.49
1:A:586:C:O2'	1:A:587:G:H5'	2.12	0.49
1:A:668:G:O2'	16:O:46:HIS:CD2	2.65	0.49
1:A:824:C:O2'	1:A:825:G:H5'	2.12	0.49
1:A:1047:G:H5''	15:N:4:LYS:HD2	1.94	0.49
1:A:1325:C:H2'	1:A:1326:C:H6	1.76	0.49
3:B:23:ARG:C	3:B:24:TRP:HD1	2.16	0.49
3:B:50:GLU:HB3	3:B:200:ILE:O	2.12	0.49
3:B:132:LYS:CA	3:B:135:GLN:HB3	2.36	0.49
3:B:178:ARG:HH21	3:B:196:LEU:CA	2.25	0.49
4:C:116:VAL:O	4:C:120:VAL:HG23	2.13	0.49
4:C:154:SER:CB	4:C:197:GLY:H	2.25	0.49
4:C:180:ALA:CB	4:C:182:ILE:HG13	2.42	0.49
5:D:199:GLN:HE21	5:D:199:GLN:CA	2.23	0.49
8:G:136:LYS:HD2	8:G:137:LYS:N	2.27	0.49
10:I:4:TYR:O	10:I:18:PHE:HA	2.12	0.49
11:J:94:VAL:HG12	11:J:95:GLU:H	1.77	0.49
15:N:41:ARG:HG2	15:N:41:ARG:HH11	1.77	0.49
16:O:48:LYS:O	16:O:50:HIS:N	2.45	0.49
19:R:39:VAL:CG1	19:R:40:LEU:N	2.75	0.49
21:T:43:LEU:HD13	21:T:51:GLU:HG3	1.94	0.49
22:V:6:ARG:HD2	22:V:15:ARG:HH12	1.77	0.49
1:A:1196:U:H4'	1:A:1197:G:OP2	2.12	0.49
1:A:1404:C:H2'	1:A:1405:G:C8	2.47	0.49
4:C:141:VAL:HG11	4:C:202:ILE:HG12	1.93	0.49
17:P:74:LEU:O	17:P:79:VAL:HG23	2.11	0.49
21:T:100:ILE:O	21:T:102:GLY:N	2.45	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:325:A:H2'	1:A:326:G:O4'	2.13	0.49
1:A:742:G:H5''	16:O:58:MET:CE	2.43	0.49
3:B:228:GLY:O	3:B:229:VAL:C	2.50	0.49
4:C:52:LEU:H	4:C:52:LEU:CD2	2.26	0.49
7:F:18:GLN:O	7:F:21:LEU:HB3	2.12	0.49
7:F:67:MET:CE	7:F:72:VAL:HA	2.43	0.49
8:G:83:ALA:HB3	8:G:85:TYR:CE2	2.47	0.49
9:H:104:ARG:NH2	9:H:138:TRP:CZ3	2.80	0.49
10:I:43:ALA:C	10:I:45:ALA:N	2.63	0.49
16:O:64:ARG:CB	16:O:64:ARG:CZ	2.91	0.49
18:Q:48:GLU:O	18:Q:49:GLU:HB2	2.12	0.49
18:Q:59:ILE:HG23	18:Q:71:PHE:HB3	1.94	0.49
18:Q:68:ARG:HG2	18:Q:68:ARG:HH11	1.78	0.49
1:A:217:C:O2'	1:A:218:C:H5'	2.12	0.49
1:A:650:G:C2'	1:A:651:C:H5'	2.43	0.49
1:A:652:U:O4	1:A:752:G:O2'	2.28	0.49
1:A:1028:C:H2'	1:A:1029:C:C6	2.47	0.49
1:A:1313:U:O4	20:S:4:SER:OG	2.26	0.49
3:B:53:ARG:HG2	3:B:53:ARG:HH11	1.77	0.49
3:B:230:VAL:CG1	3:B:231:GLU:N	2.75	0.49
4:C:35:GLU:HG3	4:C:95:THR:HG22	1.95	0.49
4:C:46:GLU:O	4:C:48:TYR:N	2.40	0.49
7:F:2:ARG:CD	7:F:69:GLU:HG2	2.41	0.49
8:G:71:PRO:HD3	8:G:103:TRP:HZ3	1.76	0.49
10:I:10:ARG:O	10:I:11:LYS:C	2.50	0.49
10:I:50:LEU:C	10:I:52:ALA:N	2.65	0.49
11:J:5:ARG:O	11:J:98:ILE:HA	2.13	0.49
19:R:45:SER:OG	19:R:49:LYS:HB2	2.13	0.49
19:R:53:ARG:HA	19:R:56:THR:HG23	1.95	0.49
1:A:179:A:H2'	1:A:180:U:H6	1.78	0.49
1:A:328:C:O2	1:A:328:C:C2'	2.58	0.49
1:A:394:G:H2'	1:A:395:C:C6	2.48	0.49
1:A:913:A:HO3'	1:A:914:A:HO5'	1.59	0.49
1:A:974:A:P	15:N:31:ARG:HG2	2.52	0.49
5:D:199:GLN:HA	5:D:199:GLN:NE2	2.24	0.49
10:I:118:LYS:O	10:I:119:ALA:CB	2.56	0.49
16:O:4:THR:OG1	16:O:6:GLU:HG2	2.13	0.49
20:S:15:LEU:O	20:S:19:VAL:HG12	2.13	0.49
1:A:550:G:O2'	1:A:551:U:H5'	2.13	0.49
1:A:761:G:N2	18:Q:105:ALA:HB3	2.28	0.49
1:A:1058:G:H2'	1:A:1059:C:O4'	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1366:C:C2	1:A:1367:C:C5	3.00	0.49
3:B:36:ARG:CD	3:B:41:ILE:HD11	2.41	0.49
3:B:206:ASP:CG	3:B:207:ALA:H	2.15	0.49
5:D:152:SER:HB3	5:D:158:ILE:CD1	2.43	0.49
6:E:150:ARG:HG3	6:E:150:ARG:HH11	1.78	0.49
10:I:97:LYS:HG2	10:I:102:LEU:HD12	1.93	0.49
13:L:59:ARG:HD3	13:L:65:GLU:HG3	1.93	0.49
13:L:98:TYR:N	13:L:98:TYR:CD1	2.80	0.49
14:M:5:ALA:O	14:M:6:GLY:C	2.51	0.49
20:S:63:THR:HG22	20:S:64:GLU:H	1.77	0.49
1:A:848:C:H2'	1:A:849:C:C6	2.48	0.49
1:A:1172:C:H2'	1:A:1173:G:C8	2.48	0.49
1:A:1411:C:C2'	1:A:1412:C:H5'	2.43	0.49
3:B:32:ILE:HD13	3:B:40:HIS:CG	2.47	0.49
3:B:55:PHE:HD2	3:B:221:LEU:HG	1.77	0.49
3:B:98:LEU:O	3:B:101:MET:HG3	2.12	0.49
3:B:123:ALA:C	3:B:127:ILE:HD11	2.33	0.49
5:D:91:SER:O	5:D:94:LEU:N	2.46	0.49
12:K:40:ILE:HG23	12:K:75:TYR:CE2	2.48	0.49
1:A:149:A:H2'	1:A:150:C:H6	1.76	0.49
1:A:448:A:H2'	1:A:449:C:C6	2.48	0.49
1:A:761:G:H4'	18:Q:102:GLY:HA3	1.93	0.49
1:A:1333:A:H2'	1:A:1334:G:O4'	2.13	0.49
1:A:1381:U:H2'	1:A:1382:C:C6	2.47	0.49
10:I:55:ALA:O	10:I:56:LEU:HB2	2.12	0.49
11:J:40:LEU:HD23	11:J:41:PRO:HD2	1.95	0.49
14:M:22:ILE:HB	14:M:25:ILE:HD12	1.95	0.49
16:O:17:ARG:HG3	16:O:17:ARG:HH11	1.78	0.49
1:A:16:A:H2'	1:A:17:U:H5'	1.95	0.49
1:A:674:G:O2'	1:A:675:A:H5'	2.13	0.49
1:A:781:A:H2	1:A:1514:C:O4'	1.96	0.49
1:A:828:A:H61	1:A:858:G:C2'	2.26	0.49
1:A:976:G:C8	1:A:1358:U:C2	3.01	0.49
1:A:1294:G:O2'	1:A:1295:G:H5'	2.13	0.49
3:B:24:TRP:HB3	3:B:40:HIS:CE1	2.47	0.49
3:B:82:ARG:HG2	3:B:86:GLU:OE1	2.13	0.49
4:C:11:ARG:O	4:C:14:ILE:O	2.31	0.49
5:D:170:VAL:HG13	5:D:174:LEU:HB2	1.95	0.49
6:E:120:THR:CG2	6:E:121:LYS:N	2.76	0.49
11:J:32:ALA:HB2	11:J:76:ASN:HD22	1.76	0.49
13:L:59:ARG:NH1	13:L:65:GLU:HG2	2.27	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:O:8:LYS:HE2	16:O:31:LEU:HD23	1.95	0.49
19:R:73:ALA:CB	19:R:79:LEU:HD12	2.42	0.49
1:A:433:C:H2'	1:A:434:U:H6	1.78	0.48
1:A:930:C:O2'	1:A:931:C:H5'	2.13	0.48
1:A:970:C:N3	14:M:126:LYS:HB3	2.29	0.48
1:A:1263:C:H2'	1:A:1264:C:C6	2.48	0.48
3:B:44:LEU:HA	3:B:47:THR:OG1	2.13	0.48
4:C:70:VAL:HG21	4:C:76:VAL:HG21	1.94	0.48
6:E:76:ILE:CD1	6:E:142:LEU:HD11	2.43	0.48
7:F:38:GLU:HB2	7:F:64:GLN:O	2.13	0.48
7:F:52:ILE:O	7:F:53:ALA:HB3	2.13	0.48
11:J:4:ILE:HA	11:J:100:THR:HA	1.94	0.48
12:K:50:TYR:CD1	12:K:60:ALA:HB2	2.48	0.48
14:M:52:GLU:HG2	14:M:55:ARG:NH2	2.26	0.48
21:T:42:GLN:C	21:T:42:GLN:HE21	2.16	0.48
23:W:7:ILE:HG22	23:W:9:THR:H	1.77	0.48
23:W:31:GLU:CD	23:W:31:GLU:H	2.16	0.48
1:A:202:U:H4'	1:A:203:U:OP1	2.13	0.48
1:A:330:C:H5''	1:A:330:C:C6	2.48	0.48
1:A:965:A:C2	1:A:969:A:C2	3.01	0.48
1:A:974:A:OP2	15:N:41:ARG:NH1	2.46	0.48
1:A:1451:A:OP2	1:A:1452:C:H5	1.96	0.48
3:B:71:VAL:HB	3:B:164:VAL:HG23	1.96	0.48
4:C:190:ARG:HB3	4:C:190:ARG:HH11	1.78	0.48
5:D:174:LEU:O	5:D:186:LEU:HD11	2.14	0.48
6:E:9:LYS:NZ	6:E:111:GLU:OE1	2.46	0.48
6:E:71:LEU:HD11	6:E:113:ALA:O	2.13	0.48
6:E:80:ILE:HD12	6:E:80:ILE:H	1.75	0.48
23:W:44:TYR:CD1	23:W:44:TYR:N	2.81	0.48
1:A:16:A:O2'	1:A:17:U:H5'	2.13	0.48
1:A:376:G:P	17:P:67:THR:HG21	2.52	0.48
1:A:460:A:N7	1:A:462:G:C6	2.82	0.48
1:A:482:A:H2'	1:A:483:C:O4'	2.12	0.48
1:A:864:A:H2'	1:A:865:A:C8	2.47	0.48
3:B:116:GLU:HG2	3:B:153:ARG:HH12	1.78	0.48
5:D:33:MET:O	5:D:37:PRO:HG3	2.13	0.48
5:D:190:ASP:OD1	5:D:191:ARG:N	2.46	0.48
6:E:11:ILE:HD11	6:E:33:VAL:HG21	1.94	0.48
6:E:127:ASN:O	6:E:128:PRO:C	2.51	0.48
8:G:57:GLU:O	8:G:58:PRO:C	2.52	0.48
14:M:23:TYR:HB2	14:M:67:GLU:OE2	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:V:2:GLY:C	22:V:4:GLY:N	2.65	0.48
1:A:1426:C:H2'	1:A:1427:U:C6	2.49	0.48
1:A:1451:A:O2'	1:A:1452:C:OP1	2.24	0.48
1:A:1468:A:H2'	1:A:1469:G:O4'	2.12	0.48
3:B:68:ILE:CB	3:B:90:MET:HE3	2.43	0.48
3:B:182:ILE:O	3:B:183:PRO:C	2.52	0.48
3:B:230:VAL:HG12	3:B:231:GLU:N	2.28	0.48
4:C:77:ILE:O	4:C:83:ARG:HB3	2.13	0.48
4:C:149:ALA:HA	4:C:201:TYR:O	2.14	0.48
5:D:189:PRO:HB2	5:D:194:LEU:CD2	2.44	0.48
6:E:110:LEU:HB3	6:E:118:ILE:HD11	1.94	0.48
8:G:16:LEU:HD11	10:I:42:ARG:HA	1.95	0.48
8:G:47:CYS:HB3	8:G:58:PRO:HG3	1.94	0.48
10:I:90:PRO:O	10:I:93:ARG:HG3	2.12	0.48
11:J:6:ILE:O	11:J:71:LEU:O	2.32	0.48
1:A:194:C:H2'	1:A:195:A:H5''	1.94	0.48
1:A:683:G:H2'	1:A:684:A:C8	2.49	0.48
1:A:742:G:H5''	16:O:58:MET:HE3	1.95	0.48
1:A:866:C:H2'	1:A:867:G:O4'	2.12	0.48
1:A:1004:A:H3'	1:A:1025:U:O4	2.14	0.48
1:A:1075:C:H5'	3:B:103:THR:HG21	1.96	0.48
1:A:1250:A:H5''	10:I:68:GLY:N	2.29	0.48
1:A:1307:U:H2'	1:A:1308:U:C6	2.49	0.48
3:B:97:TRP:HH2	3:B:176:GLU:CD	2.17	0.48
3:B:110:GLN:HA	3:B:113:HIS:HD2	1.78	0.48
5:D:126:ILE:CG2	5:D:127:THR:N	2.76	0.48
11:J:12:ASP:HB3	11:J:15:THR:HB	1.95	0.48
11:J:45:ARG:O	11:J:64:GLU:HA	2.13	0.48
13:L:27:LEU:HB3	13:L:62:SER:HB2	1.94	0.48
23:W:66:ARG:NH1	23:W:66:ARG:CB	2.77	0.48
1:A:765:G:N2	1:A:812:C:O2'	2.46	0.48
1:A:1144:G:N2	1:A:1146:A:H62	2.11	0.48
1:A:1202:G:O2'	1:A:1203:C:H5'	2.14	0.48
1:A:1272:G:H2'	1:A:1273:G:H8	1.78	0.48
1:A:1299:A:C5	1:A:1301:U:O2	2.67	0.48
3:B:44:LEU:O	3:B:48:MET:HG2	2.14	0.48
5:D:187:ARG:HH21	5:D:188:LEU:CD1	2.27	0.48
10:I:46:ALA:HB1	10:I:77:ILE:HG22	1.96	0.48
11:J:49:VAL:O	11:J:50:ILE:C	2.52	0.48
13:L:117:ARG:NH2	13:L:124:LYS:HA	2.28	0.48
1:A:836:G:C6	1:A:851:G:C6	3.02	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:848:C:H2'	1:A:849:C:H6	1.77	0.48
1:A:976:G:H8	1:A:1358:U:H2'	1.79	0.48
1:A:1072:G:C5	1:A:1073:U:C4	3.01	0.48
1:A:1127:G:N2	1:A:1147:C:N4	2.62	0.48
1:A:1426:C:H2'	1:A:1427:U:H6	1.78	0.48
3:B:117:GLU:O	3:B:117:GLU:HG2	2.13	0.48
4:C:53:ALA:O	4:C:54:ARG:HB2	2.13	0.48
4:C:148:GLY:HA3	4:C:172:ARG:O	2.13	0.48
4:C:157:ILE:CD1	4:C:166:GLU:HB2	2.43	0.48
4:C:188:LEU:HD13	4:C:189:ALA:N	2.27	0.48
6:E:43:LEU:HD23	6:E:44:GLY:H	1.76	0.48
6:E:110:LEU:O	6:E:115:VAL:HB	2.13	0.48
8:G:69:VAL:HG21	8:G:104:LEU:HD21	1.95	0.48
10:I:89:ASN:OD1	10:I:91:ASP:HB2	2.13	0.48
15:N:9:LYS:C	15:N:11:LYS:N	2.66	0.48
19:R:74:ARG:HA	19:R:79:LEU:O	2.13	0.48
20:S:5:LEU:HD11	20:S:70:LYS:HZ1	1.78	0.48
22:V:9:ARG:HH12	22:V:23:PRO:CD	2.26	0.48
1:A:129(A):G:C2	1:A:190(E):U:H5'	2.49	0.48
1:A:231:G:O2'	1:A:232:G:H5'	2.14	0.48
1:A:657:G:H4'	16:O:28:GLN:HG2	1.96	0.48
1:A:1042:G:O2'	1:A:1043:C:H5'	2.13	0.48
1:A:1354:C:O2'	1:A:1355:G:H5'	2.13	0.48
1:A:1372:U:O2'	1:A:1373:G:H5'	2.14	0.48
3:B:16:HIS:CD2	3:B:210:SER:OG	2.67	0.48
6:E:76:ILE:O	6:E:93:PRO:HB3	2.14	0.48
11:J:51:ARG:N	11:J:59:SER:HB2	2.27	0.48
14:M:74:VAL:O	14:M:77:ASN:N	2.47	0.48
14:M:120:LYS:HE2	14:M:123:ALA:HB3	1.95	0.48
15:N:29:ARG:HH11	15:N:29:ARG:CG	2.27	0.48
18:Q:27:PHE:CE1	18:Q:36:ILE:HD11	2.48	0.48
1:A:563:A:H2'	1:A:567:G:C8	2.49	0.48
1:A:922:G:H2'	1:A:923:A:C8	2.48	0.48
1:A:1056:U:O2'	1:A:1057:G:H5'	2.14	0.48
1:A:1369:C:H2'	1:A:1370:G:H8	1.77	0.48
6:E:79:GLU:H	6:E:79:GLU:CD	2.14	0.48
6:E:89:ILE:HD13	6:E:90:VAL:H	1.79	0.48
7:F:95:GLU:CD	7:F:95:GLU:N	2.67	0.48
10:I:23:ASN:HD22	10:I:23:ASN:C	2.16	0.48
10:I:27:THR:HG23	10:I:30:GLY:O	2.13	0.48
10:I:32:ASP:O	10:I:35:GLU:HB3	2.12	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:J:39:PRO:O	11:J:69:ASN:O	2.32	0.48
18:Q:98:LEU:HD12	18:Q:98:LEU:O	2.14	0.48
1:A:707:C:H4'	12:K:20:TYR:CG	2.49	0.48
1:A:858:G:O6	1:A:869:G:H3'	2.14	0.48
3:B:178:ARG:NH1	3:B:178:ARG:CG	2.75	0.48
3:B:188:ALA:O	3:B:202:PRO:HA	2.14	0.48
5:D:104:VAL:HG11	5:D:146:ILE:HD13	1.93	0.48
5:D:127:THR:CG2	5:D:130:GLY:H	2.26	0.48
7:F:78:GLU:OE2	7:F:81:ILE:HD12	2.13	0.48
9:H:35:ILE:O	9:H:39:LEU:HD23	2.14	0.48
12:K:56:GLY:O	12:K:57:THR:O	2.32	0.48
18:Q:95:TYR:C	18:Q:97:SER:N	2.62	0.48
21:T:57:ARG:HG2	21:T:57:ARG:NH1	2.29	0.48
21:T:94:ALA:O	21:T:95:ALA:CB	2.61	0.48
21:T:100:ILE:HG22	21:T:102:GLY:N	2.28	0.48
23:W:20:ALA:HB1	23:W:36:ILE:CD1	2.44	0.48
23:W:36:ILE:CG2	23:W:41:ARG:HG3	2.44	0.48
1:A:45:U:H2'	1:A:46:G:C8	2.49	0.47
1:A:736:C:H2'	1:A:737:A:C8	2.49	0.47
1:A:1128:C:O2'	1:A:1130:A:C8	2.60	0.47
1:A:1514:C:H2'	1:A:1515:C:C6	2.48	0.47
5:D:64:LEU:HD23	5:D:64:LEU:C	2.34	0.47
12:K:92:GLU:O	12:K:96:ARG:HD3	2.14	0.47
14:M:53:VAL:O	14:M:57:ARG:HB2	2.13	0.47
15:N:3:ARG:NH2	15:N:6:LEU:HG	2.29	0.47
18:Q:6:LEU:O	18:Q:58:GLU:HA	2.14	0.47
1:A:41:G:H2'	1:A:42:G:C8	2.49	0.47
1:A:50:A:H4'	1:A:51:A:H5'	1.96	0.47
1:A:270:A:H2'	1:A:271:C:H6	1.79	0.47
1:A:338:A:H2'	1:A:339:C:C6	2.49	0.47
1:A:411:A:C8	1:A:413:G:H1'	2.49	0.47
1:A:542:G:O2'	1:A:543:C:H5'	2.15	0.47
1:A:619:U:O2	5:D:133:VAL:HA	2.13	0.47
1:A:933:G:OP2	8:G:3:ARG:HB3	2.15	0.47
1:A:1154:G:H2'	1:A:1155:G:H8	1.79	0.47
1:A:1183:A:O2'	1:A:1184:G:OP1	2.31	0.47
1:A:1347:G:C6	10:I:107:ARG:NH2	2.82	0.47
3:B:34:ALA:O	3:B:41:ILE:N	2.47	0.47
4:C:94:LEU:HD22	4:C:95:THR:HG22	1.95	0.47
4:C:154:SER:OG	4:C:155:GLY:N	2.47	0.47
4:C:190:ARG:HH11	4:C:190:ARG:CB	2.27	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:F:38:GLU:O	7:F:39:LYS:CB	2.62	0.47
14:M:37:THR:O	14:M:39:ILE:HG13	2.14	0.47
14:M:84:ILE:O	14:M:85:GLY:C	2.52	0.47
23:W:45:ILE:O	23:W:45:ILE:HG22	2.14	0.47
1:A:122:G:O2'	1:A:123:C:H5'	2.14	0.47
1:A:375:U:H4'	17:P:17:TYR:CE2	2.49	0.47
1:A:1060:C:H5''	11:J:51:ARG:HB3	1.96	0.47
1:A:1305:G:C5'	22:V:4:GLY:C	2.82	0.47
3:B:178:ARG:HH22	9:H:68:ARG:NH2	2.06	0.47
3:B:223:ILE:C	3:B:225:ALA:N	2.65	0.47
6:E:137:GLU:O	6:E:141:GLN:HG3	2.14	0.47
8:G:38:LEU:O	8:G:42:ILE:HG13	2.14	0.47
14:M:77:ASN:O	14:M:81:LEU:CD2	2.62	0.47
1:A:33:A:H2'	1:A:34:C:H6	1.78	0.47
1:A:376:G:H2'	1:A:377:G:H8	1.79	0.47
1:A:1202:G:H2'	1:A:1203:C:O4'	2.14	0.47
3:B:237:ALA:O	3:B:240:GLN:OE1	2.33	0.47
4:C:47:LEU:CD2	4:C:68:VAL:HG11	2.45	0.47
5:D:152:SER:O	5:D:158:ILE:HD12	2.14	0.47
6:E:28:PHE:N	6:E:28:PHE:CD1	2.81	0.47
7:F:43:LEU:HD22	7:F:43:LEU:N	2.30	0.47
8:G:31:MET:HB2	8:G:39:ALA:CB	2.44	0.47
8:G:46:ALA:O	8:G:50:ILE:HG13	2.15	0.47
10:I:58:ARG:NH1	10:I:58:ARG:HG3	2.29	0.47
17:P:11:SER:OG	17:P:14:ASN:HB3	2.14	0.47
20:S:25:LYS:HD2	20:S:25:LYS:N	2.30	0.47
1:A:8:A:H5'	6:E:101:ILE:HG22	1.95	0.47
1:A:43:C:H2'	1:A:44:G:O4'	2.14	0.47
1:A:642:A:C8	9:H:115:SER:HA	2.49	0.47
1:A:760:G:O6	18:Q:105:ALA:CB	2.62	0.47
1:A:877:C:O2'	1:A:878:G:H5'	2.13	0.47
1:A:925:G:C6	1:A:927:G:N7	2.83	0.47
3:B:10:LEU:CD2	3:B:48:MET:HG3	2.45	0.47
14:M:20:THR:HG22	14:M:21:TYR:CD1	2.49	0.47
16:O:21:ASP:CG	16:O:24:SER:HG	2.17	0.47
16:O:74:ASP:OD1	16:O:76:GLU:HB3	2.14	0.47
18:Q:97:SER:CB	18:Q:103:GLY:N	2.77	0.47
22:V:14:TRP:C	22:V:16:GLY:H	2.18	0.47
1:A:41:G:H2'	1:A:42:G:H8	1.79	0.47
1:A:255:G:H2'	1:A:256:U:C6	2.49	0.47
1:A:277:C:O2'	1:A:278:G:H5'	2.13	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:421:U:H4'	1:A:422:C:OP2	2.14	0.47
1:A:518:C:OP2	23:W:39:LYS:HE2	2.14	0.47
3:B:15:VAL:HG13	3:B:209:ARG:HG3	1.95	0.47
4:C:64:VAL:N	4:C:99:VAL:HB	2.20	0.47
5:D:36:ARG:HA	5:D:38:TYR:CE2	2.49	0.47
5:D:104:VAL:HG11	5:D:146:ILE:HD12	1.96	0.47
13:L:50:SER:O	13:L:51:ALA:CB	2.63	0.47
14:M:120:LYS:HE2	14:M:122:LYS:O	2.15	0.47
15:N:9:LYS:HD3	15:N:9:LYS:O	2.14	0.47
19:R:47:THR:C	19:R:49:LYS:H	2.18	0.47
1:A:67:C:HO2'	1:A:171:A:H1'	1.78	0.47
1:A:166:G:H2'	1:A:167:G:H8	1.78	0.47
1:A:178:C:O2'	1:A:179:A:H5'	2.14	0.47
1:A:220:G:O2'	1:A:221:C:H5'	2.15	0.47
1:A:439:A:C4	1:A:497:A:C2	3.01	0.47
1:A:448:A:C2	1:A:449:C:C4	3.03	0.47
1:A:518:C:H2'	1:A:530:G:C8	2.50	0.47
1:A:748:C:O2'	1:A:749:C:P	2.72	0.47
1:A:1057:G:O2'	1:A:1058:G:H5'	2.15	0.47
1:A:1305:G:H5''	22:V:4:GLY:C	2.34	0.47
1:A:1329:A:C2'	1:A:1330:U:H5'	2.44	0.47
1:A:1436:U:H2'	1:A:1437:C:O4'	2.15	0.47
1:A:1474:G:H2'	1:A:1475:G:C8	2.49	0.47
3:B:23:ARG:HH11	3:B:23:ARG:C	2.16	0.47
3:B:36:ARG:C	3:B:38:GLY:N	2.68	0.47
3:B:47:THR:HA	3:B:202:PRO:CG	2.45	0.47
3:B:100:GLY:N	3:B:176:GLU:OE2	2.40	0.47
4:C:91:LEU:HD23	4:C:91:LEU:C	2.35	0.47
4:C:204:LEU:HD12	4:C:204:LEU:O	2.15	0.47
5:D:149:ALA:HB3	5:D:152:SER:CB	2.44	0.47
6:E:12:LEU:CD1	6:E:31:LEU:HB2	2.44	0.47
6:E:81:GLU:OE1	6:E:88:LYS:HE2	2.14	0.47
7:F:25:ILE:HD12	7:F:82:ARG:HH11	1.80	0.47
9:H:48:TYR:HB2	9:H:60:ARG:O	2.15	0.47
9:H:63:LEU:HD22	9:H:63:LEU:H	1.80	0.47
10:I:125:TYR:CE1	10:I:128:ARG:HD2	2.50	0.47
13:L:115:LYS:O	13:L:117:ARG:N	2.43	0.47
14:M:108:ARG:NE	14:M:108:ARG:HA	2.29	0.47
16:O:70:LEU:HD11	16:O:78:TYR:N	2.30	0.47
17:P:74:LEU:HB3	17:P:79:VAL:HG21	1.95	0.47
18:Q:67:LYS:O	18:Q:68:ARG:HB3	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:R:52:PRO:HB2	19:R:54:ARG:CD	2.43	0.47
20:S:53:ASN:N	20:S:53:ASN:ND2	2.62	0.47
1:A:485:G:C2'	1:A:486:U:OP2	2.62	0.47
1:A:1227:A:H2'	1:A:1228:C:O5'	2.15	0.47
1:A:1397:C:O2'	1:A:1398:A:P	2.73	0.47
3:B:84:GLU:CB	3:B:219:VAL:HG21	2.31	0.47
3:B:142:LEU:O	3:B:143:GLU:C	2.53	0.47
4:C:5:ILE:HD13	4:C:10:PHE:CB	2.45	0.47
4:C:38:ARG:HG3	4:C:38:ARG:NH1	2.22	0.47
4:C:48:TYR:C	4:C:50:ALA:H	2.18	0.47
5:D:205:GLU:HA	5:D:208:SER:OG	2.15	0.47
9:H:24:THR:HG22	9:H:63:LEU:CD2	2.40	0.47
9:H:75:ARG:HA	9:H:76:PRO:HD3	1.70	0.47
11:J:10:GLY:H	11:J:16:LEU:HD11	1.80	0.47
11:J:38:ILE:HG12	11:J:72:VAL:N	2.29	0.47
11:J:69:ASN:O	11:J:70:ARG:HD3	2.15	0.47
17:P:51:VAL:HG11	17:P:74:LEU:HD22	1.97	0.47
20:S:67:VAL:O	20:S:68:GLY:C	2.53	0.47
21:T:54:LYS:HA	21:T:57:ARG:HD2	1.96	0.47
23:W:20:ALA:HB1	23:W:36:ILE:CG1	2.45	0.47
1:A:248:C:O2'	1:A:249:U:H5'	2.15	0.47
1:A:264:U:H4'	18:Q:63:ARG:HD3	1.97	0.47
1:A:401:C:H1'	1:A:622:A:H1'	1.95	0.47
1:A:960:U:O2'	1:A:1223:C:H4'	2.15	0.47
1:A:961:U:H2'	1:A:962:C:H5'	1.96	0.47
1:A:977:A:C2'	1:A:978:A:H5''	2.44	0.47
1:A:1039:C:H2'	1:A:1040:U:C6	2.50	0.47
1:A:1070:U:H2'	1:A:1071:C:H6	1.80	0.47
1:A:1097:C:H2'	1:A:1098:C:C6	2.50	0.47
4:C:26:LYS:H	4:C:26:LYS:HD3	1.79	0.47
4:C:56:ASP:O	4:C:66:VAL:HA	2.14	0.47
8:G:69:VAL:HG12	8:G:69:VAL:O	2.14	0.47
12:K:16:SER:O	12:K:35:PRO:HG3	2.15	0.47
12:K:80:VAL:HG12	12:K:81:ASP:N	2.30	0.47
13:L:28:LYS:CD	13:L:33:ARG:HH12	2.20	0.47
13:L:41:ARG:HB3	13:L:41:ARG:HH11	1.80	0.47
15:N:14:PRO:HB2	15:N:16:PHE:O	2.15	0.47
20:S:5:LEU:HD11	20:S:70:LYS:HZ3	1.80	0.47
20:S:63:THR:HG22	20:S:64:GLU:N	2.30	0.47
1:A:112:G:H2'	1:A:113:G:H5'	1.97	0.47
1:A:190:C:H2'	1:A:190(A):C:H6	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:448:A:H2'	1:A:449:C:H6	1.79	0.47
1:A:812:C:HO2'	1:A:813:U:H6	1.63	0.47
5:D:91:SER:O	5:D:92:VAL:C	2.53	0.47
7:F:26:ILE:O	7:F:30:LEU:HG	2.15	0.47
7:F:40:VAL:HB	7:F:63:TYR:HD1	1.80	0.47
14:M:2:ALA:HB3	14:M:53:VAL:HG11	1.97	0.47
14:M:46:LYS:HG3	14:M:47:ASP:H	1.80	0.47
1:A:429:U:OP2	5:D:36:ARG:NH1	2.47	0.46
1:A:582:U:OP1	16:O:64:ARG:NH2	2.48	0.46
1:A:606:G:H5''	1:A:607:A:H5'	1.97	0.46
1:A:1040:U:H2'	1:A:1041:A:H8	1.78	0.46
1:A:1247:U:O2'	1:A:1248:A:H5'	2.15	0.46
1:A:1249:C:O2'	10:I:73:GLN:NE2	2.48	0.46
1:A:1305:G:C5'	22:V:4:GLY:HA3	2.46	0.46
3:B:17:PHE:HD1	3:B:18:GLY:N	2.13	0.46
3:B:83:MET:HE2	3:B:234:PRO:O	2.15	0.46
3:B:142:LEU:HB3	3:B:146:GLN:OE1	2.15	0.46
5:D:36:ARG:C	5:D:38:TYR:H	2.18	0.46
6:E:92:LYS:HB3	6:E:119:LEU:HB2	1.96	0.46
11:J:23:ILE:HD12	11:J:23:ILE:N	2.27	0.46
11:J:72:VAL:O	11:J:73:ASP:HB2	2.15	0.46
12:K:72:ALA:HB1	12:K:77:MET:HG3	1.97	0.46
13:L:60:LEU:CD2	13:L:66:VAL:HG22	2.45	0.46
15:N:45:ARG:HG2	15:N:49:HIS:NE2	2.31	0.46
17:P:42:ARG:O	17:P:43:LYS:C	2.54	0.46
18:Q:66:SER:OG	18:Q:69:LYS:HB3	2.15	0.46
20:S:45:VAL:CG1	20:S:46:GLY:N	2.78	0.46
1:A:190(E):U:O2'	18:Q:63:ARG:NH2	2.47	0.46
1:A:328:C:H4'	1:A:329:A:C5'	2.46	0.46
1:A:338:A:H2	1:A:351:G:H22	1.63	0.46
1:A:356:A:H1'	1:A:368:U:O2'	2.16	0.46
1:A:659:U:H2'	1:A:660:G:O4'	2.15	0.46
1:A:976:G:OP1	15:N:32:SER:HA	2.14	0.46
1:A:1106:G:OP1	4:C:172:ARG:HD3	2.15	0.46
1:A:1315:U:H5	20:S:6:LYS:HZ1	1.64	0.46
3:B:213:LEU:C	3:B:213:LEU:CD2	2.83	0.46
4:C:87:LEU:O	4:C:90:GLU:N	2.48	0.46
5:D:205:GLU:O	5:D:208:SER:HB2	2.16	0.46
13:L:23:LYS:HB3	13:L:89:ARG:HH21	1.81	0.46
19:R:35:ARG:C	19:R:37:VAL:H	2.18	0.46
19:R:45:SER:C	19:R:47:THR:N	2.66	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:T:43:LEU:HD12	21:T:52:ALA:HA	1.96	0.46
21:T:66:ALA:HB3	21:T:72:LEU:HB2	1.96	0.46
23:W:32:ILE:HD13	23:W:32:ILE:N	2.29	0.46
1:A:19:C:H2'	1:A:20:U:H6	1.80	0.46
1:A:358:U:O2'	1:A:359:U:H5'	2.15	0.46
1:A:409:G:OP1	5:D:24:GLU:O	2.34	0.46
1:A:761:G:C5'	18:Q:102:GLY:HA3	2.45	0.46
1:A:1038:C:H2'	1:A:1039:C:C5	2.50	0.46
1:A:1414:U:H3	1:A:1487:G:H21	1.63	0.46
3:B:23:ARG:NH1	3:B:24:TRP:CA	2.78	0.46
3:B:33:TYR:HB3	3:B:41:ILE:O	2.15	0.46
3:B:86:GLU:C	3:B:88:ALA:H	2.18	0.46
3:B:217:ARG:HA	3:B:220:ASP:OD2	2.16	0.46
4:C:173:VAL:N	4:C:174:PRO:CD	2.77	0.46
5:D:156:GLU:CG	5:D:160:GLN:HE21	2.29	0.46
6:E:82:VAL:HG21	6:E:138:ALA:HA	1.98	0.46
9:H:38:ILE:N	9:H:38:ILE:CD1	2.79	0.46
13:L:11:VAL:HG21	18:Q:34:LYS:HG2	1.98	0.46
14:M:46:LYS:HE2	14:M:47:ASP:CA	2.45	0.46
14:M:79:LYS:O	14:M:82:MET:HB3	2.16	0.46
1:A:622:A:C8	1:A:623:C:C5	3.03	0.46
1:A:1184:G:H2'	1:A:1185:G:H8	1.80	0.46
1:A:1264:C:H2'	1:A:1265:G:H8	1.80	0.46
1:A:1292:U:C5'	10:I:38:GLN:HE22	2.29	0.46
4:C:91:LEU:HD21	4:C:99:VAL:H	1.80	0.46
5:D:9:CYS:HA	5:D:12:CYS:HB2	1.97	0.46
9:H:87:SER:HG	9:H:92:ARG:HD2	1.80	0.46
10:I:50:LEU:C	10:I:52:ALA:H	2.19	0.46
1:A:299:G:H2'	1:A:300:A:C8	2.51	0.46
1:A:1023:G:H2'	1:A:1023:G:N3	2.31	0.46
1:A:1140:C:H2'	1:A:1141:C:H6	1.81	0.46
1:A:1144:G:H21	1:A:1146:A:H62	1.64	0.46
3:B:26:PRO:O	3:B:29:ALA:HB2	2.16	0.46
5:D:17:VAL:HG12	5:D:18:LYS:N	2.30	0.46
5:D:31:CYS:C	5:D:33:MET:H	2.18	0.46
10:I:128:ARG:OXT	10:I:128:ARG:CG	2.63	0.46
11:J:13:HIS:O	11:J:17:ASP:OD2	2.34	0.46
17:P:1:MET:O	17:P:3:LYS:HG3	2.16	0.46
17:P:39:TYR:CE2	17:P:73:LEU:HD21	2.51	0.46
21:T:39:LYS:HB3	21:T:55:ILE:HG21	1.97	0.46
1:A:51:A:H4'	1:A:52:G:C5'	2.45	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:518:C:H5'	1:A:519:C:C5	2.51	0.46
1:A:665:A:H2'	1:A:732:C:O2	2.15	0.46
1:A:679:C:H2'	1:A:680:C:C6	2.51	0.46
1:A:910:C:H2'	1:A:911:U:C6	2.51	0.46
1:A:996:A:H2'	1:A:997:U:C6	2.51	0.46
1:A:1039:C:O2'	1:A:1040:U:H5'	2.15	0.46
1:A:1229:A:H2'	1:A:1230:C:C6	2.50	0.46
1:A:1399:C:C2	1:A:1502:A:N6	2.84	0.46
5:D:64:LEU:HD21	5:D:97:LEU:CD1	2.46	0.46
8:G:155:ARG:O	8:G:156:TRP:CB	2.64	0.46
10:I:36:TYR:HD2	10:I:37:PHE:CE2	2.33	0.46
13:L:84:LEU:HD22	13:L:104:VAL:HG11	1.96	0.46
14:M:108:ARG:O	14:M:111:LYS:N	2.49	0.46
18:Q:12:SER:HB3	18:Q:20:THR:OG1	2.16	0.46
18:Q:62:SER:OG	18:Q:72:ARG:HG3	2.15	0.46
20:S:25:LYS:HD2	20:S:25:LYS:H	1.79	0.46
20:S:77:THR:HG23	20:S:78:ARG:N	2.30	0.46
1:A:190(L):U:H3	21:T:105:SER:HG	1.64	0.46
5:D:38:TYR:HB2	5:D:39:PRO:HD2	1.98	0.46
5:D:78:LEU:HA	5:D:78:LEU:HD23	1.69	0.46
8:G:58:PRO:O	8:G:61:VAL:N	2.49	0.46
10:I:69:GLY:O	10:I:73:GLN:HG3	2.16	0.46
10:I:99:LEU:HB2	10:I:101:PHE:CE1	2.49	0.46
1:A:190(C):C:H1'	1:A:190(G):G:N2	2.31	0.46
1:A:263:A:H2'	1:A:264:U:C5	2.51	0.46
1:A:411:A:OP2	5:D:25:ARG:NH2	2.49	0.46
1:A:429:U:O2'	5:D:22:LYS:NZ	2.48	0.46
1:A:479:C:H2'	1:A:480:U:O4'	2.16	0.46
1:A:579:G:H2'	1:A:580:U:C6	2.50	0.46
1:A:670:G:H2'	1:A:671:G:O4'	2.16	0.46
1:A:1028:C:H2'	1:A:1029:C:O4'	2.16	0.46
1:A:1167:A:C6	1:A:1168:A:C6	3.04	0.46
1:A:1305:G:H2'	1:A:1331:G:N2	2.30	0.46
3:B:24:TRP:CG	3:B:25:ASN:N	2.83	0.46
3:B:174:VAL:O	3:B:175:ARG:C	2.54	0.46
3:B:239:VAL:O	3:B:239:VAL:HG12	2.16	0.46
4:C:35:GLU:HG2	4:C:59:ARG:HH22	1.80	0.46
6:E:38:GLN:O	6:E:71:LEU:HD12	2.16	0.46
7:F:29:ALA:O	7:F:30:LEU:C	2.54	0.46
7:F:98:LEU:HD22	7:F:101:ALA:CB	2.43	0.46
8:G:99:LEU:HD23	8:G:102:ARG:NH1	2.31	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:I:58:ARG:CG	10:I:58:ARG:NH1	2.73	0.46
14:M:117:VAL:HG12	14:M:118:ALA:H	1.80	0.46
16:O:27:VAL:HG12	16:O:31:LEU:HD11	1.97	0.46
18:Q:5:VAL:O	18:Q:6:LEU:HD23	2.16	0.46
1:A:176:C:O2'	1:A:177:C:H5'	2.16	0.46
1:A:356:A:O2'	1:A:357:G:H5'	2.16	0.46
1:A:434:U:H2'	1:A:435:C:H6	1.74	0.46
1:A:445:G:O2'	1:A:446:G:H5'	2.15	0.46
1:A:714:G:H2'	1:A:715:A:C8	2.51	0.46
1:A:768:A:H2'	1:A:769:G:O4'	2.16	0.46
1:A:939:G:H5''	8:G:102:ARG:HH22	1.78	0.46
1:A:1533:C:O2	1:A:1533:C:C2'	2.60	0.46
7:F:62:TRP:CD1	19:R:35:ARG:NH1	2.84	0.46
11:J:53:PRO:HA	15:N:41:ARG:HH21	1.81	0.46
13:L:71:PRO:HG2	13:L:102:ARG:HG3	1.98	0.46
17:P:59:TRP:HB3	17:P:64:ALA:HB2	1.98	0.46
19:R:36:ASN:O	19:R:39:VAL:N	2.45	0.46
1:A:77:G:O2'	1:A:78:G:H5'	2.16	0.46
1:A:290:C:O2'	1:A:291:C:H5'	2.16	0.46
1:A:971:G:C8	1:A:1365:G:H4'	2.51	0.46
1:A:984:C:H2'	1:A:985:C:H6	1.80	0.46
1:A:1250:A:H4'	10:I:68:GLY:CA	2.46	0.46
1:A:1402:C:H2'	1:A:1403:C:O4'	2.16	0.46
3:B:33:TYR:O	3:B:34:ALA:CB	2.63	0.46
6:E:15:ARG:CD	6:E:26:PHE:HB3	2.46	0.46
8:G:16:LEU:CD1	10:I:42:ARG:HA	2.46	0.46
11:J:30:SER:OG	11:J:81:THR:HA	2.16	0.46
11:J:51:ARG:HB2	11:J:59:SER:CB	2.27	0.46
11:J:63:PHE:CE2	15:N:58:LYS:HG2	2.51	0.46
13:L:7:ILE:HD13	13:L:7:ILE:HA	1.82	0.46
13:L:58:VAL:HG11	13:L:85:ILE:HD11	1.98	0.46
14:M:22:ILE:HD12	14:M:25:ILE:CD1	2.43	0.46
16:O:46:HIS:ND1	16:O:46:HIS:N	2.65	0.46
18:Q:97:SER:CB	18:Q:103:GLY:CA	2.94	0.46
19:R:29:PHE:HE1	19:R:31:LEU:CD2	2.29	0.46
19:R:66:LEU:HG	19:R:70:ILE:CD1	2.46	0.46
23:W:17:LEU:HD11	23:W:23:ARG:NH1	2.31	0.46
23:W:54:VAL:CB	23:W:69:TYR:HB2	2.43	0.46
1:A:421:U:H5'	1:A:422:C:OP2	2.16	0.45
1:A:936:C:H2'	1:A:937:A:O4'	2.16	0.45
1:A:945:G:H2'	1:A:945:G:N3	2.31	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:949:A:H62	14:M:106:ASN:HD21	1.63	0.45
1:A:1053:G:C4'	1:A:1054:C:H5'	2.46	0.45
1:A:1172:C:O2'	1:A:1173:G:H5'	2.16	0.45
3:B:97:TRP:HZ3	3:B:176:GLU:OE2	1.99	0.45
4:C:157:ILE:HG21	4:C:164:ARG:NH2	2.31	0.45
4:C:178:LEU:O	4:C:179:ARG:CB	2.63	0.45
8:G:26:PHE:CE2	8:G:30:ILE:HD11	2.51	0.45
8:G:77:SER:O	8:G:156:TRP:CZ3	2.69	0.45
14:M:63:THR:HG22	14:M:64:TRP:CG	2.51	0.45
15:N:26:ARG:NH1	15:N:47:LEU:CG	2.79	0.45
17:P:74:LEU:O	17:P:75:ARG:C	2.55	0.45
21:T:11:SER:C	21:T:13:LEU:H	2.18	0.45
1:A:246:A:N6	1:A:281:G:H1'	2.31	0.45
1:A:474:G:H2'	1:A:475:G:C8	2.49	0.45
1:A:615:C:O2'	1:A:616:G:H5'	2.16	0.45
1:A:663:A:H2'	1:A:664:G:O4'	2.16	0.45
1:A:737:A:H2'	1:A:738:C:C6	2.50	0.45
1:A:919:A:O2'	1:A:920:U:H5'	2.16	0.45
1:A:927:G:O2'	1:A:928:G:H5'	2.17	0.45
1:A:1063:C:H3'	1:A:1064:G:H2'	1.98	0.45
1:A:1250:A:H5''	10:I:67:GLY:C	2.37	0.45
1:A:1306:A:H2'	1:A:1307:U:O4'	2.17	0.45
3:B:20:GLU:O	3:B:39:ILE:HG23	2.16	0.45
4:C:50:ALA:O	4:C:70:VAL:CG1	2.65	0.45
4:C:191:THR:CG2	4:C:192:THR:H	2.29	0.45
6:E:96:PRO:HA	6:E:117:ASP:OD1	2.16	0.45
10:I:10:ARG:HG2	10:I:10:ARG:HH11	1.81	0.45
10:I:117:HIS:C	10:I:118:LYS:HG3	2.37	0.45
11:J:14:LYS:O	11:J:18:ALA:HB3	2.15	0.45
11:J:27:ALA:HA	11:J:30:SER:OG	2.16	0.45
14:M:39:ILE:HD13	14:M:52:GLU:HB3	1.97	0.45
14:M:125:ARG:O	14:M:126:LYS:C	2.54	0.45
23:W:25:LYS:HD2	23:W:30:PRO:O	2.16	0.45
1:A:112:G:C2'	1:A:113:G:H5'	2.45	0.45
1:A:186:C:H2'	1:A:187:C:C6	2.52	0.45
1:A:459:G:H3'	1:A:460:A:C5'	2.47	0.45
1:A:624:C:H2'	1:A:625:G:H8	1.81	0.45
1:A:668:G:H1'	16:O:46:HIS:HD2	1.80	0.45
1:A:765:G:N1	1:A:812:C:H2'	2.29	0.45
1:A:848:C:O2'	1:A:849:C:H5'	2.15	0.45
1:A:970:C:H42	14:M:126:LYS:HD3	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1127:G:H21	1:A:1147:C:N4	2.14	0.45
1:A:1145:C:O2'	1:A:1146:A:H8	1.98	0.45
1:A:1409:C:O2'	1:A:1410:G:H5'	2.16	0.45
4:C:56:ASP:O	4:C:57:ILE:HG13	2.16	0.45
4:C:167:TRP:HB3	4:C:168:ALA:H	1.37	0.45
7:F:26:ILE:CG2	7:F:63:TYR:HE2	2.27	0.45
11:J:89:ASP:O	11:J:90:LEU:HG	2.17	0.45
20:S:64:GLU:C	20:S:66:MET:H	2.20	0.45
23:W:37:SER:HB3	23:W:67:ILE:O	2.15	0.45
1:A:19:C:H5''	6:E:86:ALA:HB3	1.99	0.45
1:A:443:C:H2'	1:A:444:C:C6	2.42	0.45
1:A:552:U:O2'	1:A:553:A:H5'	2.17	0.45
1:A:900:A:H2'	1:A:901:A:C8	2.51	0.45
1:A:942:G:H2'	1:A:943:U:H6	1.81	0.45
1:A:972:C:C5'	11:J:57:LYS:HD2	2.45	0.45
1:A:1250:A:H2'	1:A:1251:A:C8	2.51	0.45
1:A:1340:A:O2'	1:A:1341:U:H5'	2.16	0.45
1:A:1450:U:H2'	1:A:1452:C:C5	2.51	0.45
3:B:16:HIS:HE2	3:B:214:ILE:CG1	2.23	0.45
3:B:131:PRO:C	3:B:133:LYS:N	2.68	0.45
4:C:52:LEU:N	4:C:52:LEU:CD2	2.80	0.45
5:D:8:VAL:HG11	5:D:21:LEU:CB	2.47	0.45
5:D:158:ILE:HG22	5:D:181:MET:HE2	1.99	0.45
9:H:104:ARG:NH2	9:H:138:TRP:CH2	2.85	0.45
10:I:121:ARG:NH1	10:I:121:ARG:HG2	2.32	0.45
11:J:42:THR:HG23	11:J:67:THR:O	2.16	0.45
17:P:43:LYS:CG	17:P:48:TRP:CD2	2.99	0.45
1:A:148:G:O2'	1:A:149:A:H5'	2.17	0.45
1:A:475:G:H2'	1:A:476:G:H8	1.82	0.45
1:A:715:A:H2'	1:A:716:A:C8	2.52	0.45
1:A:771:G:H2'	1:A:772:U:C6	2.51	0.45
1:A:950:U:H2'	1:A:951:G:C8	2.51	0.45
1:A:986:A:H1'	20:S:54:GLY:O	2.17	0.45
1:A:1524:C:OP1	12:K:120:ARG:NH1	2.50	0.45
4:C:108:ASN:HD22	4:C:111:LEU:HG	1.78	0.45
4:C:174:PRO:CB	4:C:177:THR:HG22	2.45	0.45
5:D:173:TRP:CE2	5:D:189:PRO:HB3	2.52	0.45
9:H:104:ARG:HG3	9:H:138:TRP:CG	2.52	0.45
10:I:47:LEU:C	10:I:49:PRO:HD2	2.37	0.45
12:K:99:GLN:HA	12:K:105:VAL:HG23	1.99	0.45
13:L:59:ARG:HD3	13:L:65:GLU:CG	2.47	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:N:12:ARG:O	15:N:13:THR:C	2.54	0.45
17:P:18:ARG:HD3	17:P:35:LYS:CE	2.47	0.45
1:A:75:G:O2'	1:A:76:C:H5'	2.16	0.45
1:A:118:U:O4	1:A:289:G:H4'	2.17	0.45
1:A:190(K):G:H2'	1:A:190(L):U:H6	1.81	0.45
1:A:532:A:H2'	1:A:533:A:H5'	1.99	0.45
1:A:658:G:O2'	1:A:659:U:H5'	2.17	0.45
1:A:1206:G:C6	1:A:1207:G:C5	3.05	0.45
1:A:1263:C:H2'	1:A:1264:C:H6	1.82	0.45
1:A:1460:A:H2'	1:A:1461:G:O4'	2.17	0.45
3:B:59:GLU:O	3:B:60:ASP:C	2.55	0.45
5:D:33:MET:CE	5:D:37:PRO:HA	2.46	0.45
5:D:91:SER:O	5:D:93:PHE:N	2.50	0.45
7:F:15:ASP:H	7:F:18:GLN:NE2	2.14	0.45
7:F:100:ASN:OD1	7:F:100:ASN:O	2.35	0.45
9:H:134:ILE:HG22	9:H:135:CYS:SG	2.57	0.45
11:J:90:LEU:N	11:J:91:PRO:HD2	2.26	0.45
17:P:67:THR:CG2	17:P:68:ASP:N	2.79	0.45
18:Q:86:GLU:OE1	18:Q:86:GLU:HA	2.13	0.45
20:S:64:GLU:O	20:S:66:MET:N	2.49	0.45
1:A:103:C:P	21:T:17:ARG:NH1	2.89	0.45
1:A:158:G:O2'	1:A:159:G:H5'	2.17	0.45
1:A:592:G:H2'	1:A:593:G:H8	1.81	0.45
1:A:625:G:H4'	17:P:16:HIS:CD2	2.51	0.45
1:A:644:G:O2'	1:A:645:C:H5'	2.17	0.45
1:A:779:C:O2'	1:A:780:A:H5'	2.17	0.45
1:A:909:A:O2'	1:A:1414:U:H5''	2.16	0.45
1:A:966:G:H2'	1:A:967:C:C6	2.51	0.45
1:A:986:A:H2'	1:A:987:G:C8	2.52	0.45
1:A:1060:C:C4	4:C:2:GLY:N	2.84	0.45
1:A:1182:G:H5'	1:A:1184:G:H5'	1.99	0.45
1:A:1243:C:O2'	1:A:1244:C:H5'	2.17	0.45
1:A:1459:C:OP1	21:T:27:LYS:HE2	2.17	0.45
2:X:1:C:H2'	2:X:2:U:H5'	1.99	0.45
3:B:73:THR:HB	3:B:169:LYS:HE3	1.98	0.45
3:B:108:ILE:O	3:B:108:ILE:HG22	2.15	0.45
3:B:137:ARG:HA	3:B:140:HIS:HD2	1.82	0.45
3:B:236:TYR:CD2	3:B:236:TYR:O	2.70	0.45
4:C:58:GLU:HB3	11:J:92:THR:CG2	2.43	0.45
5:D:52:SER:O	5:D:53:ASP:C	2.55	0.45
5:D:107:ARG:HD2	5:D:173:TRP:HZ2	1.80	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:D:152:SER:CB	5:D:155:LEU:HD12	2.44	0.45
6:E:116:THR:O	6:E:117:ASP:OD2	2.34	0.45
10:I:32:ASP:O	10:I:33:PHE:C	2.53	0.45
11:J:9:ARG:HB3	11:J:9:ARG:NH1	2.31	0.45
13:L:75:HIS:CD2	13:L:77:LEU:H	2.35	0.45
21:T:18:GLN:O	21:T:19:SER:C	2.55	0.45
1:A:477:G:H2'	1:A:478:A:H8	1.80	0.45
1:A:1272:G:H2'	1:A:1273:G:C8	2.52	0.45
1:A:1279:A:O2'	1:A:1281:U:OP2	2.30	0.45
1:A:1421:G:H2'	1:A:1422:G:H8	1.81	0.45
6:E:11:ILE:HD11	6:E:33:VAL:CG2	2.47	0.45
6:E:100:VAL:C	6:E:101:ILE:HD13	2.36	0.45
8:G:70:LYS:HB3	8:G:96:GLN:HG2	1.99	0.45
9:H:60:ARG:HG3	9:H:60:ARG:NH1	2.31	0.45
10:I:99:LEU:HD22	10:I:99:LEU:N	2.31	0.45
11:J:78:ASN:HB2	11:J:81:THR:OG1	2.17	0.45
13:L:7:ILE:O	13:L:11:VAL:HG23	2.17	0.45
13:L:53:ARG:HD2	13:L:53:ARG:H	1.82	0.45
13:L:79:GLU:C	13:L:81:SER:N	2.70	0.45
14:M:59:TYR:O	14:M:63:THR:HB	2.16	0.45
15:N:57:ARG:HG2	15:N:58:LYS:N	2.32	0.45
1:A:399:G:O2'	1:A:400:C:H5'	2.16	0.45
1:A:487:A:H2'	1:A:488:C:O4'	2.17	0.45
1:A:502:G:H2'	1:A:503:C:O4'	2.17	0.45
1:A:791:G:C2'	1:A:792:A:C5'	2.95	0.45
1:A:801:U:H2'	1:A:802:A:C8	2.52	0.45
1:A:922:G:H5'	6:E:19:MET:O	2.17	0.45
1:A:953:G:H1'	14:M:125:ARG:CB	2.47	0.45
1:A:1256:A:O2'	1:A:1257:U:P	2.75	0.45
3:B:24:TRP:HA	3:B:190:THR:HG22	1.98	0.45
4:C:5:ILE:O	4:C:5:ILE:HD12	2.17	0.45
5:D:98:GLU:HA	5:D:103:ASN:ND2	2.31	0.45
11:J:34:VAL:O	11:J:36:GLY:N	2.50	0.45
13:L:89:ARG:NH1	13:L:97:ARG:NE	2.65	0.45
14:M:23:TYR:CE2	14:M:70:LEU:HB3	2.52	0.45
14:M:65:LYS:C	14:M:66:LEU:HD23	2.37	0.45
14:M:123:ALA:O	14:M:124:PRO:C	2.55	0.45
19:R:21:LYS:HG3	19:R:57:GLY:HA3	1.99	0.45
21:T:38:LYS:O	21:T:39:LYS:C	2.56	0.45
1:A:339:C:H2'	1:A:340:U:H6	1.82	0.45
1:A:620:C:H2'	1:A:621:A:O4'	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:676:A:O2'	1:A:677:U:H5'	2.16	0.45
1:A:838:G:C3'	1:A:839:U:H5''	2.47	0.45
1:A:1163:C:H2'	1:A:1164:G:C8	2.51	0.45
1:A:1397:C:H4'	1:A:1398:A:OP2	2.17	0.45
1:A:1411:C:H2'	1:A:1412:C:H5'	1.99	0.45
3:B:15:VAL:CG2	3:B:209:ARG:HG3	2.46	0.45
3:B:124:SER:CB	3:B:125:PRO:CD	2.93	0.45
3:B:187:LEU:HA	3:B:201:ILE:HB	1.98	0.45
4:C:99:VAL:HG22	4:C:100:ALA:O	2.16	0.45
5:D:13:ARG:HB3	5:D:38:TYR:O	2.17	0.45
5:D:78:LEU:HB3	5:D:93:PHE:HE2	1.82	0.45
7:F:101:ALA:HB2	19:R:28:GLU:HB2	1.98	0.45
9:H:20:TYR:HE2	9:H:75:ARG:HD2	1.81	0.45
9:H:84:ARG:HD2	9:H:85:ARG:O	2.17	0.45
10:I:65:VAL:HG12	10:I:65:VAL:O	2.17	0.45
11:J:81:THR:C	11:J:83:GLU:H	2.19	0.45
16:O:41:GLU:HA	16:O:44:LYS:HG3	1.99	0.45
21:T:20:LEU:HA	21:T:20:LEU:HD23	1.75	0.45
1:A:21:G:H2'	1:A:22:G:C8	2.52	0.44
1:A:521:G:O2'	1:A:522:C:H5'	2.17	0.44
1:A:826:C:H2'	1:A:827:U:C6	2.52	0.44
1:A:839:U:C5'	1:A:840:C:H5	2.13	0.44
1:A:934:C:C4	1:A:1345:U:C5	3.04	0.44
1:A:1121:U:H2'	1:A:1122:U:C6	2.52	0.44
1:A:1286:A:C8	1:A:1287:A:H4'	2.52	0.44
3:B:30:ARG:HG3	3:B:31:TYR:CE2	2.51	0.44
3:B:118:LEU:C	3:B:120:ALA:N	2.69	0.44
3:B:169:LYS:O	3:B:169:LYS:HD3	2.18	0.44
4:C:79:ARG:C	4:C:81:GLY:H	2.20	0.44
8:G:12:LEU:HD12	8:G:12:LEU:H	1.81	0.44
9:H:119:LEU:HB2	9:H:123:GLU:CB	2.47	0.44
11:J:12:ASP:OD1	11:J:13:HIS:N	2.50	0.44
13:L:42:THR:HB	23:W:61:ASP:CB	2.47	0.44
14:M:46:LYS:HG3	14:M:47:ASP:N	2.32	0.44
15:N:12:ARG:O	15:N:14:PRO:N	2.50	0.44
17:P:28:ARG:NH1	17:P:29:ASP:OD2	2.45	0.44
18:Q:86:GLU:O	18:Q:87:LYS:C	2.54	0.44
1:A:397:A:H3'	1:A:397:A:N3	2.32	0.44
1:A:695:A:H61	1:A:797:C:H1'	1.82	0.44
1:A:706:A:O4'	12:K:29:ILE:HD11	2.17	0.44
1:A:781:A:C5	1:A:802:A:C2	3.05	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1190:G:O2'	1:A:1191:A:P	2.76	0.44
1:A:1298:C:H2'	8:G:114:ARG:NH1	2.21	0.44
3:B:10:LEU:HG	3:B:48:MET:HE1	1.99	0.44
3:B:12:GLU:C	3:B:14:GLY:N	2.68	0.44
5:D:87:GLY:O	5:D:88:VAL:C	2.55	0.44
6:E:75:THR:HG23	6:E:76:ILE:N	2.33	0.44
9:H:73:ASP:OD2	9:H:75:ARG:HB2	2.17	0.44
13:L:43:VAL:CG1	13:L:44:THR:N	2.80	0.44
16:O:31:LEU:HD12	16:O:31:LEU:N	2.27	0.44
23:W:6:THR:HG22	23:W:7:ILE:N	2.32	0.44
1:A:284:G:O2'	1:A:285:G:H5'	2.18	0.44
1:A:393:A:C2'	1:A:394:G:H5'	2.47	0.44
1:A:539:A:H2'	1:A:540:G:C8	2.52	0.44
1:A:946:A:H2'	1:A:947:G:H8	1.77	0.44
1:A:1145:C:O2'	1:A:1146:A:C8	2.67	0.44
1:A:1283:G:O2'	1:A:1284:C:H5'	2.17	0.44
1:A:1305:G:H5'	22:V:4:GLY:CA	2.47	0.44
1:A:1508:G:O2'	1:A:1509:C:H5'	2.18	0.44
4:C:134:ILE:HG23	4:C:151:VAL:CG1	2.47	0.44
5:D:64:LEU:C	5:D:64:LEU:CD2	2.85	0.44
10:I:23:ASN:C	10:I:23:ASN:ND2	2.71	0.44
10:I:78:LYS:HD3	10:I:101:PHE:CD2	2.50	0.44
11:J:19:SER:HA	11:J:22:LYS:NZ	2.33	0.44
12:K:121:PRO:HB2	12:K:125:PHE:HB2	1.98	0.44
13:L:67:THR:HB	13:L:95:GLY:O	2.18	0.44
16:O:57:LEU:HD12	16:O:57:LEU:HA	1.72	0.44
18:Q:10:VAL:HG13	18:Q:19:VAL:HB	1.98	0.44
1:A:6:G:H4'	1:A:298:A:H4'	1.98	0.44
1:A:89:C:H2'	1:A:90:U:O4'	2.17	0.44
1:A:105:G:H2'	1:A:106:C:H6	1.80	0.44
1:A:255:G:O6	1:A:266:G:O6	2.36	0.44
1:A:735:C:O2'	1:A:736:C:H5'	2.17	0.44
1:A:1127:G:H1'	1:A:1148:U:H3	1.83	0.44
1:A:1228:C:H4'	14:M:116:THR:HA	1.98	0.44
1:A:1305:G:N2	1:A:1331:G:H1'	2.33	0.44
1:A:1317:C:H2'	1:A:1318:A:O4'	2.18	0.44
1:A:1379:G:N7	8:G:2:ALA:HB3	2.32	0.44
3:B:19:HIS:CD2	3:B:20:GLU:HG2	2.53	0.44
4:C:180:ALA:O	4:C:181:ASN:C	2.53	0.44
5:D:111:ALA:HA	5:D:161:ASN:ND2	2.33	0.44
7:F:61:LEU:HD13	7:F:63:TYR:OH	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:J:30:SER:O	11:J:78:ASN:HB2	2.18	0.44
15:N:26:ARG:HH11	15:N:47:LEU:HD11	1.82	0.44
17:P:20:VAL:CG1	17:P:32:TYR:CB	2.94	0.44
19:R:16:PRO:O	19:R:17:SER:HB3	2.17	0.44
19:R:53:ARG:CG	19:R:63:GLN:HG2	2.48	0.44
20:S:67:VAL:O	20:S:69:HIS:N	2.50	0.44
21:T:54:LYS:CA	21:T:57:ARG:HD2	2.48	0.44
21:T:56:MET:O	21:T:59:ALA:HB3	2.17	0.44
1:A:9:G:C5'	6:E:122:GLU:OE2	2.65	0.44
1:A:252:U:H2'	1:A:253:U:C6	2.53	0.44
1:A:287:U:HO2'	1:A:288:A:H5'	1.82	0.44
1:A:1202:G:H2'	1:A:1203:C:H5'	2.00	0.44
1:A:1385:G:H2'	1:A:1386:G:O4'	2.16	0.44
3:B:10:LEU:HD23	3:B:48:MET:HG3	1.99	0.44
3:B:16:HIS:HE1	3:B:213:LEU:HB3	1.83	0.44
3:B:110:GLN:HA	3:B:113:HIS:CD2	2.52	0.44
6:E:93:PRO:CG	9:H:105:ARG:HE	2.31	0.44
7:F:5:GLU:O	7:F:90:VAL:HA	2.17	0.44
7:F:31:GLU:C	7:F:33:TYR:H	2.21	0.44
8:G:115:ARG:NH1	8:G:115:ARG:HB2	2.32	0.44
12:K:74:ALA:C	12:K:76:GLY:N	2.71	0.44
16:O:36:ILE:HG12	16:O:59:MET:HE2	2.00	0.44
18:Q:100:LYS:C	18:Q:101:ARG:HE	2.21	0.44
20:S:50:ALA:HA	20:S:58:VAL:O	2.16	0.44
23:W:40:MET:HE3	23:W:70:ARG:HB3	2.00	0.44
1:A:245:C:O2	1:A:283:C:N3	2.50	0.44
1:A:415:A:H2'	1:A:416:G:H8	1.82	0.44
1:A:433:C:H2'	1:A:434:U:C6	2.53	0.44
1:A:960:U:C2	1:A:1225:A:N7	2.85	0.44
1:A:1493:A:C4'	1:A:1494:G:OP1	2.63	0.44
1:A:1527:C:O2'	1:A:1528:U:H5'	2.18	0.44
3:B:15:VAL:HG11	3:B:209:ARG:C	2.38	0.44
3:B:19:HIS:CG	3:B:20:GLU:N	2.85	0.44
3:B:101:MET:HG2	3:B:108:ILE:CD1	2.47	0.44
3:B:144:ARG:HG3	3:B:145:LEU:H	1.81	0.44
3:B:236:TYR:O	3:B:236:TYR:HD2	2.01	0.44
4:C:37:GLN:NE2	15:N:52:GLN:OE1	2.40	0.44
6:E:72:GLN:O	6:E:75:THR:HG22	2.18	0.44
6:E:143:ARG:HD3	6:E:143:ARG:HA	1.74	0.44
7:F:94:GLN:HE21	19:R:32:ARG:HD3	1.81	0.44
10:I:108:VAL:HG12	10:I:109:VAL:N	2.32	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:N:37:PHE:N	15:N:37:PHE:CD1	2.86	0.44
1:A:497:A:O2'	1:A:498:U:OP1	2.30	0.44
1:A:516:U:O3'	23:W:2:LYS:HE3	2.17	0.44
1:A:899:C:H2'	1:A:900:A:C8	2.53	0.44
1:A:923:A:H8	1:A:923:A:O5'	2.01	0.44
1:A:1435:G:H8	1:A:1435:G:O5'	2.01	0.44
1:A:1483:A:H2'	1:A:1484:C:C5'	2.48	0.44
1:A:1499:A:O2'	1:A:1500:A:H5'	2.16	0.44
4:C:157:ILE:HD11	4:C:166:GLU:HB2	2.00	0.44
9:H:49:GLU:HG2	9:H:62:TYR:HE2	1.82	0.44
12:K:44:SER:H	12:K:47:VAL:HB	1.83	0.44
14:M:96:LEU:O	14:M:110:ARG:NH1	2.51	0.44
21:T:96:GLY:O	21:T:97:ALA:CB	2.61	0.44
23:W:40:MET:SD	23:W:67:ILE:HG22	2.57	0.44
1:A:359:U:O2'	1:A:360:A:H5'	2.17	0.44
1:A:656:C:O2'	16:O:28:GLN:OE1	2.34	0.44
1:A:686:U:O4	1:A:703:G:H1'	2.18	0.44
1:A:1015:A:H1'	1:A:1218:C:O2'	2.18	0.44
1:A:1184:G:OP1	1:A:1184:G:H3'	2.18	0.44
1:A:1285:A:O2'	1:A:1286:A:OP2	2.35	0.44
1:A:1345:U:C2	1:A:1377:A:N1	2.86	0.44
1:A:1392:G:H2'	1:A:1393:U:C6	2.53	0.44
1:A:1402:C:H2'	1:A:1403:C:H6	1.81	0.44
1:A:1516:G:N2	1:A:1519:A:OP2	2.49	0.44
3:B:123:ALA:N	3:B:127:ILE:HG12	2.32	0.44
6:E:34:VAL:O	6:E:42:GLY:N	2.48	0.44
9:H:2:LEU:HD21	9:H:8:ASP:HB2	1.99	0.44
10:I:93:ARG:HH21	10:I:97:LYS:NZ	2.14	0.44
11:J:84:GLN:HA	11:J:88:LEU:CD1	2.48	0.44
12:K:111:ASP:OD1	19:R:84:LYS:HE2	2.17	0.44
14:M:2:ALA:HB3	14:M:53:VAL:CG1	2.47	0.44
14:M:45:VAL:O	14:M:48:LEU:HB2	2.18	0.44
16:O:4:THR:H	16:O:7:GLU:CD	2.21	0.44
1:A:266:G:O2'	1:A:267:C:P	2.76	0.44
1:A:279:A:H5'	1:A:281:G:O4'	2.18	0.44
1:A:540:G:H2'	1:A:541:G:O4'	2.18	0.44
1:A:581:G:OP1	16:O:61:GLY:HA3	2.18	0.44
1:A:972:C:H4'	11:J:57:LYS:CG	2.48	0.44
1:A:993:G:H4'	1:A:994:A:OP2	2.18	0.44
1:A:1044:A:C2'	1:A:1045:C:H5'	2.47	0.44
1:A:1262:C:C2	1:A:1263:C:C5	3.05	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1428:A:H2'	1:A:1429:C:C6	2.53	0.44
1:A:1480:G:H2'	1:A:1481:U:H6	1.76	0.44
3:B:25:ASN:O	3:B:27:LYS:N	2.50	0.44
4:C:32:LEU:O	4:C:35:GLU:HB3	2.18	0.44
4:C:132:ARG:O	4:C:133:ALA:C	2.56	0.44
9:H:138:TRP:HE3	9:H:138:TRP:OXT	2.00	0.44
12:K:100:ALA:O	12:K:102:GLY:N	2.51	0.44
14:M:49:THR:HG23	14:M:51:ALA:H	1.83	0.44
15:N:29:ARG:CZ	15:N:31:ARG:HB3	2.48	0.44
20:S:10:PHE:HE2	20:S:12:ASP:N	2.16	0.44
1:A:76:C:O2'	1:A:77:G:H5'	2.18	0.43
1:A:162:A:O5'	1:A:162:A:H8	2.01	0.43
1:A:250:A:O4'	1:A:252:U:C6	2.71	0.43
1:A:264:U:O2'	18:Q:64:PRO:HB2	2.16	0.43
1:A:384:G:H2'	1:A:385:C:C6	2.53	0.43
1:A:736:C:OP2	19:R:68:LYS:HE3	2.18	0.43
1:A:938:A:C6	1:A:939:G:C5	3.06	0.43
1:A:1152:A:H5''	11:J:13:HIS:CG	2.53	0.43
1:A:1221:G:O3'	20:S:77:THR:OG1	2.30	0.43
1:A:1318:A:H4'	20:S:10:PHE:CE1	2.53	0.43
1:A:1367:C:C5'	11:J:60:ARG:NH1	2.77	0.43
4:C:112:SER:O	4:C:116:VAL:HG23	2.17	0.43
4:C:134:ILE:CG2	4:C:168:ALA:HB3	2.48	0.43
5:D:15:GLU:O	5:D:17:VAL:N	2.49	0.43
5:D:173:TRP:CG	5:D:189:PRO:HB3	2.53	0.43
8:G:95:ARG:HG2	8:G:99:LEU:HD11	2.00	0.43
10:I:56:LEU:O	10:I:58:ARG:N	2.49	0.43
11:J:32:ALA:HB3	11:J:75:ILE:O	2.17	0.43
13:L:27:LEU:CD2	13:L:28:LYS:HG3	2.48	0.43
14:M:65:LYS:O	14:M:66:LEU:HD23	2.18	0.43
14:M:87:TYR:CE1	14:M:91:ARG:HD3	2.53	0.43
21:T:53:LEU:HD23	21:T:56:MET:HE3	1.98	0.43
23:W:31:GLU:CD	23:W:31:GLU:N	2.70	0.43
1:A:10:A:O2'	1:A:11:G:H5'	2.18	0.43
1:A:184:G:O4'	1:A:224:C:H4'	2.18	0.43
1:A:570:G:N2	1:A:571:U:C2	2.86	0.43
1:A:579:G:H5'	1:A:728:A:C1'	2.35	0.43
1:A:761:G:C2	18:Q:105:ALA:CB	3.01	0.43
1:A:859:A:H2'	1:A:860:A:O4'	2.18	0.43
1:A:1426:C:O2'	1:A:1427:U:H5'	2.18	0.43
4:C:38:ARG:CB	4:C:94:LEU:HD21	2.45	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:C:70:VAL:O	4:C:106:VAL:N	2.47	0.43
6:E:15:ARG:HD3	6:E:26:PHE:CG	2.53	0.43
8:G:6:ARG:HG2	8:G:6:ARG:O	2.18	0.43
8:G:51:GLN:OE1	8:G:51:GLN:HA	2.17	0.43
12:K:16:SER:HA	12:K:79:SER:O	2.18	0.43
13:L:27:LEU:CB	13:L:62:SER:HB2	2.48	0.43
14:M:10:PRO:O	14:M:45:VAL:HG11	2.18	0.43
17:P:10:GLY:O	17:P:11:SER:HB3	2.18	0.43
1:A:191:G:N2	21:T:103:GLY:O	2.47	0.43
1:A:344:A:O2'	1:A:345:C:OP1	2.32	0.43
1:A:502:G:H1'	1:A:550:G:H5'	1.99	0.43
1:A:988:G:H2'	1:A:989:C:O4'	2.18	0.43
1:A:1238:A:C2	1:A:1241:G:N3	2.86	0.43
3:B:17:PHE:HB3	3:B:44:LEU:HD11	1.99	0.43
3:B:60:ASP:CG	3:B:64:ARG:NH2	2.71	0.43
3:B:96:ARG:O	3:B:98:LEU:HD23	2.18	0.43
4:C:11:ARG:NH1	4:C:178:LEU:HA	2.33	0.43
4:C:47:LEU:CD1	4:C:47:LEU:N	2.80	0.43
6:E:40:ARG:NH1	6:E:68:GLU:OE2	2.52	0.43
7:F:36:ARG:HH12	7:F:38:GLU:CG	2.20	0.43
11:J:28:ARG:C	11:J:29:ARG:HG3	2.39	0.43
12:K:91:ARG:NH1	19:R:88:LYS:CE	2.81	0.43
12:K:98:LEU:HD23	12:K:98:LEU:HA	1.88	0.43
21:T:57:ARG:HH11	21:T:57:ARG:CG	2.32	0.43
21:T:69:GLY:O	21:T:73:HIS:ND1	2.51	0.43
1:A:9:G:OP1	6:E:122:GLU:HG3	2.19	0.43
1:A:98:U:O2'	1:A:99:C:H5'	2.17	0.43
1:A:190(J):U:H2'	1:A:190(K):G:C8	2.54	0.43
1:A:232:G:H2'	1:A:233:C:C6	2.53	0.43
1:A:243:A:C2	1:A:245:C:C2	3.06	0.43
1:A:263:A:OP2	21:T:79:ARG:NH1	2.51	0.43
1:A:404:U:H2'	1:A:405:U:C6	2.54	0.43
1:A:913:A:O2'	1:A:914:A:O5'	2.29	0.43
1:A:1126:U:H1'	1:A:1280:A:C6	2.54	0.43
1:A:1161:C:H2'	1:A:1162:C:H6	1.83	0.43
1:A:1353:G:H2'	1:A:1354:C:C6	2.53	0.43
3:B:197:VAL:CB	3:B:200:ILE:HG13	2.45	0.43
4:C:7:PRO:HG2	4:C:184:TYR:HB2	2.00	0.43
7:F:2:ARG:NE	7:F:69:GLU:HG2	2.33	0.43
12:K:33:THR:HG21	12:K:37:GLY:HA2	2.00	0.43
15:N:12:ARG:O	15:N:14:PRO:HD3	2.17	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:Q:48:GLU:C	18:Q:50:LYS:N	2.69	0.43
1:A:164:U:H2'	1:A:165:C:H6	1.83	0.43
1:A:222:U:H2'	1:A:223:U:C6	2.54	0.43
1:A:404:U:C2	1:A:405:U:C5	3.06	0.43
1:A:889:A:N1	1:A:907:A:H5''	2.33	0.43
1:A:962:C:H2'	1:A:963:G:O4'	2.18	0.43
1:A:1001:A:C2	1:A:1041:A:C2	3.06	0.43
1:A:1044:A:H2'	1:A:1045:C:C4'	2.49	0.43
1:A:1197:G:O2'	1:A:1198:G:H5'	2.19	0.43
1:A:1314:C:H2'	1:A:1315:U:C6	2.53	0.43
1:A:1394:A:C6	1:A:1501:C:H4'	2.52	0.43
3:B:82:ARG:O	3:B:86:GLU:HG3	2.19	0.43
5:D:130:GLY:O	5:D:131:ARG:C	2.56	0.43
6:E:77:PRO:O	6:E:78:HIS:HB3	2.18	0.43
6:E:115:VAL:HG11	6:E:118:ILE:HD13	1.97	0.43
10:I:19:LEU:CD2	10:I:61:ALA:HB2	2.43	0.43
11:J:19:SER:CB	11:J:91:PRO:HG3	2.48	0.43
11:J:47:PHE:HB2	11:J:63:PHE:HB2	2.00	0.43
13:L:26:ALA:C	13:L:27:LEU:O	2.56	0.43
16:O:27:VAL:HG12	16:O:31:LEU:CD1	2.48	0.43
17:P:75:ARG:C	17:P:77:ALA:H	2.21	0.43
20:S:36:ARG:NH2	20:S:75:ALA:HB3	2.34	0.43
23:W:58:THR:HG22	23:W:60:TYR:H	1.82	0.43
1:A:194:C:C2'	1:A:195:A:H5''	2.49	0.43
1:A:259:G:O2'	1:A:260:G:H5'	2.18	0.43
1:A:399:G:H2'	1:A:400:C:C6	2.53	0.43
1:A:815:A:N6	1:A:1509:C:H1'	2.34	0.43
1:A:1152:A:H5''	11:J:13:HIS:HB2	2.00	0.43
1:A:1519:A:H2'	1:A:1520:G:H5'	2.01	0.43
3:B:25:ASN:C	3:B:25:ASN:ND2	2.69	0.43
5:D:158:ILE:HG22	5:D:181:MET:CE	2.48	0.43
7:F:53:ALA:C	7:F:55:ASP:H	2.21	0.43
7:F:75:LEU:C	7:F:75:LEU:HD13	2.39	0.43
9:H:25:ASP:OD1	9:H:60:ARG:HD3	2.19	0.43
11:J:19:SER:HA	11:J:22:LYS:HZ3	1.84	0.43
11:J:32:ALA:CB	11:J:75:ILE:O	2.67	0.43
20:S:40:ILE:HG21	20:S:62:ILE:HD13	1.99	0.43
20:S:45:VAL:HG12	20:S:46:GLY:H	1.81	0.43
23:W:33:LEU:O	23:W:34:ALA:O	2.37	0.43
1:A:39:G:H2'	1:A:40:C:H6	1.83	0.43
1:A:76:C:H2'	1:A:77:G:H8	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:204:U:H4'	1:A:216:G:O5'	2.18	0.43
1:A:536:C:H2'	1:A:537:G:H8	1.83	0.43
1:A:723:U:O2	1:A:723:U:C2'	2.65	0.43
1:A:828:A:H5''	1:A:859:A:C2	2.54	0.43
1:A:865:A:C5	1:A:866:C:C4	3.07	0.43
1:A:975:A:N6	1:A:1367:C:O4'	2.51	0.43
1:A:1068:G:N7	1:A:1094:G:H2'	2.33	0.43
1:A:1128:C:C2	1:A:1144:G:N2	2.86	0.43
1:A:1187:G:OP1	10:I:113:LYS:HE2	2.18	0.43
1:A:1460:A:P	21:T:27:LYS:NZ	2.92	0.43
4:C:3:ASN:OD1	4:C:3:ASN:N	2.51	0.43
4:C:91:LEU:HD11	4:C:99:VAL:HG13	2.01	0.43
4:C:153:VAL:O	4:C:154:SER:O	2.37	0.43
5:D:70:ILE:HG22	5:D:75:PHE:HB2	1.99	0.43
6:E:45:PHE:CD2	6:E:47:LYS:HE3	2.54	0.43
8:G:8:GLU:OE1	8:G:8:GLU:N	2.52	0.43
10:I:79:LEU:HD13	10:I:79:LEU:C	2.38	0.43
13:L:27:LEU:HD23	13:L:28:LYS:HG3	2.00	0.43
21:T:39:LYS:CD	21:T:55:ILE:HD13	2.29	0.43
22:V:18:TYR:CG	22:V:24:ARG:HD3	2.53	0.43
23:W:7:ILE:O	23:W:56:GLU:HA	2.19	0.43
1:A:29:G:H5'	1:A:296:U:OP1	2.19	0.43
1:A:321:A:O2'	1:A:322:C:H5'	2.18	0.43
1:A:458:C:H2'	1:A:459:G:H8	1.84	0.43
1:A:744:C:H2'	1:A:745:C:C6	2.53	0.43
1:A:938:A:N6	1:A:939:G:C6	2.87	0.43
1:A:1182:G:HO2'	1:A:1183:A:P	2.40	0.43
1:A:1425:U:C2	1:A:1426:C:C5	3.07	0.43
3:B:36:ARG:C	3:B:38:GLY:H	2.21	0.43
9:H:19:VAL:HG23	9:H:21:LYS:HD3	2.01	0.43
9:H:56:LYS:N	9:H:56:LYS:CD	2.80	0.43
10:I:30:GLY:O	10:I:31:GLN:C	2.57	0.43
11:J:7:LYS:O	11:J:97:GLU:HB2	2.19	0.43
12:K:106:LYS:O	12:K:107:SER:HB3	2.19	0.43
20:S:61:TYR:C	20:S:61:TYR:CD2	2.92	0.43
1:A:141:A:O2'	1:A:142:G:H5'	2.19	0.43
1:A:160:A:H1'	1:A:344:A:C5	2.53	0.43
1:A:407:G:H2'	1:A:408:A:H8	1.84	0.43
1:A:684:A:N6	1:A:685:G:C6	2.87	0.43
1:A:780:A:C2	1:A:801:U:C5	3.07	0.43
1:A:887:G:C2'	1:A:888:G:H5'	2.49	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1066:C:O2'	1:A:1067:A:H5'	2.18	0.43
1:A:1292:U:H5'	10:I:38:GLN:NE2	2.34	0.43
4:C:11:ARG:O	4:C:13:GLY:N	2.52	0.43
4:C:50:ALA:C	4:C:70:VAL:HG13	2.39	0.43
7:F:31:GLU:O	7:F:33:TYR:N	2.52	0.43
8:G:15:ASP:OD1	8:G:17:VAL:HB	2.18	0.43
8:G:154:TYR:O	8:G:156:TRP:N	2.52	0.43
13:L:86:ARG:HG3	13:L:86:ARG:NH1	2.32	0.43
14:M:58:GLU:HA	14:M:58:GLU:OE2	2.19	0.43
17:P:75:ARG:HH11	17:P:75:ARG:HG3	1.83	0.43
21:T:93:GLU:OE2	21:T:93:GLU:CA	2.66	0.43
23:W:70:ARG:O	23:W:71:LYS:HD2	2.19	0.43
1:A:267:C:H2'	1:A:268:C:C6	2.53	0.43
1:A:369:C:O2'	1:A:370:C:H5'	2.19	0.43
1:A:517:G:N2	1:A:533:A:OP2	2.43	0.43
1:A:590:C:O2'	1:A:591:U:H5'	2.19	0.43
1:A:597:G:C4	1:A:644:G:C2	3.07	0.43
1:A:822:C:O2'	1:A:823:G:H5'	2.19	0.43
1:A:1346:A:H61	1:A:1374:A:H3'	1.84	0.43
4:C:107:GLN:O	4:C:108:ASN:CB	2.63	0.43
5:D:187:ARG:HH21	5:D:188:LEU:HD12	1.82	0.43
7:F:33:TYR:C	7:F:71:ARG:NH2	2.72	0.43
8:G:59:LEU:CD1	8:G:63:LYS:HE3	2.49	0.43
8:G:104:LEU:HA	8:G:104:LEU:HD23	1.83	0.43
10:I:110:GLU:OE2	10:I:113:LYS:NZ	2.52	0.43
14:M:40:ASN:ND2	14:M:41:PRO:HD2	2.31	0.43
16:O:6:GLU:O	16:O:7:GLU:C	2.57	0.43
18:Q:24:GLU:OE2	18:Q:37:LYS:HD3	2.19	0.43
23:W:23:ARG:O	23:W:24:VAL:C	2.57	0.43
1:A:359:U:H2'	1:A:360:A:C8	2.54	0.42
1:A:632:A:C2'	1:A:633:G:H5'	2.49	0.42
1:A:915:A:C2'	1:A:916:G:H5'	2.49	0.42
1:A:1065:U:C5	1:A:1190:G:C4	3.06	0.42
1:A:1154:G:C2	1:A:1155:G:C8	3.07	0.42
1:A:1339:A:H2'	1:A:1340:A:O4'	2.19	0.42
4:C:50:ALA:O	4:C:70:VAL:HG13	2.19	0.42
7:F:16:GLN:NE2	7:F:16:GLN:O	2.51	0.42
8:G:74:GLU:OE2	8:G:91:VAL:HG22	2.19	0.42
8:G:143:ARG:O	8:G:145:ALA:O	2.37	0.42
12:K:111:ASP:CG	19:R:84:LYS:HE2	2.39	0.42
14:M:14:ARG:CZ	14:M:42:ALA:HA	2.49	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:N:28:GLY:O	15:N:30:ALA:N	2.53	0.42
18:Q:45:HIS:CD2	18:Q:47:PRO:HG3	2.54	0.42
21:T:58:LYS:O	21:T:62:LEU:HG	2.19	0.42
23:W:17:LEU:HB2	23:W:21:THR:HB	2.00	0.42
1:A:101:A:C2	1:A:102:G:C8	3.07	0.42
1:A:103:C:OP2	21:T:17:ARG:NH1	2.53	0.42
1:A:189:G:H2'	1:A:190:C:H6	1.82	0.42
1:A:413:G:H22	1:A:428:G:H1'	1.84	0.42
1:A:586:C:O3'	9:H:89:PRO:HB2	2.19	0.42
1:A:887:G:H2'	1:A:888:G:H5'	2.01	0.42
1:A:947:G:H2'	1:A:948:C:O4'	2.18	0.42
1:A:948:C:O2'	1:A:949:A:H5'	2.20	0.42
1:A:1060:C:C5	4:C:2:GLY:HA3	2.54	0.42
1:A:1178:G:P	10:I:97:LYS:HZ3	2.41	0.42
3:B:12:GLU:OE1	3:B:12:GLU:O	2.37	0.42
3:B:21:ARG:H	3:B:21:ARG:CD	2.13	0.42
3:B:22:LYS:C	3:B:23:ARG:HG3	2.38	0.42
3:B:69:LEU:HD22	3:B:71:VAL:HG22	2.01	0.42
3:B:118:LEU:HD23	3:B:118:LEU:HA	1.88	0.42
3:B:132:LYS:HG2	3:B:135:GLN:OE1	2.18	0.42
3:B:167:PRO:HG2	3:B:168:THR:H	1.85	0.42
3:B:208:ILE:HG21	3:B:238:LEU:O	2.18	0.42
3:B:212:GLN:HG3	3:B:239:VAL:CG2	2.49	0.42
4:C:32:LEU:HD22	4:C:59:ARG:HH11	1.84	0.42
4:C:35:GLU:CG	4:C:59:ARG:HH22	2.32	0.42
4:C:134:ILE:HD13	4:C:166:GLU:HB3	2.01	0.42
4:C:139:GLN:CA	4:C:139:GLN:NE2	2.81	0.42
6:E:5:ASP:CG	6:E:6:PHE:H	2.22	0.42
6:E:31:LEU:HA	6:E:31:LEU:HD23	1.77	0.42
6:E:40:ARG:HG2	6:E:40:ARG:NH1	2.31	0.42
6:E:103:GLY:O	6:E:106:PRO:HD2	2.19	0.42
8:G:113:GLU:CD	8:G:113:GLU:H	2.23	0.42
9:H:10:LEU:CD2	9:H:83:ILE:HD11	2.44	0.42
9:H:38:ILE:HG21	9:H:120:THR:HG22	2.01	0.42
10:I:86:VAL:O	10:I:90:PRO:HA	2.19	0.42
10:I:114:TYR:CD1	11:J:60:ARG:HG2	2.54	0.42
12:K:51:LYS:O	12:K:55:LYS:HE3	2.18	0.42
19:R:52:PRO:O	19:R:56:THR:HG23	2.19	0.42
20:S:41:VAL:O	20:S:44:MET:HB2	2.19	0.42
23:W:15:GLU:CD	23:W:16:ALA:H	2.21	0.42
23:W:66:ARG:CB	23:W:66:ARG:CZ	2.98	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:46:G:H2'	1:A:366:C:C5	2.54	0.42
1:A:262:A:C6	1:A:263:A:C6	3.08	0.42
1:A:322:C:H4'	21:T:23:ARG:HD2	2.01	0.42
1:A:600:C:H2'	1:A:601:C:C6	2.55	0.42
1:A:760:G:O2'	18:Q:98:LEU:HB3	2.19	0.42
1:A:1289:A:H2'	1:A:1290:G:H5'	2.02	0.42
3:B:17:PHE:CA	3:B:44:LEU:HD21	2.48	0.42
3:B:39:ILE:HG22	3:B:40:HIS:N	2.33	0.42
3:B:73:THR:CG2	3:B:169:LYS:HE3	2.48	0.42
3:B:223:ILE:O	3:B:225:ALA:N	2.45	0.42
6:E:102:ALA:HB2	6:E:120:THR:CB	2.48	0.42
6:E:107:ARG:HG2	6:E:108:ALA:N	2.32	0.42
7:F:91:VAL:HG11	19:R:72:ARG:NH1	2.34	0.42
8:G:85:TYR:O	8:G:87:VAL:HG23	2.19	0.42
8:G:151:TYR:N	8:G:151:TYR:CD1	2.87	0.42
10:I:111:ARG:HD3	10:I:111:ARG:C	2.39	0.42
12:K:100:ALA:O	12:K:101:SER:C	2.58	0.42
16:O:17:ARG:HD3	16:O:26:GLU:OE2	2.20	0.42
18:Q:93:GLN:O	18:Q:96:GLN:HB3	2.19	0.42
19:R:74:ARG:HB3	19:R:81:PHE:CZ	2.53	0.42
21:T:68:LYS:HA	21:T:68:LYS:CE	2.38	0.42
1:A:110:C:C4	1:A:111:G:C5	3.08	0.42
1:A:267:C:P	18:Q:67:LYS:HB2	2.60	0.42
1:A:339:C:H2'	1:A:340:U:C6	2.54	0.42
1:A:621:A:H2'	1:A:622:A:C8	2.54	0.42
1:A:706:A:C5	1:A:707:C:C5	3.08	0.42
1:A:1003(A):G:C5	1:A:1004:A:N3	2.87	0.42
1:A:1113:C:O5'	1:A:1113:C:H6	2.03	0.42
5:D:76:ARG:HG2	5:D:76:ARG:HH11	1.84	0.42
10:I:50:LEU:HG	10:I:81:ILE:HG21	2.02	0.42
11:J:23:ILE:H	11:J:23:ILE:CD1	2.28	0.42
11:J:27:ALA:HB2	11:J:85:LEU:HD11	2.00	0.42
11:J:47:PHE:CE2	15:N:37:PHE:CE1	3.05	0.42
13:L:60:LEU:HD21	13:L:66:VAL:HG22	2.02	0.42
14:M:73:GLU:O	14:M:74:VAL:C	2.58	0.42
17:P:4:ILE:HG13	17:P:64:ALA:HB1	2.01	0.42
17:P:6:LEU:HB3	17:P:17:TYR:HD2	1.84	0.42
20:S:36:ARG:HB2	20:S:72:GLY:HA3	2.00	0.42
22:V:12:LYS:HB3	22:V:22:ARG:HD2	2.02	0.42
23:W:20:ALA:CB	23:W:36:ILE:HD12	2.49	0.42
1:A:248:C:H2'	1:A:249:U:H5'	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:970:C:O2	14:M:126:LYS:C	2.58	0.42
1:A:1173:G:O2'	1:A:1174:G:H5'	2.19	0.42
4:C:11:ARG:HG2	4:C:11:ARG:HH11	1.85	0.42
7:F:19:LEU:C	7:F:19:LEU:CD2	2.86	0.42
9:H:93:VAL:O	9:H:93:VAL:HG12	2.19	0.42
10:I:42:ARG:HH22	10:I:75:ASP:CG	2.22	0.42
11:J:3:LYS:HG3	11:J:75:ILE:HG23	2.01	0.42
13:L:33:ARG:HG2	13:L:60:LEU:HD12	2.01	0.42
16:O:7:GLU:O	16:O:11:VAL:HG23	2.20	0.42
1:A:151:A:H2'	1:A:152:A:O4'	2.20	0.42
1:A:180:U:C2'	1:A:181:G:H5'	2.48	0.42
1:A:182:U:OP2	1:A:183:G:C8	2.72	0.42
1:A:319:G:O2'	1:A:320:C:H5'	2.19	0.42
1:A:538:G:H2'	1:A:539:A:C8	2.55	0.42
1:A:757:U:H2'	1:A:758:G:O4'	2.19	0.42
1:A:1055:A:C2	1:A:1056:U:H1'	2.55	0.42
1:A:1238:A:H2	1:A:1241:G:N3	2.17	0.42
1:A:1393:U:O4'	1:A:1502:A:H5'	2.20	0.42
3:B:12:GLU:OE2	3:B:213:LEU:HD11	2.19	0.42
3:B:19:HIS:NE2	3:B:20:GLU:OE2	2.53	0.42
4:C:134:ILE:HG22	4:C:168:ALA:CB	2.49	0.42
9:H:104:ARG:HG2	9:H:104:ARG:HH11	1.84	0.42
10:I:4:TYR:HB2	10:I:19:LEU:HB2	2.01	0.42
10:I:111:ARG:O	10:I:119:ALA:HB2	2.19	0.42
12:K:102:GLY:O	12:K:103:LEU:C	2.58	0.42
13:L:27:LEU:C	13:L:29:GLY:H	2.23	0.42
13:L:46:LYS:HE3	13:L:47:LYS:HG3	2.01	0.42
18:Q:27:PHE:HD1	18:Q:28:PRO:O	2.02	0.42
19:R:87:ARG:O	19:R:88:LYS:O	2.38	0.42
23:W:29:GLY:HA3	23:W:30:PRO:HD3	1.89	0.42
1:A:7:G:H5'	1:A:298:A:H5'	2.01	0.42
1:A:50:A:N6	1:A:361:G:H4'	2.35	0.42
1:A:203:U:H5''	1:A:204:U:OP1	2.19	0.42
1:A:258:G:H2'	1:A:259:G:H8	1.84	0.42
1:A:296:U:O2'	1:A:297:G:H5'	2.20	0.42
1:A:664:G:O2'	1:A:666:G:OP2	2.34	0.42
1:A:926:G:N2	1:A:1505:G:H2'	2.34	0.42
1:A:927:G:H2'	1:A:928:G:H8	1.84	0.42
1:A:976:G:C8	1:A:1358:U:H2'	2.55	0.42
1:A:995:C:O2	1:A:995:C:H2'	2.19	0.42
1:A:1025:U:OP1	1:A:1025:U:H4'	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1080:A:H5'	6:E:14:ARG:NH2	2.35	0.42
1:A:1342:C:H5''	10:I:125:TYR:CE1	2.54	0.42
1:A:1488:G:H2'	1:A:1489:G:H8	1.84	0.42
3:B:47:THR:O	3:B:51:LEU:HG	2.20	0.42
3:B:140:HIS:O	3:B:141:GLU:C	2.58	0.42
3:B:167:PRO:O	3:B:171:ALA:N	2.52	0.42
4:C:91:LEU:CD2	4:C:99:VAL:HG13	2.42	0.42
12:K:114:VAL:O	12:K:114:VAL:HG13	2.20	0.42
14:M:91:ARG:HD2	14:M:91:ARG:HA	1.79	0.42
16:O:34:LEU:C	16:O:34:LEU:HD23	2.40	0.42
19:R:43:PHE:O	19:R:51:LEU:HD12	2.19	0.42
21:T:56:MET:HE2	21:T:88:VAL:HB	2.01	0.42
23:W:23:ARG:HH21	23:W:33:LEU:CD2	2.33	0.42
23:W:43:HIS:O	23:W:45:ILE:HG13	2.20	0.42
1:A:397:A:H5'	1:A:398:C:P	2.60	0.42
1:A:538:G:H2'	1:A:539:A:H8	1.84	0.42
1:A:538:G:O3'	13:L:114:LYS:HD3	2.20	0.42
1:A:593:G:O2'	1:A:594:G:H5'	2.19	0.42
1:A:1301:U:O2'	1:A:1302:U:P	2.78	0.42
3:B:60:ASP:O	3:B:64:ARG:HB2	2.20	0.42
3:B:144:ARG:HA	3:B:147:LYS:HD2	2.00	0.42
3:B:165:VAL:O	3:B:187:LEU:O	2.38	0.42
4:C:139:GLN:CA	4:C:139:GLN:HE21	2.32	0.42
6:E:115:VAL:HG11	6:E:118:ILE:HG12	2.02	0.42
10:I:7:THR:HB	10:I:83:ARG:NH1	2.35	0.42
17:P:18:ARG:HD3	17:P:35:LYS:HE3	2.02	0.42
21:T:53:LEU:C	21:T:57:ARG:HD2	2.39	0.42
23:W:26:LEU:N	23:W:30:PRO:O	2.53	0.42
1:A:124:G:C6	1:A:125:U:C4	3.08	0.42
1:A:198:G:OP2	1:A:198:G:H8	2.02	0.42
1:A:346:G:C2'	1:A:347:G:H5'	2.49	0.42
1:A:657:G:O2'	1:A:658:G:H5'	2.19	0.42
1:A:766:A:C8	1:A:814:A:C6	3.08	0.42
1:A:794:A:C5	1:A:795:C:C4	3.08	0.42
1:A:991:U:O2	1:A:993:G:H8	2.03	0.42
1:A:1070:U:H2'	1:A:1071:C:C6	2.55	0.42
1:A:1123:A:H4'	11:J:37:PRO:HD2	2.02	0.42
1:A:1272:G:H2'	1:A:1273:G:O4'	2.20	0.42
1:A:1287:A:H2'	1:A:1288:A:C8	2.55	0.42
1:A:1367:C:C2	1:A:1368:G:C8	3.08	0.42
3:B:196:LEU:N	3:B:196:LEU:HD23	2.33	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:C:95:THR:O	4:C:96:GLY:C	2.58	0.42
4:C:167:TRP:O	4:C:168:ALA:CB	2.67	0.42
8:G:97:GLN:O	8:G:98:SER:C	2.58	0.42
9:H:92:ARG:NH1	9:H:92:ARG:CG	2.81	0.42
13:L:75:HIS:HD2	13:L:77:LEU:H	1.66	0.42
14:M:49:THR:CG2	14:M:51:ALA:HB3	2.50	0.42
15:N:25:VAL:O	15:N:25:VAL:HG22	2.20	0.42
18:Q:18:THR:HG23	18:Q:69:LYS:HE3	2.02	0.42
20:S:5:LEU:HD23	20:S:5:LEU:HA	1.90	0.42
21:T:100:ILE:HG22	21:T:102:GLY:CA	2.50	0.42
1:A:353:A:H8	1:A:353:A:C5'	2.32	0.42
1:A:408:A:O2'	1:A:409:G:H5'	2.20	0.42
1:A:430:A:H2'	1:A:431:A:H5'	2.02	0.42
1:A:582:U:C2	1:A:760:G:C6	3.08	0.42
1:A:594:G:C2'	1:A:595:G:H5'	2.50	0.42
1:A:632:A:H2'	1:A:633:G:H5'	2.02	0.42
1:A:736:C:H2'	1:A:737:A:H8	1.85	0.42
1:A:849:C:C2'	1:A:850:U:H5'	2.50	0.42
1:A:910:C:H4'	1:A:1413:A:H4'	2.01	0.42
1:A:1075:C:H5''	3:B:179:LYS:NZ	2.35	0.42
1:A:1123:A:O3'	11:J:36:GLY:HA3	2.20	0.42
1:A:1153:C:H2'	1:A:1154:G:H8	1.85	0.42
1:A:1312:G:N7	20:S:3:ARG:O	2.53	0.42
1:A:1493:A:H2	23:W:47:ILE:H	1.68	0.42
3:B:67:THR:HG22	3:B:68:ILE:N	2.33	0.42
3:B:126:GLU:HA	3:B:129:GLU:HG3	2.01	0.42
4:C:67:THR:HG23	4:C:102:ASN:HB2	2.02	0.42
4:C:84:ILE:O	4:C:84:ILE:HG12	2.20	0.42
5:D:17:VAL:HG11	5:D:197:PRO:HG3	2.02	0.42
6:E:18:ARG:HG2	6:E:19:MET:N	2.35	0.42
7:F:80:ARG:HH12	7:F:88:VAL:HB	1.85	0.42
10:I:93:ARG:CZ	10:I:97:LYS:NZ	2.83	0.42
11:J:24:VAL:O	11:J:28:ARG:HG3	2.20	0.42
11:J:28:ARG:O	11:J:29:ARG:HG3	2.19	0.42
11:J:50:ILE:HA	11:J:60:ARG:H	1.85	0.42
12:K:115:PRO:C	12:K:117:ASN:H	2.23	0.42
14:M:8:GLU:OE1	14:M:22:ILE:HA	2.20	0.42
14:M:13:LYS:O	14:M:45:VAL:HG23	2.20	0.42
16:O:36:ILE:HA	16:O:59:MET:CE	2.50	0.42
1:A:32:A:H2'	1:A:33:A:C8	2.55	0.41
1:A:435:C:O2'	1:A:436:C:H5'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:490:G:H2'	1:A:491:G:C8	2.48	0.41
1:A:502:G:OP1	13:L:118:SER:HB3	2.20	0.41
1:A:1098:C:H2'	1:A:1099:G:O4'	2.19	0.41
3:B:209:ARG:HH21	3:B:239:VAL:HG12	1.85	0.41
4:C:59:ARG:HG2	4:C:64:VAL:HG13	2.01	0.41
4:C:83:ARG:O	4:C:86:VAL:N	2.53	0.41
6:E:31:LEU:CD2	6:E:43:LEU:CD2	2.93	0.41
7:F:40:VAL:HG23	7:F:41:GLU:N	2.34	0.41
11:J:24:VAL:HG13	11:J:34:VAL:HG11	2.01	0.41
11:J:34:VAL:C	11:J:36:GLY:N	2.73	0.41
14:M:49:THR:HG22	14:M:51:ALA:N	2.35	0.41
14:M:67:GLU:HB3	14:M:68:GLY:H	1.55	0.41
16:O:70:LEU:C	16:O:70:LEU:CD1	2.89	0.41
19:R:40:LEU:O	19:R:42:ARG:N	2.53	0.41
23:W:38:GLY:O	23:W:39:LYS:C	2.58	0.41
23:W:40:MET:CE	23:W:70:ARG:HB3	2.50	0.41
1:A:49:U:O2'	1:A:50:A:H2'	2.20	0.41
1:A:430:A:C2'	1:A:431:A:H5'	2.50	0.41
1:A:491:G:O2'	1:A:492:G:H5'	2.20	0.41
1:A:738:C:P	7:F:92:LYS:HE3	2.60	0.41
1:A:750:G:H1'	16:O:22:THR:OG1	2.20	0.41
1:A:872:A:C4	1:A:874:G:N7	2.88	0.41
1:A:1061:G:C2'	1:A:1062:U:H5'	2.50	0.41
1:A:1514:C:H2'	1:A:1515:C:H6	1.85	0.41
3:B:130:ARG:O	3:B:131:PRO:C	2.58	0.41
4:C:139:GLN:NE2	4:C:139:GLN:HA	2.34	0.41
4:C:155:GLY:O	4:C:156:ARG:CB	2.67	0.41
5:D:13:ARG:NH2	5:D:40:PRO:HA	2.35	0.41
6:E:57:LYS:O	6:E:60:TYR:HB3	2.20	0.41
7:F:23:LYS:HE2	7:F:23:LYS:HB3	1.81	0.41
9:H:4:ASP:OD2	9:H:7:ALA:HB2	2.19	0.41
9:H:6:ILE:O	9:H:10:LEU:HG	2.20	0.41
13:L:28:LYS:HB2	13:L:33:ARG:HH12	1.85	0.41
13:L:47:LYS:HB2	13:L:48:PRO:CD	2.40	0.41
13:L:126:LYS:HD2	13:L:126:LYS:H	1.72	0.41
15:N:26:ARG:NH1	15:N:47:LEU:CD2	2.74	0.41
16:O:88:ARG:HB3	16:O:89:GLY:H	1.66	0.41
19:R:36:ASN:HD22	19:R:38:GLU:HG2	1.83	0.41
21:T:56:MET:HE3	21:T:88:VAL:HG11	2.03	0.41
1:A:190(A):C:O2'	1:A:190(B):C:H5'	2.20	0.41
1:A:677:U:H2'	1:A:678:U:C6	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:792:A:C4	1:A:794:A:C6	3.09	0.41
1:A:826:C:H2'	1:A:827:U:H6	1.84	0.41
1:A:991:U:O4	1:A:1212:U:H1'	2.20	0.41
1:A:1070:U:O2'	1:A:1071:C:H5'	2.20	0.41
1:A:1112:C:C1'	4:C:179:ARG:HH21	2.30	0.41
1:A:1147:C:O2'	10:I:16:ARG:HD3	2.21	0.41
1:A:1152:A:H2'	1:A:1153:C:C6	2.55	0.41
1:A:1152:A:O2'	1:A:1153:C:H5'	2.19	0.41
3:B:8:LYS:HD3	3:B:9:GLU:N	2.35	0.41
3:B:119:GLU:OE1	3:B:153:ARG:NH2	2.47	0.41
3:B:144:ARG:O	3:B:147:LYS:N	2.53	0.41
4:C:38:ARG:NH1	4:C:38:ARG:CG	2.81	0.41
5:D:17:VAL:CG1	5:D:18:LYS:N	2.82	0.41
8:G:146:GLU:O	8:G:148:ASN:N	2.52	0.41
11:J:48:THR:HG23	11:J:62:HIS:CD2	2.55	0.41
13:L:89:ARG:HH12	13:L:97:ARG:HE	1.67	0.41
14:M:60:VAL:HG12	14:M:61:GLU:N	2.36	0.41
16:O:76:GLU:O	16:O:77:ARG:C	2.58	0.41
18:Q:20:THR:HG21	18:Q:41:LYS:HD2	2.02	0.41
1:A:56:U:O2'	1:A:57:G:H5'	2.21	0.41
1:A:278:G:OP2	18:Q:41:LYS:NZ	2.50	0.41
1:A:655:A:C2	1:A:754:C:C4	3.08	0.41
1:A:761:G:C4'	18:Q:102:GLY:HA3	2.51	0.41
1:A:792:A:C4	1:A:794:A:C5	3.08	0.41
1:A:1101:A:HO2'	1:A:1102:A:P	2.43	0.41
1:A:1113:C:O2'	1:A:1114:C:H5'	2.19	0.41
1:A:1238:A:OP1	1:A:1336:C:H5	2.04	0.41
1:A:1286:A:H2'	1:A:1287:A:H4'	2.02	0.41
1:A:1304:G:C6	1:A:1305:G:N1	2.88	0.41
3:B:119:GLU:OE2	3:B:153:ARG:NH2	2.54	0.41
5:D:8:VAL:HG11	5:D:21:LEU:HB2	2.02	0.41
9:H:38:ILE:HD12	9:H:38:ILE:H	1.85	0.41
9:H:38:ILE:CD1	9:H:38:ILE:H	2.33	0.41
9:H:116:LYS:HZ2	9:H:127:LEU:HD12	1.85	0.41
10:I:9:ARG:HA	10:I:13:ALA:O	2.20	0.41
12:K:33:THR:HG23	12:K:34:ASP:N	2.34	0.41
13:L:47:LYS:CB	13:L:48:PRO:CD	2.99	0.41
14:M:37:THR:O	14:M:37:THR:CG2	2.68	0.41
14:M:117:VAL:CG1	14:M:118:ALA:N	2.83	0.41
15:N:29:ARG:CG	15:N:29:ARG:NH1	2.83	0.41
17:P:70:ALA:O	17:P:74:LEU:HG	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:R:88:LYS:OXT	19:R:88:LYS:CG	2.68	0.41
1:A:190(B):C:H2'	1:A:190(C):C:O4'	2.21	0.41
1:A:435:C:H2'	1:A:436:C:C6	2.49	0.41
1:A:832:C:O2'	1:A:833:U:H5'	2.20	0.41
1:A:865:A:H2'	1:A:866:C:C6	2.56	0.41
1:A:1014:A:H2	1:A:1219:U:H1'	1.84	0.41
1:A:1060:C:H2'	1:A:1061:G:H8	1.85	0.41
1:A:1117:G:N2	1:A:1180:A:H1'	2.36	0.41
1:A:1255:G:H3'	1:A:1279:A:H61	1.85	0.41
1:A:1494:G:C6	1:A:1495:U:C4	3.09	0.41
3:B:70:PHE:O	3:B:92:TYR:HA	2.21	0.41
3:B:118:LEU:CB	3:B:142:LEU:HD21	2.50	0.41
3:B:137:ARG:HB3	3:B:137:ARG:HH11	1.85	0.41
4:C:155:GLY:O	4:C:196:LEU:CD2	2.68	0.41
4:C:177:THR:O	4:C:177:THR:CG2	2.68	0.41
5:D:149:ALA:O	5:D:153:ARG:N	2.52	0.41
6:E:144:THR:C	6:E:146:ALA:N	2.74	0.41
7:F:19:LEU:HD21	7:F:23:LYS:HD2	2.02	0.41
8:G:20:ASP:OD1	8:G:21:VAL:N	2.53	0.41
10:I:113:LYS:H	10:I:119:ALA:HA	1.86	0.41
13:L:24:VAL:O	13:L:26:ALA:N	2.48	0.41
18:Q:74:LEU:HD23	18:Q:74:LEU:O	2.19	0.41
1:A:301:G:O2'	1:A:302:G:H5'	2.20	0.41
1:A:418:C:H2'	1:A:419:C:H6	1.85	0.41
1:A:644:G:H2'	1:A:645:C:H6	1.85	0.41
1:A:860:A:H2'	1:A:861:G:O4'	2.19	0.41
1:A:887:G:O2'	1:A:1489:G:H5''	2.20	0.41
1:A:928:G:O2'	1:A:929:G:H5'	2.20	0.41
1:A:1269:A:C2	1:A:1313:U:O4'	2.73	0.41
1:A:1347:G:H2'	1:A:1373:G:H1	1.85	0.41
1:A:1470:G:O2'	1:A:1471:G:H5'	2.21	0.41
3:B:97:TRP:CH2	3:B:176:GLU:CD	2.94	0.41
4:C:189:ALA:HB3	4:C:196:LEU:O	2.21	0.41
5:D:61:LYS:HZ1	5:D:62:GLN:NE2	2.19	0.41
7:F:8:ILE:HG12	7:F:88:VAL:HG13	2.03	0.41
8:G:140:ASP:HA	8:G:143:ARG:HD2	2.01	0.41
11:J:11:PHE:CZ	11:J:65:LEU:HD21	2.55	0.41
11:J:12:ASP:HB3	11:J:15:THR:CB	2.50	0.41
12:K:22:HIS:O	12:K:22:HIS:CD2	2.74	0.41
12:K:43:SER:HA	12:K:47:VAL:HG21	2.03	0.41
12:K:44:SER:O	12:K:47:VAL:HB	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:K:122:LYS:O	12:K:123:LYS:C	2.58	0.41
13:L:59:ARG:NH1	13:L:65:GLU:OE2	2.53	0.41
14:M:15:VAL:HG21	14:M:48:LEU:HD21	2.02	0.41
14:M:23:TYR:N	14:M:67:GLU:OE2	2.46	0.41
14:M:49:THR:CG2	14:M:51:ALA:H	2.32	0.41
18:Q:44:ALA:HB2	18:Q:59:ILE:HD11	2.02	0.41
18:Q:59:ILE:HG23	18:Q:71:PHE:CD1	2.56	0.41
1:A:39:G:N7	1:A:547:A:H8	2.19	0.41
1:A:138:G:O2'	1:A:139:G:H5'	2.21	0.41
1:A:267:C:H2'	1:A:268:C:H6	1.86	0.41
1:A:316:G:H2'	1:A:317:G:H8	1.86	0.41
1:A:456:C:H2'	1:A:457:C:C6	2.55	0.41
1:A:748:C:H1'	1:A:749:C:H5	1.85	0.41
1:A:945:G:C2	1:A:946:A:C8	3.07	0.41
1:A:1442:G:C6	1:A:1446:A:N6	2.89	0.41
3:B:73:THR:O	3:B:74:LYS:C	2.59	0.41
4:C:79:ARG:HG3	4:C:79:ARG:O	2.21	0.41
4:C:174:PRO:HB2	4:C:177:THR:CG2	2.45	0.41
6:E:69:VAL:HA	6:E:70:PRO:HD3	1.87	0.41
6:E:92:LYS:HE3	6:E:92:LYS:HB2	1.82	0.41
8:G:18:TYR:CE2	8:G:59:LEU:HB2	2.56	0.41
10:I:17:VAL:HG11	10:I:81:ILE:HA	2.02	0.41
20:S:9:VAL:CG1	20:S:10:PHE:N	2.83	0.41
20:S:38:SER:OG	20:S:71:LEU:HD12	2.21	0.41
20:S:58:VAL:O	20:S:58:VAL:HG23	2.20	0.41
23:W:22:PHE:HE1	23:W:36:ILE:HD11	1.84	0.41
1:A:147:G:O2'	1:A:148:G:H5'	2.20	0.41
1:A:382:A:C2	1:A:383:A:C4	3.09	0.41
1:A:488:C:O5'	1:A:488:C:H6	2.04	0.41
1:A:586:C:H5''	9:H:90:GLY:CA	2.50	0.41
1:A:700:G:O4'	1:A:704:A:H1'	2.21	0.41
1:A:969:A:O2'	1:A:970:C:H5'	2.20	0.41
1:A:973:G:H3'	1:A:974:A:H5''	2.03	0.41
1:A:1108:G:H4'	1:A:1191:A:O4'	2.21	0.41
1:A:1231:G:C4'	10:I:126:SER:HB3	2.50	0.41
1:A:1288:A:O4'	1:A:1353:G:H4'	2.20	0.41
1:A:1454:G:H2'	1:A:1455:G:H8	1.86	0.41
3:B:126:GLU:O	3:B:127:ILE:C	2.59	0.41
5:D:125:HIS:ND1	5:D:152:SER:OG	2.38	0.41
5:D:201:ASN:O	5:D:205:GLU:HG3	2.21	0.41
6:E:36:ASP:CG	6:E:38:GLN:HB2	2.40	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:E:51:VAL:O	6:E:55:VAL:HG23	2.20	0.41
6:E:93:PRO:HG2	9:H:105:ARG:HE	1.85	0.41
7:F:96:PRO:O	7:F:98:LEU:N	2.54	0.41
11:J:14:LYS:C	11:J:16:LEU:N	2.74	0.41
11:J:16:LEU:O	11:J:17:ASP:C	2.59	0.41
11:J:38:ILE:HG13	11:J:71:LEU:CB	2.45	0.41
11:J:48:THR:HG23	11:J:62:HIS:NE2	2.36	0.41
11:J:94:VAL:CG1	11:J:95:GLU:H	2.34	0.41
13:L:34:ARG:O	13:L:34:ARG:HG3	2.19	0.41
14:M:6:GLY:O	14:M:7:VAL:HG22	2.20	0.41
16:O:75:PRO:O	16:O:79:ARG:HG3	2.20	0.41
18:Q:45:HIS:CG	18:Q:65:ILE:HD13	2.56	0.41
18:Q:68:ARG:O	18:Q:69:LYS:HB2	2.21	0.41
1:A:112:G:N2	1:A:354:G:H5'	2.36	0.41
1:A:224:C:H2'	1:A:225:C:H6	1.85	0.41
1:A:329:A:H2'	1:A:332:G:N7	2.35	0.41
1:A:407:G:H2'	1:A:408:A:C8	2.56	0.41
1:A:421:U:C4'	1:A:422:C:OP2	2.69	0.41
1:A:437:U:H2'	1:A:438:G:C5'	2.51	0.41
1:A:477:G:O2'	1:A:478:A:H5'	2.21	0.41
1:A:499:A:H4'	1:A:500:G:OP1	2.21	0.41
1:A:542:G:H2'	1:A:543:C:H6	1.86	0.41
1:A:622:A:C8	1:A:623:C:C6	3.09	0.41
1:A:662:G:O2'	1:A:836:G:C5'	2.69	0.41
1:A:681:C:O2'	1:A:682:G:H5'	2.21	0.41
1:A:1031:G:O2'	1:A:1032:G:H5'	2.20	0.41
1:A:1237:C:H4'	1:A:1334:G:N2	2.36	0.41
1:A:1245:A:H2'	1:A:1246:C:H6	1.85	0.41
1:A:1267:C:O2'	22:V:20:LYS:HD3	2.21	0.41
1:A:1346:A:C2'	8:G:10:ARG:HH22	2.34	0.41
1:A:1372:U:C2'	1:A:1373:G:H5'	2.51	0.41
3:B:30:ARG:CG	3:B:31:TYR:N	2.84	0.41
3:B:101:MET:HG2	3:B:108:ILE:HD13	2.01	0.41
4:C:99:VAL:HG23	4:C:100:ALA:H	1.82	0.41
4:C:142:MET:HE1	4:C:146:ALA:O	2.21	0.41
6:E:7:GLU:O	6:E:34:VAL:HG13	2.21	0.41
6:E:12:LEU:HD22	6:E:12:LEU:O	2.20	0.41
8:G:99:LEU:HD23	8:G:102:ARG:HH12	1.86	0.41
10:I:50:LEU:O	10:I:52:ALA:N	2.54	0.41
11:J:38:ILE:HG12	11:J:72:VAL:H	1.86	0.41
12:K:14:VAL:HG21	12:K:40:ILE:CD1	2.49	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:K:34:ASP:O	12:K:36:ASP:N	2.54	0.41
12:K:101:SER:OG	12:K:102:GLY:N	2.52	0.41
12:K:124:LYS:HE2	12:K:125:PHE:CZ	2.56	0.41
13:L:88:GLY:N	13:L:98:TYR:HA	2.36	0.41
13:L:93:LEU:HB3	13:L:96:VAL:HG21	2.03	0.41
14:M:37:THR:O	14:M:38:GLY:C	2.59	0.41
15:N:21:TYR:HE2	15:N:23:ARG:NE	2.19	0.41
16:O:10:LYS:CE	16:O:14:GLU:HB2	2.48	0.41
17:P:6:LEU:N	17:P:6:LEU:HD12	2.35	0.41
17:P:77:ALA:O	17:P:78:GLY:C	2.59	0.41
18:Q:81:ARG:HB2	18:Q:83:ASP:OD1	2.21	0.41
19:R:34:TYR:CE1	19:R:35:ARG:HG3	2.56	0.41
19:R:53:ARG:HH11	19:R:59:SER:CA	2.33	0.41
20:S:32:LYS:HG3	20:S:32:LYS:O	2.21	0.41
21:T:54:LYS:HE3	21:T:100:ILE:CD1	2.46	0.41
22:V:6:ARG:HD2	22:V:15:ARG:NH1	2.35	0.41
1:A:57:G:H2'	1:A:58:C:C6	2.56	0.41
1:A:369:C:H2'	1:A:370:C:H6	1.85	0.41
1:A:462:G:C6	1:A:463:A:C5	3.09	0.41
1:A:645:C:H2'	1:A:646:U:C6	2.56	0.41
1:A:660:G:C2	1:A:746:A:C2	3.09	0.41
1:A:679:C:H2'	1:A:680:C:H6	1.86	0.41
1:A:975:A:C4'	1:A:976:G:OP2	2.69	0.41
1:A:1103:C:H2'	1:A:1104:G:O4'	2.21	0.41
1:A:1499:A:C2'	1:A:1500:A:H5'	2.50	0.41
3:B:7:VAL:C	3:B:8:LYS:HG3	2.42	0.41
3:B:25:ASN:HD22	3:B:27:LYS:H	1.68	0.41
3:B:194:PRO:HA	3:B:200:ILE:HD11	2.01	0.41
4:C:7:PRO:CG	4:C:184:TYR:HB2	2.51	0.41
4:C:70:VAL:HG21	4:C:76:VAL:CG2	2.51	0.41
5:D:7:PRO:HG2	5:D:10:ARG:CD	2.45	0.41
5:D:128:VAL:O	5:D:128:VAL:HG12	2.20	0.41
6:E:60:TYR:CE1	6:E:64:ARG:NH2	2.88	0.41
7:F:31:GLU:C	7:F:33:TYR:N	2.73	0.41
7:F:69:GLU:O	7:F:72:VAL:HG23	2.21	0.41
10:I:5:TYR:O	10:I:84:ALA:CA	2.63	0.41
10:I:112:LYS:O	10:I:112:LYS:CD	2.69	0.41
14:M:73:GLU:O	14:M:77:ASN:N	2.53	0.41
16:O:4:THR:HG23	16:O:7:GLU:OE2	2.21	0.41
21:T:41:VAL:HG13	21:T:91:LEU:CD1	2.51	0.41
1:A:80:G:C3'	1:A:81:U:C5'	2.94	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:102:G:N3	1:A:151:A:H2	2.19	0.40
1:A:123:C:OP1	1:A:312:C:H5'	2.21	0.40
1:A:184:G:O2'	1:A:185:A:H5'	2.21	0.40
1:A:411:A:C6	1:A:429:U:C4	3.09	0.40
1:A:589:C:O2'	1:A:590:C:H5'	2.21	0.40
1:A:591:U:H2'	1:A:592:G:H8	1.86	0.40
1:A:604:G:C6	1:A:605:U:C4	3.09	0.40
1:A:642:A:N7	9:H:115:SER:HA	2.36	0.40
1:A:1010:G:O2'	1:A:1011:G:H5'	2.21	0.40
1:A:1124:G:H5'	11:J:35:SER:O	2.20	0.40
1:A:1230:C:H2'	1:A:1231:G:H8	1.86	0.40
1:A:1325:C:O2'	1:A:1326:C:H5'	2.22	0.40
4:C:191:THR:HG22	4:C:193:TYR:N	2.16	0.40
5:D:6:GLY:O	5:D:7:PRO:C	2.59	0.40
5:D:42:GLN:O	5:D:42:GLN:CG	2.68	0.40
8:G:21:VAL:CG2	8:G:22:LEU:N	2.83	0.40
9:H:20:TYR:CZ	9:H:76:PRO:HD2	2.56	0.40
9:H:60:ARG:NH1	9:H:60:ARG:CG	2.83	0.40
9:H:64:LYS:HG2	9:H:79:VAL:HG21	2.03	0.40
10:I:12:GLU:O	10:I:12:GLU:HG2	2.21	0.40
10:I:58:ARG:HH11	10:I:58:ARG:HG3	1.86	0.40
12:K:19:ALA:HB3	12:K:82:VAL:HG22	2.01	0.40
12:K:26:ASN:O	12:K:27:ASN:HB2	2.21	0.40
14:M:33:ALA:HA	14:M:59:TYR:CE2	2.56	0.40
17:P:52:ASP:CG	17:P:55:ARG:HG3	2.41	0.40
18:Q:29:HIS:CE1	18:Q:31:LEU:H	2.38	0.40
18:Q:48:GLU:O	18:Q:50:LYS:N	2.45	0.40
18:Q:51:TYR:CE1	18:Q:73:VAL:HB	2.57	0.40
18:Q:59:ILE:CG2	18:Q:71:PHE:CD1	3.04	0.40
19:R:51:LEU:HA	19:R:52:PRO:HD3	1.83	0.40
1:A:130:A:H8	1:A:130:A:OP1	2.04	0.40
1:A:244:U:O4	1:A:906:G:H1'	2.22	0.40
1:A:662:G:O2'	1:A:836:G:H5'	2.21	0.40
1:A:1003(A):G:N2	1:A:1038:C:O2	2.54	0.40
1:A:1010:G:H2'	1:A:1011:G:H8	1.86	0.40
1:A:1348:U:H2'	1:A:1349:A:H8	1.85	0.40
1:A:1490:C:O2'	1:A:1491:G:H5'	2.20	0.40
3:B:68:ILE:N	3:B:90:MET:CE	2.82	0.40
3:B:85:ALA:O	3:B:88:ALA:O	2.40	0.40
4:C:56:ASP:O	4:C:57:ILE:CG1	2.69	0.40
4:C:130:VAL:CG2	4:C:157:ILE:HG23	2.43	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:C:132:ARG:O	4:C:135:LYS:N	2.54	0.40
5:D:3:ARG:HH21	5:D:71:SER:CB	2.33	0.40
6:E:150:ARG:HG3	6:E:150:ARG:NH1	2.36	0.40
7:F:40:VAL:HB	7:F:63:TYR:CD1	2.56	0.40
8:G:40:ALA:O	8:G:41:ARG:C	2.60	0.40
9:H:36:LEU:O	9:H:39:LEU:HB2	2.21	0.40
9:H:103:VAL:CG2	9:H:110:ALA:HB2	2.51	0.40
13:L:28:LYS:O	13:L:29:GLY:C	2.60	0.40
13:L:53:ARG:CB	13:L:93:LEU:HD11	2.52	0.40
13:L:76:ASN:OD1	13:L:108:ALA:HB3	2.21	0.40
16:O:25:THR:HB	16:O:70:LEU:HD23	2.03	0.40
17:P:28:ARG:HG3	17:P:28:ARG:HH11	1.86	0.40
17:P:74:LEU:HD13	17:P:79:VAL:HG11	2.03	0.40
18:Q:60:ILE:HB	18:Q:74:LEU:HB2	2.03	0.40
19:R:62:GLU:HA	19:R:65:ILE:HD12	2.02	0.40
20:S:39:THR:HG23	20:S:68:GLY:O	2.21	0.40
21:T:62:LEU:N	21:T:62:LEU:HD23	2.36	0.40
1:A:338:A:H2'	1:A:339:C:H6	1.86	0.40
1:A:389:A:H2'	1:A:390:C:C5'	2.51	0.40
1:A:436:C:H2'	1:A:437:U:C6	2.56	0.40
1:A:740:U:O2'	1:A:741:G:H5'	2.22	0.40
1:A:925:G:C2	1:A:927:G:C8	3.09	0.40
1:A:1285:A:OP1	1:A:1285:A:C8	2.74	0.40
1:A:1316:G:N2	1:A:1318:A:H3'	2.35	0.40
3:B:7:VAL:O	3:B:8:LYS:CB	2.69	0.40
3:B:10:LEU:HG	3:B:48:MET:CE	2.50	0.40
3:B:39:ILE:CG2	3:B:40:HIS:N	2.84	0.40
3:B:112:VAL:HG22	3:B:149:LEU:HD13	2.02	0.40
3:B:136:VAL:O	3:B:139:LYS:HB2	2.20	0.40
4:C:35:GLU:O	4:C:38:ARG:HB2	2.21	0.40
4:C:206:GLU:HG2	4:C:207:VAL:N	2.25	0.40
5:D:153:ARG:HG2	5:D:181:MET:SD	2.61	0.40
6:E:127:ASN:HA	6:E:128:PRO:HD2	1.96	0.40
9:H:6:ILE:HG13	9:H:31:PHE:CE2	2.51	0.40
10:I:120:ARG:O	10:I:122:ALA:N	2.54	0.40
11:J:6:ILE:O	11:J:71:LEU:HA	2.22	0.40
11:J:14:LYS:C	11:J:16:LEU:H	2.23	0.40
12:K:77:MET:CE	12:K:80:VAL:HG22	2.52	0.40
12:K:92:GLU:OE2	19:R:88:LYS:OXT	2.39	0.40
16:O:82:ILE:O	16:O:83:GLU:C	2.60	0.40
17:P:80:PHE:O	17:P:81:ARG:C	2.60	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:Q:59:ILE:HD13	18:Q:73:VAL:HA	2.03	0.40
19:R:53:ARG:NH1	19:R:59:SER:HA	2.37	0.40
20:S:30:LEU:C	20:S:31:ILE:HD13	2.42	0.40
20:S:41:VAL:HB	20:S:42:PRO:HD2	2.03	0.40
1:A:256:U:H2'	1:A:257:G:C8	2.57	0.40
1:A:386:C:C2'	1:A:387:U:H5'	2.52	0.40
1:A:614:A:H2'	1:A:615:C:C6	2.57	0.40
1:A:885:G:N3	1:A:914:A:C2	2.89	0.40
1:A:1019:C:H2'	1:A:1020:U:O4'	2.21	0.40
1:A:1234:C:H2'	1:A:1235:U:H6	1.86	0.40
1:A:1371:G:OP2	10:I:11:LYS:HE2	2.21	0.40
3:B:59:GLU:CG	3:B:221:LEU:HD11	2.51	0.40
3:B:69:LEU:HD12	3:B:155:LEU:HD11	2.03	0.40
4:C:13:GLY:HA3	15:N:57:ARG:NH2	2.36	0.40
4:C:179:ARG:HD3	4:C:207:VAL:H	1.87	0.40
10:I:4:TYR:CD2	10:I:88:TYR:HA	2.53	0.40
10:I:85:LEU:HB3	10:I:92:TYR:CD1	2.54	0.40
11:J:45:ARG:O	11:J:46:ARG:HD3	2.22	0.40
14:M:105:THR:O	14:M:106:ASN:C	2.60	0.40
15:N:45:ARG:O	15:N:46:GLU:C	2.59	0.40
16:O:8:LYS:O	16:O:9:GLN:C	2.59	0.40
20:S:64:GLU:C	20:S:66:MET:N	2.74	0.40
1:A:701:C:C5'	1:A:703:G:O4'	2.66	0.40
1:A:798:G:C2'	1:A:799:G:O5'	2.70	0.40
1:A:929:G:C5'	1:A:1533:C:H41	2.30	0.40
1:A:975:A:O5'	1:A:976:G:H5'	2.21	0.40
1:A:1019:C:C2'	1:A:1020:U:H5'	2.51	0.40
1:A:1256:A:N6	1:A:1278:U:C1'	2.84	0.40
1:A:1411:C:O2'	1:A:1412:C:H5'	2.22	0.40
1:A:1423:G:O2'	1:A:1424:C:H5'	2.21	0.40
1:A:1437:C:H2'	1:A:1438:G:H8	1.85	0.40
1:A:1450:U:O2'	1:A:1451:A:H8	2.05	0.40
4:C:156:ARG:HB2	4:C:196:LEU:CD2	2.50	0.40
5:D:104:VAL:O	5:D:105:VAL:C	2.60	0.40
6:E:19:MET:CE	6:E:24:ARG:HH12	2.33	0.40
6:E:19:MET:HE2	6:E:24:ARG:NH1	2.37	0.40
8:G:136:LYS:HE3	8:G:136:LYS:HB3	1.95	0.40
10:I:50:LEU:CD2	10:I:85:LEU:HD11	2.52	0.40
13:L:39:VAL:HG23	13:L:57:LYS:CG	2.51	0.40
18:Q:45:HIS:CD2	18:Q:65:ILE:HD13	2.56	0.40
18:Q:84:LEU:HA	18:Q:84:LEU:HD23	1.87	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:S:66:MET:O	20:S:66:MET:HG3	2.22	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all 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	B	232/256 (91%)	156 (67%)	48 (21%)	28 (12%)	0	2
4	C	204/239 (85%)	134 (66%)	44 (22%)	26 (13%)	0	1
5	D	206/209 (99%)	159 (77%)	37 (18%)	10 (5%)	2	17
6	E	148/162 (91%)	130 (88%)	13 (9%)	5 (3%)	3	24
7	F	99/101 (98%)	79 (80%)	15 (15%)	5 (5%)	2	15
8	G	153/156 (98%)	111 (72%)	29 (19%)	13 (8%)	1	4
9	H	136/138 (99%)	122 (90%)	11 (8%)	3 (2%)	6	35
10	I	125/128 (98%)	84 (67%)	33 (26%)	8 (6%)	1	10
11	J	96/105 (91%)	62 (65%)	19 (20%)	15 (16%)	0	1
12	K	117/129 (91%)	87 (74%)	19 (16%)	11 (9%)	0	3
13	L	122/135 (90%)	91 (75%)	19 (16%)	12 (10%)	0	3
14	M	123/126 (98%)	84 (68%)	28 (23%)	11 (9%)	1	4
15	N	58/61 (95%)	38 (66%)	15 (26%)	5 (9%)	1	4
16	O	86/89 (97%)	66 (77%)	18 (21%)	2 (2%)	6	34
17	P	81/88 (92%)	58 (72%)	15 (18%)	8 (10%)	0	3
18	Q	102/105 (97%)	85 (83%)	9 (9%)	8 (8%)	1	6
19	R	71/88 (81%)	50 (70%)	16 (22%)	5 (7%)	1	8
20	S	78/93 (84%)	50 (64%)	19 (24%)	9 (12%)	0	2
21	T	97/106 (92%)	66 (68%)	21 (22%)	10 (10%)	0	3

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
22	V	22/26 (85%)	18 (82%)	2 (9%)	2 (9%)	1	3
23	W	69/71 (97%)	47 (68%)	15 (22%)	7 (10%)	0	3
All	All	2425/2611 (93%)	1777 (73%)	445 (18%)	203 (8%)	1	5

All (203) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	B	8	LYS
3	B	15	VAL
3	B	16	HIS
3	B	17	PHE
3	B	21	ARG
3	B	24	TRP
3	B	123	ALA
4	C	15	THR
4	C	46	GLU
4	C	47	LEU
4	C	97	LYS
4	C	101	LEU
4	C	154	SER
4	C	156	ARG
4	C	179	ARG
4	C	189	ALA
5	D	3	ARG
5	D	36	ARG
5	D	175	SER
6	E	11	ILE
6	E	16	THR
8	G	7	ALA
8	G	42	ILE
8	G	155	ARG
9	H	83	ILE
9	H	91	ARG
10	I	44	VAL
10	I	58	ARG
11	J	39	PRO
11	J	54	PHE
11	J	61	GLU
12	K	57	THR
12	K	89	ALA
12	K	101	SER

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Mol	Chain	Res	Type
12	K	103	LEU
13	L	27	LEU
13	L	28	LYS
13	L	80	HIS
14	M	48	LEU
14	M	67	GLU
14	M	74	VAL
14	M	86	CYS
14	M	124	PRO
15	N	22	THR
16	O	88	ARG
18	Q	50	LYS
18	Q	80	GLY
18	Q	81	ARG
18	Q	96	GLN
19	R	87	ARG
20	S	6	LYS
20	S	71	LEU
21	T	11	SER
21	T	73	HIS
22	V	3	LYS
23	W	24	VAL
23	W	28	SER
23	W	34	ALA
3	B	18	GLY
3	B	34	ALA
3	B	83	MET
3	B	155	LEU
3	B	165	VAL
3	B	204	ASN
3	B	232	PRO
4	C	12	LEU
4	C	49	SER
4	C	61	ALA
4	C	77	ILE
5	D	4	TYR
5	D	92	VAL
7	F	39	LYS
7	F	62	TRP
10	I	65	VAL
11	J	30	SER
11	J	34	VAL

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Mol	Chain	Res	Type
11	J	35	SER
11	J	72	VAL
12	K	12	ARG
12	K	50	TYR
13	L	51	ALA
13	L	126	LYS
14	M	63	THR
14	M	106	ASN
14	M	123	ALA
15	N	29	ARG
16	O	49	ASP
17	P	10	GLY
17	P	49	LEU
17	P	76	GLN
18	Q	69	LYS
18	Q	98	LEU
18	Q	99	SER
19	R	26	LEU
19	R	41	LYS
21	T	49	ALA
21	T	74	LYS
21	T	95	ALA
21	T	96	GLY
21	T	99	LEU
21	T	102	GLY
23	W	9	THR
3	B	20	GLU
3	B	22	LYS
3	B	52	GLU
3	B	63	MET
3	B	154	LEU
4	C	29	TYR
4	C	54	ARG
4	C	60	ALA
4	C	94	LEU
4	C	98	ASN
4	C	188	LEU
6	E	153	LYS
7	F	97	PHE
8	G	41	ARG
8	G	146	GLU
10	I	31	GLN

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Mol	Chain	Res	Type
10	I	105	ASP
11	J	57	LYS
11	J	60	ARG
11	J	90	LEU
12	K	124	LYS
13	L	41	ARG
13	L	47	LYS
13	L	48	PRO
13	L	91	LYS
13	L	116	SER
14	M	42	ALA
15	N	36	PHE
15	N	60	SER
20	S	28	LYS
20	S	65	ASN
20	S	68	GLY
23	W	30	PRO
3	B	183	PRO
3	B	213	LEU
3	B	224	GLN
3	B	225	ALA
4	C	62	ASP
4	C	108	ASN
4	C	167	TRP
4	C	168	ALA
5	D	5	ILE
5	D	31	CYS
6	E	39	GLY
8	G	59	LEU
8	G	85	TYR
8	G	117	ALA
9	H	3	THR
10	I	56	LEU
11	J	40	LEU
12	K	35	PRO
12	K	100	ALA
15	N	13	THR
18	Q	33	GLY
20	S	69	HIS
21	T	47	GLY
23	W	3	GLU
3	B	26	PRO

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Mol	Chain	Res	Type
4	C	39	ILE
5	D	63	LYS
7	F	32	ASN
8	G	78	ARG
8	G	86	GLN
8	G	147	ALA
10	I	7	THR
11	J	19	SER
11	J	55	LYS
13	L	87	GLY
14	M	38	GLY
17	P	11	SER
19	R	54	ARG
20	S	9	VAL
20	S	13	ASP
3	B	95	GLN
3	B	207	ALA
3	B	229	VAL
4	C	4	LYS
6	E	108	ALA
8	G	36	LYS
10	I	41	VAL
12	K	75	TYR
12	K	102	GLY
13	L	29	GLY
17	P	52	ASP
21	T	98	PRO
22	V	6	ARG
3	B	89	GLY
4	C	174	PRO
17	P	41	PRO
5	D	37	PRO
11	J	4	ILE
14	M	85	GLY
17	P	78	GLY
19	R	37	VAL
5	D	69	GLY
8	G	58	PRO
11	J	36	GLY
7	F	37	VAL
17	P	36	ILE
23	W	45	ILE

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Mol	Chain	Res	Type
20	S	42	PRO

5.3.2 Protein sidechains [i](#)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all 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	B	202/220 (92%)	174 (86%)	28 (14%)	3 16
4	C	160/188 (85%)	138 (86%)	22 (14%)	3 16
5	D	180/181 (99%)	170 (94%)	10 (6%)	21 57
6	E	115/123 (94%)	97 (84%)	18 (16%)	2 12
7	F	90/90 (100%)	83 (92%)	7 (8%)	12 43
8	G	126/127 (99%)	118 (94%)	8 (6%)	18 52
9	H	119/119 (100%)	107 (90%)	12 (10%)	7 29
10	I	98/99 (99%)	87 (89%)	11 (11%)	6 25
11	J	87/92 (95%)	77 (88%)	10 (12%)	5 24
12	K	90/99 (91%)	80 (89%)	10 (11%)	6 25
13	L	104/111 (94%)	96 (92%)	8 (8%)	13 44
14	M	100/101 (99%)	88 (88%)	12 (12%)	5 22
15	N	49/50 (98%)	42 (86%)	7 (14%)	3 15
16	O	79/80 (99%)	73 (92%)	6 (8%)	13 45
17	P	72/74 (97%)	70 (97%)	2 (3%)	43 74
18	Q	96/97 (99%)	91 (95%)	5 (5%)	23 59
19	R	64/77 (83%)	57 (89%)	7 (11%)	6 26
20	S	71/80 (89%)	67 (94%)	4 (6%)	21 57
21	T	76/82 (93%)	67 (88%)	9 (12%)	5 23
22	V	19/21 (90%)	18 (95%)	1 (5%)	22 58
23	W	62/62 (100%)	54 (87%)	8 (13%)	4 19
All	All	2059/2173 (95%)	1854 (90%)	205 (10%)	7 30

All (205) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	B	8	LYS
3	B	12	GLU
3	B	17	PHE
3	B	21	ARG
3	B	23	ARG
3	B	24	TRP
3	B	25	ASN
3	B	60	ASP
3	B	87	ARG
3	B	96	ARG
3	B	98	LEU
3	B	114	ARG
3	B	141	GLU
3	B	144	ARG
3	B	157	ARG
3	B	163	PHE
3	B	164	VAL
3	B	170	GLU
3	B	178	ARG
3	B	184	VAL
3	B	185	ILE
3	B	187	LEU
3	B	204	ASN
3	B	215	LEU
3	B	221	LEU
3	B	231	GLU
3	B	232	PRO
3	B	236	TYR
4	C	3	ASN
4	C	5	ILE
4	C	26	LYS
4	C	37	GLN
4	C	56	ASP
4	C	62	ASP
4	C	75	VAL
4	C	82	GLU
4	C	90	GLU
4	C	91	LEU
4	C	99	VAL
4	C	102	ASN
4	C	107	GLN
4	C	139	GLN

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Mol	Chain	Res	Type
4	C	142	MET
4	C	144	SER
4	C	162	GLN
4	C	166	GLU
4	C	167	TRP
4	C	179	ARG
4	C	188	LEU
4	C	204	LEU
5	D	12	CYS
5	D	26	CYS
5	D	70	ILE
5	D	78	LEU
5	D	122	ARG
5	D	157	LEU
5	D	162	LEU
5	D	170	VAL
5	D	176	LEU
5	D	199	GLN
6	E	12	LEU
6	E	16	THR
6	E	26	PHE
6	E	27	ARG
6	E	31	LEU
6	E	38	GLN
6	E	41	VAL
6	E	56	GLN
6	E	68	GLU
6	E	73	ASN
6	E	79	GLU
6	E	80	ILE
6	E	89	ILE
6	E	116	THR
6	E	118	ILE
6	E	120	THR
6	E	147	ASP
6	E	150	ARG
7	F	10	LEU
7	F	40	VAL
7	F	55	ASP
7	F	69	GLU
7	F	74	ASP
7	F	82	ARG

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Mol	Chain	Res	Type
7	F	98	LEU
8	G	8	GLU
8	G	11	GLN
8	G	12	LEU
8	G	37	ASN
8	G	57	GLU
8	G	96	GLN
8	G	126	ASP
8	G	136	LYS
9	H	21	LYS
9	H	37	ARG
9	H	52	ASP
9	H	84	ARG
9	H	85	ARG
9	H	91	ARG
9	H	92	ARG
9	H	104	ARG
9	H	105	ARG
9	H	112	LEU
9	H	119	LEU
9	H	133	LEU
10	I	2	GLU
10	I	23	ASN
10	I	34	ASN
10	I	38	GLN
10	I	53	VAL
10	I	58	ARG
10	I	65	VAL
10	I	91	ASP
10	I	104	ARG
10	I	111	ARG
10	I	121	ARG
11	J	4	ILE
11	J	19	SER
11	J	60	ARG
11	J	65	LEU
11	J	66	ARG
11	J	73	ASP
11	J	79	ARG
11	J	83	GLU
11	J	89	ASP
11	J	95	GLU

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Mol	Chain	Res	Type
12	K	18	ARG
12	K	24	SER
12	K	29	ILE
12	K	35	PRO
12	K	54	ARG
12	K	84	VAL
12	K	93	GLN
12	K	116	HIS
12	K	117	ASN
12	K	122	LYS
13	L	17	LYS
13	L	39	VAL
13	L	48	PRO
13	L	53	ARG
13	L	83	VAL
13	L	98	TYR
13	L	113	ARG
13	L	126	LYS
14	M	9	ILE
14	M	12	ASN
14	M	20	THR
14	M	32	GLU
14	M	44	ARG
14	M	46	LYS
14	M	49	THR
14	M	56	LEU
14	M	81	LEU
14	M	108	ARG
14	M	110	ARG
14	M	124	PRO
15	N	3	ARG
15	N	17	LYS
15	N	18	VAL
15	N	31	ARG
15	N	32	SER
15	N	41	ARG
15	N	44	LEU
16	O	3	ILE
16	O	10	LYS
16	O	39	LEU
16	O	57	LEU
16	O	81	LEU

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Mol	Chain	Res	Type
16	O	83	GLU
17	P	8	ARG
17	P	62	VAL
18	Q	34	LYS
18	Q	38	ARG
18	Q	59	ILE
18	Q	60	ILE
18	Q	68	ARG
19	R	28	GLU
19	R	36	ASN
19	R	38	GLU
19	R	42	ARG
19	R	54	ARG
19	R	55	ARG
19	R	56	THR
20	S	10	PHE
20	S	15	LEU
20	S	25	LYS
20	S	30	LEU
21	T	10	LEU
21	T	39	LYS
21	T	42	GLN
21	T	57	ARG
21	T	68	LYS
21	T	72	LEU
21	T	73	HIS
21	T	75	ASN
21	T	84	LEU
22	V	15	ARG
23	W	5	ASP
23	W	23	ARG
23	W	31	GLU
23	W	32	ILE
23	W	42	MET
23	W	51	ASP
23	W	52	ARG
23	W	71	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (59) such sidechains are listed below:

Mol	Chain	Res	Type
3	B	19	HIS

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Mol	Chain	Res	Type
3	B	25	ASN
3	B	40	HIS
3	B	78	GLN
3	B	113	HIS
3	B	140	HIS
3	B	204	ASN
3	B	224	GLN
3	B	240	GLN
4	C	6	HIS
4	C	31	HIS
4	C	69	HIS
4	C	102	ASN
4	C	108	ASN
4	C	110	ASN
4	C	123	GLN
4	C	139	GLN
5	D	42	GLN
5	D	62	GLN
5	D	123	HIS
5	D	160	GLN
5	D	161	ASN
6	E	73	ASN
7	F	16	GLN
7	F	18	GLN
7	F	27	GLN
7	F	32	ASN
7	F	94	GLN
7	F	100	ASN
8	G	37	ASN
8	G	68	ASN
8	G	96	GLN
8	G	106	GLN
10	I	23	ASN
10	I	73	GLN
11	J	33	GLN
11	J	56	HIS
11	J	76	ASN
11	J	78	ASN
11	J	84	GLN
12	K	22	HIS
12	K	38	ASN
12	K	117	ASN

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Mol	Chain	Res	Type
13	L	49	ASN
13	L	75	HIS
14	M	40	ASN
14	M	62	ASN
14	M	106	ASN
16	O	13	GLN
16	O	37	ASN
16	O	46	HIS
18	Q	16	GLN
19	R	36	ASN
20	S	14	HIS
20	S	53	ASN
20	S	56	GLN
21	T	16	HIS
21	T	18	GLN
21	T	42	GLN

5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	A	1505/1522 (98%)	224 (14%)	85 (5%)
2	X	5/6 (83%)	0	0
All	All	1510/1528 (98%)	224 (14%)	85 (5%)

All (224) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	A	6	G
1	A	8	A
1	A	9	G
1	A	31	G
1	A	32	A
1	A	39	G
1	A	48	C
1	A	49	U
1	A	51	A
1	A	52	G
1	A	61	G
1	A	81	U
1	A	101	A
1	A	108	G

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Mol	Chain	Res	Type
1	A	116	A
1	A	120	A
1	A	121	C
1	A	129(A)	G
1	A	130	A
1	A	131	C
1	A	182	U
1	A	190(D)	U
1	A	190(E)	U
1	A	195	A
1	A	197	A
1	A	198	G
1	A	202	U
1	A	203	U
1	A	204	U
1	A	216	G
1	A	244	U
1	A	247	G
1	A	251	G
1	A	252	U
1	A	266	G
1	A	267	C
1	A	280	C
1	A	281	G
1	A	282	A
1	A	289	G
1	A	321	A
1	A	328	C
1	A	329	A
1	A	330	C
1	A	332	G
1	A	344	A
1	A	345	C
1	A	352	C
1	A	353	A
1	A	354	G
1	A	367	U
1	A	373	A
1	A	397	A
1	A	398	C
1	A	412	A
1	A	413	G

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Mol	Chain	Res	Type
1	A	421	U
1	A	422	C
1	A	424	G
1	A	429	U
1	A	430	A
1	A	439	A
1	A	452	A
1	A	460	A
1	A	461	C
1	A	481	G
1	A	484	G
1	A	485	G
1	A	497	A
1	A	498	U
1	A	509	A
1	A	510	A
1	A	511	C
1	A	518	C
1	A	519	C
1	A	527	G
1	A	532	A
1	A	533	A
1	A	534	U
1	A	547	A
1	A	559	A
1	A	560	U
1	A	561	U
1	A	562	C
1	A	572	A
1	A	573	A
1	A	575	G
1	A	576	G
1	A	577	G
1	A	588	G
1	A	607	A
1	A	652	U
1	A	653	A
1	A	661	G
1	A	665	A
1	A	671	G
1	A	688	G
1	A	695	A

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Mol	Chain	Res	Type
1	A	701	C
1	A	702	A
1	A	703	G
1	A	721	G
1	A	723	U
1	A	731	G
1	A	748	C
1	A	749	C
1	A	755	G
1	A	777	A
1	A	792	A
1	A	793	U
1	A	794	A
1	A	813	U
1	A	815	A
1	A	817	C
1	A	819	A
1	A	828	A
1	A	839	U
1	A	840	C
1	A	841	U
1	A	874	G
1	A	902	G
1	A	926	G
1	A	927	G
1	A	934	C
1	A	935	A
1	A	960	U
1	A	961	U
1	A	966	G
1	A	969	A
1	A	971	G
1	A	974	A
1	A	975	A
1	A	976	G
1	A	977	A
1	A	991	U
1	A	992	U
1	A	993	G
1	A	994	A
1	A	1004	A
1	A	1005	A

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Mol	Chain	Res	Type
1	A	1023	G
1	A	1026	G
1	A	1045	C
1	A	1050	G
1	A	1053	G
1	A	1054	C
1	A	1065	U
1	A	1066	C
1	A	1068	G
1	A	1085	U
1	A	1086	U
1	A	1094	G
1	A	1095	U
1	A	1101	A
1	A	1102	A
1	A	1117	G
1	A	1124	G
1	A	1125	U
1	A	1129	C
1	A	1130	A
1	A	1131	G
1	A	1136	U
1	A	1138	G
1	A	1139	G
1	A	1145	C
1	A	1152	A
1	A	1159	U
1	A	1160	G
1	A	1183	A
1	A	1184	G
1	A	1191	A
1	A	1196	U
1	A	1197	G
1	A	1201	A
1	A	1202	G
1	A	1212	U
1	A	1215	G
1	A	1225	A
1	A	1226	C
1	A	1227	A
1	A	1241	G
1	A	1257	U

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Mol	Chain	Res	Type
1	A	1258	G
1	A	1279	A
1	A	1280	A
1	A	1281	U
1	A	1282	C
1	A	1285	A
1	A	1286	A
1	A	1287	A
1	A	1299	A
1	A	1300	G
1	A	1301	U
1	A	1302	U
1	A	1303	C
1	A	1305	G
1	A	1320	C
1	A	1346	A
1	A	1347	G
1	A	1348	U
1	A	1363	A
1	A	1364	U
1	A	1379	G
1	A	1381	U
1	A	1394	A
1	A	1398	A
1	A	1446	A
1	A	1447	G
1	A	1452	C
1	A	1484	C
1	A	1492	A
1	A	1493	A
1	A	1494	G
1	A	1497	G
1	A	1499	A
1	A	1502	A
1	A	1503	A
1	A	1504	G
1	A	1505	G
1	A	1506	U
1	A	1517	G
1	A	1520	G
1	A	1529	G
1	A	1530	G

All (85) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	A	5	U
1	A	7	G
1	A	30	U
1	A	48	C
1	A	51	A
1	A	60	A
1	A	115	G
1	A	119	A
1	A	129(A)	G
1	A	181	G
1	A	197	A
1	A	202	U
1	A	203	U
1	A	204	U
1	A	243	A
1	A	250	A
1	A	251	G
1	A	266	G
1	A	279	A
1	A	281	G
1	A	328	C
1	A	329	A
1	A	344	A
1	A	351	G
1	A	353	A
1	A	366	C
1	A	372	C
1	A	421	U
1	A	428	G
1	A	429	U
1	A	484	G
1	A	496	A
1	A	497	A
1	A	509	A
1	A	518	C
1	A	533	A
1	A	559	A
1	A	560	U
1	A	575	G
1	A	687	A
1	A	701	C
1	A	748	C

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Mol	Chain	Res	Type
1	A	792	A
1	A	812	C
1	A	819	A
1	A	840	C
1	A	960	U
1	A	965	A
1	A	975	A
1	A	976	G
1	A	992	U
1	A	993	G
1	A	1049	U
1	A	1065	U
1	A	1067	A
1	A	1085	U
1	A	1101	A
1	A	1139	G
1	A	1182	G
1	A	1183	A
1	A	1190	G
1	A	1196	U
1	A	1201	A
1	A	1214	C
1	A	1226	C
1	A	1256	A
1	A	1257	U
1	A	1278	U
1	A	1281	U
1	A	1285	A
1	A	1300	G
1	A	1301	U
1	A	1302	U
1	A	1319	A
1	A	1346	A
1	A	1347	G
1	A	1380	U
1	A	1397	C
1	A	1451	A
1	A	1493	A
1	A	1498	U
1	A	1502	A
1	A	1504	G
1	A	1505	G

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Mol	Chain	Res	Type
1	A	1528	U

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 monosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 67 ligands modelled in this entry, 67 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

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

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

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
1	A	1506/1522 (98%)	0.54	85 (5%) 24 13	38, 69, 147, 199	0
2	X	6/6 (100%)	1.27	2 (33%) 0 0	52, 71, 99, 119	0
3	B	234/256 (91%)	-0.00	9 (3%) 40 26	37, 90, 147, 184	0
4	C	206/239 (86%)	-0.09	1 (0%) 91 86	48, 89, 138, 162	0
5	D	208/209 (99%)	-0.21	0 100 100	41, 69, 116, 157	0
6	E	150/162 (92%)	-0.28	1 (0%) 87 81	37, 60, 95, 145	0
7	F	101/101 (100%)	-0.01	0 100 100	55, 94, 140, 153	0
8	G	155/156 (99%)	-0.06	5 (3%) 47 31	49, 81, 137, 170	0
9	H	138/138 (100%)	-0.28	0 100 100	33, 56, 87, 126	0
10	I	127/128 (99%)	-0.06	0 100 100	43, 93, 132, 163	0
11	J	98/105 (93%)	0.23	7 (7%) 16 9	54, 116, 167, 186	0
12	K	119/129 (92%)	-0.16	1 (0%) 86 78	36, 70, 116, 168	0
13	L	124/135 (91%)	-0.12	1 (0%) 86 78	28, 72, 120, 181	0
14	M	125/126 (99%)	0.13	7 (5%) 24 13	52, 85, 141, 188	0
15	N	60/61 (98%)	-0.07	0 100 100	44, 83, 132, 153	0
16	O	88/89 (98%)	-0.14	2 (2%) 60 47	44, 68, 123, 180	0
17	P	83/88 (94%)	-0.16	2 (2%) 59 44	43, 60, 83, 137	0
18	Q	104/105 (99%)	0.27	5 (4%) 30 18	31, 60, 132, 199	0
19	R	73/88 (82%)	0.06	3 (4%) 37 24	50, 75, 133, 181	0
20	S	80/93 (86%)	0.35	4 (5%) 28 16	74, 100, 149, 196	0
21	T	99/106 (93%)	-0.18	0 100 100	42, 70, 110, 169	0
22	V	24/26 (92%)	-0.22	0 100 100	53, 75, 122, 137	0
23	W	71/71 (100%)	0.40	3 (4%) 36 23	80, 112, 138, 172	0
All	All	3979/4139 (96%)	0.18	138 (3%) 44 28	28, 75, 140, 199	0

All (138) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
18	Q	105	ALA	17.8
18	Q	103	GLY	16.4
18	Q	102	GLY	13.7
1	A	1129	C	11.1
14	M	124	PRO	9.2
18	Q	104	LYS	9.0
1	A	1029	C	6.1
1	A	1030(A)	G	6.1
14	M	123	ALA	5.6
1	A	1006	C	5.3
20	S	26	GLY	5.3
1	A	1030	C	5.2
1	A	1533	C	5.0
1	A	1030(B)	C	5.0
3	B	121	LEU	4.7
1	A	1532	U	4.6
1	A	1531	A	4.4
1	A	1001	A	4.4
1	A	841	U	4.3
1	A	1137	C	4.2
1	A	1135	U	4.2
1	A	1024	G	4.2
1	A	1482	G	4.2
1	A	1028	C	4.2
1	A	1023	G	4.1
1	A	1034	G	4.1
1	A	1036	G	4.1
1	A	1005	A	3.9
1	A	1131	G	3.9
8	G	81	GLY	3.9
1	A	1027	C	3.9
14	M	125	ARG	3.8
1	A	1144	G	3.8
8	G	80	VAL	3.7
1	A	1421	G	3.7
1	A	1278	U	3.6
1	A	1442	G	3.6
12	K	129	SER	3.6
11	J	33	GLN	3.6
1	A	478	A	3.5
20	S	27	GLU	3.5
1	A	1420	C	3.5

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Mol	Chain	Res	Type	RSRZ
1	A	160	A	3.5
1	A	1143	G	3.5
16	O	88	ARG	3.5
3	B	125	PRO	3.4
1	A	1141	C	3.4
14	M	7	VAL	3.4
1	A	1010	G	3.3
23	W	10	GLU	3.3
16	O	89	GLY	3.3
1	A	159	G	3.3
1	A	1031	G	3.3
1	A	1140	C	3.2
3	B	122	PHE	3.2
1	A	1033	G	3.2
1	A	1022	G	3.2
1	A	1139	G	3.1
3	B	127	ILE	3.1
1	A	1277	C	3.1
1	A	1011	G	3.1
1	A	1134	G	3.1
1	A	1175	G	3.0
1	A	1032	G	3.0
11	J	17	ASP	3.0
13	L	33	ARG	2.9
1	A	1026	G	2.9
1	A	1419	G	2.9
19	R	17	SER	2.9
1	A	840	C	2.9
1	A	161	A	2.9
1	A	1035	A	2.9
1	A	1422	G	2.9
1	A	1037	C	2.9
17	P	82	GLN	2.9
23	W	16	ALA	2.8
3	B	124	SER	2.8
1	A	202	U	2.8
2	X	2	U	2.7
17	P	83	GLU	2.7
1	A	1017	G	2.7
1	A	1025	U	2.7
14	M	120	LYS	2.7
1	A	1030(C)	G	2.7

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Mol	Chain	Res	Type	RSRZ
1	A	158	G	2.6
1	A	1484	C	2.6
18	Q	101	ARG	2.5
1	A	1089	G	2.5
8	G	83	ALA	2.5
8	G	85	TYR	2.5
14	M	20	THR	2.5
1	A	1133	G	2.5
6	E	17	ALA	2.5
1	A	1124	G	2.5
3	B	231	GLU	2.5
1	A	1441	G	2.5
1	A	999	C	2.4
11	J	80	LYS	2.4
1	A	1018	C	2.4
1	A	81	U	2.4
3	B	126	GLU	2.3
1	A	1443	G	2.3
1	A	838	G	2.3
1	A	848	C	2.3
1	A	266	G	2.3
23	W	47	ILE	2.3
2	X	1	C	2.3
1	A	1473	A	2.3
19	R	24	ALA	2.3
3	B	165	VAL	2.2
1	A	444	C	2.2
11	J	79	ARG	2.2
1	A	477	G	2.2
1	A	1467	G	2.2
1	A	1474	G	2.2
11	J	84	GLN	2.2
20	S	29	ARG	2.2
14	M	126	LYS	2.1
1	A	1042	G	2.1
1	A	630	G	2.1
1	A	343	U	2.1
1	A	1000	U	2.1
1	A	1019	C	2.1
1	A	1276	G	2.1
11	J	31	GLY	2.1
1	A	532	A	2.1

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Mol	Chain	Res	Type	RSRZ
1	A	869	G	2.1
1	A	1021	G	2.1
11	J	81	THR	2.1
1	A	251	G	2.0
19	R	26	LEU	2.0
1	A	1038	C	2.0
3	B	186	ALA	2.0
1	A	1136	U	2.0
4	C	94	LEU	2.0
1	A	190(B)	C	2.0
20	S	72	GLY	2.0
8	G	151	TYR	2.0

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

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

6.3 Carbohydrates [i](#)

There are no monosaccharides in this entry.

6.4 Ligands [i](#)

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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
24	MG	A	1548	1/1	0.40	0.59	65,65,65,65	0
24	MG	A	1565	1/1	0.55	0.46	65,65,65,65	0
24	MG	A	1584	1/1	0.60	0.41	65,65,65,65	1
24	MG	A	1591	1/1	0.63	0.44	65,65,65,65	0
24	MG	A	1563	1/1	0.65	0.17	65,65,65,65	0
24	MG	A	1547	1/1	0.66	0.95	65,65,65,65	0
24	MG	A	1559	1/1	0.68	0.30	65,65,65,65	0
24	MG	A	1579	1/1	0.70	0.29	65,65,65,65	0
24	MG	A	1596	1/1	0.70	0.45	65,65,65,65	0
24	MG	A	1570	1/1	0.73	0.58	65,65,65,65	0
24	MG	A	1561	1/1	0.74	0.69	65,65,65,65	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
24	MG	A	1589	1/1	0.74	0.36	65,65,65,65	0
24	MG	A	1573	1/1	0.78	0.43	65,65,65,65	0
24	MG	A	1592	1/1	0.79	0.70	65,65,65,65	0
24	MG	A	1549	1/1	0.80	2.64	65,65,65,65	1
24	MG	A	1555	1/1	0.82	0.86	65,65,65,65	0
24	MG	A	1577	1/1	0.82	0.31	65,65,65,65	0
24	MG	A	1605	1/1	0.83	0.36	65,65,65,65	0
24	MG	A	1585	1/1	0.84	0.43	65,65,65,65	0
24	MG	A	1604	1/1	0.84	0.89	65,65,65,65	0
24	MG	A	1576	1/1	0.84	0.26	65,65,65,65	0
24	MG	A	1558	1/1	0.85	0.36	65,65,65,65	0
24	MG	A	1599	1/1	0.85	0.83	65,65,65,65	0
24	MG	A	1580	1/1	0.86	0.41	65,65,65,65	0
24	MG	A	1602	1/1	0.87	0.67	65,65,65,65	0
24	MG	A	1575	1/1	0.87	0.68	65,65,65,65	0
24	MG	A	1550	1/1	0.87	1.22	65,65,65,65	0
24	MG	A	1545	1/1	0.88	0.67	65,65,65,65	0
24	MG	A	1566	1/1	0.88	0.63	65,65,65,65	0
24	MG	A	1557	1/1	0.88	0.83	65,65,65,65	0
24	MG	A	87	1/1	0.88	0.44	65,65,65,65	0
24	MG	A	1588	1/1	0.89	0.50	65,65,65,65	0
24	MG	A	1582	1/1	0.89	0.25	65,65,65,65	0
24	MG	A	1590	1/1	0.89	0.79	65,65,65,65	0
24	MG	A	1586	1/1	0.89	0.32	65,65,65,65	0
24	MG	A	1587	1/1	0.89	0.39	65,65,65,65	0
24	MG	A	1569	1/1	0.90	0.25	65,65,65,65	1
24	MG	A	1556	1/1	0.90	0.74	65,65,65,65	0
24	MG	A	1567	1/1	0.91	0.66	65,65,65,65	0
24	MG	A	71	1/1	0.91	0.26	65,65,65,65	0
24	MG	A	1601	1/1	0.91	1.13	65,65,65,65	0
24	MG	A	1552	1/1	0.91	1.01	65,65,65,65	0
24	MG	A	1546	1/1	0.91	0.78	65,65,65,65	0
24	MG	A	1594	1/1	0.91	0.57	65,65,65,65	0
24	MG	A	1583	1/1	0.92	0.45	65,65,65,65	0
24	MG	W	72	1/1	0.92	0.47	65,65,65,65	1
24	MG	A	1598	1/1	0.93	0.22	65,65,65,65	0
24	MG	A	1554	1/1	0.93	1.07	65,65,65,65	0
24	MG	A	1600	1/1	0.93	0.34	65,65,65,65	0
24	MG	A	1574	1/1	0.93	0.29	65,65,65,65	0
24	MG	A	1551	1/1	0.93	0.29	65,65,65,65	0
24	MG	A	1571	1/1	0.93	0.82	65,65,65,65	0
24	MG	A	1560	1/1	0.93	0.35	65,65,65,65	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
24	MG	A	1597	1/1	0.93	0.24	65,65,65,65	0
24	MG	A	1562	1/1	0.94	0.16	65,65,65,65	0
24	MG	A	1553	1/1	0.94	1.25	65,65,65,65	0
24	MG	A	1603	1/1	0.94	0.10	65,65,65,65	0
24	MG	A	1595	1/1	0.95	0.50	65,65,65,65	0
24	MG	A	1564	1/1	0.95	0.86	65,65,65,65	0
24	MG	A	1578	1/1	0.95	0.24	65,65,65,65	0
25	ZN	D	300	1/1	0.96	0.42	65,65,65,65	0
24	MG	A	1568	1/1	0.97	0.21	65,65,65,65	1
24	MG	A	86	1/1	0.97	0.85	65,65,65,65	0
24	MG	A	1581	1/1	0.98	0.15	65,65,65,65	1
24	MG	A	1593	1/1	0.98	0.18	65,65,65,65	0
24	MG	A	1572	1/1	0.99	0.60	65,65,65,65	0
25	ZN	N	190	1/1	1.00	0.13	65,65,65,65	0

6.5 Other polymers [i](#)

There are no such residues in this entry.