



# Full wwPDB X-ray Structure Validation Report ⓘ

Mar 31, 2014 – 06:09 PM BST

PDB ID : 2X9R  
Title : STRUCTURE OF THE 70S RIBOSOME BOUND TO RELEASE FACTOR 2  
AND A SUBSTRATE ANALOG PROVIDES INSIGHTS INTO CATALYSIS  
OF PEPTIDE RELEASE  
Authors : Jin, H.; Kelley, A.C.; Loakes, D.; Ramakrishnan, V.  
Deposited on : 2010-03-24  
Resolution : 3.10 Å(reported)

This is a full wwPDB validation report for a publicly released PDB entry.  
We welcome your comments at [validation@mail.wwpdb.org](mailto:validation@mail.wwpdb.org)  
A user guide is available at <http://wwpdb.org/ValidationPDFNotes.html>

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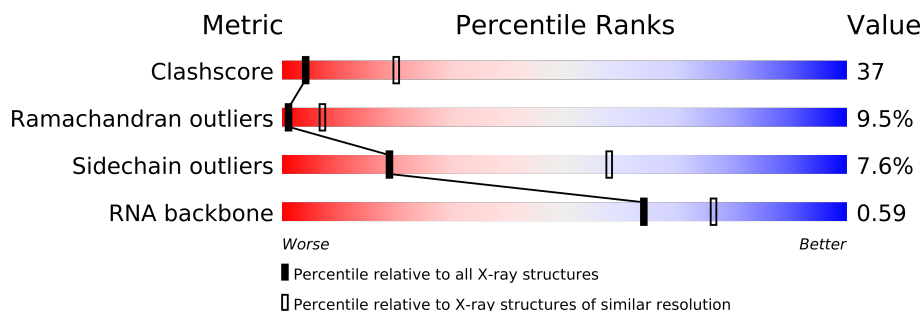
The following versions of software and data (see [references](#)) were used in the production of this report:

MolProbity	:	4.02b-467
Mogul	:	1.15 2013
Xtriage (Phenix)	:	dev-1323
EDS	:	NOT EXECUTED
Percentile statistics	:	21963
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et. al. (1996)
Validation Pipeline (wwPDB-VP)	:	stable23004

# 1 Overall quality at a glance

The reported resolution of this entry is 3.10 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
Clashscore	79885	1078 (3.16-3.04)
Ramachandran outliers	78287	1044 (3.16-3.04)
Sidechain outliers	78261	1044 (3.16-3.04)
RNA backbone	1838	1047 (3.60-2.60)

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 on the lower bar indicate the fraction of residues that contain outliers for  $\geq 3$ , 2, 1 and 0 types of geometric quality criteria. The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density.

Note EDS was not executed.

Mol	Chain	Length	Quality of chain
1	A	1522	
2	B	256	
3	C	239	
4	D	209	
5	E	162	
6	F	101	
7	G	156	
8	H	138	
9	I	128	
10	J	105	
11	K	129	
12	L	132	
13	M	126	
14	N	61	
15	O	89	

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Mol	Chain	Length	Quality of chain
16	P	88	
17	Q	105	
18	R	88	
19	S	93	
20	T	106	
21	U	27	
22	V	77	
22	W	77	
23	X	8	
24	Y	351	

## 2 Entry composition

There are 27 unique types of molecules in this entry. The entry contains 58266 atoms, of which 0 are hydrogen and 0 are deuterium.

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 RRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	1504	Total	C	N	O	P	0	0	0
			32329	14390	5992	10444	1503			

- Molecule 2 is a protein called 30S RIBOSOMAL PROTEIN S2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	B	235	Total	C	N	O	S	0	0	1
			1901	1213	342	341	5			

- Molecule 3 is a protein called 30S RIBOSOMAL PROTEIN S3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	C	207	Total	C	N	O	S	0	0	1
			1613	1016	315	281	1			

- Molecule 4 is a protein called 30S RIBOSOMAL PROTEIN S4.

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

- Molecule 5 is a protein called 30S RIBOSOMAL PROTEIN S5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	E	151	Total	C	N	O	S	0	0	1
			1147	724	218	201	4			

- Molecule 6 is a protein called 30S RIBOSOMAL PROTEIN S6.

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

- Molecule 7 is a protein called 30S RIBOSOMAL PROTEIN S7.

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

- Molecule 8 is a protein called 30S RIBOSOMAL PROTEIN S8.

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

- Molecule 9 is a protein called 30S RIBOSOMAL PROTEIN S9.

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

- Molecule 10 is a protein called 30S RIBOSOMAL PROTEIN S10.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	J	99	Total	C	N	O	S	0	0	1
			795	499	157	138	1			

- Molecule 11 is a protein called 30S RIBOSOMAL PROTEIN S11.

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

- Molecule 12 is a protein called 30S RIBOSOMAL PROTEIN S12.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
12	L	125	Total	C	N	O	S	0	0	1
			971	611	196	163	1			

- Molecule 13 is a protein called 30S RIBOSOMAL PROTEIN S13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
13	M	125	Total	C	N	O	S	0	0	1
			988	611	206	169	2			

- Molecule 14 is a protein called 30S RIBOSOMAL PROTEIN S14 TYPE Z.

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

- Molecule 15 is a protein called 30S RIBOSOMAL PROTEIN S15.

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

- Molecule 16 is a protein called 30S RIBOSOMAL PROTEIN S16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
16	P	84	Total	C	N	O	S	0	0	1
			701	443	140	117	1			

- Molecule 17 is a protein called 30S RIBOSOMAL PROTEIN S17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
17	Q	100	Total	C	N	O	S	0	0	1
			824	528	152	142	2			

- Molecule 18 is a protein called 30S RIBOSOMAL PROTEIN S18.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
18	R	70	Total	C	N	O	0	0	0
			574	367	112	95			

- Molecule 19 is a protein called 30S RIBOSOMAL PROTEIN S19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
19	S	79	Total	C	N	O	S	0	0	1
			630	403	115	110	2			

- Molecule 20 is a protein called 30S RIBOSOMAL PROTEIN S20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
20	T	99	Total	C	N	O	S	0	0	0
			763	470	162	129	2			

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

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
21	U	25	Total	C	N	O	0	0	1
			209	128	51	30			

- Molecule 22 is a RNA chain called E-SITE TRNA PHE OR P-SITE TRNA PHE (UNMODIFIED BASES).

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
22	V	77	Total	C	N	O	P	0	0	0
			1630	732	292	531	75			
22	W	77	Total	C	N	O	P	0	0	0
			1630	732	292	531	75			

- Molecule 23 is a RNA chain called MRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
23	X	8	Total	C	N	O	P	0	0	0
			165	76	29	53	7			

- Molecule 24 is a protein called PEPTIDE CHAIN RELEASE FACTOR 2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
24	Y	351	Total	C	N	O	S	0	0	0
			2801	1752	506	535	8			

- Molecule 25 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
25	Z	548	Total	Mg	0	0
			548	548		

- Molecule 26 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
26	Z	3	Total	Zn	0	0
			3	3		

- Molecule 27 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
27	V	1	Total	O	0	0
			1	1		
27	Y	2	Total	O	0	0
			2	2		

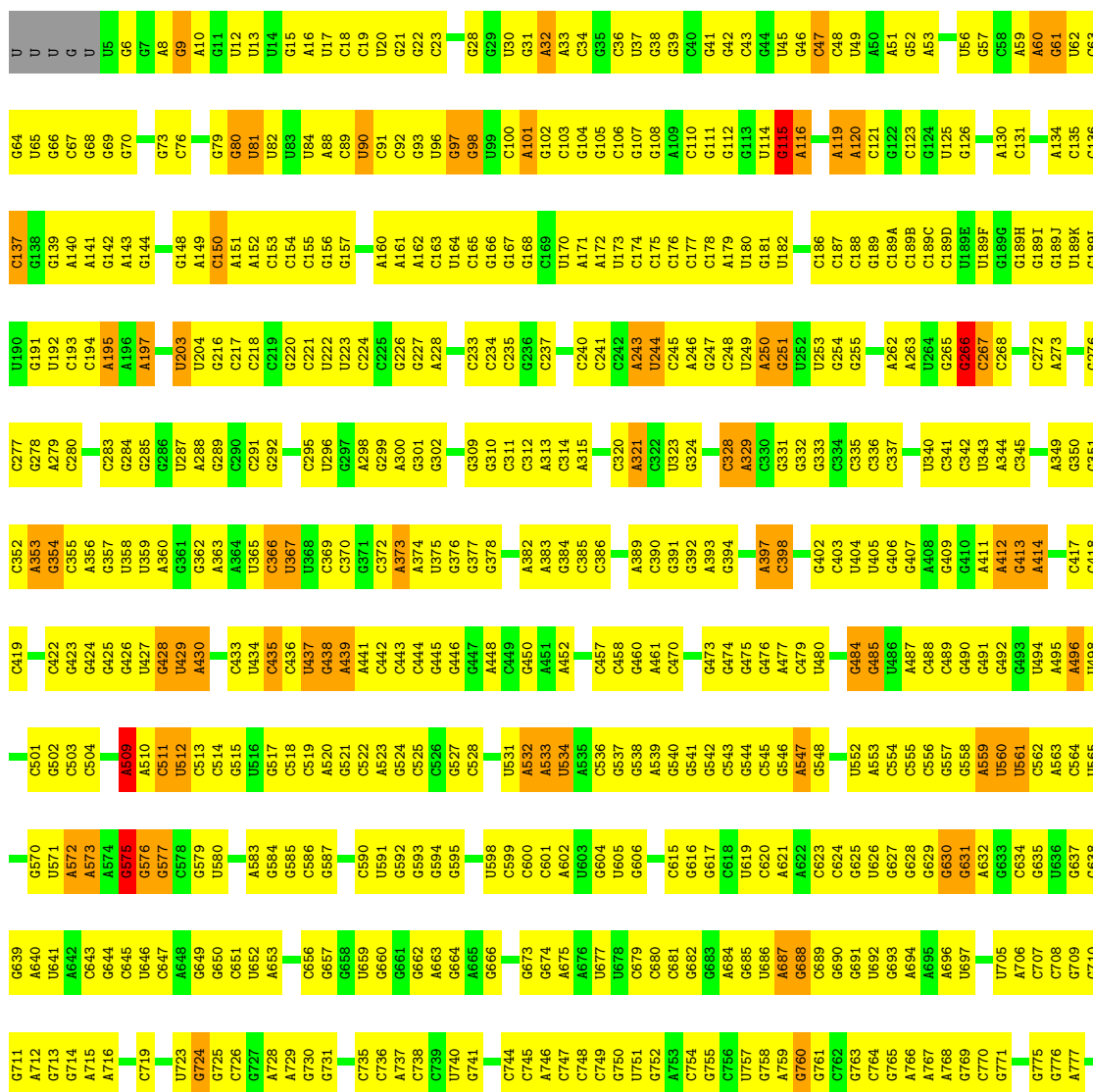
### 3 Residue-property plots

These plots are drawn for all protein, RNA and DNA chains in the entry. The first graphic for a chain summarises the proportions of errors 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.

Note EDS was not executed.

#### • Molecule 1: 16S rRNA

Chain A:





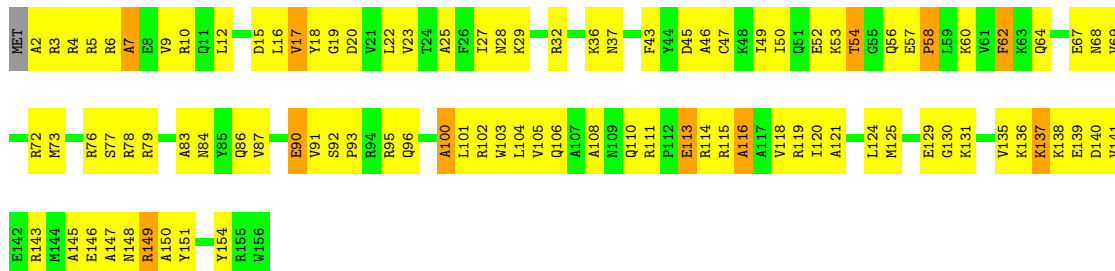






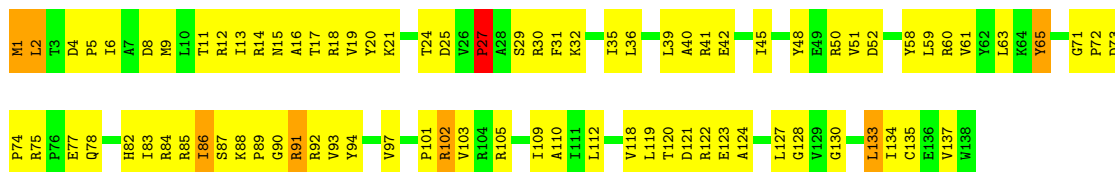
• Molecule 7: 30S RIBOSOMAL PROTEIN S7

Chain G:



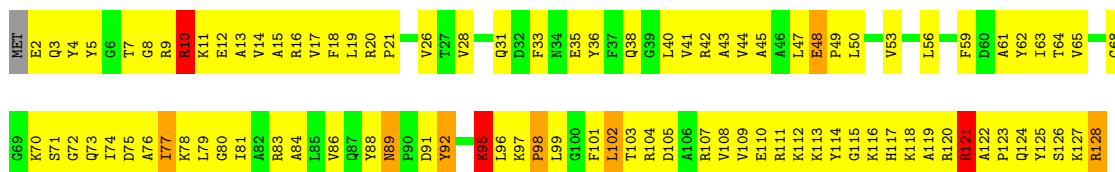
• Molecule 8: 30S RIBOSOMAL PROTEIN S8

Chain H:



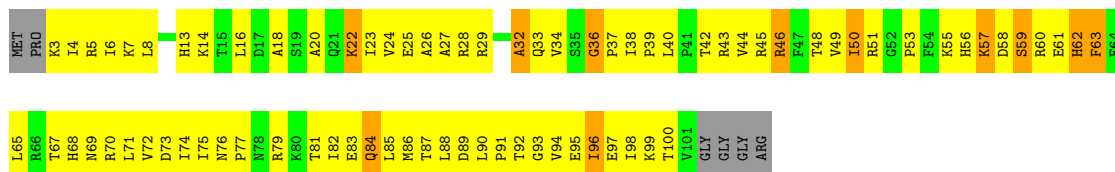
• Molecule 9: 30S RIBOSOMAL PROTEIN S9

Chain I:



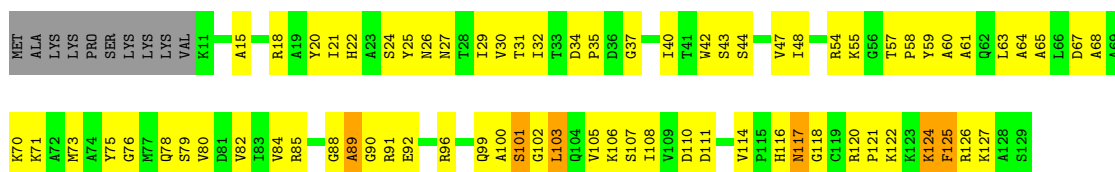
• Molecule 10: 30S RIBOSOMAL PROTEIN S10

Chain J:



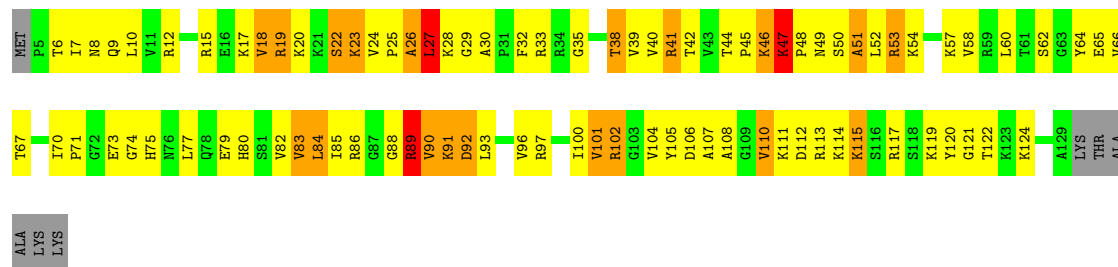
• Molecule 11: 30S RIBOSOMAL PROTEIN S11

Chain K:



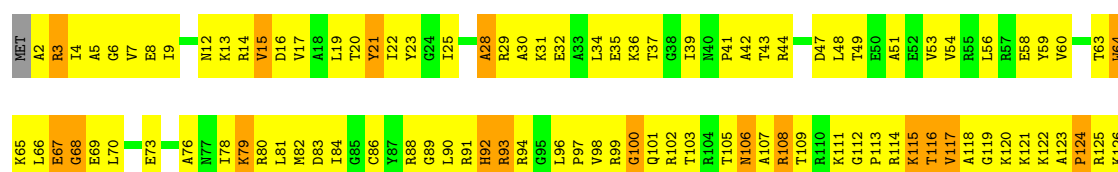
- Molecule 12: 30S RIBOSOMAL PROTEIN S12

Chain L:



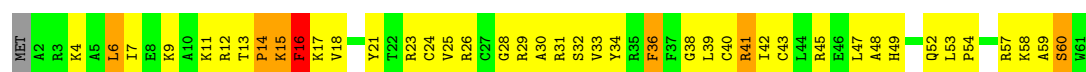
- Molecule 13: 30S RIBOSOMAL PROTEIN S13

Chain M:



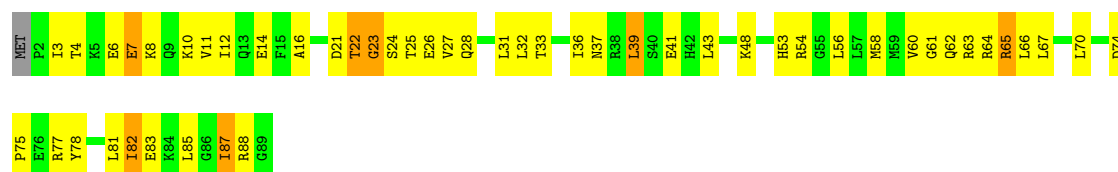
- Molecule 14: 30S RIBOSOMAL PROTEIN S14 TYPE Z

Chain N:



- Molecule 15: 30S RIBOSOMAL PROTEIN S15

Chain O:



- Molecule 16: 30S RIBOSOMAL PROTEIN S16

Chain P:



- Molecule 17: 30S RIBOSOMAL PROTEIN S17

Chain Q:





• Molecule 18: 30S RIBOSOMAL PROTEIN S18

Chain R:



• Molecule 19: 30S RIBOSOMAL PROTEIN S19

Chain S:



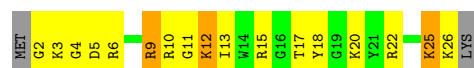
• Molecule 20: 30S RIBOSOMAL PROTEIN S20

Chain T:



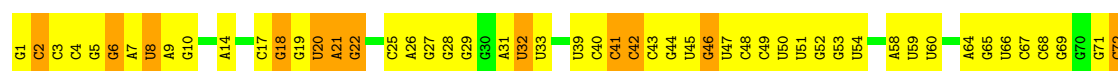
• Molecule 21: 30S RIBOSOMAL PROTEIN THX

Chain U:



• Molecule 22: E-SITE TRNA PHE OR P-SITE TRNA PHE (UNMODIFIED BASES)

Chain V:



• Molecule 22: E-SITE TRNA PHE OR P-SITE TRNA PHE (UNMODIFIED BASES)

Chain W:





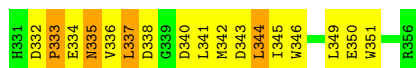
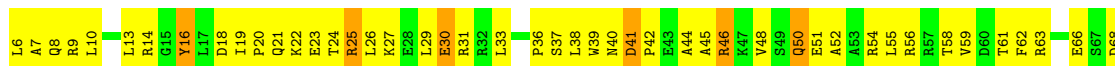
• Molecule 23: MRNA

Chain X:



• Molecule 24: PEPTIDE CHAIN RELEASE FACTOR 2

Chain Y:



## 4 Data and refinement statistics

EDS was not executed - this section will therefore be incomplete.

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	211.42Å 452.50Å 625.44Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	47.86 – 3.10	Depositor
% Data completeness (in resolution range)	100.0 (47.86-3.10)	Depositor
$R_{merge}$	0.16	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	1.59 (at 3.01Å)	Xtriage
Refinement program	CNS 1.2	Depositor
R, $R_{free}$	0.223 , 0.264	Depositor
Wilson B-factor (Å <sup>2</sup> )	55.0	Xtriage
Anisotropy	0.035	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
L-test for twinning	$\langle  L  \rangle = 0.40$ , $\langle L^2 \rangle = 0.22$	Xtriage
Outliers	0 of 1179114 reflections	Xtriage
Total number of atoms	58266	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	116.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.49% of the height of the origin peak. No significant pseudotranslation is detected.*

<sup>1</sup>Intensities estimated from amplitudes.

## 5 Model quality

### 5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: MG, ZN, 8AN, PHA

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	0.37	0/36190	0.69	14/56486 (0.0%)
2	B	0.31	0/1936	0.58	0/2611
3	C	0.32	0/1637	0.54	0/2207
4	D	0.33	0/1733	0.63	0/2318
5	E	0.34	0/1163	0.61	0/1566
6	F	0.32	0/856	0.63	0/1154
7	G	0.30	0/1276	0.56	0/1709
8	H	0.32	0/1136	0.61	0/1527
9	I	0.31	0/1027	0.58	0/1372
10	J	0.32	0/808	0.56	0/1087
11	K	0.32	0/900	0.58	0/1213
12	L	0.36	0/987	0.67	0/1322
13	M	0.30	0/994	0.56	0/1322
14	N	0.31	0/501	0.53	0/664
15	O	0.32	0/745	0.57	0/992
16	P	0.36	0/717	0.58	0/965
17	Q	0.33	0/837	0.61	0/1119
18	R	0.33	0/579	0.60	0/768
19	S	0.34	0/643	0.56	0/867
20	T	0.29	0/765	0.58	0/1007
21	U	0.41	0/213	0.49	0/279
22	V	0.38	0/1784	0.70	0/2780
22	W	0.35	0/1784	0.71	0/2780
23	X	0.39	0/184	0.74	0/284
24	Y	0.31	0/2849	0.60	0/3848
All	All	0.35	0/62244	0.66	14/92247 (0.0%)

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



Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	1	15
22	W	0	1
All	All	1	16

There are no bond length outliers.

All (14) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1504	G	C2'-C3'-O3'	8.26	127.67	109.50
1	A	115	G	C2'-C3'-O3'	7.41	125.81	109.50
1	A	575	G	C2'-C3'-O3'	6.99	124.89	113.70
1	A	366	C	C2'-C3'-O3'	6.93	124.78	113.70
1	A	913	A	C2'-C3'-O3'	6.76	124.52	113.70
1	A	266	G	C2'-C3'-O3'	6.26	123.72	113.70
1	A	1067	A	C2'-C3'-O3'	6.15	123.53	113.70
1	A	1498	U	C2'-C3'-O3'	5.46	122.44	113.70
1	A	920	U	C5'-C4'-C3'	-5.16	107.74	116.00
1	A	1502	A	N9-C1'-C2'	5.12	120.65	114.00
1	A	509	A	C2'-C3'-O3'	5.07	121.82	113.70
1	A	687	A	C2'-C3'-O3'	5.03	121.75	113.70
1	A	115	G	C4'-C3'-C2'	5.03	107.63	102.60
1	A	1504	G	C4'-C3'-C2'	5.02	107.62	102.60

All (1) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
1	A	1504	G	C3'

All (16) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	1077	G	Sidechain
1	A	1181	G	Sidechain
1	A	1281	U	Sidechain
1	A	1405	G	Sidechain
1	A	1422	G	Sidechain
1	A	1487	G	Sidechain
1	A	1519	A	Sidechain
1	A	1522	U	Sidechain
1	A	21	G	Sidechain
1	A	575	G	Sidechain
1	A	587	G	Sidechain

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Mol	Chain	Res	Type	Group
1	A	760	G	Sidechain
1	A	832	C	Sidechain
1	A	897	C	Sidechain
1	A	898	G	Sidechain
22	W	60	U	Sidechain

## 5.2 Close contacts ⓘ

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogens added by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, and the number in parentheses is this value normalized per 1000 atoms of the molecule in the chain. The Symm-Clashes column gives symmetry related clashes, in the same way as for the Clashes column.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	32329	0	16314	1189	0
2	B	1901	0	1951	258	0
3	C	1613	0	1677	199	0
4	D	1703	0	1763	216	0
5	E	1147	0	1207	125	0
6	F	843	0	857	88	0
7	G	1257	0	1296	113	0
8	H	1116	0	1177	118	0
9	I	1011	0	1041	126	0
10	J	795	0	840	146	0
11	K	885	0	904	74	0
12	L	971	0	1057	122	0
13	M	988	0	1055	158	0
14	N	492	0	530	66	0
15	O	734	0	771	54	0
16	P	701	0	720	81	0
17	Q	824	0	891	62	0
18	R	574	0	644	59	0
19	S	630	0	651	98	0
20	T	763	0	861	73	0
21	U	209	0	221	24	0
22	V	1630	0	831	72	0
22	W	1630	0	831	89	0
23	X	165	0	87	11	0
24	Y	2801	0	2816	344	0
25	Z	548	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
26	Z	3	0	0	0	0
27	V	1	0	0	0	0
27	Y	2	0	0	1	0
All	All	58266	0	40993	3624	0

Clashscore is defined as the number of clashes calculated for the entry per 1000 atoms (including hydrogens) of the entry. The overall clashscore for this entry is 37.

All (3624) close contacts within the same asymmetric unit are listed below.

Atom-1	Atom-2	Distance(Å)	Clash(Å)
24:Y:302:VAL:O	24:Y:303:ARG:HG3	1.34	1.20
1:A:1442(A):G:H3'	1:A:1442(B):A:H5''	1.19	1.17
22:W:70:G:H2'	22:W:71:G:H5''	1.15	1.14
4:D:86:LYS:HE3	4:D:87:GLY:H	0.99	1.10
4:D:128:VAL:HG12	4:D:129:ASN:H	1.07	1.09
22:W:39:U:H2'	22:W:40:C:H5''	1.35	1.07
13:M:88:ARG:HA	13:M:98:VAL:HG11	1.38	1.06
2:B:172:ILE:H	2:B:172:ILE:HD12	1.18	1.05
22:W:70:G:C2'	22:W:71:G:H5''	1.86	1.04
24:Y:303:ARG:H	24:Y:304:PRO:HD3	1.22	1.04
24:Y:115:ASN:HD22	24:Y:170:LEU:HD11	1.21	1.03
1:A:979:C:H3'	1:A:980:C:H5''	1.38	1.03
6:F:30:LEU:H	6:F:30:LEU:HD23	1.24	1.02
19:S:6:LYS:HG2	19:S:7:LYS:HE3	1.40	1.02
1:A:1256:A:H61	1:A:1278:U:H1'	1.26	1.01
22:W:16:U:H3'	22:W:17:C:H5'	1.39	1.01
24:Y:241:GLY:HA2	24:Y:244:THR:HG22	1.42	1.01
2:B:71:VAL:HG13	2:B:93:VAL:HB	1.40	1.01
1:A:975:A:H4'	1:A:976:G:H5''	1.43	1.00
3:C:150:LYS:HB3	3:C:201:TYR:HB2	1.43	1.00
24:Y:188:ARG:HB2	24:Y:310:GLN:HG2	1.44	1.00
22:W:76:8AN:H4'	22:W:77:PHA:O	1.60	0.99
10:J:50:ILE:HD13	10:J:50:ILE:H	1.26	0.99
24:Y:302:VAL:O	24:Y:303:ARG:CG	2.10	0.99
13:M:124:PRO:HD2	24:Y:163:GLY:H	1.25	0.99
2:B:22:LYS:HA	2:B:22:LYS:HE2	1.46	0.98
1:A:137:C:H42	1:A:226:G:H1	1.11	0.98
4:D:86:LYS:HE3	4:D:87:GLY:N	1.79	0.97
1:A:1107:C:H2'	1:A:1108:G:H5''	1.47	0.96
1:A:1442(A):G:H3'	1:A:1442(B):A:C5'	1.93	0.96
2:B:168:THR:HG23	2:B:192:SER:OG	1.66	0.96
5:E:102:ALA:HB1	5:E:106:PRO:HG2	1.44	0.95

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:D:176:LEU:HG	4:D:177:ASP:H	1.28	0.95
1:A:673:G:H2'	1:A:674:G:C8	2.02	0.95
3:C:14:ILE:HG12	3:C:15:THR:H	1.30	0.95
1:A:1116:C:H2'	1:A:1117:G:H5''	1.46	0.95
24:Y:238:GLY:HA3	24:Y:242:VAL:HB	1.48	0.94
4:D:18:LYS:HB2	4:D:33:MET:HG2	1.45	0.94
2:B:185:ILE:HG22	2:B:199:TYR:HB2	1.50	0.94
1:A:192:U:H4'	20:T:103:GLY:H	1.33	0.94
1:A:1128:C:H1'	1:A:1146:A:H61	1.31	0.94
24:Y:326:THR:HG23	24:Y:328:LEU:H	1.33	0.94
24:Y:241:GLY:HA3	27:Y:2002:HOH:O	1.68	0.93
1:A:939:G:H5''	7:G:102:ARG:HH12	1.32	0.93
15:O:33:THR:HG21	15:O:85:LEU:HD21	1.50	0.92
24:Y:211:ILE:HG21	24:Y:299:ARG:HG2	1.52	0.92
8:H:87:SER:HB2	8:H:93:VAL:HB	1.52	0.92
6:F:91:VAL:HG11	18:R:72:ARG:HH12	1.31	0.91
1:A:1505:G:H5''	1:A:1506:U:H5''	1.52	0.91
12:L:18:VAL:HG23	12:L:19:ARG:H	1.34	0.91
10:J:3:LYS:HD2	10:J:77:PRO:HG3	1.54	0.90
5:E:76:ILE:HD11	5:E:142:LEU:HD21	1.52	0.90
1:A:473:G:H4'	16:P:81:ARG:HH21	1.37	0.90
4:D:74:GLN:HA	4:D:77:ASN:HD22	1.35	0.90
1:A:15:G:H4'	5:E:24:ARG:HH12	1.35	0.90
16:P:22:THR:HA	16:P:33:ILE:HG12	1.54	0.90
13:M:125:ARG:HG3	24:Y:160:PRO:HD2	1.54	0.90
11:K:99:GLN:HG2	11:K:105:VAL:HG11	1.52	0.90
9:I:65:VAL:HG21	9:I:73:GLN:HB3	1.53	0.90
13:M:78:ILE:HA	13:M:81:LEU:HD12	1.52	0.89
22:W:16:U:C6	22:W:18:G:H5''	2.07	0.89
19:S:78:ARG:HH11	19:S:81:ARG:HH12	1.15	0.89
19:S:32:LYS:HA	19:S:50:ALA:HB3	1.53	0.89
4:D:128:VAL:HG12	4:D:129:ASN:N	1.87	0.89
22:W:16:U:H6	22:W:18:G:H5''	1.38	0.89
22:V:2:C:H2'	22:V:3:C:C6	2.08	0.89
10:J:4:ILE:HD11	10:J:77:PRO:HB3	1.53	0.89
1:A:424:G:H2'	1:A:425:G:H8	1.38	0.89
24:Y:182:PRO:HG3	24:Y:345:ILE:HG23	1.55	0.89
3:C:70:VAL:HG12	3:C:72:LYS:H	1.37	0.88
1:A:735:C:H2'	1:A:736:C:H6	1.37	0.88
2:B:178:ARG:HB2	2:B:178:ARG:HH11	1.37	0.88
7:G:37:ASN:HD21	9:I:40:LEU:HA	1.36	0.88
24:Y:123:GLY:HA3	24:Y:305:ILE:HG21	1.56	0.88

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
24:Y:303:ARG:H	24:Y:304:PRO:CD	1.85	0.88
1:A:413:G:H4'	1:A:414:A:H5''	1.53	0.88
20:T:57:ARG:HH22	20:T:100:ILE:HG12	1.38	0.88
18:R:56:THR:HB	18:R:58:LEU:HD13	1.56	0.88
1:A:1057:G:H5''	3:C:154:SER:HB2	1.54	0.88
5:E:7:GLU:HG2	5:E:112:LEU:HD22	1.56	0.87
1:A:1030(A):G:H2'	1:A:1030(B):C:H5''	1.56	0.87
3:C:6:HIS:HD2	3:C:7:PRO:HD2	1.37	0.87
22:V:41:C:H2'	22:V:42:C:H5''	1.56	0.87
1:A:942:G:H21	9:I:124:GLN:HE22	1.22	0.87
9:I:28:VAL:HG22	9:I:63:ILE:HB	1.54	0.87
22:V:5:G:H2'	22:V:6:G:H5''	1.57	0.87
2:B:233:SER:HB2	2:B:234:PRO:HD2	1.57	0.87
13:M:3:ARG:HH21	13:M:7:VAL:HG22	1.37	0.87
1:A:266:G:H5''	1:A:268:C:H41	1.39	0.86
2:B:165:VAL:HG23	2:B:166:ASP:H	1.39	0.86
9:I:50:LEU:HD21	9:I:81:ILE:HG22	1.56	0.86
9:I:26:VAL:HG22	9:I:61:ALA:HB3	1.58	0.86
10:J:43:ARG:HB2	10:J:67:THR:HB	1.55	0.86
2:B:55:PHE:HA	2:B:58:ILE:HD12	1.57	0.86
12:L:6:THR:H	12:L:9:GLN:HE21	1.23	0.86
2:B:80:ILE:H	2:B:80:ILE:HD12	1.39	0.86
2:B:231:GLU:HB2	2:B:232:PRO:HD2	1.55	0.86
6:F:77:ARG:NH1	6:F:77:ARG:HB3	1.90	0.85
1:A:1028:C:H2'	1:A:1029:C:H5'	1.57	0.85
22:V:72:C:H3'	22:V:73:A:H5''	1.55	0.85
1:A:728:A:H2'	1:A:729:A:C8	2.12	0.85
4:D:128:VAL:CG1	4:D:129:ASN:H	1.88	0.85
9:I:10:ARG:HH21	9:I:11:LYS:HB2	1.41	0.85
3:C:32:LEU:HB3	3:C:59:ARG:HH22	1.40	0.85
1:A:1468:A:H2'	1:A:1469:G:O4'	1.76	0.84
24:Y:91:LEU:HA	24:Y:94:ALA:HB3	1.57	0.84
20:T:57:ARG:NH2	20:T:100:ILE:HG12	1.91	0.84
12:L:25:PRO:C	12:L:27:LEU:H	1.79	0.84
24:Y:283:LEU:HB3	24:Y:287:GLU:OE2	1.76	0.84
12:L:6:THR:HG23	12:L:9:GLN:HE21	1.43	0.84
10:J:24:VAL:HG21	10:J:37:PRO:HG3	1.59	0.84
5:E:51:VAL:HB	5:E:52:PRO:HD3	1.57	0.84
5:E:101:ILE:HD11	5:E:119:LEU:HD23	1.59	0.83
19:S:29:ARG:HD2	19:S:30:LEU:H	1.41	0.83
2:B:33:TYR:HB2	2:B:43:ASP:HB2	1.58	0.83
12:L:84:LEU:HD12	12:L:104:VAL:HG11	1.59	0.83

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:I:9:ARG:HG2	9:I:14:VAL:HG22	1.60	0.83
16:P:45:THR:HG22	16:P:47:ASP:H	1.43	0.83
5:E:41:VAL:HG22	5:E:113:ALA:HA	1.60	0.83
19:S:42:PRO:O	19:S:43:GLU:HB3	1.78	0.83
24:Y:115:ASN:ND2	24:Y:170:LEU:HD11	1.94	0.82
2:B:118:LEU:HB3	2:B:142:LEU:HD12	1.60	0.82
9:I:4:TYR:HB2	9:I:19:LEU:HB2	1.61	0.82
5:E:92:LYS:HB3	5:E:119:LEU:HB2	1.60	0.82
10:J:26:ALA:HA	10:J:29:ARG:HH12	1.42	0.82
9:I:15:ALA:HB2	9:I:65:VAL:HG23	1.61	0.82
22:V:40:C:H2'	22:V:41:C:C6	2.15	0.82
1:A:976:G:H5'	1:A:1358:U:O2'	1.79	0.82
13:M:123:ALA:HB1	24:Y:161:GLU:O	1.79	0.81
8:H:11:THR:HG22	8:H:15:ASN:ND2	1.95	0.81
1:A:939:G:C5'	7:G:102:ARG:HH12	1.93	0.81
3:C:101:LEU:HD23	3:C:102:ASN:N	1.95	0.81
12:L:53:ARG:HH11	12:L:53:ARG:HG2	1.45	0.81
4:D:59:ARG:HE	4:D:59:ARG:HA	1.43	0.81
8:H:11:THR:HG22	8:H:15:ASN:HD21	1.45	0.81
8:H:89:PRO:HA	8:H:92:ARG:HH11	1.46	0.81
22:V:77:PHA:N	22:V:77:PHA:HD2	1.95	0.81
24:Y:54:ARG:HB3	24:Y:54:ARG:NH2	1.93	0.81
1:A:990:C:H2'	1:A:991:U:C6	2.15	0.81
1:A:1292:U:H2'	1:A:1293:G:C8	2.15	0.81
22:V:71:G:H2'	22:V:72:C:H5''	1.63	0.81
1:A:601:C:H2'	1:A:602:A:H8	1.44	0.81
6:F:68:PRO:HG2	6:F:71:ARG:HG3	1.63	0.81
4:D:30:LYS:C	4:D:32:ALA:H	1.85	0.81
1:A:1321:C:C5'	1:A:1322:C:H5''	2.11	0.81
18:R:31:LEU:HD23	18:R:31:LEU:H	1.46	0.81
1:A:624:C:H2'	1:A:625:G:H8	1.45	0.81
4:D:176:LEU:HG	4:D:178:VAL:H	1.46	0.80
1:A:1347:G:N2	1:A:1373:G:H2'	1.94	0.80
2:B:141:GLU:O	2:B:145:LEU:HB2	1.82	0.80
3:C:36:ASP:HB3	3:C:40:ARG:HH12	1.46	0.80
19:S:16:LEU:HD12	19:S:16:LEU:H	1.46	0.80
1:A:1137:C:H4'	1:A:1138:G:C2	2.17	0.80
1:A:590:C:H2'	1:A:591:U:H6	1.46	0.80
24:Y:214:VAL:HG13	24:Y:215:ASP:H	1.47	0.80
19:S:10:PHE:HZ	19:S:70:LYS:HZ3	1.28	0.80
1:A:1116:C:C2'	1:A:1117:G:H5''	2.11	0.80
3:C:32:LEU:HB3	3:C:59:ARG:NH2	1.97	0.79

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:G:100:ALA:O	7:G:104:LEU:HD23	1.81	0.79
1:A:444:C:H2'	1:A:445:G:C8	2.17	0.79
2:B:231:GLU:HB2	2:B:232:PRO:CD	2.13	0.79
24:Y:341:LEU:HD22	24:Y:344:LEU:HD11	1.63	0.79
3:C:34:LEU:HD21	3:C:38:ARG:HD2	1.63	0.79
3:C:113:ALA:HB3	3:C:114:PRO:HD3	1.64	0.79
4:D:49:ARG:HE	4:D:49:ARG:HA	1.47	0.79
12:L:70:ILE:HG12	12:L:100:ILE:HD12	1.65	0.79
1:A:1057:G:H5''	3:C:154:SER:CB	2.13	0.79
22:W:38:A:H3'	22:W:39:U:H5''	1.63	0.79
1:A:939:G:H5''	7:G:102:ARG:NH1	1.96	0.79
1:A:223:U:H2'	1:A:224:C:H6	1.45	0.79
11:K:29:ILE:HG13	11:K:44:SER:HB3	1.64	0.79
1:A:255:G:H1'	17:Q:16:GLN:NE2	1.98	0.79
19:S:43:GLU:HG2	19:S:44:MET:HE1	1.65	0.79
2:B:91:PRO:HG3	2:B:154:LEU:HB2	1.65	0.79
9:I:17:VAL:HG13	9:I:81:ILE:HD13	1.63	0.78
4:D:93:PHE:O	4:D:97:LEU:HB2	1.82	0.78
19:S:18:LYS:O	19:S:22:LEU:HD23	1.83	0.78
24:Y:115:ASN:HD22	24:Y:170:LEU:CD1	1.96	0.78
4:D:12:CYS:HA	4:D:19:LEU:H	1.48	0.78
22:W:39:U:H2'	22:W:40:C:C5'	2.13	0.78
3:C:6:HIS:ND1	14:N:49:HIS:HB3	1.98	0.78
22:V:41:C:C2'	22:V:42:C:H5''	2.13	0.78
22:W:47:U:O2'	22:W:48:C:H5'	1.81	0.78
1:A:1305:G:H5'	21:U:4:GLY:HA3	1.64	0.78
1:A:973:G:H3'	1:A:974:A:H5''	1.64	0.78
10:J:49:VAL:HG23	14:N:41:ARG:HB2	1.65	0.78
1:A:878:G:H5'	8:H:89:PRO:HG2	1.65	0.78
24:Y:109:PHE:HB2	24:Y:112:ALA:HB2	1.65	0.78
3:C:180:ALA:HB1	3:C:203:PHE:HE1	1.49	0.78
9:I:53:VAL:HG12	9:I:95:LYS:HE3	1.66	0.78
11:K:85:ARG:HG2	11:K:111:ASP:O	1.83	0.78
20:T:75:ASN:HD22	20:T:75:ASN:N	1.81	0.78
1:A:1278:U:H5''	1:A:1279:A:O4'	1.82	0.78
1:A:1502:A:H2	1:A:1505:G:N1	1.81	0.77
12:L:47:LYS:HB3	12:L:48:PRO:CD	2.14	0.77
24:Y:164:ILE:HD11	24:Y:167:ALA:HB2	1.66	0.77
22:W:68:C:H2'	22:W:69:G:H8	1.47	0.77
1:A:67:C:H2'	1:A:68:G:C8	2.19	0.77
22:V:27:G:H1	22:V:43:C:H42	1.33	0.77
22:W:70:G:H2'	22:W:71:G:C5'	2.08	0.77

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
19:S:78:ARG:HB2	19:S:81:ARG:HH11	1.49	0.77
1:A:728:A:H2'	1:A:729:A:H8	1.47	0.77
10:J:49:VAL:CG2	14:N:41:ARG:HB2	2.14	0.77
12:L:57:LYS:HG2	12:L:67:THR:HG22	1.65	0.77
2:B:124:SER:OG	2:B:125:PRO:HD2	1.85	0.77
4:D:196:LEU:H	4:D:196:LEU:HD12	1.49	0.77
7:G:102:ARG:HG2	7:G:106:GLN:HE21	1.48	0.77
1:A:1005:A:N6	1:A:1025:U:H4'	2.00	0.77
19:S:29:ARG:CD	19:S:30:LEU:H	1.97	0.77
1:A:976:G:N2	1:A:1362:C:H2'	2.00	0.77
24:Y:141:THR:HG22	24:Y:145:GLU:OE2	1.85	0.77
24:Y:231:VAL:HG12	24:Y:249:VAL:HG12	1.67	0.77
2:B:208:ILE:HA	2:B:211:ILE:HD12	1.66	0.77
1:A:15:G:H4'	5:E:24:ARG:NH1	1.99	0.76
8:H:88:LYS:HB3	8:H:89:PRO:HD2	1.67	0.76
22:W:25:C:H2'	22:W:26:A:H8	1.50	0.76
1:A:1513:A:H2'	1:A:1514:C:C6	2.20	0.76
4:D:112:VAL:HG12	4:D:116:GLN:OE1	1.86	0.76
7:G:113:GLU:CG	7:G:119:ARG:HG2	2.15	0.76
1:A:954:G:H21	1:A:1227:A:H62	1.31	0.76
2:B:194:PRO:HG2	2:B:195:ASP:OD1	1.85	0.76
8:H:36:LEU:HA	8:H:39:LEU:HD23	1.67	0.76
2:B:166:ASP:HB3	2:B:169:LYS:HB2	1.68	0.76
7:G:146:GLU:HG2	7:G:149:ARG:HH12	1.50	0.76
1:A:392:G:H2'	1:A:393:A:C8	2.21	0.76
21:U:9:ARG:HA	21:U:9:ARG:HH11	1.50	0.76
5:E:6:PHE:HB2	5:E:34:VAL:HG22	1.66	0.76
1:A:1294:G:H2'	1:A:1295:G:H8	1.51	0.76
24:Y:227:LEU:HD22	24:Y:251:VAL:HG12	1.66	0.76
24:Y:181:SER:N	24:Y:182:PRO:HD2	1.99	0.76
5:E:100:VAL:HG12	5:E:118:ILE:HG22	1.68	0.76
24:Y:267:SER:OG	24:Y:270:LYS:HB2	1.85	0.76
5:E:93:PRO:HG2	8:H:105:ARG:HH21	1.51	0.76
16:P:28:ARG:HH11	16:P:28:ARG:HG2	1.51	0.76
1:A:377:G:H2'	1:A:378:G:H8	1.51	0.76
1:A:392:G:H2'	1:A:393:A:H8	1.50	0.76
1:A:1502:A:H2	1:A:1505:G:H1	1.35	0.75
19:S:48:THR:HG22	19:S:61:TYR:HA	1.68	0.75
20:T:56:MET:HG3	20:T:84:LEU:CD1	2.16	0.75
22:W:56:C:H2'	22:W:57:G:C8	2.21	0.75
3:C:16:ARG:NH1	3:C:16:ARG:HB2	2.01	0.75
1:A:235:C:H5'	17:Q:70:ARG:HG2	1.68	0.75

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
18:R:37:VAL:HG23	18:R:38:GLU:H	1.49	0.75
17:Q:7:THR:HG22	17:Q:58:GLU:HG2	1.68	0.75
16:P:53:VAL:HG12	16:P:79:VAL:HG22	1.67	0.75
1:A:1355:G:H2'	1:A:1356:G:H8	1.49	0.75
4:D:110:PHE:H	4:D:110:PHE:HD1	1.31	0.75
15:O:33:THR:HG21	15:O:85:LEU:CD2	2.16	0.75
1:A:737:A:H2'	1:A:738:C:C6	2.21	0.75
20:T:11:SER:HA	20:T:13:LEU:HD12	1.66	0.75
1:A:405:U:H3'	1:A:406:G:H5'	1.68	0.75
13:M:125:ARG:CG	24:Y:160:PRO:HD2	2.16	0.75
6:F:77:ARG:HH11	6:F:77:ARG:HB3	1.48	0.75
5:E:92:LYS:O	5:E:118:ILE:HD12	1.86	0.75
19:S:11:VAL:HG13	19:S:16:LEU:HD11	1.68	0.75
8:H:91:ARG:HG2	8:H:91:ARG:HH11	1.49	0.75
7:G:15:ASP:HB3	7:G:19:GLY:N	2.01	0.75
1:A:674:G:H2'	1:A:675:A:H8	1.51	0.75
13:M:32:GLU:O	13:M:35:GLU:HG2	1.85	0.75
24:Y:81:ALA:HB3	24:Y:84:ARG:HB2	1.68	0.75
1:A:491:G:H2'	1:A:492:G:H8	1.52	0.75
4:D:176:LEU:CG	4:D:177:ASP:H	1.98	0.74
9:I:115:GLY:O	9:I:116:LYS:HG3	1.87	0.74
2:B:98:LEU:O	2:B:101:MET:HG3	1.87	0.74
4:D:86:LYS:CE	4:D:87:GLY:H	1.91	0.74
12:L:25:PRO:O	12:L:27:LEU:HD13	1.88	0.74
10:J:48:THR:HA	10:J:62:HIS:HB3	1.70	0.74
24:Y:149:PHE:HD1	24:Y:173:GLY:HA3	1.53	0.74
3:C:71:ALA:HB2	3:C:106:VAL:HB	1.69	0.74
8:H:101:PRO:HG2	8:H:133:LEU:HD11	1.67	0.74
8:H:6:ILE:HD12	8:H:6:ILE:H	1.51	0.74
22:W:38:A:C3'	22:W:39:U:H5''	2.18	0.74
1:A:1003:G:H2'	1:A:1004:A:O4'	1.88	0.74
22:V:40:C:H2'	22:V:41:C:H6	1.52	0.74
1:A:1343:G:H2'	1:A:1344:C:C6	2.22	0.74
22:V:72:C:C3'	22:V:73:A:H5''	2.16	0.74
3:C:121:ALA:HB2	3:C:198:VAL:HG21	1.68	0.74
1:A:17:U:H2'	1:A:18:C:C6	2.23	0.74
5:E:50:GLU:HG3	5:E:52:PRO:HD2	1.69	0.74
7:G:84:ASN:CB	22:W:38:A:H61	2.01	0.74
7:G:15:ASP:HB3	7:G:19:GLY:H	1.52	0.74
22:W:8:U:H2'	22:W:8:U:O2	1.87	0.74
13:M:82:MET:HB2	13:M:93:ARG:NH1	2.03	0.74
12:L:70:ILE:HD13	12:L:77:LEU:HD12	1.70	0.74

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:F:19:LEU:HD23	6:F:19:LEU:O	1.86	0.74
3:C:175:LEU:HD21	3:C:201:TYR:HE2	1.53	0.73
1:A:474:G:H2'	1:A:475:G:C8	2.22	0.73
1:A:601:C:H2'	1:A:602:A:C8	2.23	0.73
8:H:19:VAL:HG21	8:H:21:LYS:HE2	1.69	0.73
7:G:77:SER:HA	7:G:86:GLN:HA	1.70	0.73
24:Y:114:LYS:HD2	24:Y:115:ASN:OD1	1.88	0.73
19:S:6:LYS:HD2	19:S:6:LYS:H	1.54	0.73
1:A:1107:C:C2'	1:A:1108:G:H5''	2.18	0.73
1:A:939:G:H5''	7:G:102:ARG:HH22	1.52	0.73
1:A:1027:C:H2'	1:A:1028:C:C5	2.22	0.73
1:A:878:G:C5'	8:H:89:PRO:HG2	2.18	0.73
24:Y:26:LEU:HB2	24:Y:55:LEU:HD21	1.69	0.73
2:B:97:TRP:CH2	2:B:173:ALA:HA	2.23	0.73
2:B:101:MET:HA	2:B:108:ILE:HG13	1.69	0.73
6:F:100:ASN:O	18:R:28:GLU:HG2	1.87	0.73
1:A:997:U:H2'	1:A:998:G:C8	2.23	0.73
1:A:353:A:H5'	1:A:353:A:H8	1.53	0.73
1:A:1143:G:H2'	1:A:1144:G:C8	2.23	0.73
1:A:223:U:H2'	1:A:224:C:C6	2.23	0.73
1:A:1513:A:H2'	1:A:1514:C:H6	1.51	0.73
11:K:80:VAL:HG13	11:K:103:LEU:HD11	1.70	0.73
1:A:926:G:N2	23:X:15:A:H5'	2.03	0.73
18:R:88:LYS:HD3	18:R:88:LYS:C	2.09	0.73
1:A:328:C:H4'	1:A:329:A:H5'	1.71	0.73
1:A:1163:C:H2'	1:A:1164:G:H8	1.52	0.73
9:I:97:LYS:HB3	9:I:98:PRO:HD3	1.71	0.73
4:D:150:GLU:CD	4:D:151:LYS:H	1.92	0.73
12:L:89:ARG:HA	12:L:97:ARG:HA	1.70	0.73
4:D:32:ALA:O	4:D:35:ARG:HG3	1.88	0.73
1:A:192:U:H2'	1:A:193:C:C6	2.24	0.73
5:E:9:LYS:HB2	5:E:112:LEU:HD11	1.69	0.73
23:X:19:U:H3'	23:X:20:A:C8	2.23	0.73
10:J:38:ILE:HD11	10:J:71:LEU:HD23	1.69	0.73
2:B:178:ARG:HH22	2:B:196:LEU:C	1.92	0.73
12:L:47:LYS:HB3	12:L:48:PRO:HD3	1.71	0.73
8:H:11:THR:HG23	8:H:14:ARG:NH1	2.03	0.73
10:J:4:ILE:HD12	10:J:4:ILE:H	1.54	0.72
1:A:1363(A):A:H4'	1:A:1364:U:H5''	1.71	0.72
15:O:4:THR:OG1	15:O:7:GLU:HB2	1.88	0.72
1:A:979:C:C3'	1:A:980:C:H5''	2.17	0.72
10:J:50:ILE:HD11	14:N:41:ARG:NH1	2.04	0.72

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1030:C:H2'	1:A:1030(A):G:H5'	1.70	0.72
13:M:19:LEU:HA	13:M:22:ILE:HD13	1.72	0.72
13:M:49:THR:HG22	13:M:51:ALA:H	1.54	0.72
24:Y:76:MET:HG3	24:Y:88:LYS:NZ	2.03	0.72
2:B:170:GLU:O	2:B:174:VAL:HG23	1.89	0.72
17:Q:59:ILE:HG21	17:Q:71:PHE:HB3	1.72	0.72
4:D:49:ARG:NE	4:D:49:ARG:HA	2.05	0.72
1:A:434:U:H2'	1:A:435:C:C6	2.24	0.72
13:M:112:GLY:HA2	13:M:113:PRO:HD2	1.71	0.72
1:A:685:G:O2'	1:A:686:U:H5'	1.89	0.72
2:B:187:LEU:HD22	2:B:201:ILE:O	1.90	0.72
1:A:1256:A:N6	1:A:1278:U:H1'	2.02	0.72
13:M:125:ARG:HA	24:Y:159:GLY:HA3	1.71	0.72
9:I:15:ALA:HA	9:I:65:VAL:HA	1.72	0.72
1:A:91:C:O2	1:A:91:C:H2'	1.88	0.72
2:B:224:GLN:HA	2:B:229:VAL:HG22	1.71	0.72
4:D:60:GLU:OE2	4:D:198:VAL:HA	1.90	0.72
3:C:206:GLU:HG2	3:C:207:VAL:H	1.53	0.72
24:Y:119:THR:HG23	24:Y:166:TYR:HE1	1.55	0.72
2:B:17:PHE:HD1	2:B:44:LEU:HD11	1.54	0.72
23:X:15:A:N3	23:X:15:A:H2'	2.02	0.72
1:A:1321:C:H5'	1:A:1322:C:H5''	1.70	0.72
8:H:86:ILE:HG21	8:H:133:LEU:HD22	1.71	0.72
5:E:31:LEU:HD23	5:E:45:PHE:HB2	1.71	0.72
14:N:23:ARG:NH1	14:N:30:ALA:HB2	2.04	0.72
1:A:1348:U:H4'	9:I:120:ARG:HD2	1.72	0.72
13:M:91:ARG:HB2	13:M:98:VAL:HG22	1.71	0.72
4:D:33:MET:C	4:D:35:ARG:H	1.93	0.72
1:A:1028:C:C2'	1:A:1029:C:H5'	2.19	0.72
9:I:95:LYS:HD3	9:I:96:LEU:N	2.05	0.72
24:Y:88:LYS:HB2	24:Y:89:PRO:HD3	1.72	0.72
2:B:187:LEU:HD23	2:B:201:ILE:HG22	1.70	0.72
22:W:31:A:H2'	22:W:32:U:H5'	1.70	0.72
22:W:59:U:H2'	22:W:60:U:H6	1.53	0.72
1:A:1321:C:C3'	1:A:1322:C:H5''	2.19	0.71
1:A:407:G:O2'	4:D:116:GLN:HG3	1.90	0.71
24:Y:135:MET:O	24:Y:138:ARG:HG3	1.89	0.71
16:P:13:HIS:O	16:P:15:PRO:HD3	1.88	0.71
3:C:127:ARG:HD2	3:C:127:ARG:N	2.04	0.71
1:A:735:C:H2'	1:A:736:C:C6	2.25	0.71
24:Y:315:VAL:HG11	24:Y:320:TYR:CZ	2.26	0.71
4:D:132:ARG:HH11	4:D:132:ARG:HG2	1.55	0.71

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:I:13:ALA:HB2	9:I:68:GLY:HA3	1.72	0.71
1:A:750:G:H1'	15:O:23:GLY:H	1.54	0.71
22:W:29:G:H2'	22:W:30:G:C8	2.25	0.71
24:Y:118:LEU:CD2	24:Y:210:VAL:HG22	2.20	0.71
10:J:6:ILE:HG22	10:J:98:ILE:HG13	1.71	0.71
2:B:201:ILE:HG21	2:B:214:ILE:HG21	1.72	0.71
2:B:67:THR:HG21	2:B:155:LEU:HD11	1.72	0.71
7:G:147:ALA:C	7:G:148:ASN:HD22	1.93	0.71
1:A:1031:G:H2'	1:A:1032:G:O4'	1.89	0.71
2:B:71:VAL:HB	2:B:164:VAL:HG22	1.73	0.71
2:B:54:THR:HG21	2:B:201:ILE:HD11	1.72	0.71
5:E:71:LEU:O	5:E:72:GLN:HG3	1.91	0.71
17:Q:59:ILE:CG2	17:Q:71:PHE:HB3	2.21	0.71
10:J:7:LYS:HD3	10:J:71:LEU:HD13	1.73	0.71
20:T:39:LYS:O	20:T:42:GLN:HB3	1.90	0.71
18:R:70:ILE:O	18:R:74:ARG:HG3	1.90	0.71
1:A:1134:G:H2'	1:A:1135:U:H5'	1.73	0.70
2:B:120:ALA:O	2:B:121:LEU:HD23	1.90	0.70
10:J:33:GLN:O	10:J:75:ILE:HG12	1.89	0.70
2:B:114:ARG:O	2:B:118:LEU:HG	1.91	0.70
1:A:1152:A:H2'	1:A:1153:C:H6	1.57	0.70
2:B:194:PRO:O	2:B:196:LEU:N	2.25	0.70
4:D:68:TYR:CD2	4:D:97:LEU:HD22	2.26	0.70
2:B:130:ARG:NH2	2:B:138:LEU:HD11	2.06	0.70
3:C:76:VAL:HG23	3:C:77:ILE:HG13	1.73	0.70
1:A:1352:C:H2'	1:A:1353:G:C8	2.26	0.70
1:A:650:G:O2'	1:A:651:C:H5'	1.91	0.70
3:C:34:LEU:O	3:C:38:ARG:HG3	1.92	0.70
2:B:69:LEU:HD22	2:B:91:PRO:HB2	1.71	0.70
1:A:1241:G:H2'	1:A:1242:C:C6	2.27	0.70
1:A:73:G:H1	1:A:96:U:H3	1.38	0.70
8:H:118:VAL:O	8:H:119:LEU:HD23	1.92	0.70
1:A:736:C:H2'	1:A:737:A:C8	2.27	0.70
10:J:27:ALA:HB2	10:J:85:LEU:HD11	1.74	0.70
5:E:42:GLY:HA3	5:E:66:MET:HG2	1.72	0.70
19:S:50:ALA:HB1	19:S:57:HIS:HB3	1.74	0.70
1:A:1347:G:H22	1:A:1373:G:H2'	1.55	0.70
13:M:3:ARG:NH2	13:M:7:VAL:HG22	2.07	0.70
12:L:28:LYS:HE3	12:L:33:ARG:HH12	1.55	0.70
1:A:1264:C:H2'	1:A:1265:G:C8	2.26	0.70
18:R:31:LEU:CD2	18:R:31:LEU:H	2.04	0.70
6:F:86:ARG:O	6:F:87:ARG:HG2	1.92	0.70

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:M:120:LYS:HD3	13:M:121:LYS:N	2.07	0.69
19:S:67:VAL:HG23	19:S:68:GLY:H	1.57	0.69
17:Q:57:VAL:HG12	17:Q:76:LEU:HA	1.72	0.69
4:D:64:LEU:HB2	4:D:198:VAL:HG11	1.74	0.69
1:A:1112:C:O2	3:C:179:ARG:HG2	1.92	0.69
2:B:219:VAL:O	2:B:223:ILE:HG13	1.91	0.69
10:J:8:LEU:HD23	10:J:96:ILE:HG22	1.74	0.69
4:D:126:ILE:HG22	4:D:127:THR:N	2.06	0.69
1:A:1012:U:H2'	1:A:1013:G:C8	2.26	0.69
24:Y:127:THR:HG23	24:Y:161:GLU:HB2	1.74	0.69
1:A:438:G:H4'	1:A:439:A:OP1	1.91	0.69
1:A:973:G:O4'	10:J:55:LYS:HG3	1.91	0.69
1:A:1126:U:H2'	1:A:1127:G:O4'	1.92	0.69
10:J:34:VAL:HG22	10:J:74:ILE:HG22	1.75	0.69
9:I:102:LEU:HD23	9:I:103:THR:N	2.07	0.69
8:H:40:ALA:C	8:H:42:GLU:H	1.96	0.69
2:B:185:ILE:CG2	2:B:199:TYR:HB2	2.23	0.69
4:D:35:ARG:O	4:D:37:PRO:HD3	1.92	0.69
6:F:69:GLU:O	6:F:72:VAL:HG12	1.92	0.69
14:N:6:LEU:HD22	14:N:23:ARG:NH2	2.06	0.69
1:A:1243:C:H42	1:A:1294:G:H22	1.40	0.69
8:H:86:ILE:HG12	8:H:135:CYS:HA	1.73	0.69
1:A:1255:G:H2'	1:A:1255:G:N3	2.06	0.69
6:F:12:PRO:HG3	6:F:57:GLN:O	1.91	0.69
13:M:90:LEU:C	13:M:92:HIS:H	1.94	0.69
22:W:57:G:C2'	22:W:58:A:H5'	2.21	0.69
10:J:50:ILE:HA	10:J:60:ARG:HB2	1.74	0.69
1:A:194:C:H2'	1:A:195:A:H5''	1.75	0.69
1:A:192:U:H5'	20:T:102:GLY:HA2	1.74	0.69
1:A:926:G:H21	23:X:15:A:H5'	1.57	0.69
9:I:88:TYR:O	9:I:89:ASN:HB2	1.91	0.69
10:J:8:LEU:HD23	10:J:96:ILE:CG2	2.23	0.69
1:A:503:C:H2'	1:A:504:C:H6	1.57	0.69
1:A:250:A:H4'	1:A:251:G:O5'	1.93	0.69
19:S:64:GLU:HG3	19:S:65:ASN:H	1.58	0.69
1:A:1149:C:H2'	1:A:1150:U:C6	2.28	0.69
9:I:7:THR:HB	9:I:83:ARG:NH1	2.07	0.69
4:D:129:ASN:HD22	4:D:129:ASN:N	1.88	0.69
13:M:2:ALA:N	13:M:9:ILE:HG23	2.07	0.69
4:D:14:ARG:HD2	4:D:59:ARG:NH1	2.07	0.69
1:A:444:C:H2'	1:A:445:G:H8	1.57	0.69
1:A:67:C:H2'	1:A:68:G:H8	1.56	0.69

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:390:C:H2'	1:A:391:G:C8	2.27	0.69
4:D:150:GLU:CD	4:D:151:LYS:N	2.46	0.69
4:D:127:THR:HG23	4:D:147:ALA:HB3	1.74	0.69
1:A:1242:C:P	21:U:10:ARG:HH22	2.15	0.69
1:A:489:C:H2'	1:A:490:G:H8	1.57	0.69
5:E:150:ARG:HA	5:E:153:LYS:HE2	1.73	0.69
2:B:46:LYS:HE3	2:B:46:LYS:HA	1.75	0.69
4:D:43:HIS:O	4:D:45:GLN:N	2.25	0.69
1:A:1493:A:H1'	24:Y:124:ALA:HA	1.75	0.69
16:P:20:VAL:HG23	16:P:34:GLU:O	1.92	0.69
10:J:6:ILE:O	10:J:6:ILE:HD12	1.92	0.69
1:A:1312:G:H1	1:A:1325:C:H42	1.41	0.69
1:A:539:A:OP2	12:L:115:LYS:HE3	1.93	0.69
24:Y:237:PRO:O	24:Y:242:VAL:HG21	1.93	0.68
7:G:64:GLN:HE21	7:G:68:ASN:HD21	1.40	0.68
4:D:128:VAL:O	4:D:130:GLY:N	2.26	0.68
2:B:162:ILE:O	2:B:185:ILE:HG12	1.93	0.68
24:Y:152:GLU:OE1	24:Y:170:LEU:HD23	1.94	0.68
4:D:31:CYS:C	4:D:33:MET:H	1.96	0.68
3:C:20:SER:HB2	3:C:40:ARG:HH22	1.56	0.68
24:Y:77:GLU:H	24:Y:84:ARG:CG	2.05	0.68
15:O:16:ALA:HB1	15:O:21:ASP:HB3	1.74	0.68
20:T:48:LYS:O	20:T:52:ALA:HB2	1.94	0.68
7:G:140:ASP:HA	7:G:143:ARG:NH1	2.08	0.68
3:C:14:ILE:HG12	3:C:15:THR:N	2.04	0.68
12:L:28:LYS:HD2	12:L:30:ALA:HB2	1.74	0.68
24:Y:187:HIS:CE1	24:Y:311:ILE:HD11	2.27	0.68
24:Y:18:ASP:HB3	24:Y:22:LYS:NZ	2.08	0.68
16:P:19:ILE:H	16:P:19:ILE:HD12	1.56	0.68
13:M:84:ILE:HG13	19:S:66:MET:SD	2.33	0.68
13:M:23:TYR:O	13:M:66:LEU:HA	1.93	0.68
15:O:48:LYS:HA	15:O:48:LYS:HE2	1.76	0.68
8:H:30:ARG:HB3	8:H:30:ARG:NH1	2.08	0.68
1:A:1314:C:OP2	19:S:6:LYS:HG3	1.92	0.68
7:G:113:GLU:HG2	7:G:119:ARG:HG2	1.75	0.68
22:W:63:G:H2'	22:W:64:A:H5'	1.76	0.68
6:F:82:ARG:HB2	6:F:85:VAL:HG23	1.74	0.68
1:A:1277:C:H2'	1:A:1278:U:H5'	1.76	0.68
1:A:942:G:H21	9:I:124:GLN:NE2	1.91	0.68
4:D:175:SER:HB3	4:D:186:LEU:HD11	1.76	0.68
3:C:73:PRO:HG2	3:C:74:GLY:H	1.58	0.68
1:A:1148:U:H2'	1:A:1149:C:O4'	1.93	0.68

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
24:Y:302:VAL:C	24:Y:303:ARG:HG3	2.14	0.68
5:E:42:GLY:CA	5:E:66:MET:HG2	2.23	0.68
13:M:124:PRO:CD	24:Y:163:GLY:H	2.03	0.68
1:A:1128:C:C5'	9:I:16:ARG:HH12	2.05	0.68
16:P:45:THR:HG23	16:P:46:PRO:HD2	1.74	0.68
16:P:20:VAL:HG21	16:P:32:TYR:CD2	2.29	0.68
1:A:1355:G:H2'	1:A:1356:G:C8	2.28	0.68
21:U:6:ARG:O	21:U:12:LYS:HE3	1.93	0.68
1:A:243:A:H4'	1:A:244:U:O5'	1.94	0.68
1:A:716:A:N3	11:K:118:GLY:HA2	2.08	0.68
22:V:20:U:H2'	22:V:21:A:H4'	1.75	0.68
23:X:19:U:C4	24:Y:127:THR:HB	2.29	0.68
4:D:28:SER:CB	4:D:30:LYS:HE2	2.24	0.68
13:M:83:ASP:CG	13:M:84:ILE:H	1.98	0.68
1:A:1172:C:H2'	1:A:1173:G:H8	1.59	0.68
14:N:23:ARG:HD2	14:N:28:GLY:O	1.92	0.67
1:A:659:U:O2'	1:A:660:G:H5'	1.94	0.67
7:G:146:GLU:HG2	7:G:149:ARG:NH1	2.08	0.67
22:W:63:G:C2'	22:W:64:A:H5'	2.23	0.67
1:A:1054:C:N4	24:Y:201:ARG:HB2	2.09	0.67
4:D:28:SER:HB2	4:D:30:LYS:HE2	1.76	0.67
9:I:28:VAL:HA	9:I:63:ILE:O	1.94	0.67
3:C:43:LEU:O	3:C:47:LEU:HB3	1.94	0.67
1:A:333:G:H4'	20:T:16:HIS:CE1	2.29	0.67
13:M:125:ARG:HA	24:Y:159:GLY:CA	2.24	0.67
1:A:1141:C:H2'	1:A:1142:G:C8	2.30	0.67
3:C:180:ALA:HB1	3:C:203:PHE:CE1	2.29	0.67
18:R:66:LEU:HG	18:R:70:ILE:HD11	1.77	0.67
24:Y:19:ILE:O	24:Y:23:GLU:HB2	1.94	0.67
1:A:36:C:H4'	12:L:122:THR:O	1.93	0.67
23:X:19:U:H3'	23:X:20:A:H8	1.60	0.67
12:L:6:THR:HG23	12:L:9:GLN:NE2	2.10	0.67
1:A:1240:U:OP2	7:G:116:ALA:HB2	1.94	0.67
1:A:750:G:N3	15:O:23:GLY:HA3	2.09	0.67
7:G:73:MET:HG2	7:G:90:GLU:HA	1.77	0.67
10:J:75:ILE:HG13	10:J:76:ASN:H	1.59	0.67
22:V:41:C:C3'	22:V:42:C:H5''	2.25	0.67
1:A:1356:G:H2'	1:A:1357:A:C8	2.29	0.67
5:E:40:ARG:HG2	5:E:40:ARG:HH11	1.58	0.67
6:F:16:GLN:CD	6:F:16:GLN:H	1.97	0.67
3:C:123:GLN:O	3:C:128:PHE:HB2	1.94	0.67
1:A:930:C:O2'	1:A:931:C:H5'	1.94	0.67

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:979:C:H3'	1:A:980:C:C5'	2.21	0.67
13:M:125:ARG:HD2	24:Y:165:ASP:CB	2.24	0.67
1:A:1466:C:H2'	1:A:1467:G:O4'	1.94	0.67
24:Y:188:ARG:CB	24:Y:310:GLN:HG2	2.24	0.67
5:E:76:ILE:HG13	5:E:142:LEU:HD13	1.77	0.67
11:K:111:ASP:OD2	18:R:84:LYS:HE2	1.95	0.67
7:G:120:ILE:H	7:G:120:ILE:HD12	1.60	0.67
1:A:143:A:H2	1:A:220:G:H1	1.43	0.67
1:A:1158:C:H2'	1:A:1158:C:O2	1.95	0.67
1:A:359:U:H2'	1:A:360:A:H8	1.60	0.67
22:W:57:G:O2'	22:W:58:A:H5'	1.95	0.66
1:A:1054:C:O2'	1:A:1055:A:H5'	1.94	0.66
18:R:36:ASN:HB3	18:R:39:VAL:CG2	2.24	0.66
18:R:36:ASN:HB3	18:R:39:VAL:HG21	1.74	0.66
1:A:1388:C:H2'	1:A:1389:C:C6	2.30	0.66
11:K:21:ILE:HD13	11:K:82:VAL:HG13	1.76	0.66
13:M:16:ASP:OD2	13:M:17:VAL:HG23	1.95	0.66
13:M:78:ILE:HG23	13:M:92:HIS:ND1	2.10	0.66
10:J:4:ILE:HD12	10:J:4:ILE:N	2.10	0.66
1:A:1321:C:H3'	1:A:1322:C:H5''	1.76	0.66
12:L:89:ARG:HB2	12:L:89:ARG:HH11	1.61	0.66
8:H:97:VAL:HG21	8:H:128:GLY:HA2	1.75	0.66
22:W:35:A:H2'	22:W:36:A:C8	2.30	0.66
22:V:51:U:H2'	22:V:52:G:C8	2.30	0.66
1:A:939:G:H5''	7:G:102:ARG:NH2	2.10	0.66
2:B:107:THR:HA	2:B:110:GLN:HE21	1.59	0.66
2:B:77:ALA:O	2:B:81:VAL:HG23	1.95	0.66
2:B:22:LYS:CA	2:B:22:LYS:HE2	2.25	0.66
6:F:67:MET:HB2	6:F:68:PRO:HD2	1.77	0.66
2:B:187:LEU:HA	2:B:201:ILE:HB	1.78	0.66
1:A:383:A:C2'	1:A:384:G:H5'	2.25	0.66
9:I:118:LYS:O	9:I:119:ALA:HB3	1.96	0.66
1:A:359:U:H2'	1:A:360:A:C8	2.31	0.66
1:A:1259:C:H42	1:A:1276:G:H1	1.44	0.66
1:A:1128:C:H5''	9:I:16:ARG:HH12	1.61	0.66
9:I:40:LEU:O	9:I:42:ARG:N	2.28	0.66
13:M:8:GLU:OE1	13:M:22:ILE:HG13	1.96	0.66
1:A:805:C:H2'	1:A:806:C:H6	1.61	0.66
1:A:32:A:H2'	1:A:33:A:C8	2.31	0.66
1:A:1391:U:H2'	1:A:1392:G:C8	2.31	0.66
24:Y:107:LEU:HD23	24:Y:107:LEU:O	1.94	0.66
10:J:56:HIS:O	10:J:58:ASP:N	2.28	0.66

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:T:50:GLU:HA	20:T:100:ILE:HG22	1.77	0.66
1:A:475:G:H2'	1:A:476:G:H8	1.61	0.66
22:V:28:G:H1	22:V:42:C:H42	1.43	0.66
3:C:53:ALA:HB2	3:C:115:LEU:HD21	1.76	0.66
24:Y:77:GLU:H	24:Y:84:ARG:HG3	1.60	0.66
13:M:67:GLU:CD	13:M:68:GLY:H	1.98	0.66
1:A:1479:C:H2'	1:A:1480:G:H8	1.60	0.66
22:V:2:C:H2'	22:V:3:C:H6	1.60	0.66
19:S:49:ILE:HD12	19:S:71:LEU:HD21	1.78	0.66
8:H:103:VAL:HG21	8:H:110:ALA:HB2	1.78	0.66
13:M:124:PRO:HD2	24:Y:163:GLY:N	2.07	0.65
15:O:78:TYR:O	15:O:82:ILE:HG22	1.96	0.65
5:E:55:VAL:O	5:E:58:ALA:HB3	1.96	0.65
16:P:48:TRP:O	16:P:49:LEU:HB2	1.95	0.65
10:J:26:ALA:HB3	10:J:85:LEU:HD21	1.77	0.65
2:B:223:ILE:HA	2:B:226:ARG:HB3	1.78	0.65
1:A:1261:A:C2	1:A:1275:A:H1'	2.32	0.65
19:S:40:ILE:HG21	19:S:62:ILE:HD11	1.78	0.65
20:T:89:ARG:NH2	20:T:104:LEU:HD21	2.11	0.65
1:A:537:G:H2'	1:A:538:G:H8	1.62	0.65
6:F:97:PHE:HB2	18:R:32:ARG:NH1	2.12	0.65
6:F:98:LEU:HG	18:R:30:ASP:HB2	1.78	0.65
3:C:153:VAL:HG22	3:C:198:VAL:HG12	1.77	0.65
13:M:125:ARG:HB2	24:Y:158:PRO:O	1.97	0.65
2:B:178:ARG:HH11	2:B:178:ARG:CB	2.09	0.65
1:A:1152:A:H2'	1:A:1153:C:C6	2.31	0.65
3:C:52:LEU:H	3:C:52:LEU:HD23	1.61	0.65
24:Y:77:GLU:HG2	24:Y:84:ARG:HG2	1.79	0.65
1:A:59:A:C5'	1:A:60:A:H5''	2.26	0.65
1:A:620:C:H2'	1:A:621:A:O4'	1.97	0.65
2:B:14:GLY:O	2:B:15:VAL:HG13	1.95	0.65
1:A:1379:G:O6	7:G:2:ALA:HB3	1.96	0.65
1:A:973:G:H1'	10:J:55:LYS:HE2	1.79	0.65
1:A:473:G:H4'	16:P:81:ARG:NH2	2.08	0.65
1:A:59:A:H1'	1:A:354:G:N2	2.12	0.65
15:O:27:VAL:O	15:O:31:LEU:HD23	1.96	0.65
1:A:8:A:N6	4:D:209:ARG:HB2	2.12	0.65
1:A:1317:C:OP2	14:N:17:LYS:HG2	1.97	0.65
22:V:44:G:H2'	22:V:45:U:H5'	1.78	0.65
1:A:1227:A:OP2	13:M:111:LYS:HE2	1.96	0.65
24:Y:214:VAL:HG13	24:Y:215:ASP:N	2.11	0.65
1:A:1205:U:H1'	3:C:195:VAL:HG21	1.79	0.65

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:211:ILE:O	2:B:215:LEU:HD23	1.97	0.65
5:E:93:PRO:HG2	8:H:105:ARG:NH2	2.12	0.65
12:L:115:LYS:O	12:L:117:ARG:HG3	1.95	0.65
1:A:262:A:H2'	1:A:263:A:C8	2.30	0.65
6:F:3:ARG:HG3	6:F:3:ARG:HH11	1.60	0.65
3:C:59:ARG:HG2	3:C:64:VAL:HA	1.78	0.65
20:T:56:MET:HG3	20:T:84:LEU:HD12	1.78	0.65
1:A:1071:C:H2'	1:A:1072:G:H8	1.62	0.65
7:G:12:LEU:HD13	7:G:25:ALA:HB2	1.78	0.65
17:Q:27:PHE:CE1	17:Q:36:ILE:HD11	2.31	0.65
9:I:113:LYS:N	9:I:113:LYS:HD2	2.12	0.65
7:G:78:ARG:HG2	7:G:79:ARG:H	1.62	0.65
8:H:83:ILE:HD13	8:H:137:VAL:HG13	1.79	0.65
1:A:1249:C:H5'	1:A:1249:C:H6	1.61	0.65
1:A:963:G:H21	10:J:55:LYS:HZ2	1.45	0.65
9:I:17:VAL:CG1	9:I:81:ILE:HD13	2.26	0.65
1:A:1152:A:H5''	10:J:13:HIS:CD2	2.31	0.65
4:D:117:ALA:O	4:D:121:VAL:HG23	1.97	0.65
1:A:1325:C:H5'	21:U:15:ARG:HE	1.63	0.65
1:A:1435:G:H2'	1:A:1436:U:C6	2.32	0.65
3:C:89:GLU:O	3:C:93:LYS:HB2	1.95	0.65
22:W:39:U:C2'	22:W:40:C:H5''	2.21	0.64
22:W:18:G:N2	22:W:55:U:H6	1.94	0.64
1:A:191:G:H1'	20:T:105:SER:HB3	1.79	0.64
24:Y:214:VAL:HG22	24:Y:215:ASP:N	2.11	0.64
21:U:2:GLY:O	21:U:4:GLY:N	2.31	0.64
1:A:155:C:H2'	1:A:156:G:C8	2.32	0.64
2:B:136:VAL:O	2:B:140:HIS:HB2	1.98	0.64
1:A:1456:G:H2'	1:A:1457:G:H5'	1.79	0.64
4:D:92:VAL:O	4:D:96:LEU:HD13	1.97	0.64
1:A:834:C:H2'	1:A:835:U:C6	2.32	0.64
1:A:1471:G:H2'	1:A:1472:U:C6	2.33	0.64
4:D:129:ASN:H	4:D:129:ASN:ND2	1.93	0.64
5:E:102:ALA:HB1	5:E:106:PRO:CG	2.23	0.64
1:A:1288:A:N1	1:A:1371:G:H1'	2.13	0.64
1:A:403:C:H2'	1:A:404:U:H6	1.61	0.64
1:A:59:A:H5''	1:A:60:A:H5''	1.79	0.64
2:B:17:PHE:CD1	2:B:44:LEU:HD11	2.31	0.64
4:D:121:VAL:HA	4:D:126:ILE:HD13	1.78	0.64
16:P:72:ARG:HH21	16:P:73:LEU:HD21	1.62	0.64
1:A:473:G:C4'	16:P:81:ARG:HH21	2.07	0.64
22:W:50:U:H4'	22:W:65:G:H22	1.60	0.64

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1062:U:H2'	1:A:1063:C:C6	2.33	0.64
1:A:950:U:H2'	1:A:951:G:H8	1.63	0.64
5:E:137:GLU:HG3	5:E:141:GLN:NE2	2.12	0.64
1:A:254:G:OP1	17:Q:67:LYS:O	2.15	0.64
1:A:1030(B):C:H2'	1:A:1030(C):G:H5'	1.79	0.64
3:C:92:ALA:HB2	3:C:99:VAL:HG22	1.78	0.64
1:A:1079:G:H2'	1:A:1080:A:C8	2.33	0.64
8:H:51:VAL:HG11	8:H:60:ARG:HB2	1.79	0.64
16:P:51:VAL:HG11	16:P:74:LEU:CD2	2.27	0.64
24:Y:59:VAL:O	24:Y:63:ARG:HG3	1.97	0.64
1:A:539:A:H2'	1:A:540:G:C8	2.33	0.64
11:K:27:ASN:OD1	11:K:55:LYS:HB3	1.97	0.64
1:A:984:C:H2'	1:A:985:C:C6	2.33	0.64
19:S:24:ALA:O	19:S:25:LYS:HB2	1.95	0.64
1:A:272:C:H2'	1:A:273:A:H8	1.62	0.64
24:Y:41:ASP:HB3	24:Y:44:ALA:HB3	1.79	0.64
1:A:114:U:H2'	1:A:115:G:C8	2.33	0.64
1:A:1294:G:H2'	1:A:1295:G:C8	2.33	0.64
3:C:52:LEU:HD23	3:C:52:LEU:N	2.13	0.64
24:Y:189:LEU:HD21	24:Y:191:ARG:HG3	1.78	0.64
1:A:491:G:H2'	1:A:492:G:C8	2.32	0.64
1:A:1325:C:H4'	21:U:17:THR:HG21	1.80	0.64
22:W:49:C:H3'	22:W:50:U:H6	1.63	0.64
17:Q:9:VAL:HG12	17:Q:56:VAL:HG22	1.79	0.64
1:A:723:U:H5''	1:A:724:G:OP2	1.97	0.64
13:M:115:LYS:O	13:M:117:VAL:N	2.31	0.64
1:A:136:C:H4'	16:P:1:MET:HE2	1.80	0.64
1:A:1128:C:H1'	1:A:1146:A:N6	2.09	0.64
5:E:101:ILE:HD13	5:E:101:ILE:N	2.12	0.64
19:S:18:LYS:O	19:S:21:GLU:HG2	1.98	0.64
11:K:110:ASP:O	18:R:84:LYS:HD2	1.98	0.64
24:Y:55:LEU:HA	24:Y:58:THR:OG1	1.96	0.64
2:B:21:ARG:HB3	2:B:39:ILE:HG23	1.78	0.64
3:C:71:ALA:CB	3:C:106:VAL:HB	2.28	0.64
24:Y:312:ARG:HH21	24:Y:344:LEU:HB2	1.62	0.64
3:C:54:ARG:NH1	3:C:56:ASP:HB2	2.13	0.64
24:Y:342:MET:O	24:Y:346:TRP:HD1	1.81	0.64
1:A:538:G:OP2	12:L:115:LYS:HG3	1.98	0.64
1:A:834:C:H2'	1:A:835:U:H6	1.63	0.64
1:A:1260:C:OP1	1:A:1284:C:H4'	1.98	0.64
1:A:1277:C:C2'	1:A:1278:U:H5'	2.28	0.64
20:T:89:ARG:HD2	20:T:104:LEU:HD11	1.78	0.64

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1127:G:H21	1:A:1147:C:H41	1.45	0.64
1:A:1505:G:H4'	1:A:1506:U:H5'	1.80	0.64
10:J:75:ILE:HG13	10:J:76:ASN:N	2.13	0.64
1:A:489:C:H2'	1:A:490:G:C8	2.33	0.64
1:A:833:U:H2'	1:A:834:C:C6	2.34	0.64
5:E:76:ILE:HD11	5:E:142:LEU:CD2	2.27	0.63
4:D:13:ARG:O	4:D:15:GLU:N	2.31	0.63
2:B:18:GLY:H	2:B:42:ILE:HG22	1.63	0.63
1:A:1015:A:H2'	1:A:1016:A:C8	2.33	0.63
1:A:123:C:OP1	1:A:312:C:H5'	1.98	0.63
1:A:1319:A:OP2	19:S:5:LEU:HD23	1.98	0.63
5:E:105:VAL:H	5:E:106:PRO:HD2	1.62	0.63
1:A:1116:C:C3'	1:A:1117:G:H5''	2.27	0.63
10:J:23:ILE:HG23	10:J:85:LEU:HD13	1.80	0.63
10:J:38:ILE:HG12	10:J:71:LEU:O	1.98	0.63
19:S:40:ILE:HD11	19:S:71:LEU:HD23	1.80	0.63
10:J:96:ILE:HD13	10:J:96:ILE:N	2.12	0.63
7:G:151:TYR:OH	11:K:54:ARG:HD3	1.99	0.63
1:A:757:U:H2'	1:A:758:G:O4'	1.98	0.63
24:Y:241:GLY:CA	24:Y:244:THR:HG22	2.25	0.63
1:A:16:A:O2'	1:A:17:U:H5'	1.98	0.63
7:G:111:ARG:HB3	7:G:113:GLU:OE2	1.98	0.63
1:A:1346:A:N1	1:A:1374:A:H5''	2.14	0.63
1:A:1258:G:H2'	1:A:1259:C:C6	2.34	0.63
5:E:110:LEU:O	5:E:115:VAL:HB	1.97	0.63
4:D:17:VAL:O	4:D:17:VAL:HG12	1.98	0.63
7:G:37:ASN:ND2	9:I:40:LEU:HA	2.12	0.63
19:S:64:GLU:HG3	19:S:65:ASN:OD1	1.99	0.63
19:S:40:ILE:HD13	19:S:62:ILE:HD13	1.80	0.63
1:A:1055:A:H2	3:C:194:GLY:HA2	1.63	0.63
19:S:20:LEU:HA	19:S:23:ASN:ND2	2.13	0.63
1:A:186:C:H2'	1:A:187:C:H6	1.63	0.63
19:S:5:LEU:HD13	19:S:6:LYS:H	1.64	0.63
11:K:21:ILE:CD1	11:K:82:VAL:HG13	2.29	0.63
11:K:21:ILE:HD12	11:K:21:ILE:N	2.14	0.63
1:A:1372:U:H5''	9:I:71:SER:HB3	1.80	0.63
12:L:90:VAL:O	12:L:92:ASP:N	2.32	0.63
16:P:15:PRO:HB2	16:P:41:PRO:HG3	1.80	0.63
6:F:3:ARG:HB3	6:F:93:SER:HB2	1.81	0.63
1:A:828:A:H2'	1:A:829:G:O4'	1.98	0.63
19:S:6:LYS:HD2	19:S:6:LYS:N	2.13	0.63
1:A:1201:A:H1'	1:A:1202:G:OP2	1.99	0.63

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:D:9:CYS:SG	4:D:31:CYS:O	2.57	0.63
2:B:196:LEU:HA	8:H:74:PRO:HG3	1.80	0.63
22:V:5:G:C2'	22:V:6:G:H5''	2.29	0.63
24:Y:54:ARG:HH21	24:Y:54:ARG:HB3	1.61	0.63
6:F:79:LEU:HD12	6:F:88:VAL:CG1	2.28	0.63
9:I:56:LEU:O	9:I:56:LEU:HD23	1.99	0.63
24:Y:303:ARG:N	24:Y:304:PRO:HD3	2.05	0.63
12:L:25:PRO:C	12:L:27:LEU:N	2.51	0.63
1:A:1054:C:H3'	1:A:1054:C:O2	1.99	0.63
8:H:20:TYR:HE2	8:H:75:ARG:HD2	1.63	0.63
12:L:102:ARG:HD2	12:L:108:ALA:O	1.99	0.63
24:Y:98:LEU:HD23	24:Y:98:LEU:O	1.97	0.63
1:A:961:U:O2'	1:A:962:C:H5'	1.99	0.63
5:E:101:ILE:H	5:E:101:ILE:HD13	1.63	0.63
1:A:148:G:H2'	1:A:149:A:H8	1.63	0.63
1:A:1095:U:H2'	1:A:1096:C:C6	2.34	0.63
14:N:26:ARG:HG3	14:N:39:LEU:HD22	1.79	0.63
1:A:221:C:H2'	1:A:222:U:H6	1.64	0.63
10:J:33:GLN:H	10:J:75:ILE:HD11	1.64	0.62
1:A:999:C:O2'	1:A:1000:U:H5'	1.99	0.62
22:V:21:A:H2'	22:V:22:G:H5''	1.80	0.62
1:A:192:U:H4'	20:T:103:GLY:N	2.09	0.62
9:I:43:ALA:HA	9:I:74:ILE:HG21	1.81	0.62
3:C:54:ARG:HH12	3:C:56:ASP:HB2	1.63	0.62
21:U:9:ARG:NH1	21:U:9:ARG:HA	2.12	0.62
5:E:137:GLU:HG3	5:E:141:GLN:HE21	1.64	0.62
1:A:1212:U:H2'	24:Y:78:GLU:OE2	1.98	0.62
1:A:639:G:H2'	1:A:640:A:H8	1.64	0.62
10:J:61:GLU:HG2	14:N:58:LYS:HE2	1.79	0.62
2:B:112:VAL:C	2:B:114:ARG:H	2.01	0.62
24:Y:312:ARG:NH2	24:Y:344:LEU:HB2	2.14	0.62
4:D:112:VAL:HG12	4:D:116:GLN:CD	2.18	0.62
17:Q:7:THR:CG2	17:Q:58:GLU:HG2	2.28	0.62
2:B:44:LEU:N	2:B:44:LEU:HD12	2.14	0.62
22:W:15:G:H22	22:W:59:U:H1'	1.62	0.62
1:A:1452:C:H4'	1:A:1456:G:H5''	1.81	0.62
1:A:853:G:H2'	1:A:854:G:H8	1.63	0.62
4:D:3:ARG:NH2	4:D:118:ARG:HD3	2.13	0.62
24:Y:13:LEU:HA	24:Y:16:TYR:HB2	1.80	0.62
4:D:129:ASN:ND2	4:D:129:ASN:N	2.47	0.62
10:J:50:ILE:HA	10:J:60:ARG:CB	2.29	0.62
3:C:9:GLY:HA2	3:C:12:LEU:HG	1.80	0.62

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:U:6:ARG:NE	21:U:15:ARG:HH12	1.96	0.62
6:F:88:VAL:O	6:F:88:VAL:HG12	1.99	0.62
8:H:20:TYR:HA	8:H:65:TYR:CE2	2.34	0.62
10:J:63:PHE:HA	14:N:59:ALA:H	1.64	0.62
6:F:14:LEU:HB3	6:F:18:GLN:HE21	1.64	0.62
11:K:15:ALA:HA	11:K:76:GLY:O	1.98	0.62
6:F:8:ILE:HG22	6:F:9:VAL:N	2.14	0.62
20:T:30:LYS:HE3	20:T:30:LYS:O	1.99	0.62
1:A:1442:G:C6	1:A:1442(B):A:H2	2.17	0.62
11:K:82:VAL:HB	11:K:108:ILE:HG13	1.80	0.62
24:Y:164:ILE:CD1	24:Y:167:ALA:HB2	2.29	0.62
2:B:213:LEU:HD23	2:B:213:LEU:O	2.00	0.62
1:A:975:A:C4'	1:A:976:G:H5''	2.26	0.62
1:A:460:G:O6	1:A:470:C:H5''	1.99	0.62
24:Y:290:LYS:HG3	24:Y:291:ARG:N	2.14	0.62
6:F:45:LEU:C	6:F:45:LEU:HD23	2.20	0.62
1:A:383:A:H2'	1:A:384:G:H5'	1.82	0.62
4:D:109:GLY:O	4:D:111:ALA:N	2.32	0.62
1:A:736:C:H2'	1:A:737:A:H8	1.62	0.62
13:M:13:LYS:HA	13:M:44:ARG:HH11	1.65	0.62
24:Y:19:ILE:HB	24:Y:20:PRO:CD	2.30	0.62
1:A:1016:A:H2'	1:A:1017:G:O4'	1.99	0.62
13:M:34:LEU:HD13	13:M:41:PRO:HG3	1.80	0.62
1:A:556:C:O2'	1:A:557:G:H5'	2.00	0.62
13:M:89:GLY:O	13:M:93:ARG:HD2	2.00	0.62
14:N:29:ARG:HG2	14:N:40:CYS:HB2	1.82	0.62
8:H:6:ILE:HD12	8:H:6:ILE:N	2.15	0.62
1:A:954:G:H21	1:A:1227:A:N6	1.98	0.62
22:V:14:A:N6	22:V:21:A:H2	1.96	0.62
3:C:155:GLY:O	3:C:156:ARG:HB2	1.99	0.62
3:C:91:LEU:HB3	3:C:99:VAL:HG11	1.82	0.62
13:M:115:LYS:C	13:M:117:VAL:H	2.03	0.62
6:F:60:PHE:C	6:F:61:LEU:HD12	2.19	0.62
7:G:87:VAL:HG11	7:G:154:TYR:O	2.00	0.62
1:A:191:G:C4	20:T:105:SER:HB3	2.35	0.61
18:R:52:PRO:O	18:R:56:THR:HG23	2.00	0.61
24:Y:276:LEU:O	24:Y:280:LYS:HG3	2.00	0.61
1:A:1220:G:H2'	1:A:1221:G:H8	1.65	0.61
1:A:538:G:O3'	12:L:114:LYS:HD2	1.99	0.61
24:Y:322:LYS:HD2	24:Y:329:MET:HG2	1.81	0.61
1:A:192:U:C4'	20:T:103:GLY:H	2.11	0.61
13:M:9:ILE:N	13:M:9:ILE:HD12	2.15	0.61

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
8:H:11:THR:HG23	8:H:14:ARG:HH12	1.64	0.61
1:A:67:C:O2'	1:A:171:A:H1'	2.01	0.61
12:L:25:PRO:O	12:L:27:LEU:N	2.33	0.61
3:C:36:ASP:HB3	3:C:40:ARG:NH1	2.16	0.61
24:Y:312:ARG:HD2	24:Y:314:TYR:CZ	2.35	0.61
10:J:5:ARG:HA	10:J:73:ASP:OD1	2.01	0.61
5:E:33:VAL:HG11	5:E:109:ILE:HA	1.82	0.61
1:A:189(K):U:H2'	1:A:189(L):G:C8	2.34	0.61
16:P:18:ARG:HD3	16:P:35:LYS:HE3	1.81	0.61
1:A:15:G:H2'	1:A:16:A:H8	1.65	0.61
8:H:6:ILE:CD1	8:H:6:ILE:H	2.12	0.61
13:M:19:LEU:H	13:M:19:LEU:HD22	1.64	0.61
20:T:79:ARG:HA	20:T:82:SER:OG	1.99	0.61
15:O:37:ASN:HD22	15:O:37:ASN:N	1.97	0.61
13:M:108:ARG:CZ	13:M:114:ARG:HG2	2.30	0.61
2:B:165:VAL:HG23	2:B:166:ASP:N	2.14	0.61
24:Y:106:LEU:HD13	24:Y:106:LEU:O	2.00	0.61
1:A:737:A:H2'	1:A:738:C:H6	1.64	0.61
10:J:16:LEU:HD23	10:J:94:VAL:CG1	2.30	0.61
1:A:533:A:H1'	1:A:534:U:OP1	1.99	0.61
3:C:11:ARG:HB3	3:C:15:THR:HB	1.82	0.61
1:A:1026:G:H3'	1:A:1027:C:C5'	2.29	0.61
24:Y:129:ALA:HA	24:Y:204:SER:HB3	1.82	0.61
12:L:23:LYS:O	12:L:24:VAL:HG23	2.00	0.61
1:A:537:G:H2'	1:A:538:G:C8	2.35	0.61
1:A:1471:G:H2'	1:A:1472:U:H6	1.64	0.61
4:D:106:TYR:CD1	4:D:113:SER:HA	2.35	0.61
1:A:349:A:O2'	1:A:350:G:H5'	2.01	0.61
1:A:180:U:H2'	1:A:181:G:H5''	1.81	0.61
9:I:40:LEU:C	9:I:42:ARG:H	2.04	0.61
1:A:1029:C:H4'	1:A:1033:G:N2	2.15	0.61
16:P:20:VAL:HG21	16:P:32:TYR:CG	2.36	0.61
1:A:328:C:H4'	1:A:329:A:C5'	2.29	0.61
22:V:14:A:H61	22:V:21:A:H2	1.47	0.61
19:S:53:ASN:O	19:S:77:THR:HG22	2.00	0.61
1:A:1285:A:H1'	1:A:1286:A:OP2	2.01	0.61
1:A:1007:C:H2'	1:A:1008:C:C6	2.36	0.61
1:A:1321:C:H5'	1:A:1322:C:C5'	2.31	0.61
1:A:97:G:O2'	1:A:98:G:H5''	2.00	0.61
19:S:46:GLY:H	19:S:62:ILE:HG23	1.66	0.61
1:A:221:C:H2'	1:A:222:U:C6	2.36	0.61
1:A:1412:C:H2'	1:A:1413:A:C8	2.36	0.61

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
24:Y:292:GLU:O	24:Y:296:LYS:HG3	2.00	0.61
1:A:457:C:H2'	1:A:458:C:C6	2.35	0.61
24:Y:175:ASN:O	24:Y:179:LEU:HD13	2.00	0.61
3:C:51:GLY:O	3:C:53:ALA:N	2.34	0.61
24:Y:342:MET:O	24:Y:346:TRP:CD1	2.54	0.61
2:B:16:HIS:HB3	2:B:210:SER:CB	2.31	0.61
1:A:775:G:O2'	1:A:776:G:H5'	2.01	0.61
13:M:111:LYS:O	13:M:113:PRO:HD2	2.00	0.60
4:D:88:VAL:O	4:D:92:VAL:HG23	2.01	0.60
17:Q:9:VAL:HG11	17:Q:84:LEU:HD12	1.82	0.60
1:A:1081:G:H5''	5:E:18:ARG:HD3	1.83	0.60
22:W:76:8AN:C4'	22:W:77:PHA:O	2.43	0.60
17:Q:45:HIS:HB2	17:Q:65:ILE:HD13	1.82	0.60
1:A:519:C:H2'	1:A:520:A:C8	2.36	0.60
1:A:590:C:H2'	1:A:591:U:C6	2.34	0.60
1:A:393:A:O2'	1:A:394:G:H5'	2.01	0.60
18:R:38:GLU:HA	18:R:41:LYS:HB3	1.84	0.60
1:A:1436:U:O2'	1:A:1437:C:H5'	2.01	0.60
18:R:25:THR:HG22	18:R:42:ARG:NH1	2.16	0.60
1:A:1497:G:H2'	1:A:1498:U:H5'	1.82	0.60
1:A:1442(B):A:H4'	1:A:1442(B):A:OP2	2.01	0.60
4:D:30:LYS:HB3	4:D:35:ARG:CZ	2.31	0.60
1:A:457:C:H2'	1:A:458:C:H6	1.65	0.60
2:B:32:ILE:HD12	2:B:40:HIS:CD2	2.36	0.60
22:V:32:U:H5'	22:V:33:U:OP2	2.00	0.60
24:Y:39:TRP:CE3	24:Y:45:ALA:HB1	2.35	0.60
1:A:373:A:O2'	1:A:374:A:H5'	2.02	0.60
24:Y:150:GLN:O	24:Y:171:VAL:HG13	2.00	0.60
1:A:413:G:H1'	1:A:428:G:N2	2.17	0.60
1:A:519:C:H2'	1:A:520:A:H8	1.65	0.60
1:A:522:C:H42	1:A:528:C:H42	1.48	0.60
1:A:1243:C:N4	1:A:1294:G:H22	1.98	0.60
1:A:1435:G:H2'	1:A:1436:U:H6	1.66	0.60
24:Y:8:GLN:NE2	24:Y:95:ALA:HB1	2.17	0.60
1:A:430:A:OP2	4:D:8:VAL:HG22	2.01	0.60
3:C:6:HIS:CD2	3:C:7:PRO:HD2	2.28	0.60
1:A:1318:A:H1'	19:S:37:ARG:HH21	1.66	0.60
10:J:38:ILE:HG13	10:J:71:LEU:HB3	1.82	0.60
7:G:148:ASN:C	7:G:150:ALA:H	2.05	0.60
24:Y:18:ASP:HB3	24:Y:22:LYS:HZ2	1.65	0.60
6:F:75:LEU:O	6:F:79:LEU:HG	2.01	0.60
1:A:1270:C:O2'	1:A:1271:G:H5'	2.01	0.60

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:F:33:TYR:HE2	6:F:74:ASP:HB2	1.66	0.60
17:Q:12:SER:HB3	17:Q:20:THR:HB	1.84	0.60
3:C:173:VAL:O	3:C:175:LEU:HD12	2.02	0.60
4:D:26:CYS:HA	4:D:31:CYS:HA	1.82	0.60
1:A:1320:C:H2'	1:A:1321:C:O4'	2.01	0.60
24:Y:227:LEU:HD22	24:Y:251:VAL:CG1	2.30	0.60
22:V:21:A:C2'	22:V:22:G:H5''	2.31	0.60
1:A:1053:G:N7	1:A:1200:C:H5''	2.16	0.60
10:J:50:ILE:HD13	10:J:50:ILE:N	2.07	0.60
1:A:1132:C:O2'	1:A:1133:G:H5'	2.02	0.60
10:J:26:ALA:CA	10:J:29:ARG:HH12	2.14	0.60
24:Y:343:ASP:HA	24:Y:346:TRP:HB2	1.83	0.60
5:E:10:MET:HA	5:E:32:VAL:HG22	1.84	0.60
1:A:994:A:N1	1:A:1047:G:H4'	2.15	0.60
17:Q:82:MET:O	17:Q:86:GLU:HG2	2.01	0.60
11:K:22:HIS:HB3	11:K:29:ILE:CG2	2.31	0.60
24:Y:83:GLU:C	24:Y:84:ARG:HD3	2.21	0.60
18:R:53:ARG:C	18:R:55:ARG:H	2.04	0.60
2:B:117:GLU:HG2	2:B:117:GLU:O	2.02	0.60
5:E:31:LEU:HD21	5:E:43:LEU:HD11	1.83	0.60
14:N:12:ARG:NH1	14:N:12:ARG:HB2	2.17	0.60
11:K:92:GLU:HG3	11:K:96:ARG:HD2	1.82	0.60
1:A:1291:G:H4'	9:I:38:GLN:O	2.02	0.60
4:D:129:ASN:ND2	4:D:145:GLU:H	1.99	0.60
1:A:137:C:H1'	16:P:63:GLY:HA3	1.84	0.60
12:L:60:LEU:C	12:L:62:SER:H	2.05	0.60
22:V:77:PHA:N	22:V:77:PHA:CD2	2.63	0.60
2:B:96:ARG:N	2:B:96:ARG:HD2	2.17	0.60
4:D:8:VAL:HG11	4:D:115:ARG:NH1	2.17	0.60
1:A:882:C:O2'	1:A:883:C:H5'	2.02	0.60
3:C:175:LEU:HD21	3:C:201:TYR:CE2	2.36	0.59
3:C:104:GLN:CD	3:C:105:GLU:H	2.05	0.59
10:J:6:ILE:O	10:J:71:LEU:HD12	2.01	0.59
1:A:503:C:H2'	1:A:504:C:C6	2.35	0.59
4:D:58:LEU:HD23	4:D:62:GLN:HG2	1.84	0.59
21:U:25:LYS:HG2	21:U:26:LYS:N	2.16	0.59
1:A:100:C:H2'	1:A:101:A:C8	2.37	0.59
1:A:397:A:H5'	1:A:398:C:OP1	2.02	0.59
19:S:29:ARG:HD2	19:S:30:LEU:N	2.15	0.59
16:P:74:LEU:O	16:P:79:VAL:HG23	2.02	0.59
10:J:6:ILE:HG22	10:J:98:ILE:CG1	2.30	0.59
7:G:78:ARG:HG2	7:G:79:ARG:N	2.16	0.59

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:235:SER:HG	2:B:236:TYR:HD1	1.49	0.59
13:M:126:LYS:N	24:Y:160:PRO:HG2	2.16	0.59
11:K:107:SER:C	11:K:108:ILE:HD12	2.22	0.59
1:A:1026:G:H3'	1:A:1027:C:H5'	1.84	0.59
4:D:14:ARG:HB2	4:D:40:PRO:HD2	1.84	0.59
6:F:68:PRO:CG	6:F:71:ARG:HG3	2.32	0.59
4:D:126:ILE:N	4:D:126:ILE:HD12	2.17	0.59
2:B:88:ALA:HB2	2:B:219:VAL:HG13	1.83	0.59
10:J:16:LEU:HD13	10:J:70:ARG:HD2	1.84	0.59
1:A:397:A:N3	1:A:397:A:H3'	2.16	0.59
4:D:100:ARG:CZ	4:D:137:SER:HA	2.32	0.59
17:Q:74:LEU:HD12	17:Q:75:ARG:HG2	1.84	0.59
22:V:39:U:H2'	22:V:40:C:H6	1.66	0.59
10:J:37:PRO:HA	10:J:72:VAL:HG22	1.83	0.59
24:Y:54:ARG:C	24:Y:56:ARG:H	2.04	0.59
1:A:402:G:O2'	1:A:403:C:H5'	2.02	0.59
1:A:1264:C:H2'	1:A:1265:G:H8	1.66	0.59
1:A:950:U:H2'	1:A:951:G:C8	2.36	0.59
24:Y:223:LYS:C	24:Y:225:GLU:H	2.06	0.59
22:W:6:G:N2	22:W:7:A:H62	2.01	0.59
1:A:1169:A:H2'	1:A:1170:A:C8	2.37	0.59
2:B:24:TRP:CZ3	2:B:26:PRO:HA	2.37	0.59
2:B:172:ILE:H	2:B:172:ILE:CD1	1.95	0.59
3:C:70:VAL:O	3:C:105:GLU:HA	2.01	0.59
19:S:29:ARG:N	19:S:29:ARG:HD2	2.15	0.59
21:U:2:GLY:C	21:U:4:GLY:H	2.06	0.59
3:C:75:VAL:O	3:C:83:ARG:HG2	2.02	0.59
7:G:131:LYS:O	7:G:131:LYS:HG3	2.01	0.59
1:A:194:C:C2'	1:A:195:A:H5''	2.32	0.59
24:Y:119:THR:HG23	24:Y:166:TYR:CE1	2.37	0.59
2:B:218:ALA:O	2:B:222:ILE:HG12	2.03	0.59
1:A:936:C:H2'	1:A:937:A:C8	2.37	0.59
1:A:512:U:H2'	1:A:513:C:H6	1.68	0.59
20:T:23:ARG:O	20:T:27:LYS:HB2	2.02	0.59
6:F:1:MET:HB3	6:F:66:GLU:HG2	1.85	0.59
11:K:58:PRO:HD3	11:K:89:ALA:HB1	1.84	0.59
13:M:58:GLU:C	13:M:60:VAL:H	2.06	0.59
1:A:1381:U:H5	1:A:1382:C:C4	2.20	0.59
5:E:6:PHE:HD1	5:E:63:ARG:NH1	2.01	0.59
1:A:1030:C:C2'	1:A:1030(A):G:H5'	2.32	0.59
5:E:41:VAL:CG2	5:E:113:ALA:HA	2.32	0.59
1:A:1305:G:OP1	21:U:2:GLY:HA3	2.02	0.59

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
22:W:68:C:H2'	22:W:69:G:C8	2.35	0.59
1:A:1188:A:H2'	1:A:1189:C:O4'	2.01	0.59
2:B:20:GLU:HB2	2:B:190:THR:OG1	2.03	0.59
13:M:82:MET:HB2	13:M:93:ARG:CZ	2.32	0.59
13:M:88:ARG:CA	13:M:98:VAL:HG11	2.24	0.59
1:A:673:G:H2'	1:A:674:G:H8	1.60	0.59
15:O:82:ILE:HG12	15:O:87:ILE:HG13	1.84	0.59
1:A:1505:G:C5'	1:A:1506:U:H5''	2.30	0.59
4:D:14:ARG:HA	4:D:39:PRO:HB3	1.85	0.59
10:J:48:THR:HA	10:J:62:HIS:CB	2.32	0.59
2:B:8:LYS:HD3	2:B:217:ARG:NH1	2.18	0.59
1:A:156:G:O2'	1:A:157:G:H5'	2.03	0.59
8:H:51:VAL:CG1	8:H:60:ARG:HB2	2.33	0.59
4:D:65:ARG:HD2	4:D:72:GLU:HA	1.84	0.59
7:G:129:GLU:OE2	7:G:131:LYS:HE2	2.02	0.59
10:J:44:VAL:HG12	10:J:46:ARG:HD2	1.84	0.59
1:A:1161:C:H2'	1:A:1162:C:C6	2.38	0.59
1:A:69:G:H2'	1:A:70:G:C8	2.37	0.59
1:A:477:A:O2'	1:A:479:C:H5'	2.02	0.59
7:G:36:LYS:HB2	7:G:36:LYS:NZ	2.18	0.59
24:Y:241:GLY:HA2	24:Y:244:THR:CG2	2.27	0.59
1:A:975:A:H8	1:A:975:A:H5'	1.68	0.59
3:C:187:ALA:C	3:C:188:LEU:HD22	2.23	0.59
1:A:1137:C:H4'	1:A:1138:G:N2	2.17	0.59
24:Y:132:TRP:CE2	24:Y:189:LEU:HB2	2.38	0.59
1:A:37:U:O2'	1:A:38:G:H5'	2.03	0.59
1:A:1054:C:H41	24:Y:201:ARG:HB2	1.66	0.59
10:J:87:THR:C	10:J:89:ASP:H	2.06	0.59
2:B:172:ILE:HD12	2:B:172:ILE:N	2.03	0.59
24:Y:341:LEU:CD2	24:Y:344:LEU:HD11	2.33	0.59
19:S:66:MET:HA	19:S:69:HIS:HD2	1.67	0.59
22:V:51:U:H2'	22:V:52:G:H8	1.66	0.59
13:M:88:ARG:HA	13:M:98:VAL:CG1	2.24	0.58
1:A:522:C:N4	1:A:528:C:H42	2.01	0.58
3:C:119:ARG:HH11	3:C:119:ARG:HG3	1.68	0.58
7:G:118:VAL:HG23	7:G:119:ARG:H	1.67	0.58
1:A:1112:C:C4	3:C:178:LEU:HD23	2.38	0.58
3:C:73:PRO:O	3:C:76:VAL:HG13	2.03	0.58
14:N:12:ARG:NH1	14:N:14:PRO:HD3	2.18	0.58
1:A:1333:A:H2'	1:A:1334:G:O4'	2.03	0.58
1:A:543:C:H2'	1:A:544:G:H8	1.67	0.58
10:J:90:LEU:N	10:J:91:PRO:HD3	2.18	0.58

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:L:82:VAL:HG23	12:L:106:ASP:OD2	2.03	0.58
24:Y:123:GLY:HA3	24:Y:305:ILE:CG2	2.29	0.58
8:H:14:ARG:O	8:H:18:ARG:HD3	2.03	0.58
1:A:878:G:H5'	8:H:89:PRO:CG	2.33	0.58
3:C:116:VAL:O	3:C:119:ARG:HB3	2.03	0.58
1:A:692:U:H5	11:K:26:ASN:HD22	1.50	0.58
1:A:552:U:O2'	1:A:553:A:H5'	2.03	0.58
13:M:90:LEU:HD13	13:M:94:ARG:NH2	2.18	0.58
24:Y:120:ILE:HG22	24:Y:133:ALA:HB1	1.85	0.58
14:N:24:CYS:HB2	14:N:29:ARG:HB3	1.86	0.58
9:I:50:LEU:O	9:I:53:VAL:HG22	2.02	0.58
24:Y:19:ILE:HG12	24:Y:62:PHE:CD1	2.38	0.58
12:L:24:VAL:HG22	12:L:97:ARG:HB3	1.84	0.58
2:B:236:TYR:HA	2:B:239:VAL:CG2	2.33	0.58
24:Y:209:GLU:HG2	24:Y:303:ARG:CZ	2.33	0.58
2:B:164:VAL:O	2:B:186:ALA:HB1	2.02	0.58
4:D:32:ALA:C	4:D:35:ARG:HG3	2.23	0.58
5:E:6:PHE:HB2	5:E:34:VAL:CG2	2.32	0.58
1:A:1030:C:H5	1:A:1033:G:N1	2.01	0.58
1:A:594:G:H1	1:A:645:C:H42	1.51	0.58
24:Y:191:ARG:NE	24:Y:194:PRO:HD3	2.19	0.58
3:C:53:ALA:HB2	3:C:115:LEU:CD2	2.33	0.58
1:A:377:G:OP1	16:P:3:LYS:HD2	2.04	0.58
4:D:127:THR:HA	4:D:132:ARG:HA	1.85	0.58
1:A:1269:A:H5'	21:U:18:TYR:O	2.03	0.58
1:A:707:C:O2'	1:A:708:C:H5'	2.03	0.58
13:M:108:ARG:N	13:M:108:ARG:HD2	2.18	0.58
19:S:6:LYS:CG	19:S:7:LYS:HE3	2.24	0.58
4:D:18:LYS:HE2	4:D:31:CYS:HB2	1.86	0.58
17:Q:67:LYS:HA	17:Q:70:ARG:HH12	1.69	0.58
4:D:13:ARG:NH1	4:D:38:TYR:O	2.37	0.58
12:L:47:LYS:HD2	12:L:47:LYS:C	2.23	0.58
2:B:119:GLU:C	2:B:121:LEU:H	2.06	0.58
9:I:31:GLN:NE2	9:I:36:TYR:HA	2.18	0.58
1:A:512:U:H2'	1:A:513:C:C6	2.38	0.58
18:R:19:LYS:O	18:R:20:ALA:HB2	2.03	0.58
1:A:369:C:O2'	1:A:370:C:H5'	2.04	0.58
1:A:134:A:H61	16:P:25:ARG:NH1	2.02	0.58
13:M:91:ARG:CB	13:M:98:VAL:HG22	2.34	0.58
15:O:82:ILE:C	15:O:82:ILE:HD13	2.23	0.58
22:V:71:G:C2'	22:V:72:C:H5''	2.33	0.58
8:H:40:ALA:O	8:H:42:GLU:N	2.36	0.58

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:36:ARG:O	2:B:37:ASN:HB3	2.03	0.58
4:D:28:SER:O	4:D:30:LYS:N	2.36	0.58
24:Y:211:ILE:CG2	24:Y:299:ARG:HG2	2.28	0.58
1:A:523:A:N6	12:L:53:ARG:HH12	2.02	0.58
19:S:10:PHE:HZ	19:S:70:LYS:NZ	2.00	0.58
2:B:132:LYS:HG3	2:B:135:GLN:NE2	2.18	0.58
1:A:1058:G:H2'	1:A:1059:C:C6	2.39	0.58
1:A:867:G:O2'	1:A:868:C:H5'	2.02	0.58
1:A:1281:U:H4'	1:A:1282:C:OP2	2.04	0.58
1:A:1410:G:H2'	1:A:1411:C:C6	2.38	0.58
11:K:29:ILE:CG1	11:K:44:SER:HB3	2.31	0.58
1:A:1327:C:H2'	1:A:1328:C:C6	2.39	0.58
1:A:433:C:H2'	1:A:434:U:C6	2.38	0.58
1:A:1030(D):A:H2'	1:A:1031:G:H5'	1.84	0.58
1:A:93:G:O2'	1:A:96:U:H5'	2.04	0.58
1:A:542:G:P	4:D:10:ARG:HH22	2.26	0.58
4:D:173:TRP:CZ3	4:D:193:ASP:HB3	2.38	0.58
3:C:148:GLY:HA3	3:C:172:ARG:O	2.04	0.58
7:G:17:VAL:HG12	7:G:18:TYR:CD1	2.38	0.58
24:Y:23:GLU:O	24:Y:26:LEU:HG	2.04	0.58
24:Y:319:ASN:OD1	24:Y:333:PRO:HD2	2.04	0.58
1:A:69:G:H2'	1:A:70:G:H8	1.67	0.58
1:A:336:C:H2'	1:A:337:C:H6	1.69	0.58
4:D:53:ASP:O	4:D:57:ARG:HD3	2.03	0.58
3:C:134:ILE:HG23	3:C:151:VAL:HB	1.86	0.58
2:B:52:GLU:O	2:B:56:ARG:HG2	2.04	0.58
24:Y:326:THR:OG1	24:Y:328:LEU:HD13	2.04	0.58
10:J:3:LYS:O	10:J:100:THR:HG23	2.04	0.58
12:L:75:HIS:HD2	12:L:77:LEU:HB2	1.68	0.58
2:B:140:HIS:O	2:B:144:ARG:HG2	2.04	0.58
1:A:66:G:H4'	1:A:173:U:C5	2.39	0.58
1:A:1234:C:O2'	1:A:1235:U:H5'	2.04	0.58
11:K:67:ASP:OD1	11:K:71:LYS:HE3	2.04	0.58
7:G:84:ASN:HB2	22:W:38:A:H61	1.67	0.57
22:W:17:C:H2'	22:W:17:C:O2	2.02	0.57
13:M:125:ARG:CA	24:Y:159:GLY:HA3	2.33	0.57
1:A:625:G:H2'	1:A:626:U:C6	2.39	0.57
1:A:501:C:H2'	1:A:502:G:C8	2.39	0.57
5:E:36:ASP:OD2	5:E:40:ARG:HB2	2.04	0.57
17:Q:26:GLN:O	17:Q:27:PHE:HB3	2.04	0.57
1:A:1194:U:H2'	1:A:1195:C:C6	2.39	0.57
22:V:68:C:O2'	22:V:69:G:H5'	2.04	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:G:60:LYS:HD2	7:G:60:LYS:N	2.18	0.57
20:T:24:LEU:HD13	20:T:24:LEU:C	2.24	0.57
1:A:137:C:H1'	16:P:63:GLY:CA	2.33	0.57
4:D:22:LYS:HG3	4:D:26:CYS:SG	2.44	0.57
4:D:9:CYS:HB3	4:D:32:ALA:HB2	1.85	0.57
1:A:521:G:H4'	12:L:73:GLU:HG2	1.86	0.57
19:S:22:LEU:HA	19:S:27:GLU:CD	2.25	0.57
2:B:126:GLU:HA	2:B:129:GLU:HG2	1.87	0.57
2:B:16:HIS:HB3	2:B:210:SER:HA	1.86	0.57
1:A:1218:C:H2'	1:A:1219:U:C6	2.39	0.57
4:D:100:ARG:NH1	4:D:137:SER:HA	2.18	0.57
3:C:60:ALA:O	3:C:61:ALA:HB2	2.03	0.57
1:A:237:C:H4'	17:Q:25:ARG:HH12	1.69	0.57
24:Y:10:LEU:O	24:Y:14:ARG:HG3	2.03	0.57
4:D:128:VAL:HG12	4:D:129:ASN:ND2	2.19	0.57
13:M:119:GLY:HA2	22:V:29:G:OP1	2.05	0.57
22:V:72:C:C2'	22:V:73:A:H5''	2.34	0.57
22:V:72:C:H3'	22:V:73:A:C5'	2.30	0.57
12:L:45:PRO:HG3	12:L:53:ARG:HD3	1.87	0.57
19:S:22:LEU:HA	19:S:27:GLU:OE2	2.04	0.57
1:A:376:G:O2'	1:A:377:G:H5'	2.05	0.57
13:M:14:ARG:HA	13:M:43:THR:O	2.04	0.57
1:A:684:A:H2'	1:A:685:G:C8	2.39	0.57
1:A:1053:G:C3'	1:A:1054:C:H5'	2.34	0.57
1:A:1281:U:H5'	1:A:1282:C:C5	2.39	0.57
1:A:783:C:O2'	1:A:784:C:H5'	2.03	0.57
14:N:25:VAL:HG23	14:N:38:GLY:O	2.04	0.57
12:L:110:VAL:CG2	12:L:120:TYR:HB3	2.34	0.57
1:A:663:A:O2'	1:A:664:G:H5'	2.05	0.57
7:G:22:LEU:HD23	7:G:22:LEU:O	2.04	0.57
1:A:1228:C:H2'	1:A:1229:A:H8	1.68	0.57
9:I:3:GLN:OE1	9:I:20:ARG:NH2	2.37	0.57
2:B:80:ILE:CD1	2:B:80:ILE:H	2.14	0.57
16:P:49:LEU:HD12	16:P:50:LYS:H	1.68	0.57
3:C:53:ALA:O	3:C:54:ARG:HB2	2.04	0.57
2:B:18:GLY:H	2:B:42:ILE:CG2	2.17	0.57
8:H:30:ARG:CB	8:H:30:ARG:HH11	2.16	0.57
2:B:7:VAL:C	2:B:217:ARG:HH22	2.07	0.57
1:A:6:G:H4'	1:A:298:A:H4'	1.86	0.57
4:D:18:LYS:HB2	4:D:33:MET:CG	2.26	0.57
1:A:475:G:H2'	1:A:476:G:C8	2.39	0.57
22:V:28:G:H1	22:V:42:C:N4	2.02	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:M:65:LYS:CE	13:M:69:GLU:HG3	2.34	0.57
20:T:82:SER:O	20:T:86:ARG:HB2	2.03	0.57
1:A:148:G:H2'	1:A:149:A:C8	2.39	0.57
15:O:8:LYS:O	15:O:12:ILE:HG13	2.04	0.57
22:W:38:A:H2'	22:W:39:U:H5''	1.86	0.57
22:W:16:U:H3'	22:W:17:C:C5'	2.23	0.57
1:A:191:G:H1'	20:T:105:SER:CB	2.35	0.57
2:B:178:ARG:HD2	8:H:71:GLY:C	2.24	0.57
16:P:43:LYS:HA	16:P:48:TRP:HB3	1.84	0.57
1:A:651:C:O2'	1:A:652:U:H5'	2.05	0.57
2:B:18:GLY:HA2	2:B:42:ILE:HG22	1.85	0.57
5:E:12:LEU:C	5:E:12:LEU:HD22	2.25	0.57
19:S:63:THR:HG22	19:S:66:MET:SD	2.44	0.57
1:A:180:U:H2'	1:A:181:G:C5'	2.34	0.57
1:A:189(A):C:H2'	1:A:189(B):C:C6	2.39	0.57
1:A:1519:A:H2'	1:A:1520:G:H5'	1.87	0.57
1:A:1128:C:C1'	1:A:1146:A:H61	2.13	0.57
1:A:1144:G:H21	1:A:1146:A:H62	1.51	0.57
2:B:178:ARG:HD2	8:H:71:GLY:O	2.05	0.57
24:Y:305:ILE:CG2	24:Y:305:ILE:O	2.53	0.57
24:Y:75:LEU:HD23	24:Y:87:LEU:HD22	1.87	0.57
12:L:27:LEU:HB2	12:L:33:ARG:HD2	1.86	0.57
2:B:114:ARG:O	2:B:114:ARG:HD3	2.05	0.57
2:B:69:LEU:HD23	2:B:159:PRO:HG2	1.86	0.57
24:Y:76:MET:HE3	24:Y:88:LYS:HE2	1.87	0.57
2:B:17:PHE:HD2	2:B:17:PHE:H	1.53	0.57
12:L:117:ARG:NH2	12:L:124:LYS:HB2	2.19	0.57
2:B:162:ILE:HD11	2:B:184:VAL:HG22	1.85	0.57
1:A:265:G:O3'	17:Q:66:SER:HA	2.05	0.57
4:D:121:VAL:O	4:D:134:ASP:HA	2.05	0.57
19:S:46:GLY:N	19:S:62:ILE:HG23	2.19	0.57
1:A:1466:C:O2'	1:A:1467:G:H5'	2.04	0.57
1:A:155:C:H2'	1:A:156:G:H8	1.68	0.57
1:A:637:G:H2'	1:A:638:G:H8	1.70	0.57
24:Y:30:GLU:HA	24:Y:33:LEU:HD12	1.86	0.57
15:O:36:ILE:HG23	15:O:56:LEU:HD11	1.85	0.57
1:A:1229:A:OP2	13:M:114:ARG:HD3	2.05	0.57
22:W:57:G:H2'	22:W:58:A:H5'	1.87	0.57
1:A:1128:C:H4'	9:I:16:ARG:HH12	1.70	0.57
1:A:1134:G:C2'	1:A:1135:U:H5'	2.34	0.57
1:A:939:G:H5''	7:G:102:ARG:CZ	2.33	0.57
1:A:424:G:H2'	1:A:425:G:C8	2.30	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
17:Q:59:ILE:HG23	17:Q:72:ARG:O	2.05	0.57
9:I:17:VAL:HG21	9:I:81:ILE:N	2.20	0.57
16:P:43:LYS:C	16:P:45:THR:H	2.07	0.57
19:S:19:VAL:O	19:S:22:LEU:HB2	2.04	0.57
1:A:1305:G:H22	1:A:1331:G:H1'	1.69	0.57
5:E:12:LEU:CD1	5:E:31:LEU:HB3	2.35	0.57
1:A:1059:C:O2	10:J:53:PRO:HG3	2.04	0.57
1:A:1472:U:H2'	1:A:1473:A:C8	2.40	0.57
7:G:87:VAL:HG21	7:G:154:TYR:HB3	1.87	0.57
1:A:477:A:H2'	1:A:479:C:H6	1.70	0.57
22:W:72:C:H2'	22:W:73:A:O4'	2.05	0.57
1:A:189(C):C:O2'	1:A:189(D):C:H5'	2.05	0.57
1:A:1296:C:H5'	1:A:1297:C:OP2	2.05	0.57
1:A:107:G:C2'	1:A:108:G:H5'	2.35	0.57
24:Y:179:LEU:O	24:Y:345:ILE:HD13	2.05	0.56
24:Y:315:VAL:HG11	24:Y:320:TYR:CE1	2.39	0.56
21:U:6:ARG:HE	21:U:15:ARG:HH12	1.52	0.56
11:K:24:SER:O	11:K:26:ASN:N	2.38	0.56
1:A:977:A:H2'	1:A:978:A:H5'	1.87	0.56
1:A:1203:C:H2'	1:A:1204:A:C8	2.39	0.56
1:A:314:C:O2'	1:A:315:A:H5'	2.05	0.56
24:Y:238:GLY:HA3	24:Y:242:VAL:CB	2.29	0.56
1:A:1026:G:N3	1:A:1026:G:H2'	2.20	0.56
1:A:1033:G:H2'	1:A:1034:G:H5'	1.86	0.56
24:Y:90:GLU:C	24:Y:91:LEU:HD22	2.25	0.56
1:A:998:G:O2'	1:A:999:C:H5'	2.04	0.56
24:Y:333:PRO:HG2	24:Y:334:GLU:H	1.71	0.56
2:B:136:VAL:HG13	2:B:140:HIS:ND1	2.20	0.56
13:M:3:ARG:HG2	13:M:9:ILE:HD11	1.87	0.56
9:I:19:LEU:O	9:I:20:ARG:HG3	2.04	0.56
2:B:145:LEU:CD1	2:B:149:LEU:HD12	2.34	0.56
10:J:29:ARG:HH11	10:J:29:ARG:HG2	1.70	0.56
24:Y:77:GLU:CG	24:Y:84:ARG:HG2	2.36	0.56
24:Y:19:ILE:HB	24:Y:20:PRO:HD3	1.88	0.56
13:M:49:THR:O	13:M:53:VAL:HG23	2.05	0.56
3:C:156:ARG:HD3	3:C:194:GLY:HA3	1.86	0.56
8:H:51:VAL:HG11	8:H:60:ARG:HD3	1.87	0.56
1:A:1499:A:H1'	1:A:1520:G:H5'	1.87	0.56
15:O:39:LEU:HD12	15:O:56:LEU:HB2	1.86	0.56
12:L:42:THR:OG1	12:L:52:LEU:HB3	2.06	0.56
5:E:47:LYS:N	5:E:47:LYS:HD3	2.20	0.56
2:B:102:LEU:HD12	2:B:102:LEU:N	2.20	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:L:18:VAL:HG23	12:L:19:ARG:N	2.13	0.56
22:W:52:G:H2'	22:W:53:G:C8	2.40	0.56
1:A:243:A:H4'	1:A:244:U:C5'	2.34	0.56
8:H:120:THR:OG1	8:H:123:GLU:HG3	2.06	0.56
10:J:44:VAL:CG1	10:J:46:ARG:HD2	2.35	0.56
1:A:165:C:H2'	1:A:166:G:H8	1.69	0.56
10:J:57:LYS:O	10:J:57:LYS:HG3	2.06	0.56
13:M:124:PRO:HB3	24:Y:158:PRO:CB	2.36	0.56
13:M:125:ARG:HA	24:Y:160:PRO:HD2	1.87	0.56
1:A:1005:A:H2'	1:A:1006:C:H5'	1.86	0.56
1:A:1288:A:O2'	1:A:1289:A:H5'	2.06	0.56
2:B:142:LEU:HD23	2:B:142:LEU:O	2.05	0.56
1:A:625:G:H2'	1:A:626:U:H6	1.70	0.56
24:Y:142:ARG:O	24:Y:146:ARG:HG3	2.05	0.56
24:Y:277:LYS:HE2	24:Y:280:LYS:HZ2	1.70	0.56
17:Q:51:TYR:CD2	17:Q:57:VAL:HG11	2.40	0.56
7:G:12:LEU:CD1	7:G:25:ALA:HB2	2.34	0.56
1:A:532:A:H61	3:C:193:TYR:HB3	1.71	0.56
8:H:29:SER:HB3	8:H:32:LYS:CG	2.36	0.56
3:C:77:ILE:O	3:C:83:ARG:HB3	2.05	0.56
3:C:186:PHE:CZ	3:C:188:LEU:HD11	2.40	0.56
13:M:125:ARG:HD2	24:Y:165:ASP:CG	2.26	0.56
3:C:71:ALA:CA	3:C:106:VAL:HB	2.36	0.56
18:R:31:LEU:N	18:R:31:LEU:HD23	2.18	0.56
1:A:107:G:H2'	1:A:108:G:H5'	1.88	0.56
8:H:12:ARG:HH12	8:H:27:PRO:CD	2.18	0.56
4:D:161:ASN:O	4:D:162:LEU:HG	2.06	0.56
22:W:38:A:C2'	22:W:39:U:H5''	2.35	0.56
4:D:30:LYS:C	4:D:32:ALA:N	2.55	0.56
10:J:20:ALA:O	10:J:24:VAL:HG23	2.04	0.56
7:G:148:ASN:N	7:G:148:ASN:HD22	2.02	0.56
2:B:86:GLU:C	2:B:88:ALA:H	2.08	0.56
10:J:16:LEU:HD23	10:J:94:VAL:HG13	1.88	0.56
5:E:146:ALA:O	5:E:149:GLU:HG2	2.05	0.56
22:W:51:U:H5'	22:W:52:G:OP2	2.06	0.56
1:A:545:C:O2'	1:A:546:G:H5'	2.06	0.56
24:Y:223:LYS:O	24:Y:225:GLU:N	2.31	0.56
1:A:474:G:H2'	1:A:475:G:H8	1.71	0.56
1:A:418:C:H2'	1:A:419:C:H6	1.71	0.56
4:D:199:ASN:HD22	4:D:202:LEU:HG	1.70	0.56
2:B:121:LEU:O	2:B:127:ILE:HD11	2.06	0.56
1:A:1073:U:H2'	1:A:1074:G:H8	1.71	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
18:R:87:ARG:HB3	18:R:87:ARG:NH1	2.21	0.56
24:Y:106:LEU:HD23	24:Y:349:LEU:CD1	2.35	0.56
9:I:5:TYR:HD2	9:I:18:PHE:CE2	2.24	0.56
1:A:523:A:H61	12:L:53:ARG:HH12	1.53	0.56
4:D:119:GLN:HG2	4:D:123:HIS:CD2	2.41	0.56
1:A:390:C:O3'	16:P:28:ARG:NH2	2.39	0.56
17:Q:76:LEU:HD12	17:Q:77:VAL:H	1.71	0.56
10:J:98:ILE:O	10:J:99:LYS:HD3	2.06	0.56
1:A:186:C:H2'	1:A:187:C:C6	2.41	0.56
1:A:1383:C:H2'	1:A:1384:C:H6	1.70	0.56
10:J:49:VAL:O	10:J:60:ARG:HB2	2.07	0.55
2:B:18:GLY:N	2:B:42:ILE:HG22	2.20	0.55
1:A:358:U:H2'	1:A:359:U:C6	2.41	0.55
2:B:204:ASN:ND2	2:B:206:ASP:H	2.03	0.55
4:D:23:GLY:O	4:D:27:TYR:HD1	1.88	0.55
8:H:122:ARG:CZ	8:H:122:ARG:HB2	2.36	0.55
10:J:81:THR:C	10:J:83:GLU:H	2.10	0.55
1:A:646:U:H2'	1:A:647:C:C6	2.42	0.55
1:A:1004:A:H62	1:A:1034:G:H8	1.53	0.55
1:A:390:C:H2'	1:A:391:G:H8	1.71	0.55
8:H:82:HIS:CE1	8:H:84:ARG:HB2	2.41	0.55
1:A:1220:G:H2'	1:A:1221:G:C8	2.41	0.55
24:Y:220:VAL:HG12	24:Y:222:LEU:CD2	2.37	0.55
1:A:879:C:O2'	1:A:880:C:H5'	2.06	0.55
3:C:167:TRP:O	3:C:168:ALA:HB3	2.07	0.55
1:A:1476:G:H2'	1:A:1477:C:H6	1.71	0.55
17:Q:52:LYS:HD2	17:Q:52:LYS:H	1.70	0.55
2:B:167:PRO:HG3	2:B:188:ALA:CB	2.37	0.55
1:A:137:C:N4	1:A:226:G:H1	1.93	0.55
9:I:111:ARG:HG2	9:I:112:LYS:N	2.19	0.55
5:E:147:ASP:HA	5:E:150:ARG:NH1	2.21	0.55
1:A:1436:U:H2'	1:A:1437:C:O4'	2.07	0.55
2:B:135:GLN:O	2:B:139:LYS:HG2	2.06	0.55
4:D:133:VAL:HG12	4:D:135:LEU:H	1.70	0.55
1:A:627:G:O2'	1:A:628:G:H5'	2.07	0.55
1:A:1442(B):A:N3	1:A:1442(B):A:H2'	2.22	0.55
13:M:112:GLY:O	13:M:113:PRO:HG2	2.06	0.55
22:V:72:C:H2'	22:V:73:A:H5''	1.88	0.55
12:L:27:LEU:C	12:L:29:GLY:H	2.09	0.55
3:C:52:LEU:H	3:C:52:LEU:CD2	2.18	0.55
24:Y:187:HIS:NE2	24:Y:311:ILE:HD11	2.22	0.55
24:Y:109:PHE:HB2	24:Y:112:ALA:CB	2.36	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
22:W:25:C:H2'	22:W:26:A:C8	2.38	0.55
7:G:120:ILE:N	7:G:120:ILE:HD12	2.21	0.55
1:A:1097:C:H2'	1:A:1098:C:H6	1.71	0.55
1:A:605:U:H2'	1:A:606:G:O4'	2.07	0.55
8:H:5:PRO:O	8:H:8:ASP:HB3	2.06	0.55
24:Y:156:LEU:HD23	24:Y:156:LEU:C	2.27	0.55
16:P:75:ARG:HH11	16:P:75:ARG:HG3	1.70	0.55
24:Y:282:ARG:HB2	24:Y:282:ARG:NH2	2.21	0.55
24:Y:295:LEU:HD13	24:Y:295:LEU:O	2.06	0.55
2:B:72:GLY:HA2	2:B:165:VAL:HG22	1.88	0.55
2:B:93:VAL:HG21	2:B:97:TRP:CD1	2.42	0.55
15:O:82:ILE:HG23	15:O:83:GLU:H	1.72	0.55
23:X:14:A:H2	23:X:15:A:H62	1.51	0.55
1:A:1033:G:C2'	1:A:1034:G:H5'	2.37	0.55
3:C:73:PRO:C	3:C:76:VAL:HG22	2.27	0.55
1:A:96:U:O2'	1:A:97:G:H8	1.90	0.55
1:A:537:G:H5''	12:L:113:ARG:NH1	2.22	0.55
13:M:69:GLU:HA	13:M:70:LEU:N	2.21	0.55
1:A:1172:C:H2'	1:A:1173:G:C8	2.41	0.55
2:B:204:ASN:HD22	2:B:206:ASP:H	1.54	0.55
1:A:688:G:H2'	1:A:689:C:H6	1.71	0.55
15:O:6:GLU:OE1	15:O:6:GLU:N	2.39	0.55
2:B:93:VAL:HG11	2:B:97:TRP:HD1	1.72	0.55
13:M:118:ALA:HB1	13:M:119:GLY:N	2.22	0.55
1:A:254:G:O2'	1:A:255:G:H5'	2.07	0.55
1:A:1152:A:H5''	10:J:13:HIS:HD2	1.70	0.55
12:L:65:GLU:HG2	12:L:65:GLU:O	2.07	0.55
19:S:28:LYS:NZ	19:S:29:ARG:NH2	2.54	0.55
12:L:53:ARG:NH1	12:L:92:ASP:OD2	2.39	0.55
12:L:24:VAL:HG12	12:L:24:VAL:O	2.07	0.55
1:A:76:C:H42	1:A:93:G:H1	1.53	0.55
2:B:219:VAL:O	2:B:222:ILE:HB	2.05	0.55
1:A:1053:G:C6	1:A:1199:U:H2'	2.41	0.55
19:S:33:THR:HG23	19:S:51:VAL:HA	1.88	0.55
8:H:20:TYR:HD1	8:H:65:TYR:CD2	2.25	0.55
1:A:1097:C:O2'	1:A:1098:C:H5'	2.05	0.55
1:A:560:U:O2'	1:A:561:U:OP2	2.20	0.55
2:B:19:HIS:O	2:B:20:GLU:O	2.24	0.55
22:V:53:G:O2'	22:V:54:U:H5'	2.06	0.55
7:G:29:LYS:HB2	7:G:105:VAL:HG21	1.89	0.55
1:A:1027:C:H2'	1:A:1028:C:C6	2.41	0.55
1:A:624:C:H2'	1:A:625:G:C8	2.35	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
24:Y:189:LEU:HD21	24:Y:191:ARG:CG	2.36	0.55
4:D:49:ARG:HE	4:D:49:ARG:CA	2.16	0.55
12:L:24:VAL:CG2	12:L:97:ARG:HB3	2.37	0.55
2:B:223:ILE:HG12	2:B:226:ARG:CZ	2.37	0.55
1:A:539:A:H2'	1:A:540:G:H8	1.69	0.55
6:F:17:SER:O	6:F:21:LEU:HD23	2.06	0.55
1:A:300:A:H2'	1:A:301:G:O4'	2.07	0.55
24:Y:40:ASN:O	24:Y:42:PRO:HD3	2.06	0.55
22:W:40:C:H5'	22:W:40:C:H6	1.72	0.55
24:Y:137:LEU:HD21	24:Y:169:ILE:HD11	1.88	0.55
1:A:15:G:H2'	1:A:16:A:C8	2.42	0.55
1:A:1004:A:H5'	1:A:1005:A:OP1	2.07	0.55
2:B:47:THR:HG22	2:B:51:LEU:HD11	1.89	0.55
12:L:38:THR:OG1	12:L:39:VAL:HG23	2.05	0.55
2:B:76:GLN:O	2:B:208:ILE:HG23	2.07	0.55
3:C:46:GLU:O	3:C:47:LEU:HB2	2.06	0.55
7:G:73:MET:HA	7:G:91:VAL:HG23	1.88	0.55
6:F:97:PHE:HB2	18:R:32:ARG:HH11	1.72	0.55
1:A:692:U:OP1	11:K:124:LYS:HE2	2.06	0.55
1:A:116:A:O5'	1:A:116:A:H8	1.90	0.55
24:Y:27:LYS:O	24:Y:31:ARG:HB2	2.07	0.55
12:L:58:VAL:O	12:L:60:LEU:HD22	2.07	0.55
4:D:15:GLU:OE1	4:D:15:GLU:HA	2.07	0.55
19:S:22:LEU:HD13	19:S:27:GLU:CB	2.37	0.55
16:P:64:ALA:O	16:P:65:GLN:C	2.46	0.55
13:M:30:ALA:C	13:M:32:GLU:H	2.11	0.55
4:D:126:ILE:CG2	4:D:127:THR:N	2.70	0.55
13:M:83:ASP:OD2	13:M:84:ILE:N	2.40	0.55
13:M:65:LYS:HB2	13:M:69:GLU:O	2.07	0.55
22:V:44:G:C2'	22:V:45:U:H5'	2.37	0.55
6:F:7:ASN:HD21	18:R:34:TYR:HE1	1.53	0.55
24:Y:235:SER:HB3	24:Y:263:GLN:HE22	1.72	0.55
22:V:76:8AN:O2'	24:Y:240:GLN:HB2	2.07	0.55
1:A:356:A:H2'	1:A:357:G:H8	1.71	0.55
24:Y:158:PRO:O	24:Y:165:ASP:HB2	2.06	0.55
3:C:7:PRO:O	3:C:11:ARG:HG2	2.07	0.55
1:A:1144:G:H21	1:A:1146:A:N6	2.05	0.55
1:A:1001(A):G:H2'	1:A:1002:G:O4'	2.06	0.55
3:C:34:LEU:HD23	3:C:34:LEU:C	2.28	0.55
16:P:28:ARG:NH1	16:P:28:ARG:HG2	2.22	0.55
9:I:112:LYS:HA	9:I:119:ALA:HB2	1.89	0.55
8:H:120:THR:HG23	8:H:123:GLU:OE1	2.06	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1073:U:H2'	1:A:1074:G:C8	2.41	0.55
2:B:11:LEU:C	2:B:213:LEU:HD11	2.27	0.55
1:A:1116:C:H2'	1:A:1117:G:C5'	2.29	0.54
20:T:57:ARG:NH1	20:T:102:GLY:HA3	2.22	0.54
9:I:45:ALA:HA	9:I:48:GLU:OE1	2.07	0.54
24:Y:189:LEU:HA	24:Y:314:TYR:O	2.07	0.54
1:A:377:G:H2'	1:A:378:G:C8	2.40	0.54
1:A:1343:G:H1'	9:I:121:ARG:HH12	1.73	0.54
5:E:12:LEU:HD13	5:E:31:LEU:HB3	1.88	0.54
1:A:692:U:O2	1:A:694:A:C8	2.60	0.54
1:A:163:C:O2'	1:A:164:U:H5'	2.06	0.54
24:Y:50:GLN:C	24:Y:50:GLN:NE2	2.60	0.54
1:A:9:G:H2'	1:A:10:A:H8	1.71	0.54
1:A:81:U:H2'	1:A:82:U:C6	2.43	0.54
2:B:162:ILE:HD13	2:B:177:ALA:CB	2.37	0.54
24:Y:115:ASN:HD21	24:Y:213:GLU:CD	2.11	0.54
3:C:58:GLU:HB2	3:C:65:ALA:HB3	1.90	0.54
1:A:644:G:H5'	8:H:92:ARG:NH2	2.21	0.54
1:A:321:A:H62	1:A:328:C:HO2'	1.54	0.54
7:G:64:GLN:NE2	7:G:68:ASN:HD21	2.05	0.54
2:B:204:ASN:C	2:B:204:ASN:HD22	2.09	0.54
1:A:102:G:H2'	1:A:103:C:C6	2.43	0.54
2:B:70:PHE:HA	2:B:163:PHE:O	2.08	0.54
1:A:963:G:N2	10:J:55:LYS:HZ2	2.04	0.54
3:C:112:SER:HB3	3:C:115:LEU:HD12	1.88	0.54
4:D:152:SER:HA	4:D:155:LEU:CD1	2.37	0.54
10:J:38:ILE:HG13	10:J:38:ILE:O	2.06	0.54
1:A:1316:G:O2'	14:N:18:VAL:HG11	2.07	0.54
24:Y:13:LEU:HD23	24:Y:16:TYR:CD2	2.41	0.54
1:A:559:A:H4'	1:A:560:U:H5''	1.90	0.54
1:A:1008:C:H42	1:A:1021:G:H1	1.55	0.54
2:B:36:ARG:HD2	2:B:36:ARG:N	2.22	0.54
11:K:126:ARG:HB3	11:K:126:ARG:NH1	2.22	0.54
1:A:1042:G:O2'	1:A:1043:C:H5'	2.07	0.54
1:A:1256:A:H5'	1:A:1257:U:OP1	2.07	0.54
5:E:105:VAL:HB	5:E:106:PRO:HD3	1.89	0.54
9:I:4:TYR:CB	9:I:19:LEU:HB2	2.35	0.54
24:Y:75:LEU:HD22	24:Y:75:LEU:H	1.71	0.54
3:C:119:ARG:HH21	3:C:140:ARG:HE	1.56	0.54
8:H:84:ARG:O	8:H:135:CYS:HB2	2.07	0.54
2:B:222:ILE:O	2:B:226:ARG:HB2	2.08	0.54
5:E:144:THR:O	5:E:148:VAL:HG23	2.07	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:744:C:H2'	1:A:745:C:C6	2.43	0.54
1:A:674:G:H2'	1:A:675:A:C8	2.39	0.54
4:D:18:LYS:HE2	4:D:31:CYS:CB	2.38	0.54
10:J:24:VAL:HG22	10:J:72:VAL:HG11	1.90	0.54
24:Y:272:LYS:O	24:Y:276:LEU:HG	2.06	0.54
12:L:89:ARG:CB	12:L:89:ARG:HH11	2.20	0.54
19:S:20:LEU:HA	19:S:23:ASN:HD22	1.71	0.54
1:A:63:C:H42	1:A:104:G:H1	1.55	0.54
1:A:826:C:H2'	1:A:827:U:C6	2.42	0.54
1:A:562:C:H4'	1:A:563:A:O5'	2.06	0.54
9:I:64:THR:O	9:I:64:THR:HG22	2.07	0.54
1:A:1034:G:H2'	1:A:1035:A:C5	2.43	0.54
17:Q:45:HIS:O	17:Q:73:VAL:HG23	2.08	0.54
1:A:710:G:O2'	1:A:711:G:H5'	2.07	0.54
4:D:33:MET:C	4:D:35:ARG:N	2.61	0.54
9:I:43:ALA:C	9:I:45:ALA:H	2.11	0.54
5:E:50:GLU:HB3	5:E:53:LEU:HD12	1.90	0.54
5:E:101:ILE:CD1	5:E:119:LEU:HD23	2.35	0.54
4:D:55:ALA:O	4:D:59:ARG:HG2	2.08	0.54
7:G:69:VAL:CG1	7:G:100:ALA:HA	2.38	0.54
1:A:1242:C:H5''	21:U:10:ARG:HH12	1.72	0.54
3:C:47:LEU:HD11	3:C:68:VAL:HG11	1.89	0.54
1:A:1457:G:O2'	1:A:1458:G:H5'	2.07	0.54
1:A:1007:C:H2'	1:A:1008:C:C5	2.42	0.54
1:A:708:C:H2'	1:A:709:G:H8	1.72	0.54
1:A:881:G:P	12:L:12:ARG:HH22	2.31	0.54
1:A:1524:C:H2'	1:A:1525:G:C8	2.42	0.54
17:Q:3:LYS:HD2	17:Q:60:ILE:HD11	1.89	0.54
1:A:1086:U:H2'	1:A:1087:G:H8	1.73	0.54
2:B:158:LEU:HD22	2:B:182:ILE:HD11	1.90	0.54
1:A:1224:G:H4'	13:M:102:ARG:NH1	2.22	0.54
2:B:75:LYS:HD3	2:B:78:GLN:NE2	2.23	0.54
4:D:18:LYS:HG3	4:D:31:CYS:SG	2.47	0.54
15:O:82:ILE:HG23	15:O:83:GLU:N	2.22	0.54
9:I:4:TYR:HE1	9:I:21:PRO:HD3	1.73	0.54
24:Y:287:GLU:O	24:Y:290:LYS:HG2	2.07	0.54
1:A:1104:G:H4'	2:B:111:ARG:NH1	2.23	0.54
1:A:1123:A:H4'	10:J:36:GLY:HA3	1.90	0.54
1:A:383:A:H2'	1:A:384:G:O4'	2.07	0.54
8:H:103:VAL:CG2	8:H:110:ALA:HB2	2.37	0.54
8:H:109:ILE:HG12	8:H:110:ALA:N	2.23	0.54
10:J:90:LEU:N	10:J:91:PRO:CD	2.70	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:M:105:THR:O	13:M:106:ASN:C	2.46	0.54
1:A:1226:C:H4'	1:A:1227:A:OP1	2.08	0.54
1:A:1005:A:C2'	1:A:1006:C:H5'	2.38	0.54
18:R:50:ILE:HD12	18:R:70:ILE:HG21	1.89	0.54
24:Y:311:ILE:HB	24:Y:325:ARG:HE	1.73	0.54
11:K:22:HIS:HB3	11:K:29:ILE:HG22	1.89	0.54
16:P:51:VAL:O	16:P:53:VAL:N	2.41	0.54
1:A:637:G:H2'	1:A:638:G:C8	2.42	0.54
2:B:36:ARG:HG2	2:B:36:ARG:HH11	1.72	0.54
1:A:167:G:O2'	1:A:168:G:H5'	2.08	0.54
1:A:46:G:O2'	1:A:365:U:H1'	2.07	0.54
1:A:484:G:H4'	1:A:485:G:O5'	2.07	0.54
24:Y:118:LEU:HD21	24:Y:210:VAL:HG22	1.88	0.54
4:D:26:CYS:O	4:D:31:CYS:HB2	2.07	0.54
9:I:48:GLU:N	9:I:49:PRO:HD2	2.23	0.54
19:S:22:LEU:HD13	19:S:27:GLU:HB2	1.88	0.54
2:B:18:GLY:CA	2:B:42:ILE:HG22	2.38	0.54
4:D:132:ARG:NH1	4:D:132:ARG:HG2	2.22	0.54
9:I:79:LEU:HD11	9:I:83:ARG:HH21	1.72	0.54
24:Y:322:LYS:CD	24:Y:329:MET:HG2	2.38	0.54
5:E:27:ARG:HG2	5:E:28:PHE:N	2.22	0.54
1:A:192:U:C4'	20:T:103:GLY:N	2.71	0.53
24:Y:181:SER:N	24:Y:182:PRO:CD	2.69	0.53
24:Y:319:ASN:HD21	24:Y:334:GLU:CG	2.20	0.53
1:A:243:A:O2'	1:A:244:U:OP2	2.25	0.53
2:B:139:LYS:O	2:B:143:GLU:HG3	2.08	0.53
12:L:110:VAL:HG21	12:L:120:TYR:HB3	1.90	0.53
15:O:56:LEU:O	15:O:60:VAL:HG23	2.07	0.53
1:A:487:A:H2'	1:A:488:C:O4'	2.07	0.53
1:A:946:A:H2'	1:A:947:G:C8	2.42	0.53
4:D:129:ASN:HD21	4:D:145:GLU:N	2.06	0.53
1:A:1223:C:P	19:S:78:ARG:HH21	2.31	0.53
2:B:164:VAL:HG12	2:B:165:VAL:N	2.23	0.53
1:A:1143:G:H2'	1:A:1144:G:H8	1.71	0.53
1:A:918:A:H2'	1:A:919:A:C8	2.43	0.53
22:V:6:G:O2'	22:V:7:A:H5'	2.08	0.53
1:A:445:G:H2'	1:A:446:G:H8	1.72	0.53
13:M:14:ARG:NH2	13:M:16:ASP:OD1	2.42	0.53
19:S:51:VAL:O	19:S:58:VAL:HG22	2.08	0.53
13:M:90:LEU:C	13:M:92:HIS:N	2.61	0.53
1:A:980:C:H3'	1:A:981:U:C6	2.43	0.53
24:Y:323:ASP:HB3	24:Y:326:THR:HG22	1.90	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:I:4:TYR:HA	9:I:88:TYR:CE1	2.43	0.53
12:L:104:VAL:O	12:L:107:ALA:HB3	2.08	0.53
7:G:69:VAL:HG21	7:G:104:LEU:HD21	1.90	0.53
2:B:44:LEU:H	2:B:44:LEU:HD12	1.71	0.53
16:P:19:ILE:HD11	16:P:39:TYR:HB2	1.90	0.53
19:S:36:ARG:HB2	19:S:72:GLY:CA	2.38	0.53
19:S:36:ARG:HB2	19:S:72:GLY:HA2	1.90	0.53
11:K:61:ALA:CB	11:K:90:GLY:HA3	2.39	0.53
13:M:112:GLY:HA2	13:M:113:PRO:CD	2.36	0.53
20:T:104:LEU:HD23	20:T:105:SER:N	2.23	0.53
24:Y:344:LEU:HD23	24:Y:344:LEU:H	1.73	0.53
22:W:47:U:C2'	22:W:48:C:H5'	2.39	0.53
11:K:111:ASP:HA	18:R:84:LYS:HD2	1.88	0.53
1:A:769:G:H4'	1:A:1513:A:H4'	1.90	0.53
14:N:7:ILE:O	14:N:11:LYS:HG2	2.08	0.53
6:F:79:LEU:HD12	6:F:88:VAL:HG13	1.89	0.53
3:C:150:LYS:HE2	3:C:152:ILE:HD11	1.88	0.53
3:C:16:ARG:HH11	3:C:16:ARG:HB2	1.71	0.53
5:E:76:ILE:CG1	5:E:77:PRO:HD2	2.39	0.53
16:P:67:THR:HB	16:P:70:ALA:HB3	1.89	0.53
6:F:45:LEU:HD11	6:F:57:GLN:OE1	2.08	0.53
2:B:25:ASN:O	2:B:27:LYS:N	2.42	0.53
13:M:54:VAL:O	13:M:58:GLU:HG2	2.08	0.53
1:A:881:G:OP2	12:L:12:ARG:NH2	2.41	0.53
15:O:70:LEU:HD11	15:O:77:ARG:HG3	1.90	0.53
5:E:105:VAL:HB	5:E:106:PRO:CD	2.39	0.53
17:Q:65:ILE:O	17:Q:66:SER:HB3	2.08	0.53
3:C:20:SER:HB2	3:C:40:ARG:NH2	2.24	0.53
2:B:67:THR:HG21	2:B:155:LEU:CD1	2.38	0.53
24:Y:231:VAL:HG11	24:Y:268:GLN:OE1	2.09	0.53
15:O:37:ASN:N	15:O:37:ASN:ND2	2.57	0.53
18:R:53:ARG:NH1	18:R:60:ALA:HA	2.23	0.53
1:A:1060:C:C5	3:C:2:GLY:HA3	2.43	0.53
11:K:79:SER:CB	11:K:106:LYS:HE3	2.39	0.53
1:A:385:C:O2'	1:A:386:C:H5'	2.09	0.53
8:H:45:ILE:O	8:H:45:ILE:HG13	2.08	0.53
2:B:97:TRP:HZ2	2:B:102:LEU:HD13	1.71	0.53
18:R:56:THR:CB	18:R:58:LEU:HD13	2.36	0.53
12:L:50:SER:O	12:L:51:ALA:HB2	2.09	0.53
8:H:19:VAL:CG2	8:H:21:LYS:HE2	2.36	0.53
24:Y:76:MET:CE	24:Y:88:LYS:HE2	2.39	0.53
4:D:126:ILE:HG22	4:D:127:THR:H	1.72	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:F:84:ASN:O	6:F:86:ARG:HG3	2.08	0.53
2:B:223:ILE:HG12	2:B:226:ARG:NH2	2.23	0.53
6:F:16:GLN:O	6:F:20:ALA:HB2	2.09	0.53
1:A:1203:C:H2'	1:A:1204:A:H8	1.72	0.53
17:Q:10:VAL:HG13	17:Q:19:VAL:HB	1.90	0.53
24:Y:153:VAL:HG13	24:Y:153:VAL:O	2.09	0.53
1:A:135:C:H2'	1:A:136:C:H5'	1.89	0.53
24:Y:336:VAL:C	24:Y:338:ASP:H	2.11	0.53
20:T:75:ASN:ND2	20:T:75:ASN:N	2.54	0.53
7:G:118:VAL:HG23	7:G:119:ARG:N	2.23	0.53
24:Y:77:GLU:CB	24:Y:84:ARG:HG2	2.39	0.53
1:A:383:A:H2'	1:A:384:G:C5'	2.39	0.53
10:J:63:PHE:HD1	14:N:58:LYS:HG2	1.74	0.53
1:A:541:G:H2'	1:A:542:G:H8	1.74	0.53
1:A:1086:U:H2'	1:A:1087:G:O4'	2.09	0.53
1:A:47:C:H5''	1:A:365:U:C6	2.44	0.53
22:V:66:U:H2'	22:V:67:C:C6	2.43	0.53
1:A:203:U:H4'	1:A:216:G:C4	2.43	0.53
1:A:679:C:O2'	1:A:680:C:H5'	2.09	0.53
2:B:167:PRO:HG3	2:B:188:ALA:HB2	1.91	0.53
3:C:186:PHE:CE2	3:C:188:LEU:HD21	2.44	0.53
1:A:192:U:H2'	1:A:193:C:H6	1.73	0.53
1:A:1318:A:H4'	19:S:10:PHE:HB2	1.91	0.53
24:Y:189:LEU:C	24:Y:189:LEU:HD23	2.30	0.53
20:T:84:LEU:O	20:T:88:VAL:HG23	2.08	0.53
16:P:51:VAL:HG11	16:P:74:LEU:HD23	1.89	0.53
7:G:16:LEU:O	7:G:17:VAL:HG23	2.09	0.53
24:Y:315:VAL:HG13	24:Y:320:TYR:O	2.09	0.53
22:W:29:G:H2'	22:W:30:G:H8	1.74	0.53
1:A:437:U:H2'	1:A:438:G:O4'	2.08	0.53
20:T:43:LEU:HB3	20:T:48:LYS:HB2	1.91	0.53
1:A:1015:A:H2'	1:A:1016:A:H8	1.73	0.53
1:A:638:G:O2'	1:A:639:G:H5'	2.09	0.53
1:A:1169:A:H2'	1:A:1170:A:H8	1.72	0.53
1:A:323:U:H2'	1:A:324:G:O4'	2.09	0.53
1:A:793:U:H5'	1:A:794:A:O5'	2.09	0.53
16:P:17:TYR:CD1	16:P:17:TYR:N	2.75	0.53
24:Y:218:VAL:HG13	24:Y:218:VAL:O	2.09	0.53
1:A:1227:A:H2'	1:A:1228:C:O5'	2.09	0.53
13:M:79:LYS:O	13:M:82:MET:HB3	2.09	0.53
4:D:31:CYS:O	4:D:32:ALA:HB3	2.09	0.53
15:O:81:LEU:HD11	15:O:85:LEU:HD12	1.91	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:D:74:GLN:HA	4:D:77:ASN:ND2	2.16	0.53
1:A:1151:A:HO2'	1:A:1152:A:H8	1.57	0.53
5:E:100:VAL:HG23	5:E:100:VAL:O	2.09	0.53
19:S:9:VAL:O	19:S:11:VAL:N	2.42	0.53
1:A:628:G:H2'	1:A:629:G:C8	2.43	0.53
1:A:84:U:O2'	1:A:88:A:H5'	2.09	0.53
1:A:1060:C:H2'	1:A:1061:G:H8	1.73	0.53
1:A:583:A:H2'	1:A:584:G:O4'	2.09	0.53
16:P:3:LYS:O	16:P:21:VAL:HA	2.09	0.52
11:K:78:GLN:O	11:K:103:LEU:HD13	2.09	0.52
22:W:49:C:O2	22:W:49:C:H2'	2.08	0.52
3:C:92:ALA:HA	3:C:95:THR:HB	1.91	0.52
1:A:1456:G:C2'	1:A:1457:G:H5'	2.39	0.52
13:M:99:ARG:HB2	13:M:101:GLN:NE2	2.24	0.52
7:G:45:ASP:O	7:G:49:ILE:HG12	2.09	0.52
3:C:186:PHE:CZ	3:C:188:LEU:HD21	2.44	0.52
4:D:20:TYR:CD1	4:D:20:TYR:N	2.78	0.52
9:I:42:ARG:NH1	9:I:71:SER:OG	2.42	0.52
19:S:39:THR:HG22	19:S:40:ILE:N	2.23	0.52
1:A:1055:A:C2	3:C:194:GLY:HA2	2.43	0.52
1:A:104:G:O2'	1:A:105:G:H5'	2.09	0.52
17:Q:11:VAL:O	17:Q:12:SER:HB2	2.10	0.52
1:A:1381:U:H5	1:A:1382:C:C5	2.26	0.52
2:B:19:HIS:CG	2:B:20:GLU:H	2.27	0.52
11:K:79:SER:OG	11:K:106:LYS:HE3	2.09	0.52
5:E:68:GLU:O	5:E:70:PRO:HD3	2.09	0.52
2:B:61:LEU:HA	2:B:64:ARG:HD2	1.91	0.52
1:A:922:G:H4'	5:E:20:GLN:HA	1.90	0.52
10:J:57:LYS:HE3	10:J:60:ARG:HH22	1.74	0.52
9:I:18:PHE:HD1	9:I:62:TYR:CD2	2.27	0.52
12:L:91:LYS:HD3	12:L:91:LYS:C	2.30	0.52
1:A:591:U:H2'	1:A:592:G:C8	2.44	0.52
1:A:1329:A:P	13:M:28:ALA:HB3	2.50	0.52
1:A:1118:C:H5'	9:I:104:ARG:HD2	1.90	0.52
8:H:40:ALA:C	8:H:42:GLU:N	2.60	0.52
22:W:62:C:O2'	22:W:63:G:H5'	2.10	0.52
6:F:8:ILE:CG2	6:F:9:VAL:N	2.73	0.52
1:A:1019:C:O2'	1:A:1020:U:H5'	2.10	0.52
1:A:1194:U:C5'	5:E:22:GLY:O	2.57	0.52
5:E:19:MET:O	5:E:20:GLN:HB2	2.09	0.52
22:W:9:A:N6	22:W:23:A:N7	2.57	0.52
3:C:147:LYS:HD2	3:C:204:LEU:O	2.10	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:C:5:ILE:O	3:C:5:ILE:HD13	2.10	0.52
1:A:1040:U:H2'	1:A:1041:A:C8	2.43	0.52
3:C:16:ARG:HG3	3:C:17:ASP:O	2.10	0.52
1:A:473:G:H2'	1:A:474:G:C8	2.44	0.52
12:L:53:ARG:HH11	12:L:53:ARG:CG	2.20	0.52
4:D:149:ALA:HB3	4:D:152:SER:OG	2.09	0.52
5:E:11:ILE:HG22	5:E:12:LEU:N	2.22	0.52
5:E:147:ASP:O	5:E:151:LEU:HG	2.09	0.52
2:B:15:VAL:HG23	2:B:16:HIS:CE1	2.44	0.52
1:A:272:C:H2'	1:A:273:A:C8	2.43	0.52
3:C:107:GLN:H	3:C:107:GLN:NE2	2.07	0.52
10:J:4:ILE:HD13	10:J:74:ILE:CD1	2.40	0.52
4:D:47:ARG:NE	4:D:49:ARG:HH22	2.07	0.52
1:A:1287:A:C2	1:A:1353:G:H1'	2.45	0.52
7:G:135:VAL:HG12	7:G:139:GLU:OE2	2.09	0.52
16:P:19:ILE:N	16:P:19:ILE:HD12	2.23	0.52
1:A:165:C:H2'	1:A:166:G:C8	2.43	0.52
22:V:18:G:H4'	22:V:60:U:C2	2.45	0.52
16:P:55:ARG:HA	16:P:55:ARG:HE	1.75	0.52
1:A:458:C:N4	1:A:474:G:H1	2.07	0.52
24:Y:106:LEU:HD23	24:Y:349:LEU:HD13	1.92	0.52
13:M:116:THR:O	13:M:116:THR:HG22	2.10	0.52
9:I:26:VAL:HG13	9:I:61:ALA:O	2.10	0.52
7:G:69:VAL:HG12	7:G:100:ALA:HA	1.91	0.52
7:G:140:ASP:HA	7:G:143:ARG:HH11	1.74	0.52
6:F:62:TRP:CH2	6:F:64:GLN:HB2	2.45	0.52
1:A:724:G:H2'	1:A:725:G:H8	1.75	0.52
1:A:233:C:O2'	1:A:234:C:H5'	2.08	0.52
13:M:96:LEU:HB3	13:M:97:PRO:HD2	1.90	0.52
10:J:58:ASP:O	10:J:59:SER:C	2.47	0.52
9:I:65:VAL:CG2	9:I:73:GLN:HB3	2.34	0.52
16:P:45:THR:HG22	16:P:47:ASP:N	2.19	0.52
12:L:53:ARG:HG2	12:L:53:ARG:NH1	2.21	0.52
2:B:200:ILE:HG22	2:B:201:ILE:N	2.25	0.52
7:G:136:LYS:O	7:G:140:ASP:HB2	2.09	0.52
5:E:135:THR:O	5:E:138:ALA:N	2.42	0.52
1:A:1441:G:H5''	1:A:1442:G:H5'	1.91	0.52
2:B:185:ILE:HA	2:B:199:TYR:O	2.09	0.52
13:M:123:ALA:C	24:Y:162:ALA:HA	2.30	0.52
1:A:1372:U:H2'	1:A:1373:G:O4'	2.10	0.52
1:A:1057:G:H5''	3:C:154:SER:OG	2.10	0.52
16:P:67:THR:HB	16:P:70:ALA:CB	2.40	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
15:O:7:GLU:O	15:O:10:LYS:HB3	2.09	0.52
3:C:179:ARG:HH21	3:C:207:VAL:HG22	1.73	0.52
5:E:72:GLN:O	5:E:75:THR:HG22	2.09	0.52
22:V:8:U:H5'	22:V:49:C:OP1	2.10	0.52
1:A:797:C:OP1	11:K:124:LYS:HE3	2.10	0.52
11:K:125:PHE:N	11:K:125:PHE:CD1	2.78	0.52
20:T:26:ASN:HD22	20:T:26:ASN:N	2.06	0.52
1:A:1206:G:H4'	3:C:192:THR:O	2.10	0.52
1:A:562:C:H1'	12:L:15:ARG:HD2	1.92	0.52
1:A:615:C:H2'	1:A:616:G:O4'	2.10	0.52
1:A:309:G:O2'	1:A:310:G:H5'	2.10	0.52
24:Y:177:TYR:CE1	24:Y:212:PRO:HD3	2.45	0.52
8:H:13:ILE:O	8:H:17:THR:HG23	2.09	0.52
5:E:8:GLU:N	5:E:34:VAL:HG23	2.24	0.52
12:L:33:ARG:HA	12:L:33:ARG:HE	1.75	0.52
16:P:9:PHE:HB2	16:P:16:HIS:O	2.10	0.52
1:A:170:U:O2'	1:A:171:A:H5'	2.10	0.52
17:Q:76:LEU:HD12	17:Q:77:VAL:N	2.24	0.52
2:B:42:ILE:HD11	2:B:202:PRO:HB2	1.91	0.52
1:A:1149:C:H2'	1:A:1150:U:H6	1.73	0.52
1:A:1072:G:H2'	1:A:1073:U:C6	2.45	0.52
1:A:639:G:O2'	1:A:640:A:H5'	2.10	0.52
1:A:545:C:H5''	4:D:72:GLU:HG2	1.92	0.52
1:A:751:U:C2'	1:A:752:G:H5'	2.39	0.52
2:B:185:ILE:HG22	2:B:199:TYR:CB	2.33	0.52
2:B:97:TRP:HZ3	2:B:172:ILE:HG22	1.74	0.52
22:W:18:G:H1'	22:W:58:A:C6	2.44	0.52
22:W:57:G:H2'	22:W:58:A:C5'	2.40	0.52
1:A:1151:A:H5''	10:J:42:THR:H	1.75	0.52
13:M:43:THR:O	13:M:44:ARG:HD3	2.10	0.52
10:J:8:LEU:O	10:J:16:LEU:HD21	2.10	0.52
8:H:30:ARG:CB	8:H:30:ARG:NH1	2.72	0.52
1:A:558:G:H2'	1:A:559:A:H2	1.74	0.52
4:D:61:LYS:HG3	4:D:203:VAL:HG13	1.91	0.52
1:A:479:C:H2'	1:A:480:U:C6	2.45	0.52
1:A:237:C:H4'	17:Q:25:ARG:NH1	2.24	0.52
11:K:126:ARG:CZ	11:K:126:ARG:HB3	2.40	0.52
2:B:97:TRP:CZ2	2:B:173:ALA:HA	2.46	0.51
1:A:255:G:H1'	17:Q:16:GLN:HE21	1.71	0.51
17:Q:59:ILE:HD12	17:Q:73:VAL:HA	1.92	0.51
12:L:6:THR:H	12:L:9:GLN:NE2	1.99	0.51
8:H:11:THR:HA	8:H:14:ARG:NH1	2.24	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
24:Y:214:VAL:HG22	24:Y:215:ASP:H	1.74	0.51
24:Y:59:VAL:HG12	24:Y:59:VAL:O	2.09	0.51
13:M:19:LEU:HD22	13:M:19:LEU:N	2.24	0.51
3:C:83:ARG:O	3:C:86:VAL:HG22	2.10	0.51
1:A:1316:G:H2'	1:A:1317:C:H5''	1.91	0.51
8:H:51:VAL:HG11	8:H:60:ARG:CD	2.40	0.51
9:I:126:SER:O	9:I:127:LYS:HB3	2.10	0.51
1:A:119:A:O2'	1:A:120:A:OP2	2.20	0.51
8:H:90:GLY:O	12:L:7:ILE:HG21	2.10	0.51
1:A:41:G:H2'	1:A:42:G:H8	1.75	0.51
1:A:1029:C:H2'	1:A:1030(A):G:C5	2.45	0.51
9:I:53:VAL:HB	9:I:92:TYR:CE2	2.45	0.51
5:E:69:VAL:HG21	5:E:113:ALA:HB1	1.92	0.51
12:L:90:VAL:HG12	12:L:90:VAL:O	2.09	0.51
2:B:29:ALA:HA	2:B:32:ILE:HG22	1.91	0.51
1:A:1472:U:H2'	1:A:1473:A:H8	1.74	0.51
22:V:32:U:H2'	22:V:32:U:O2	2.09	0.51
14:N:9:LYS:HG3	14:N:12:ARG:NH2	2.26	0.51
3:C:130:VAL:O	3:C:134:ILE:HG13	2.10	0.51
13:M:86:CYS:HB2	19:S:73:GLU:HG2	1.92	0.51
20:T:73:HIS:O	20:T:74:LYS:C	2.48	0.51
5:E:140:ARG:HG2	5:E:140:ARG:O	2.09	0.51
1:A:962:C:H2'	1:A:963:G:H8	1.75	0.51
1:A:1029:C:H4'	1:A:1033:G:H22	1.74	0.51
1:A:942:G:N2	9:I:124:GLN:NE2	2.59	0.51
1:A:90:U:OP2	1:A:91:C:H5'	2.10	0.51
2:B:121:LEU:HD21	2:B:126:GLU:OE2	2.10	0.51
1:A:1496:C:H2'	1:A:1497:G:O4'	2.10	0.51
6:F:78:GLU:O	6:F:81:ILE:HG13	2.10	0.51
1:A:711:G:O2'	1:A:712:A:H5'	2.11	0.51
1:A:677:U:H3	1:A:713:G:H22	1.58	0.51
1:A:1307:U:H2'	1:A:1308:U:C6	2.45	0.51
1:A:820:U:H4'	1:A:821:G:OP2	2.11	0.51
1:A:963:G:H21	10:J:55:LYS:NZ	2.07	0.51
1:A:1288:A:H2'	1:A:1289:A:H8	1.75	0.51
1:A:1104:G:O2'	1:A:1105:A:H5'	2.10	0.51
1:A:1081:G:O2'	1:A:1082:G:H5'	2.10	0.51
11:K:79:SER:HB2	11:K:106:LYS:HE3	1.91	0.51
12:L:7:ILE:CG2	12:L:8:ASN:N	2.73	0.51
2:B:95:GLN:HE21	2:B:147:LYS:CG	2.24	0.51
1:A:862:C:O2'	1:A:863:U:H5'	2.10	0.51
10:J:49:VAL:HG21	14:N:41:ARG:HB2	1.91	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:M:124:PRO:HB2	24:Y:163:GLY:C	2.30	0.51
4:D:31:CYS:C	4:D:33:MET:N	2.64	0.51
1:A:376:G:H2'	1:A:377:G:H8	1.76	0.51
1:A:1302:U:C5	13:M:17:VAL:HG21	2.45	0.51
1:A:1082:G:O2'	1:A:1083:U:H5'	2.11	0.51
1:A:857:C:H2'	1:A:858:G:O4'	2.11	0.51
24:Y:85:GLU:O	24:Y:85:GLU:HG2	2.09	0.51
13:M:94:ARG:CZ	19:S:81:ARG:HG3	2.41	0.51
2:B:163:PHE:HA	2:B:185:ILE:O	2.11	0.51
24:Y:120:ILE:HD12	24:Y:120:ILE:N	2.26	0.51
12:L:18:VAL:O	12:L:19:ARG:HB3	2.11	0.51
24:Y:26:LEU:HD12	24:Y:26:LEU:C	2.31	0.51
2:B:16:HIS:HB3	2:B:210:SER:CA	2.40	0.51
11:K:125:PHE:N	11:K:125:PHE:HD1	2.08	0.51
12:L:119:LYS:HB2	12:L:120:TYR:HD1	1.74	0.51
12:L:41:ARG:HD3	12:L:42:THR:C	2.31	0.51
1:A:245:C:O2	1:A:283:C:N3	2.44	0.51
22:W:38:A:H3'	22:W:39:U:C5'	2.38	0.51
4:D:176:LEU:CG	4:D:177:ASP:N	2.72	0.51
1:A:1104:G:H2'	1:A:1105:A:H8	1.76	0.51
1:A:1305:G:C2	1:A:1331:G:N3	2.78	0.51
2:B:130:ARG:HB3	2:B:134:GLU:HG3	1.91	0.51
18:R:30:ASP:OD1	18:R:32:ARG:HB2	2.10	0.51
1:A:1315:U:H2'	1:A:1316:G:O4'	2.10	0.51
1:A:125:U:H2'	1:A:126:G:C8	2.46	0.51
3:C:37:GLN:NE2	14:N:52:GLN:OE1	2.43	0.51
1:A:1226:C:OP1	13:M:91:ARG:NH1	2.43	0.51
24:Y:170:LEU:HD12	24:Y:171:VAL:N	2.26	0.51
1:A:1279:A:N3	1:A:1279:A:H2'	2.26	0.51
1:A:1002:G:H2'	1:A:1003:G:H5'	1.92	0.51
7:G:148:ASN:C	7:G:150:ALA:N	2.62	0.51
22:V:31:A:H2'	22:V:32:U:C6	2.46	0.51
24:Y:36:PRO:HA	24:Y:39:TRP:HD1	1.76	0.51
1:A:922:G:H2'	1:A:923:A:C8	2.45	0.51
9:I:122:ALA:HB1	9:I:123:PRO:HD2	1.92	0.51
1:A:340:U:H2'	1:A:341:C:C6	2.45	0.51
17:Q:90:ILE:HG23	17:Q:93:GLN:NE2	2.26	0.51
1:A:56:U:H2'	1:A:57:G:C8	2.46	0.51
1:A:959:A:H2'	1:A:960:U:H4'	1.93	0.51
2:B:167:PRO:HG2	2:B:192:SER:OG	2.10	0.51
24:Y:130:CYS:O	24:Y:164:ILE:HG22	2.11	0.51
19:S:62:ILE:HD12	19:S:66:MET:CE	2.41	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:936:C:H2'	1:A:937:A:H8	1.75	0.51
24:Y:33:LEU:HD21	24:Y:52:ALA:HB2	1.93	0.51
24:Y:130:CYS:HB3	24:Y:164:ILE:H	1.75	0.51
1:A:407:G:H1'	4:D:119:GLN:OE1	2.11	0.51
10:J:6:ILE:CG2	10:J:98:ILE:HG23	2.41	0.51
20:T:42:GLN:HA	20:T:42:GLN:HE21	1.76	0.51
22:W:50:U:H4'	22:W:65:G:N2	2.25	0.51
22:W:53:G:O2'	22:W:54:U:H5'	2.09	0.51
8:H:110:ALA:O	8:H:112:LEU:HD22	2.11	0.51
1:A:832:C:O2'	1:A:833:U:H6	1.94	0.51
1:A:179:A:H2'	1:A:180:U:H6	1.76	0.51
11:K:31:THR:OG1	11:K:42:TRP:HB3	2.12	0.51
22:V:25:C:H2'	22:V:26:A:H8	1.75	0.51
1:A:972:C:O2'	10:J:55:LYS:HG2	2.11	0.50
1:A:939:G:H2'	1:A:940:C:C6	2.46	0.50
24:Y:72:LEU:HD13	24:Y:91:LEU:HG	1.92	0.50
9:I:83:ARG:HA	9:I:86:VAL:HG12	1.91	0.50
15:O:48:LYS:CA	15:O:48:LYS:HE2	2.41	0.50
7:G:120:ILE:HG22	7:G:124:LEU:HD12	1.93	0.50
3:C:91:LEU:C	3:C:93:LYS:H	2.15	0.50
6:F:76:ALA:HB1	6:F:80:ARG:NH2	2.26	0.50
1:A:1096:C:O2'	1:A:1097:C:H5'	2.11	0.50
1:A:1211:U:H5'	1:A:1212:U:OP1	2.10	0.50
1:A:1190:G:OP1	3:C:5:ILE:HG23	2.12	0.50
1:A:1246:C:H2'	1:A:1247:U:H6	1.76	0.50
1:A:599:C:H4'	8:H:130:GLY:HA3	1.93	0.50
1:A:130:A:C8	17:Q:63:ARG:HG3	2.46	0.50
4:D:129:ASN:HD21	4:D:145:GLU:H	1.57	0.50
10:J:49:VAL:HG22	10:J:50:ILE:N	2.24	0.50
15:O:70:LEU:HD12	15:O:70:LEU:O	2.11	0.50
3:C:188:LEU:HD22	3:C:188:LEU:N	2.26	0.50
15:O:67:LEU:HD11	15:O:87:ILE:HD12	1.92	0.50
10:J:100:THR:HG22	10:J:100:THR:O	2.11	0.50
1:A:423:G:H2'	1:A:424:G:H5'	1.92	0.50
9:I:18:PHE:HD1	9:I:62:TYR:HD2	1.58	0.50
9:I:112:LYS:O	9:I:112:LYS:HD3	2.11	0.50
10:J:8:LEU:HB3	10:J:16:LEU:HD21	1.92	0.50
13:M:65:LYS:O	13:M:66:LEU:N	2.45	0.50
24:Y:8:GLN:HE22	24:Y:95:ALA:HB1	1.74	0.50
2:B:209:ARG:HH11	2:B:239:VAL:CG1	2.23	0.50
22:V:76:8AN:C5'	24:Y:239:GLY:HA3	2.41	0.50
1:A:1086:U:O2'	1:A:1087:G:H5'	2.11	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1060:C:C4	3:C:2:GLY:HA3	2.47	0.50
10:J:40:LEU:N	10:J:69:ASN:O	2.44	0.50
20:T:51:GLU:HA	20:T:54:LYS:NZ	2.26	0.50
15:O:3:ILE:HG13	15:O:3:ILE:O	2.11	0.50
24:Y:219:GLU:CD	24:Y:219:GLU:C	2.70	0.50
1:A:963:G:H21	10:J:55:LYS:CD	2.24	0.50
13:M:120:LYS:HD3	13:M:121:LYS:O	2.11	0.50
9:I:65:VAL:HB	9:I:77:ILE:HD11	1.93	0.50
1:A:423:G:C2'	1:A:424:G:H5'	2.41	0.50
9:I:17:VAL:HG21	9:I:80:GLY:C	2.32	0.50
2:B:55:PHE:HA	2:B:58:ILE:CD1	2.35	0.50
14:N:48:ALA:HB2	14:N:53:LEU:HD12	1.94	0.50
1:A:353:A:H5'	1:A:353:A:C8	2.40	0.50
6:F:39:LYS:O	6:F:40:VAL:HB	2.12	0.50
22:V:59:U:C2'	22:V:60:U:H5'	2.41	0.50
1:A:696:A:O2'	1:A:697:U:H5'	2.11	0.50
15:O:61:GLY:O	15:O:64:ARG:HB3	2.12	0.50
13:M:120:LYS:HE2	13:M:122:LYS:HZ2	1.77	0.50
4:D:12:CYS:SG	4:D:19:LEU:O	2.69	0.50
20:T:89:ARG:HB2	20:T:104:LEU:HD11	1.93	0.50
10:J:13:HIS:CE1	10:J:14:LYS:HG3	2.46	0.50
16:P:49:LEU:O	16:P:50:LYS:HB2	2.11	0.50
1:A:521:G:O2'	1:A:522:C:H5'	2.12	0.50
1:A:321:A:N6	1:A:328:C:O2'	2.42	0.50
10:J:6:ILE:HG22	10:J:98:ILE:HG23	1.94	0.50
13:M:21:TYR:C	13:M:22:ILE:HD12	2.32	0.50
1:A:1351:U:O2'	1:A:1352:C:H5'	2.11	0.50
1:A:724:G:O2'	1:A:725:G:H5'	2.11	0.50
1:A:104:G:H4'	1:A:174:C:O4'	2.11	0.50
10:J:61:GLU:CG	14:N:58:LYS:HE2	2.42	0.50
14:N:12:ARG:NH1	14:N:12:ARG:CB	2.75	0.50
1:A:546:G:OP1	4:D:73:ARG:HB2	2.11	0.50
2:B:238:LEU:HG	2:B:239:VAL:N	2.26	0.50
13:M:56:LEU:HD13	13:M:60:VAL:HG21	1.93	0.50
1:A:102:G:H2'	1:A:103:C:H6	1.75	0.50
1:A:1510:U:H2'	1:A:1511:G:C8	2.47	0.50
6:F:42:GLU:HG2	6:F:42:GLU:O	2.11	0.50
7:G:76:ARG:HG2	7:G:76:ARG:HH11	1.76	0.50
14:N:40:CYS:SG	14:N:43:CYS:SG	3.03	0.50
10:J:27:ALA:HB2	10:J:85:LEU:CD1	2.41	0.50
3:C:34:LEU:CD2	3:C:38:ARG:HD2	2.37	0.50
1:A:389:A:H2'	1:A:390:C:H5'	1.94	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1369:C:H2'	1:A:1370:G:C8	2.46	0.50
1:A:1053:G:N7	1:A:1199:U:H3'	2.27	0.50
1:A:382:A:H2'	1:A:383:A:C8	2.47	0.50
4:D:8:VAL:HB	4:D:21:LEU:HD12	1.93	0.50
2:B:212:GLN:HG3	2:B:235:SER:HB2	1.93	0.50
3:C:30:ARG:HB2	14:N:36:PHE:O	2.11	0.50
7:G:6:ARG:HG2	7:G:6:ARG:O	2.12	0.50
3:C:14:ILE:CG1	3:C:15:THR:H	2.07	0.50
4:D:25:ARG:NH1	4:D:30:LYS:HB2	2.26	0.50
5:E:76:ILE:HG13	5:E:77:PRO:HD2	1.94	0.50
1:A:738:C:H5''	6:F:69:GLU:HB2	1.93	0.50
12:L:53:ARG:HG2	12:L:93:LEU:HD11	1.94	0.50
11:K:111:ASP:HA	18:R:84:LYS:CD	2.42	0.50
4:D:126:ILE:CG2	4:D:127:THR:H	2.25	0.50
22:W:28:G:H2'	22:W:29:G:C8	2.47	0.50
10:J:39:PRO:HB3	10:J:70:ARG:NH1	2.27	0.50
15:O:16:ALA:HA	15:O:27:VAL:CG2	2.42	0.50
11:K:124:LYS:HZ3	11:K:125:PHE:HE1	1.60	0.50
1:A:542:G:OP1	4:D:10:ARG:NH2	2.44	0.50
11:K:43:SER:HB3	11:K:68:ALA:HB2	1.93	0.50
1:A:814:A:N7	1:A:816:A:C4	2.80	0.50
4:D:42:GLN:O	4:D:42:GLN:HG2	2.10	0.50
24:Y:24:THR:O	24:Y:24:THR:HG22	2.11	0.50
9:I:77:ILE:O	9:I:77:ILE:HG22	2.12	0.50
24:Y:311:ILE:HG13	24:Y:312:ARG:N	2.27	0.50
1:A:1158:C:C2'	1:A:1158:C:O2	2.58	0.50
24:Y:41:ASP:CB	24:Y:44:ALA:HB3	2.42	0.50
2:B:236:TYR:HA	2:B:239:VAL:HG21	1.93	0.50
22:V:76:8AN:C2'	24:Y:240:GLN:H	2.25	0.50
1:A:375:U:H4'	16:P:17:TYR:CE2	2.47	0.50
20:T:18:GLN:O	20:T:22:ARG:HG3	2.11	0.50
1:A:475:G:O2'	1:A:476:G:H5'	2.12	0.50
9:I:4:TYR:HB2	9:I:19:LEU:CB	2.39	0.50
3:C:119:ARG:HH21	3:C:140:ARG:NE	2.09	0.50
3:C:140:ARG:HH11	3:C:140:ARG:HG3	1.77	0.50
8:H:91:ARG:CG	8:H:91:ARG:HH11	2.20	0.50
3:C:179:ARG:O	3:C:206:GLU:HG3	2.12	0.50
1:A:501:C:H2'	1:A:502:G:H8	1.76	0.50
1:A:796:C:O2'	1:A:797:C:H5'	2.12	0.50
19:S:58:VAL:HG23	19:S:58:VAL:O	2.12	0.50
1:A:189(K):U:H2'	1:A:189(L):G:H8	1.77	0.50
8:H:29:SER:HB3	8:H:32:LYS:HG3	1.94	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:514:C:O2'	1:A:515:G:H5'	2.12	0.50
1:A:634:C:H2'	1:A:635:G:H8	1.77	0.50
3:C:79:ARG:HG3	3:C:79:ARG:HH11	1.77	0.50
13:M:126:LYS:N	24:Y:161:GLU:N	2.60	0.49
4:D:9:CYS:HB3	4:D:32:ALA:CB	2.42	0.49
1:A:735:C:O2'	1:A:736:C:H5'	2.12	0.49
1:A:1028:C:H2'	1:A:1029:C:C5'	2.35	0.49
22:V:4:C:H2'	22:V:5:G:H8	1.75	0.49
19:S:31:ILE:HG23	19:S:31:ILE:O	2.12	0.49
4:D:15:GLU:HG3	4:D:63:LYS:HE2	1.92	0.49
16:P:20:VAL:HG22	16:P:21:VAL:N	2.27	0.49
1:A:543:C:C2	1:A:544:G:C8	3.00	0.49
12:L:119:LYS:O	12:L:120:TYR:HB2	2.11	0.49
12:L:26:ALA:C	12:L:27:LEU:HD22	2.32	0.49
4:D:119:GLN:O	4:D:123:HIS:CD2	2.65	0.49
6:F:99:ALA:O	6:F:100:ASN:HB2	2.12	0.49
1:A:1251:A:H2'	1:A:1252:A:C8	2.46	0.49
7:G:148:ASN:O	7:G:150:ALA:N	2.44	0.49
1:A:1250:A:H2	1:A:1370:G:H1'	1.76	0.49
1:A:1242:C:H5''	21:U:10:ARG:NH1	2.27	0.49
8:H:65:TYR:CD1	8:H:65:TYR:N	2.79	0.49
1:A:42:G:H2'	1:A:43:C:C6	2.47	0.49
1:A:859:A:H2'	1:A:860:A:O4'	2.12	0.49
13:M:112:GLY:HA2	13:M:113:PRO:CG	2.43	0.49
13:M:89:GLY:O	13:M:92:HIS:HB2	2.13	0.49
4:D:176:LEU:HG	4:D:177:ASP:N	2.12	0.49
1:A:1127:G:N2	1:A:1147:C:H41	2.08	0.49
5:E:51:VAL:HB	5:E:52:PRO:CD	2.36	0.49
1:A:511:C:H1'	4:D:43:HIS:HE2	1.76	0.49
24:Y:54:ARG:HH21	24:Y:54:ARG:CB	2.25	0.49
5:E:73:ASN:N	5:E:73:ASN:HD22	2.09	0.49
3:C:77:ILE:HA	3:C:84:ILE:HB	1.95	0.49
5:E:152:ARG:HD3	8:H:42:GLU:O	2.12	0.49
1:A:1053:G:O6	1:A:1199:U:H2'	2.12	0.49
1:A:1071:C:H2'	1:A:1072:G:C8	2.45	0.49
19:S:58:VAL:HG21	19:S:75:ALA:HB2	1.94	0.49
24:Y:6:LEU:HD22	24:Y:9:ARG:HD2	1.94	0.49
2:B:212:GLN:NE2	2:B:216:SER:HB2	2.27	0.49
1:A:1490:C:O2'	1:A:1491:G:H5'	2.12	0.49
2:B:180:LEU:C	2:B:182:ILE:H	2.16	0.49
2:B:182:ILE:HG22	2:B:183:PRO:O	2.12	0.49
1:A:280:C:O2	17:Q:38:ARG:HG3	2.12	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:93:VAL:HG11	2:B:97:TRP:CD1	2.47	0.49
24:Y:120:ILE:HG13	24:Y:208:VAL:HG22	1.94	0.49
13:M:125:ARG:CB	24:Y:159:GLY:HA3	2.42	0.49
15:O:63:ARG:NH1	15:O:87:ILE:HG21	2.27	0.49
9:I:65:VAL:HG21	9:I:73:GLN:CB	2.33	0.49
1:A:1372:U:OP1	9:I:72:GLY:N	2.44	0.49
2:B:142:LEU:HA	2:B:145:LEU:HB2	1.94	0.49
1:A:600:C:O2'	1:A:601:C:H5'	2.13	0.49
24:Y:278:ILE:O	24:Y:281:ALA:HB3	2.13	0.49
1:A:1392:G:O2'	1:A:1393:U:H5'	2.13	0.49
1:A:833:U:H2'	1:A:834:C:H6	1.76	0.49
1:A:985:C:H42	1:A:1220:G:H1	1.61	0.49
19:S:53:ASN:HD22	19:S:58:VAL:CG1	2.26	0.49
4:D:4:TYR:O	4:D:5:ILE:HB	2.13	0.49
18:R:25:THR:O	18:R:25:THR:HG22	2.13	0.49
6:F:33:TYR:CE2	6:F:74:ASP:HB2	2.47	0.49
7:G:101:LEU:O	7:G:105:VAL:HG23	2.12	0.49
1:A:751:U:H2'	1:A:752:G:H5'	1.93	0.49
10:J:50:ILE:CD1	14:N:41:ARG:HD3	2.43	0.49
20:T:57:ARG:CZ	20:T:100:ILE:HG12	2.42	0.49
3:C:119:ARG:HG3	3:C:119:ARG:NH1	2.27	0.49
4:D:52:SER:O	4:D:53:ASP:C	2.50	0.49
8:H:12:ARG:NH1	8:H:27:PRO:HD2	2.28	0.49
5:E:20:GLN:O	5:E:23:GLY:O	2.31	0.49
22:W:16:U:C3'	22:W:17:C:H5'	2.29	0.49
22:V:29:G:H1	22:V:41:C:H42	1.61	0.49
18:R:50:ILE:CD1	18:R:70:ILE:HG21	2.41	0.49
13:M:48:LEU:HG	13:M:53:VAL:HG22	1.94	0.49
1:A:1379:G:O2'	1:A:1380:U:H5'	2.12	0.49
14:N:9:LYS:HG3	14:N:12:ARG:HH22	1.78	0.49
4:D:61:LYS:NZ	4:D:72:GLU:OE2	2.45	0.49
1:A:139:G:H2'	1:A:140:A:H8	1.77	0.49
1:A:1088:G:H2'	1:A:1089:G:H8	1.76	0.49
12:L:111:LYS:HG2	12:L:112:ASP:N	2.28	0.49
1:A:1207:G:O2'	1:A:1208:C:H5'	2.12	0.49
3:C:11:ARG:HH11	3:C:11:ARG:HG2	1.77	0.49
5:E:7:GLU:O	5:E:8:GLU:HB3	2.12	0.49
9:I:112:LYS:HD3	9:I:112:LYS:C	2.32	0.49
1:A:1030(D):A:C2'	1:A:1031:G:H5'	2.42	0.49
1:A:977:A:C2'	1:A:978:A:H5'	2.42	0.49
2:B:73:THR:HG22	2:B:95:GLN:O	2.12	0.49
20:T:63:ILE:HG23	20:T:72:LEU:HD13	1.93	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:892:A:O2'	1:A:1415:G:H4'	2.13	0.49
1:A:1463:C:O2'	1:A:1464:G:H5'	2.13	0.49
10:J:33:GLN:N	10:J:75:ILE:HD11	2.26	0.49
16:P:21:VAL:HG12	16:P:34:GLU:O	2.13	0.49
1:A:438:G:C4'	1:A:439:A:OP1	2.59	0.49
1:A:115:G:H1'	1:A:116:A:N7	2.28	0.49
1:A:105:G:H2'	1:A:106:C:C6	2.48	0.49
1:A:176:C:O2'	1:A:177:C:H5'	2.13	0.49
22:W:55:U:HO2'	22:W:56:C:H5	1.56	0.49
6:F:4:TYR:HA	6:F:91:VAL:O	2.12	0.49
1:A:926:G:C6	1:A:1505:G:C6	3.01	0.49
10:J:29:ARG:HG2	10:J:29:ARG:NH1	2.27	0.49
18:R:74:ARG:HA	18:R:79:LEU:O	2.13	0.49
1:A:61:G:H2'	1:A:62:U:O4'	2.13	0.49
2:B:220:ASP:C	2:B:222:ILE:H	2.16	0.49
1:A:539:A:P	12:L:114:LYS:HD2	2.53	0.49
22:W:49:C:H3'	22:W:50:U:C6	2.46	0.49
1:A:1316:G:H5''	14:N:17:LYS:HE3	1.93	0.49
6:F:5:GLU:HG2	6:F:62:TRP:HZ2	1.78	0.49
1:A:986:A:H2'	1:A:987:G:C8	2.48	0.49
14:N:12:ARG:CB	14:N:12:ARG:HH11	2.26	0.49
4:D:190:ASP:HB3	4:D:193:ASP:OD2	2.13	0.49
1:A:784:C:H2'	1:A:785:G:H8	1.77	0.49
4:D:19:LEU:HD12	4:D:19:LEU:N	2.28	0.49
4:D:20:TYR:H	4:D:20:TYR:HD1	1.61	0.49
15:O:85:LEU:O	15:O:85:LEU:HD23	2.13	0.49
1:A:1036:G:H3'	1:A:1037:C:C6	2.48	0.49
24:Y:312:ARG:HD2	24:Y:314:TYR:OH	2.12	0.49
1:A:376:G:OP2	16:P:67:THR:HG21	2.13	0.49
1:A:797:C:O2'	1:A:798:G:H5'	2.13	0.49
4:D:8:VAL:HG11	4:D:115:ARG:CZ	2.42	0.49
1:A:335:C:H2'	1:A:336:C:C6	2.48	0.49
4:D:57:ARG:NH2	5:E:107:ARG:HD3	2.27	0.49
1:A:299:G:H2'	1:A:300:A:C8	2.47	0.49
1:A:1065:U:O2'	1:A:1066:C:P	2.71	0.49
1:A:22:G:O2'	1:A:23:C:H5'	2.12	0.49
1:A:818:G:H3'	1:A:819:A:C5'	2.43	0.49
1:A:681:C:O2'	1:A:682:G:H5'	2.13	0.49
1:A:1298:C:N4	7:G:114:ARG:HB3	2.27	0.49
14:N:29:ARG:HG2	14:N:40:CYS:CB	2.43	0.48
13:M:120:LYS:HE2	13:M:122:LYS:NZ	2.28	0.48
13:M:125:ARG:HD2	24:Y:165:ASP:HA	1.94	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:D:20:TYR:HA	4:D:26:CYS:SG	2.52	0.48
4:D:28:SER:HB3	4:D:30:LYS:HE2	1.95	0.48
1:A:1128:C:C4'	9:I:16:ARG:HH12	2.25	0.48
9:I:4:TYR:O	9:I:18:PHE:HA	2.13	0.48
9:I:20:ARG:HG3	9:I:20:ARG:HH11	1.78	0.48
3:C:64:VAL:O	3:C:100:ALA:HB3	2.13	0.48
12:L:58:VAL:O	12:L:65:GLU:HA	2.12	0.48
1:A:781:A:H4'	1:A:1522:U:O2'	2.13	0.48
1:A:1357:A:H61	1:A:1363(A):A:H2	1.60	0.48
24:Y:83:GLU:HG3	24:Y:83:GLU:O	2.13	0.48
2:B:187:LEU:HD13	2:B:187:LEU:O	2.13	0.48
2:B:54:THR:HG21	2:B:201:ILE:CD1	2.41	0.48
3:C:76:VAL:HG23	3:C:77:ILE:N	2.28	0.48
9:I:104:ARG:O	9:I:104:ARG:HG2	2.13	0.48
1:A:1014:A:H2'	1:A:1015:A:C8	2.48	0.48
16:P:17:TYR:HD1	16:P:17:TYR:H	1.61	0.48
9:I:75:ASP:HA	9:I:78:LYS:NZ	2.29	0.48
24:Y:253:HIS:HD2	24:Y:256:THR:OG1	1.95	0.48
1:A:1084:G:H5'	1:A:1102:A:OP2	2.13	0.48
7:G:23:VAL:HG12	7:G:23:VAL:O	2.13	0.48
22:V:9:A:N3	22:V:46:G:N2	2.61	0.48
5:E:91:LEU:HD22	5:E:91:LEU:N	2.28	0.48
1:A:963:G:H21	10:J:55:LYS:HD2	1.77	0.48
5:E:102:ALA:HB2	5:E:120:THR:OG1	2.13	0.48
3:C:71:ALA:CB	3:C:109:PRO:HB3	2.43	0.48
1:A:519:C:OP2	24:Y:308:GLY:HA2	2.12	0.48
24:Y:332:ASP:HB2	24:Y:335:ASN:HB3	1.94	0.48
1:A:171:A:H2'	1:A:172:A:C8	2.49	0.48
22:W:15:G:N2	22:W:60:U:C5	2.81	0.48
13:M:67:GLU:CG	13:M:68:GLY:N	2.76	0.48
1:A:1479:C:O2'	1:A:1480:G:H5'	2.13	0.48
6:F:39:LYS:HG2	6:F:40:VAL:H	1.77	0.48
7:G:79:ARG:NH1	22:W:33:U:O3'	2.45	0.48
12:L:102:ARG:CG	12:L:102:ARG:HH11	2.26	0.48
18:R:25:THR:HG22	18:R:42:ARG:HH12	1.77	0.48
1:A:164:U:O2'	1:A:165:C:H5'	2.13	0.48
1:A:357:G:OP1	1:A:367:U:H5''	2.13	0.48
1:A:967:C:H2'	1:A:968:A:C8	2.48	0.48
13:M:125:ARG:HA	24:Y:159:GLY:C	2.33	0.48
20:T:50:GLU:HA	20:T:100:ILE:CG2	2.43	0.48
12:L:45:PRO:HD3	12:L:51:ALA:O	2.13	0.48
13:M:19:LEU:CA	13:M:22:ILE:HD13	2.42	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:C:82:GLU:O	3:C:86:VAL:HG13	2.13	0.48
7:G:25:ALA:HA	7:G:28:ASN:HD22	1.78	0.48
11:K:24:SER:O	11:K:27:ASN:N	2.43	0.48
1:A:1221:G:O2'	1:A:1222:G:H5'	2.13	0.48
1:A:1194:U:H5'	5:E:22:GLY:O	2.13	0.48
24:Y:29:LEU:HD13	24:Y:29:LEU:O	2.13	0.48
22:V:59:U:O2'	22:V:60:U:H5'	2.12	0.48
4:D:189:PRO:HB2	4:D:194:LEU:HD21	1.94	0.48
24:Y:226:GLU:OE2	24:Y:255:PRO:HG3	2.13	0.48
3:C:29:TYR:HE1	10:J:65:LEU:HD21	1.79	0.48
6:F:89:MET:SD	18:R:76:LEU:HD21	2.53	0.48
2:B:71:VAL:O	2:B:164:VAL:HG13	2.14	0.48
4:D:33:MET:O	4:D:35:ARG:N	2.42	0.48
1:A:719:C:N4	18:R:71:LYS:HE2	2.27	0.48
24:Y:325:ARG:HD3	24:Y:351:TRP:CZ3	2.47	0.48
1:A:805:C:O2'	1:A:806:C:H5'	2.13	0.48
1:A:1457:G:H2'	1:A:1458:G:H8	1.78	0.48
1:A:1096:C:H2'	1:A:1097:C:C6	2.48	0.48
10:J:63:PHE:HB3	14:N:58:LYS:HA	1.94	0.48
8:H:12:ARG:HH12	8:H:27:PRO:HD3	1.78	0.48
16:P:7:ALA:O	16:P:17:TYR:HA	2.12	0.48
1:A:1121:U:H2'	1:A:1122:U:C6	2.47	0.48
1:A:442:C:H2'	1:A:443:C:C6	2.48	0.48
1:A:495:A:H4'	1:A:496:A:OP1	2.14	0.48
1:A:1127:G:H1	1:A:1145:C:N4	2.10	0.48
9:I:15:ALA:HB2	9:I:65:VAL:CG2	2.40	0.48
2:B:80:ILE:N	2:B:80:ILE:HD12	2.17	0.48
12:L:60:LEU:HD23	12:L:64:TYR:HB2	1.96	0.48
5:E:39:GLY:HA2	5:E:69:VAL:HB	1.94	0.48
19:S:15:LEU:O	19:S:19:VAL:HG23	2.13	0.48
24:Y:320:TYR:HA	24:Y:333:PRO:HD3	1.96	0.48
19:S:40:ILE:HG21	19:S:62:ILE:CD1	2.43	0.48
22:W:49:C:C2'	22:W:50:U:H5'	2.43	0.48
5:E:36:ASP:O	5:E:37:ARG:HB2	2.13	0.48
1:A:189(J):G:O2'	1:A:189(K):U:H5'	2.14	0.48
1:A:1019:C:C2'	1:A:1020:U:H5'	2.44	0.48
1:A:336:C:O2'	1:A:337:C:H5'	2.14	0.48
2:B:180:LEU:O	2:B:182:ILE:N	2.46	0.48
1:A:411:A:H2'	1:A:412:A:H4'	1.94	0.48
11:K:34:ASP:HB2	11:K:35:PRO:CD	2.44	0.48
11:K:116:HIS:O	11:K:117:ASN:HB2	2.14	0.48
24:Y:182:PRO:CG	24:Y:345:ILE:HG23	2.33	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
18:R:43:PHE:O	18:R:51:LEU:HD12	2.13	0.48
22:V:41:C:H2'	22:V:41:C:O2	2.13	0.48
9:I:118:LYS:NZ	9:I:118:LYS:HB3	2.29	0.48
1:A:714:G:H2'	1:A:715:A:C8	2.49	0.48
6:F:7:ASN:O	6:F:8:ILE:HG13	2.13	0.48
1:A:300:A:H1'	1:A:565:U:O2	2.12	0.48
22:V:18:G:H4'	22:V:60:U:O2	2.12	0.48
16:P:55:ARG:O	16:P:58:TYR:HB3	2.13	0.48
19:S:73:GLU:O	19:S:73:GLU:HG2	2.13	0.48
1:A:151:A:H2'	1:A:152:A:H5'	1.94	0.48
1:A:954:G:H2'	1:A:955:U:C6	2.48	0.48
13:M:125:ARG:HA	24:Y:160:PRO:CD	2.43	0.48
1:A:1107:C:C3'	1:A:1108:G:H5''	2.43	0.48
1:A:1127:G:O2'	1:A:1128:C:H5'	2.13	0.48
10:J:3:LYS:NZ	10:J:77:PRO:HD2	2.29	0.48
9:I:4:TYR:HA	9:I:88:TYR:CZ	2.47	0.48
1:A:1515:C:H2'	1:A:1516:G:H8	1.79	0.48
4:D:152:SER:HA	4:D:155:LEU:HD12	1.95	0.48
5:E:18:ARG:HG3	5:E:18:ARG:HH11	1.77	0.48
1:A:1166:G:H2'	1:A:1169:A:OP2	2.13	0.48
12:L:82:VAL:HG12	12:L:83:VAL:H	1.78	0.48
1:A:643:C:H5'	8:H:31:PHE:CD1	2.49	0.48
1:A:1442:G:H2'	1:A:1442(A):G:C5'	2.43	0.48
2:B:97:TRP:CZ2	2:B:102:LEU:HD13	2.47	0.48
13:M:126:LYS:N	24:Y:162:ALA:N	2.62	0.48
3:C:14:ILE:HG23	3:C:15:THR:N	2.29	0.48
2:B:233:SER:HB2	2:B:234:PRO:CD	2.38	0.48
1:A:235:C:C5'	17:Q:70:ARG:HG2	2.41	0.48
17:Q:66:SER:O	17:Q:70:ARG:NH1	2.45	0.48
3:C:22:TRP:CH2	3:C:32:LEU:HB2	2.49	0.48
24:Y:76:MET:HG3	24:Y:88:LYS:HZ1	1.74	0.48
1:A:437:U:H2'	1:A:438:G:C8	2.49	0.48
1:A:438:G:H2'	1:A:494:U:O4	2.14	0.48
9:I:83:ARG:O	9:I:86:VAL:HG12	2.14	0.48
2:B:8:LYS:O	2:B:12:GLU:HG3	2.14	0.48
6:F:35:ALA:HB1	6:F:65:VAL:HG21	1.96	0.48
14:N:59:ALA:O	14:N:60:SER:HB2	2.12	0.48
20:T:26:ASN:N	20:T:26:ASN:ND2	2.61	0.48
4:D:173:TRP:CE3	4:D:193:ASP:HB3	2.48	0.48
1:A:295:C:H2'	1:A:296:U:C6	2.48	0.48
24:Y:316:LEU:N	24:Y:316:LEU:HD22	2.27	0.48
2:B:28:PHE:HD1	2:B:28:PHE:O	1.96	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:M:125:ARG:CA	24:Y:160:PRO:HD2	2.44	0.48
1:A:1126:U:O2'	1:A:1127:G:H5'	2.13	0.48
1:A:1133:G:H22	1:A:1143:G:H1'	1.77	0.48
1:A:1399:C:H4'	1:A:1400:C:O5'	2.14	0.48
1:A:644:G:O2'	1:A:645:C:H5'	2.14	0.48
10:J:38:ILE:HD11	10:J:71:LEU:CD2	2.43	0.48
4:D:126:ILE:H	4:D:126:ILE:HD12	1.78	0.48
10:J:16:LEU:HA	10:J:94:VAL:HG21	1.95	0.48
7:G:68:ASN:O	7:G:138:LYS:HD2	2.14	0.48
1:A:1072:G:H2'	1:A:1073:U:H6	1.79	0.48
1:A:154:C:O2'	1:A:155:C:H5'	2.14	0.48
8:H:48:TYR:CD1	8:H:48:TYR:C	2.88	0.48
1:A:829:G:O2'	1:A:830:G:H5'	2.14	0.48
4:D:3:ARG:O	4:D:3:ARG:HD3	2.13	0.48
1:A:302:G:N3	1:A:556:C:H4'	2.28	0.48
1:A:1060:C:H5''	10:J:51:ARG:HB3	1.95	0.48
11:K:48:ILE:HD11	11:K:64:ALA:HA	1.96	0.48
17:Q:24:GLU:HG2	17:Q:39:SER:HB3	1.96	0.48
24:Y:115:ASN:HB2	24:Y:170:LEU:HD11	1.96	0.48
19:S:6:LYS:O	19:S:7:LYS:HD3	2.14	0.48
1:A:976:G:P	14:N:32:SER:H	2.36	0.48
24:Y:128:GLU:O	24:Y:131:ASP:N	2.47	0.48
4:D:176:LEU:HG	4:D:178:VAL:N	2.23	0.48
2:B:79:ASP:HB2	2:B:80:ILE:HD12	1.96	0.48
1:A:1288:A:H2'	1:A:1289:A:C8	2.48	0.48
2:B:115:LEU:HD13	2:B:145:LEU:HB3	1.96	0.48
1:A:509:A:H5''	4:D:55:ALA:HB2	1.95	0.48
12:L:70:ILE:CD1	12:L:77:LEU:HD12	2.42	0.48
9:I:118:LYS:O	9:I:119:ALA:CB	2.61	0.48
3:C:179:ARG:O	3:C:179:ARG:HG3	2.14	0.48
16:P:13:HIS:C	16:P:15:PRO:HD3	2.34	0.48
4:D:120:LEU:HB3	4:D:126:ILE:HD11	1.95	0.48
1:A:143:A:N1	1:A:220:G:O6	2.47	0.48
1:A:358:U:H2'	1:A:359:U:H6	1.79	0.48
4:D:65:ARG:HG3	4:D:75:PHE:CD1	2.49	0.48
8:H:121:ASP:CG	8:H:122:ARG:H	2.18	0.48
11:K:91:ARG:HD2	11:K:91:ARG:C	2.34	0.48
3:C:153:VAL:O	3:C:165:THR:HA	2.14	0.47
1:A:1026:G:C3'	1:A:1027:C:H5'	2.43	0.47
1:A:189(F):U:C4	17:Q:72:ARG:CZ	2.97	0.47
3:C:22:TRP:CZ2	14:N:54:PRO:HG2	2.49	0.47
1:A:1300:G:H1'	1:A:1301:U:H5	1.79	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:U:12:LYS:CB	21:U:22:ARG:HD2	2.44	0.47
22:V:21:A:C3'	22:V:22:G:H5''	2.43	0.47
2:B:21:ARG:CZ	2:B:39:ILE:HG12	2.44	0.47
1:A:664:G:H22	1:A:741:G:H1	1.62	0.47
1:A:1476:G:H2'	1:A:1477:C:C6	2.49	0.47
1:A:619:U:H3	4:D:135:LEU:HD13	1.79	0.47
8:H:58:TYR:O	8:H:59:LEU:HD23	2.14	0.47
1:A:766:A:H2'	1:A:767:A:O4'	2.14	0.47
1:A:1442:G:H2'	1:A:1442(A):G:H5''	1.96	0.47
4:D:129:ASN:ND2	4:D:145:GLU:N	2.62	0.47
3:C:186:PHE:HD1	3:C:198:VAL:O	1.96	0.47
4:D:14:ARG:HD2	4:D:59:ARG:HH12	1.77	0.47
8:H:91:ARG:NH1	8:H:91:ARG:HG2	2.25	0.47
1:A:60:A:H8	1:A:60:A:P	2.37	0.47
10:J:16:LEU:HD13	10:J:16:LEU:O	2.14	0.47
1:A:36:C:O2'	1:A:37:U:H5'	2.13	0.47
8:H:109:ILE:HD11	8:H:120:THR:CG2	2.45	0.47
8:H:51:VAL:HG23	8:H:52:ASP:N	2.29	0.47
15:O:53:HIS:O	15:O:56:LEU:HB3	2.15	0.47
1:A:1422:G:H2'	1:A:1423:G:H8	1.79	0.47
1:A:1428:A:H2'	1:A:1429:C:C6	2.48	0.47
1:A:1202:G:H1'	14:N:29:ARG:HD3	1.96	0.47
1:A:403:C:H2'	1:A:404:U:C6	2.47	0.47
24:Y:77:GLU:HB2	24:Y:84:ARG:HG2	1.96	0.47
24:Y:19:ILE:HG12	24:Y:62:PHE:CE1	2.49	0.47
1:A:715:A:O2'	1:A:716:A:H5'	2.14	0.47
1:A:1436:U:C2'	1:A:1437:C:H5'	2.45	0.47
3:C:138:VAL:HG13	3:C:149:ALA:HB3	1.97	0.47
1:A:139:G:H2'	1:A:140:A:C8	2.49	0.47
1:A:19:C:H5''	5:E:86:ALA:CB	2.44	0.47
1:A:760:G:H2'	1:A:761:G:H5'	1.95	0.47
11:K:105:VAL:HB	11:K:108:ILE:HD11	1.96	0.47
18:R:31:LEU:HD12	18:R:66:LEU:HB2	1.95	0.47
11:K:22:HIS:HB3	11:K:29:ILE:HG23	1.97	0.47
2:B:65:GLY:O	2:B:67:THR:N	2.47	0.47
13:M:16:ASP:O	13:M:30:ALA:HB1	2.15	0.47
1:A:1329:A:OP1	13:M:28:ALA:HB3	2.15	0.47
22:W:49:C:H2'	22:W:50:U:H5'	1.95	0.47
2:B:217:ARG:HG3	2:B:217:ARG:HH11	1.80	0.47
6:F:79:LEU:HD12	6:F:88:VAL:HG11	1.95	0.47
24:Y:39:TRP:HA	24:Y:45:ALA:HB2	1.95	0.47
4:D:61:LYS:HD2	4:D:207:TYR:OH	2.14	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:C:110:ASN:O	3:C:141:VAL:HG22	2.14	0.47
1:A:908:A:H2'	1:A:909:A:H8	1.78	0.47
6:F:26:ILE:O	6:F:29:ALA:HB3	2.14	0.47
3:C:150:LYS:HG3	3:C:169:ALA:HB2	1.95	0.47
4:D:29:PRO:O	4:D:30:LYS:CB	2.63	0.47
4:D:29:PRO:O	4:D:30:LYS:HB3	2.15	0.47
9:I:95:LYS:HD3	9:I:95:LYS:C	2.34	0.47
1:A:1251:A:H4'	9:I:12:GLU:OE2	2.15	0.47
1:A:245:C:O2'	1:A:246:A:H5'	2.15	0.47
1:A:818:G:C3'	1:A:819:A:H5''	2.44	0.47
11:K:18:ARG:HH21	11:K:37:GLY:N	2.12	0.47
1:A:1385:G:O2'	1:A:1386:G:H5'	2.15	0.47
6:F:27:GLN:HE21	6:F:27:GLN:HA	1.78	0.47
13:M:81:LEU:O	13:M:89:GLY:HA3	2.15	0.47
1:A:865:A:H2	1:A:918:A:H4'	1.78	0.47
3:C:44:GLU:HA	3:C:52:LEU:CD1	2.45	0.47
8:H:39:LEU:H	8:H:39:LEU:HD22	1.79	0.47
7:G:15:ASP:CB	7:G:20:ASP:H	2.28	0.47
1:A:1112:C:H1'	3:C:179:ARG:CD	2.43	0.47
22:W:15:G:N2	22:W:60:U:C6	2.83	0.47
16:P:19:ILE:H	16:P:19:ILE:CD1	2.24	0.47
1:A:630:G:H2'	1:A:630:G:N3	2.29	0.47
8:H:17:THR:HB	8:H:78:GLN:OE1	2.14	0.47
17:Q:24:GLU:OE1	17:Q:37:LYS:HD3	2.15	0.47
11:K:114:VAL:HG13	11:K:114:VAL:O	2.15	0.47
24:Y:131:ASP:HA	24:Y:163:GLY:HA2	1.97	0.47
4:D:28:SER:HB2	4:D:30:LYS:CE	2.44	0.47
1:A:1399:C:C2	1:A:1502:A:N6	2.83	0.47
10:J:4:ILE:HD11	10:J:77:PRO:CB	2.37	0.47
3:C:71:ALA:HA	3:C:106:VAL:HB	1.97	0.47
1:A:1005:A:C3'	1:A:1006:C:H5'	2.45	0.47
8:H:89:PRO:HA	8:H:92:ARG:NH1	2.23	0.47
24:Y:312:ARG:NE	24:Y:344:LEU:HD13	2.29	0.47
1:A:1305:G:N2	1:A:1331:G:N3	2.62	0.47
2:B:208:ILE:HA	2:B:211:ILE:CD1	2.41	0.47
1:A:1522:U:H2'	1:A:1523:G:H8	1.80	0.47
13:M:19:LEU:H	13:M:19:LEU:CD2	2.28	0.47
1:A:76:C:N4	1:A:93:G:H1	2.11	0.47
1:A:539:A:OP1	12:L:114:LYS:HD2	2.14	0.47
13:M:65:LYS:HD2	13:M:69:GLU:HG3	1.97	0.47
4:D:175:SER:CB	4:D:186:LEU:HD11	2.43	0.47
22:V:14:A:N3	22:V:14:A:H2'	2.30	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
8:H:48:TYR:HA	8:H:60:ARG:O	2.14	0.47
20:T:26:ASN:O	20:T:30:LYS:HB2	2.14	0.47
1:A:178:C:H2'	1:A:179:A:H8	1.80	0.47
1:A:1218:C:P	14:N:9:LYS:NZ	2.88	0.47
4:D:61:LYS:NZ	4:D:62:GLN:HE21	2.12	0.47
2:B:20:GLU:CG	2:B:189:ASP:OD2	2.63	0.47
1:A:298:A:H2'	1:A:299:G:O4'	2.14	0.47
1:A:604:G:O2'	1:A:605:U:H5'	2.15	0.47
1:A:9:G:H5''	5:E:122:GLU:OE2	2.15	0.47
15:O:64:ARG:HH11	15:O:64:ARG:HG3	1.80	0.47
7:G:103:TRP:CH2	7:G:141:VAL:HG21	2.50	0.47
2:B:137:ARG:HG2	2:B:137:ARG:HH11	1.79	0.47
24:Y:136:LEU:O	24:Y:140:TYR:CD2	2.67	0.47
10:J:92:THR:HG23	10:J:93:GLY:N	2.29	0.47
1:A:284:G:O2'	1:A:285:G:H5'	2.15	0.47
13:M:124:PRO:N	24:Y:162:ALA:HA	2.29	0.47
20:T:57:ARG:HH12	20:T:100:ILE:HG13	1.79	0.47
24:Y:323:ASP:HB3	24:Y:326:THR:CG2	2.45	0.47
1:A:458:C:H2'	1:A:460:G:H8	1.80	0.47
24:Y:87:LEU:O	24:Y:90:GLU:HB2	2.13	0.47
1:A:586:C:H1'	1:A:878:G:O2'	2.15	0.47
3:C:44:GLU:HA	3:C:52:LEU:HD11	1.96	0.47
19:S:9:VAL:HG12	19:S:9:VAL:O	2.15	0.47
13:M:32:GLU:O	13:M:36:LYS:HG2	2.15	0.47
2:B:187:LEU:HD11	2:B:205:ASP:HA	1.96	0.47
5:E:11:ILE:HD12	5:E:31:LEU:CD1	2.45	0.47
22:W:64:A:H2'	22:W:65:G:N7	2.29	0.47
3:C:95:THR:HG22	3:C:97:LYS:H	1.80	0.47
18:R:59:SER:OG	18:R:62:GLU:HG2	2.14	0.47
1:A:1193:G:O2'	1:A:1194:U:H5'	2.15	0.47
1:A:45:U:H2'	1:A:46:G:C8	2.50	0.47
11:K:34:ASP:HB3	11:K:40:ILE:HD11	1.95	0.47
2:B:28:PHE:CD1	2:B:28:PHE:O	2.68	0.47
2:B:78:GLN:O	2:B:81:VAL:HB	2.14	0.47
23:X:19:U:C5	24:Y:127:THR:HB	2.49	0.47
1:A:425:G:O2'	1:A:426:G:H5'	2.14	0.47
9:I:70:LYS:O	9:I:74:ILE:HG13	2.15	0.47
1:A:625:G:H4'	16:P:16:HIS:CD2	2.49	0.47
16:P:4:ILE:CD1	16:P:64:ALA:HB1	2.45	0.47
2:B:187:LEU:CD1	2:B:205:ASP:HA	2.45	0.47
4:D:120:LEU:HD23	4:D:125:HIS:HD2	1.80	0.47
16:P:39:TYR:CD1	16:P:73:LEU:HD13	2.50	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:853:G:H2'	1:A:854:G:C8	2.47	0.47
4:D:2:GLY:O	4:D:3:ARG:O	2.33	0.47
1:A:826:C:H5''	8:H:12:ARG:HH21	1.79	0.47
1:A:1383:C:H2'	1:A:1384:C:C6	2.50	0.47
1:A:9:G:H2'	1:A:10:A:C8	2.50	0.47
1:A:1463:C:H2'	1:A:1464:G:H8	1.79	0.47
1:A:818:G:O2'	1:A:819:A:H5''	2.15	0.47
1:A:1176:A:H2'	1:A:1177:G:C8	2.50	0.47
24:Y:93:GLU:HA	24:Y:96:LYS:HB3	1.97	0.47
2:B:168:THR:O	2:B:169:LYS:C	2.53	0.47
1:A:1131:G:H2'	1:A:1132:C:C6	2.50	0.47
1:A:926:G:N2	1:A:1505:G:H2'	2.30	0.47
19:S:29:ARG:O	19:S:31:ILE:HG22	2.15	0.47
12:L:91:LYS:O	12:L:92:ASP:HB2	2.14	0.47
1:A:878:G:H5''	8:H:89:PRO:HG2	1.94	0.47
12:L:47:LYS:HE2	12:L:48:PRO:HD3	1.97	0.47
24:Y:270:LYS:O	24:Y:274:LEU:HB2	2.15	0.47
1:A:564:C:H5'	17:Q:32:TYR:CE2	2.50	0.47
1:A:1301:U:H3'	1:A:1302:U:H5''	1.97	0.47
12:L:22:SER:C	12:L:24:VAL:H	2.19	0.47
4:D:121:VAL:CA	4:D:126:ILE:HD13	2.44	0.47
7:G:120:ILE:H	7:G:120:ILE:CD1	2.27	0.47
1:A:1205:U:C1'	3:C:195:VAL:HG21	2.43	0.47
7:G:79:ARG:HG3	7:G:83:ALA:O	2.15	0.47
1:A:984:C:H2'	1:A:985:C:H6	1.76	0.47
1:A:313:A:H2'	1:A:314:C:C6	2.50	0.47
3:C:167:TRP:CG	3:C:168:ALA:N	2.82	0.47
2:B:95:GLN:HE21	2:B:147:LYS:HG2	1.79	0.47
1:A:279:A:OP2	17:Q:95:TYR:OH	2.32	0.47
8:H:1:MET:HE2	8:H:1:MET:H3	1.80	0.47
24:Y:73:LEU:HG	24:Y:73:LEU:O	2.15	0.47
1:A:1228:C:H2'	1:A:1229:A:C8	2.49	0.46
1:A:959:A:H2'	1:A:960:U:C4'	2.44	0.46
1:A:865:A:C2	1:A:918:A:H4'	2.50	0.46
10:J:24:VAL:O	10:J:28:ARG:HG3	2.15	0.46
19:S:28:LYS:HZ1	19:S:29:ARG:NH2	2.13	0.46
2:B:118:LEU:HD13	2:B:142:LEU:HB2	1.97	0.46
3:C:112:SER:O	3:C:116:VAL:HG23	2.16	0.46
9:I:118:LYS:NZ	9:I:118:LYS:CB	2.78	0.46
2:B:44:LEU:H	2:B:44:LEU:CD1	2.28	0.46
12:L:117:ARG:HB3	12:L:122:THR:HB	1.97	0.46
20:T:33:ILE:HG22	20:T:34:LYS:N	2.30	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1170:A:H2'	1:A:1171:G:H5'	1.96	0.46
1:A:1519:A:C2'	1:A:1520:G:H5'	2.44	0.46
1:A:598:U:H4'	8:H:94:TYR:CG	2.51	0.46
14:N:31:ARG:HG3	14:N:31:ARG:HH11	1.79	0.46
22:W:70:G:C3'	22:W:71:G:H5''	2.44	0.46
1:A:1228:C:H5''	13:M:108:ARG:HH22	1.80	0.46
2:B:77:ALA:CB	2:B:165:VAL:HG11	2.45	0.46
1:A:136:C:H2'	1:A:137:C:C6	2.50	0.46
4:D:12:CYS:HB3	4:D:18:LYS:HA	1.96	0.46
20:T:89:ARG:CD	20:T:104:LEU:HD11	2.45	0.46
12:L:18:VAL:O	12:L:19:ARG:CB	2.63	0.46
18:R:51:LEU:HA	18:R:52:PRO:HD3	1.77	0.46
9:I:10:ARG:HH11	9:I:105:ASP:N	2.12	0.46
16:P:21:VAL:HG11	16:P:59:TRP:NE1	2.30	0.46
2:B:187:LEU:HD23	2:B:201:ILE:CG2	2.41	0.46
3:C:196:LEU:H	3:C:196:LEU:CD2	2.28	0.46
6:F:16:GLN:NE2	6:F:16:GLN:H	2.12	0.46
7:G:120:ILE:HG22	7:G:124:LEU:CD1	2.45	0.46
1:A:173:U:H5''	1:A:197:A:O4'	2.16	0.46
3:C:138:VAL:HG13	3:C:149:ALA:CB	2.45	0.46
1:A:1040:U:H2'	1:A:1041:A:H8	1.79	0.46
20:T:69:GLY:O	20:T:73:HIS:CD2	2.68	0.46
16:P:56:ALA:O	16:P:60:LEU:HG	2.14	0.46
1:A:160:A:H1'	1:A:344:A:N7	2.30	0.46
6:F:50:TYR:CE1	18:R:77:GLY:HA2	2.51	0.46
22:W:39:U:C2'	22:W:40:C:C5'	2.87	0.46
10:J:50:ILE:HD11	14:N:41:ARG:CZ	2.45	0.46
24:Y:283:LEU:O	24:Y:287:GLU:N	2.48	0.46
17:Q:7:THR:HG22	17:Q:58:GLU:CG	2.40	0.46
13:M:14:ARG:HD2	13:M:42:ALA:HA	1.96	0.46
12:L:22:SER:O	12:L:24:VAL:N	2.48	0.46
3:C:155:GLY:HA3	3:C:163:ALA:HB1	1.98	0.46
6:F:5:GLU:HG2	6:F:62:TRP:CZ2	2.50	0.46
1:A:1220:G:O3'	19:S:36:ARG:HD3	2.16	0.46
1:A:1020:U:H2'	1:A:1021:G:H8	1.80	0.46
1:A:1207:G:H2'	1:A:1208:C:H6	1.80	0.46
24:Y:139:MET:HG3	24:Y:337:LEU:HA	1.98	0.46
7:G:121:ALA:O	7:G:125:MET:HG3	2.15	0.46
1:A:161:A:H2'	1:A:162:A:C8	2.51	0.46
11:K:70:LYS:O	11:K:73:MET:HG2	2.16	0.46
1:A:932:C:H5'	7:G:4:ARG:CG	2.45	0.46
1:A:64:G:H4'	1:A:65:U:H5''	1.97	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
8:H:102:ARG:N	8:H:102:ARG:HD3	2.30	0.46
13:M:90:LEU:O	13:M:92:HIS:N	2.48	0.46
1:A:656:C:H2'	1:A:657:G:H8	1.80	0.46
9:I:4:TYR:CG	9:I:19:LEU:HB2	2.51	0.46
24:Y:75:LEU:HD22	24:Y:75:LEU:N	2.30	0.46
3:C:113:ALA:HB3	3:C:114:PRO:CD	2.41	0.46
1:A:402:G:C2'	1:A:403:C:H5'	2.45	0.46
24:Y:77:GLU:HG2	24:Y:84:ARG:CG	2.45	0.46
22:V:50:U:O2'	22:V:51:U:H5'	2.15	0.46
1:A:1261:A:N1	1:A:1275:A:H1'	2.30	0.46
1:A:33:A:H2'	1:A:34:C:C6	2.51	0.46
1:A:186:C:H5'	20:T:78:ALA:HB1	1.98	0.46
1:A:186:C:O2'	1:A:187:C:H5'	2.14	0.46
24:Y:95:ALA:O	24:Y:98:LEU:HB3	2.15	0.46
1:A:189(I):G:O2'	1:A:189(J):G:H5'	2.15	0.46
24:Y:220:VAL:HG12	24:Y:222:LEU:HD22	1.97	0.46
1:A:911:U:H2'	1:A:912:C:C6	2.50	0.46
20:T:25:ARG:HH11	20:T:25:ARG:HG3	1.81	0.46
1:A:963:G:N2	10:J:55:LYS:CD	2.79	0.46
1:A:675:A:H1'	11:K:116:HIS:CD2	2.51	0.46
1:A:1133:G:N2	1:A:1143:G:H1'	2.31	0.46
1:A:218:C:H5'	1:A:470:C:N4	2.30	0.46
1:A:1001(A):G:O2'	1:A:1002:G:H5'	2.16	0.46
1:A:1342:C:H1'	9:I:124:GLN:HE21	1.80	0.46
17:Q:45:HIS:HB2	17:Q:65:ILE:CD1	2.45	0.46
12:L:28:LYS:HG2	12:L:28:LYS:O	2.15	0.46
18:R:66:LEU:CG	18:R:70:ILE:HD11	2.44	0.46
1:A:223:U:O5'	1:A:223:U:H6	1.97	0.46
22:W:15:G:N2	22:W:59:U:H1'	2.31	0.46
5:E:40:ARG:HG2	5:E:40:ARG:NH1	2.27	0.46
2:B:7:VAL:CA	2:B:217:ARG:HH22	2.28	0.46
24:Y:282:ARG:CB	24:Y:282:ARG:HH21	2.28	0.46
8:H:1:MET:N	8:H:1:MET:HE2	2.31	0.46
11:K:59:TYR:CE1	11:K:63:LEU:HD21	2.51	0.46
1:A:948:C:P	13:M:109:THR:HG1	2.39	0.46
6:F:29:ALA:HB3	6:F:30:LEU:HD23	1.96	0.46
1:A:427:U:OP1	4:D:40:PRO:HA	2.15	0.46
1:A:649:G:H2'	1:A:650:G:H8	1.81	0.46
12:L:46:LYS:HG2	12:L:47:LYS:N	2.31	0.46
22:W:59:U:C2	22:W:60:U:H5	2.33	0.46
10:J:16:LEU:O	10:J:16:LEU:HD22	2.15	0.46
1:A:1118:C:H1'	1:A:1179:A:C4	2.50	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:F:80:ARG:HG3	6:F:88:VAL:HG23	1.98	0.46
20:T:29:LYS:O	20:T:33:ILE:HG13	2.16	0.46
14:N:14:PRO:O	14:N:15:LYS:C	2.54	0.46
1:A:880:C:H2'	1:A:881:G:H8	1.81	0.46
24:Y:29:LEU:HG	24:Y:51:GLU:HB3	1.98	0.46
1:A:1307:U:H2'	1:A:1308:U:H6	1.79	0.46
18:R:44:LEU:HA	18:R:49:LYS:O	2.15	0.46
1:A:517:G:H2'	1:A:531:U:C5	2.51	0.46
9:I:59:PHE:N	9:I:59:PHE:CD1	2.84	0.46
2:B:23:ARG:O	2:B:23:ARG:HG3	2.15	0.46
24:Y:104:GLN:HA	24:Y:104:GLN:OE1	2.15	0.46
1:A:1228:C:C5'	13:M:108:ARG:HH22	2.29	0.46
15:O:25:THR:O	15:O:28:GLN:N	2.49	0.46
15:O:81:LEU:CD1	15:O:85:LEU:HD12	2.46	0.46
1:A:218:C:H5'	1:A:470:C:H41	1.81	0.46
6:F:69:GLU:HG2	6:F:70:ASP:N	2.31	0.46
1:A:266:G:O2'	1:A:267:C:OP2	2.33	0.46
1:A:1469:G:H2'	1:A:1470:G:H8	1.81	0.46
12:L:84:LEU:HG	12:L:105:TYR:CE1	2.50	0.46
1:A:520:A:OP2	12:L:51:ALA:HB1	2.16	0.46
1:A:564:C:O2'	8:H:91:ARG:NH2	2.49	0.46
1:A:1349:A:P	9:I:118:LYS:NZ	2.89	0.46
1:A:1343:G:H1'	9:I:121:ARG:NH1	2.30	0.46
3:C:47:LEU:HD21	3:C:68:VAL:HG11	1.97	0.46
4:D:3:ARG:O	4:D:5:ILE:HG13	2.15	0.46
24:Y:13:LEU:HD23	24:Y:16:TYR:CG	2.50	0.46
1:A:552:U:H4'	12:L:86:ARG:HG2	1.98	0.46
22:V:76:8AN:H3'	24:Y:239:GLY:HA3	1.97	0.46
22:V:64:A:O2'	22:V:65:G:H5'	2.16	0.46
7:G:54:THR:HG23	7:G:54:THR:O	2.15	0.46
6:F:92:LYS:NZ	6:F:92:LYS:CB	2.78	0.46
2:B:71:VAL:HG13	2:B:93:VAL:CB	2.29	0.46
3:C:16:ARG:CB	3:C:16:ARG:HH11	2.29	0.46
24:Y:326:THR:HG21	24:Y:328:LEU:HB2	1.97	0.46
22:V:41:C:C3'	22:V:42:C:C5'	2.92	0.46
1:A:729:A:H2'	1:A:730:G:H8	1.81	0.46
24:Y:203:THR:HG22	24:Y:204:SER:N	2.31	0.46
1:A:376:G:H2'	1:A:377:G:C8	2.51	0.46
16:P:4:ILE:HB	16:P:66:PRO:HB3	1.96	0.46
9:I:112:LYS:HE3	9:I:116:LYS:O	2.16	0.46
4:D:60:GLU:HG2	4:D:202:LEU:HD12	1.98	0.46
13:M:65:LYS:NZ	13:M:70:LEU:HD23	2.31	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:236:TYR:HA	2:B:239:VAL:HG23	1.96	0.46
15:O:32:LEU:O	15:O:36:ILE:HG13	2.15	0.46
1:A:599:C:H4'	8:H:130:GLY:CA	2.46	0.46
1:A:19:C:H2'	1:A:20:U:C6	2.51	0.46
7:G:5:ARG:C	7:G:7:ALA:H	2.19	0.46
10:J:95:GLU:HA	10:J:95:GLU:OE2	2.15	0.46
1:A:754:C:H3'	1:A:754:C:O2	2.16	0.46
24:Y:149:PHE:HB3	24:Y:172:LYS:O	2.16	0.46
13:M:120:LYS:C	13:M:121:LYS:HD2	2.36	0.46
1:A:1106:G:H2'	1:A:1107:C:C6	2.51	0.46
24:Y:290:LYS:HG3	24:Y:291:ARG:H	1.78	0.46
2:B:84:GLU:HB3	2:B:219:VAL:HG21	1.98	0.46
1:A:1179:A:O3'	9:I:103:THR:HG23	2.16	0.46
8:H:112:LEU:HG	8:H:112:LEU:O	2.15	0.46
18:R:32:ARG:HA	18:R:69:THR:HG21	1.97	0.46
1:A:1298:C:H4'	1:A:1299:A:N9	2.31	0.46
1:A:643:C:H5'	8:H:31:PHE:CE1	2.51	0.46
1:A:932:C:H5'	7:G:4:ARG:HG3	1.98	0.46
22:W:40:C:H5'	22:W:40:C:C6	2.51	0.46
1:A:1469:G:H2'	1:A:1470:G:C8	2.50	0.46
24:Y:72:LEU:HD13	24:Y:91:LEU:CG	2.46	0.46
19:S:41:VAL:HG12	19:S:42:PRO:HD2	1.98	0.46
24:Y:249:VAL:HG21	24:Y:272:LYS:CA	2.46	0.46
24:Y:277:LYS:CE	24:Y:280:LYS:HZ2	2.29	0.46
1:A:997:U:H2'	1:A:998:G:H8	1.76	0.46
1:A:328:C:O2'	1:A:329:A:P	2.74	0.46
6:F:15:ASP:HB2	6:F:16:GLN:NE2	2.31	0.46
3:C:94:LEU:HD12	3:C:94:LEU:C	2.36	0.46
18:R:25:THR:O	18:R:26:LEU:HG	2.16	0.46
4:D:159:ARG:O	4:D:162:LEU:HB2	2.16	0.46
1:A:233:C:H2'	1:A:234:C:H6	1.81	0.46
1:A:1504:G:OP1	1:A:1507:A:H4'	2.16	0.46
1:A:965:A:C2	1:A:969:A:C2	3.04	0.46
14:N:24:CYS:SG	14:N:40:CYS:N	2.83	0.45
20:T:50:GLU:HB2	20:T:99:LEU:HD12	1.98	0.45
15:O:83:GLU:C	15:O:85:LEU:H	2.19	0.45
16:P:81:ARG:HG2	16:P:83:GLU:OE2	2.16	0.45
24:Y:142:ARG:HD3	24:Y:338:ASP:OD1	2.16	0.45
1:A:769:G:O2'	1:A:770:C:H5'	2.16	0.45
24:Y:319:ASN:HD21	24:Y:334:GLU:CD	2.20	0.45
15:O:23:GLY:O	15:O:24:SER:HB3	2.16	0.45
5:E:147:ASP:HA	5:E:150:ARG:CZ	2.45	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:M:83:ASP:CG	13:M:84:ILE:N	2.67	0.45
3:C:156:ARG:HD3	3:C:194:GLY:H	1.80	0.45
1:A:1260:C:H4'	1:A:1284:C:H5'	1.98	0.45
13:M:100:GLY:C	13:M:101:GLN:HG3	2.37	0.45
8:H:9:MET:O	8:H:13:ILE:HG12	2.16	0.45
1:A:908:A:H2'	1:A:909:A:C8	2.51	0.45
5:E:96:PRO:HA	5:E:117:ASP:CG	2.37	0.45
4:D:99:SER:HB2	4:D:139:ARG:HG3	1.98	0.45
5:E:26:PHE:CD1	5:E:26:PHE:N	2.84	0.45
5:E:64:ARG:HH11	5:E:64:ARG:HG3	1.81	0.45
1:A:1300:G:O2'	1:A:1301:U:P	2.75	0.45
7:G:148:ASN:N	7:G:148:ASN:ND2	2.64	0.45
3:C:156:ARG:HD3	3:C:194:GLY:CA	2.45	0.45
1:A:833:U:H3	1:A:853:G:H1	1.64	0.45
2:B:204:ASN:ND2	2:B:207:ALA:H	2.14	0.45
24:Y:282:ARG:CB	24:Y:282:ARG:NH2	2.78	0.45
15:O:62:GLN:O	15:O:66:LEU:HD13	2.16	0.45
16:P:52:ASP:OD2	16:P:54:GLU:HB2	2.16	0.45
10:J:84:GLN:O	10:J:88:LEU:N	2.47	0.45
24:Y:193:SER:HB2	24:Y:202:HIS:HB2	1.98	0.45
6:F:28:ARG:HG3	6:F:28:ARG:HH11	1.81	0.45
24:Y:303:ARG:N	24:Y:304:PRO:CD	2.62	0.45
13:M:125:ARG:HD2	24:Y:165:ASP:CA	2.45	0.45
13:M:124:PRO:HB2	24:Y:163:GLY:O	2.16	0.45
1:A:1347:G:H5''	9:I:107:ARG:HB3	1.98	0.45
5:E:7:GLU:O	5:E:8:GLU:CB	2.64	0.45
24:Y:109:PHE:CB	24:Y:112:ALA:HB2	2.42	0.45
1:A:1123:A:O2'	10:J:38:ILE:HG22	2.16	0.45
1:A:963:G:N2	10:J:55:LYS:NZ	2.63	0.45
24:Y:157:THR:HG23	24:Y:165:ASP:HB3	1.98	0.45
4:D:165:MET:HB3	4:D:178:VAL:HG22	1.99	0.45
24:Y:326:THR:CG2	24:Y:328:LEU:HB2	2.46	0.45
12:L:35:GLY:HA3	12:L:58:VAL:CG1	2.46	0.45
1:A:1104:G:C4	1:A:1105:A:C8	3.05	0.45
12:L:53:ARG:CG	12:L:53:ARG:NH1	2.80	0.45
24:Y:189:LEU:O	24:Y:203:THR:HA	2.16	0.45
4:D:148:VAL:HG12	4:D:152:SER:HB2	1.98	0.45
10:J:38:ILE:CG1	10:J:71:LEU:HB3	2.46	0.45
22:W:15:G:H22	22:W:59:U:C1'	2.29	0.45
1:A:383:A:O2'	1:A:384:G:H5'	2.16	0.45
1:A:692:U:C5	11:K:26:ASN:ND2	2.85	0.45
2:B:36:ARG:O	2:B:37:ASN:CB	2.64	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
24:Y:220:VAL:HG12	24:Y:222:LEU:HD21	1.98	0.45
5:E:57:LYS:HE2	5:E:61:TYR:HE2	1.81	0.45
4:D:107:ARG:HG2	4:D:107:ARG:HH11	1.81	0.45
1:A:1049:U:H1'	1:A:1201:A:N7	2.31	0.45
20:T:102:GLY:O	20:T:104:LEU:N	2.49	0.45
1:A:473:G:H2'	1:A:474:G:H8	1.80	0.45
2:B:111:ARG:HH21	2:B:114:ARG:HG2	1.82	0.45
24:Y:332:ASP:O	24:Y:336:VAL:HG23	2.17	0.45
1:A:781:A:C3'	1:A:782:A:H5'	2.46	0.45
1:A:389:A:C2'	1:A:390:C:H5'	2.47	0.45
4:D:150:GLU:OE2	4:D:151:LYS:N	2.44	0.45
6:F:17:SER:O	6:F:20:ALA:HB3	2.17	0.45
1:A:1275:A:H2'	1:A:1276:G:H8	1.81	0.45
6:F:3:ARG:NH1	6:F:3:ARG:HG3	2.30	0.45
24:Y:14:ARG:CZ	24:Y:350:GLU:OE1	2.63	0.45
24:Y:50:GLN:HE21	24:Y:51:GLU:N	2.15	0.45
1:A:80:G:H3'	1:A:81:U:H5'	1.98	0.45
11:K:122:LYS:O	11:K:126:ARG:HG3	2.16	0.45
11:K:88:GLY:O	11:K:90:GLY:N	2.49	0.45
5:E:135:THR:O	5:E:138:ALA:HB3	2.17	0.45
18:R:44:LEU:N	18:R:44:LEU:HD12	2.31	0.45
1:A:1486:G:H2'	1:A:1487:G:C8	2.52	0.45
1:A:1225:A:N3	1:A:1225:A:H2'	2.30	0.45
14:N:34:TYR:CD1	14:N:34:TYR:N	2.85	0.45
2:B:162:ILE:O	2:B:162:ILE:HG13	2.16	0.45
24:Y:169:ILE:HG22	24:Y:170:LEU:N	2.31	0.45
14:N:41:ARG:HE	14:N:42:ILE:HD11	1.81	0.45
1:A:1202:G:N1	14:N:42:ILE:HG21	2.32	0.45
3:C:70:VAL:HG12	3:C:71:ALA:N	2.32	0.45
1:A:1371:G:OP2	9:I:11:LYS:HD2	2.16	0.45
4:D:13:ARG:CB	4:D:13:ARG:HH11	2.30	0.45
19:S:16:LEU:CD1	19:S:16:LEU:H	2.24	0.45
24:Y:83:GLU:HB3	24:Y:84:ARG:NH1	2.31	0.45
1:A:59:A:H5'	1:A:60:A:H5''	1.97	0.45
14:N:23:ARG:HH11	14:N:30:ALA:HB2	1.78	0.45
8:H:17:THR:HG22	8:H:63:LEU:HG	1.98	0.45
7:G:23:VAL:O	7:G:27:ILE:HG13	2.16	0.45
7:G:50:ILE:C	7:G:52:GLU:H	2.19	0.45
5:E:41:VAL:HG21	5:E:69:VAL:HG21	1.99	0.45
18:R:71:LYS:HA	18:R:74:ARG:CD	2.47	0.45
24:Y:191:ARG:C	24:Y:191:ARG:HD2	2.37	0.45
2:B:67:THR:HG21	2:B:155:LEU:CG	2.46	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
19:S:15:LEU:HD23	19:S:35:SER:OG	2.17	0.45
16:P:71:ARG:O	16:P:74:LEU:HB2	2.16	0.45
8:H:16:ALA:O	8:H:19:VAL:HG22	2.16	0.45
24:Y:317:ASP:HB3	24:Y:318:LYS:H	1.61	0.45
9:I:12:GLU:O	9:I:68:GLY:N	2.50	0.45
7:G:139:GLU:O	7:G:143:ARG:HG3	2.16	0.45
3:C:156:ARG:NH2	3:C:159:GLY:O	2.50	0.45
17:Q:9:VAL:CG1	17:Q:56:VAL:HG22	2.47	0.45
24:Y:222:LEU:HD22	24:Y:222:LEU:H	1.82	0.45
22:V:18:G:H21	22:V:58:A:H5'	1.81	0.45
17:Q:46:ASP:OD1	17:Q:49:GLU:HA	2.16	0.45
22:V:74:C:H2'	22:V:75:C:H5'	1.98	0.45
11:K:57:THR:HG23	11:K:60:ALA:CB	2.47	0.45
9:I:33:PHE:C	9:I:35:GLU:H	2.20	0.45
1:A:1227:A:C2'	1:A:1228:C:O5'	2.64	0.45
20:T:57:ARG:NH1	20:T:100:ILE:HG13	2.32	0.45
11:K:108:ILE:N	11:K:108:ILE:HD12	2.32	0.45
2:B:178:ARG:HH11	2:B:178:ARG:CG	2.30	0.45
5:E:7:GLU:HB3	5:E:112:LEU:HD13	1.99	0.45
10:J:42:THR:HG22	10:J:43:ARG:N	2.32	0.45
16:P:42:ARG:C	16:P:43:LYS:HD2	2.36	0.45
12:L:44:THR:HA	12:L:45:PRO:HD3	1.78	0.45
1:A:625:G:H4'	16:P:16:HIS:CG	2.52	0.45
1:A:377:G:O2'	1:A:378:G:H5'	2.16	0.45
4:D:151:LYS:O	4:D:155:LEU:HG	2.16	0.45
1:A:433:C:H2'	1:A:434:U:H6	1.79	0.45
1:A:502:G:C2	1:A:503:C:O2	2.70	0.45
1:A:1079:G:C6	1:A:1080:A:N6	2.85	0.45
12:L:7:ILE:O	12:L:10:LEU:HB2	2.17	0.45
1:A:12:U:H2'	1:A:13:U:H5''	1.98	0.45
1:A:110:C:H2'	1:A:111:G:O4'	2.17	0.45
2:B:102:LEU:CD1	2:B:102:LEU:N	2.80	0.45
23:X:19:U:H5'	23:X:20:A:OP2	2.16	0.45
1:A:417:C:O2'	1:A:418:C:H5'	2.17	0.45
1:A:1029:C:H2'	1:A:1030(A):G:C6	2.51	0.45
2:B:83:MET:O	2:B:85:ALA:N	2.50	0.45
19:S:41:VAL:CG1	19:S:42:PRO:HD2	2.47	0.45
19:S:43:GLU:CG	19:S:44:MET:HE1	2.43	0.45
3:C:88:ARG:HG2	3:C:101:LEU:HB3	1.98	0.45
7:G:100:ALA:C	7:G:104:LEU:HD23	2.36	0.45
13:M:19:LEU:HB3	13:M:25:ILE:HG21	1.98	0.45
13:M:67:GLU:CG	13:M:68:GLY:H	2.29	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:C:156:ARG:NH2	3:C:161:GLU:HA	2.31	0.45
10:J:63:PHE:HZ	14:N:45:ARG:HG3	1.81	0.45
1:A:826:C:C5'	8:H:12:ARG:HH21	2.29	0.45
8:H:12:ARG:NH1	8:H:27:PRO:CD	2.80	0.45
22:W:21:A:N6	22:W:46:G:C4	2.85	0.45
9:I:2:GLU:HG2	9:I:2:GLU:O	2.16	0.45
18:R:63:GLN:OE1	18:R:63:GLN:HA	2.16	0.45
22:W:18:G:H1	22:W:55:U:H1'	1.81	0.45
1:A:1202:G:C2	14:N:42:ILE:HG21	2.52	0.45
1:A:939:G:H2'	1:A:940:C:H6	1.81	0.45
4:D:13:ARG:NH2	4:D:36:ARG:HD3	2.32	0.45
24:Y:205:PHE:CZ	24:Y:307:TRP:HA	2.52	0.45
4:D:196:LEU:N	4:D:196:LEU:HD12	2.23	0.45
2:B:200:ILE:HG22	2:B:202:PRO:HD3	1.99	0.45
5:E:73:ASN:N	5:E:73:ASN:ND2	2.65	0.45
9:I:79:LEU:CD1	9:I:83:ARG:HH21	2.30	0.45
6:F:39:LYS:H	6:F:64:GLN:HB3	1.81	0.45
3:C:92:ALA:C	3:C:94:LEU:H	2.20	0.45
1:A:114:U:H2'	1:A:115:G:H8	1.82	0.45
1:A:429:U:H1'	1:A:430:A:H5''	1.99	0.45
2:B:207:ALA:C	2:B:209:ARG:N	2.70	0.45
8:H:12:ARG:HH12	8:H:27:PRO:HD2	1.82	0.45
2:B:95:GLN:NE2	2:B:147:LYS:HE2	2.32	0.45
1:A:161:A:O2'	1:A:162:A:H5'	2.17	0.45
1:A:763:G:H2'	1:A:764:C:H6	1.82	0.45
1:A:1310:G:O2'	1:A:1311:G:H5'	2.17	0.45
13:M:91:ARG:HH22	13:M:103:THR:HG21	1.81	0.44
12:L:17:LYS:HD3	12:L:18:VAL:HG22	1.99	0.44
9:I:71:SER:HA	9:I:74:ILE:HD12	1.98	0.44
1:A:413:G:H4'	1:A:414:A:C5'	2.36	0.44
17:Q:5:VAL:HA	17:Q:59:ILE:O	2.17	0.44
17:Q:65:ILE:HG22	17:Q:65:ILE:O	2.17	0.44
1:A:594:G:C2'	1:A:595:G:H5'	2.47	0.44
1:A:1293:G:O2'	1:A:1294:G:C8	2.70	0.44
24:Y:124:ALA:O	24:Y:129:ALA:HB2	2.16	0.44
24:Y:249:VAL:HG21	24:Y:272:LYS:HA	1.99	0.44
1:A:32:A:H2'	1:A:33:A:H8	1.79	0.44
6:F:97:PHE:N	18:R:30:ASP:OD1	2.50	0.44
6:F:97:PHE:CE2	18:R:65:ILE:HD12	2.52	0.44
2:B:204:ASN:HD21	2:B:207:ALA:H	1.63	0.44
24:Y:136:LEU:HD23	24:Y:139:MET:SD	2.58	0.44
1:A:1508:G:H2'	1:A:1509:C:O4'	2.16	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:T:100:ILE:O	20:T:100:ILE:HG13	2.16	0.44
1:A:735:C:C2	1:A:736:C:C5	3.05	0.44
13:M:116:THR:O	13:M:118:ALA:N	2.51	0.44
1:A:1305:G:H22	1:A:1331:G:C1'	2.30	0.44
1:A:1305:G:N2	1:A:1331:G:O2'	2.49	0.44
2:B:187:LEU:CD2	2:B:201:ILE:O	2.62	0.44
1:A:1374:A:H2'	1:A:1375:A:H8	1.81	0.44
5:E:72:GLN:O	5:E:73:ASN:HB2	2.16	0.44
1:A:1274:G:H2'	1:A:1275:A:C8	2.52	0.44
4:D:100:ARG:HH12	4:D:137:SER:CB	2.29	0.44
1:A:1168:A:H2'	1:A:1169:A:C8	2.52	0.44
1:A:1194:U:H2'	1:A:1195:C:H6	1.81	0.44
1:A:1402:C:H2'	1:A:1403:C:C6	2.52	0.44
1:A:1499:A:H1'	1:A:1520:G:C5'	2.47	0.44
15:O:39:LEU:CD1	15:O:56:LEU:HB2	2.47	0.44
20:T:72:LEU:HD21	20:T:80:ARG:HE	1.81	0.44
1:A:948:C:O2'	1:A:949:A:H5'	2.16	0.44
1:A:1508:G:H2'	1:A:1509:C:C6	2.52	0.44
1:A:278:G:OP2	17:Q:41:LYS:HE2	2.16	0.44
1:A:746:A:O2'	1:A:747:C:H5'	2.17	0.44
4:D:11:LEU:HD13	4:D:66:ARG:HD3	2.00	0.44
4:D:17:VAL:O	4:D:18:LYS:O	2.35	0.44
1:A:1133:G:C1'	1:A:1142:G:H22	2.30	0.44
10:J:4:ILE:HD13	10:J:74:ILE:HG13	1.99	0.44
12:L:26:ALA:O	12:L:27:LEU:O	2.35	0.44
24:Y:287:GLU:HA	24:Y:290:LYS:HE3	1.99	0.44
4:D:38:TYR:CD2	4:D:45:GLN:HB3	2.52	0.44
9:I:113:LYS:H	9:I:113:LYS:HD2	1.80	0.44
2:B:14:GLY:C	2:B:15:VAL:HG22	2.37	0.44
1:A:630:G:H2'	1:A:631:G:H5''	2.00	0.44
1:A:81:U:H2'	1:A:82:U:C5	2.53	0.44
24:Y:116:ALA:HB2	24:Y:177:TYR:HA	1.99	0.44
1:A:41:G:H2'	1:A:42:G:C8	2.52	0.44
20:T:10:LEU:O	20:T:12:ALA:N	2.42	0.44
4:D:180:GLY:O	4:D:182:LYS:HD2	2.17	0.44
1:A:1406:U:O2'	1:A:1407:C:H5'	2.17	0.44
24:Y:137:LEU:HD21	24:Y:169:ILE:CD1	2.48	0.44
6:F:30:LEU:H	6:F:30:LEU:CD2	2.03	0.44
3:C:121:ALA:HB2	3:C:198:VAL:CG2	2.44	0.44
4:D:12:CYS:O	4:D:33:MET:HE2	2.17	0.44
1:A:1034:G:H2'	1:A:1035:A:C6	2.52	0.44
5:E:51:VAL:O	5:E:55:VAL:HG23	2.17	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
19:S:48:THR:CG2	19:S:61:TYR:HD1	2.31	0.44
19:S:18:LYS:C	19:S:22:LEU:HD23	2.38	0.44
1:A:782:A:O3'	1:A:1515:C:H4'	2.17	0.44
4:D:119:GLN:HG2	4:D:123:HIS:HD2	1.79	0.44
24:Y:18:ASP:HB3	24:Y:22:LYS:CE	2.47	0.44
1:A:1157:A:H4'	1:A:1158:C:O5'	2.17	0.44
22:V:49:C:H2'	22:V:50:U:H6	1.83	0.44
6:F:3:ARG:HD3	6:F:64:GLN:NE2	2.32	0.44
3:C:91:LEU:C	3:C:93:LYS:N	2.70	0.44
1:A:985:C:H2'	1:A:986:A:C8	2.53	0.44
5:E:57:LYS:HB3	5:E:61:TYR:CE2	2.52	0.44
3:C:13:GLY:HA2	14:N:57:ARG:NE	2.32	0.44
4:D:104:VAL:O	4:D:104:VAL:HG12	2.17	0.44
1:A:1144:G:N2	1:A:1146:A:H62	2.14	0.44
1:A:1502:A:H2	1:A:1505:G:C2	2.35	0.44
10:J:3:LYS:HZ2	10:J:77:PRO:CD	2.30	0.44
9:I:47:LEU:C	9:I:49:PRO:HD2	2.38	0.44
2:B:43:ASP:O	2:B:46:LYS:HB2	2.18	0.44
17:Q:77:VAL:HG12	17:Q:78:GLU:N	2.33	0.44
1:A:404:U:H2'	1:A:405:U:C6	2.53	0.44
24:Y:318:LYS:HB2	24:Y:320:TYR:HE1	1.83	0.44
1:A:1053:G:H3'	1:A:1054:C:H5'	2.00	0.44
22:V:50:U:C2'	22:V:51:U:H5'	2.47	0.44
1:A:533:A:O2'	1:A:534:U:H5''	2.17	0.44
22:V:31:A:H2'	22:V:32:U:H6	1.82	0.44
1:A:688:G:H2'	1:A:689:C:C6	2.52	0.44
24:Y:248:ALA:HB2	24:Y:263:GLN:HG2	1.98	0.44
22:V:76:8AN:H2'	24:Y:240:GLN:H	1.83	0.44
1:A:84:U:C2'	1:A:88:A:H5'	2.48	0.44
1:A:577:G:C8	1:A:816:A:C6	3.06	0.44
7:G:32:ARG:HH11	7:G:32:ARG:HG2	1.81	0.44
1:A:1408:A:H2'	1:A:1409:C:H6	1.82	0.44
1:A:957:U:H2'	1:A:959:A:OP2	2.17	0.44
2:B:71:VAL:O	2:B:164:VAL:HA	2.18	0.44
1:A:962:C:H2'	1:A:963:G:C8	2.52	0.44
1:A:1134:G:H2'	1:A:1135:U:C5'	2.46	0.44
24:Y:326:THR:HG23	24:Y:327:GLY:N	2.33	0.44
1:A:657:G:H4'	15:O:28:GLN:HG2	2.00	0.44
10:J:32:ALA:HB3	10:J:75:ILE:HG13	1.98	0.44
9:I:14:VAL:HG12	9:I:15:ALA:N	2.33	0.44
1:A:1290:G:H2'	1:A:1290:G:N3	2.32	0.44
1:A:592:G:H2'	1:A:593:G:H8	1.83	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:G:113:GLU:CB	7:G:119:ARG:HG2	2.46	0.44
16:P:3:LYS:C	16:P:4:ILE:HD12	2.38	0.44
16:P:53:VAL:CG1	16:P:79:VAL:HG22	2.41	0.44
8:H:86:ILE:CG2	8:H:133:LEU:HD22	2.45	0.44
1:A:450:G:H4'	16:P:41:PRO:O	2.17	0.44
22:W:63:G:N3	22:W:63:G:H2'	2.33	0.44
1:A:1158:C:H42	1:A:1181:G:H1	1.64	0.44
1:A:1473:A:O2'	1:A:1474:G:H5'	2.18	0.44
1:A:186:C:H4'	20:T:82:SER:HB3	2.00	0.44
6:F:10:LEU:HD13	6:F:61:LEU:CD1	2.47	0.44
1:A:177:C:O2'	1:A:178:C:H5'	2.17	0.44
1:A:1497:G:C2'	1:A:1498:U:H5'	2.47	0.44
18:R:53:ARG:C	18:R:55:ARG:N	2.71	0.44
22:W:6:G:H21	22:W:7:A:H62	1.63	0.44
1:A:709:G:O2'	1:A:710:G:H5'	2.18	0.44
1:A:164:U:H2'	1:A:165:C:H6	1.82	0.44
1:A:9:G:H5''	5:E:122:GLU:CD	2.38	0.44
1:A:598:U:O2'	1:A:599:C:H5'	2.17	0.44
22:V:9:A:O2'	22:V:10:G:N7	2.51	0.44
24:Y:118:LEU:HD23	24:Y:209:GLU:O	2.18	0.44
1:A:960:U:O2	1:A:960:U:H2'	2.16	0.44
17:Q:59:ILE:CD1	17:Q:73:VAL:HA	2.48	0.44
24:Y:72:LEU:HA	24:Y:87:LEU:HD21	2.00	0.44
12:L:33:ARG:HG2	12:L:60:LEU:HD12	1.99	0.44
10:J:28:ARG:HH11	10:J:28:ARG:HG2	1.82	0.44
19:S:48:THR:HG22	19:S:61:TYR:HD1	1.83	0.44
17:Q:6:LEU:O	17:Q:58:GLU:HA	2.18	0.44
24:Y:77:GLU:H	24:Y:84:ARG:HG2	1.81	0.44
1:A:60:A:H4'	1:A:61:G:O5'	2.18	0.44
4:D:149:ALA:O	4:D:152:SER:N	2.50	0.44
6:F:43:LEU:HD23	6:F:46:ARG:HH11	1.82	0.44
4:D:3:ARG:O	4:D:4:TYR:C	2.56	0.44
4:D:206:PHE:HD2	4:D:207:TYR:CE2	2.35	0.44
13:M:58:GLU:O	13:M:60:VAL:N	2.51	0.44
1:A:867:G:H2'	1:A:868:C:H6	1.83	0.44
8:H:24:THR:HG22	8:H:63:LEU:HD21	1.99	0.44
13:M:29:ARG:HD3	13:M:64:TRP:CD2	2.53	0.44
24:Y:180:LEU:O	24:Y:210:VAL:HG21	2.16	0.44
13:M:97:PRO:O	13:M:98:VAL:HA	2.16	0.44
1:A:191:G:C1'	20:T:105:SER:HB3	2.44	0.44
1:A:192:U:H4'	20:T:57:ARG:HD2	2.00	0.44
4:D:14:ARG:HA	4:D:39:PRO:CB	2.48	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1320:C:C4	1:A:1321:C:C4	3.06	0.44
13:M:20:THR:C	13:M:22:ILE:H	2.21	0.44
10:J:61:GLU:OE2	14:N:45:ARG:HD2	2.17	0.44
12:L:82:VAL:HG12	12:L:83:VAL:N	2.33	0.44
1:A:712:A:O2'	1:A:713:G:H5'	2.18	0.44
1:A:740:U:H4'	15:O:39:LEU:HD23	2.00	0.44
7:G:137:LYS:HE2	7:G:141:VAL:HG23	1.99	0.44
4:D:99:SER:HB3	4:D:140:VAL:O	2.18	0.44
1:A:572:A:N3	1:A:917:G:H1'	2.33	0.44
4:D:16:GLY:HA2	4:D:33:MET:HE1	1.98	0.44
15:O:78:TYR:OH	15:O:88:ARG:HG3	2.18	0.44
3:C:71:ALA:HA	3:C:106:VAL:H	1.82	0.44
1:A:1372:U:OP1	9:I:71:SER:HB3	2.18	0.44
24:Y:87:LEU:O	24:Y:91:LEU:HD23	2.18	0.44
10:J:23:ILE:HG23	10:J:85:LEU:HD22	2.00	0.44
24:Y:191:ARG:HE	24:Y:194:PRO:HD3	1.83	0.44
1:A:1309:G:C6	1:A:1329:A:C2	3.05	0.44
10:J:98:ILE:N	10:J:98:ILE:HD12	2.33	0.44
1:A:1378:C:C5	1:A:1379:G:C4	3.05	0.44
6:F:64:GLN:O	6:F:65:VAL:HB	2.18	0.44
1:A:1452:C:H5'	1:A:1456:G:C4	2.52	0.44
24:Y:8:GLN:HG2	24:Y:98:LEU:HD13	1.99	0.44
1:A:148:G:H1	1:A:174:C:H42	1.66	0.44
16:P:18:ARG:HD3	16:P:35:LYS:CE	2.48	0.44
1:A:573:A:N3	1:A:883:C:O2'	2.45	0.44
1:A:868:C:H2'	1:A:869:G:O4'	2.18	0.44
1:A:629:G:H2'	1:A:630:G:C8	2.53	0.44
20:T:73:HIS:O	20:T:74:LYS:O	2.36	0.44
3:C:29:TYR:HD2	3:C:29:TYR:O	2.00	0.44
7:G:53:LYS:O	7:G:54:THR:HB	2.17	0.44
1:A:240:C:H2'	1:A:241:C:C6	2.53	0.44
1:A:1216:G:O2'	1:A:1217:C:H5'	2.18	0.44
1:A:1360:A:H2'	1:A:1361:G:O4'	2.17	0.44
1:A:975:A:C8	1:A:975:A:H5'	2.51	0.43
1:A:973:G:C3'	1:A:974:A:H5''	2.41	0.43
4:D:29:PRO:C	4:D:30:LYS:HG2	2.38	0.43
24:Y:345:ILE:HG22	24:Y:349:LEU:HG	1.99	0.43
9:I:17:VAL:HG22	9:I:81:ILE:CD1	2.48	0.43
3:C:58:GLU:O	3:C:59:ARG:CG	2.66	0.43
2:B:96:ARG:O	2:B:98:LEU:N	2.51	0.43
2:B:32:ILE:HA	2:B:42:ILE:HA	1.99	0.43
3:C:206:GLU:O	3:C:207:VAL:C	2.56	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
14:N:6:LEU:HD22	14:N:23:ARG:HH22	1.81	0.43
21:U:10:ARG:HA	21:U:13:ILE:HB	2.00	0.43
1:A:243:A:H4'	1:A:244:U:H5''	2.00	0.43
3:C:156:ARG:HD3	3:C:194:GLY:N	2.33	0.43
8:H:112:LEU:N	8:H:112:LEU:HD23	2.33	0.43
1:A:1317:C:P	14:N:17:LYS:HE2	2.58	0.43
5:E:139:LEU:C	5:E:141:GLN:H	2.19	0.43
1:A:311:C:HO2'	1:A:312:C:H5'	1.82	0.43
3:C:138:VAL:HG12	3:C:170:GLN:HE21	1.82	0.43
8:H:122:ARG:NH1	8:H:122:ARG:CB	2.80	0.43
1:A:125:U:H2'	1:A:126:G:H8	1.82	0.43
1:A:19:C:H5''	5:E:86:ALA:HB3	1.99	0.43
11:K:100:ALA:O	11:K:101:SER:HB3	2.18	0.43
13:M:37:THR:O	13:M:39:ILE:HG13	2.18	0.43
1:A:579:G:H2'	1:A:580:U:C6	2.53	0.43
3:C:69:HIS:N	3:C:69:HIS:CD2	2.85	0.43
24:Y:133:ALA:O	24:Y:137:LEU:HB2	2.18	0.43
10:J:50:ILE:CD1	10:J:50:ILE:H	2.07	0.43
20:T:89:ARG:HB2	20:T:104:LEU:CD1	2.49	0.43
1:A:15:G:C4'	5:E:24:ARG:HH22	2.31	0.43
1:A:1152:A:OP1	10:J:68:HIS:CD2	2.72	0.43
2:B:51:LEU:O	2:B:55:PHE:HD2	2.01	0.43
19:S:29:ARG:CD	19:S:30:LEU:N	2.72	0.43
4:D:59:ARG:HE	4:D:59:ARG:CA	2.18	0.43
1:A:651:C:H2'	1:A:652:U:C6	2.54	0.43
1:A:112:G:H4'	1:A:389:A:H5''	2.00	0.43
7:G:86:GLN:HG3	7:G:86:GLN:O	2.19	0.43
1:A:1287:A:H2	1:A:1353:G:N3	2.16	0.43
18:R:36:ASN:O	18:R:39:VAL:HB	2.18	0.43
4:D:61:LYS:HD3	4:D:206:PHE:CE2	2.53	0.43
4:D:98:GLU:OE2	4:D:103:ASN:ND2	2.51	0.43
24:Y:223:LYS:C	24:Y:225:GLU:N	2.69	0.43
1:A:1519:A:C3'	1:A:1520:G:H5'	2.48	0.43
22:W:9:A:OP1	22:W:9:A:H3'	2.18	0.43
20:T:96:GLY:O	20:T:97:ALA:C	2.56	0.43
2:B:66:GLY:HA2	2:B:160:ASP:OD2	2.19	0.43
13:M:94:ARG:NH1	19:S:81:ARG:HG3	2.33	0.43
2:B:93:VAL:HG21	2:B:97:TRP:HD1	1.81	0.43
4:D:18:LYS:HG3	4:D:31:CYS:HB3	2.00	0.43
19:S:16:LEU:O	19:S:17:GLU:C	2.57	0.43
24:Y:214:VAL:CG1	24:Y:215:ASP:H	2.16	0.43
22:W:68:C:O2'	22:W:69:G:H5'	2.18	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
24:Y:84:ARG:N	24:Y:84:ARG:HD3	2.33	0.43
1:A:1352:C:H2'	1:A:1353:G:H8	1.78	0.43
1:A:1203:C:O2'	1:A:1204:A:H5'	2.17	0.43
7:G:23:VAL:HG13	7:G:43:PHE:CE2	2.53	0.43
8:H:25:ASP:HA	8:H:59:LEU:O	2.19	0.43
1:A:248:C:O2'	1:A:249:U:H5'	2.18	0.43
6:F:22:GLU:C	6:F:24:GLU:N	2.70	0.43
2:B:74:LYS:HD2	2:B:169:LYS:HG3	2.01	0.43
2:B:77:ALA:O	2:B:78:GLN:C	2.56	0.43
3:C:152:ILE:O	3:C:198:VAL:HA	2.17	0.43
1:A:16:A:N1	1:A:919:A:H2	2.16	0.43
1:A:1026:G:H2'	1:A:1027:C:H5'	2.00	0.43
17:Q:59:ILE:HG22	17:Q:71:PHE:HD1	1.83	0.43
9:I:89:ASN:O	9:I:92:TYR:HB2	2.18	0.43
2:B:80:ILE:O	2:B:80:ILE:HG22	2.18	0.43
3:C:58:GLU:HB2	3:C:65:ALA:CB	2.48	0.43
24:Y:124:ALA:HB3	24:Y:205:PHE:CD1	2.54	0.43
24:Y:315:VAL:CG1	24:Y:320:TYR:O	2.67	0.43
1:A:1317:C:OP1	14:N:17:LYS:HE2	2.18	0.43
13:M:115:LYS:C	13:M:117:VAL:N	2.69	0.43
6:F:33:TYR:OH	6:F:78:GLU:HB2	2.18	0.43
2:B:19:HIS:CG	2:B:20:GLU:N	2.86	0.43
24:Y:256:THR:HG21	24:Y:258:ILE:CD1	2.48	0.43
1:A:690:G:C6	1:A:691:G:C6	3.06	0.43
15:O:54:ARG:HG2	15:O:58:MET:HE2	2.01	0.43
6:F:30:LEU:HD23	6:F:30:LEU:N	2.09	0.43
13:M:123:ALA:HB1	24:Y:162:ALA:HB2	1.99	0.43
13:M:125:ARG:HA	24:Y:160:PRO:N	2.34	0.43
10:J:3:LYS:N	10:J:74:ILE:O	2.51	0.43
2:B:178:ARG:HA	2:B:178:ARG:HD3	1.87	0.43
17:Q:45:HIS:CB	17:Q:65:ILE:HD13	2.47	0.43
12:L:32:PHE:HB3	12:L:84:LEU:HD22	2.00	0.43
2:B:115:LEU:O	2:B:118:LEU:HB2	2.19	0.43
3:C:88:ARG:HG2	3:C:101:LEU:CB	2.48	0.43
4:D:13:ARG:O	4:D:14:ARG:HB3	2.18	0.43
8:H:39:LEU:N	8:H:39:LEU:HD22	2.33	0.43
7:G:15:ASP:HB3	7:G:20:ASP:H	1.83	0.43
19:S:40:ILE:HD13	19:S:62:ILE:CD1	2.47	0.43
19:S:62:ILE:HA	19:S:66:MET:HE2	1.99	0.43
1:A:937:A:H1'	1:A:1379:G:N2	2.33	0.43
1:A:1452:C:H4'	1:A:1456:G:C5'	2.46	0.43
1:A:1077:G:N2	1:A:1080:A:OP2	2.48	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:134:A:H61	16:P:25:ARG:HH12	1.65	0.43
1:A:584:G:H2'	1:A:585:G:C8	2.54	0.43
2:B:95:GLN:HA	2:B:95:GLN:OE1	2.19	0.43
1:A:1298:C:C4	7:G:114:ARG:HD2	2.54	0.43
9:I:76:ALA:C	9:I:78:LYS:H	2.22	0.43
1:A:932:C:H5''	7:G:3:ARG:HD2	1.99	0.43
1:A:1109:C:O2'	1:A:1110:A:H5'	2.18	0.43
13:M:126:LYS:N	24:Y:162:ALA:H	2.15	0.43
1:A:226:G:H2'	1:A:227:G:H8	1.83	0.43
1:A:1004:A:H3'	1:A:1036:G:O6	2.18	0.43
1:A:624:C:O2'	16:P:10:GLY:HA2	2.18	0.43
7:G:15:ASP:OD1	7:G:18:TYR:HB2	2.19	0.43
8:H:134:ILE:O	8:H:135:CYS:HB3	2.19	0.43
20:T:41:ILE:HG13	20:T:42:GLN:N	2.34	0.43
3:C:83:ARG:C	3:C:85:ARG:H	2.22	0.43
13:M:66:LEU:O	13:M:70:LEU:N	2.52	0.43
13:M:58:GLU:C	13:M:60:VAL:N	2.71	0.43
2:B:56:ARG:HG2	2:B:56:ARG:HH11	1.84	0.43
2:B:133:LYS:O	2:B:137:ARG:HB2	2.18	0.43
1:A:291:C:O2'	1:A:292:G:H5'	2.18	0.43
4:D:153:ARG:HG2	4:D:181:MET:SD	2.58	0.43
14:N:13:THR:HG22	14:N:13:THR:O	2.18	0.43
22:W:18:G:N1	22:W:55:U:H1'	2.34	0.43
1:A:1049:U:O2'	1:A:1050:G:OP2	2.35	0.43
1:A:1134:G:N1	1:A:1142:G:C6	2.87	0.43
9:I:8:GLY:O	9:I:14:VAL:HG13	2.19	0.43
9:I:43:ALA:O	9:I:45:ALA:N	2.44	0.43
24:Y:71:GLY:O	24:Y:87:LEU:HD11	2.19	0.43
2:B:142:LEU:HA	2:B:145:LEU:CB	2.48	0.43
12:L:93:LEU:O	12:L:96:VAL:HG23	2.19	0.43
3:C:40:ARG:O	3:C:44:GLU:HB2	2.18	0.43
1:A:376:G:H5''	16:P:5:ARG:HB2	2.00	0.43
9:I:118:LYS:HZ2	9:I:118:LYS:CB	2.31	0.43
12:L:88:GLY:O	12:L:89:ARG:O	2.36	0.43
3:C:82:GLU:H	3:C:82:GLU:CD	2.21	0.43
10:J:8:LEU:C	10:J:16:LEU:HD21	2.39	0.43
22:V:20:U:C2'	22:V:21:A:H4'	2.46	0.43
1:A:177:C:OP1	20:T:65:LYS:HD3	2.19	0.43
1:A:119:A:H4'	1:A:120:A:O5'	2.19	0.43
8:H:1:MET:O	8:H:2:LEU:O	2.37	0.43
11:K:120:ARG:HA	11:K:121:PRO:HD3	1.80	0.43
24:Y:305:ILE:O	24:Y:305:ILE:HG22	2.17	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:L:27:LEU:HD12	12:L:64:TYR:CE1	2.54	0.43
7:G:113:GLU:HB2	7:G:119:ARG:CG	2.48	0.43
1:A:1327:C:H5''	21:U:20:LYS:HB3	2.01	0.43
14:N:21:TYR:OH	14:N:23:ARG:NH2	2.51	0.43
3:C:99:VAL:O	3:C:99:VAL:HG23	2.18	0.43
1:A:1062:U:H2'	1:A:1063:C:C5	2.54	0.43
1:A:1280:A:H5'	10:J:40:LEU:HD22	2.00	0.43
4:D:191:ARG:NE	4:D:200:GLU:OE1	2.49	0.43
21:U:5:ASP:O	21:U:11:GLY:HA3	2.18	0.43
24:Y:233:ARG:HE	24:Y:233:ARG:HB2	1.64	0.43
20:T:89:ARG:CZ	20:T:104:LEU:HD21	2.49	0.43
5:E:76:ILE:HG13	5:E:142:LEU:CD1	2.47	0.43
11:K:21:ILE:HA	11:K:30:VAL:HG12	2.01	0.43
24:Y:345:ILE:O	24:Y:349:LEU:HG	2.19	0.43
22:V:4:C:H2'	22:V:5:G:C8	2.53	0.43
3:C:52:LEU:CD2	3:C:52:LEU:N	2.79	0.43
19:S:11:VAL:CG1	19:S:16:LEU:HD11	2.46	0.43
4:D:46:LYS:O	4:D:47:ARG:C	2.56	0.43
17:Q:7:THR:HG22	17:Q:58:GLU:HA	1.99	0.43
22:W:8:U:C2'	22:W:8:U:O2	2.60	0.43
1:A:1179:A:O2'	1:A:1180:A:H5'	2.19	0.43
13:M:66:LEU:N	13:M:70:LEU:HD12	2.34	0.43
3:C:155:GLY:O	3:C:156:ARG:CB	2.66	0.43
1:A:986:A:H2'	1:A:987:G:H8	1.81	0.43
1:A:1020:U:H2'	1:A:1021:G:C8	2.54	0.43
4:D:98:GLU:O	4:D:100:ARG:N	2.52	0.43
4:D:194:LEU:HD22	4:D:194:LEU:N	2.34	0.43
17:Q:22:LEU:HD11	17:Q:39:SER:HB2	2.01	0.43
7:G:67:GLU:HA	7:G:67:GLU:OE2	2.18	0.43
1:A:227:G:O2'	1:A:228:A:H5'	2.19	0.43
1:A:418:C:H2'	1:A:419:C:C6	2.52	0.43
9:I:40:LEU:C	9:I:42:ARG:N	2.71	0.43
1:A:993:G:N3	1:A:993:G:H2'	2.33	0.43
12:L:48:PRO:C	12:L:49:ASN:HD22	2.22	0.43
24:Y:251:VAL:HG11	24:Y:276:LEU:HD23	2.01	0.43
1:A:393:A:C2	1:A:394:G:C8	3.07	0.43
8:H:119:LEU:HB2	8:H:124:ALA:HB2	2.01	0.43
6:F:45:LEU:HD23	6:F:46:ARG:N	2.32	0.43
13:M:80:ARG:HH22	19:S:69:HIS:CE1	2.36	0.43
3:C:156:ARG:CD	3:C:194:GLY:HA3	2.48	0.43
3:C:47:LEU:HD21	3:C:68:VAL:CG1	2.48	0.43
14:N:39:LEU:HD13	14:N:47:LEU:HD12	2.01	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:19:C:H2'	1:A:20:U:H6	1.84	0.43
3:C:23:TYR:CG	3:C:24:ALA:N	2.87	0.43
15:O:65:ARG:HG2	15:O:65:ARG:NH1	2.33	0.43
1:A:409:G:H5'	4:D:25:ARG:HB2	1.99	0.42
1:A:253:U:H2'	1:A:254:G:H8	1.84	0.42
2:B:46:LYS:HE3	2:B:46:LYS:CA	2.47	0.42
1:A:1293:G:O2'	1:A:1294:G:P	2.78	0.42
24:Y:336:VAL:HG13	24:Y:341:LEU:HD23	2.01	0.42
22:W:47:U:O2'	22:W:48:C:C5'	2.61	0.42
16:P:4:ILE:N	16:P:4:ILE:HD12	2.34	0.42
16:P:12:LYS:C	16:P:14:ASN:H	2.23	0.42
1:A:1250:A:H61	1:A:1354:C:H1'	1.84	0.42
1:A:1353:G:O2'	1:A:1354:C:H5'	2.19	0.42
21:U:12:LYS:HB3	21:U:22:ARG:HD2	2.01	0.42
22:W:53:G:C2	22:W:62:C:C4	3.07	0.42
6:F:37:VAL:HG12	6:F:38:GLU:N	2.34	0.42
6:F:5:GLU:HB3	6:F:62:TRP:HE1	1.82	0.42
8:H:83:ILE:O	8:H:83:ILE:HG23	2.19	0.42
1:A:197:A:C6	1:A:221:C:H5'	2.54	0.42
3:C:148:GLY:HA2	3:C:172:ARG:H	1.84	0.42
3:C:138:VAL:CG2	3:C:151:VAL:HG23	2.49	0.42
8:H:29:SER:HB3	8:H:32:LYS:HB2	2.01	0.42
22:V:66:U:H2'	22:V:67:C:H6	1.83	0.42
1:A:341:C:O2'	1:A:342:C:H5'	2.19	0.42
1:A:1109:C:C2'	1:A:1110:A:H5'	2.49	0.42
24:Y:38:LEU:HD21	24:Y:48:VAL:HG21	2.01	0.42
4:D:145:GLU:HG2	4:D:184:LYS:NZ	2.34	0.42
2:B:97:TRP:CH2	2:B:176:GLU:OE2	2.72	0.42
24:Y:290:LYS:HB2	24:Y:294:GLU:OE1	2.20	0.42
1:A:522:C:O2'	1:A:523:A:H5'	2.19	0.42
19:S:22:LEU:CD1	19:S:27:GLU:HB2	2.48	0.42
16:P:20:VAL:HG21	16:P:32:TYR:CB	2.49	0.42
1:A:353:A:H2'	1:A:354:G:OP2	2.19	0.42
7:G:139:GLU:O	7:G:143:ARG:N	2.50	0.42
5:E:110:LEU:CD2	5:E:139:LEU:HD21	2.49	0.42
6:F:78:GLU:HA	6:F:78:GLU:OE2	2.19	0.42
1:A:542:G:H2'	1:A:543:C:H6	1.83	0.42
4:D:10:ARG:HG2	4:D:10:ARG:O	2.18	0.42
1:A:1281:U:H5'	1:A:1282:C:H5	1.84	0.42
11:K:88:GLY:C	11:K:90:GLY:H	2.23	0.42
12:L:7:ILE:HD12	12:L:7:ILE:HA	1.94	0.42
20:T:73:HIS:O	20:T:76:ALA:HB3	2.18	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:I:99:LEU:HB3	9:I:101:PHE:CE1	2.54	0.42
1:A:52:G:O2'	1:A:53:A:H5'	2.20	0.42
2:B:41:ILE:HD12	2:B:41:ILE:N	2.34	0.42
2:B:168:THR:O	2:B:171:ALA:N	2.53	0.42
10:J:50:ILE:HD11	14:N:41:ARG:HH11	1.83	0.42
10:J:49:VAL:CG2	10:J:50:ILE:N	2.82	0.42
1:A:1505:G:H4'	1:A:1506:U:C5'	2.48	0.42
9:I:81:ILE:O	9:I:81:ILE:HG22	2.18	0.42
19:S:21:GLU:HG3	19:S:22:LEU:HD22	2.01	0.42
12:L:47:LYS:C	12:L:49:ASN:H	2.21	0.42
2:B:98:LEU:HB2	2:B:101:MET:CE	2.50	0.42
24:Y:319:ASN:HA	24:Y:333:PRO:HG3	2.01	0.42
20:T:42:GLN:HA	20:T:42:GLN:NE2	2.34	0.42
3:C:83:ARG:C	3:C:85:ARG:N	2.72	0.42
1:A:1250:A:C2	1:A:1370:G:H1'	2.54	0.42
1:A:1055:A:H2	3:C:194:GLY:CA	2.31	0.42
1:A:693:G:H2'	1:A:694:A:O4'	2.19	0.42
1:A:745:C:H1'	1:A:836:G:O2'	2.19	0.42
24:Y:177:TYR:CZ	24:Y:212:PRO:HD3	2.54	0.42
3:C:29:TYR:CE1	10:J:65:LEU:HD21	2.54	0.42
5:E:57:LYS:HA	5:E:60:TYR:HB3	2.00	0.42
7:G:92:SER:O	7:G:93:PRO:C	2.57	0.42
1:A:188:C:H2'	1:A:189:G:H8	1.85	0.42
7:G:9:VAL:O	7:G:10:ARG:C	2.57	0.42
24:Y:118:LEU:HD23	24:Y:210:VAL:HG22	2.00	0.42
13:M:88:ARG:HH11	13:M:88:ARG:HG2	1.84	0.42
9:I:63:ILE:HD13	9:I:77:ILE:CG2	2.49	0.42
18:R:66:LEU:O	18:R:70:ILE:HG13	2.18	0.42
24:Y:312:ARG:HB2	24:Y:312:ARG:CZ	2.49	0.42
1:A:1357:A:N6	1:A:1363(A):A:H2	2.17	0.42
13:M:48:LEU:HG	13:M:53:VAL:CG2	2.50	0.42
2:B:187:LEU:HA	2:B:201:ILE:O	2.18	0.42
4:D:206:PHE:CD2	4:D:207:TYR:CE2	3.08	0.42
24:Y:30:GLU:HA	24:Y:33:LEU:CD1	2.49	0.42
1:A:448:A:P	1:A:485:G:H22	2.43	0.42
1:A:759:A:H2'	1:A:760:G:H5'	2.01	0.42
16:P:82:GLN:OE1	16:P:82:GLN:N	2.45	0.42
8:H:72:PRO:O	8:H:73:ASP:HB3	2.19	0.42
1:A:955:U:H2'	1:A:956:U:O4'	2.20	0.42
1:A:973:G:C1'	10:J:55:LYS:HE2	2.48	0.42
2:B:58:ILE:O	2:B:62:ALA:N	2.50	0.42
12:L:27:LEU:C	12:L:29:GLY:N	2.73	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
19:S:29:ARG:HD3	19:S:30:LEU:H	1.79	0.42
2:B:43:ASP:OD2	2:B:46:LYS:HD2	2.19	0.42
2:B:112:VAL:C	2:B:114:ARG:N	2.71	0.42
20:T:13:LEU:O	20:T:17:ARG:HG3	2.20	0.42
1:A:59:A:H2'	1:A:59:A:N3	2.35	0.42
1:A:1346:A:H5''	9:I:120:ARG:HH12	1.84	0.42
6:F:3:ARG:NH1	6:F:38:GLU:OE1	2.53	0.42
4:D:88:VAL:HG13	5:E:97:GLY:CA	2.50	0.42
11:K:126:ARG:O	11:K:127:LYS:C	2.58	0.42
1:A:836:G:C6	1:A:851:G:C6	3.07	0.42
2:B:95:GLN:NE2	2:B:147:LYS:CE	2.83	0.42
1:A:151:A:C2'	1:A:152:A:H5'	2.50	0.42
1:A:343:U:O2'	1:A:344:A:H2'	2.19	0.42
1:A:705:U:C5	1:A:706:A:C5	3.07	0.42
1:A:617:G:H1	1:A:623:C:H42	1.66	0.42
1:A:1527:C:O5'	1:A:1527:C:H6	2.02	0.42
12:L:54:LYS:N	12:L:54:LYS:HD2	2.34	0.42
4:D:128:VAL:CG1	4:D:129:ASN:ND2	2.82	0.42
3:C:173:VAL:N	3:C:174:PRO:HD3	2.34	0.42
10:J:58:ASP:O	10:J:60:ARG:N	2.52	0.42
24:Y:260:VAL:HG11	24:Y:278:ILE:HB	2.02	0.42
5:E:93:PRO:CG	8:H:105:ARG:HH21	2.27	0.42
1:A:376:G:P	16:P:67:THR:HG21	2.60	0.42
17:Q:7:THR:HA	17:Q:57:VAL:O	2.19	0.42
2:B:50:GLU:OE1	2:B:200:ILE:HB	2.19	0.42
1:A:715:A:H2'	1:A:716:A:C8	2.55	0.42
11:K:124:LYS:CB	11:K:124:LYS:NZ	2.83	0.42
1:A:149:A:O2'	1:A:150:C:P	2.78	0.42
12:L:82:VAL:O	12:L:83:VAL:HG23	2.19	0.42
8:H:122:ARG:NH1	8:H:122:ARG:HB2	2.35	0.42
1:A:216:G:C2	1:A:217:C:N3	2.87	0.42
8:H:63:LEU:N	8:H:63:LEU:HD22	2.35	0.42
10:J:45:ARG:HB3	10:J:65:LEU:HB3	2.01	0.42
3:C:141:VAL:HG11	3:C:202:ILE:HG23	2.01	0.42
1:A:1109:C:H2'	1:A:1110:A:O4'	2.19	0.42
3:C:186:PHE:HZ	3:C:188:LEU:HD11	1.83	0.42
13:M:124:PRO:HB3	24:Y:158:PRO:HB3	2.02	0.42
3:C:16:ARG:HB2	3:C:16:ARG:CZ	2.49	0.42
1:A:458:C:H2'	1:A:460:G:O4'	2.20	0.42
1:A:424:G:N3	1:A:425:G:C8	2.88	0.42
12:L:60:LEU:C	12:L:62:SER:N	2.72	0.42
19:S:12:ASP:O	19:S:16:LEU:HD12	2.20	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1249:C:H4'	9:I:36:TYR:OH	2.19	0.42
12:L:102:ARG:HG2	12:L:102:ARG:HH11	1.85	0.42
24:Y:6:LEU:C	24:Y:8:GLN:H	2.23	0.42
1:A:640:A:O2'	1:A:641:U:H5'	2.20	0.42
20:T:26:ASN:HB2	20:T:71:THR:HG23	2.00	0.42
2:B:37:ASN:OD1	2:B:37:ASN:O	2.38	0.42
1:A:662:G:H2'	1:A:663:A:C8	2.55	0.42
5:E:135:THR:O	5:E:136:MET:C	2.56	0.42
3:C:111:LEU:HD23	3:C:141:VAL:HG13	2.00	0.42
7:G:50:ILE:C	7:G:52:GLU:N	2.73	0.42
1:A:1438:G:H2'	1:A:1439:C:C6	2.54	0.42
13:M:81:LEU:HB3	13:M:89:GLY:HA2	2.01	0.42
20:T:57:ARG:NH1	20:T:100:ILE:CG1	2.82	0.42
15:O:25:THR:O	15:O:26:GLU:C	2.57	0.42
1:A:418:C:N4	1:A:426:G:N1	2.67	0.42
2:B:83:MET:HB3	2:B:234:PRO:HG2	2.02	0.42
24:Y:54:ARG:CZ	24:Y:54:ARG:HB3	2.46	0.42
4:D:68:TYR:CD1	4:D:68:TYR:N	2.87	0.42
12:L:38:THR:HG23	12:L:57:LYS:O	2.19	0.42
1:A:1302:U:H5	13:M:17:VAL:HG21	1.85	0.42
24:Y:55:LEU:O	24:Y:59:VAL:HB	2.20	0.42
15:O:22:THR:OG1	15:O:23:GLY:N	2.52	0.42
2:B:220:ASP:C	2:B:222:ILE:N	2.73	0.42
1:A:983:A:N1	1:A:1222:G:N2	2.68	0.42
14:N:39:LEU:CD1	14:N:47:LEU:HD12	2.49	0.42
1:A:350:G:O2'	1:A:351:G:H5'	2.20	0.42
5:E:107:ARG:O	5:E:108:ALA:C	2.56	0.42
3:C:60:ALA:O	3:C:61:ALA:CB	2.67	0.42
1:A:287:U:O2'	1:A:288:A:H5'	2.19	0.42
3:C:90:GLU:HA	3:C:90:GLU:OE1	2.20	0.42
13:M:108:ARG:H	13:M:108:ARG:HD2	1.83	0.42
1:A:192:U:H1'	20:T:103:GLY:HA2	2.01	0.42
1:A:656:C:H2'	1:A:657:G:C8	2.54	0.42
1:A:926:G:H21	1:A:1505:G:H2'	1.84	0.42
22:V:71:G:C3'	22:V:72:C:H5''	2.50	0.42
12:L:84:LEU:HB3	12:L:101:VAL:HB	2.01	0.42
16:P:50:LYS:HD3	16:P:50:LYS:C	2.40	0.42
1:A:1318:A:H1'	19:S:37:ARG:NH2	2.31	0.42
11:K:84:VAL:CG2	11:K:110:ASP:HA	2.49	0.42
1:A:1512:U:H2'	1:A:1513:A:H8	1.84	0.42
1:A:1328:C:H2'	1:A:1329:A:H8	1.85	0.42
13:M:15:VAL:O	13:M:19:LEU:CD2	2.68	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
24:Y:320:TYR:HB2	24:Y:330:ARG:O	2.20	0.42
2:B:136:VAL:HA	2:B:139:LYS:HB2	2.01	0.42
12:L:102:ARG:CG	12:L:102:ARG:NH1	2.83	0.42
1:A:556:C:C2'	1:A:557:G:H5'	2.50	0.42
1:A:373:A:H2'	1:A:374:A:H8	1.85	0.42
18:R:19:LYS:O	18:R:20:ALA:CB	2.67	0.42
1:A:9:G:O2'	1:A:10:A:H5'	2.19	0.42
2:B:105:PHE:HZ	2:B:156:LYS:HA	1.84	0.42
17:Q:29:HIS:HA	17:Q:30:PRO:HD2	1.81	0.42
24:Y:198:SER:HB2	24:Y:200:ARG:HG3	2.02	0.42
13:M:5:ALA:O	13:M:6:GLY:C	2.58	0.42
19:S:78:ARG:HD2	19:S:81:ARG:NH1	2.34	0.42
3:C:58:GLU:H	3:C:65:ALA:HB3	1.85	0.42
14:N:53:LEU:HA	14:N:54:PRO:HD3	1.88	0.42
10:J:28:ARG:NH1	10:J:28:ARG:HG2	2.34	0.42
19:S:31:ILE:HG22	19:S:48:THR:O	2.19	0.42
1:A:991:U:O2	1:A:993:G:C8	2.73	0.42
24:Y:344:LEU:N	24:Y:344:LEU:HD23	2.35	0.42
3:C:182:ILE:HG12	3:C:203:PHE:HD1	1.84	0.42
1:A:353:A:C2'	1:A:354:G:OP2	2.67	0.42
16:P:12:LYS:O	16:P:13:HIS:HB2	2.19	0.42
3:C:75:VAL:O	3:C:75:VAL:HG12	2.19	0.42
2:B:139:LYS:C	2:B:143:GLU:HG3	2.40	0.42
7:G:105:VAL:O	7:G:108:ALA:HB3	2.20	0.42
6:F:92:LYS:NZ	6:F:92:LYS:HB2	2.34	0.42
1:A:666:G:H5'	1:A:726:C:H1'	2.02	0.42
1:A:575:G:H4'	1:A:576:G:H5'	2.02	0.42
8:H:4:ASP:CG	8:H:85:ARG:HH21	2.23	0.42
24:Y:306:GLU:HA	24:Y:306:GLU:OE2	2.20	0.42
1:A:1131:G:C6	1:A:1132:C:N4	2.88	0.41
10:J:4:ILE:CD1	10:J:4:ILE:N	2.79	0.41
10:J:4:ILE:HB	10:J:74:ILE:HD11	2.01	0.41
1:A:15:G:H4'	5:E:24:ARG:CZ	2.50	0.41
24:Y:122:PRO:HB3	24:Y:130:CYS:HA	2.01	0.41
7:G:113:GLU:HB2	7:G:119:ARG:HG2	2.01	0.41
4:D:150:GLU:CG	4:D:151:LYS:N	2.83	0.41
12:L:22:SER:C	12:L:24:VAL:N	2.73	0.41
9:I:104:ARG:HG3	9:I:104:ARG:HH11	1.84	0.41
5:E:151:LEU:HD11	8:H:77:GLU:OE2	2.20	0.41
3:C:155:GLY:O	3:C:196:LEU:HD13	2.20	0.41
1:A:1015:A:O5'	1:A:1015:A:H8	2.03	0.41
24:Y:25:ARG:HH12	24:Y:29:LEU:HD23	1.84	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:F:42:GLU:C	6:F:44:GLY:H	2.23	0.41
20:T:96:GLY:O	20:T:97:ALA:O	2.38	0.41
9:I:108:VAL:O	9:I:110:GLU:N	2.53	0.41
1:A:1417:G:N2	1:A:1482:G:H2'	2.34	0.41
24:Y:118:LEU:HD11	24:Y:180:LEU:HD13	2.02	0.41
2:B:97:TRP:HH2	2:B:176:GLU:HB2	1.84	0.41
24:Y:151:VAL:CG1	24:Y:169:ILE:HG21	2.50	0.41
15:O:82:ILE:HD13	15:O:83:GLU:N	2.35	0.41
24:Y:72:LEU:C	24:Y:74:GLU:H	2.24	0.41
16:P:45:THR:HG23	16:P:46:PRO:CD	2.47	0.41
21:U:2:GLY:C	21:U:4:GLY:N	2.72	0.41
1:A:389:A:H2'	1:A:390:C:C5'	2.50	0.41
18:R:37:VAL:HG23	18:R:38:GLU:N	2.26	0.41
1:A:1111:A:O2'	1:A:1112:C:H5'	2.19	0.41
3:C:81:GLY:O	3:C:85:ARG:HB2	2.21	0.41
8:H:35:ILE:HD13	8:H:118:VAL:HG11	2.02	0.41
1:A:950:U:H4'	1:A:971:G:C2	2.55	0.41
1:A:1011:G:H1	1:A:1018:C:N4	2.19	0.41
4:D:73:ARG:NH1	4:D:73:ARG:HG2	2.35	0.41
1:A:1170:A:C2'	1:A:1171:G:H5'	2.51	0.41
1:A:978:A:OP2	1:A:1363:C:N4	2.46	0.41
4:D:42:GLN:O	4:D:42:GLN:CG	2.67	0.41
1:A:49:U:O2	1:A:362:G:H1'	2.19	0.41
1:A:1376:U:H2'	1:A:1377:A:C8	2.55	0.41
5:E:127:ASN:O	5:E:128:PRO:C	2.58	0.41
2:B:164:VAL:HG11	2:B:170:GLU:HB2	2.01	0.41
20:T:57:ARG:HH12	20:T:100:ILE:CG1	2.33	0.41
2:B:145:LEU:O	2:B:149:LEU:HB2	2.20	0.41
9:I:113:LYS:H	9:I:119:ALA:HA	1.85	0.41
14:N:4:LYS:HD3	14:N:7:ILE:HD11	2.02	0.41
22:W:15:G:H22	22:W:59:U:C2'	2.33	0.41
24:Y:320:TYR:CA	24:Y:333:PRO:HD3	2.49	0.41
24:Y:330:ARG:NH2	24:Y:343:ASP:OD1	2.54	0.41
3:C:74:GLY:O	3:C:76:VAL:N	2.54	0.41
13:M:66:LEU:O	13:M:70:LEU:HB2	2.20	0.41
1:A:1434:A:O2'	1:A:1435:G:H5'	2.18	0.41
1:A:189(C):C:C2'	1:A:189(D):C:H5'	2.50	0.41
1:A:1463:C:H2'	1:A:1464:G:C8	2.54	0.41
1:A:890:G:O2'	1:A:906:G:O6	2.37	0.41
4:D:128:VAL:CG1	4:D:129:ASN:N	2.59	0.41
3:C:14:ILE:O	3:C:16:ARG:N	2.52	0.41
5:E:8:GLU:CA	5:E:34:VAL:HG23	2.50	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:J:25:GLU:C	10:J:27:ALA:H	2.24	0.41
1:A:521:G:O5'	12:L:73:GLU:HG2	2.20	0.41
19:S:12:ASP:HB3	19:S:14:HIS:CE1	2.55	0.41
4:D:196:LEU:H	4:D:196:LEU:CD1	2.24	0.41
24:Y:83:GLU:CG	24:Y:83:GLU:O	2.68	0.41
1:A:536:C:H2'	1:A:537:G:C8	2.54	0.41
1:A:1316:G:O3'	14:N:18:VAL:HG13	2.20	0.41
1:A:832:C:O2'	1:A:833:U:P	2.77	0.41
1:A:148:G:O2'	1:A:149:A:H5'	2.20	0.41
1:A:559:A:H4'	1:A:560:U:C5'	2.49	0.41
14:N:12:ARG:HB2	14:N:12:ARG:CZ	2.49	0.41
1:A:1206:G:O2'	3:C:193:TYR:HA	2.20	0.41
1:A:629:G:H2'	1:A:630:G:O4'	2.20	0.41
1:A:355:C:C4	1:A:356:A:N7	2.88	0.41
11:K:31:THR:O	11:K:31:THR:HG23	2.20	0.41
7:G:54:THR:OG1	7:G:56:GLN:HG2	2.21	0.41
7:G:95:ARG:O	7:G:96:GLN:C	2.59	0.41
23:X:17:U:O2'	23:X:18:C:H5'	2.21	0.41
10:J:18:ALA:O	10:J:22:LYS:HB2	2.21	0.41
22:W:11:C:O5'	22:W:11:C:H6	2.03	0.41
2:B:193:ASP:OD2	2:B:193:ASP:O	2.38	0.41
1:A:963:G:N2	10:J:55:LYS:HD2	2.36	0.41
11:K:20:TYR:O	11:K:30:VAL:HA	2.21	0.41
1:A:253:U:H2'	1:A:254:G:C8	2.55	0.41
1:A:267:C:OP2	17:Q:67:LYS:HD2	2.20	0.41
3:C:113:ALA:HB1	3:C:185:GLY:N	2.36	0.41
17:Q:50:LYS:HG2	17:Q:51:TYR:CE1	2.56	0.41
1:A:1374:A:C4	1:A:1375:A:C8	3.08	0.41
4:D:132:ARG:NH1	4:D:132:ARG:CG	2.84	0.41
2:B:119:GLU:C	2:B:121:LEU:N	2.74	0.41
2:B:119:GLU:O	2:B:121:LEU:N	2.52	0.41
1:A:1254:C:H2'	1:A:1255:G:H8	1.85	0.41
1:A:1269:A:H2	1:A:1312:G:N3	2.17	0.41
21:U:6:ARG:HG2	21:U:15:ARG:NH1	2.35	0.41
13:M:67:GLU:O	13:M:69:GLU:N	2.54	0.41
13:M:68:GLY:O	13:M:69:GLU:HB2	2.20	0.41
22:W:52:G:H1'	22:W:63:G:O6	2.20	0.41
22:W:36:A:H2'	22:W:37:A:O4'	2.20	0.41
2:B:12:GLU:O	2:B:14:GLY:N	2.53	0.41
1:A:1018:C:H2'	1:A:1019:C:O4'	2.19	0.41
4:D:61:LYS:HA	4:D:203:VAL:HG22	2.01	0.41
7:G:129:GLU:O	7:G:129:GLU:HG2	2.19	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
24:Y:235:SER:H	24:Y:263:GLN:NE2	2.18	0.41
1:A:767:A:H2'	1:A:768:A:O4'	2.21	0.41
1:A:141:A:H1'	1:A:182:U:O2	2.21	0.41
3:C:122:GLU:C	3:C:124:ILE:N	2.74	0.41
1:A:276:G:C5	1:A:277:C:C5	3.08	0.41
1:A:570:G:H2'	1:A:571:U:C6	2.55	0.41
22:W:2:C:H2'	22:W:2:C:O2	2.19	0.41
18:R:85:LEU:HD12	18:R:85:LEU:N	2.36	0.41
1:A:972:C:OP2	10:J:57:LYS:HE2	2.21	0.41
10:J:76:ASN:HA	10:J:77:PRO:HD2	1.92	0.41
5:E:41:VAL:HG21	5:E:113:ALA:CB	2.51	0.41
7:G:113:GLU:O	7:G:119:ARG:HD3	2.20	0.41
1:A:328:C:HO2'	1:A:329:A:P	2.42	0.41
1:A:1054:C:C3'	1:A:1054:C:O2	2.65	0.41
1:A:272:C:O2'	1:A:273:A:H5'	2.21	0.41
18:R:53:ARG:NH2	18:R:59:SER:HA	2.36	0.41
4:D:58:LEU:CD2	4:D:62:GLN:CG	2.98	0.41
1:A:827:U:H2'	1:A:870:U:O4	2.20	0.41
1:A:851:G:H2'	1:A:852:G:H8	1.85	0.41
1:A:1224:G:H4'	13:M:102:ARG:HH11	1.85	0.41
1:A:1416:G:C6	1:A:1417:G:C4	3.09	0.41
19:S:6:LYS:N	19:S:6:LYS:CD	2.83	0.41
24:Y:188:ARG:HB2	24:Y:310:GLN:CG	2.33	0.41
24:Y:188:ARG:HH21	24:Y:313:SER:HB3	1.86	0.41
10:J:49:VAL:HG23	14:N:41:ARG:HD3	2.01	0.41
13:M:125:ARG:CD	24:Y:165:ASP:HA	2.51	0.41
1:A:1129:C:H41	1:A:1135:U:H3	1.68	0.41
11:K:30:VAL:HG21	11:K:65:ALA:HA	2.03	0.41
18:R:88:LYS:CD	18:R:88:LYS:C	2.85	0.41
9:I:4:TYR:HB3	9:I:84:ALA:HB1	2.03	0.41
24:Y:279:LEU:HD23	24:Y:283:LEU:HG	2.02	0.41
7:G:116:ALA:H	7:G:118:VAL:HG22	1.86	0.41
13:M:13:LYS:HA	13:M:44:ARG:NH1	2.32	0.41
13:M:22:ILE:N	13:M:22:ILE:HD12	2.34	0.41
4:D:199:ASN:ND2	4:D:202:LEU:HG	2.35	0.41
2:B:44:LEU:CD1	2:B:44:LEU:N	2.81	0.41
1:A:142:G:H2'	1:A:143:A:C8	2.55	0.41
6:F:80:ARG:HG3	6:F:88:VAL:CG2	2.51	0.41
12:L:74:GLY:O	12:L:102:ARG:NH2	2.54	0.41
24:Y:6:LEU:CD2	24:Y:9:ARG:HD2	2.51	0.41
1:A:557:G:H2'	1:A:558:G:C8	2.56	0.41
4:D:73:ARG:HG2	4:D:73:ARG:HH11	1.85	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
22:V:76:8AN:H4'	22:V:76:8AN:O1P	2.19	0.41
1:A:598:U:H4'	8:H:94:TYR:CD2	2.55	0.41
11:K:32:ILE:HD12	11:K:68:ALA:O	2.21	0.41
11:K:40:ILE:HG23	11:K:75:TYR:CD2	2.55	0.41
7:G:47:CYS:HB3	7:G:58:PRO:HG3	2.02	0.41
5:E:116:THR:HG22	5:E:116:THR:O	2.20	0.41
2:B:174:VAL:HG13	2:B:184:VAL:HG11	2.03	0.41
24:Y:115:ASN:HB3	24:Y:172:LYS:HA	2.01	0.41
5:E:103:GLY:C	5:E:105:VAL:H	2.23	0.41
11:K:108:ILE:HG22	18:R:88:LYS:HB3	2.02	0.41
12:L:91:LYS:HA	12:L:91:LYS:HE2	2.03	0.41
7:G:15:ASP:OD2	7:G:16:LEU:N	2.51	0.41
1:A:59:A:H3'	1:A:331:G:H22	1.86	0.41
4:D:101:LEU:HD23	4:D:121:VAL:CG1	2.51	0.41
1:A:1221:G:H4'	19:S:77:THR:HG21	2.03	0.41
2:B:35:GLU:HA	2:B:39:ILE:O	2.21	0.41
11:K:92:GLU:HG3	11:K:96:ARG:CD	2.50	0.41
10:J:87:THR:C	10:J:89:ASP:N	2.74	0.41
1:A:335:C:H2'	1:A:336:C:H6	1.86	0.41
1:A:28:G:O2'	1:A:296:U:H5''	2.20	0.41
5:E:94:ALA:O	5:E:117:ASP:HB3	2.21	0.41
15:O:11:VAL:O	15:O:14:GLU:HB3	2.21	0.41
22:V:1:G:N3	22:V:1:G:H2'	2.36	0.41
1:A:960:U:O2'	1:A:1223:C:H4'	2.21	0.41
14:N:41:ARG:HH11	14:N:41:ARG:HG2	1.86	0.41
3:C:11:ARG:O	3:C:12:LEU:C	2.59	0.41
4:D:17:VAL:O	4:D:17:VAL:CG1	2.67	0.41
4:D:25:ARG:NH1	4:D:30:LYS:O	2.54	0.41
1:A:1128:C:O2'	1:A:1130:A:C8	2.73	0.41
15:O:33:THR:CG2	15:O:85:LEU:HD21	2.37	0.41
11:K:21:ILE:CD1	11:K:21:ILE:N	2.81	0.41
10:J:13:HIS:NE2	10:J:14:LYS:HG3	2.36	0.41
12:L:27:LEU:O	12:L:28:LYS:HB3	2.20	0.41
12:L:28:LYS:NZ	12:L:33:ARG:HH22	2.19	0.41
12:L:35:GLY:HA3	12:L:58:VAL:HG11	2.02	0.41
19:S:41:VAL:O	19:S:44:MET:SD	2.79	0.41
10:J:26:ALA:HA	10:J:29:ARG:NH1	2.23	0.41
24:Y:312:ARG:CZ	24:Y:344:LEU:HD12	2.51	0.41
24:Y:336:VAL:O	24:Y:338:ASP:N	2.54	0.41
12:L:38:THR:O	12:L:79:GLU:HG2	2.21	0.41
24:Y:276:LEU:C	24:Y:278:ILE:H	2.25	0.41
1:A:782:A:H4'	1:A:1514:C:O2'	2.20	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
8:H:91:ARG:NH1	8:H:91:ARG:CG	2.80	0.41
24:Y:76:MET:HG3	24:Y:88:LYS:HZ3	1.84	0.41
2:B:200:ILE:CG2	2:B:201:ILE:N	2.84	0.41
10:J:16:LEU:HD23	10:J:94:VAL:HG11	2.02	0.41
6:F:45:LEU:CD2	6:F:45:LEU:C	2.88	0.41
5:E:144:THR:C	5:E:146:ALA:N	2.74	0.41
22:W:52:G:C2	22:W:62:C:N4	2.89	0.41
1:A:971:G:OP1	1:A:971:G:H3'	2.21	0.41
20:T:30:LYS:O	20:T:33:ILE:HB	2.21	0.41
6:F:10:LEU:HD13	6:F:61:LEU:HD13	2.03	0.41
1:A:1058:G:C5	1:A:1059:C:C4	3.09	0.41
1:A:1410:G:N2	1:A:1490:C:O2	2.53	0.41
7:G:108:ALA:C	7:G:110:GLN:H	2.23	0.41
24:Y:25:ARG:NH1	24:Y:29:LEU:HD23	2.35	0.41
24:Y:50:GLN:HE21	24:Y:50:GLN:C	2.22	0.41
1:A:1525:G:O2'	1:A:1526:G:H5'	2.20	0.41
5:E:140:ARG:CG	5:E:140:ARG:O	2.68	0.41
17:Q:90:ILE:HA	17:Q:93:GLN:HB3	2.02	0.41
1:A:818:G:C2'	1:A:819:A:H5''	2.51	0.41
1:A:1065:U:HO2'	1:A:1066:C:P	2.44	0.41
9:I:78:LYS:NZ	9:I:78:LYS:CB	2.83	0.41
24:Y:92:GLU:OE2	24:Y:93:GLU:HB2	2.21	0.41
5:E:57:LYS:O	5:E:61:TYR:HD2	2.03	0.41
15:O:74:ASP:HA	15:O:75:PRO:HD2	1.94	0.41
3:C:19:GLU:O	3:C:19:GLU:HG2	2.21	0.41
1:A:547:A:H4'	1:A:548:G:O5'	2.21	0.41
2:B:165:VAL:CG2	2:B:166:ASP:N	2.81	0.41
6:F:26:ILE:O	6:F:30:LEU:CD2	2.69	0.41
5:E:63:ARG:C	5:E:65:ASN:H	2.24	0.41
9:I:19:LEU:C	9:I:20:ARG:HG3	2.41	0.41
2:B:111:ARG:HH11	2:B:111:ARG:HG2	1.86	0.41
11:K:44:SER:H	11:K:47:VAL:CG2	2.33	0.41
2:B:91:PRO:CG	2:B:155:LEU:HD23	2.52	0.41
7:G:145:ALA:O	7:G:146:GLU:HB3	2.21	0.41
16:P:59:TRP:CE3	16:P:59:TRP:HA	2.55	0.41
14:N:4:LYS:C	14:N:6:LEU:H	2.23	0.41
3:C:76:VAL:O	3:C:84:ILE:HB	2.21	0.41
1:A:382:A:C2	1:A:383:A:C4	3.09	0.41
6:F:14:LEU:HB3	6:F:18:GLN:HB2	2.03	0.41
1:A:175:C:H2'	1:A:176:C:C6	2.56	0.41
1:A:763:G:O2'	1:A:764:C:H5'	2.21	0.41
1:A:1215:G:O2'	1:A:1216:G:H5'	2.21	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:524:G:C6	1:A:525:C:N4	2.89	0.41
9:I:128:ARG:OXT	9:I:128:ARG:HG2	2.21	0.41
16:P:80:PHE:CD1	16:P:80:PHE:N	2.89	0.41
1:A:193:C:H2'	1:A:194:C:C6	2.55	0.40
7:G:102:ARG:HG2	7:G:106:GLN:NE2	2.24	0.40
15:O:26:GLU:HA	15:O:81:LEU:HD22	2.02	0.40
1:A:656:C:O2'	15:O:28:GLN:OE1	2.38	0.40
1:A:1056:U:O2'	1:A:1057:G:H5'	2.21	0.40
1:A:1289:A:H3'	1:A:1290:G:H8	1.87	0.40
3:C:32:LEU:CB	3:C:59:ARG:HH22	2.23	0.40
5:E:101:ILE:H	5:E:101:ILE:CD1	2.29	0.40
6:F:68:PRO:HG2	6:F:71:ARG:CG	2.39	0.40
24:Y:311:ILE:HD12	24:Y:325:ARG:HH21	1.87	0.40
2:B:76:GLN:H	2:B:76:GLN:HG3	1.57	0.40
16:P:67:THR:HG22	16:P:68:ASP:N	2.36	0.40
24:Y:61:THR:C	24:Y:63:ARG:H	2.24	0.40
1:A:320:C:H2'	1:A:321:A:O4'	2.21	0.40
10:J:6:ILE:HA	10:J:97:GLU:O	2.21	0.40
6:F:55:ASP:C	6:F:57:GLN:H	2.25	0.40
5:E:146:ALA:O	5:E:147:ASP:C	2.59	0.40
22:W:51:U:C4	22:W:52:G:C2	3.09	0.40
1:A:659:U:HO2'	1:A:660:G:H5'	1.86	0.40
3:C:196:LEU:N	3:C:196:LEU:HD22	2.37	0.40
1:A:951:G:H1'	1:A:970:C:O2'	2.21	0.40
2:B:25:ASN:HA	2:B:26:PRO:HD2	1.83	0.40
15:O:43:LEU:HD11	15:O:53:HIS:HA	2.01	0.40
10:J:79:ARG:HA	10:J:82:ILE:HG12	2.03	0.40
13:M:123:ALA:CB	24:Y:162:ALA:HB2	2.51	0.40
10:J:3:LYS:HD2	10:J:77:PRO:CG	2.38	0.40
24:Y:106:LEU:HD13	24:Y:106:LEU:C	2.40	0.40
5:E:6:PHE:CB	5:E:34:VAL:HG22	2.44	0.40
8:H:88:LYS:HB3	8:H:89:PRO:CD	2.44	0.40
1:A:624:C:O2'	1:A:625:G:H5'	2.22	0.40
1:A:684:A:H2'	1:A:685:G:H8	1.86	0.40
1:A:1374:A:C5	1:A:1375:A:N7	2.89	0.40
1:A:503:C:C6	1:A:504:C:H5	2.39	0.40
22:W:63:G:H2'	22:W:64:A:C5'	2.48	0.40
1:A:142:G:H2'	1:A:143:A:H8	1.87	0.40
1:A:383:A:H2'	1:A:384:G:C4'	2.52	0.40
2:B:15:VAL:C	2:B:16:HIS:CG	2.94	0.40
2:B:19:HIS:CD2	2:B:20:GLU:OE1	2.74	0.40
7:G:60:LYS:C	7:G:62:PHE:H	2.25	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:D:156:GLU:O	4:D:159:ARG:N	2.49	0.40
24:Y:46:ARG:NH1	24:Y:50:GLN:HB2	2.36	0.40
17:Q:22:LEU:HD12	17:Q:23:VAL:N	2.35	0.40
5:E:64:ARG:HB2	5:E:64:ARG:CZ	2.51	0.40
4:D:182:LYS:HB3	4:D:183:GLY:H	1.74	0.40
13:M:90:LEU:O	13:M:91:ARG:HB2	2.21	0.40
23:X:14:A:H2	23:X:15:A:N6	2.16	0.40
1:A:1030(B):C:C2'	1:A:1030(C):G:H5'	2.51	0.40
1:A:1343:G:C1'	9:I:121:ARG:HH12	2.34	0.40
2:B:7:VAL:HA	2:B:217:ARG:HH22	1.86	0.40
22:V:44:G:H2'	22:V:45:U:C5'	2.49	0.40
4:D:58:LEU:CD2	4:D:62:GLN:HG2	2.50	0.40
1:A:1401:G:H2'	1:A:1402:C:O4'	2.21	0.40
1:A:80:G:N1	1:A:88:A:OP2	2.55	0.40
1:A:1060:C:O2'	1:A:1061:G:H5'	2.21	0.40
7:G:46:ALA:O	7:G:49:ILE:N	2.52	0.40
8:H:61:VAL:O	8:H:63:LEU:HD22	2.21	0.40
1:A:1207:G:H2'	1:A:1208:C:C6	2.56	0.40
1:A:1414:U:H2'	1:A:1415:G:H8	1.86	0.40
1:A:817:C:H1'	1:A:819:A:H5'	2.03	0.40
1:A:295:C:H2'	1:A:296:U:H6	1.87	0.40
5:E:57:LYS:HB3	5:E:61:TYR:HE2	1.85	0.40
1:A:141:A:H1'	1:A:182:U:C2	2.56	0.40
3:C:3:ASN:HB2	3:C:4:LYS:H	1.75	0.40
3:C:25:GLY:C	3:C:27:LYS:H	2.24	0.40
13:M:73:GLU:O	13:M:76:ALA:HB3	2.20	0.40
8:H:127:LEU:HD22	8:H:127:LEU:N	2.37	0.40
22:W:17:C:O2	22:W:17:C:C2'	2.67	0.40
13:M:122:LYS:O	13:M:123:ALA:HB2	2.21	0.40
4:D:12:CYS:HA	4:D:19:LEU:N	2.27	0.40
1:A:363:A:N7	12:L:30:ALA:HB1	2.36	0.40
19:S:44:MET:HE3	19:S:44:MET:HA	2.03	0.40
3:C:113:ALA:O	3:C:115:LEU:N	2.54	0.40
1:A:770:C:O2'	1:A:771:G:H5'	2.21	0.40
13:M:28:ALA:C	13:M:30:ALA:N	2.74	0.40
3:C:127:ARG:CD	3:C:127:ARG:N	2.80	0.40
4:D:101:LEU:HD23	4:D:121:VAL:HG11	2.03	0.40
2:B:86:GLU:C	2:B:88:ALA:N	2.74	0.40
5:E:150:ARG:HA	5:E:153:LYS:CE	2.45	0.40
21:U:12:LYS:HD2	21:U:12:LYS:N	2.37	0.40
5:E:139:LEU:C	5:E:141:GLN:N	2.75	0.40
11:K:124:LYS:HZ3	11:K:124:LYS:HB3	1.86	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
19:S:33:THR:CG2	19:S:51:VAL:HA	2.51	0.40
7:G:151:TYR:N	7:G:151:TYR:CD1	2.90	0.40
2:B:213:LEU:HD23	2:B:213:LEU:C	2.41	0.40
14:N:15:LYS:HB3	14:N:16:PHE:CE2	2.57	0.40
8:H:121:ASP:OD2	8:H:122:ARG:HG3	2.21	0.40
1:A:554:C:H2'	1:A:555:C:C6	2.56	0.40
1:A:976:G:H22	1:A:1362:C:H2'	1.80	0.40
1:A:1120:G:H1	1:A:1153:C:H42	1.69	0.40
9:I:10:ARG:HD2	9:I:105:ASP:N	2.36	0.40
8:H:105:ARG:O	8:H:105:ARG:HG3	2.21	0.40
13:M:14:ARG:C	13:M:16:ASP:H	2.25	0.40
1:A:491:G:O2'	1:A:492:G:H5'	2.22	0.40
1:A:439:A:H2'	1:A:441:A:O5'	2.22	0.40
1:A:1479:C:H2'	1:A:1480:G:C8	2.48	0.40
2:B:13:ALA:O	2:B:14:GLY:C	2.59	0.40
1:A:153:C:O2'	1:A:154:C:H5'	2.21	0.40
10:J:86:MET:HG3	10:J:87:THR:HG23	2.03	0.40
1:A:1332:A:H2'	1:A:1333:A:H8	1.87	0.40
1:A:760:G:H2'	1:A:761:G:C5'	2.51	0.40
10:J:88:LEU:O	10:J:88:LEU:HG	2.21	0.40
1:A:764:C:O2'	1:A:765:G:H5'	2.22	0.40
20:T:97:ALA:HA	20:T:98:PRO:HD2	1.93	0.40

There are no symmetry-related clashes.

## 5.3 Torsion angles

### 5.3.1 Protein backbone ⓘ

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution. The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
2	B	233/256 (91%)	127 (54%)	71 (30%)	35 (15%)	0	1
3	C	205/239 (86%)	129 (63%)	40 (20%)	36 (18%)	0	0
4	D	206/209 (99%)	139 (68%)	45 (22%)	22 (11%)	1	5
5	E	149/162 (92%)	115 (77%)	23 (15%)	11 (7%)	2	11
6	F	99/101 (98%)	70 (71%)	21 (21%)	8 (8%)	1	10

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
7	G	153/156 (98%)	117 (76%)	26 (17%)	10 (6%)	2	15
8	H	136/138 (99%)	106 (78%)	23 (17%)	7 (5%)	3	22
9	I	121/128 (94%)	86 (71%)	24 (20%)	11 (9%)	1	8
10	J	97/105 (92%)	70 (72%)	22 (23%)	5 (5%)	3	21
11	K	117/129 (91%)	86 (74%)	27 (23%)	4 (3%)	6	32
12	L	123/132 (93%)	84 (68%)	21 (17%)	18 (15%)	0	2
13	M	113/126 (90%)	71 (63%)	25 (22%)	17 (15%)	0	1
14	N	58/61 (95%)	40 (69%)	13 (22%)	5 (9%)	1	9
15	O	86/89 (97%)	66 (77%)	18 (21%)	2 (2%)	10	45
16	P	82/88 (93%)	58 (71%)	17 (21%)	7 (8%)	1	9
17	Q	98/105 (93%)	76 (78%)	13 (13%)	9 (9%)	1	7
18	R	68/88 (77%)	45 (66%)	16 (24%)	7 (10%)	1	6
19	S	77/93 (83%)	44 (57%)	22 (29%)	11 (14%)	0	2
20	T	97/106 (92%)	63 (65%)	26 (27%)	8 (8%)	1	10
21	U	23/27 (85%)	16 (70%)	5 (22%)	2 (9%)	1	9
24	Y	349/351 (99%)	263 (75%)	65 (19%)	21 (6%)	2	17
All	All	2690/2889 (93%)	1871 (70%)	563 (21%)	256 (10%)	1	7

All (256) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	B	12	GLU
2	B	15	VAL
2	B	19	HIS
2	B	20	GLU
2	B	64	ARG
2	B	97	TRP
2	B	123	ALA
2	B	135	GLN
2	B	194	PRO
2	B	195	ASP
3	C	15	THR
3	C	47	LEU
3	C	52	LEU
3	C	79	ARG
3	C	165	THR

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Mol	Chain	Res	Type
3	C	167	TRP
3	C	207	VAL
4	D	3	ARG
4	D	4	TYR
4	D	5	ILE
4	D	30	LYS
4	D	44	GLY
4	D	110	PHE
4	D	129	ASN
4	D	156	GLU
4	D	177	ASP
5	E	11	ILE
5	E	21	ALA
5	E	153	LYS
6	F	40	VAL
7	G	115	ARG
8	H	2	LEU
9	I	41	VAL
9	I	44	VAL
9	I	89	ASN
10	J	57	LYS
11	K	25	TYR
12	L	18	VAL
12	L	27	LEU
12	L	46	LYS
12	L	89	ARG
12	L	91	LYS
12	L	92	ASP
12	L	115	LYS
13	M	4	ILE
13	M	63	THR
13	M	107	ALA
13	M	116	THR
13	M	117	VAL
16	P	52	ASP
18	R	20	ALA
18	R	37	VAL
19	S	10	PHE
19	S	28	LYS
20	T	11	SER
20	T	74	LYS
21	U	3	LYS

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Mol	Chain	Res	Type
24	Y	160	PRO
24	Y	217	GLU
24	Y	303	ARG
24	Y	317	ASP
2	B	24	TRP
2	B	26	PRO
2	B	66	GLY
2	B	84	GLU
2	B	154	LEU
2	B	165	VAL
2	B	181	PHE
2	B	204	ASN
2	B	230	VAL
3	C	4	LYS
3	C	18	TRP
3	C	45	LYS
3	C	61	ALA
3	C	73	PRO
3	C	74	GLY
3	C	156	ARG
4	D	18	LYS
4	D	24	GLU
4	D	99	SER
4	D	176	LEU
4	D	178	VAL
6	F	29	ALA
6	F	80	ARG
6	F	81	ILE
7	G	7	ALA
7	G	17	VAL
7	G	54	THR
8	H	41	ARG
8	H	91	ARG
9	I	95	LYS
9	I	98	PRO
9	I	109	VAL
10	J	32	ALA
10	J	36	GLY
10	J	59	SER
11	K	89	ALA
11	K	101	SER
12	L	19	ARG

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Mol	Chain	Res	Type
12	L	22	SER
12	L	26	ALA
12	L	47	LYS
12	L	66	VAL
12	L	121	GLY
13	M	3	ARG
13	M	12	ASN
13	M	15	VAL
13	M	59	TYR
13	M	68	GLY
13	M	100	GLY
13	M	124	PRO
14	N	15	LYS
14	N	36	PHE
14	N	60	SER
16	P	50	LYS
16	P	63	GLY
17	Q	34	LYS
17	Q	66	SER
17	Q	68	ARG
17	Q	74	LEU
17	Q	99	SER
18	R	52	PRO
18	R	61	LYS
19	S	29	ARG
19	S	30	LEU
19	S	64	GLU
20	T	25	ARG
20	T	103	GLY
21	U	25	LYS
24	Y	7	ALA
24	Y	114	LYS
24	Y	158	PRO
24	Y	174	GLU
24	Y	237	PRO
24	Y	305	ILE
24	Y	337	LEU
2	B	18	GLY
2	B	52	GLU
2	B	62	ALA
2	B	83	MET
2	B	120	ALA

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Mol	Chain	Res	Type
2	B	153	ARG
2	B	232	PRO
3	C	29	TYR
3	C	81	GLY
3	C	91	LEU
3	C	94	LEU
3	C	206	GLU
4	D	157	LEU
5	E	7	GLU
5	E	20	GLN
5	E	27	ARG
7	G	58	PRO
7	G	116	ALA
7	G	149	ARG
8	H	27	PRO
8	H	50	ARG
8	H	133	LEU
9	I	102	LEU
12	L	23	LYS
13	M	106	ASN
16	P	49	LEU
17	Q	12	SER
19	S	26	GLY
20	T	73	HIS
24	Y	127	THR
24	Y	214	VAL
24	Y	220	VAL
24	Y	281	ALA
2	B	113	HIS
2	B	130	ARG
2	B	227	GLY
3	C	20	SER
3	C	46	GLU
3	C	127	ARG
3	C	180	ALA
3	C	181	ASN
3	C	196	LEU
4	D	29	PRO
4	D	34	GLU
4	D	104	VAL
4	D	108	LEU
4	D	162	LEU

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Mol	Chain	Res	Type
5	E	72	GLN
5	E	105	VAL
6	F	65	VAL
6	F	70	ASP
8	H	86	ILE
9	I	10	ARG
9	I	117	HIS
10	J	84	GLN
11	K	102	GLY
12	L	51	ALA
13	M	21	TYR
13	M	28	ALA
15	O	23	GLY
16	P	44	THR
18	R	38	GLU
18	R	54	ARG
19	S	17	GLU
20	T	28	ALA
20	T	97	ALA
24	Y	37	SER
24	Y	340	ASP
2	B	8	LYS
2	B	13	ALA
2	B	76	GLN
2	B	131	PRO
3	C	14	ILE
3	C	26	LYS
3	C	54	ARG
3	C	168	ALA
3	C	193	TYR
4	D	7	PRO
5	E	8	GLU
7	G	100	ALA
9	I	121	ARG
12	L	71	PRO
12	L	90	VAL
14	N	16	PHE
16	P	64	ALA
17	Q	30	PRO
18	R	25	THR
19	S	42	PRO
19	S	65	ASN

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Mol	Chain	Res	Type
20	T	71	THR
24	Y	200	ARG
24	Y	231	VAL
2	B	229	VAL
3	C	141	VAL
3	C	179	ARG
6	F	43	LEU
7	G	90	GLU
9	I	77	ILE
13	M	31	LYS
13	M	67	GLU
17	Q	47	PRO
17	Q	77	VAL
19	S	18	LYS
4	D	105	VAL
14	N	14	PRO
16	P	65	GLN
19	S	45	VAL
24	Y	333	PRO
3	C	75	VAL
6	F	88	VAL
15	O	87	ILE
2	B	239	VAL
3	C	55	VAL
3	C	96	GLY
5	E	148	VAL
24	Y	224	PRO
3	C	145	GLY
5	E	128	PRO
7	G	130	GLY
12	L	101	VAL

### 5.3.2 Protein sidechains ⓘ

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution. The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
2	B	202/220 (92%)	185 (92%)	17 (8%)	16 52

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
3	C	160/188 (85%)	146 (91%)	14 (9%)	14	49
4	D	180/181 (99%)	160 (89%)	20 (11%)	9	33
5	E	115/123 (94%)	110 (96%)	5 (4%)	40	80
6	F	90/90 (100%)	87 (97%)	3 (3%)	50	86
7	G	126/127 (99%)	121 (96%)	5 (4%)	42	82
8	H	119/119 (100%)	115 (97%)	4 (3%)	49	86
9	I	98/99 (99%)	89 (91%)	9 (9%)	13	45
10	J	88/92 (96%)	82 (93%)	6 (7%)	22	62
11	K	90/99 (91%)	86 (96%)	4 (4%)	39	79
12	L	104/109 (95%)	90 (86%)	14 (14%)	6	22
13	M	99/101 (98%)	92 (93%)	7 (7%)	21	61
14	N	49/50 (98%)	45 (92%)	4 (8%)	17	53
15	O	79/80 (99%)	73 (92%)	6 (8%)	19	58
16	P	72/74 (97%)	68 (94%)	4 (6%)	30	70
17	Q	94/97 (97%)	92 (98%)	2 (2%)	66	92
18	R	61/77 (79%)	59 (97%)	2 (3%)	50	86
19	S	69/80 (86%)	60 (87%)	9 (13%)	6	23
20	T	76/82 (93%)	70 (92%)	6 (8%)	18	55
21	U	19/22 (86%)	17 (90%)	2 (10%)	10	35
24	Y	298/298 (100%)	267 (90%)	31 (10%)	10	36
All	All	2288/2408 (95%)	2114 (92%)	174 (8%)	19	58

All (174) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	B	15	VAL
2	B	17	PHE
2	B	24	TRP
2	B	36	ARG
2	B	46	LYS
2	B	69	LEU
2	B	119	GLU
2	B	137	ARG
2	B	140	HIS
2	B	145	LEU

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Mol	Chain	Res	Type
2	B	172	ILE
2	B	178	ARG
2	B	195	ASP
2	B	196	LEU
2	B	204	ASN
2	B	206	ASP
2	B	232	PRO
3	C	3	ASN
3	C	5	ILE
3	C	16	ARG
3	C	29	TYR
3	C	34	LEU
3	C	52	LEU
3	C	82	GLU
3	C	104	GLN
3	C	107	GLN
3	C	108	ASN
3	C	127	ARG
3	C	156	ARG
3	C	193	TYR
3	C	196	LEU
4	D	3	ARG
4	D	9	CYS
4	D	10	ARG
4	D	13	ARG
4	D	15	GLU
4	D	20	TYR
4	D	35	ARG
4	D	38	TYR
4	D	59	ARG
4	D	86	LYS
4	D	97	LEU
4	D	107	ARG
4	D	110	PHE
4	D	129	ASN
4	D	131	ARG
4	D	132	ARG
4	D	135	LEU
4	D	158	ILE
4	D	170	VAL
4	D	200	GLU
5	E	12	LEU

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Mol	Chain	Res	Type
5	E	16	THR
5	E	20	GLN
5	E	79	GLU
5	E	101	ILE
6	F	16	GLN
6	F	30	LEU
6	F	69	GLU
7	G	57	GLU
7	G	62	PHE
7	G	72	ARG
7	G	113	GLU
7	G	137	LYS
8	H	1	MET
8	H	27	PRO
8	H	65	TYR
8	H	102	ARG
9	I	10	ARG
9	I	48	GLU
9	I	91	ASP
9	I	92	TYR
9	I	95	LYS
9	I	114	TYR
9	I	121	ARG
9	I	125	TYR
9	I	128	ARG
10	J	22	LYS
10	J	46	ARG
10	J	50	ILE
10	J	62	HIS
10	J	63	PHE
10	J	96	ILE
11	K	103	LEU
11	K	117	ASN
11	K	124	LYS
11	K	125	PHE
12	L	20	LYS
12	L	27	LEU
12	L	38	THR
12	L	40	VAL
12	L	41	ARG
12	L	47	LYS
12	L	53	ARG

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Mol	Chain	Res	Type
12	L	80	HIS
12	L	83	VAL
12	L	84	LEU
12	L	85	ILE
12	L	89	ARG
12	L	102	ARG
12	L	110	VAL
13	M	47	ASP
13	M	64	TRP
13	M	79	LYS
13	M	92	HIS
13	M	93	ARG
13	M	108	ARG
13	M	115	LYS
14	N	6	LEU
14	N	16	PHE
14	N	33	VAL
14	N	41	ARG
15	O	7	GLU
15	O	22	THR
15	O	39	LEU
15	O	41	GLU
15	O	65	ARG
15	O	82	ILE
16	P	1	MET
16	P	17	TYR
16	P	55	ARG
16	P	69	THR
17	Q	38	ARG
17	Q	52	LYS
18	R	31	LEU
18	R	32	ARG
19	S	5	LEU
19	S	6	LYS
19	S	7	LYS
19	S	15	LEU
19	S	27	GLU
19	S	29	ARG
19	S	37	ARG
19	S	44	MET
19	S	65	ASN
20	T	26	ASN

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Mol	Chain	Res	Type
20	T	30	LYS
20	T	73	HIS
20	T	75	ASN
20	T	93	GLU
20	T	100	ILE
21	U	9	ARG
21	U	12	LYS
24	Y	16	TYR
24	Y	21	GLN
24	Y	25	ARG
24	Y	30	GLU
24	Y	41	ASP
24	Y	46	ARG
24	Y	50	GLN
24	Y	66	GLU
24	Y	68	ASP
24	Y	75	LEU
24	Y	84	ARG
24	Y	92	GLU
24	Y	93	GLU
24	Y	102	TYR
24	Y	132	TRP
24	Y	191	ARG
24	Y	195	PHE
24	Y	209	GLU
24	Y	219	GLU
24	Y	233	ARG
24	Y	240	GLN
24	Y	243	ASN
24	Y	246	ASP
24	Y	265	THR
24	Y	274	LEU
24	Y	291	ARG
24	Y	295	LEU
24	Y	317	ASP
24	Y	318	LYS
24	Y	335	ASN
24	Y	344	LEU

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (79) such sidechains are listed below:

Mol	Chain	Res	Type
2	B	37	ASN
2	B	40	HIS
2	B	45	GLN
2	B	78	GLN
2	B	95	GLN
2	B	110	GLN
2	B	135	GLN
2	B	146	GLN
2	B	204	ASN
2	B	212	GLN
3	C	37	GLN
3	C	69	HIS
3	C	107	GLN
3	C	170	GLN
4	D	42	GLN
4	D	62	GLN
4	D	77	ASN
4	D	123	HIS
4	D	129	ASN
4	D	161	ASN
4	D	199	ASN
5	E	20	GLN
5	E	72	GLN
5	E	73	ASN
5	E	141	GLN
6	F	16	GLN
6	F	18	GLN
6	F	27	GLN
6	F	32	ASN
6	F	94	GLN
6	F	100	ASN
7	G	13	GLN
7	G	28	ASN
7	G	37	ASN
7	G	68	ASN
7	G	84	ASN
7	G	97	GLN
7	G	106	GLN
7	G	109	ASN
7	G	148	ASN
8	H	15	ASN
9	I	31	GLN
9	I	124	GLN

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Mol	Chain	Res	Type
10	J	56	HIS
10	J	84	GLN
11	K	62	GLN
11	K	78	GLN
12	L	8	ASN
12	L	9	GLN
12	L	49	ASN
12	L	75	HIS
13	M	40	ASN
13	M	77	ASN
13	M	101	GLN
14	N	52	GLN
15	O	9	GLN
15	O	37	ASN
15	O	46	HIS
16	P	14	ASN
16	P	16	HIS
16	P	76	GLN
17	Q	16	GLN
17	Q	93	GLN
18	R	36	ASN
19	S	23	ASN
20	T	16	HIS
20	T	26	ASN
20	T	42	GLN
20	T	75	ASN
24	Y	8	GLN
24	Y	50	GLN
24	Y	115	ASN
24	Y	168	GLN
24	Y	202	HIS
24	Y	253	HIS
24	Y	263	GLN
24	Y	310	GLN
24	Y	319	ASN
24	Y	335	ASN

### 5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	A	1503/1522 (98%)	203 (13%)	32 (2%)

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Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
22	V	74/77 (96%)	18 (24%)	0
22	W	74/77 (96%)	17 (22%)	0
23	X	7/8 (87%)	3 (42%)	0
All	All	1658/1684 (98%)	241 (14%)	32 (1%)

All (241) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	A	9	G
1	A	31	G
1	A	32	A
1	A	39	G
1	A	47	C
1	A	48	C
1	A	51	A
1	A	61	G
1	A	79	G
1	A	80	G
1	A	81	U
1	A	89	C
1	A	90	U
1	A	92	C
1	A	97	G
1	A	98	G
1	A	101	A
1	A	116	A
1	A	120	A
1	A	121	C
1	A	131	C
1	A	137	C
1	A	144	G
1	A	150	C
1	A	189(H)	G
1	A	195	A
1	A	197	A
1	A	203	U
1	A	204	U
1	A	244	U
1	A	247	G
1	A	251	G
1	A	266	G
1	A	267	C

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Mol	Chain	Res	Type
1	A	289	G
1	A	321	A
1	A	328	C
1	A	329	A
1	A	332	G
1	A	345	C
1	A	352	C
1	A	353	A
1	A	354	G
1	A	367	U
1	A	372	C
1	A	373	A
1	A	397	A
1	A	398	C
1	A	412	A
1	A	413	G
1	A	414	A
1	A	422	C
1	A	428	G
1	A	429	U
1	A	430	A
1	A	435	C
1	A	436	C
1	A	437	U
1	A	439	A
1	A	452	A
1	A	461	A
1	A	484	G
1	A	485	G
1	A	496	A
1	A	498	U
1	A	509	A
1	A	510	A
1	A	511	C
1	A	512	U
1	A	518	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

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Mol	Chain	Res	Type
1	A	561	U
1	A	572	A
1	A	573	A
1	A	575	G
1	A	576	G
1	A	577	G
1	A	630	G
1	A	631	G
1	A	632	A
1	A	653	A
1	A	687	A
1	A	688	G
1	A	724	G
1	A	731	G
1	A	749	C
1	A	755	G
1	A	777	A
1	A	794	A
1	A	816	A
1	A	817	C
1	A	818	G
1	A	819	A
1	A	828	A
1	A	833	U
1	A	839	U
1	A	840	C
1	A	841	U
1	A	848	C
1	A	859	A
1	A	902	G
1	A	914	A
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	968	A
1	A	969	A
1	A	971	G
1	A	974	A

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Mol	Chain	Res	Type
1	A	975	A
1	A	976	G
1	A	977	A
1	A	978	A
1	A	980	C
1	A	991	U
1	A	992	U
1	A	993	G
1	A	1001(A)	G
1	A	1009	G
1	A	1027	C
1	A	1030	C
1	A	1050	G
1	A	1054	C
1	A	1055	A
1	A	1065	U
1	A	1066	C
1	A	1068	G
1	A	1094	G
1	A	1095	U
1	A	1101	A
1	A	1108	G
1	A	1117	G
1	A	1124	G
1	A	1126	U
1	A	1129	C
1	A	1130	A
1	A	1131	G
1	A	1136	U
1	A	1137	C
1	A	1138	G
1	A	1139	G
1	A	1146	A
1	A	1152	A
1	A	1159	U
1	A	1182	G
1	A	1196	U
1	A	1197	G
1	A	1202	G
1	A	1212	U
1	A	1213	A
1	A	1214	C

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Mol	Chain	Res	Type
1	A	1225	A
1	A	1238	A
1	A	1249	C
1	A	1255	G
1	A	1256	A
1	A	1257	U
1	A	1280	A
1	A	1281	U
1	A	1282	C
1	A	1286	A
1	A	1287	A
1	A	1294	G
1	A	1299	A
1	A	1300	G
1	A	1301	U
1	A	1302	U
1	A	1305	G
1	A	1317	C
1	A	1322	C
1	A	1323	G
1	A	1331	G
1	A	1347	G
1	A	1363	C
1	A	1364	U
1	A	1416	G
1	A	1419	G
1	A	1442	G
1	A	1442(A)	G
1	A	1442(B)	A
1	A	1443	G
1	A	1447	A
1	A	1452	C
1	A	1492	A
1	A	1493	A
1	A	1497	G
1	A	1499	A
1	A	1504	G
1	A	1505	G
1	A	1506	U
1	A	1507	A
1	A	1517	G
1	A	1529	G

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Mol	Chain	Res	Type
1	A	1530	G
22	V	2	C
22	V	6	G
22	V	8	U
22	V	17	C
22	V	18	G
22	V	19	G
22	V	20	U
22	V	21	A
22	V	22	G
22	V	32	U
22	V	41	C
22	V	42	C
22	V	46	G
22	V	47	U
22	V	48	C
22	V	72	C
22	V	73	A
22	V	75	C
22	W	8	U
22	W	16	U
22	W	17	C
22	W	18	G
22	W	19	G
22	W	20	U
22	W	21	A
22	W	22	G
22	W	39	U
22	W	40	C
22	W	43	C
22	W	47	U
22	W	51	U
22	W	52	G
22	W	57	G
22	W	71	G
22	W	73	A
23	X	15	A
23	X	19	U
23	X	21	A

All (32) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	A	30	U
1	A	60	A
1	A	115	G
1	A	119	A
1	A	243	A
1	A	250	A
1	A	266	G
1	A	328	C
1	A	366	C
1	A	428	G
1	A	429	U
1	A	438	G
1	A	484	G
1	A	509	A
1	A	533	A
1	A	560	U
1	A	575	G
1	A	687	A
1	A	748	C
1	A	793	U
1	A	819	A
1	A	913	A
1	A	992	U
1	A	1049	U
1	A	1065	U
1	A	1067	A
1	A	1201	A
1	A	1281	U
1	A	1285	A
1	A	1300	G
1	A	1498	U
1	A	1504	G

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

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

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the chemical component dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with  $|Z| > 2$  is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
22	8AN	V	76	25,22	24,24,25	0.68	1 (4%)	34,35,38	1.21	3 (8%)
22	PHA	V	77	22	11,11,11	1.60	1 (9%)	13,13,13	0.91	1 (7%)
22	8AN	W	76	22	24,24,25	0.78	1 (4%)	34,35,38	1.10	2 (5%)
22	PHA	W	77	22	11,11,11	1.83	1 (9%)	13,13,13	0.78	1 (7%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
22	8AN	V	76	25,22	-	0/9/25/26	0/1/3/3
22	PHA	V	77	22	-	1/5/6/6	0/1/1/1
22	8AN	W	76	22	-	0/9/25/26	0/1/3/3
22	PHA	W	77	22	-	0/5/6/6	0/1/1/1

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
22	W	77	PHA	CA-C	5.15	1.55	1.50
22	V	77	PHA	CA-C	4.46	1.54	1.50
22	V	76	8AN	C3'-N3'	-2.12	1.43	1.47
22	W	76	8AN	C3'-N3'	-2.02	1.44	1.47

All (7) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	V	76	8AN	C4'-C3'-N3'	-3.97	105.02	113.46
22	W	76	8AN	C2'-C1'-N9	2.94	120.82	113.27
22	V	76	8AN	C5'-C4'-C3'	2.60	119.63	115.95
22	W	77	PHA	O-C-CA	-2.46	119.62	125.12
22	W	76	8AN	O1P-P-O5'	-2.40	105.84	113.42
22	V	77	PHA	C-CA-N	2.28	117.00	110.42
22	V	76	8AN	O4'-C4'-C3'	2.25	107.36	104.00

There are no chirality outliers.

All (1) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
22	V	77	PHA	O-C-CA-CB

There are no ring outliers.

## 5.5 Carbohydrates ⓘ

There are no carbohydrates in this entry.

## 5.6 Ligand geometry ⓘ

Of 551 ligands modelled in this entry, 551 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.

## 5.7 Other polymers ⓘ

There are no such residues in this entry.

## 5.8 Polymer linkage issues

There are no chain breaks in this entry.



## 6 Fit of model and data ⓘ

### 6.1 Protein, DNA and RNA chains ⓘ

EDS was not executed - this section will therefore be empty.

### 6.2 Non-standard residues in protein, DNA, RNA chains ⓘ

EDS was not executed - this section will therefore be empty.

### 6.3 Carbohydrates ⓘ

EDS was not executed - this section will therefore be empty.

### 6.4 Ligands ⓘ

EDS was not executed - this section will therefore be empty.

### 6.5 Other polymers ⓘ

EDS was not executed - this section will therefore be empty.