



Full wwPDB X-ray Structure Validation Report

Feb 27, 2014 – 11:33 AM GMT

PDB ID : 2UXB
Title : Crystal structure of an extended tRNA anticodon stem loop in complex with its cognate mRNA GGGU in the context of the *Thermus thermophilus* 30S subunit.
Authors : Dunham, C.M.; Selmer, M.; Phelps, S.S.; Kelley, A.C.; Suzuki, T.; Joseph, S.; Ramakrishnan, V.
Deposited on : 2007-03-28
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
A user guide is available at <http://wwpdb.org/ValidationPDFNotes.html>

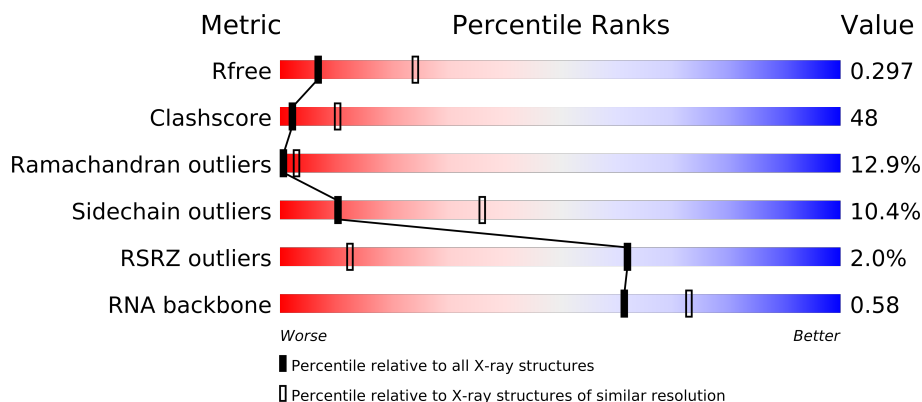
The following versions of software and data (see [references](#)) were used in the production of this report:

MolProbity : 4.02b-467
Mogul : 1.15 2013
Xtriage (Phenix) : dev-1323
EDS : stable22639
Percentile statistics : 21963
Refmac : 5.8.0049
CCP4 : 6.3.0 (Settle)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et. al. (1996)
Validation Pipeline (wwPDB-VP) : stable22683

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.



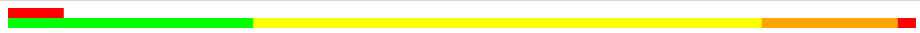
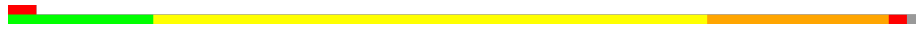


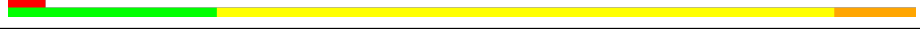

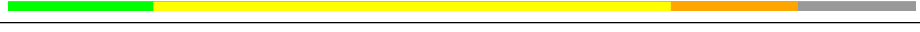



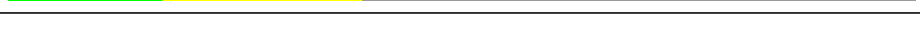
Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	66092	1007 (3.18-3.02)
Clashscore	79885	1078 (3.16-3.04)
Ramachandran outliers	78287	1044 (3.16-3.04)
Sidechain outliers	78261	1044 (3.16-3.04)
RSRZ outliers	66119	1008 (3.18-3.02)
RNA backbone	1838	1047 (3.60-2.60)

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 ≥ 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.

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	135	

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Mol	Chain	Length	Quality of chain
13	M	126	
14	N	61	
15	O	89	
16	P	88	
17	Q	105	
18	R	88	
19	S	93	
20	T	106	
21	U	27	
22	X	4	
23	Y	18	

2 Entry composition

There are 27 unique types of molecules in this entry. The entry contains 52166 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 RIBOSOMAL RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	1513	Total	C	N	O	P	0	0	0
			32515	14472	6016	10514	1513			

- Molecule 2 is a protein called 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 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 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 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 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 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 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 RIBOSOMAL PROTEIN S9.

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

There is a discrepancy between the modelled and reference sequences:

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

- Molecule 10 is a protein called RIBOSOMAL PROTEIN S10.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	J	99	Total	C	N	O	S	0	0	1
			793	498	157	137	1			

- Molecule 11 is a protein called 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 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 RIBOSOMAL PROTEIN S13.

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

- Molecule 14 is a protein called RIBOSOMAL PROTEIN S14.

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

- Molecule 15 is a protein called 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 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 RIBOSOMAL PROTEIN S17.

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

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
Q	96	GLN	GLU	CONFLICT	UNP Q5SHP7

- Molecule 18 is a protein called RIBOSOMAL PROTEIN S18.

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

- Molecule 19 is a protein called RIBOSOMAL PROTEIN S19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
19	S	81	Total	C	N	O	S	0	0	1
			648	414	120	112	2			

- Molecule 20 is a protein called RIBOSOMAL PROTEIN S20.

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

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
T	41	VAL	ILE	CONFLICT	UNP P80380

- Molecule 21 is a protein called RIBOSOMAL PROTEIN THX.

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

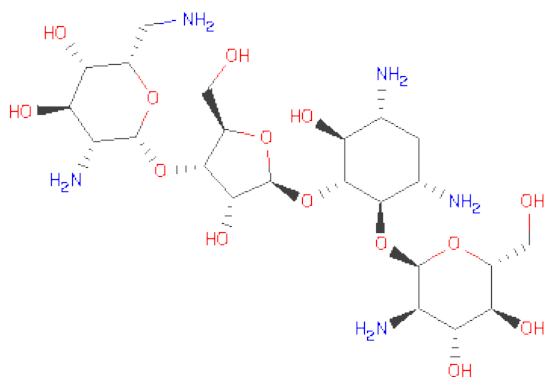
- Molecule 22 is a RNA chain called A-SITE MESSENGER RNA FRAGMENT GGGU.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
22	X	4	Total	C	N	O	P	0	0	0
			86	39	17	27	3			

- Molecule 23 is a RNA chain called ANTICODON STEM-LOOP OF TRANSFER RNA WITH ANTICODON ACCC.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
23	Y	7	Total	C	N	O	P	0	0	0
			143	66	26	45	6			

- Molecule 24 is PAROMOMYCIN (three-letter code: PAR) (formula: C₂₃H₄₅N₅O₁₄).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
24	A	1	Total	C	N	O	0	0
			42	23	5	14		

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

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
25	G	131	Total	Mg	0	0
			131	131		

- Molecule 26 is POTASSIUM ION (three-letter code: K) (formula: K).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
26	G	10	Total	K	0	0
			10	10		

- Molecule 27 is ZINC ION (three-letter code: ZN) (formula: Zn).

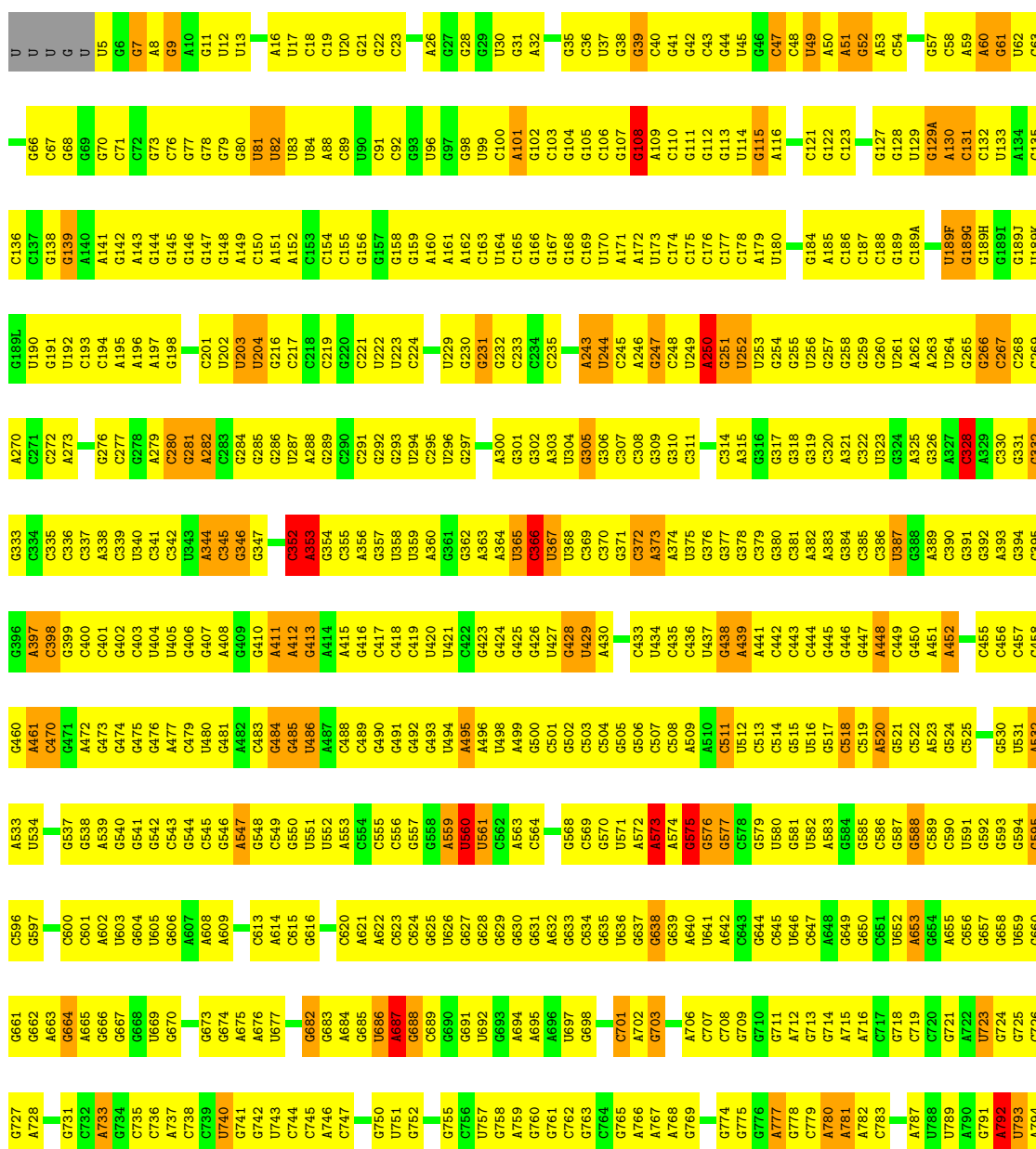
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
27	G	2	Total	Zn	0	0
			2	2		

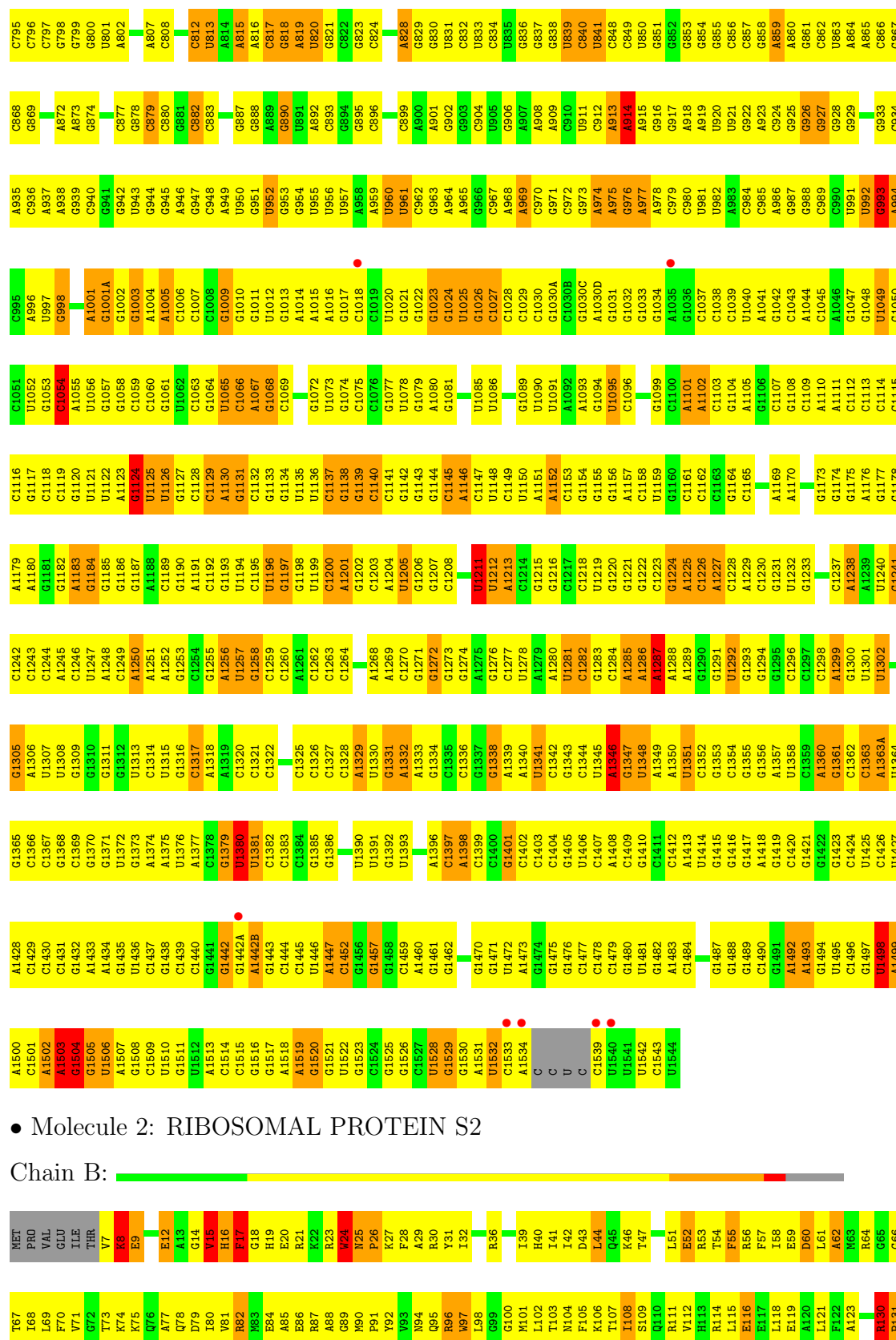
3 Residue-property plots

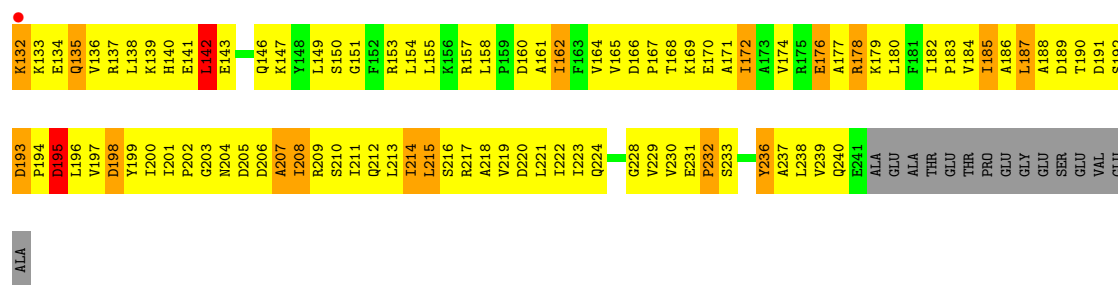
These plots are drawn for all protein, RNA and DNA chains in the entry. The first graphic for a chain summarises the proportions of errors displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. Residues are color-coded according 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.

• Molecule 1: 16S RIBOSOMAL RNA

Chain A:

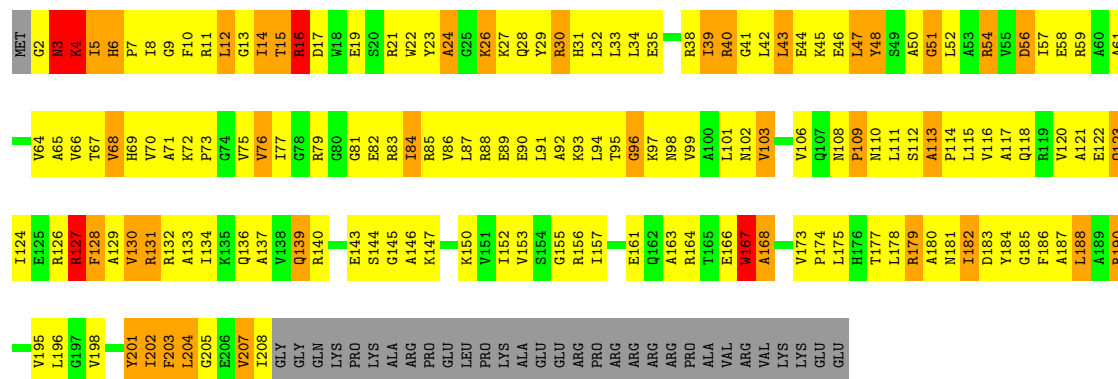






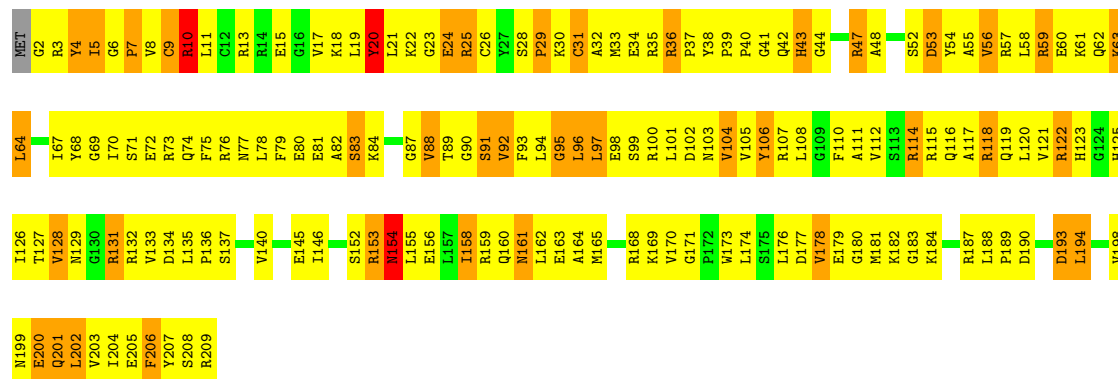
• Molecule 3: RIBOSOMAL PROTEIN S3

Chain C:



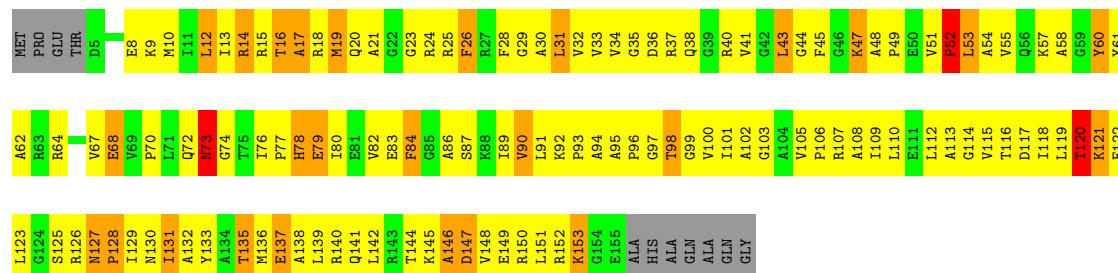
• Molecule 4: RIBOSOMAL PROTEIN S4

Chain D:



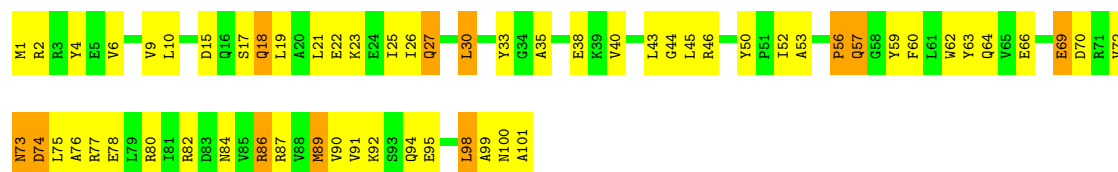
• Molecule 5: RIBOSOMAL PROTEIN S5

Chain E:



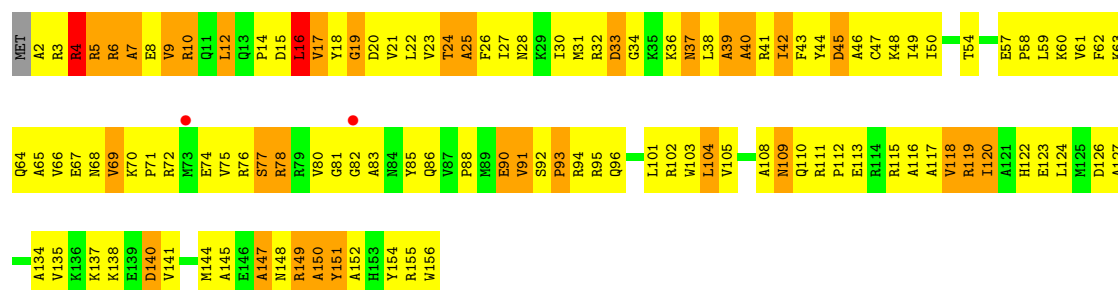
- Molecule 6: RIBOSOMAL PROTEIN S6

Chain F: 



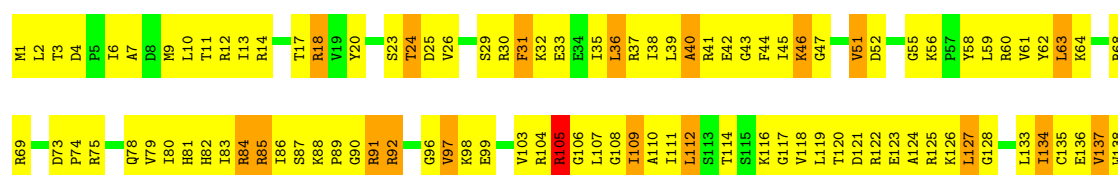
- Molecule 7: RIBOSOMAL PROTEIN S7

Chain G: 



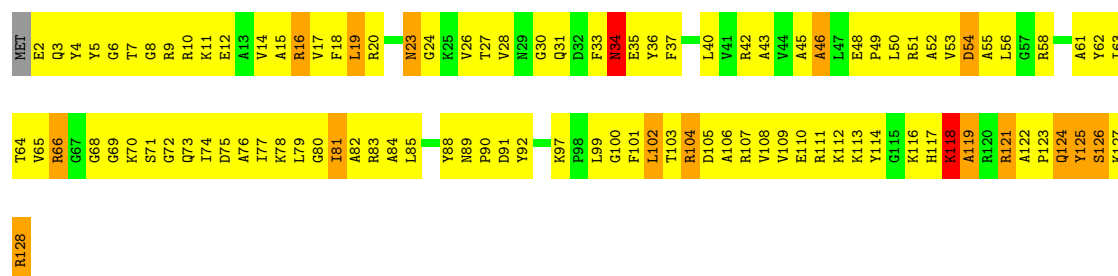
- Molecule 8: RIBOSOMAL PROTEIN S8

Chain H: 



- Molecule 9: RIBOSOMAL PROTEIN S9

Chain I: 



- Molecule 10: RIBOSOMAL PROTEIN S10

Chain J: 





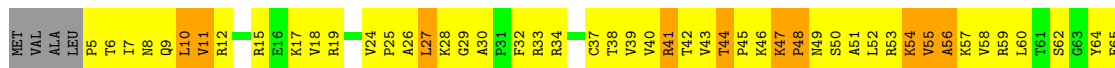
• Molecule 11: RIBOSOMAL PROTEIN S11

Chain K:



• Molecule 12: RIBOSOMAL PROTEIN S12

Chain L:



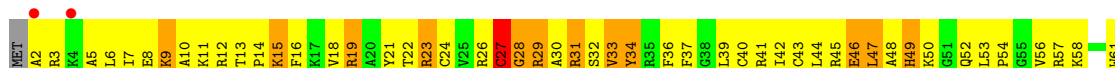
• Molecule 13: RIBOSOMAL PROTEIN S13

Chain M:



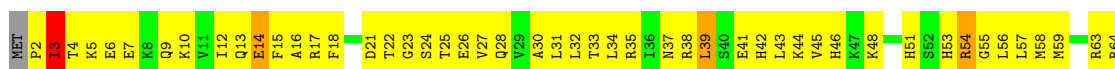
• Molecule 14: RIBOSOMAL PROTEIN S14

Chain N:



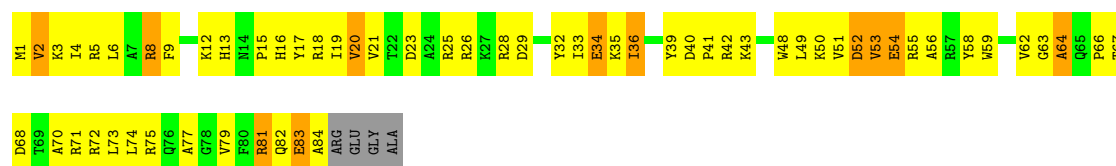
• Molecule 15: RIBOSOMAL PROTEIN S15

Chain O:



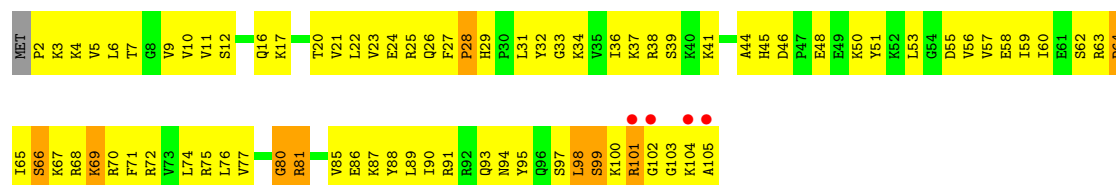
• Molecule 16: RIBOSOMAL PROTEIN S16

Chain P:



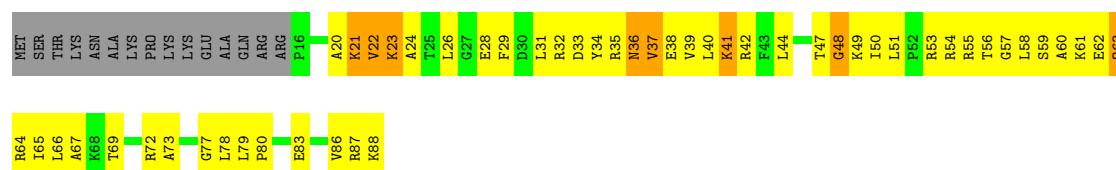
• Molecule 17: RIBOSOMAL PROTEIN S17

Chain Q:



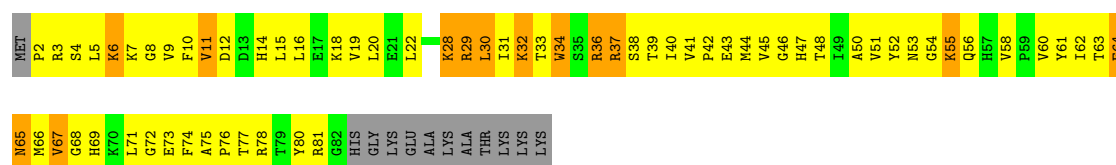
• Molecule 18: RIBOSOMAL PROTEIN S18

Chain R:



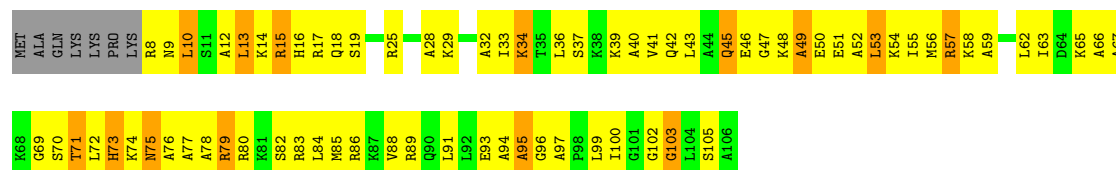
• Molecule 19: RIBOSOMAL PROTEIN S19

Chain S:



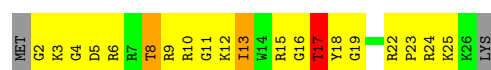
• Molecule 20: RIBOSOMAL PROTEIN S20

Chain T:



• Molecule 21: RIBOSOMAL PROTEIN THX

Chain U:




• Molecule 22: A-SITE MESSENGER RNA FRAGMENT GGGU

Chain X: 


G1
G2
G3
U4

- Molecule 23: ANTICODON STEM-LOOP OF TRANSFER RNA WITH ANTICODON ACCC

Chain Y: 


G G G G A D D A34 C35 C36 C37 A38 A39 U40 C C C C

4 Data and refinement statistics

Property	Value	Source
Space group	P 41 21 2	Depositor
Cell constants a, b, c, α , β , γ	401.95Å 401.95Å 174.09Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	29.88 – 3.10 47.93 – 3.00	Depositor EDS
% Data completeness (in resolution range)	98.1 (29.88-3.10) 98.0 (47.93-3.00)	Depositor EDS
R_{merge}	0.12	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.74 (at 3.01Å)	Xtriage
Refinement program	CNS 1.1	Depositor
R, R_{free}	0.295 , 0.328 0.253 , 0.297	Depositor DCC
R_{free} test set	13830 reflections (5.28%)	DCC
Wilson B-factor (Å ²)	67.7	Xtriage
Anisotropy	0.071	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.19 , 19.6	EDS
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 275680 reflections	Xtriage
F_o, F_c correlation	0.91	EDS
Total number of atoms	52166	wwPDB-VP
Average B, all atoms (Å ²)	77.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.55% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities 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: K, ZN, PAR, MG

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# $ Z > 5$	RMSZ	# $ Z > 5$
1	A	0.58	2/36394 (0.0%)	0.75	28/56797 (0.0%)
2	B	0.39	0/1936	0.66	0/2611
3	C	0.34	0/1637	0.62	0/2207
4	D	0.36	0/1733	0.63	0/2318
5	E	0.52	0/1163	0.77	1/1566 (0.1%)
6	F	0.34	0/856	0.62	0/1154
7	G	0.33	0/1276	0.59	0/1709
8	H	0.57	0/1136	0.84	0/1527
9	I	0.36	0/1029	0.66	0/1378
10	J	0.36	0/806	0.65	0/1084
11	K	0.41	0/900	0.71	0/1213
12	L	0.43	0/987	0.75	0/1322
13	M	0.35	0/1008	0.64	0/1347
14	N	0.37	0/501	0.64	0/664
15	O	0.42	0/745	0.66	0/992
16	P	0.48	0/717	0.77	0/965
17	Q	0.50	0/870	0.73	0/1159
18	R	0.38	0/603	0.67	0/799
19	S	0.34	0/662	0.62	0/892
20	T	0.40	0/764	0.71	0/1006
21	U	0.51	0/213	0.74	0/279
22	X	0.46	0/96	0.81	0/149
23	Y	0.54	0/159	0.81	0/245
All	All	0.53	2/56191 (0.0%)	0.73	29/83383 (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	41

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	5	U	OP3-P	-7.51	1.52	1.61
1	A	1532	U	O3'-P	-6.99	1.52	1.61

All (29) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1532	U	P-O3'-C3'	26.85	151.92	119.70
1	A	1532	U	OP2-P-O3'	-14.62	73.05	105.20
1	A	1532	U	OP1-P-O3'	11.12	129.67	105.20
1	A	1498	U	C2'-C3'-O3'	9.82	131.11	109.50
1	A	1532	U	C4'-C3'-O3'	9.72	132.44	113.00
1	A	115	G	C2'-C3'-O3'	8.96	129.22	109.50
1	A	366	C	C2'-C3'-O3'	7.78	126.61	109.50
1	A	993	G	N9-C1'-C2'	7.16	123.31	114.00
1	A	1380	U	C2'-C3'-O3'	7.15	125.23	109.50
1	A	1346	A	C2'-C3'-O3'	7.11	125.14	109.50
1	A	792	A	C2'-C3'-O3'	7.02	124.94	109.50
1	A	879	C	N1-C1'-C2'	-6.62	104.71	112.00
1	A	328	C	N1-C1'-C2'	6.53	122.49	114.00
1	A	1380	U	N1-C1'-C2'	6.50	122.45	114.00
1	A	1101	A	C2'-C3'-O3'	6.41	123.95	113.70
1	A	575	G	N9-C1'-C2'	6.06	121.87	114.00
1	A	108	G	O4'-C1'-N9	5.88	112.91	108.20
1	A	1299	A	N9-C1'-C2'	5.88	121.65	114.00
1	A	1502	A	N9-C1'-C2'	5.56	121.23	114.00
1	A	1503	A	N9-C1'-C2'	5.39	121.00	114.00
1	A	890	G	N9-C1'-C2'	5.37	120.98	114.00
5	E	120	THR	N-CA-C	5.13	124.84	111.00
1	A	1211	U	N1-C1'-C2'	5.12	120.65	114.00
1	A	7	G	C2'-C3'-O3'	5.12	121.89	113.70
1	A	1124	G	N9-C1'-C2'	5.11	120.65	114.00
1	A	353	A	C5'-C4'-O4'	-5.10	102.98	109.10
1	A	5	U	OP1-P-OP2	-5.06	112.00	119.60
1	A	1504	G	OP2-P-O3'	5.05	116.31	105.20
1	A	687	A	C2'-C3'-O3'	5.04	121.76	113.70

All (1) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
1	A	1498	U	C3'

All (41) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	1054	C	Sidechain
1	A	108	G	Sidechain
1	A	1139	G	Sidechain
1	A	1205	U	Sidechain
1	A	1238	A	Sidechain
1	A	1281	U	Sidechain
1	A	1287	A	Sidechain
1	A	1292	U	Sidechain
1	A	1329	A	Sidechain
1	A	1341	U	Sidechain
1	A	1348	U	Sidechain
1	A	1351	U	Sidechain
1	A	1361	G	Sidechain
1	A	1380	U	Sidechain
1	A	1457	G	Sidechain
1	A	1519	A	Sidechain
1	A	189(G)	G	Sidechain
1	A	250	A	Sidechain
1	A	280	C	Sidechain
1	A	297	G	Sidechain
1	A	305	G	Sidechain
1	A	352	C	Sidechain
1	A	387	U	Sidechain
1	A	560	U	Sidechain
1	A	573	A	Sidechain
1	A	575	G	Sidechain
1	A	595	G	Sidechain
1	A	638	G	Sidechain
1	A	664	G	Sidechain
1	A	682	G	Sidechain
1	A	740	U	Sidechain
1	A	759	A	Sidechain
1	A	760	G	Sidechain
1	A	815	A	Sidechain
1	A	820	U	Sidechain
1	A	882	C	Sidechain
1	A	914	A	Sidechain
1	A	942	G	Sidechain

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Mol	Chain	Res	Type	Group
1	A	952	U	Sidechain
1	A	982	U	Sidechain
1	A	993	G	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	32515	0	16412	1688	0
2	B	1901	0	1951	322	0
3	C	1613	0	1677	287	0
4	D	1703	0	1764	242	0
5	E	1147	0	1207	158	0
6	F	843	0	857	82	0
7	G	1257	0	1296	170	0
8	H	1116	0	1177	143	0
9	I	1011	0	1043	187	0
10	J	793	0	835	183	0
11	K	885	0	904	129	0
12	L	971	0	1057	174	0
13	M	997	0	1072	117	0
14	N	492	0	531	103	0
15	O	734	0	771	87	0
16	P	701	0	720	97	0
17	Q	857	0	930	111	0
18	R	597	0	666	84	0
19	S	648	0	673	85	0
20	T	762	0	859	101	0
21	U	209	0	221	34	0
22	X	86	0	45	6	0
23	Y	143	0	78	15	0
24	A	42	0	45	2	0
25	G	131	0	0	0	0
26	G	10	0	0	0	0
27	G	2	0	0	0	0
All	All	52166	0	36791	4226	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 48.

All (4226) close contacts within the same asymmetric unit are listed below.

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1539:C:C5	7:G:81:GLY:O	1.88	1.24
1:A:1347:G:N2	1:A:1373:G:H2'	1.58	1.19
11:K:48:ILE:HD13	11:K:63:LEU:HB2	1.27	1.15
1:A:1442(A):G:H5''	1:A:1442(B):A:H5'	1.28	1.15
1:A:1347:G:H22	1:A:1373:G:H2'	1.09	1.15
1:A:403:C:H4'	4:D:122:ARG:HH12	1.12	1.13
1:A:737:A:H1'	6:F:73:ASN:HD21	1.13	1.13
1:A:1064:G:H4'	1:A:1065:U:H5'	1.21	1.12
8:H:11:THR:HG22	8:H:14:ARG:HH12	1.13	1.11
1:A:1148:U:H2'	1:A:1149:C:O4'	1.52	1.10
10:J:81:THR:HA	10:J:84:GLN:HE21	1.11	1.10
2:B:161:ALA:HB1	2:B:185:ILE:HD11	1.26	1.09
2:B:130:ARG:HD3	2:B:131:PRO:HD2	1.26	1.09
21:U:6:ARG:HH21	21:U:15:ARG:HD3	1.15	1.09
11:K:108:ILE:H	11:K:108:ILE:HD12	1.12	1.08
12:L:55:VAL:HG12	12:L:56:ALA:H	1.11	1.07
14:N:9:LYS:HG2	14:N:10:ALA:H	1.16	1.07
12:L:41:ARG:HG2	12:L:42:THR:H	1.12	1.06
4:D:23:GLY:HA3	4:D:112:VAL:HG12	1.39	1.05
7:G:118:VAL:HG13	7:G:119:ARG:H	1.18	1.05
3:C:70:VAL:HG12	3:C:72:LYS:H	1.21	1.05
1:A:138:G:H2'	1:A:139:G:H5''	1.36	1.04
2:B:91:PRO:HG3	2:B:154:LEU:HB2	1.32	1.04
1:A:986:A:H4'	19:S:55:LYS:HD3	1.37	1.04
15:O:87:ILE:HG12	15:O:88:ARG:HG3	1.39	1.04
10:J:44:VAL:HG22	10:J:45:ARG:H	1.21	1.03
9:I:128:ARG:NH1	9:I:128:ARG:HA	1.72	1.03
12:L:83:VAL:HG22	12:L:84:LEU:H	1.24	1.03
17:Q:29:HIS:CD2	17:Q:32:TYR:H	1.77	1.03
16:P:53:VAL:O	16:P:55:ARG:N	1.94	1.01
3:C:188:LEU:H	3:C:188:LEU:HD13	1.24	1.01
1:A:524:G:H2'	1:A:525:C:C6	1.96	1.00
3:C:91:LEU:HD21	3:C:99:VAL:H	1.26	1.00
10:J:50:ILE:H	10:J:50:ILE:HD12	1.21	1.00
4:D:59:ARG:HH12	4:D:62:GLN:HG3	1.24	1.00
1:A:1356:G:H2'	1:A:1357:A:C8	1.97	0.99
7:G:4:ARG:HH11	7:G:4:ARG:HB3	1.27	0.99
5:E:51:VAL:HB	5:E:52:PRO:HD3	1.44	0.99
2:B:68:ILE:HB	2:B:90:MET:HE3	1.45	0.98

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:K:121:PRO:HG2	11:K:126:ARG:HG2	1.43	0.98
1:A:1149:C:H2'	1:A:1150:U:C6	1.99	0.98
10:J:6:ILE:HD13	10:J:72:VAL:HB	1.46	0.98
16:P:74:LEU:O	16:P:79:VAL:HG23	1.61	0.98
3:C:130:VAL:HG23	3:C:131:ARG:H	1.26	0.97
2:B:84:GLU:HB3	2:B:219:VAL:HG21	1.41	0.97
1:A:365:U:H5'	1:A:366:C:OP1	1.64	0.97
1:A:1321:C:H3'	1:A:1322:C:H5''	1.47	0.96
1:A:403:C:H4'	4:D:122:ARG:NH1	1.80	0.96
6:F:6:VAL:HG13	6:F:90:VAL:HG22	1.48	0.96
4:D:33:MET:HA	4:D:37:PRO:HB3	1.46	0.96
7:G:70:LYS:HG2	7:G:96:GLN:HG2	1.42	0.96
17:Q:29:HIS:CD2	17:Q:31:LEU:H	1.83	0.96
1:A:1149:C:H2'	1:A:1150:U:H6	1.30	0.96
1:A:1151:A:H5'	10:J:41:PRO:HA	1.47	0.95
4:D:187:ARG:CZ	4:D:188:LEU:HB2	1.97	0.95
12:L:76:ASN:HD21	12:L:108:ALA:HB3	1.32	0.95
15:O:16:ALA:HB1	15:O:21:ASP:HB3	1.45	0.95
14:N:26:ARG:HH22	14:N:47:LEU:HD21	1.29	0.95
2:B:75:LYS:HE2	2:B:96:ARG:HH12	1.30	0.95
4:D:57:ARG:HG2	4:D:202:LEU:HD22	1.48	0.95
11:K:48:ILE:CD1	11:K:63:LEU:HB2	1.95	0.95
1:A:1182:G:H5'	1:A:1184:G:H5'	1.47	0.95
7:G:108:ALA:HB2	7:G:123:GLU:HG2	1.49	0.94
1:A:138:G:C2'	1:A:139:G:H5''	1.97	0.94
16:P:21:VAL:HG12	16:P:33:ILE:HD11	1.49	0.94
13:M:14:ARG:N	13:M:44:ARG:HH21	1.66	0.94
5:E:87:SER:HB3	5:E:131:ILE:HD12	1.46	0.93
11:K:87:THR:HA	11:K:91:ARG:HH21	1.32	0.93
12:L:54:LYS:HZ2	12:L:54:LYS:N	1.65	0.93
1:A:989:C:H42	1:A:1216:G:H1	1.15	0.93
1:A:1369:C:H2'	1:A:1370:G:C8	2.04	0.92
2:B:77:ALA:HA	2:B:80:ILE:HD13	1.51	0.92
12:L:54:LYS:H	12:L:54:LYS:HZ2	0.93	0.92
12:L:54:LYS:H	12:L:54:LYS:NZ	1.65	0.92
3:C:24:ALA:HB2	3:C:32:LEU:HD12	1.49	0.92
12:L:53:ARG:HH12	12:L:92:ASP:HB2	1.32	0.92
1:A:1539:C:C4	7:G:81:GLY:O	2.22	0.91
16:P:20:VAL:HG21	16:P:32:TYR:HB2	1.52	0.91
1:A:1277:C:H2'	1:A:1278:U:H5''	1.53	0.91
1:A:501:C:H2'	1:A:502:G:H8	1.36	0.91
10:J:40:LEU:HD12	10:J:69:ASN:HB2	1.52	0.90

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:K:79:SER:HA	11:K:104:GLN:HB3	1.50	0.90
3:C:79:ARG:HG2	3:C:82:GLU:HG2	1.54	0.90
19:S:31:ILE:HG22	19:S:32:LYS:H	1.35	0.90
1:A:192:U:H1'	20:T:103:GLY:HA2	1.53	0.90
15:O:57:LEU:HD12	15:O:57:LEU:H	1.35	0.90
3:C:113:ALA:HB3	3:C:114:PRO:HD3	1.53	0.90
5:E:74:GLY:HA3	5:E:116:THR:HG22	1.53	0.90
1:A:1366:C:H2'	1:A:1367:C:H6	1.34	0.89
10:J:50:ILE:HB	14:N:41:ARG:NH2	1.87	0.89
2:B:204:ASN:HD22	2:B:205:ASP:H	1.18	0.89
12:L:71:PRO:HG2	12:L:102:ARG:HG3	1.52	0.89
2:B:51:LEU:O	2:B:55:PHE:HB2	1.72	0.89
1:A:1190:G:OP1	3:C:4:LYS:HA	1.72	0.89
3:C:6:HIS:NE2	3:C:8:ILE:HB	1.87	0.89
10:J:50:ILE:HB	14:N:41:ARG:HH21	1.36	0.89
8:H:36:LEU:HD23	8:H:36:LEU:H	1.35	0.89
5:E:80:ILE:HD11	5:E:91:LEU:HB2	1.51	0.89
2:B:29:ALA:HA	2:B:32:ILE:HD12	1.53	0.89
6:F:26:ILE:O	6:F:30:LEU:HD12	1.73	0.89
1:A:1086:U:H3	1:A:1099:G:H22	0.92	0.89
2:B:172:ILE:H	2:B:172:ILE:HD12	1.39	0.88
2:B:15:VAL:HB	2:B:210:SER:HB3	1.54	0.88
5:E:80:ILE:HD11	5:E:91:LEU:HD12	1.55	0.88
1:A:1238:A:H5'	1:A:1336:C:H41	1.38	0.88
11:K:110:ASP:HB2	18:R:88:LYS:HD2	1.56	0.88
12:L:6:THR:OG1	12:L:9:GLN:HB2	1.74	0.88
1:A:975:A:H4'	1:A:976:G:H5''	1.54	0.88
14:N:33:VAL:O	14:N:34:TYR:HD1	1.57	0.88
10:J:77:PRO:HB2	10:J:82:ILE:HD13	1.53	0.88
12:L:55:VAL:HG12	12:L:56:ALA:N	1.88	0.88
1:A:791:G:H2'	1:A:792:A:H5'	1.56	0.88
14:N:8:GLU:HA	14:N:11:LYS:HD3	1.56	0.88
13:M:14:ARG:H	13:M:44:ARG:HH21	1.21	0.88
12:L:33:ARG:HD3	12:L:62:SER:HB3	1.54	0.87
1:A:1305:G:H22	1:A:1331:G:C2'	1.88	0.87
13:M:40:ASN:HB3	13:M:43:THR:HG23	1.55	0.87
8:H:11:THR:HG22	8:H:14:ARG:NH1	1.89	0.87
1:A:818:G:O2'	1:A:819:A:H5''	1.73	0.87
1:A:129(A):G:O2'	1:A:189(F):U:H2'	1.74	0.87
1:A:1142:G:H2'	1:A:1143:G:O4'	1.74	0.87
1:A:959:A:H3'	1:A:960:U:H5''	1.56	0.87
2:B:84:GLU:OE1	2:B:216:SER:HA	1.75	0.87

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:44:LEU:H	2:B:44:LEU:HD22	1.40	0.87
7:G:118:VAL:HG13	7:G:119:ARG:N	1.90	0.86
1:A:405:U:H3'	1:A:406:G:H5'	1.56	0.86
2:B:17:PHE:HA	2:B:44:LEU:HD11	1.57	0.86
1:A:1343:G:H2'	1:A:1344:C:H6	1.40	0.86
8:H:10:LEU:HD22	8:H:83:ILE:HD11	1.55	0.86
1:A:794:A:H2'	1:A:795:C:C6	2.08	0.86
1:A:1064:G:H4'	1:A:1065:U:C5'	2.05	0.86
15:O:82:ILE:HG23	15:O:87:ILE:HG23	1.57	0.86
3:C:71:ALA:HB2	3:C:106:VAL:HB	1.56	0.86
1:A:673:G:H2'	1:A:674:G:C8	2.10	0.86
1:A:1147:C:H4'	9:I:5:TYR:HE1	1.39	0.85
3:C:57:ILE:HG23	3:C:64:VAL:HG13	1.58	0.85
8:H:11:THR:CG2	8:H:14:ARG:HH12	1.87	0.85
1:A:265:G:H2'	1:A:267:C:H5	1.41	0.85
2:B:80:ILE:HD12	2:B:80:ILE:H	1.42	0.85
10:J:57:LYS:HZ2	10:J:60:ARG:NH1	1.75	0.85
16:P:52:ASP:OD1	16:P:55:ARG:HB2	1.75	0.85
1:A:1366:C:H2'	1:A:1367:C:C6	2.10	0.85
12:L:97:ARG:HG3	12:L:98:TYR:CE1	2.12	0.85
2:B:97:TRP:HZ2	2:B:102:LEU:HD13	1.41	0.85
17:Q:23:VAL:HG12	17:Q:24:GLU:N	1.89	0.85
14:N:26:ARG:NH2	14:N:47:LEU:HD21	1.92	0.84
1:A:1086:U:H3	1:A:1099:G:N2	1.73	0.84
11:K:108:ILE:H	11:K:108:ILE:CD1	1.90	0.84
9:I:106:ALA:O	9:I:108:VAL:HG23	1.75	0.84
1:A:1193:G:O2'	1:A:1194:U:H5'	1.76	0.84
1:A:1343:G:H2'	1:A:1344:C:C6	2.13	0.84
16:P:4:ILE:HG13	16:P:64:ALA:HB1	1.60	0.84
8:H:112:LEU:N	8:H:112:LEU:HD12	1.92	0.84
5:E:8:GLU:HB3	5:E:34:VAL:HG12	1.58	0.84
9:I:63:ILE:HD11	9:I:81:ILE:HD11	1.59	0.84
2:B:77:ALA:HB2	2:B:211:ILE:HD13	1.57	0.84
1:A:19:C:H2'	1:A:20:U:H6	1.43	0.84
3:C:175:LEU:HD21	3:C:201:TYR:HD2	1.42	0.84
1:A:1362:C:C2'	1:A:1363:C:H5''	2.07	0.84
20:T:49:ALA:HB1	20:T:99:LEU:HD12	1.59	0.84
8:H:97:VAL:HG13	8:H:98:LYS:H	1.42	0.84
7:G:116:ALA:HA	7:G:119:ARG:HH21	1.42	0.84
2:B:97:TRP:CZ2	2:B:102:LEU:HD13	2.13	0.84
8:H:36:LEU:CD2	8:H:36:LEU:H	1.90	0.84
1:A:1528:U:O2'	1:A:1529:G:H3'	1.77	0.84

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:923:A:OP1	5:E:21:ALA:HB2	1.77	0.84
17:Q:29:HIS:HD2	17:Q:31:LEU:H	1.20	0.84
1:A:933:G:OP1	7:G:4:ARG:HD2	1.77	0.84
18:R:58:LEU:HD23	18:R:62:GLU:HB3	1.60	0.83
1:A:1402:C:H2'	1:A:1403:C:H6	1.41	0.83
12:L:83:VAL:HG11	12:L:100:ILE:HD11	1.59	0.83
1:A:1225:A:H5'	1:A:1226:C:OP2	1.78	0.83
1:A:972:C:O5'	10:J:57:LYS:HD3	1.77	0.83
12:L:47:LYS:HB3	12:L:48:PRO:HD3	1.61	0.83
13:M:25:ILE:HD11	13:M:66:LEU:HD21	1.60	0.83
2:B:102:LEU:HD21	2:B:162:ILE:CD1	2.09	0.83
2:B:204:ASN:ND2	2:B:205:ASP:H	1.75	0.83
3:C:175:LEU:HD21	3:C:201:TYR:CD2	2.14	0.83
2:B:188:ALA:HB1	2:B:192:SER:OG	1.79	0.83
1:A:1288:A:H2'	1:A:1289:A:H8	1.43	0.83
16:P:19:ILE:HG22	16:P:36:ILE:HG13	1.60	0.83
1:A:538:G:H2'	1:A:539:A:H8	1.44	0.83
12:L:41:ARG:CG	12:L:42:THR:H	1.93	0.82
8:H:14:ARG:O	8:H:18:ARG:HD3	1.78	0.82
10:J:57:LYS:HB2	10:J:57:LYS:HZ2	1.43	0.82
2:B:112:VAL:HG11	2:B:153:ARG:HA	1.59	0.82
11:K:108:ILE:N	11:K:108:ILE:HD12	1.93	0.82
1:A:542:G:H5'	4:D:41:GLY:HA3	1.60	0.82
1:A:1195:C:H3'	1:A:1196:U:C5'	2.09	0.82
1:A:101:A:O2'	1:A:102:G:H5'	1.79	0.82
1:A:21:G:H2'	1:A:22:G:C8	2.15	0.82
17:Q:76:LEU:HD23	17:Q:77:VAL:N	1.94	0.82
1:A:911:U:H2'	1:A:912:C:C6	2.14	0.82
3:C:10:PHE:CE2	3:C:178:LEU:HD13	2.15	0.82
3:C:51:GLY:HA3	3:C:70:VAL:HG13	1.61	0.82
2:B:36:ARG:HB2	2:B:41:ILE:HD11	1.61	0.81
12:L:41:ARG:HG2	12:L:42:THR:N	1.94	0.81
11:K:104:GLN:HA	11:K:104:GLN:HE21	1.44	0.81
1:A:129(A):G:HO2'	1:A:189(F):U:H2'	1.45	0.81
9:I:97:LYS:HA	9:I:102:LEU:HD11	1.62	0.81
3:C:203:PHE:HD1	3:C:204:LEU:H	1.27	0.81
2:B:55:PHE:HD2	2:B:58:ILE:HD12	1.42	0.81
1:A:792:A:H4'	1:A:793:U:H5''	1.62	0.81
19:S:39:THR:HG22	19:S:40:ILE:H	1.45	0.81
8:H:136:GLU:O	8:H:137:VAL:HG23	1.78	0.81
11:K:34:ASP:OD2	11:K:38:ASN:HB2	1.79	0.81
1:A:52:G:H2'	1:A:53:A:H8	1.46	0.81

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:E:115:VAL:HG11	5:E:118:ILE:HD11	1.63	0.81
10:J:90:LEU:H	10:J:91:PRO:HD2	1.45	0.81
20:T:67:ALA:HA	20:T:73:HIS:H	1.45	0.81
20:T:57:ARG:HH22	20:T:100:ILE:HD13	1.45	0.81
3:C:113:ALA:H	3:C:116:VAL:HG23	1.45	0.81
9:I:17:VAL:HG21	9:I:80:GLY:HA3	1.62	0.81
1:A:519:C:H2'	1:A:520:A:H8	1.46	0.81
2:B:7:VAL:HG11	2:B:221:LEU:HD21	1.60	0.81
1:A:1002:G:H2'	1:A:1003:G:O4'	1.81	0.81
1:A:1123:A:C8	10:J:39:PRO:HD3	2.16	0.81
10:J:6:ILE:HD13	10:J:73:ASP:H	1.46	0.81
1:A:913:A:H4'	1:A:914:A:O5'	1.81	0.81
4:D:100:ARG:NH1	4:D:137:SER:HA	1.96	0.80
4:D:35:ARG:O	4:D:36:ARG:HB3	1.80	0.80
1:A:438:G:H2'	1:A:494:U:O4	1.81	0.80
1:A:357:G:O2'	1:A:358:U:H5'	1.81	0.80
10:J:81:THR:HA	10:J:84:GLN:NE2	1.93	0.80
15:O:17:ARG:NH1	15:O:77:ARG:HD3	1.96	0.80
1:A:1024:G:H2'	1:A:1025:U:H4'	1.64	0.80
1:A:1147:C:H4'	9:I:5:TYR:CE1	2.16	0.80
2:B:178:ARG:HH11	2:B:178:ARG:HB3	1.45	0.80
1:A:372:C:H1'	1:A:373:A:OP2	1.81	0.80
1:A:132:C:O3'	20:T:74:LYS:HE3	1.82	0.80
3:C:202:ILE:O	3:C:203:PHE:HB2	1.80	0.80
5:E:80:ILE:CD1	5:E:91:LEU:HB2	2.11	0.80
1:A:521:G:O5'	12:L:73:GLU:HA	1.82	0.80
3:C:19:GLU:HB2	3:C:54:ARG:NH2	1.97	0.80
1:A:1356:G:H2'	1:A:1357:A:H8	1.45	0.80
15:O:33:THR:HG22	15:O:37:ASN:HD21	1.46	0.79
1:A:538:G:H2'	1:A:539:A:C8	2.17	0.79
22:X:2:G:H1	23:Y:36:C:N4	1.80	0.79
9:I:16:ARG:HH11	9:I:16:ARG:HB2	1.47	0.79
4:D:59:ARG:NH1	4:D:59:ARG:HA	1.97	0.79
11:K:48:ILE:HD11	11:K:64:ALA:N	1.98	0.79
2:B:200:ILE:HG23	2:B:202:PRO:HD3	1.64	0.79
1:A:600:C:OP2	8:H:97:VAL:HG12	1.83	0.79
20:T:53:LEU:N	20:T:53:LEU:HD23	1.96	0.79
4:D:102:ASP:HB3	4:D:136:PRO:HB3	1.63	0.79
3:C:174:PRO:O	3:C:177:THR:HG22	1.83	0.79
1:A:1064:G:C4'	1:A:1065:U:H5'	2.07	0.79
4:D:187:ARG:HD2	4:D:188:LEU:H	1.48	0.79
1:A:706:A:O2'	11:K:29:ILE:HD11	1.83	0.78

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:E:91:LEU:HD23	5:E:120:THR:HG22	1.64	0.78
1:A:519:C:H2'	1:A:520:A:C8	2.19	0.78
3:C:41:GLY:O	3:C:45:LYS:HG2	1.83	0.78
2:B:60:ASP:O	2:B:64:ARG:HB2	1.82	0.78
9:I:108:VAL:HG12	9:I:109:VAL:H	1.46	0.78
1:A:1368:G:OP2	9:I:112:LYS:HD3	1.84	0.78
1:A:877:C:O2	8:H:3:THR:HG21	1.82	0.78
16:P:20:VAL:HG21	16:P:32:TYR:CB	2.13	0.78
5:E:43:LEU:HD22	5:E:44:GLY:H	1.49	0.78
11:K:120:ARG:HG2	11:K:120:ARG:HH11	1.49	0.78
1:A:1288:A:H2'	1:A:1289:A:C8	2.18	0.78
9:I:79:LEU:HD22	9:I:83:ARG:HD2	1.66	0.78
11:K:78:GLN:O	11:K:103:LEU:HD23	1.82	0.78
6:F:98:LEU:HD12	6:F:98:LEU:H	1.48	0.78
1:A:203:U:H5''	1:A:204:U:OP1	1.83	0.78
1:A:1103:C:H5''	2:B:98:LEU:HD12	1.63	0.78
2:B:54:THR:HG23	2:B:199:TYR:HB3	1.65	0.78
15:O:26:GLU:OE1	15:O:77:ARG:HD2	1.82	0.78
3:C:75:VAL:HG12	3:C:83:ARG:NH1	1.99	0.78
8:H:36:LEU:N	8:H:36:LEU:HD23	1.98	0.78
1:A:1005:A:H1'	1:A:1026:G:H22	1.48	0.78
1:A:1410:G:H1	1:A:1490:C:H42	1.30	0.78
2:B:204:ASN:ND2	2:B:205:ASP:N	2.31	0.78
16:P:20:VAL:CG2	16:P:32:TYR:HB2	2.12	0.77
3:C:137:ALA:HA	3:C:140:ARG:NH1	1.98	0.77
4:D:131:ARG:HE	4:D:131:ARG:HA	1.48	0.77
18:R:53:ARG:HA	18:R:56:THR:OG1	1.83	0.77
1:A:491:G:H2'	1:A:492:G:H8	1.49	0.77
1:A:1189:C:P	10:J:51:ARG:HH22	2.07	0.77
3:C:6:HIS:HD2	3:C:8:ILE:H	1.32	0.77
11:K:57:THR:HG23	11:K:60:ALA:H	1.49	0.77
2:B:112:VAL:HG22	2:B:149:LEU:HD13	1.66	0.77
14:N:9:LYS:HG2	14:N:10:ALA:N	1.97	0.77
1:A:972:C:O3'	10:J:57:LYS:HD2	1.83	0.77
7:G:16:LEU:HD22	7:G:16:LEU:H	1.47	0.77
3:C:130:VAL:HG23	3:C:131:ARG:N	1.99	0.77
5:E:122:GLU:OE1	5:E:131:ILE:HG12	1.84	0.77
23:Y:35:C:H2'	23:Y:36:C:H6	1.49	0.77
8:H:33:GLU:HA	8:H:36:LEU:HD21	1.65	0.77
7:G:32:ARG:O	7:G:34:GLY:N	2.17	0.77
1:A:149:A:H2'	1:A:150:C:C6	2.20	0.77
1:A:1311:G:H1	1:A:1326:C:H5	1.33	0.77

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:438:G:H4'	1:A:439:A:OP1	1.84	0.77
5:E:17:ALA:HA	5:E:26:PHE:HB3	1.64	0.77
9:I:26:VAL:HG22	9:I:61:ALA:HB3	1.67	0.77
1:A:924:C:H5'	1:A:1399:C:OP2	1.85	0.77
10:J:57:LYS:NZ	10:J:57:LYS:HB2	1.98	0.77
14:N:26:ARG:HH22	14:N:47:LEU:CD2	1.98	0.77
1:A:394:G:H2'	1:A:395:C:H6	1.48	0.77
10:J:27:ALA:HB2	10:J:85:LEU:HG	1.65	0.76
20:T:59:ALA:O	20:T:63:ILE:HG13	1.85	0.76
3:C:6:HIS:CD2	3:C:8:ILE:H	2.03	0.76
21:U:6:ARG:HH21	21:U:15:ARG:CD	1.97	0.76
22:X:2:G:H1	23:Y:36:C:H42	1.31	0.76
1:A:1488:G:O2'	1:A:1489:G:H5'	1.85	0.76
9:I:48:GLU:N	9:I:49:PRO:HD2	2.00	0.76
1:A:975:A:H4'	1:A:976:G:C5'	2.15	0.76
1:A:337:C:H2'	1:A:338:A:C8	2.20	0.76
9:I:34:ASN:HD22	9:I:34:ASN:N	1.81	0.76
2:B:15:VAL:O	2:B:17:PHE:N	2.17	0.76
3:C:155:GLY:HA3	3:C:196:LEU:HD22	1.66	0.76
7:G:117:ALA:HA	7:G:120:ILE:HD12	1.68	0.76
12:L:53:ARG:NH1	12:L:92:ASP:HB2	2.01	0.76
2:B:112:VAL:CG1	2:B:153:ARG:HA	2.15	0.76
3:C:64:VAL:HB	3:C:99:VAL:HB	1.67	0.76
1:A:192:U:C1'	20:T:103:GLY:HA2	2.15	0.76
1:A:1494:G:O2'	1:A:1495:U:H5'	1.86	0.76
1:A:191:G:C4	20:T:105:SER:HB3	2.21	0.76
1:A:580:U:H2'	1:A:581:G:O4'	1.86	0.76
7:G:118:VAL:CG1	7:G:119:ARG:H	1.96	0.76
10:J:64:GLU:O	10:J:65:LEU:HB3	1.86	0.76
2:B:102:LEU:HD21	2:B:162:ILE:HD11	1.68	0.76
12:L:70:ILE:HA	12:L:100:ILE:HG22	1.68	0.76
1:A:1519:A:H2'	1:A:1520:G:H5'	1.68	0.75
14:N:37:PHE:HB3	14:N:39:LEU:HD12	1.68	0.75
6:F:15:ASP:H	6:F:18:GLN:HE22	1.31	0.75
9:I:55:ALA:HA	9:I:58:ARG:HB2	1.68	0.75
12:L:38:THR:HG22	12:L:39:VAL:HG23	1.65	0.75
1:A:989:C:N4	1:A:1216:G:H1	1.83	0.75
18:R:58:LEU:HB3	18:R:62:GLU:HB2	1.68	0.75
20:T:56:MET:CE	20:T:88:VAL:HG11	2.16	0.75
1:A:250:A:H4'	1:A:251:G:O5'	1.85	0.75
7:G:115:ARG:HG3	7:G:118:VAL:HG12	1.67	0.75
1:A:524:G:H2'	1:A:525:C:H6	1.52	0.75

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
17:Q:5:VAL:HG13	17:Q:59:ILE:O	1.85	0.75
8:H:36:LEU:HA	8:H:39:LEU:HB2	1.69	0.75
3:C:180:ALA:CB	3:C:182:ILE:HG13	2.17	0.75
13:M:14:ARG:H	13:M:44:ARG:NH2	1.85	0.75
19:S:29:ARG:H	19:S:29:ARG:HD2	1.51	0.75
16:P:55:ARG:O	16:P:58:TYR:N	2.19	0.75
10:J:44:VAL:HG22	10:J:45:ARG:N	2.02	0.74
3:C:130:VAL:HB	3:C:134:ILE:HD11	1.67	0.74
1:A:718:G:H5'	11:K:117:ASN:HD22	1.52	0.74
7:G:50:ILE:O	7:G:54:THR:HG22	1.86	0.74
4:D:3:ARG:CZ	4:D:118:ARG:HH11	2.00	0.74
19:S:40:ILE:HB	19:S:67:VAL:O	1.87	0.74
1:A:404:U:H2'	1:A:405:U:H6	1.52	0.74
3:C:180:ALA:HB1	3:C:182:ILE:HG13	1.68	0.74
9:I:14:VAL:O	9:I:65:VAL:HG23	1.87	0.74
1:A:1104:G:H2'	1:A:1105:A:H8	1.51	0.74
12:L:103:GLY:O	12:L:107:ALA:HB3	1.87	0.74
1:A:1442(A):G:C5'	1:A:1442(B):A:H5'	2.14	0.74
2:B:139:LYS:O	2:B:143:GLU:HG3	1.87	0.74
1:A:633:G:H2'	1:A:634:C:C6	2.23	0.74
11:K:40:ILE:HG22	11:K:41:THR:HG23	1.69	0.74
14:N:26:ARG:O	14:N:27:CYS:HB3	1.85	0.74
17:Q:70:ARG:HH11	17:Q:70:ARG:HG3	1.52	0.74
3:C:19:GLU:HG2	3:C:40:ARG:HH21	1.52	0.74
1:A:1118:C:H5'	9:I:104:ARG:HG3	1.69	0.74
10:J:57:LYS:HZ2	10:J:60:ARG:HH12	1.36	0.74
11:K:121:PRO:HG2	11:K:126:ARG:CG	2.18	0.74
9:I:19:LEU:HD23	9:I:19:LEU:N	2.03	0.74
2:B:204:ASN:HD22	2:B:205:ASP:N	1.85	0.74
1:A:960:U:O2	1:A:960:U:H2'	1.85	0.74
17:Q:29:HIS:HD2	17:Q:32:TYR:H	1.31	0.74
5:E:110:LEU:HD13	5:E:118:ILE:HD12	1.68	0.74
1:A:130:A:O2'	1:A:131:C:H5''	1.87	0.74
2:B:25:ASN:C	2:B:25:ASN:HD22	1.88	0.74
1:A:383:A:H2'	1:A:384:G:H5'	1.70	0.74
1:A:540:G:H2'	1:A:541:G:C8	2.23	0.74
1:A:491:G:H2'	1:A:492:G:C8	2.22	0.74
5:E:77:PRO:O	5:E:78:HIS:HB3	1.87	0.73
1:A:1047:G:H2'	1:A:1048:G:H5'	1.70	0.73
1:A:382:A:H2'	1:A:383:A:C8	2.22	0.73
4:D:47:ARG:HG2	4:D:48:ALA:H	1.53	0.73
7:G:120:ILE:O	7:G:124:LEU:HD12	1.88	0.73

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:G:16:LEU:HD11	9:I:45:ALA:HB2	1.69	0.73
4:D:8:VAL:HG13	4:D:9:CYS:H	1.52	0.73
1:A:148:G:H2'	1:A:149:A:H8	1.53	0.73
1:A:177:C:H2'	1:A:178:C:H6	1.53	0.73
2:B:185:ILE:N	2:B:185:ILE:HD12	2.03	0.73
1:A:1362:C:H2'	1:A:1363:C:H5''	1.71	0.73
1:A:302:G:H5''	12:L:17:LYS:HE2	1.70	0.73
1:A:314:C:O2'	1:A:315:A:H5'	1.87	0.73
3:C:10:PHE:O	3:C:178:LEU:HD11	1.89	0.73
4:D:24:GLU:C	4:D:26:CYS:H	1.92	0.73
1:A:708:C:H2'	1:A:709:G:H8	1.52	0.73
1:A:481:G:O2'	1:A:483:C:N4	2.21	0.73
7:G:116:ALA:CA	7:G:119:ARG:HH21	2.01	0.73
7:G:17:VAL:HG12	7:G:18:TYR:HD1	1.52	0.73
4:D:121:VAL:O	4:D:134:ASP:HA	1.89	0.73
3:C:2:GLY:O	3:C:3:ASN:O	2.07	0.73
4:D:36:ARG:HG3	4:D:38:TYR:CZ	2.22	0.73
4:D:59:ARG:HH12	4:D:62:GLN:CG	2.01	0.73
18:R:39:VAL:O	18:R:42:ARG:HB2	1.89	0.73
1:A:865:A:H5'	1:A:1078:U:O4	1.88	0.73
14:N:45:ARG:HG3	14:N:45:ARG:HH11	1.54	0.73
1:A:625:G:H2'	1:A:626:U:C6	2.23	0.73
1:A:1370:G:O2'	1:A:1371:G:H5'	1.88	0.73
7:G:115:ARG:O	7:G:118:VAL:HG12	1.88	0.73
1:A:1158:C:H5''	2:B:133:LYS:NZ	2.04	0.73
1:A:986:A:C4'	19:S:55:LYS:HD3	2.16	0.73
2:B:24:TRP:CZ3	2:B:26:PRO:HA	2.24	0.73
1:A:1024:G:H2'	1:A:1025:U:C4'	2.18	0.72
1:A:957:U:H3	1:A:960:U:C5'	2.01	0.72
1:A:1204:A:H2'	1:A:1205:U:H5'	1.71	0.72
8:H:105:ARG:HG3	8:H:105:ARG:HH11	1.54	0.72
4:D:8:VAL:CG1	4:D:22:LYS:HE2	2.18	0.72
15:O:55:GLY:O	15:O:59:MET:HG3	1.89	0.72
17:Q:63:ARG:HG2	17:Q:64:PRO:HD2	1.70	0.72
1:A:922:G:H4'	5:E:20:GLN:HA	1.70	0.72
1:A:103:C:OP1	20:T:17:ARG:NH1	2.22	0.72
3:C:16:ARG:NH1	3:C:16:ARG:HB2	2.05	0.72
1:A:1287:A:H2'	1:A:1288:A:C8	2.23	0.72
10:J:9:ARG:HG2	10:J:69:ASN:OD1	1.89	0.72
2:B:213:LEU:HD23	2:B:214:ILE:N	2.04	0.72
21:U:6:ARG:NH2	21:U:15:ARG:HD3	1.98	0.72
12:L:55:VAL:CG1	12:L:56:ALA:H	1.94	0.72

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
15:O:31:LEU:HD12	15:O:31:LEU:H	1.54	0.72
4:D:126:ILE:HG22	4:D:127:THR:H	1.54	0.72
16:P:33:ILE:O	16:P:34:GLU:HB2	1.89	0.72
14:N:27:CYS:SG	14:N:29:ARG:NH1	2.61	0.72
2:B:178:ARG:HB3	2:B:178:ARG:NH1	2.03	0.72
1:A:21:G:H2'	1:A:22:G:H8	1.54	0.72
11:K:54:ARG:O	11:K:57:THR:HG22	1.89	0.72
5:E:32:VAL:HG12	5:E:58:ALA:HB1	1.72	0.72
1:A:1241:G:H2'	1:A:1242:C:C6	2.25	0.72
6:F:74:ASP:O	6:F:77:ARG:HG2	1.89	0.72
10:J:16:LEU:HD21	10:J:94:VAL:CG1	2.20	0.72
18:R:53:ARG:HG3	18:R:63:GLN:HG2	1.71	0.72
1:A:435:C:O2'	1:A:436:C:H5'	1.90	0.72
17:Q:10:VAL:HG12	17:Q:53:LEU:HD12	1.70	0.72
3:C:112:SER:OG	3:C:115:LEU:HB2	1.90	0.72
1:A:337:C:H2'	1:A:338:A:H8	1.55	0.72
1:A:1425:U:H2'	1:A:1426:C:C6	2.24	0.72
9:I:6:GLY:N	9:I:84:ALA:HB2	2.05	0.72
4:D:59:ARG:NH1	4:D:62:GLN:HG3	2.03	0.72
8:H:60:ARG:HD2	8:H:62:TYR:OH	1.90	0.72
2:B:42:ILE:HD12	2:B:203:GLY:HA2	1.72	0.72
3:C:91:LEU:O	3:C:91:LEU:HD23	1.90	0.72
1:A:1521:G:H2'	1:A:1522:U:C6	2.24	0.72
1:A:1392:G:H21	1:A:1502:A:H8	1.36	0.72
1:A:1151:A:C5'	10:J:41:PRO:HA	2.19	0.71
1:A:1419:G:H2'	1:A:1420:C:C6	2.25	0.71
6:F:1:MET:HB3	6:F:66:GLU:HG2	1.72	0.71
7:G:50:ILE:HG21	7:G:58:PRO:HA	1.72	0.71
1:A:1321:C:H3'	1:A:1322:C:C5'	2.18	0.71
15:O:78:TYR:O	15:O:82:ILE:HD12	1.90	0.71
1:A:1349:A:P	9:I:118:LYS:HZ1	2.13	0.71
2:B:97:TRP:CH2	2:B:101:MET:HB2	2.25	0.71
1:A:100:C:H2'	1:A:101:A:C8	2.25	0.71
12:L:119:LYS:O	12:L:120:TYR:HB2	1.90	0.71
19:S:52:TYR:HA	19:S:56:GLN:O	1.91	0.71
1:A:1412:C:H2'	1:A:1413:A:C8	2.24	0.71
13:M:81:LEU:HA	13:M:84:ILE:HD11	1.71	0.71
17:Q:80:GLY:O	17:Q:81:ARG:HB3	1.88	0.71
1:A:393:A:O2'	1:A:394:G:H5'	1.90	0.71
4:D:20:TYR:HA	4:D:26:CYS:SG	2.31	0.71
12:L:6:THR:H	12:L:9:GLN:HE21	1.38	0.71
5:E:43:LEU:HD22	5:E:44:GLY:N	2.04	0.71

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:75:LYS:CE	2:B:96:ARG:HH12	2.03	0.71
1:A:390:C:O3'	16:P:28:ARG:NH2	2.22	0.71
1:A:265:G:H2'	1:A:267:C:C5	2.24	0.71
8:H:83:ILE:HD12	8:H:137:VAL:HG22	1.71	0.71
6:F:15:ASP:N	6:F:18:GLN:HE22	1.88	0.71
1:A:322:C:O2'	1:A:323:U:H5'	1.91	0.71
1:A:456:C:H2'	1:A:457:C:C6	2.25	0.71
12:L:83:VAL:HG22	12:L:84:LEU:N	2.03	0.71
5:E:51:VAL:HB	5:E:52:PRO:CD	2.20	0.71
1:A:434:U:H2'	1:A:435:C:C6	2.25	0.71
1:A:1024:G:C2'	1:A:1025:U:H4'	2.21	0.71
19:S:22:LEU:HD13	19:S:28:LYS:HG2	1.71	0.71
1:A:179:A:H2'	1:A:180:U:C6	2.26	0.71
12:L:69:TYR:HB2	12:L:96:VAL:HG11	1.73	0.71
1:A:1286:A:C8	1:A:1287:A:H4'	2.24	0.71
9:I:10:ARG:HD3	9:I:105:ASP:HB3	1.73	0.71
3:C:3:ASN:O	3:C:4:LYS:HG2	1.90	0.71
9:I:76:ALA:O	9:I:79:LEU:HB2	1.90	0.71
1:A:501:C:H2'	1:A:502:G:C8	2.22	0.71
1:A:1243:C:H2'	1:A:1244:C:C6	2.26	0.71
1:A:1104:G:H4'	2:B:111:ARG:CZ	2.20	0.71
2:B:16:HIS:O	2:B:18:GLY:N	2.24	0.71
4:D:57:ARG:NE	4:D:205:GLU:OE2	2.23	0.71
1:A:1103:C:C5'	2:B:98:LEU:HD12	2.20	0.71
1:A:1015:A:H2'	1:A:1016:A:C8	2.25	0.71
3:C:188:LEU:H	3:C:188:LEU:CD1	2.01	0.71
1:A:1068:G:H8	1:A:1068:G:OP2	1.73	0.70
11:K:84:VAL:HG21	18:R:88:LYS:HD3	1.72	0.70
1:A:1493:A:C8	22:X:2:G:H1'	2.25	0.70
1:A:359:U:H2'	1:A:360:A:H8	1.54	0.70
1:A:1118:C:H2'	1:A:1119:C:H6	1.56	0.70
1:A:1110:A:H8	1:A:1110:A:O5'	1.74	0.70
14:N:16:PHE:HD1	14:N:19:ARG:HD2	1.56	0.70
1:A:235:C:H5'	17:Q:70:ARG:HD3	1.73	0.70
1:A:63:C:H42	1:A:104:G:H1	1.39	0.70
1:A:667:G:H4'	15:O:51:HIS:ND1	2.05	0.70
10:J:49:VAL:CG1	14:N:41:ARG:HB2	2.21	0.70
13:M:44:ARG:O	13:M:46:LYS:N	2.24	0.70
12:L:6:THR:H	12:L:9:GLN:NE2	1.88	0.70
1:A:1435:G:H2'	1:A:1436:U:C6	2.26	0.70
1:A:778:G:O2'	1:A:779:C:H5'	1.91	0.70
10:J:24:VAL:O	10:J:28:ARG:HB2	1.91	0.70

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:101:MET:O	2:B:105:PHE:HA	1.91	0.70
20:T:10:LEU:O	20:T:13:LEU:HG	1.91	0.70
4:D:11:LEU:O	4:D:15:GLU:HB2	1.92	0.70
1:A:530:G:H2'	23:Y:36:C:O2'	1.91	0.70
4:D:161:ASN:HD22	4:D:162:LEU:N	1.89	0.70
1:A:1065:U:H4'	1:A:1066:C:O5'	1.91	0.70
15:O:54:ARG:HA	15:O:57:LEU:HD13	1.74	0.70
1:A:1330:U:H4'	13:M:23:TYR:CE1	2.26	0.70
1:A:818:G:C2'	1:A:819:A:H5''	2.21	0.70
1:A:1426:C:H2'	1:A:1427:U:C6	2.27	0.70
9:I:7:THR:O	9:I:83:ARG:HD3	1.92	0.70
1:A:994:A:N7	1:A:1216:G:H4'	2.07	0.70
4:D:187:ARG:NH1	4:D:188:LEU:HD12	2.06	0.70
7:G:137:LYS:O	7:G:141:VAL:HG23	1.91	0.70
1:A:1128:C:H5''	9:I:16:ARG:HH22	1.57	0.70
11:K:90:GLY:O	11:K:93:GLN:HB2	1.91	0.70
17:Q:21:VAL:HG21	17:Q:59:ILE:HG13	1.74	0.70
21:U:9:ARG:NH1	21:U:22:ARG:HA	2.07	0.70
1:A:80:G:H3'	1:A:81:U:H5''	1.74	0.70
4:D:23:GLY:HA3	4:D:112:VAL:CG1	2.19	0.70
1:A:1499:A:O2'	1:A:1500:A:H5'	1.89	0.70
13:M:49:THR:HG22	13:M:51:ALA:H	1.57	0.70
2:B:69:LEU:HD23	2:B:70:PHE:N	2.06	0.70
9:I:128:ARG:HA	9:I:128:ARG:HH11	1.56	0.70
1:A:1277:C:H2'	1:A:1278:U:C5'	2.20	0.70
20:T:55:ILE:H	20:T:55:ILE:HD12	1.57	0.70
1:A:267:C:H2'	1:A:268:C:C6	2.27	0.70
5:E:14:ARG:HD3	5:E:29:GLY:HA3	1.74	0.70
1:A:1430:C:O2'	1:A:1431:C:H5'	1.91	0.70
2:B:41:ILE:HD12	2:B:41:ILE:N	2.07	0.69
3:C:79:ARG:HG2	3:C:82:GLU:CG	2.22	0.69
9:I:80:GLY:C	9:I:82:ALA:H	1.96	0.69
1:A:376:G:H5''	16:P:5:ARG:HB2	1.72	0.69
1:A:918:A:H2'	1:A:919:A:C8	2.27	0.69
3:C:127:ARG:HD2	3:C:127:ARG:N	2.06	0.69
9:I:43:ALA:N	9:I:74:ILE:HD13	2.07	0.69
1:A:946:A:H2'	1:A:947:G:C8	2.27	0.69
14:N:26:ARG:HH12	14:N:47:LEU:HD21	1.55	0.69
11:K:33:THR:HG22	11:K:39:PRO:HA	1.75	0.69
7:G:116:ALA:O	7:G:120:ILE:HG13	1.92	0.69
1:A:394:G:H2'	1:A:395:C:C6	2.27	0.69
1:A:708:C:H2'	1:A:709:G:C8	2.27	0.69

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:C:27:LYS:HB3	3:C:30:ARG:HH21	1.56	0.69
1:A:1250:A:H4'	9:I:68:GLY:H	1.57	0.69
1:A:1238:A:C5'	1:A:1336:C:H41	2.05	0.69
9:I:118:LYS:HZ2	9:I:121:ARG:HB2	1.58	0.69
1:A:991:U:O2	1:A:991:U:H2'	1.92	0.69
8:H:38:ILE:O	8:H:42:GLU:HB2	1.93	0.69
3:C:178:LEU:O	3:C:179:ARG:HB2	1.90	0.69
2:B:12:GLU:OE1	2:B:12:GLU:HA	1.92	0.69
1:A:1325:C:P	21:U:6:ARG:HH22	2.16	0.69
19:S:41:VAL:O	19:S:44:MET:HB3	1.91	0.69
1:A:911:U:H2'	1:A:912:C:H6	1.57	0.69
23:Y:35:C:H2'	23:Y:36:C:C6	2.27	0.69
1:A:1118:C:H1'	1:A:1179:A:C4	2.28	0.69
1:A:1477:C:H2'	1:A:1478:C:C6	2.27	0.69
1:A:1343:G:H1'	9:I:121:ARG:HH12	1.57	0.69
10:J:5:ARG:O	10:J:98:ILE:HG22	1.93	0.69
10:J:46:ARG:HG2	10:J:46:ARG:HH11	1.56	0.69
15:O:33:THR:HG23	15:O:63:ARG:HH12	1.57	0.69
4:D:57:ARG:HG2	4:D:202:LEU:CD2	2.20	0.69
1:A:456:C:H2'	1:A:457:C:H6	1.58	0.69
1:A:1436:U:H2'	1:A:1437:C:H6	1.57	0.69
2:B:217:ARG:O	2:B:220:ASP:HB2	1.93	0.69
1:A:666:G:H5'	1:A:726:C:H1'	1.73	0.69
4:D:17:VAL:HG12	4:D:18:LYS:N	2.07	0.69
3:C:84:ILE:HG12	3:C:88:ARG:HH11	1.58	0.69
6:F:94:GLN:NE2	18:R:32:ARG:HD3	2.07	0.69
3:C:29:TYR:OH	14:N:54:PRO:HD2	1.93	0.69
16:P:23:ASP:OD1	16:P:25:ARG:HD3	1.93	0.69
7:G:38:LEU:O	7:G:42:ILE:HG13	1.93	0.69
5:E:15:ARG:NH1	5:E:26:PHE:CE2	2.61	0.69
1:A:1437:C:H2'	1:A:1438:G:H8	1.58	0.69
1:A:1191:A:H2'	1:A:1192:C:H6	1.58	0.69
3:C:116:VAL:O	3:C:120:VAL:HG23	1.93	0.68
1:A:613:C:O2'	1:A:614:A:H5'	1.92	0.68
2:B:85:ALA:CB	2:B:92:TYR:HB3	2.23	0.68
4:D:96:LEU:HD13	4:D:96:LEU:H	1.58	0.68
10:J:6:ILE:N	10:J:6:ILE:HD12	2.08	0.68
2:B:44:LEU:HA	2:B:47:THR:OG1	1.93	0.68
6:F:30:LEU:HB3	6:F:35:ALA:HB3	1.74	0.68
8:H:4:ASP:OD2	8:H:85:ARG:NH1	2.26	0.68
9:I:24:GLY:O	9:I:26:VAL:HG23	1.92	0.68
1:A:163:C:O2'	1:A:164:U:H5'	1.94	0.68

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:G:14:PRO:O	7:G:20:ASP:N	2.26	0.68
13:M:29:ARG:HB3	13:M:64:TRP:CH2	2.29	0.68
1:A:1504:G:OP2	1:A:1504:G:H3'	1.92	0.68
1:A:718:G:C5'	11:K:117:ASN:HD22	2.05	0.68
1:A:1190:G:OP2	3:C:5:ILE:HG23	1.93	0.68
1:A:1104:G:H2'	1:A:1105:A:C8	2.28	0.68
2:B:77:ALA:CB	2:B:211:ILE:HG21	2.24	0.68
1:A:1313:U:H5	19:S:4:SER:HB2	1.58	0.68
10:J:49:VAL:HG11	14:N:41:ARG:HB2	1.75	0.68
1:A:1150:U:O2'	10:J:41:PRO:HD3	1.93	0.68
1:A:376:G:P	16:P:67:THR:HG21	2.33	0.68
1:A:1305:G:H22	1:A:1331:G:H2'	1.55	0.68
1:A:191:G:H1'	20:T:105:SER:HA	1.74	0.68
1:A:449:C:H2'	1:A:450:G:O4'	1.94	0.68
4:D:100:ARG:HB3	4:D:102:ASP:OD1	1.93	0.68
2:B:140:HIS:C	2:B:142:LEU:H	1.97	0.68
1:A:1262:C:H2'	1:A:1263:C:C6	2.28	0.68
9:I:108:VAL:HG12	9:I:109:VAL:N	2.08	0.68
12:L:47:LYS:CB	12:L:48:PRO:HD3	2.24	0.68
12:L:92:ASP:C	12:L:93:LEU:HD23	2.14	0.68
20:T:55:ILE:N	20:T:55:ILE:HD12	2.09	0.68
12:L:28:LYS:C	12:L:30:ALA:H	1.96	0.68
3:C:156:ARG:HA	3:C:163:ALA:HA	1.74	0.68
1:A:1349:A:OP1	9:I:118:LYS:NZ	2.26	0.68
1:A:1130:A:N6	1:A:1144:G:H21	1.92	0.68
16:P:49:LEU:HD12	16:P:50:LYS:N	2.08	0.68
1:A:791:G:C2'	1:A:792:A:H5'	2.23	0.68
20:T:37:SER:HB3	20:T:84:LEU:HD23	1.75	0.68
1:A:1073:U:H2'	1:A:1074:G:C8	2.28	0.68
10:J:80:LYS:O	10:J:84:GLN:HG3	1.93	0.68
2:B:16:HIS:HA	2:B:204:ASN:CB	2.24	0.68
16:P:55:ARG:O	16:P:58:TYR:HB3	1.94	0.68
8:H:45:ILE:O	8:H:45:ILE:HG13	1.93	0.68
5:E:12:LEU:CD1	5:E:31:LEU:HB2	2.24	0.68
1:A:1502:A:H3'	1:A:1503:A:H5''	1.75	0.68
10:J:12:ASP:O	10:J:15:THR:HG22	1.93	0.68
5:E:36:ASP:O	5:E:37:ARG:HB2	1.93	0.68
1:A:967:C:H5''	1:A:968:A:H2'	1.75	0.68
1:A:979:C:O2	14:N:19:ARG:HG3	1.93	0.68
7:G:26:PHE:CE2	7:G:30:ILE:HD11	2.29	0.67
1:A:1123:A:H4'	10:J:37:PRO:HD2	1.75	0.67
2:B:68:ILE:HB	2:B:90:MET:CE	2.22	0.67

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:952:U:H2'	1:A:953:G:H8	1.57	0.67
3:C:11:ARG:HG3	3:C:178:LEU:HD12	1.76	0.67
1:A:1014:A:H2'	1:A:1015:A:C8	2.29	0.67
20:T:57:ARG:NH2	20:T:100:ILE:HD13	2.08	0.67
13:M:50:GLU:O	13:M:54:VAL:HG23	1.94	0.67
1:A:107:G:H2'	1:A:108:G:H5'	1.75	0.67
17:Q:66:SER:O	17:Q:70:ARG:NH1	2.28	0.67
9:I:23:ASN:ND2	9:I:24:GLY:H	1.92	0.67
1:A:1391:U:H2'	1:A:1392:G:C8	2.29	0.67
3:C:150:LYS:HE2	3:C:173:VAL:HG11	1.77	0.67
2:B:30:ARG:HD2	2:B:31:TYR:CZ	2.29	0.67
4:D:98:GLU:HG2	4:D:189:PRO:HG3	1.77	0.67
1:A:1067:A:N3	1:A:1068:G:H1'	2.09	0.67
1:A:427:U:OP1	4:D:13:ARG:NH2	2.26	0.67
1:A:539:A:OP1	12:L:114:LYS:HE2	1.95	0.67
1:A:1006:C:H2'	1:A:1007:C:H6	1.59	0.67
2:B:56:ARG:HB2	2:B:56:ARG:NH1	2.10	0.67
7:G:108:ALA:HB2	7:G:123:GLU:CG	2.24	0.67
1:A:1515:C:O2'	1:A:1516:G:H5'	1.93	0.67
1:A:1030(A):G:N2	1:A:1030(C):G:H3'	2.08	0.67
12:L:58:VAL:O	12:L:65:GLU:HA	1.94	0.67
12:L:110:VAL:HG23	12:L:120:TYR:O	1.94	0.67
2:B:91:PRO:CG	2:B:154:LEU:HB2	2.19	0.67
10:J:57:LYS:HB2	10:J:60:ARG:NH1	2.10	0.67
2:B:108:ILE:HG22	2:B:108:ILE:O	1.94	0.67
1:A:986:A:H2'	1:A:987:G:C8	2.30	0.67
4:D:26:CYS:HA	4:D:31:CYS:HB2	1.75	0.67
1:A:192:U:H4'	20:T:57:ARG:HD2	1.77	0.67
1:A:1487:G:O2'	1:A:1488:G:H5'	1.94	0.67
7:G:26:PHE:HD1	7:G:101:LEU:HD22	1.60	0.67
3:C:120:VAL:O	3:C:124:ILE:HG13	1.95	0.67
5:E:34:VAL:HG22	5:E:62:ALA:HB1	1.77	0.67
1:A:639:G:O2'	1:A:640:A:H5'	1.94	0.67
2:B:167:PRO:HG3	2:B:188:ALA:HB2	1.76	0.67
3:C:29:TYR:O	3:C:33:LEU:HD22	1.93	0.67
3:C:34:LEU:HD23	3:C:34:LEU:O	1.94	0.67
1:A:735:C:O2'	1:A:736:C:H5'	1.95	0.67
1:A:1014:A:C2	1:A:1219:U:H1'	2.30	0.67
1:A:255:G:O6	1:A:266:G:O6	2.13	0.67
1:A:797:C:O2'	1:A:798:G:H5'	1.95	0.67
1:A:1133:G:H2'	1:A:1134:G:C8	2.30	0.67
1:A:975:A:C4'	1:A:976:G:H5"	2.25	0.66

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:G:47:CYS:HA	7:G:50:ILE:HG12	1.75	0.66
1:A:1316:G:H4'	14:N:18:VAL:HG11	1.77	0.66
16:P:53:VAL:HG23	16:P:54:GLU:N	2.09	0.66
1:A:954:G:H21	1:A:1227:A:H62	1.43	0.66
1:A:746:A:O2'	1:A:747:C:H5'	1.95	0.66
14:N:47:LEU:HB3	14:N:52:GLN:HB2	1.76	0.66
4:D:8:VAL:HB	4:D:115:ARG:NH1	2.10	0.66
12:L:24:VAL:HG12	12:L:24:VAL:O	1.94	0.66
1:A:22:G:H2'	1:A:23:C:C6	2.30	0.66
17:Q:76:LEU:HD23	17:Q:76:LEU:C	2.16	0.66
1:A:1006:C:H2'	1:A:1007:C:O4'	1.96	0.66
1:A:339:C:H2'	1:A:340:U:C6	2.30	0.66
1:A:1127:G:H21	1:A:1147:C:N4	1.93	0.66
12:L:28:LYS:C	12:L:30:ALA:N	2.47	0.66
21:U:9:ARG:HH12	21:U:23:PRO:HD2	1.61	0.66
9:I:99:LEU:HB3	9:I:101:PHE:CE1	2.30	0.66
8:H:109:ILE:HG13	8:H:110:ALA:N	2.09	0.66
12:L:90:VAL:HG22	12:L:99:HIS:CE1	2.29	0.66
11:K:51:LYS:O	11:K:55:LYS:HG3	1.96	0.66
7:G:60:LYS:HD3	7:G:60:LYS:O	1.96	0.66
7:G:113:GLU:H	7:G:113:GLU:CD	1.99	0.66
3:C:180:ALA:C	3:C:182:ILE:H	1.96	0.66
7:G:70:LYS:CG	7:G:96:GLN:HG2	2.23	0.66
15:O:27:VAL:HG12	15:O:31:LEU:HD11	1.77	0.66
1:A:1057:G:O2'	1:A:1058:G:H5'	1.96	0.66
1:A:620:C:H2'	1:A:621:A:O4'	1.95	0.66
1:A:1357:A:H2'	1:A:1358:U:C6	2.30	0.66
14:N:26:ARG:NH1	14:N:47:LEU:HD21	2.11	0.66
2:B:121:LEU:HD23	2:B:121:LEU:O	1.96	0.66
8:H:91:ARG:HG3	8:H:91:ARG:HH11	1.60	0.66
1:A:547:A:H4'	1:A:548:G:O5'	1.95	0.66
4:D:3:ARG:CZ	4:D:118:ARG:NH1	2.58	0.66
1:A:1320:C:H1'	19:S:72:GLY:C	2.16	0.66
7:G:93:PRO:HG2	7:G:94:ARG:H	1.59	0.66
1:A:601:C:O2'	1:A:602:A:H5'	1.96	0.66
1:A:927:G:H4'	1:A:1503:A:N7	2.11	0.66
1:A:924:C:O2'	1:A:925:G:H5'	1.95	0.66
4:D:146:ILE:N	4:D:146:ILE:HD12	2.11	0.66
6:F:91:VAL:HG21	18:R:72:ARG:NH1	2.11	0.66
1:A:1253:G:H5'	10:J:44:VAL:HG12	1.76	0.66
1:A:138:G:C3'	1:A:139:G:H5''	2.26	0.66
8:H:4:ASP:HB2	8:H:89:PRO:HG2	1.78	0.66

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1397:C:H4'	1:A:1398:A:OP2	1.94	0.66
1:A:1508:G:O2'	1:A:1509:C:H5'	1.95	0.66
13:M:10:PRO:O	13:M:11:ARG:HB2	1.94	0.66
5:E:60:TYR:O	5:E:64:ARG:HG2	1.96	0.66
8:H:80:ILE:O	8:H:80:ILE:HG22	1.96	0.66
7:G:116:ALA:HA	7:G:119:ARG:NH2	2.11	0.66
16:P:21:VAL:HG12	16:P:33:ILE:CD1	2.23	0.66
1:A:17:U:H2'	1:A:18:C:C6	2.30	0.66
20:T:71:THR:O	20:T:72:LEU:HD23	1.96	0.66
3:C:19:GLU:HG2	3:C:40:ARG:NH2	2.11	0.66
1:A:175:C:H2'	1:A:176:C:H6	1.60	0.66
9:I:75:ASP:O	9:I:78:LYS:HB3	1.96	0.66
1:A:1343:G:O3'	9:I:122:ALA:HB3	1.96	0.65
1:A:404:U:H2'	1:A:405:U:C6	2.31	0.65
5:E:51:VAL:O	5:E:54:ALA:HB3	1.96	0.65
5:E:80:ILE:HD11	5:E:91:LEU:CD1	2.25	0.65
18:R:61:LYS:O	18:R:65:ILE:HG13	1.96	0.65
1:A:664:G:OP1	18:R:64:ARG:HD2	1.96	0.65
8:H:64:LYS:HG3	8:H:79:VAL:HG21	1.77	0.65
12:L:85:ILE:CG2	12:L:98:TYR:HB3	2.27	0.65
23:Y:36:C:H2'	23:Y:36:C:O2	1.97	0.65
1:A:707:C:H2'	1:A:708:C:C6	2.30	0.65
1:A:154:C:H2'	1:A:155:C:H6	1.59	0.65
1:A:1372:U:OP2	9:I:11:LYS:HD2	1.96	0.65
1:A:407:G:O2'	4:D:116:GLN:HG3	1.96	0.65
3:C:4:LYS:NZ	3:C:4:LYS:HB3	2.11	0.65
12:L:71:PRO:CG	12:L:102:ARG:HG3	2.26	0.65
19:S:69:HIS:HD1	19:S:74:PHE:HZ	1.43	0.65
5:E:57:LYS:HG2	5:E:61:TYR:HE2	1.62	0.65
1:A:1211:U:H1'	1:A:1213:A:C2	2.30	0.65
1:A:1286:A:H8	1:A:1287:A:H4'	1.61	0.65
6:F:23:LYS:O	6:F:27:GLN:HB2	1.96	0.65
13:M:9:ILE:N	13:M:9:ILE:HD12	2.11	0.65
2:B:16:HIS:HA	2:B:204:ASN:HB2	1.76	0.65
1:A:1178:G:N2	1:A:1180:A:H3'	2.10	0.65
1:A:538:G:OP1	12:L:113:ARG:HD3	1.95	0.65
1:A:1495:U:H2'	1:A:1496:C:C6	2.31	0.65
1:A:369:C:H2'	1:A:370:C:H6	1.60	0.65
1:A:174:C:H2'	1:A:175:C:H6	1.60	0.65
2:B:217:ARG:HA	2:B:220:ASP:OD2	1.95	0.65
1:A:109:A:H2'	1:A:326:G:N2	2.11	0.65
1:A:142:G:N3	1:A:196:A:H2	1.94	0.65

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:410:G:H2'	1:A:429:U:C5	2.32	0.65
2:B:116:GLU:O	2:B:119:GLU:HG2	1.96	0.65
4:D:20:TYR:HB3	4:D:26:CYS:HB3	1.79	0.65
1:A:1305:G:OP1	21:U:2:GLY:HA3	1.97	0.65
13:M:15:VAL:HG12	13:M:19:LEU:HG	1.77	0.65
18:R:39:VAL:HG13	18:R:40:LEU:N	2.12	0.65
9:I:10:ARG:HD2	9:I:11:LYS:H	1.61	0.65
9:I:17:VAL:CG2	9:I:80:GLY:HA3	2.27	0.65
2:B:207:ALA:C	2:B:208:ILE:HD12	2.17	0.65
1:A:1269:A:C2	1:A:1313:U:H1'	2.32	0.65
7:G:149:ARG:O	7:G:149:ARG:HD2	1.96	0.65
1:A:76:C:O2'	1:A:77:G:H5'	1.97	0.65
4:D:107:ARG:HH21	4:D:114:ARG:NH2	1.95	0.65
1:A:1360:A:H2'	1:A:1361:G:O4'	1.96	0.65
1:A:853:G:O2'	1:A:854:G:H5'	1.96	0.65
1:A:1251:A:H4'	9:I:12:GLU:OE2	1.97	0.65
1:A:1349:A:P	9:I:118:LYS:NZ	2.70	0.65
7:G:69:VAL:HG11	7:G:134:ALA:HB1	1.79	0.65
19:S:30:LEU:HA	19:S:48:THR:O	1.96	0.65
1:A:254:G:OP1	17:Q:67:LYS:O	2.14	0.65
21:U:9:ARG:HH22	21:U:23:PRO:HD2	1.62	0.65
1:A:1470:G:O2'	1:A:1471:G:H5'	1.97	0.65
12:L:18:VAL:HG12	12:L:19:ARG:H	1.61	0.65
1:A:812:C:HO2'	1:A:813:U:P	2.19	0.65
9:I:50:LEU:C	9:I:52:ALA:H	1.98	0.65
9:I:81:ILE:O	9:I:81:ILE:HG22	1.97	0.65
19:S:12:ASP:HB2	19:S:15:LEU:HD23	1.77	0.65
1:A:384:G:H2'	1:A:385:C:C6	2.32	0.65
1:A:112:G:H4'	1:A:389:A:H5''	1.78	0.65
1:A:657:G:O2'	1:A:658:G:H5'	1.97	0.65
1:A:1205:U:O2	1:A:1205:U:H2'	1.95	0.65
1:A:1047:G:C2'	1:A:1048:G:H5'	2.26	0.65
3:C:27:LYS:HA	3:C:30:ARG:HE	1.60	0.65
3:C:150:LYS:HE2	3:C:173:VAL:CG1	2.26	0.65
1:A:765:G:H1	1:A:812:C:H2'	1.62	0.65
1:A:997:U:H2'	1:A:998:G:O4'	1.96	0.65
18:R:22:VAL:HG12	18:R:23:LYS:N	2.11	0.65
1:A:1287:A:H2'	1:A:1288:A:H8	1.62	0.65
9:I:128:ARG:HA	9:I:128:ARG:CZ	2.26	0.65
7:G:71:PRO:HD3	7:G:103:TRP:HZ3	1.62	0.65
7:G:65:ALA:HB1	7:G:127:ALA:HB3	1.78	0.65
17:Q:23:VAL:CG1	17:Q:24:GLU:N	2.60	0.65

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1271:G:H2'	1:A:1272:G:H5''	1.77	0.65
10:J:32:ALA:O	10:J:34:VAL:HG23	1.97	0.65
1:A:1012:U:H2'	1:A:1013:G:C8	2.32	0.65
19:S:39:THR:HG22	19:S:40:ILE:N	2.12	0.65
3:C:22:TRP:HB3	3:C:59:ARG:CG	2.27	0.65
1:A:1392:G:O2'	1:A:1502:A:H5''	1.97	0.65
1:A:168:G:O2'	1:A:169:C:H5'	1.96	0.65
2:B:15:VAL:HG11	2:B:209:ARG:HB3	1.79	0.64
1:A:1218:C:H2'	1:A:1219:U:C6	2.32	0.64
1:A:1118:C:C5'	9:I:104:ARG:HG3	2.27	0.64
6:F:101:ALA:HA	18:R:28:GLU:HB3	1.79	0.64
13:M:62:ASN:O	13:M:63:THR:HB	1.98	0.64
1:A:1347:G:H22	1:A:1373:G:C2'	1.99	0.64
1:A:1125:U:H5	10:J:73:ASP:OD2	1.79	0.64
1:A:933:G:N7	7:G:3:ARG:NH1	2.44	0.64
12:L:111:LYS:O	12:L:112:ASP:HB3	1.97	0.64
1:A:148:G:H2'	1:A:149:A:C8	2.32	0.64
1:A:149:A:H2'	1:A:150:C:H6	1.59	0.64
1:A:295:C:O2'	1:A:296:U:H5'	1.97	0.64
16:P:51:VAL:O	16:P:52:ASP:HB3	1.96	0.64
4:D:187:ARG:HD2	4:D:188:LEU:N	2.13	0.64
1:A:1306:A:N6	1:A:1331:G:H1'	2.12	0.64
4:D:131:ARG:HA	4:D:131:ARG:NE	2.12	0.64
5:E:57:LYS:HG2	5:E:61:TYR:CE2	2.32	0.64
1:A:1425:U:H3	1:A:1475:G:H1	1.45	0.64
3:C:43:LEU:HA	3:C:47:LEU:HD13	1.79	0.64
9:I:33:PHE:C	9:I:35:GLU:H	2.01	0.64
3:C:177:THR:HG23	3:C:180:ALA:HB2	1.77	0.64
1:A:959:A:C3'	1:A:960:U:H5''	2.25	0.64
1:A:129(A):G:O2'	1:A:130:A:OP2	2.11	0.64
13:M:3:ARG:HA	13:M:8:GLU:O	1.96	0.64
1:A:953:G:H2'	1:A:954:G:O4'	1.97	0.64
11:K:124:LYS:HD3	11:K:125:PHE:HE1	1.62	0.64
7:G:57:GLU:O	7:G:61:VAL:HG23	1.97	0.64
14:N:24:CYS:HB2	14:N:40:CYS:HB3	1.79	0.64
2:B:142:LEU:O	2:B:146:GLN:HG3	1.98	0.64
8:H:134:ILE:O	8:H:135:CYS:HB3	1.97	0.64
1:A:304:U:H2'	1:A:305:G:C8	2.32	0.64
6:F:33:TYR:HB2	6:F:75:LEU:HD23	1.80	0.64
1:A:186:C:H2'	1:A:187:C:C6	2.33	0.64
10:J:6:ILE:CD1	10:J:72:VAL:HB	2.25	0.64
1:A:1247:U:O2'	1:A:1248:A:H5'	1.97	0.64

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:12:GLU:C	2:B:14:GLY:H	2.01	0.64
2:B:61:LEU:HG	2:B:66:GLY:HA3	1.80	0.64
15:O:77:ARG:O	15:O:80:ALA:HB3	1.98	0.64
13:M:65:LYS:C	13:M:66:LEU:HD12	2.17	0.64
1:A:333:G:H4'	20:T:16:HIS:CD2	2.33	0.64
16:P:82:GLN:O	16:P:84:ALA:N	2.30	0.64
1:A:476:G:H2'	1:A:477:A:C8	2.32	0.64
2:B:71:VAL:HG12	2:B:170:GLU:HG2	1.80	0.64
1:A:542:G:H2'	1:A:543:C:H6	1.63	0.64
1:A:1305:G:N2	1:A:1331:G:O2'	2.31	0.64
6:F:60:PHE:CZ	18:R:78:LEU:HD21	2.32	0.64
13:M:110:ARG:HH11	13:M:110:ARG:HG3	1.63	0.64
20:T:91:LEU:C	20:T:93:GLU:H	2.00	0.64
1:A:88:A:H2'	1:A:89:C:O4'	1.97	0.64
1:A:1123:A:H8	10:J:39:PRO:HD3	1.59	0.64
3:C:155:GLY:CA	3:C:196:LEU:HD22	2.27	0.64
1:A:1060:C:H2'	1:A:1061:G:H8	1.63	0.64
1:A:127:G:HO2'	17:Q:2:PRO:N	1.96	0.64
1:A:976:G:H5'	1:A:1358:U:O2'	1.98	0.64
3:C:6:HIS:HD2	3:C:8:ILE:N	1.95	0.64
10:J:32:ALA:HA	10:J:75:ILE:O	1.97	0.64
5:E:91:LEU:HD23	5:E:120:THR:CG2	2.28	0.64
1:A:1195:C:H3'	1:A:1196:U:H5'	1.80	0.64
6:F:15:ASP:OD1	6:F:17:SER:HB3	1.98	0.64
1:A:866:C:H2'	1:A:867:G:O4'	1.97	0.64
19:S:14:HIS:O	19:S:18:LYS:HE3	1.97	0.64
17:Q:62:SER:OG	17:Q:72:ARG:HG3	1.98	0.64
1:A:1291:G:H2'	1:A:1292:U:C6	2.33	0.64
4:D:64:LEU:HD12	4:D:75:PHE:CE1	2.33	0.64
1:A:1127:G:N2	1:A:1146:A:H62	1.95	0.63
1:A:1316:G:H4'	14:N:18:VAL:CG1	2.28	0.63
17:Q:29:HIS:CD2	17:Q:32:TYR:N	2.60	0.63
16:P:8:ARG:HG3	16:P:8:ARG:O	1.97	0.63
13:M:26:GLY:O	13:M:28:ALA:N	2.31	0.63
18:R:22:VAL:O	18:R:24:ALA:N	2.32	0.63
7:G:12:LEU:HD12	7:G:12:LEU:H	1.64	0.63
7:G:17:VAL:HG12	7:G:18:TYR:CD1	2.32	0.63
3:C:174:PRO:HD2	3:C:203:PHE:HE2	1.63	0.63
2:B:107:THR:C	2:B:109:SER:H	2.00	0.63
4:D:24:GLU:O	4:D:26:CYS:N	2.30	0.63
17:Q:101:ARG:HD3	17:Q:102:GLY:H	1.63	0.63
1:A:445:G:H2'	1:A:446:G:H8	1.63	0.63

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
14:N:23:ARG:NH1	14:N:29:ARG:HA	2.14	0.63
1:A:977:A:H2'	1:A:978:A:H5''	1.80	0.63
5:E:101:ILE:O	5:E:120:THR:OG1	2.16	0.63
1:A:434:U:H2'	1:A:435:C:H6	1.63	0.63
1:A:490:G:O2'	1:A:491:G:H5'	1.98	0.63
1:A:627:G:H2'	1:A:628:G:H8	1.62	0.63
17:Q:12:SER:HB2	17:Q:20:THR:OG1	1.99	0.63
1:A:1250:A:H2	1:A:1353:G:H21	1.46	0.63
3:C:113:ALA:HB2	3:C:202:ILE:CD1	2.28	0.63
10:J:6:ILE:HD13	10:J:73:ASP:N	2.12	0.63
1:A:1103:C:H5''	2:B:98:LEU:CD1	2.28	0.63
1:A:1362:C:O2'	1:A:1363:C:H5''	1.97	0.63
5:E:80:ILE:HD11	5:E:91:LEU:CB	2.27	0.63
1:A:579:G:O2'	15:O:54:ARG:HD2	1.97	0.63
1:A:1306:A:H62	1:A:1331:G:H1'	1.61	0.63
1:A:130:A:OP2	1:A:189(F):U:H2'	1.98	0.63
1:A:189(F):U:O2'	17:Q:63:ARG:NH2	2.31	0.63
8:H:7:ALA:HB2	8:H:85:ARG:HG3	1.81	0.63
1:A:417:C:H2'	1:A:418:C:H6	1.64	0.63
9:I:37:PHE:HB3	9:I:43:ALA:HB2	1.79	0.63
13:M:55:ARG:HB2	13:M:55:ARG:NH1	2.14	0.63
1:A:58:C:O2'	1:A:59:A:H5'	1.99	0.63
10:J:64:GLU:HG3	10:J:65:LEU:H	1.63	0.63
2:B:101:MET:HG2	2:B:108:ILE:HG21	1.81	0.63
2:B:209:ARG:HH21	2:B:239:VAL:HG11	1.63	0.63
1:A:989:C:H1'	1:A:1016:A:H2	1.63	0.63
1:A:369:C:H2'	1:A:370:C:C6	2.33	0.63
11:K:29:ILE:C	11:K:29:ILE:HD12	2.19	0.63
1:A:489:C:H2'	1:A:490:G:H8	1.62	0.63
18:R:33:ASP:OD2	18:R:36:ASN:HB2	1.99	0.63
1:A:1321:C:H5''	13:M:87:TYR:CE2	2.34	0.63
16:P:19:ILE:CG2	16:P:36:ILE:HG13	2.27	0.63
12:L:33:ARG:CD	12:L:62:SER:HB3	2.26	0.63
1:A:1006:C:H2'	1:A:1007:C:C6	2.34	0.63
2:B:79:ASP:HA	2:B:82:ARG:HG2	1.80	0.63
3:C:64:VAL:HB	3:C:99:VAL:CB	2.29	0.63
7:G:4:ARG:NH1	7:G:4:ARG:HB3	2.09	0.63
20:T:49:ALA:CB	20:T:99:LEU:HD12	2.29	0.63
11:K:44:SER:OG	11:K:45:GLY:N	2.27	0.63
14:N:33:VAL:O	14:N:34:TYR:CD1	2.47	0.63
1:A:955:U:H2'	1:A:956:U:C6	2.33	0.63
19:S:80:TYR:CG	19:S:81:ARG:N	2.66	0.63

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:M:44:ARG:HG2	13:M:46:LYS:HE3	1.81	0.63
20:T:51:GLU:O	20:T:55:ILE:HD13	1.99	0.63
9:I:36:TYR:HD2	9:I:37:PHE:CE2	2.17	0.63
13:M:108:ARG:NH1	13:M:111:LYS:HD3	2.14	0.63
1:A:411:A:H1'	1:A:413:G:H1'	1.81	0.63
4:D:64:LEU:HD12	4:D:75:PHE:HE1	1.63	0.63
20:T:79:ARG:HG2	20:T:83:ARG:HH12	1.64	0.63
8:H:58:TYR:O	8:H:59:LEU:HD23	1.98	0.63
1:A:1353:G:H2'	1:A:1354:C:C6	2.33	0.63
10:J:50:ILE:HD13	14:N:41:ARG:HE	1.64	0.63
4:D:13:ARG:HH21	4:D:40:PRO:HA	1.64	0.63
8:H:92:ARG:HH11	8:H:92:ARG:HG2	1.64	0.63
1:A:1402:C:O2'	1:A:1403:C:H5'	1.99	0.63
13:M:80:ARG:C	13:M:82:MET:H	2.01	0.63
13:M:77:ASN:O	13:M:80:ARG:HB3	1.99	0.63
1:A:1069:C:O2'	1:A:1192:C:H1'	1.98	0.63
17:Q:55:ASP:O	17:Q:57:VAL:HG13	1.99	0.63
3:C:42:LEU:C	3:C:44:GLU:H	2.01	0.63
7:G:115:ARG:HG3	7:G:118:VAL:CG1	2.29	0.62
10:J:40:LEU:HD13	10:J:41:PRO:CD	2.29	0.62
5:E:128:PRO:O	5:E:129:ILE:C	2.37	0.62
1:A:1329:A:P	13:M:28:ALA:HB3	2.39	0.62
1:A:951:G:O2'	1:A:952:U:H5'	1.98	0.62
5:E:41:VAL:O	5:E:67:VAL:HG12	1.98	0.62
1:A:1040:U:H2'	1:A:1041:A:H8	1.64	0.62
1:A:974:A:C8	14:N:31:ARG:HD3	2.33	0.62
10:J:7:LYS:O	10:J:96:ILE:HG23	1.99	0.62
1:A:1113:C:O2'	1:A:1114:C:H5'	1.99	0.62
5:E:18:ARG:HB3	5:E:25:ARG:O	1.99	0.62
1:A:574:A:N3	1:A:883:C:H1'	2.13	0.62
1:A:256:U:H2'	1:A:257:G:C8	2.35	0.62
6:F:69:GLU:O	6:F:72:VAL:HG23	1.99	0.62
1:A:677:U:H3	1:A:713:G:H22	1.44	0.62
1:A:1442(A):G:H5''	1:A:1442(B):A:C5'	2.19	0.62
3:C:2:GLY:C	3:C:3:ASN:HD22	2.02	0.62
4:D:8:VAL:HG13	4:D:9:CYS:N	2.13	0.62
1:A:436:C:H5''	4:D:156:GLU:OE1	1.99	0.62
1:A:707:C:H2'	1:A:708:C:H6	1.64	0.62
3:C:195:VAL:O	3:C:196:LEU:HD23	1.98	0.62
3:C:34:LEU:O	3:C:38:ARG:HG2	1.98	0.62
4:D:78:LEU:HA	4:D:81:GLU:CG	2.28	0.62
4:D:78:LEU:HA	4:D:81:GLU:HG2	1.81	0.62

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:443:C:H2'	1:A:444:C:H6	1.62	0.62
14:N:5:ALA:C	14:N:6:LEU:HD22	2.20	0.62
2:B:80:ILE:CD1	2:B:80:ILE:H	2.13	0.62
17:Q:29:HIS:HD2	17:Q:31:LEU:N	1.95	0.62
1:A:384:G:H2'	1:A:385:C:H6	1.63	0.62
1:A:52:G:H2'	1:A:53:A:C8	2.33	0.62
4:D:126:ILE:HG22	4:D:127:THR:N	2.15	0.62
7:G:32:ARG:C	7:G:34:GLY:H	2.03	0.62
1:A:1190:G:P	3:C:4:LYS:HA	2.40	0.62
14:N:45:ARG:HG3	14:N:45:ARG:NH1	2.13	0.62
9:I:8:GLY:O	9:I:76:ALA:HB1	2.00	0.62
1:A:1437:C:H2'	1:A:1438:G:C8	2.34	0.62
2:B:82:ARG:HB2	2:B:82:ARG:NH1	2.15	0.62
1:A:620:C:N1	4:D:135:LEU:HD13	2.14	0.62
1:A:1154:G:O2'	1:A:1155:G:H5'	2.00	0.62
20:T:29:LYS:O	20:T:32:ALA:HB3	2.00	0.62
5:E:40:ARG:HG2	5:E:68:GLU:OE2	1.99	0.62
1:A:750:G:H1'	15:O:22:THR:O	2.00	0.62
1:A:943:U:O2'	1:A:944:G:H5'	1.99	0.62
1:A:1497:G:O2'	1:A:1498:U:H5'	2.00	0.62
9:I:125:TYR:CD1	9:I:125:TYR:N	2.68	0.62
1:A:524:G:H2'	1:A:525:C:C5	2.34	0.62
18:R:58:LEU:N	18:R:58:LEU:HD12	2.15	0.62
1:A:436:C:O2'	1:A:437:U:H5'	1.99	0.62
1:A:335:C:H2'	1:A:336:C:H6	1.64	0.62
1:A:633:G:H2'	1:A:634:C:H6	1.64	0.62
1:A:476:G:H2'	1:A:477:A:H8	1.64	0.62
2:B:102:LEU:HD21	2:B:162:ILE:HD12	1.81	0.62
15:O:71:GLN:HG3	15:O:78:TYR:CE2	2.34	0.62
4:D:187:ARG:NH1	4:D:188:LEU:HB2	2.14	0.62
12:L:85:ILE:HG23	12:L:98:TYR:HB3	1.80	0.62
11:K:22:HIS:HB3	11:K:29:ILE:HG13	1.82	0.62
17:Q:20:THR:HG21	17:Q:41:LYS:HD2	1.82	0.62
1:A:908:A:H2'	1:A:909:A:C8	2.35	0.62
11:K:11:LYS:HB2	11:K:12:ARG:HH21	1.64	0.62
1:A:723:U:O2	1:A:723:U:H2'	2.00	0.62
12:L:79:GLU:O	12:L:79:GLU:HG2	2.00	0.62
12:L:102:ARG:CZ	12:L:110:VAL:HG22	2.29	0.62
19:S:42:PRO:C	19:S:44:MET:H	2.02	0.62
4:D:187:ARG:HH12	4:D:188:LEU:HD12	1.65	0.62
4:D:162:LEU:O	4:D:162:LEU:HD23	1.99	0.62
1:A:858:G:O2'	1:A:859:A:H5'	2.00	0.62

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:C:71:ALA:CB	3:C:106:VAL:HB	2.27	0.62
1:A:107:G:C2'	1:A:108:G:H5'	2.29	0.62
3:C:188:LEU:HD13	3:C:188:LEU:N	2.07	0.62
13:M:25:ILE:HG23	13:M:29:ARG:HB2	1.81	0.62
1:A:1405:G:O2'	1:A:1519:A:H5'	2.00	0.62
1:A:1022:G:H2'	1:A:1023:G:C8	2.35	0.62
2:B:42:ILE:HG22	2:B:43:ASP:N	2.14	0.62
1:A:948:C:H3'	13:M:106:ASN:HD22	1.63	0.62
3:C:27:LYS:HA	3:C:30:ARG:NE	2.15	0.62
1:A:1073:U:H2'	1:A:1074:G:H8	1.65	0.62
1:A:84:U:H2'	1:A:88:A:H8	1.65	0.62
3:C:24:ALA:HB2	3:C:32:LEU:CD1	2.28	0.61
3:C:136:GLN:O	3:C:139:GLN:HB2	1.99	0.61
1:A:1412:C:H2'	1:A:1413:A:H8	1.64	0.61
8:H:51:VAL:HG21	8:H:60:ARG:HH21	1.64	0.61
1:A:505:G:H4'	1:A:534:U:C4	2.34	0.61
14:N:45:ARG:O	14:N:48:ALA:HB3	2.00	0.61
1:A:1129:C:H4'	1:A:1130:A:H3'	1.81	0.61
1:A:1321:C:O2'	19:S:77:THR:HG21	2.00	0.61
1:A:106:C:O2'	1:A:107:G:H5'	1.99	0.61
4:D:156:GLU:O	4:D:160:GLN:HG3	2.01	0.61
1:A:1506:U:O2'	1:A:1507:A:H5'	1.99	0.61
1:A:521:G:H4'	12:L:73:GLU:HG2	1.82	0.61
1:A:1204:A:C2'	1:A:1205:U:H5'	2.30	0.61
1:A:948:C:O2'	1:A:949:A:H5'	2.00	0.61
11:K:40:ILE:HG22	11:K:41:THR:N	2.14	0.61
5:E:105:VAL:HB	5:E:106:PRO:HD3	1.81	0.61
6:F:10:LEU:HD12	6:F:59:TYR:HB3	1.82	0.61
1:A:1260:C:H4'	1:A:1283:G:O2'	2.00	0.61
1:A:1268:A:H1'	1:A:1326:C:O2'	2.00	0.61
1:A:1316:G:H2'	1:A:1317:C:H5''	1.82	0.61
1:A:375:U:H2'	1:A:376:G:H8	1.65	0.61
12:L:6:THR:N	12:L:9:GLN:HE21	1.98	0.61
17:Q:81:ARG:HG3	17:Q:81:ARG:O	2.00	0.61
1:A:1436:U:H2'	1:A:1437:C:C6	2.35	0.61
1:A:828:A:H2'	1:A:829:G:O4'	2.00	0.61
4:D:100:ARG:HH12	4:D:137:SER:HA	1.65	0.61
10:J:61:GLU:OE2	14:N:58:LYS:HE2	2.01	0.61
1:A:392:G:H2'	1:A:393:A:H8	1.65	0.61
4:D:8:VAL:O	4:D:10:ARG:N	2.34	0.61
1:A:682:G:O2'	1:A:683:G:H5'	2.00	0.61
1:A:1285:A:O2'	1:A:1286:A:OP2	2.18	0.61

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1353:G:O2'	1:A:1354:C:H5'	2.01	0.61
1:A:1112:C:O2	3:C:178:LEU:O	2.19	0.61
2:B:80:ILE:HD12	2:B:80:ILE:N	2.14	0.61
1:A:989:C:H1'	1:A:1016:A:C2	2.35	0.61
12:L:5:PRO:HA	12:L:9:GLN:HE21	1.65	0.61
1:A:132:C:O2'	1:A:133:U:H5'	2.01	0.61
8:H:97:VAL:HG13	8:H:98:LYS:N	2.12	0.61
4:D:162:LEU:HD13	4:D:181:MET:HE2	1.82	0.61
1:A:164:U:O2'	1:A:165:C:H5'	2.01	0.61
1:A:813:U:OP1	1:A:904:C:H5'	2.01	0.61
16:P:3:LYS:O	16:P:21:VAL:HA	2.01	0.61
4:D:6:GLY:H	4:D:115:ARG:NH2	1.99	0.61
16:P:74:LEU:HB3	16:P:79:VAL:HG21	1.81	0.61
17:Q:67:LYS:O	17:Q:68:ARG:HB3	2.01	0.61
6:F:25:ILE:HD13	6:F:82:ARG:HD2	1.82	0.61
8:H:103:VAL:HG21	8:H:109:ILE:O	2.01	0.61
1:A:412:A:H4'	1:A:413:G:H8	1.66	0.61
2:B:158:LEU:HB3	2:B:182:ILE:HD11	1.81	0.61
1:A:737:A:H1'	6:F:73:ASN:ND2	1.99	0.61
2:B:7:VAL:CG1	2:B:221:LEU:HD21	2.30	0.61
8:H:46:LYS:H	8:H:64:LYS:HD2	1.66	0.61
1:A:1061:G:H1'	10:J:56:HIS:CE1	2.36	0.61
5:E:99:GLY:O	5:E:117:ASP:HA	2.00	0.61
1:A:849:C:O2'	1:A:850:U:H5'	1.99	0.61
7:G:90:GLU:O	7:G:91:VAL:HG23	2.00	0.61
4:D:190:ASP:H	4:D:193:ASP:HB2	1.65	0.61
3:C:187:ALA:HB3	3:C:198:VAL:CG2	2.30	0.61
2:B:15:VAL:CB	2:B:210:SER:HB3	2.28	0.61
3:C:188:LEU:HD22	3:C:188:LEU:O	2.01	0.61
3:C:46:GLU:O	3:C:47:LEU:HB2	2.01	0.61
2:B:8:LYS:N	2:B:8:LYS:HD2	2.16	0.61
1:A:243:A:C2	1:A:246:A:C8	2.88	0.61
1:A:757:U:H2'	1:A:758:G:O4'	2.00	0.61
1:A:1123:A:C4'	10:J:37:PRO:HD2	2.30	0.60
12:L:40:VAL:O	12:L:40:VAL:HG12	1.99	0.60
4:D:20:TYR:HB3	4:D:26:CYS:CB	2.31	0.60
3:C:126:ARG:C	3:C:127:ARG:HD2	2.21	0.60
1:A:269:C:H2'	1:A:270:A:C8	2.36	0.60
11:K:14:VAL:HG21	11:K:40:ILE:CD1	2.31	0.60
1:A:972:C:O3'	10:J:57:LYS:CD	2.49	0.60
1:A:1104:G:H4'	2:B:111:ARG:NE	2.16	0.60
2:B:87:ARG:HH21	2:B:219:VAL:HB	1.66	0.60

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
16:P:21:VAL:HG21	16:P:59:TRP:CD1	2.36	0.60
3:C:22:TRP:HB3	3:C:59:ARG:HG3	1.83	0.60
4:D:31:CYS:O	4:D:33:MET:N	2.33	0.60
4:D:162:LEU:HD13	4:D:181:MET:SD	2.40	0.60
16:P:9:PHE:HE2	16:P:18:ARG:HD2	1.66	0.60
4:D:71:SER:OG	4:D:74:GLN:HG3	2.00	0.60
7:G:18:TYR:OH	7:G:58:PRO:HG3	2.01	0.60
1:A:39:G:O2'	1:A:40:C:H5'	2.01	0.60
2:B:109:SER:O	2:B:112:VAL:N	2.34	0.60
2:B:219:VAL:HA	2:B:222:ILE:HD12	1.84	0.60
15:O:39:LEU:O	15:O:42:HIS:HB3	2.01	0.60
8:H:32:LYS:O	8:H:36:LEU:CD2	2.49	0.60
17:Q:68:ARG:HH11	17:Q:68:ARG:HG2	1.66	0.60
1:A:460:G:H2'	1:A:461:A:H5''	1.81	0.60
1:A:411:A:O2'	1:A:412:A:H5'	2.02	0.60
1:A:1444:C:H2'	1:A:1445:C:H6	1.67	0.60
1:A:762:C:H5'	17:Q:103:GLY:HA2	1.82	0.60
1:A:1063:C:H2'	1:A:1064:G:C8	2.36	0.60
14:N:14:PRO:O	14:N:15:LYS:HB3	2.02	0.60
4:D:76:ARG:HD2	4:D:207:TYR:CE2	2.36	0.60
1:A:19:C:H2'	1:A:20:U:C6	2.32	0.60
1:A:839:U:O2	1:A:839:U:H2'	2.01	0.60
14:N:47:LEU:N	14:N:47:LEU:HD23	2.17	0.60
10:J:79:ARG:HB2	10:J:80:LYS:NZ	2.17	0.60
3:C:58:GLU:HB2	3:C:65:ALA:HB3	1.83	0.60
3:C:88:ARG:O	3:C:88:ARG:HG2	2.01	0.60
8:H:96:GLY:O	8:H:98:LYS:N	2.34	0.60
6:F:101:ALA:HA	18:R:28:GLU:CB	2.31	0.60
5:E:41:VAL:CG1	5:E:113:ALA:HA	2.32	0.60
1:A:244:U:O4	1:A:906:G:H1'	2.02	0.60
1:A:1137:C:H4'	1:A:1138:G:N2	2.15	0.60
10:J:42:THR:HG21	10:J:66:ARG:HB3	1.82	0.60
10:J:76:ASN:HB3	10:J:78:ASN:ND2	2.16	0.60
2:B:142:LEU:HD13	2:B:146:GLN:NE2	2.16	0.60
2:B:53:ARG:O	2:B:56:ARG:HB3	2.01	0.60
2:B:77:ALA:HB2	2:B:211:ILE:HG21	1.84	0.60
3:C:75:VAL:HG12	3:C:83:ARG:HH12	1.66	0.60
1:A:1095:U:H2'	1:A:1096:C:C6	2.36	0.60
7:G:39:ALA:O	7:G:40:ALA:C	2.40	0.60
14:N:26:ARG:CZ	14:N:47:LEU:HD21	2.31	0.60
2:B:185:ILE:H	2:B:185:ILE:HD12	1.67	0.60
2:B:130:ARG:HD3	2:B:131:PRO:CD	2.18	0.60

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:956:U:O2'	1:A:957:U:H5'	2.01	0.60
19:S:10:PHE:O	19:S:11:VAL:HG23	2.02	0.60
3:C:131:ARG:O	3:C:134:ILE:HB	2.00	0.60
1:A:1333:A:H2'	1:A:1334:G:O4'	2.01	0.60
4:D:93:PHE:O	4:D:97:LEU:HB2	2.00	0.60
1:A:603:U:O2'	1:A:604:G:H5'	2.02	0.60
10:J:64:GLU:O	10:J:65:LEU:CB	2.49	0.60
4:D:101:LEU:HD23	4:D:121:VAL:HG13	1.84	0.60
1:A:974:A:OP1	14:N:31:ARG:HG2	2.01	0.60
12:L:75:HIS:CE1	12:L:77:LEU:H	2.19	0.60
3:C:70:VAL:HG12	3:C:72:LYS:N	2.05	0.60
5:E:87:SER:HB3	5:E:131:ILE:CD1	2.27	0.60
1:A:1493:A:OP1	24:A:3001:PAR:H51	2.02	0.60
1:A:1399:C:C2	1:A:1502:A:N6	2.70	0.60
1:A:1342:C:O2'	9:I:124:GLN:CB	2.50	0.60
3:C:180:ALA:C	3:C:182:ILE:N	2.54	0.60
9:I:34:ASN:HD22	9:I:34:ASN:H	1.50	0.60
7:G:77:SER:O	7:G:78:ARG:HB2	2.02	0.60
1:A:400:C:O2'	1:A:401:C:H5'	2.02	0.60
3:C:114:PRO:O	3:C:118:GLN:HB2	2.02	0.60
9:I:9:ARG:HG2	9:I:14:VAL:HG12	1.83	0.60
12:L:53:ARG:HH11	12:L:93:LEU:HD21	1.66	0.60
19:S:51:VAL:O	19:S:58:VAL:HG22	2.02	0.60
20:T:55:ILE:H	20:T:55:ILE:CD1	2.15	0.60
1:A:992:U:H5''	1:A:993:G:OP1	2.01	0.60
1:A:411:A:C1'	1:A:413:G:H1'	2.32	0.60
1:A:908:A:H2'	1:A:909:A:H8	1.66	0.60
1:A:193:C:H2'	1:A:194:C:H6	1.67	0.60
10:J:40:LEU:HD13	10:J:41:PRO:HD2	1.83	0.59
1:A:542:G:O2'	1:A:543:C:H5'	2.00	0.59
19:S:31:ILE:HG22	19:S:32:LYS:N	2.11	0.59
8:H:85:ARG:NE	8:H:87:SER:O	2.35	0.59
1:A:667:G:C4'	15:O:51:HIS:ND1	2.64	0.59
3:C:123:GLN:O	3:C:128:PHE:HB2	2.02	0.59
1:A:952:U:H2'	1:A:953:G:C8	2.37	0.59
12:L:11:VAL:HG12	12:L:12:ARG:N	2.16	0.59
1:A:344:A:OP1	1:A:345:C:H5	1.85	0.59
1:A:832:C:O2'	1:A:833:U:H5'	2.01	0.59
1:A:1381:U:O2'	1:A:1382:C:H5'	2.01	0.59
15:O:45:VAL:HG12	15:O:46:HIS:H	1.66	0.59
1:A:1044:A:H2'	1:A:1045:C:O4'	2.02	0.59
10:J:50:ILE:CD1	10:J:50:ILE:H	2.00	0.59

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
14:N:26:ARG:HH12	14:N:47:LEU:CD2	2.14	0.59
1:A:1125:U:OP2	1:A:1145:C:N4	2.35	0.59
10:J:40:LEU:HD12	10:J:69:ASN:CB	2.29	0.59
10:J:38:ILE:HG21	10:J:71:LEU:HD12	1.83	0.59
20:T:73:HIS:O	20:T:76:ALA:HB3	2.03	0.59
12:L:105:TYR:C	12:L:107:ALA:H	2.05	0.59
1:A:1134:G:O2'	1:A:1135:U:H5'	2.01	0.59
17:Q:87:LYS:O	17:Q:91:ARG:HB2	2.02	0.59
2:B:91:PRO:HG3	2:B:154:LEU:CB	2.21	0.59
8:H:46:LYS:HG3	8:H:64:LYS:HB3	1.84	0.59
13:M:25:ILE:CD1	13:M:66:LEU:HD21	2.32	0.59
1:A:537:G:H2'	1:A:538:G:C8	2.37	0.59
1:A:1191:A:H2'	1:A:1192:C:C6	2.36	0.59
3:C:111:LEU:N	3:C:111:LEU:HD23	2.17	0.59
8:H:121:ASP:HB2	8:H:125:ARG:NH2	2.17	0.59
2:B:142:LEU:HD13	2:B:146:GLN:HE21	1.68	0.59
1:A:627:G:H2'	1:A:628:G:C8	2.37	0.59
10:J:16:LEU:HD21	10:J:94:VAL:HG11	1.83	0.59
1:A:838:G:H2'	1:A:839:U:H5''	1.84	0.59
1:A:1293:G:H2'	1:A:1294:G:C8	2.37	0.59
1:A:1298:C:H4'	1:A:1299:A:O5'	2.03	0.59
1:A:328:C:H2'	1:A:328:C:O2	2.01	0.59
1:A:1126:U:H2'	1:A:1127:G:C8	2.38	0.59
8:H:136:GLU:O	8:H:137:VAL:CG2	2.49	0.59
1:A:1402:C:H2'	1:A:1403:C:C6	2.31	0.59
1:A:1205:U:H2'	1:A:1206:G:C8	2.37	0.59
1:A:479:C:O2'	1:A:480:U:H5'	2.03	0.59
10:J:83:GLU:HA	10:J:86:MET:SD	2.43	0.59
1:A:287:U:O2'	1:A:288:A:H5'	2.03	0.59
1:A:939:G:H2'	1:A:940:C:C6	2.38	0.59
11:K:91:ARG:O	11:K:95:ILE:HG13	2.02	0.59
19:S:69:HIS:HB3	19:S:74:PHE:HE1	1.65	0.59
3:C:139:GLN:HA	3:C:139:GLN:HE21	1.67	0.59
1:A:175:C:O2'	1:A:176:C:H5'	2.03	0.59
4:D:161:ASN:HD22	4:D:162:LEU:H	1.47	0.59
8:H:91:ARG:NH1	8:H:91:ARG:HG3	2.18	0.59
1:A:882:C:O2'	1:A:883:C:H5'	2.03	0.59
1:A:1107:C:H2'	1:A:1108:G:H5'	1.84	0.59
1:A:1231:G:H4'	9:I:126:SER:HB3	1.84	0.59
16:P:81:ARG:HG3	16:P:83:GLU:HG2	1.83	0.59
4:D:104:VAL:HG21	4:D:140:VAL:HG21	1.84	0.59
4:D:134:ASP:O	4:D:136:PRO:HD3	2.02	0.59

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:J:7:LYS:HE3	10:J:9:ARG:NH2	2.17	0.59
2:B:115:LEU:HD23	2:B:153:ARG:NH1	2.18	0.59
1:A:1013:G:N2	1:A:1015:A:H3'	2.18	0.59
1:A:22:G:H2'	1:A:23:C:H6	1.66	0.59
20:T:82:SER:O	20:T:86:ARG:HG3	2.01	0.59
1:A:1256:A:H5'	1:A:1258:G:H1'	1.83	0.59
2:B:186:ALA:HB3	2:B:197:VAL:HG11	1.85	0.59
3:C:91:LEU:HD21	3:C:99:VAL:N	2.08	0.59
17:Q:68:ARG:O	17:Q:69:LYS:HB2	2.03	0.59
1:A:1001:A:H2	1:A:1001(A):G:N7	2.00	0.59
1:A:1007:C:H42	1:A:1022:G:H22	1.49	0.59
2:B:92:TYR:O	2:B:151:GLY:O	2.20	0.59
1:A:300:A:H2'	1:A:301:G:O4'	2.03	0.59
10:J:50:ILE:HA	10:J:60:ARG:HA	1.85	0.59
2:B:61:LEU:HD21	2:B:160:ASP:HB2	1.85	0.59
13:M:90:LEU:HA	13:M:93:ARG:HG3	1.85	0.59
9:I:102:LEU:H	9:I:102:LEU:HD12	1.68	0.59
1:A:1120:G:H2'	1:A:1121:U:C6	2.37	0.59
1:A:154:C:H2'	1:A:155:C:C6	2.36	0.59
4:D:90:GLY:CA	4:D:204:ILE:HD11	2.32	0.59
13:M:4:ILE:HG22	13:M:5:ALA:N	2.17	0.59
10:J:77:PRO:HA	10:J:82:ILE:HG23	1.85	0.59
3:C:139:GLN:O	3:C:143:GLU:N	2.34	0.59
13:M:97:PRO:HB2	13:M:101:GLN:OE1	2.03	0.59
8:H:116:LYS:HD3	8:H:127:LEU:HD12	1.84	0.59
8:H:63:LEU:H	8:H:63:LEU:HD22	1.68	0.59
1:A:1123:A:H1'	10:J:37:PRO:HG2	1.85	0.58
1:A:1016:A:H2'	1:A:1017:G:O4'	2.03	0.58
18:R:55:ARG:HB3	18:R:55:ARG:NH1	2.18	0.58
1:A:131:C:H2'	1:A:132:C:C6	2.38	0.58
6:F:21:LEU:O	6:F:25:ILE:HG13	2.03	0.58
5:E:77:PRO:O	5:E:78:HIS:CB	2.52	0.58
1:A:926:G:O6	1:A:1542:U:OP2	2.21	0.58
1:A:592:G:O2'	1:A:593:G:H5'	2.02	0.58
7:G:113:GLU:HB2	7:G:118:VAL:CG1	2.33	0.58
12:L:83:VAL:HG21	12:L:100:ILE:HD11	1.83	0.58
1:A:376:G:OP2	16:P:67:THR:HG21	2.03	0.58
1:A:377:G:C2	1:A:387:U:O2	2.57	0.58
20:T:43:LEU:HD12	20:T:52:ALA:HA	1.85	0.58
12:L:115:LYS:O	12:L:117:ARG:N	2.36	0.58
1:A:1407:C:O2'	1:A:1408:A:H5'	2.03	0.58
20:T:84:LEU:O	20:T:88:VAL:HG23	2.02	0.58

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:179:A:H2'	1:A:180:U:H6	1.65	0.58
5:E:35:GLY:HA3	5:E:41:VAL:HG12	1.85	0.58
1:A:1510:U:H2'	1:A:1511:G:C8	2.38	0.58
2:B:207:ALA:C	2:B:209:ARG:H	2.06	0.58
2:B:69:LEU:C	2:B:69:LEU:HD23	2.24	0.58
19:S:69:HIS:HB3	19:S:73:GLU:OE1	2.02	0.58
15:O:88:ARG:HB3	15:O:88:ARG:HH11	1.69	0.58
1:A:389:A:H2'	1:A:390:C:O4'	2.03	0.58
2:B:32:ILE:HG21	2:B:40:HIS:HD2	1.68	0.58
1:A:701:C:OP1	1:A:703:G:H5'	2.03	0.58
1:A:1002:G:N3	1:A:1003:G:H1'	2.18	0.58
1:A:1228:C:H2'	1:A:1229:A:H8	1.68	0.58
1:A:1257:U:H5'	1:A:1258:G:OP1	2.03	0.58
10:J:42:THR:HG23	10:J:67:THR:C	2.24	0.58
10:J:59:SER:O	10:J:60:ARG:HB2	2.03	0.58
14:N:32:SER:OG	14:N:41:ARG:HG2	2.04	0.58
2:B:218:ALA:C	2:B:222:ILE:HD12	2.23	0.58
1:A:382:A:C2	1:A:383:A:C4	2.91	0.58
3:C:59:ARG:H	10:J:92:THR:CG2	2.17	0.58
1:A:664:G:H22	1:A:741:G:H1	1.49	0.58
21:U:2:GLY:O	21:U:4:GLY:N	2.36	0.58
1:A:132:C:H2'	1:A:133:U:H6	1.68	0.58
12:L:97:ARG:HG3	12:L:98:TYR:CD1	2.38	0.58
12:L:104:VAL:O	12:L:105:TYR:HB2	2.03	0.58
7:G:77:SER:HA	7:G:85:TYR:O	2.03	0.58
5:E:94:ALA:HB1	5:E:98:THR:HG21	1.86	0.58
2:B:198:ASP:N	2:B:198:ASP:OD1	2.37	0.58
3:C:113:ALA:HA	3:C:116:VAL:HB	1.86	0.58
10:J:50:ILE:HD12	10:J:50:ILE:N	2.06	0.58
14:N:53:LEU:HB3	14:N:56:VAL:HG21	1.86	0.58
1:A:1316:G:N2	1:A:1318:A:H3'	2.19	0.58
17:Q:29:HIS:HD2	17:Q:32:TYR:N	1.99	0.58
1:A:1182:G:H5'	1:A:1184:G:C5'	2.29	0.58
4:D:162:LEU:HD13	4:D:181:MET:CE	2.33	0.58
5:E:48:ALA:HB1	5:E:49:PRO:CD	2.34	0.58
1:A:397:A:H5'	1:A:398:C:OP1	2.03	0.58
3:C:10:PHE:CZ	3:C:178:LEU:HD13	2.38	0.58
2:B:177:ALA:O	2:B:180:LEU:N	2.30	0.58
6:F:98:LEU:HD12	6:F:98:LEU:N	2.18	0.58
14:N:37:PHE:O	14:N:39:LEU:HG	2.04	0.58
1:A:1077:G:N2	1:A:1079:G:H3'	2.18	0.58
6:F:50:TYR:CE2	18:R:77:GLY:HA2	2.39	0.58

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:G:75:VAL:HB	7:G:86:GLN:HB3	1.86	0.58
10:J:60:ARG:O	10:J:61:GLU:HB3	2.04	0.58
18:R:88:LYS:HG2	18:R:88:LYS:OXT	2.02	0.58
1:A:957:U:H2'	1:A:959:A:OP2	2.02	0.58
1:A:392:G:H2'	1:A:393:A:C8	2.38	0.58
11:K:34:ASP:O	11:K:36:ASP:N	2.37	0.58
6:F:18:GLN:HE21	6:F:19:LEU:H	1.50	0.58
1:A:626:U:O2'	1:A:627:G:H5'	2.03	0.58
6:F:91:VAL:HG13	6:F:91:VAL:O	2.04	0.58
1:A:1115:C:O2'	1:A:1116:C:H5'	2.04	0.58
3:C:51:GLY:O	3:C:52:LEU:HB3	2.04	0.58
1:A:1311:G:O6	19:S:2:PRO:HB2	2.04	0.58
1:A:35:G:H21	12:L:118:SER:HB3	1.68	0.58
4:D:154:ASN:HD22	4:D:155:LEU:N	2.01	0.58
13:M:107:ALA:O	13:M:111:LYS:HB2	2.03	0.58
20:T:96:GLY:O	20:T:97:ALA:HB3	2.03	0.58
1:A:1347:G:C8	9:I:107:ARG:HB3	2.38	0.58
10:J:40:LEU:HD22	10:J:41:PRO:HD2	1.85	0.58
7:G:70:LYS:HE2	7:G:96:GLN:OE1	2.03	0.58
1:A:1520:G:O2'	1:A:1521:G:H5'	2.04	0.58
1:A:455:C:H42	1:A:476:G:H1	1.50	0.58
1:A:1293:G:H2'	1:A:1294:G:H8	1.68	0.58
4:D:177:ASP:OD1	4:D:179:GLU:HG2	2.04	0.58
21:U:5:ASP:O	21:U:11:GLY:HA3	2.04	0.58
3:C:101:LEU:C	3:C:101:LEU:HD23	2.24	0.58
14:N:29:ARG:HH12	14:N:40:CYS:CB	2.17	0.58
10:J:8:LEU:HD12	10:J:8:LEU:N	2.19	0.58
2:B:187:LEU:HD11	2:B:204:ASN:O	2.03	0.58
2:B:18:GLY:HA3	2:B:41:ILE:HA	1.86	0.58
1:A:1158:C:H5''	2:B:133:LYS:HZ3	1.69	0.58
5:E:92:LYS:HB3	5:E:119:LEU:HB2	1.85	0.58
1:A:1392:G:N2	1:A:1502:A:H8	2.01	0.58
1:A:335:C:H2'	1:A:336:C:C6	2.39	0.58
1:A:1055:A:C2	1:A:1056:U:H1'	2.39	0.58
3:C:33:LEU:HD23	3:C:34:LEU:H	1.68	0.58
1:A:429:U:H2'	4:D:25:ARG:NH1	2.18	0.58
3:C:179:ARG:HG2	3:C:179:ARG:O	2.04	0.57
10:J:57:LYS:HB2	10:J:60:ARG:HH12	1.68	0.57
19:S:11:VAL:HG13	19:S:15:LEU:HD21	1.85	0.57
4:D:59:ARG:HA	4:D:59:ARG:CZ	2.33	0.57
5:E:115:VAL:HG11	5:E:118:ILE:CD1	2.33	0.57
1:A:1276:G:C2'	1:A:1277:C:H5'	2.34	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1305:G:H5'	21:U:4:GLY:HA3	1.85	0.57
12:L:117:ARG:HD2	12:L:122:THR:O	2.03	0.57
1:A:99:U:H2'	1:A:100:C:C6	2.39	0.57
8:H:104:ARG:O	8:H:106:GLY:N	2.37	0.57
1:A:80:G:C3'	1:A:81:U:H5''	2.33	0.57
4:D:80:GLU:O	4:D:84:LYS:HG3	2.04	0.57
1:A:279:A:H5'	1:A:281:G:O4'	2.03	0.57
2:B:106:LYS:O	2:B:109:SER:HB2	2.05	0.57
2:B:14:GLY:C	2:B:15:VAL:HG22	2.25	0.57
19:S:36:ARG:HB2	19:S:72:GLY:CA	2.33	0.57
3:C:139:GLN:CA	3:C:139:GLN:HE21	2.17	0.57
13:M:42:ALA:O	13:M:43:THR:C	2.41	0.57
8:H:112:LEU:N	8:H:112:LEU:CD1	2.67	0.57
13:M:8:GLU:C	13:M:9:ILE:HD12	2.25	0.57
1:A:1205:U:H4'	3:C:195:VAL:HG21	1.86	0.57
3:C:128:PHE:HD2	3:C:133:ALA:HB2	1.68	0.57
1:A:164:U:H2'	1:A:165:C:H6	1.68	0.57
1:A:1497:G:C2'	1:A:1498:U:H5'	2.34	0.57
16:P:12:LYS:O	16:P:13:HIS:HB2	2.03	0.57
2:B:52:GLU:CG	2:B:56:ARG:HH22	2.17	0.57
1:A:113:G:H2'	1:A:114:U:C6	2.39	0.57
17:Q:23:VAL:O	17:Q:24:GLU:HB3	2.04	0.57
1:A:781:A:H2'	1:A:782:A:H5'	1.87	0.57
13:M:16:ASP:OD1	13:M:17:VAL:HG23	2.04	0.57
15:O:41:GLU:HA	15:O:44:LYS:CG	2.34	0.57
4:D:101:LEU:HD23	4:D:121:VAL:CG1	2.34	0.57
19:S:38:SER:OG	19:S:71:LEU:HD12	2.04	0.57
3:C:139:GLN:HA	3:C:139:GLN:NE2	2.19	0.57
17:Q:22:LEU:HD13	17:Q:23:VAL:N	2.19	0.57
1:A:919:A:O2'	1:A:920:U:H5'	2.05	0.57
1:A:1119:C:O2'	1:A:1120:G:H5'	2.04	0.57
1:A:1342:C:O2'	1:A:1343:G:H5'	2.04	0.57
3:C:177:THR:O	3:C:177:THR:HG23	2.03	0.57
12:L:76:ASN:ND2	12:L:108:ALA:HB3	2.11	0.57
16:P:1:MET:HE1	16:P:3:LYS:CE	2.34	0.57
2:B:25:ASN:ND2	2:B:25:ASN:C	2.56	0.57
15:O:4:THR:OG1	15:O:6:GLU:HG2	2.04	0.57
4:D:114:ARG:HB2	4:D:114:ARG:HH11	1.69	0.57
17:Q:12:SER:HB2	17:Q:20:THR:CB	2.33	0.57
4:D:190:ASP:N	4:D:193:ASP:HB2	2.20	0.57
3:C:6:HIS:CD2	3:C:8:ILE:HB	2.39	0.57
1:A:1151:A:O2'	1:A:1152:A:H5''	2.04	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:I:17:VAL:HG13	9:I:63:ILE:HG12	1.86	0.57
9:I:8:GLY:HA2	9:I:79:LEU:CD1	2.35	0.57
2:B:115:LEU:HD11	2:B:146:GLN:HG2	1.86	0.57
1:A:1277:C:C2'	1:A:1278:U:H5''	2.32	0.57
5:E:74:GLY:CA	5:E:116:THR:HG22	2.30	0.57
1:A:539:A:H2'	1:A:540:G:C8	2.40	0.57
5:E:13:ILE:HA	5:E:29:GLY:O	2.05	0.57
3:C:128:PHE:CD2	3:C:133:ALA:HB2	2.40	0.57
1:A:1371:G:O2'	1:A:1372:U:H5'	2.05	0.57
10:J:50:ILE:CB	14:N:41:ARG:HH21	2.14	0.57
8:H:14:ARG:HH11	8:H:14:ARG:HB3	1.69	0.57
9:I:48:GLU:H	9:I:49:PRO:HD2	1.69	0.57
1:A:962:C:H2'	1:A:963:G:O4'	2.04	0.57
15:O:71:GLN:HB2	15:O:78:TYR:CD1	2.39	0.57
1:A:1277:C:H6	1:A:1278:U:H5'	1.70	0.57
1:A:264:U:O2'	17:Q:64:PRO:HB2	2.04	0.57
1:A:1521:G:H2'	1:A:1522:U:H6	1.69	0.57
1:A:481:G:HO2'	1:A:483:C:N4	2.00	0.57
1:A:1230:C:O2'	13:M:126:LYS:HE2	2.05	0.57
3:C:35:GLU:O	3:C:38:ARG:N	2.37	0.57
5:E:36:ASP:OD2	5:E:40:ARG:HD3	2.04	0.57
1:A:445:G:H2'	1:A:446:G:C8	2.39	0.57
1:A:582:U:OP1	15:O:64:ARG:NH2	2.38	0.57
10:J:35:SER:HB2	10:J:73:ASP:HB2	1.87	0.57
15:O:78:TYR:CD1	15:O:82:ILE:HD11	2.39	0.57
1:A:253:U:H2'	1:A:254:G:C8	2.40	0.57
1:A:253:U:H2'	1:A:254:G:H8	1.68	0.57
1:A:436:C:H5''	4:D:156:GLU:CD	2.25	0.57
4:D:127:THR:O	4:D:128:VAL:HG23	2.04	0.57
1:A:545:C:O2'	1:A:546:G:H5'	2.05	0.57
1:A:247:G:OP2	17:Q:100:LYS:HG3	2.04	0.57
1:A:281:G:O2'	1:A:282:A:P	2.62	0.57
1:A:980:C:H2'	1:A:981:U:O4'	2.05	0.57
1:A:1307:U:H2'	1:A:1308:U:C6	2.40	0.57
4:D:91:SER:OG	4:D:92:VAL:N	2.37	0.57
1:A:291:C:O2'	1:A:292:G:H5'	2.05	0.57
3:C:203:PHE:HD1	3:C:204:LEU:N	2.01	0.57
14:N:47:LEU:HA	14:N:50:LYS:HB3	1.86	0.57
13:M:40:ASN:HD22	13:M:41:PRO:HD2	1.70	0.57
17:Q:23:VAL:HG12	17:Q:24:GLU:H	1.68	0.57
1:A:21:G:C2	1:A:22:G:C5	2.93	0.57
1:A:185:A:H2'	1:A:186:C:H6	1.69	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1231:G:H4'	9:I:126:SER:CB	2.35	0.57
8:H:55:GLY:O	8:H:56:LYS:HD2	2.05	0.57
2:B:91:PRO:HG2	2:B:155:LEU:HD23	1.86	0.57
19:S:5:LEU:O	19:S:6:LYS:HB2	2.04	0.57
16:P:8:ARG:HB3	16:P:28:ARG:NH1	2.19	0.57
4:D:24:GLU:C	4:D:26:CYS:N	2.58	0.57
11:K:50:TYR:HB3	11:K:54:ARG:HB2	1.86	0.57
9:I:34:ASN:ND2	9:I:34:ASN:N	2.52	0.57
15:O:4:THR:HB	15:O:6:GLU:OE2	2.04	0.57
4:D:83:SER:HA	4:D:89:THR:CG2	2.34	0.57
1:A:1354:C:H2'	1:A:1355:G:H8	1.69	0.56
7:G:42:ILE:HG22	7:G:120:ILE:CD1	2.34	0.56
1:A:1151:A:H5'	10:J:41:PRO:CA	2.28	0.56
1:A:1311:G:N1	1:A:1326:C:H5	2.02	0.56
4:D:202:LEU:HD23	4:D:205:GLU:OE2	2.04	0.56
11:K:77:MET:HE1	11:K:80:VAL:HG22	1.87	0.56
15:O:57:LEU:H	15:O:57:LEU:CD1	2.14	0.56
15:O:6:GLU:CD	15:O:6:GLU:H	2.07	0.56
1:A:246:A:N6	1:A:281:G:H1'	2.20	0.56
1:A:91:C:H2'	1:A:92:C:H6	1.69	0.56
4:D:20:TYR:O	4:D:26:CYS:SG	2.62	0.56
18:R:39:VAL:CG1	18:R:40:LEU:N	2.68	0.56
5:E:36:ASP:OD2	5:E:40:ARG:HB2	2.04	0.56
1:A:1030(C):G:H2'	1:A:1030(D):A:C8	2.40	0.56
1:A:1339:A:H2'	1:A:1340:A:O4'	2.06	0.56
9:I:85:LEU:O	9:I:85:LEU:HD12	2.04	0.56
4:D:209:ARG:HG2	4:D:209:ARG:HH11	1.70	0.56
1:A:1253:G:OP1	10:J:44:VAL:HG11	2.05	0.56
10:J:65:LEU:C	10:J:65:LEU:HD23	2.25	0.56
3:C:113:ALA:HB2	3:C:202:ILE:HD11	1.88	0.56
10:J:3:LYS:HG2	10:J:75:ILE:HG23	1.86	0.56
2:B:98:LEU:HB2	2:B:101:MET:HG3	1.86	0.56
3:C:50:ALA:O	3:C:72:LYS:HB2	2.05	0.56
1:A:994:A:H2'	1:A:994:A:N3	2.19	0.56
5:E:83:GLU:O	5:E:87:SER:O	2.24	0.56
12:L:89:ARG:HH22	12:L:97:ARG:HH11	1.53	0.56
11:K:34:ASP:HB2	11:K:35:PRO:HD2	1.88	0.56
23:Y:36:C:O2	23:Y:36:C:C2'	2.54	0.56
11:K:120:ARG:HG2	11:K:120:ARG:NH1	2.17	0.56
1:A:1413:A:H2	1:A:1487:G:H22	1.53	0.56
1:A:1203:C:O2'	1:A:1204:A:H5'	2.06	0.56
1:A:332:G:H2'	1:A:333:G:H8	1.70	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:D:176:LEU:HA	4:D:183:GLY:HA2	1.86	0.56
9:I:36:TYR:CD2	9:I:37:PHE:CE2	2.93	0.56
1:A:946:A:H2'	1:A:947:G:H8	1.68	0.56
13:M:11:ARG:O	13:M:12:ASN:HB2	2.04	0.56
1:A:1272:G:H2'	1:A:1273:G:O4'	2.04	0.56
1:A:669:U:H2'	1:A:670:G:C8	2.40	0.56
17:Q:27:PHE:CE1	17:Q:36:ILE:HD11	2.41	0.56
5:E:72:GLN:O	5:E:73:ASN:HB3	2.04	0.56
1:A:13:U:C5	1:A:916:G:O6	2.59	0.56
1:A:590:C:O2'	1:A:591:U:H5'	2.05	0.56
9:I:20:ARG:HD2	9:I:20:ARG:N	2.20	0.56
7:G:32:ARG:C	7:G:34:GLY:N	2.59	0.56
3:C:9:GLY:HA3	14:N:49:HIS:CB	2.34	0.56
1:A:1150:U:O2	1:A:1150:U:H2'	2.06	0.56
1:A:1237:C:H3'	1:A:1238:A:H5'	1.86	0.56
1:A:461:A:O2'	1:A:470:C:H5'	2.04	0.56
1:A:477:A:O2'	1:A:479:C:H5'	2.06	0.56
1:A:258:G:H2'	1:A:259:G:H8	1.71	0.56
1:A:1481:U:O2'	1:A:1482:G:H5'	2.05	0.56
5:E:144:THR:HG22	5:E:145:LYS:N	2.20	0.56
1:A:1189:C:H5''	3:C:5:ILE:HG21	1.87	0.56
14:N:42:ILE:O	14:N:45:ARG:HB3	2.06	0.56
9:I:5:TYR:HA	9:I:17:VAL:O	2.05	0.56
2:B:215:LEU:O	2:B:218:ALA:HB3	2.06	0.56
16:P:53:VAL:C	16:P:55:ARG:H	2.02	0.56
3:C:22:TRP:HB3	3:C:59:ARG:HB2	1.88	0.56
12:L:26:ALA:O	12:L:27:LEU:O	2.23	0.56
9:I:55:ALA:CA	9:I:58:ARG:HB2	2.34	0.56
20:T:56:MET:HE2	20:T:88:VAL:HG11	1.88	0.56
10:J:4:ILE:HD11	10:J:74:ILE:HD12	1.86	0.56
17:Q:74:LEU:CD1	17:Q:75:ARG:HD3	2.35	0.56
6:F:76:ALA:O	6:F:80:ARG:HG3	2.04	0.56
6:F:80:ARG:HH11	6:F:80:ARG:HG2	1.70	0.56
10:J:61:GLU:OE1	14:N:45:ARG:NH1	2.37	0.56
1:A:1143:G:H2'	1:A:1144:G:C8	2.41	0.56
2:B:69:LEU:HD12	2:B:155:LEU:HD11	1.87	0.56
5:E:107:ARG:HG2	5:E:108:ALA:N	2.20	0.56
13:M:22:ILE:HG21	13:M:66:LEU:HD23	1.87	0.56
3:C:39:ILE:C	3:C:41:GLY:H	2.07	0.56
14:N:37:PHE:HB3	14:N:39:LEU:CD1	2.35	0.56
1:A:1427:U:H2'	1:A:1428:A:H8	1.70	0.56
4:D:108:LEU:HD12	4:D:176:LEU:HD13	1.86	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1173:G:H2'	1:A:1174:G:O4'	2.05	0.56
15:O:2:PRO:O	15:O:3:ILE:HG23	2.06	0.56
1:A:736:C:H2'	1:A:737:A:C8	2.40	0.56
9:I:80:GLY:O	9:I:82:ALA:N	2.38	0.56
11:K:17:GLY:O	11:K:80:VAL:HA	2.05	0.56
12:L:18:VAL:HG12	12:L:19:ARG:N	2.19	0.56
9:I:28:VAL:HG21	9:I:33:PHE:HD1	1.69	0.56
4:D:90:GLY:N	4:D:204:ILE:HD11	2.21	0.56
7:G:115:ARG:O	7:G:118:VAL:CG1	2.53	0.56
7:G:21:VAL:HG23	7:G:22:LEU:N	2.21	0.56
7:G:45:ASP:O	7:G:49:ILE:HG13	2.06	0.56
4:D:36:ARG:HG3	4:D:38:TYR:CE1	2.40	0.56
5:E:131:ILE:HG22	5:E:132:ALA:N	2.19	0.56
5:E:79:GLU:HB3	5:E:91:LEU:O	2.06	0.56
1:A:1329:A:O2'	1:A:1330:U:H5'	2.06	0.56
1:A:1493:A:H8	22:X:2:G:H1'	1.71	0.56
2:B:82:ARG:NH1	2:B:92:TYR:OH	2.37	0.56
2:B:8:LYS:O	2:B:9:GLU:HB2	2.06	0.56
9:I:66:ARG:HH11	9:I:66:ARG:HG3	1.71	0.56
11:K:41:THR:HG21	11:K:71:LYS:HB3	1.88	0.56
9:I:48:GLU:N	9:I:49:PRO:CD	2.68	0.56
2:B:219:VAL:HA	2:B:222:ILE:HB	1.88	0.56
12:L:78:GLN:H	12:L:78:GLN:NE2	2.03	0.56
7:G:92:SER:O	7:G:96:GLN:HB2	2.06	0.56
8:H:33:GLU:CA	8:H:36:LEU:HD21	2.35	0.56
12:L:28:LYS:O	12:L:30:ALA:N	2.39	0.56
1:A:235:C:C5'	17:Q:70:ARG:HD3	2.34	0.56
1:A:540:G:H2'	1:A:541:G:H8	1.64	0.56
1:A:1195:C:H3'	1:A:1196:U:H5''	1.85	0.56
3:C:156:ARG:HH21	3:C:161:GLU:HA	1.70	0.56
1:A:272:C:O2'	1:A:273:A:H5'	2.06	0.56
18:R:34:TYR:H	18:R:34:TYR:HD2	1.53	0.56
1:A:973:G:H3'	1:A:974:A:H5''	1.87	0.56
10:J:38:ILE:HB	10:J:71:LEU:HB2	1.87	0.56
1:A:522:C:H41	12:L:53:ARG:NH2	2.03	0.56
1:A:1014:A:H2	1:A:1219:U:H1'	1.68	0.56
15:O:71:GLN:HB2	15:O:78:TYR:CE1	2.40	0.56
16:P:33:ILE:O	16:P:34:GLU:CB	2.54	0.56
1:A:426:G:P	4:D:36:ARG:HH21	2.29	0.56
15:O:33:THR:HG23	15:O:63:ARG:NH1	2.20	0.56
5:E:101:ILE:HB	5:E:119:LEU:HD23	1.88	0.56
15:O:39:LEU:HD13	15:O:56:LEU:HD13	1.88	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:514:C:O2'	1:A:515:G:H5'	2.06	0.56
1:A:1429:C:H2'	1:A:1430:C:C6	2.41	0.56
8:H:123:GLU:O	8:H:127:LEU:HD23	2.05	0.56
1:A:586:C:O2'	1:A:587:G:H5'	2.05	0.56
1:A:1369:C:H2'	1:A:1370:G:H8	1.69	0.55
11:K:33:THR:HB	11:K:38:ASN:O	2.07	0.55
1:A:437:U:H2'	1:A:438:G:O4'	2.05	0.55
1:A:882:C:H2'	1:A:883:C:H6	1.71	0.55
1:A:344:A:H4'	1:A:345:C:OP2	2.06	0.55
1:A:43:C:H5'	16:P:12:LYS:HB3	1.88	0.55
13:M:88:ARG:HG3	13:M:98:VAL:CG1	2.35	0.55
1:A:1161:C:H2'	1:A:1162:C:C6	2.41	0.55
1:A:879:C:H3'	1:A:879:C:C6	2.41	0.55
16:P:39:TYR:O	16:P:41:PRO:HD3	2.07	0.55
1:A:1350:A:H2'	1:A:1351:U:H6	1.71	0.55
7:G:113:GLU:HB2	7:G:118:VAL:HG11	1.88	0.55
2:B:15:VAL:HG21	2:B:210:SER:HA	1.88	0.55
19:S:16:LEU:HG	19:S:20:LEU:HD23	1.88	0.55
15:O:82:ILE:H	15:O:82:ILE:HD12	1.71	0.55
3:C:64:VAL:HG12	3:C:65:ALA:N	2.20	0.55
5:E:86:ALA:HB3	5:E:125:SER:HB3	1.86	0.55
1:A:1514:C:H2'	1:A:1515:C:H6	1.71	0.55
1:A:1242:C:O2'	1:A:1243:C:H5'	2.06	0.55
4:D:152:SER:O	4:D:154:ASN:N	2.34	0.55
1:A:765:G:N2	1:A:812:C:O2'	2.39	0.55
17:Q:97:SER:O	17:Q:98:LEU:HD23	2.06	0.55
1:A:1355:G:H2'	1:A:1356:G:C8	2.41	0.55
3:C:112:SER:O	3:C:113:ALA:HB3	2.05	0.55
1:A:686:U:HO2'	1:A:687:A:H8	1.52	0.55
2:B:24:TRP:CZ2	2:B:26:PRO:HG3	2.41	0.55
1:A:991:U:H5	1:A:1212:U:HO2'	1.54	0.55
4:D:17:VAL:HG12	4:D:18:LYS:H	1.69	0.55
1:A:443:C:H2'	1:A:444:C:C6	2.41	0.55
1:A:1161:C:H2'	1:A:1162:C:H6	1.70	0.55
1:A:644:G:C5	1:A:645:C:C5	2.94	0.55
18:R:21:LYS:HD2	18:R:21:LYS:H	1.69	0.55
4:D:3:ARG:HH12	4:D:70:ILE:HG13	1.71	0.55
1:A:1149:C:H2'	1:A:1150:U:C5	2.41	0.55
9:I:9:ARG:N	9:I:79:LEU:HD12	2.21	0.55
11:K:91:ARG:NH1	18:R:88:LYS:HE2	2.22	0.55
3:C:87:LEU:HA	3:C:90:GLU:HG2	1.88	0.55
3:C:59:ARG:H	10:J:92:THR:HG23	1.70	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:G:92:SER:HB2	7:G:93:PRO:HD2	1.88	0.55
11:K:103:LEU:HD23	11:K:104:GLN:H	1.72	0.55
1:A:264:U:O2'	1:A:265:G:H5'	2.05	0.55
13:M:24:GLY:O	13:M:29:ARG:NH1	2.38	0.55
1:A:372:C:H4'	1:A:373:A:O5'	2.04	0.55
1:A:1227:A:OP2	13:M:111:LYS:HE3	2.06	0.55
1:A:660:G:OP1	15:O:5:LYS:HD3	2.07	0.55
16:P:18:ARG:HG3	16:P:35:LYS:HE3	1.89	0.55
3:C:67:THR:HG22	3:C:67:THR:O	2.07	0.55
3:C:67:THR:O	3:C:69:HIS:N	2.39	0.55
1:A:1131:G:H2'	1:A:1132:C:C6	2.40	0.55
1:A:1127:G:N2	1:A:1147:C:N4	2.54	0.55
1:A:955:U:H3	1:A:1225:A:H61	1.55	0.55
1:A:1268:A:O2'	21:U:19:GLY:HA2	2.07	0.55
16:P:28:ARG:HH11	16:P:28:ARG:HG2	1.70	0.55
1:A:9:G:OP1	5:E:122:GLU:HG3	2.07	0.55
1:A:918:A:H2'	1:A:919:A:H8	1.69	0.55
3:C:19:GLU:HB2	3:C:54:ARG:HH21	1.72	0.55
1:A:624:C:O2'	1:A:625:G:H5'	2.06	0.55
1:A:170:U:O2'	1:A:171:A:H5'	2.07	0.55
1:A:895:G:H2'	1:A:896:C:C6	2.42	0.55
10:J:49:VAL:O	10:J:60:ARG:O	2.23	0.55
7:G:16:LEU:HD22	7:G:16:LEU:N	2.20	0.55
2:B:165:VAL:O	2:B:187:LEU:O	2.25	0.55
2:B:237:ALA:C	2:B:239:VAL:H	2.08	0.55
1:A:1117:G:H21	1:A:1180:A:H1'	1.71	0.55
1:A:62:U:H3	1:A:105:G:H1	1.53	0.55
7:G:69:VAL:HG22	7:G:135:VAL:CG2	2.36	0.55
1:A:130:A:C8	17:Q:63:ARG:HG3	2.42	0.55
3:C:16:ARG:HH11	3:C:16:ARG:HB2	1.69	0.55
21:U:9:ARG:HH12	21:U:23:PRO:CD	2.19	0.55
7:G:74:GLU:O	7:G:88:PRO:HA	2.07	0.55
1:A:1342:C:O2'	9:I:124:GLN:HB2	2.06	0.55
4:D:4:TYR:O	4:D:5:ILE:HB	2.06	0.55
3:C:118:GLN:O	3:C:121:ALA:HB3	2.06	0.55
2:B:219:VAL:O	2:B:223:ILE:HG22	2.06	0.55
2:B:55:PHE:CD2	2:B:58:ILE:HD12	2.33	0.55
2:B:97:TRP:CZ2	2:B:101:MET:HB2	2.41	0.55
1:A:112:G:O2'	1:A:113:G:H5'	2.07	0.55
1:A:657:G:H4'	15:O:28:GLN:HG2	1.87	0.55
5:E:91:LEU:HD21	5:E:110:LEU:HD11	1.88	0.55
12:L:5:PRO:HA	12:L:9:GLN:NE2	2.21	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:424:G:O2'	1:A:425:G:H5'	2.06	0.55
1:A:176:C:O2'	1:A:177:C:H5'	2.07	0.55
1:A:1073:U:H3	1:A:1102:A:H61	1.55	0.55
4:D:190:ASP:O	4:D:194:LEU:HD22	2.06	0.55
8:H:119:LEU:HD11	8:H:124:ALA:HA	1.89	0.55
1:A:284:G:H2'	1:A:285:G:H8	1.71	0.55
7:G:62:PHE:C	7:G:64:GLN:H	2.10	0.55
10:J:44:VAL:CG2	10:J:45:ARG:H	2.05	0.55
3:C:84:ILE:O	3:C:88:ARG:HD3	2.07	0.55
9:I:113:LYS:N	9:I:113:LYS:HD2	2.22	0.55
8:H:85:ARG:HD3	8:H:86:ILE:N	2.21	0.55
1:A:1476:G:O2'	1:A:1477:C:H5'	2.07	0.55
2:B:30:ARG:HG3	2:B:31:TYR:N	2.22	0.55
3:C:202:ILE:HG22	3:C:203:PHE:N	2.21	0.55
2:B:95:GLN:O	2:B:96:ARG:HD2	2.05	0.55
1:A:1314:C:O2'	1:A:1315:U:H5'	2.06	0.55
1:A:986:A:H4'	19:S:55:LYS:CD	2.25	0.55
4:D:32:ALA:C	4:D:34:GLU:H	2.09	0.55
5:E:80:ILE:CD1	5:E:91:LEU:HD12	2.31	0.55
1:A:818:G:C3'	1:A:819:A:H5''	2.36	0.55
8:H:6:ILE:O	8:H:10:LEU:HG	2.07	0.55
17:Q:44:ALA:HA	17:Q:71:PHE:O	2.07	0.55
5:E:41:VAL:HG13	5:E:113:ALA:HA	1.88	0.55
9:I:10:ARG:HD2	9:I:11:LYS:N	2.22	0.55
1:A:1148:U:O2'	9:I:14:VAL:HG21	2.07	0.55
1:A:1157:A:H4'	1:A:1158:C:O5'	2.07	0.55
2:B:91:PRO:HG2	2:B:155:LEU:CD2	2.37	0.55
8:H:45:ILE:O	8:H:46:LYS:C	2.46	0.55
1:A:128:G:O2'	17:Q:3:LYS:HE3	2.06	0.55
23:Y:35:C:C5	23:Y:36:C:H5	2.25	0.55
2:B:137:ARG:HG3	2:B:138:LEU:N	2.22	0.55
1:A:1040:U:H2'	1:A:1041:A:C8	2.42	0.55
1:A:1415:G:C4	1:A:1416:G:C8	2.95	0.55
1:A:676:A:H1'	11:K:115:PRO:HB3	1.89	0.55
1:A:1250:A:H2'	1:A:1251:A:C8	2.42	0.54
1:A:1351:U:O2'	1:A:1352:C:H5'	2.07	0.54
1:A:1103:C:H2'	1:A:1104:G:O4'	2.07	0.54
12:L:119:LYS:O	12:L:120:TYR:CB	2.54	0.54
1:A:961:U:C2'	1:A:962:C:H5'	2.38	0.54
19:S:40:ILE:HG23	19:S:44:MET:SD	2.47	0.54
1:A:376:G:O2'	1:A:377:G:H5'	2.07	0.54
4:D:17:VAL:CG1	4:D:18:LYS:N	2.71	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
8:H:82:HIS:O	8:H:82:HIS:CG	2.56	0.54
4:D:119:GLN:HG3	4:D:123:HIS:CE1	2.42	0.54
11:K:105:VAL:HG13	11:K:105:VAL:O	2.07	0.54
18:R:44:LEU:HD22	18:R:48:GLY:O	2.07	0.54
7:G:118:VAL:O	7:G:119:ARG:C	2.46	0.54
3:C:113:ALA:HB3	3:C:114:PRO:CD	2.33	0.54
3:C:117:ALA:HB1	3:C:198:VAL:HG23	1.89	0.54
9:I:5:TYR:HE2	9:I:16:ARG:HA	1.71	0.54
1:A:1150:U:O3'	10:J:41:PRO:HB3	2.07	0.54
2:B:90:MET:HE1	2:B:222:ILE:HG23	1.88	0.54
2:B:68:ILE:CB	2:B:90:MET:HE3	2.29	0.54
12:L:38:THR:HG22	12:L:39:VAL:CG2	2.37	0.54
1:A:383:A:H2'	1:A:384:G:C5'	2.36	0.54
17:Q:63:ARG:O	17:Q:65:ILE:HG13	2.08	0.54
1:A:1204:A:C6	1:A:1205:U:H6	2.26	0.54
1:A:103:C:P	20:T:17:ARG:NH1	2.80	0.54
13:M:78:ILE:HA	13:M:81:LEU:HD21	1.90	0.54
1:A:269:C:H2'	1:A:270:A:H8	1.71	0.54
8:H:78:GLN:O	8:H:81:HIS:CD2	2.60	0.54
1:A:652:U:O4	1:A:752:G:O2'	2.20	0.54
1:A:222:U:H2'	1:A:223:U:C6	2.42	0.54
14:N:33:VAL:HA	14:N:40:CYS:HA	1.90	0.54
10:J:8:LEU:CD2	10:J:20:ALA:HB2	2.38	0.54
1:A:1219:U:H2'	1:A:1220:G:H8	1.71	0.54
1:A:1313:U:C5	19:S:4:SER:HB2	2.42	0.54
1:A:922:G:O2'	1:A:1398:A:N1	2.33	0.54
1:A:174:C:H2'	1:A:175:C:C6	2.42	0.54
17:Q:80:GLY:O	17:Q:81:ARG:CB	2.55	0.54
1:A:442:C:H2'	1:A:443:C:C6	2.43	0.54
1:A:697:U:H2'	1:A:698:G:H5'	1.88	0.54
9:I:80:GLY:C	9:I:82:ALA:N	2.60	0.54
2:B:52:GLU:HG2	2:B:56:ARG:HH12	1.71	0.54
3:C:58:GLU:HB3	10:J:92:THR:HG21	1.88	0.54
8:H:96:GLY:H	8:H:99:GLU:HG3	1.72	0.54
1:A:952:U:H1'	13:M:126:LYS:O	2.06	0.54
13:M:10:PRO:HB2	13:M:18:ALA:HB1	1.89	0.54
1:A:167:G:H2'	1:A:168:G:H8	1.71	0.54
9:I:125:TYR:H	9:I:125:TYR:HD1	1.56	0.54
7:G:116:ALA:CB	7:G:119:ARG:HH21	2.19	0.54
10:J:49:VAL:HG11	14:N:41:ARG:O	2.06	0.54
12:L:47:LYS:HB3	12:L:48:PRO:CD	2.34	0.54
1:A:277:C:H5''	17:Q:68:ARG:NH2	2.23	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
8:H:84:ARG:O	8:H:135:CYS:HB2	2.08	0.54
1:A:1001(A):G:C2	1:A:1002:G:H1'	2.42	0.54
3:C:39:ILE:C	3:C:41:GLY:N	2.60	0.54
1:A:628:G:O2'	1:A:629:G:H5'	2.07	0.54
1:A:73:G:O2'	1:A:76:C:H5'	2.07	0.54
1:A:1271:G:C2'	1:A:1272:G:H5''	2.36	0.54
1:A:1037:C:H2'	1:A:1038:C:H6	1.71	0.54
1:A:403:C:O2'	1:A:404:U:H5'	2.08	0.54
2:B:114:ARG:O	2:B:115:LEU:C	2.46	0.54
1:A:961:U:O2'	1:A:962:C:H5'	2.07	0.54
1:A:1085:U:H3'	1:A:1086:U:H5	1.73	0.54
12:L:89:ARG:HA	12:L:97:ARG:HA	1.88	0.54
1:A:1021:G:H2'	1:A:1022:G:C8	2.43	0.54
6:F:22:GLU:OE1	6:F:22:GLU:HA	2.08	0.54
17:Q:10:VAL:CG1	17:Q:53:LEU:HA	2.37	0.54
1:A:80:G:H3'	1:A:81:U:C5'	2.38	0.54
3:C:33:LEU:HD23	3:C:34:LEU:N	2.22	0.54
18:R:29:PHE:HE1	18:R:31:LEU:CD2	2.20	0.54
3:C:10:PHE:CD2	3:C:178:LEU:HD13	2.43	0.54
2:B:142:LEU:O	2:B:142:LEU:HD22	2.07	0.54
2:B:84:GLU:HB3	2:B:219:VAL:CG2	2.28	0.54
12:L:10:LEU:HD22	17:Q:32:TYR:CZ	2.43	0.54
1:A:381:C:O2'	1:A:382:A:H5'	2.08	0.54
5:E:79:GLU:CD	5:E:79:GLU:H	2.11	0.54
5:E:152:ARG:HG2	8:H:43:GLY:C	2.28	0.54
6:F:30:LEU:HB3	6:F:35:ALA:CB	2.38	0.54
1:A:692:U:H1'	1:A:695:A:N7	2.22	0.54
1:A:1410:G:H1	1:A:1490:C:N4	2.04	0.54
1:A:1203:C:H2'	1:A:1204:A:O4'	2.08	0.54
8:H:118:VAL:O	8:H:119:LEU:HB3	2.08	0.54
1:A:1308:U:OP1	13:M:98:VAL:HG23	2.07	0.54
1:A:1249:C:H3'	1:A:1249:C:C6	2.42	0.54
17:Q:48:GLU:C	17:Q:50:LYS:H	2.09	0.54
1:A:714:G:H2'	1:A:715:A:C8	2.43	0.54
12:L:60:LEU:HD22	12:L:60:LEU:H	1.73	0.54
1:A:1343:G:H1'	9:I:121:ARG:NH1	2.21	0.54
9:I:15:ALA:CB	9:I:65:VAL:HB	2.38	0.54
2:B:96:ARG:O	2:B:98:LEU:HD22	2.07	0.54
12:L:45:PRO:HG3	12:L:53:ARG:HD2	1.90	0.54
1:A:986:A:H2'	1:A:987:G:H8	1.71	0.54
3:C:83:ARG:C	3:C:85:ARG:H	2.11	0.54
12:L:5:PRO:CA	12:L:9:GLN:HE21	2.20	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:21:G:C2	1:A:22:G:C6	2.96	0.54
1:A:54:C:H2'	1:A:352:C:H41	1.72	0.54
1:A:191:G:N3	20:T:105:SER:HB3	2.22	0.54
5:E:76:ILE:HG23	5:E:142:LEU:HD13	1.89	0.54
21:U:9:ARG:NH1	21:U:23:PRO:HD2	2.23	0.54
1:A:646:U:H2'	1:A:647:C:C6	2.42	0.54
3:C:23:TYR:CD2	10:J:10:GLY:HA2	2.42	0.54
5:E:149:GLU:O	5:E:153:LYS:HG3	2.07	0.54
8:H:68:ARG:HH11	8:H:68:ARG:HG2	1.73	0.54
1:A:1149:C:C2'	1:A:1150:U:H6	2.14	0.54
10:J:14:LYS:HA	10:J:17:ASP:OD2	2.07	0.54
2:B:214:ILE:HG22	2:B:215:LEU:N	2.23	0.54
19:S:77:THR:O	19:S:78:ARG:HG3	2.07	0.54
1:A:1270:C:OP2	21:U:24:ARG:NH2	2.40	0.54
6:F:99:ALA:HB1	18:R:62:GLU:OE2	2.07	0.54
17:Q:70:ARG:HG3	17:Q:70:ARG:NH1	2.20	0.54
1:A:513:C:H2'	1:A:514:C:C6	2.42	0.54
23:Y:35:C:C4	23:Y:36:C:H5	2.26	0.54
1:A:1022:G:H2'	1:A:1023:G:H8	1.72	0.54
9:I:19:LEU:CD2	9:I:19:LEU:N	2.69	0.54
1:A:659:U:H2'	1:A:660:G:C8	2.43	0.54
1:A:744:C:H2'	1:A:745:C:C6	2.43	0.54
1:A:84:U:H2'	1:A:88:A:C8	2.43	0.54
14:N:43:CYS:HA	14:N:46:GLU:HG3	1.90	0.54
9:I:49:PRO:HB3	9:I:82:ALA:HB2	1.90	0.54
9:I:9:ARG:H	9:I:79:LEU:HD12	1.71	0.54
2:B:108:ILE:O	2:B:108:ILE:CG2	2.55	0.54
12:L:53:ARG:HD2	12:L:93:LEU:HD21	1.90	0.54
1:A:390:C:H2'	1:A:391:G:C8	2.43	0.54
18:R:36:ASN:O	18:R:39:VAL:HG12	2.08	0.54
3:C:16:ARG:CB	3:C:16:ARG:HH11	2.20	0.54
3:C:27:LYS:HB3	3:C:30:ARG:NH2	2.23	0.54
3:C:27:LYS:CB	3:C:30:ARG:HH21	2.21	0.54
1:A:328:C:C2'	1:A:328:C:O2	2.56	0.54
1:A:1249:C:H3'	1:A:1249:C:H6	1.73	0.54
1:A:1349:A:H2'	1:A:1350:A:H8	1.73	0.53
1:A:1288:A:H1'	1:A:1352:C:O2'	2.08	0.53
10:J:57:LYS:NZ	10:J:57:LYS:CB	2.69	0.53
2:B:71:VAL:O	2:B:165:VAL:HG23	2.07	0.53
2:B:88:ALA:O	2:B:90:MET:N	2.41	0.53
1:A:382:A:H2'	1:A:383:A:H8	1.73	0.53
3:C:85:ARG:O	3:C:89:GLU:HB2	2.07	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:D:22:LYS:HG3	4:D:26:CYS:SG	2.48	0.53
1:A:707:C:C2	1:A:708:C:C5	2.96	0.53
1:A:877:C:H1'	8:H:3:THR:CG2	2.37	0.53
1:A:629:G:O2'	1:A:630:G:H5'	2.07	0.53
1:A:321:A:H2	1:A:332:G:H22	1.55	0.53
13:M:80:ARG:O	13:M:82:MET:N	2.41	0.53
4:D:95:GLY:O	4:D:97:LEU:N	2.40	0.53
1:A:473:G:O2'	1:A:474:G:H5'	2.09	0.53
6:F:69:GLU:HA	6:F:72:VAL:HG23	1.90	0.53
12:L:60:LEU:HD23	12:L:64:TYR:C	2.29	0.53
15:O:9:GLN:OE1	15:O:9:GLN:HA	2.08	0.53
1:A:938:A:H5'	7:G:76:ARG:HH22	1.72	0.53
1:A:1063:C:OP2	1:A:1064:G:O2'	2.26	0.53
3:C:178:LEU:O	3:C:179:ARG:CB	2.56	0.53
3:C:71:ALA:CB	3:C:109:PRO:HB3	2.39	0.53
1:A:1225:A:H2'	1:A:1225:A:N3	2.22	0.53
19:S:5:LEU:O	19:S:6:LYS:CB	2.57	0.53
1:A:691:G:O2'	1:A:797:C:H4'	2.08	0.53
2:B:137:ARG:HG3	2:B:138:LEU:H	1.72	0.53
1:A:625:G:H2'	1:A:626:U:H6	1.72	0.53
1:A:947:G:H2'	1:A:948:C:C6	2.44	0.53
1:A:171:A:O2'	1:A:172:A:H5'	2.08	0.53
3:C:73:PRO:O	3:C:76:VAL:HB	2.09	0.53
10:J:24:VAL:HG12	10:J:24:VAL:O	2.07	0.53
10:J:80:LYS:HE2	10:J:80:LYS:H	1.73	0.53
2:B:214:ILE:O	2:B:215:LEU:C	2.45	0.53
1:A:375:U:H2'	1:A:376:G:C8	2.43	0.53
3:C:94:LEU:HD13	3:C:94:LEU:O	2.08	0.53
1:A:514:C:H2'	1:A:515:G:H8	1.73	0.53
22:X:2:G:N1	23:Y:36:C:N4	2.51	0.53
1:A:1205:U:C2'	1:A:1205:U:O2	2.56	0.53
21:U:9:ARG:NH2	21:U:23:PRO:HD2	2.24	0.53
3:C:29:TYR:C	3:C:31:HIS:H	2.12	0.53
1:A:319:G:O2'	1:A:320:C:H5'	2.08	0.53
7:G:111:ARG:HG3	7:G:119:ARG:HG2	1.89	0.53
11:K:48:ILE:HD11	11:K:63:LEU:C	2.29	0.53
10:J:50:ILE:HD13	14:N:41:ARG:NE	2.23	0.53
2:B:44:LEU:N	2:B:44:LEU:HD22	2.17	0.53
12:L:92:ASP:O	12:L:93:LEU:HD23	2.09	0.53
1:A:955:U:H2'	1:A:956:U:H6	1.71	0.53
7:G:138:LYS:C	7:G:138:LYS:HD3	2.29	0.53
20:T:29:LYS:O	20:T:33:ILE:HG13	2.08	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:F:19:LEU:HD23	6:F:19:LEU:C	2.28	0.53
1:A:1243:C:H2'	1:A:1244:C:H6	1.71	0.53
6:F:10:LEU:HD11	6:F:59:TYR:HD2	1.74	0.53
8:H:41:ARG:NH2	8:H:123:GLU:OE2	2.42	0.53
21:U:5:ASP:HB3	21:U:8:THR:OG1	2.08	0.53
1:A:559:A:H4'	1:A:560:U:O5'	2.09	0.53
1:A:1376:U:H2'	1:A:1377:A:C8	2.43	0.53
9:I:63:ILE:CD1	9:I:81:ILE:HD11	2.35	0.53
9:I:9:ARG:H	9:I:79:LEU:CD1	2.20	0.53
10:J:7:LYS:C	10:J:8:LEU:HD12	2.28	0.53
10:J:46:ARG:HG2	10:J:46:ARG:NH1	2.21	0.53
1:A:61:G:H2'	1:A:62:U:O4'	2.08	0.53
1:A:949:A:H2'	1:A:950:U:O4'	2.09	0.53
9:I:33:PHE:C	9:I:35:GLU:N	2.61	0.53
1:A:1031:G:H2'	1:A:1032:G:C8	2.44	0.53
1:A:532:A:H3'	1:A:532:A:N3	2.23	0.53
3:C:9:GLY:HA2	3:C:12:LEU:HG	1.89	0.53
11:K:84:VAL:CG2	11:K:110:ASP:HA	2.39	0.53
19:S:30:LEU:HD23	19:S:30:LEU:C	2.28	0.53
2:B:28:PHE:CD2	2:B:190:THR:HA	2.44	0.53
20:T:33:ILE:HD13	20:T:63:ILE:HA	1.90	0.53
1:A:322:C:C2'	1:A:323:U:H5'	2.38	0.53
3:C:14:ILE:HG22	3:C:15:THR:H	1.74	0.53
1:A:778:G:C5	1:A:779:C:C5	2.96	0.53
1:A:744:C:H2'	1:A:745:C:H6	1.73	0.53
1:A:1009:G:H2'	1:A:1009:G:N3	2.22	0.53
1:A:1251:A:H2'	1:A:1252:A:C8	2.44	0.53
1:A:1372:U:O2'	1:A:1373:G:H5'	2.09	0.53
7:G:26:PHE:CD1	7:G:101:LEU:HD22	2.41	0.53
8:H:11:THR:CB	8:H:14:ARG:HH12	2.22	0.53
1:A:988:G:H2'	1:A:989:C:O4'	2.08	0.53
14:N:15:LYS:HG2	14:N:15:LYS:O	2.08	0.53
3:C:84:ILE:O	3:C:84:ILE:HG12	2.09	0.53
11:K:19:ALA:HB2	11:K:80:VAL:HG11	1.90	0.53
1:A:147:G:O2'	1:A:148:G:H5'	2.09	0.53
17:Q:5:VAL:HA	17:Q:59:ILE:O	2.08	0.53
13:M:78:ILE:HA	13:M:81:LEU:CD2	2.39	0.53
1:A:812:C:O2'	1:A:813:U:P	2.65	0.53
1:A:964:A:O2'	10:J:55:LYS:NZ	2.34	0.53
1:A:1091:U:O2	1:A:1093:A:C8	2.62	0.53
10:J:23:ILE:HG22	10:J:23:ILE:O	2.09	0.53
14:N:26:ARG:NH1	14:N:47:LEU:HD11	2.24	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:14:GLY:O	2:B:15:VAL:HG13	2.09	0.53
3:C:70:VAL:CA	3:C:106:VAL:HG23	2.39	0.53
4:D:8:VAL:O	4:D:11:LEU:HG	2.09	0.53
1:A:579:G:H5'	1:A:728:A:H1'	1.90	0.53
1:A:35:G:H2'	1:A:36:C:C6	2.44	0.53
11:K:54:ARG:HB3	11:K:54:ARG:NH1	2.24	0.53
2:B:25:ASN:O	2:B:27:LYS:N	2.42	0.53
1:A:1435:G:H2'	1:A:1436:U:H6	1.72	0.53
1:A:1283:G:O2'	1:A:1284:C:H5'	2.09	0.53
1:A:1255:G:O2'	1:A:1258:G:H1'	2.09	0.53
20:T:94:ALA:O	20:T:95:ALA:HB3	2.08	0.53
1:A:555:C:H2'	1:A:556:C:C6	2.43	0.53
11:K:14:VAL:O	11:K:15:ALA:HB3	2.09	0.53
1:A:397:A:C6	1:A:548:G:N7	2.76	0.53
2:B:19:HIS:ND1	2:B:204:ASN:HB2	2.23	0.53
3:C:51:GLY:CA	3:C:70:VAL:HG13	2.38	0.53
3:C:24:ALA:HB1	3:C:28:GLN:HB2	1.91	0.53
3:C:92:ALA:C	3:C:94:LEU:H	2.11	0.53
6:F:30:LEU:HD23	6:F:35:ALA:HB1	1.90	0.53
1:A:418:C:H2'	1:A:419:C:H6	1.74	0.53
1:A:1522:U:O2'	1:A:1523:G:H5'	2.09	0.53
4:D:108:LEU:HD22	4:D:174:LEU:HD13	1.90	0.53
4:D:63:LYS:HD2	4:D:198:VAL:HG22	1.90	0.53
1:A:840:C:H4'	1:A:848:C:N3	2.24	0.53
17:Q:94:ASN:O	17:Q:97:SER:N	2.41	0.53
6:F:52:ILE:O	6:F:53:ALA:HB3	2.08	0.53
9:I:79:LEU:O	9:I:83:ARG:HG3	2.08	0.53
1:A:135:C:H5'	1:A:136:C:OP2	2.09	0.53
5:E:80:ILE:HD13	5:E:138:ALA:HB1	1.89	0.53
1:A:877:C:O2'	8:H:3:THR:HG23	2.09	0.53
1:A:1207:G:H2'	1:A:1208:C:C6	2.45	0.53
1:A:448:A:O2'	1:A:449:C:H5'	2.08	0.53
11:K:51:LYS:O	11:K:52:GLY:O	2.27	0.53
7:G:144:MET:O	7:G:147:ALA:HB3	2.09	0.53
9:I:33:PHE:O	9:I:35:GLU:N	2.41	0.53
5:E:144:THR:O	5:E:145:LYS:C	2.48	0.53
1:A:1346:A:C8	1:A:1348:U:C2	2.97	0.53
1:A:868:C:H2'	1:A:869:G:O4'	2.09	0.53
1:A:189(J):G:O2'	1:A:189(K):U:H5'	2.08	0.53
8:H:1:MET:HG2	8:H:2:LEU:O	2.09	0.53
3:C:190:ARG:HH11	3:C:190:ARG:CB	2.22	0.53
3:C:201:TYR:N	3:C:201:TYR:CD1	2.77	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:44:LEU:O	2:B:47:THR:N	2.42	0.52
2:B:75:LYS:HE2	2:B:96:ARG:NH1	2.10	0.52
14:N:10:ALA:C	14:N:12:ARG:H	2.11	0.52
16:P:67:THR:O	16:P:71:ARG:N	2.37	0.52
5:E:118:ILE:HG22	5:E:119:LEU:H	1.73	0.52
9:I:113:LYS:H	9:I:113:LYS:HD2	1.74	0.52
6:F:22:GLU:OE2	6:F:84:ASN:ND2	2.39	0.52
20:T:45:GLN:C	20:T:47:GLY:H	2.12	0.52
1:A:243:A:H5'	1:A:245:C:OP1	2.08	0.52
1:A:110:C:C4	1:A:111:G:C5	2.97	0.52
1:A:1253:G:H5'	10:J:44:VAL:CG1	2.38	0.52
12:L:55:VAL:O	12:L:56:ALA:HB2	2.09	0.52
1:A:1268:A:H2'	1:A:1269:A:C8	2.44	0.52
16:P:53:VAL:HG23	16:P:54:GLU:H	1.71	0.52
11:K:126:ARG:C	11:K:128:ALA:N	2.61	0.52
1:A:229:U:O2'	1:A:230:G:H5'	2.08	0.52
1:A:1408:A:O2'	1:A:1409:C:H5'	2.09	0.52
5:E:13:ILE:HG13	5:E:13:ILE:O	2.08	0.52
17:Q:59:ILE:HG23	17:Q:71:PHE:HB3	1.91	0.52
1:A:475:G:O2'	1:A:476:G:H5'	2.10	0.52
10:J:54:PHE:HD2	10:J:55:LYS:HG2	1.73	0.52
1:A:1416:G:N2	1:A:1417:G:H1'	2.25	0.52
10:J:4:ILE:CG1	10:J:74:ILE:HB	2.39	0.52
17:Q:74:LEU:C	17:Q:74:LEU:HD13	2.29	0.52
1:A:346:G:H2'	1:A:347:G:O4'	2.10	0.52
3:C:7:PRO:HA	3:C:11:ARG:HH21	1.75	0.52
10:J:57:LYS:O	10:J:57:LYS:HG3	2.09	0.52
10:J:13:HIS:CD2	10:J:13:HIS:C	2.82	0.52
10:J:3:LYS:HA	10:J:75:ILE:HA	1.90	0.52
2:B:101:MET:O	2:B:105:PHE:CA	2.57	0.52
2:B:212:GLN:O	2:B:213:LEU:C	2.48	0.52
1:A:1325:C:O3'	21:U:17:THR:HG21	2.09	0.52
12:L:54:LYS:HG2	12:L:75:HIS:CD2	2.44	0.52
4:D:22:LYS:HB2	4:D:26:CYS:SG	2.49	0.52
5:E:110:LEU:HD21	5:E:139:LEU:HD21	1.91	0.52
1:A:1403:C:H1'	1:A:1500:A:N1	2.24	0.52
1:A:433:C:H2'	1:A:434:U:C6	2.44	0.52
1:A:1399:C:O2	1:A:1401:G:C5	2.62	0.52
13:M:84:ILE:O	13:M:86:CYS:N	2.37	0.52
1:A:1212:U:H5'	1:A:1213:A:OP1	2.09	0.52
1:A:186:C:H1'	20:T:85:MET:HE1	1.90	0.52
1:A:767:A:H2'	1:A:768:A:O4'	2.10	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1288:A:C2	1:A:1289:A:C4	2.97	0.52
11:K:48:ILE:HG21	11:K:63:LEU:HD12	1.91	0.52
1:A:1189:C:OP1	10:J:51:ARG:NH2	2.38	0.52
12:L:53:ARG:HA	12:L:54:LYS:HZ2	1.75	0.52
1:A:112:G:C2	1:A:113:G:C8	2.97	0.52
3:C:92:ALA:HA	3:C:95:THR:O	2.10	0.52
18:R:53:ARG:CG	18:R:63:GLN:HG2	2.38	0.52
1:A:1367:C:C2	1:A:1368:G:C8	2.98	0.52
1:A:417:C:H2'	1:A:418:C:C6	2.42	0.52
1:A:1392:G:O2'	1:A:1393:U:H5'	2.10	0.52
4:D:145:GLU:C	4:D:146:ILE:HD12	2.29	0.52
1:A:573:A:C2	1:A:574:A:C2	2.97	0.52
9:I:64:THR:HG23	9:I:66:ARG:HH21	1.74	0.52
10:J:44:VAL:O	10:J:45:ARG:HG2	2.10	0.52
14:N:29:ARG:NH2	14:N:40:CYS:HB2	2.25	0.52
2:B:107:THR:C	2:B:109:SER:N	2.63	0.52
2:B:56:ARG:HB2	2:B:56:ARG:CZ	2.40	0.52
1:A:112:G:H5'	1:A:389:A:H4'	1.91	0.52
4:D:35:ARG:O	4:D:36:ARG:CB	2.55	0.52
1:A:518:C:H5''	1:A:519:C:C5	2.44	0.52
4:D:154:ASN:HD22	4:D:154:ASN:N	2.08	0.52
18:R:32:ARG:HA	18:R:69:THR:HG21	1.92	0.52
1:A:67:C:O2'	1:A:171:A:H1'	2.10	0.52
6:F:33:TYR:HD1	6:F:75:LEU:CD2	2.22	0.52
1:A:1439:C:O2'	1:A:1440:C:H5'	2.09	0.52
1:A:397:A:N3	1:A:397:A:H3'	2.24	0.52
2:B:107:THR:O	2:B:109:SER:N	2.43	0.52
2:B:209:ARG:HE	2:B:239:VAL:CG1	2.22	0.52
4:D:31:CYS:SG	4:D:31:CYS:O	2.68	0.52
11:K:69:ALA:O	11:K:72:ALA:HB3	2.09	0.52
5:E:74:GLY:HA3	5:E:116:THR:CG2	2.31	0.52
1:A:1305:G:OP1	21:U:2:GLY:CA	2.57	0.52
1:A:781:A:H2	1:A:1514:C:O4'	1.93	0.52
1:A:1052:U:H2'	1:A:1200:C:H41	1.74	0.52
1:A:1047:G:O2'	1:A:1048:G:H5'	2.10	0.52
1:A:479:C:C2'	1:A:480:U:H5'	2.39	0.52
9:I:125:TYR:HD1	9:I:125:TYR:N	2.07	0.52
1:A:984:C:H2'	1:A:985:C:H6	1.74	0.52
1:A:721:G:C6	1:A:733:A:C2	2.97	0.52
3:C:177:THR:CG2	3:C:180:ALA:HB2	2.40	0.52
10:J:47:PHE:HD2	14:N:34:TYR:HE2	1.57	0.52
10:J:6:ILE:HG22	10:J:8:LEU:HD11	1.91	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:K:92:GLU:OE2	11:K:95:ILE:HD12	2.10	0.52
16:P:20:VAL:HG21	16:P:32:TYR:CG	2.45	0.52
4:D:20:TYR:CA	4:D:26:CYS:SG	2.97	0.52
14:N:8:GLU:CA	14:N:11:LYS:HD3	2.34	0.52
12:L:25:PRO:C	12:L:27:LEU:H	2.11	0.52
1:A:264:U:C2'	1:A:265:G:H5'	2.39	0.52
1:A:16:A:C2	1:A:920:U:O2	2.62	0.52
2:B:139:LYS:HD3	2:B:143:GLU:HG3	1.91	0.52
3:C:127:ARG:HG2	3:C:127:ARG:HH11	1.74	0.52
9:I:64:THR:CG2	9:I:66:ARG:HH21	2.22	0.52
1:A:507:C:H2'	1:A:508:C:C5	2.45	0.52
1:A:880:C:C6	1:A:880:C:H3'	2.45	0.52
6:F:4:TYR:HA	6:F:92:LYS:HA	1.91	0.52
1:A:1288:A:O2'	1:A:1352:C:O2'	2.28	0.52
1:A:1355:G:H2'	1:A:1356:G:H8	1.75	0.52
1:A:1123:A:H4'	10:J:36:GLY:HA3	1.92	0.52
2:B:36:ARG:HB2	2:B:41:ILE:CD1	2.36	0.52
2:B:91:PRO:CB	2:B:155:LEU:HG	2.40	0.52
1:A:977:A:O2'	1:A:979:C:OP2	2.25	0.52
16:P:53:VAL:C	16:P:55:ARG:N	2.59	0.52
1:A:37:U:O2'	1:A:38:G:H5'	2.10	0.52
5:E:16:THR:HG23	5:E:17:ALA:N	2.24	0.52
1:A:925:G:C6	1:A:927:G:N7	2.78	0.52
1:A:778:G:HO2'	1:A:779:C:H5'	1.75	0.52
8:H:108:GLY:HA3	8:H:138:TRP:HB3	1.91	0.52
1:A:765:G:H22	1:A:812:C:HO2'	1.58	0.52
16:P:18:ARG:HD3	16:P:35:LYS:HD2	1.91	0.52
18:R:47:THR:HA	18:R:83:GLU:HB2	1.92	0.52
4:D:158:ILE:HG22	4:D:159:ARG:N	2.24	0.52
1:A:1250:A:H4'	9:I:68:GLY:N	2.25	0.52
11:K:14:VAL:HG12	11:K:16:SER:O	2.10	0.52
11:K:48:ILE:HD11	11:K:64:ALA:CA	2.40	0.52
11:K:65:ALA:HB1	11:K:98:LEU:CD2	2.40	0.52
3:C:180:ALA:HB3	3:C:182:ILE:HG13	1.91	0.52
11:K:87:THR:HA	11:K:91:ARG:NH2	2.14	0.52
1:A:1219:U:OP1	14:N:19:ARG:NH2	2.43	0.52
18:R:55:ARG:CA	18:R:55:ARG:HH11	2.23	0.52
8:H:46:LYS:N	8:H:64:LYS:HD2	2.24	0.52
17:Q:65:ILE:HG22	17:Q:65:ILE:O	2.10	0.52
12:L:115:LYS:O	12:L:117:ARG:HG3	2.10	0.52
1:A:279:A:OP1	1:A:280:C:O2'	2.23	0.52
1:A:258:G:H2'	1:A:259:G:C8	2.43	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:879:C:C6	1:A:879:C:C3'	2.93	0.52
1:A:184:G:C4'	1:A:224:C:H4'	2.39	0.52
2:B:209:ARG:NH2	2:B:239:VAL:HG11	2.24	0.52
21:U:6:ARG:NH2	21:U:15:ARG:NH1	2.58	0.52
19:S:30:LEU:O	19:S:31:ILE:HD13	2.10	0.52
1:A:1368:G:H5''	9:I:112:LYS:HB3	1.90	0.52
1:A:1118:C:H2'	1:A:1119:C:C6	2.41	0.52
2:B:194:PRO:O	2:B:196:LEU:N	2.43	0.52
9:I:79:LEU:C	9:I:83:ARG:HG3	2.31	0.51
19:S:33:THR:HB	19:S:51:VAL:HA	1.91	0.51
1:A:1305:G:N2	1:A:1331:G:C2'	2.64	0.51
1:A:232:G:H2'	1:A:233:C:H6	1.74	0.51
2:B:143:GLU:O	2:B:147:LYS:HG3	2.10	0.51
17:Q:10:VAL:HG11	17:Q:53:LEU:HA	1.91	0.51
9:I:37:PHE:CE1	9:I:74:ILE:HG12	2.45	0.51
1:A:339:C:H2'	1:A:340:U:H6	1.74	0.51
1:A:1374:A:O2'	1:A:1375:A:H5'	2.10	0.51
1:A:189:G:H1	1:A:189(K):U:H3	1.59	0.51
1:A:1447:A:O2'	1:A:1452:C:OP1	2.28	0.51
13:M:125:ARG:C	13:M:125:ARG:HD2	2.29	0.51
7:G:23:VAL:O	7:G:27:ILE:HG13	2.10	0.51
1:A:1343:G:H4'	9:I:122:ALA:O	2.09	0.51
3:C:112:SER:O	3:C:113:ALA:CB	2.57	0.51
9:I:127:LYS:O	9:I:128:ARG:HB2	2.11	0.51
1:A:378:G:C2	1:A:386:C:O2	2.63	0.51
3:C:57:ILE:HG23	3:C:64:VAL:CG1	2.37	0.51
1:A:373:A:O2'	1:A:374:A:H5'	2.10	0.51
13:M:78:ILE:C	13:M:80:ARG:N	2.63	0.51
13:M:84:ILE:C	13:M:86:CYS:H	2.14	0.51
1:A:1374:A:C4	1:A:1375:A:C8	2.98	0.51
8:H:69:ARG:NH2	8:H:75:ARG:O	2.43	0.51
1:A:1240:U:OP1	7:G:119:ARG:NH2	2.43	0.51
3:C:112:SER:OG	3:C:113:ALA:N	2.43	0.51
3:C:6:HIS:C	3:C:6:HIS:CD2	2.83	0.51
1:A:1219:U:H2'	1:A:1220:G:C8	2.45	0.51
19:S:12:ASP:O	19:S:15:LEU:HG	2.10	0.51
18:R:53:ARG:C	18:R:55:ARG:H	2.14	0.51
5:E:16:THR:O	5:E:17:ALA:HB2	2.10	0.51
12:L:69:TYR:HB2	12:L:96:VAL:CG1	2.39	0.51
5:E:68:GLU:O	5:E:70:PRO:HD3	2.10	0.51
3:C:150:LYS:HG2	3:C:173:VAL:HG21	1.92	0.51
1:A:308:C:H2'	1:A:309:G:C8	2.46	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:807:A:O2'	1:A:808:C:H5'	2.10	0.51
7:G:111:ARG:HB2	7:G:113:GLU:OE2	2.10	0.51
9:I:10:ARG:CD	9:I:105:ASP:HB3	2.39	0.51
1:A:1066:C:O2'	1:A:1067:A:H5'	2.09	0.51
9:I:7:THR:HG21	9:I:9:ARG:NH1	2.25	0.51
2:B:44:LEU:H	2:B:44:LEU:CD2	2.17	0.51
12:L:71:PRO:HD2	12:L:100:ILE:HG22	1.92	0.51
3:C:71:ALA:HB2	3:C:106:VAL:CB	2.34	0.51
15:O:17:ARG:CZ	15:O:77:ARG:HH11	2.24	0.51
15:O:78:TYR:O	15:O:79:ARG:C	2.48	0.51
1:A:1028:C:H1'	1:A:1034:G:N2	2.25	0.51
9:I:10:ARG:O	9:I:11:LYS:C	2.47	0.51
7:G:16:LEU:H	7:G:16:LEU:CD2	2.18	0.51
9:I:8:GLY:O	9:I:15:ALA:N	2.43	0.51
2:B:162:ILE:H	2:B:185:ILE:CD1	2.24	0.51
2:B:236:TYR:O	2:B:239:VAL:HG23	2.09	0.51
12:L:81:SER:HA	12:L:106:ASP:OD1	2.11	0.51
1:A:542:G:C5'	4:D:41:GLY:HA3	2.36	0.51
11:K:126:ARG:C	11:K:128:ALA:H	2.14	0.51
15:O:27:VAL:O	15:O:31:LEU:HD12	2.10	0.51
1:A:262:A:H5'	20:T:74:LYS:HG3	1.92	0.51
1:A:16:A:C2'	1:A:17:U:H5'	2.41	0.51
1:A:769:G:H4'	1:A:1513:A:H4'	1.93	0.51
1:A:371:G:O2'	1:A:372:C:H5'	2.11	0.51
3:C:39:ILE:O	3:C:41:GLY:N	2.43	0.51
2:B:42:ILE:CD1	2:B:203:GLY:HA2	2.40	0.51
11:K:11:LYS:HB2	11:K:12:ARG:NH2	2.25	0.51
1:A:1256:A:H5'	1:A:1258:G:C1'	2.41	0.51
4:D:88:VAL:HG12	4:D:91:SER:H	1.76	0.51
9:I:89:ASN:ND2	9:I:92:TYR:CE2	2.74	0.51
1:A:1417:G:H2'	1:A:1482:G:N2	2.25	0.51
6:F:4:TYR:CE1	6:F:92:LYS:HB3	2.46	0.51
1:A:974:A:H8	1:A:974:A:OP1	1.94	0.51
1:A:1141:C:O2'	1:A:1142:G:H5'	2.10	0.51
12:L:53:ARG:HH12	12:L:92:ASP:CB	2.15	0.51
1:A:1320:C:O2'	1:A:1321:C:H5'	2.10	0.51
14:N:14:PRO:O	14:N:15:LYS:CB	2.59	0.51
7:G:3:ARG:O	7:G:4:ARG:CG	2.58	0.51
9:I:110:GLU:HG2	9:I:113:LYS:NZ	2.24	0.51
1:A:1085:U:H3'	1:A:1086:U:C5	2.46	0.51
1:A:1237:C:H4'	1:A:1334:G:N2	2.26	0.51
13:M:40:ASN:HD22	13:M:41:PRO:CD	2.24	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:254:G:O2'	1:A:255:G:H5'	2.10	0.51
20:T:58:LYS:O	20:T:59:ALA:C	2.49	0.51
4:D:200:GLU:O	4:D:203:VAL:N	2.43	0.51
1:A:716:A:H1'	11:K:118:GLY:HA2	1.91	0.51
11:K:116:HIS:N	11:K:116:HIS:ND1	2.57	0.51
1:A:975:A:C5'	1:A:976:G:H5''	2.40	0.51
11:K:14:VAL:HG21	11:K:40:ILE:HD13	1.92	0.51
2:B:12:GLU:C	2:B:14:GLY:N	2.65	0.51
12:L:47:LYS:CB	12:L:48:PRO:CD	2.89	0.51
16:P:1:MET:HE1	16:P:3:LYS:HE3	1.91	0.51
18:R:56:THR:HB	18:R:58:LEU:HD13	1.93	0.51
1:A:817:C:H1'	1:A:819:A:H5'	1.92	0.51
1:A:1020:U:H2'	1:A:1021:G:H8	1.76	0.51
10:J:16:LEU:HD21	10:J:94:VAL:HG13	1.92	0.51
1:A:1427:U:H2'	1:A:1428:A:C8	2.46	0.51
8:H:118:VAL:C	8:H:119:LEU:HD23	2.31	0.51
8:H:63:LEU:N	8:H:63:LEU:HD22	2.26	0.51
1:A:892:A:O2'	1:A:893:C:H5'	2.11	0.51
1:A:1342:C:H2'	1:A:1343:G:C8	2.46	0.51
10:J:45:ARG:HG3	10:J:65:LEU:HD22	1.92	0.51
2:B:71:VAL:CG1	2:B:170:GLU:HG2	2.40	0.51
2:B:36:ARG:HD2	2:B:41:ILE:HG12	1.92	0.51
12:L:41:ARG:CG	12:L:42:THR:N	2.65	0.51
1:A:376:G:H2'	1:A:377:G:H8	1.75	0.51
1:A:377:G:P	16:P:3:LYS:HZ2	2.33	0.51
16:P:66:PRO:CG	16:P:71:ARG:HG3	2.41	0.51
4:D:32:ALA:C	4:D:34:GLU:N	2.62	0.51
3:C:136:GLN:O	3:C:140:ARG:HG3	2.10	0.51
3:C:137:ALA:HA	3:C:140:ARG:HH11	1.73	0.51
1:A:9:G:C2	1:A:26:A:N1	2.79	0.51
19:S:58:VAL:O	19:S:60:VAL:HG23	2.11	0.51
1:A:419:C:H2'	1:A:420:U:O4'	2.10	0.51
1:A:457:C:H2'	1:A:458:C:H6	1.76	0.51
1:A:256:U:H2'	1:A:257:G:H8	1.76	0.51
1:A:1382:C:H2'	1:A:1383:C:H6	1.75	0.51
2:B:230:VAL:HG12	2:B:231:GLU:N	2.26	0.51
9:I:27:THR:HG1	9:I:62:TYR:HD1	1.57	0.51
7:G:36:LYS:O	7:G:39:ALA:HB3	2.11	0.51
9:I:118:LYS:O	9:I:119:ALA:HB3	2.11	0.51
2:B:74:LYS:HE3	2:B:205:ASP:O	2.10	0.51
4:D:199:ASN:O	4:D:202:LEU:HB2	2.11	0.51
20:T:48:LYS:O	20:T:49:ALA:O	2.29	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
18:R:53:ARG:C	18:R:55:ARG:N	2.64	0.51
1:A:1397:C:O2'	1:A:1398:A:P	2.69	0.51
1:A:1204:A:C6	1:A:1205:U:C6	2.99	0.51
9:I:58:ARG:CZ	9:I:58:ARG:HB3	2.41	0.51
1:A:970:C:O2	13:M:126:LYS:HG2	2.11	0.51
1:A:608:A:H2'	1:A:609:A:O4'	2.10	0.51
1:A:308:C:H2'	1:A:309:G:H8	1.76	0.51
4:D:187:ARG:CD	4:D:188:LEU:N	2.74	0.51
5:E:105:VAL:O	5:E:106:PRO:C	2.49	0.51
5:E:139:LEU:O	5:E:141:GLN:N	2.43	0.51
9:I:97:LYS:O	9:I:100:GLY:N	2.44	0.51
2:B:200:ILE:CG2	2:B:202:PRO:HD3	2.39	0.51
6:F:100:ASN:HD22	18:R:23:LYS:HG2	1.75	0.51
1:A:750:G:N3	15:O:23:GLY:HA3	2.26	0.51
1:A:1259:C:H6	1:A:1259:C:O5'	1.94	0.51
6:F:40:VAL:HG23	6:F:62:TRP:O	2.10	0.51
2:B:97:TRP:CE3	2:B:98:LEU:O	2.64	0.50
12:L:40:VAL:HG21	12:L:77:LEU:O	2.11	0.50
12:L:54:LYS:N	12:L:54:LYS:NZ	2.40	0.50
15:O:78:TYR:CE1	15:O:82:ILE:HD11	2.47	0.50
15:O:27:VAL:HG12	15:O:31:LEU:CD1	2.41	0.50
5:E:107:ARG:O	5:E:110:LEU:N	2.43	0.50
1:A:146:G:O2'	1:A:147:G:H5'	2.11	0.50
1:A:149:A:O2'	1:A:150:C:H5'	2.11	0.50
1:A:625:G:H4'	16:P:16:HIS:CD2	2.46	0.50
1:A:1436:U:O2'	1:A:1437:C:H5'	2.12	0.50
5:E:112:LEU:C	5:E:114:GLY:N	2.64	0.50
1:A:965:A:C2	1:A:969:A:C2	2.99	0.50
4:D:180:GLY:O	4:D:182:LYS:HG3	2.11	0.50
1:A:653:A:O5'	8:H:56:LYS:NZ	2.44	0.50
7:G:17:VAL:HB	7:G:44:TYR:CZ	2.46	0.50
14:N:27:CYS:SG	14:N:28:GLY:N	2.84	0.50
14:N:29:ARG:C	14:N:31:ARG:H	2.15	0.50
12:L:54:LYS:HG2	12:L:75:HIS:HD2	1.77	0.50
13:M:23:TYR:CE2	13:M:71:ARG:HG2	2.46	0.50
1:A:265:G:O2'	1:A:266:G:H5'	2.11	0.50
1:A:691:G:H2'	1:A:692:U:C6	2.46	0.50
1:A:423:G:H2'	1:A:424:G:O4'	2.12	0.50
1:A:1054:C:N4	23:Y:35:C:O4'	2.44	0.50
1:A:1405:G:H2'	1:A:1406:U:H6	1.76	0.50
3:C:195:VAL:C	3:C:196:LEU:HD23	2.30	0.50
1:A:1227:A:H1'	13:M:117:VAL:HG21	1.93	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:455:C:N4	1:A:476:G:H1	2.09	0.50
3:C:66:VAL:CG1	3:C:68:VAL:HG23	2.41	0.50
8:H:20:TYR:HE2	8:H:75:ARG:HD2	1.76	0.50
18:R:79:LEU:CD2	18:R:80:PRO:HD2	2.41	0.50
7:G:47:CYS:SG	7:G:58:PRO:HB2	2.52	0.50
2:B:185:ILE:HA	2:B:199:TYR:O	2.12	0.50
2:B:207:ALA:O	2:B:209:ARG:N	2.43	0.50
1:A:1178:G:H22	1:A:1180:A:H3'	1.74	0.50
1:A:543:C:O2'	1:A:544:G:H5'	2.10	0.50
13:M:34:LEU:CD1	13:M:41:PRO:HA	2.41	0.50
1:A:276:G:O2'	1:A:277:C:H5'	2.11	0.50
5:E:31:LEU:HD22	5:E:43:LEU:HD21	1.94	0.50
1:A:1504:G:O2'	1:A:1505:G:OP2	2.27	0.50
1:A:144:G:N2	1:A:178:C:O2	2.44	0.50
18:R:37:VAL:HG12	18:R:41:LYS:HE3	1.93	0.50
4:D:162:LEU:HD23	4:D:178:VAL:HG13	1.93	0.50
1:A:1028:C:H1'	1:A:1034:G:H22	1.75	0.50
7:G:24:THR:O	7:G:28:ASN:ND2	2.45	0.50
1:A:1158:C:H5''	2:B:133:LYS:HZ1	1.75	0.50
1:A:60:A:H1'	1:A:61:G:OP2	2.12	0.50
16:P:52:ASP:O	16:P:52:ASP:OD1	2.29	0.50
20:T:40:ALA:HB2	20:T:55:ILE:CG2	2.42	0.50
9:I:111:ARG:O	9:I:113:LYS:HD2	2.10	0.50
12:L:89:ARG:HD3	12:L:97:ARG:CB	2.42	0.50
12:L:117:ARG:O	12:L:118:SER:C	2.49	0.50
1:A:782:A:C6	1:A:801:U:C2	2.99	0.50
6:F:82:ARG:HA	6:F:82:ARG:NE	2.26	0.50
13:M:81:LEU:HA	13:M:84:ILE:CD1	2.39	0.50
15:O:41:GLU:HA	15:O:44:LYS:HG2	1.93	0.50
9:I:89:ASN:HB3	9:I:92:TYR:CE1	2.46	0.50
2:B:78:GLN:O	2:B:94:ASN:HB2	2.12	0.50
1:A:1525:G:O2'	1:A:1526:G:H5'	2.11	0.50
11:K:111:ASP:CG	11:K:111:ASP:O	2.49	0.50
11:K:27:ASN:CG	11:K:28:THR:N	2.65	0.50
12:L:70:ILE:HD13	12:L:77:LEU:HD12	1.93	0.50
1:A:389:A:H2'	1:A:390:C:C5'	2.41	0.50
3:C:21:ARG:O	10:J:93:GLY:HA3	2.11	0.50
4:D:8:VAL:HG11	4:D:22:LYS:HE2	1.89	0.50
13:M:44:ARG:O	13:M:46:LYS:HG2	2.12	0.50
6:F:27:GLN:HA	6:F:30:LEU:HD13	1.93	0.50
12:L:27:LEU:C	12:L:29:GLY:H	2.15	0.50
1:A:267:C:H2'	1:A:268:C:H6	1.76	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:707:C:O2'	1:A:708:C:H5'	2.11	0.50
17:Q:45:HIS:N	17:Q:71:PHE:O	2.43	0.50
8:H:103:VAL:HG12	8:H:108:GLY:HA3	1.93	0.50
20:T:94:ALA:O	20:T:95:ALA:CB	2.59	0.50
10:J:48:THR:HG1	10:J:62:HIS:CE1	2.29	0.50
1:A:1288:A:C4	1:A:1289:A:C8	3.00	0.50
7:G:111:ARG:HB2	7:G:112:PRO:HD2	1.93	0.50
4:D:2:GLY:O	4:D:3:ARG:HB2	2.11	0.50
8:H:11:THR:O	8:H:12:ARG:C	2.48	0.50
2:B:162:ILE:O	2:B:162:ILE:HG22	2.11	0.50
11:K:58:PRO:O	11:K:61:ALA:HB3	2.12	0.50
16:P:21:VAL:O	16:P:33:ILE:HG12	2.12	0.50
4:D:6:GLY:H	4:D:115:ARG:HH22	1.60	0.50
4:D:8:VAL:HG21	4:D:21:LEU:HB2	1.94	0.50
1:A:792:A:H4'	1:A:793:U:C5'	2.36	0.50
8:H:96:GLY:O	8:H:97:VAL:C	2.49	0.50
5:E:12:LEU:HD13	5:E:31:LEU:HB2	1.91	0.50
15:O:4:THR:OG1	15:O:7:GLU:HG3	2.12	0.50
1:A:77:G:O2'	1:A:78:G:H5'	2.11	0.50
9:I:53:VAL:HG11	9:I:92:TYR:CZ	2.47	0.50
6:F:56:PRO:O	6:F:57:GLN:HB2	2.11	0.50
1:A:1152:A:O3'	10:J:13:HIS:NE2	2.41	0.50
12:L:48:PRO:C	12:L:49:ASN:HD22	2.14	0.50
19:S:78:ARG:HG2	19:S:78:ARG:HH11	1.76	0.50
1:A:113:G:H2'	1:A:114:U:H6	1.76	0.50
7:G:68:ASN:C	7:G:70:LYS:H	2.15	0.50
3:C:19:GLU:O	3:C:40:ARG:NH2	2.45	0.50
1:A:488:C:O2'	1:A:489:C:H5'	2.12	0.50
2:B:21:ARG:HH11	2:B:21:ARG:HG3	1.77	0.50
8:H:25:ASP:N	8:H:25:ASP:OD1	2.43	0.50
1:A:1263:C:H2'	1:A:1264:C:C6	2.47	0.50
5:E:40:ARG:NH1	5:E:68:GLU:OE2	2.45	0.50
1:A:1030:C:H2'	1:A:1030(A):G:H8	1.76	0.50
1:A:839:U:C2'	1:A:839:U:O2	2.59	0.50
1:A:1447:A:H4'	1:A:1452:C:OP2	2.11	0.50
1:A:1483:A:H2'	1:A:1484:C:O4'	2.11	0.50
11:K:59:TYR:O	11:K:62:GLN:N	2.45	0.50
10:J:49:VAL:HG13	14:N:41:ARG:HB2	1.90	0.50
1:A:16:A:H2'	1:A:17:U:H5'	1.93	0.50
1:A:446:G:C2	1:A:447:G:H1'	2.46	0.50
1:A:1351:U:H4'	7:G:33:ASP:CG	2.31	0.50
7:G:46:ALA:O	7:G:50:ILE:HG12	2.12	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:J:42:THR:HG23	10:J:67:THR:O	2.12	0.50
10:J:42:THR:HG23	10:J:68:HIS:HA	1.92	0.50
3:C:11:ARG:O	3:C:13:GLY:N	2.45	0.50
1:A:974:A:OP2	14:N:41:ARG:HD3	2.11	0.50
10:J:20:ALA:O	10:J:24:VAL:HG23	2.11	0.50
2:B:105:PHE:O	2:B:106:LYS:C	2.49	0.50
16:P:55:ARG:O	16:P:56:ALA:C	2.50	0.50
12:L:85:ILE:HG21	12:L:98:TYR:CD2	2.47	0.50
1:A:1206:G:H2'	1:A:1207:G:O4'	2.12	0.50
1:A:429:U:H4'	1:A:430:A:O5'	2.11	0.50
5:E:99:GLY:H	5:E:117:ASP:CG	2.14	0.50
15:O:41:GLU:CD	15:O:44:LYS:HG3	2.32	0.50
1:A:1033:G:H2'	1:A:1034:G:O4'	2.11	0.50
5:E:135:THR:HG22	5:E:136:MET:N	2.27	0.50
1:A:1250:A:H2	1:A:1353:G:N2	2.09	0.49
10:J:42:THR:HG22	10:J:43:ARG:N	2.27	0.49
1:A:405:U:H5''	1:A:495:A:H2	1.77	0.49
1:A:1152:A:H5'	10:J:13:HIS:NE2	2.26	0.49
10:J:30:SER:HB3	10:J:84:GLN:HE22	1.77	0.49
12:L:34:ARG:HB2	12:L:83:VAL:O	2.12	0.49
1:A:978:A:H5'	1:A:1363:C:N4	2.27	0.49
1:A:1326:C:OP1	21:U:12:LYS:NZ	2.45	0.49
15:O:88:ARG:CB	15:O:88:ARG:NH1	2.75	0.49
15:O:53:HIS:O	15:O:57:LEU:HD12	2.12	0.49
1:A:686:U:O2'	1:A:687:A:H8	1.95	0.49
1:A:439:A:H2'	1:A:441:A:H5'	1.93	0.49
4:D:153:ARG:O	4:D:153:ARG:HG2	2.12	0.49
4:D:17:VAL:CG1	4:D:18:LYS:H	2.24	0.49
1:A:1542:U:H2'	1:A:1543:C:O4'	2.11	0.49
8:H:24:THR:O	8:H:24:THR:HG23	2.11	0.49
1:A:1111:A:H2'	1:A:1112:C:C6	2.47	0.49
9:I:50:LEU:O	9:I:52:ALA:N	2.41	0.49
2:B:87:ARG:NH1	2:B:233:SER:HB2	2.28	0.49
3:C:64:VAL:CG1	3:C:65:ALA:N	2.76	0.49
3:C:167:TRP:O	3:C:168:ALA:HB2	2.11	0.49
5:E:100:VAL:HG12	5:E:107:ARG:HE	1.77	0.49
5:E:115:VAL:HG11	5:E:118:ILE:CG1	2.41	0.49
11:K:79:SER:CA	11:K:104:GLN:HB3	2.34	0.49
1:A:818:G:C3'	1:A:819:A:C5'	2.90	0.49
1:A:129:U:H5''	17:Q:3:LYS:HZ1	1.77	0.49
1:A:691:G:H2'	1:A:692:U:H6	1.76	0.49
1:A:101:A:HO2'	1:A:102:G:H5'	1.76	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:K:22:HIS:CD2	11:K:22:HIS:O	2.66	0.49
4:D:170:VAL:HG12	4:D:171:GLY:N	2.27	0.49
18:R:47:THR:C	18:R:49:LYS:H	2.16	0.49
1:A:862:C:H2'	1:A:863:U:H6	1.77	0.49
1:A:47:C:O2	1:A:49:U:C5	2.65	0.49
7:G:15:ASP:O	7:G:19:GLY:HA2	2.11	0.49
9:I:11:LYS:O	9:I:11:LYS:HG2	2.11	0.49
1:A:406:G:H5''	4:D:5:ILE:HG21	1.92	0.49
4:D:99:SER:O	4:D:140:VAL:HG23	2.12	0.49
1:A:219:C:O2'	1:A:381:C:H5'	2.12	0.49
1:A:921:U:O2'	5:E:19:MET:O	2.27	0.49
1:A:1390:U:H2'	1:A:1391:U:H6	1.78	0.49
1:A:1205:U:H2'	1:A:1206:G:H8	1.77	0.49
2:B:139:LYS:O	2:B:143:GLU:N	2.45	0.49
10:J:15:THR:HG23	10:J:16:LEU:N	2.27	0.49
1:A:460:G:H3'	1:A:461:A:C5'	2.42	0.49
4:D:77:ASN:O	4:D:81:GLU:HG2	2.13	0.49
1:A:1497:G:H2'	1:A:1498:U:H5'	1.94	0.49
4:D:190:ASP:O	4:D:193:ASP:N	2.42	0.49
9:I:108:VAL:CG1	9:I:109:VAL:H	2.23	0.49
14:N:52:GLN:O	14:N:53:LEU:HD23	2.13	0.49
1:A:386:C:C2'	1:A:387:U:H5'	2.42	0.49
8:H:31:PHE:HZ	8:H:134:ILE:HD11	1.77	0.49
13:M:64:TRP:HB2	13:M:66:LEU:HD11	1.95	0.49
1:A:687:A:O2'	1:A:688:G:OP2	2.25	0.49
20:T:37:SER:HB3	20:T:84:LEU:CD2	2.43	0.49
1:A:1121:U:O2'	1:A:1122:U:H5'	2.12	0.49
1:A:1243:C:OP2	21:U:10:ARG:NH2	2.46	0.49
1:A:1475:G:H2'	1:A:1476:G:H8	1.78	0.49
1:A:186:C:C2	1:A:187:C:C5	3.00	0.49
1:A:57:G:C2	1:A:58:C:O2	2.65	0.49
16:P:81:ARG:HG3	16:P:83:GLU:CG	2.42	0.49
14:N:36:PHE:CD1	14:N:36:PHE:O	2.66	0.49
1:A:1342:C:H2'	1:A:1343:G:H8	1.75	0.49
7:G:25:ALA:O	7:G:28:ASN:N	2.45	0.49
1:A:408:A:H5'	4:D:116:GLN:HB2	1.93	0.49
3:C:7:PRO:O	3:C:11:ARG:HB2	2.12	0.49
12:L:38:THR:HG22	12:L:39:VAL:N	2.27	0.49
3:C:71:ALA:CA	3:C:106:VAL:HB	2.41	0.49
1:A:1326:C:O2'	1:A:1327:C:H5'	2.11	0.49
1:A:389:A:H2'	1:A:390:C:H5'	1.94	0.49
10:J:92:THR:HG22	10:J:93:GLY:N	2.28	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:E:91:LEU:CD2	5:E:110:LEU:HD11	2.43	0.49
1:A:1305:G:OP2	1:A:1305:G:H8	1.95	0.49
1:A:913:A:O2'	1:A:914:A:P	2.70	0.49
9:I:34:ASN:H	9:I:34:ASN:ND2	2.09	0.49
18:R:40:LEU:O	18:R:41:LYS:C	2.51	0.49
1:A:1382:C:O2'	1:A:1383:C:H5'	2.13	0.49
1:A:1415:G:H2'	1:A:1416:G:H8	1.76	0.49
1:A:285:G:O2'	1:A:286:G:H5'	2.12	0.49
1:A:1251:A:H1'	1:A:1369:C:O2'	2.13	0.49
7:G:47:CYS:HA	7:G:50:ILE:CG1	2.43	0.49
1:A:1125:U:H5''	1:A:1126:U:H5	1.77	0.49
1:A:1150:U:O2'	10:J:41:PRO:CD	2.59	0.49
10:J:32:ALA:HB2	10:J:81:THR:HG21	1.94	0.49
2:B:41:ILE:N	2:B:41:ILE:CD1	2.73	0.49
12:L:54:LYS:HB3	12:L:70:ILE:HD12	1.94	0.49
18:R:55:ARG:HH11	18:R:55:ARG:HA	1.78	0.49
1:A:255:G:H1'	17:Q:16:GLN:NE2	2.28	0.49
12:L:89:ARG:CZ	12:L:97:ARG:HD2	2.42	0.49
12:L:89:ARG:HD3	12:L:97:ARG:HB3	1.94	0.49
1:A:920:U:H2'	1:A:921:U:C6	2.48	0.49
1:A:637:G:H2'	1:A:638:G:H8	1.77	0.49
5:E:31:LEU:HD23	5:E:45:PHE:HA	1.95	0.49
1:A:63:C:N4	1:A:104:G:H1	2.08	0.49
1:A:1228:C:OP1	13:M:115:LYS:HB2	2.11	0.49
17:Q:95:TYR:HD1	17:Q:95:TYR:H	1.61	0.49
1:A:1479:C:O2'	1:A:1480:G:H5'	2.11	0.49
1:A:1296:C:H4'	1:A:1302:U:C4	2.47	0.49
11:K:40:ILE:CG2	11:K:41:THR:HG23	2.40	0.49
9:I:79:LEU:O	9:I:83:ARG:N	2.45	0.49
2:B:209:ARG:HE	2:B:239:VAL:HG11	1.77	0.49
11:K:58:PRO:HB2	11:K:93:GLN:HG3	1.95	0.49
1:A:62:U:H4'	1:A:378:G:N2	2.27	0.49
1:A:386:C:O2'	1:A:387:U:H5'	2.13	0.49
9:I:110:GLU:HG2	9:I:113:LYS:HZ2	1.76	0.49
1:A:232:G:H1'	1:A:262:A:N1	2.27	0.49
1:A:684:A:O2'	1:A:685:G:H5'	2.13	0.49
1:A:52:G:O2'	1:A:53:A:H5'	2.12	0.49
23:Y:35:C:H2'	23:Y:36:C:O4'	2.13	0.49
1:A:1503:A:C2	1:A:1531:A:H2	2.31	0.49
6:F:15:ASP:H	6:F:18:GLN:NE2	2.04	0.49
1:A:314:C:C2'	1:A:315:A:H5'	2.42	0.49
1:A:949:A:C2	1:A:1233:G:N3	2.80	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:968:A:H4'	1:A:969:A:OP2	2.12	0.49
4:D:64:LEU:O	4:D:64:LEU:HD13	2.13	0.49
1:A:1418:A:N6	1:A:1482:G:O2'	2.46	0.49
1:A:158:G:O2'	1:A:159:G:H5'	2.12	0.49
1:A:216:G:H2'	1:A:217:C:C6	2.47	0.49
4:D:132:ARG:O	4:D:133:VAL:HG23	2.13	0.49
1:A:642:A:N9	8:H:114:THR:O	2.45	0.49
1:A:1353:G:H2'	1:A:1354:C:H6	1.77	0.49
1:A:1111:A:H2'	1:A:1112:C:H6	1.77	0.49
1:A:1110:A:H2'	1:A:1111:A:H5'	1.95	0.49
14:N:40:CYS:SG	14:N:42:ILE:HG22	2.53	0.49
2:B:160:ASP:O	2:B:161:ALA:HB2	2.12	0.49
16:P:20:VAL:HG22	16:P:21:VAL:N	2.28	0.49
16:P:67:THR:O	16:P:68:ASP:C	2.50	0.49
7:G:95:ARG:O	7:G:96:GLN:C	2.50	0.49
20:T:51:GLU:O	20:T:55:ILE:CD1	2.61	0.49
2:B:40:HIS:HB3	2:B:190:THR:HG21	1.94	0.49
20:T:75:ASN:OD1	20:T:75:ASN:N	2.46	0.49
2:B:137:ARG:C	2:B:139:LYS:H	2.15	0.49
1:A:1113:C:O5'	1:A:1113:C:H6	1.95	0.49
1:A:479:C:H2'	1:A:480:U:O4'	2.13	0.49
20:T:91:LEU:C	20:T:93:GLU:N	2.66	0.49
8:H:17:THR:O	8:H:78:GLN:NE2	2.39	0.49
15:O:66:LEU:O	15:O:67:LEU:C	2.51	0.49
9:I:10:ARG:HH21	9:I:11:LYS:HE3	1.77	0.49
1:A:1442:G:H21	1:A:1442(B):A:H5''	1.76	0.49
1:A:1442:G:H2'	1:A:1442:G:N3	2.28	0.49
9:I:8:GLY:HA2	9:I:79:LEU:HD13	1.95	0.49
2:B:77:ALA:HB1	2:B:211:ILE:HG21	1.95	0.49
12:L:83:VAL:CG1	12:L:100:ILE:HD11	2.39	0.49
1:A:1276:G:O2'	1:A:1277:C:H5'	2.13	0.49
1:A:1305:G:C5'	21:U:4:GLY:C	2.81	0.49
1:A:145:G:O2'	1:A:146:G:H5'	2.12	0.49
1:A:1390:U:H2'	1:A:1391:U:C6	2.47	0.49
13:M:55:ARG:HH11	13:M:55:ARG:CB	2.26	0.49
4:D:79:PHE:HE1	4:D:204:ILE:HG12	1.77	0.49
15:O:41:GLU:HA	15:O:44:LYS:HG3	1.94	0.49
16:P:39:TYR:CD2	16:P:73:LEU:HD11	2.48	0.49
7:G:72:ARG:HH11	7:G:72:ARG:HG2	1.78	0.49
1:A:973:G:P	10:J:57:LYS:HD2	2.52	0.49
2:B:16:HIS:NE2	2:B:214:ILE:HD11	2.28	0.49
1:A:1269:A:H2'	1:A:1270:C:H5'	1.94	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:G:69:VAL:O	7:G:69:VAL:HG12	2.12	0.49
8:H:39:LEU:HB3	8:H:45:ILE:HG12	1.95	0.49
4:D:78:LEU:HB3	4:D:93:PHE:HE2	1.78	0.49
1:A:751:U:H1'	15:O:23:GLY:O	2.13	0.49
1:A:1090:U:O2'	1:A:1091:U:H5'	2.13	0.49
3:C:190:ARG:HH11	3:C:190:ARG:HB3	1.77	0.49
1:A:1164:G:O2'	1:A:1165:C:H5'	2.12	0.49
3:C:152:ILE:CG2	3:C:153:VAL:N	2.76	0.48
10:J:49:VAL:HG12	10:J:50:ILE:N	2.28	0.48
2:B:219:VAL:CA	2:B:222:ILE:HD12	2.43	0.48
1:A:108:G:C6	20:T:15:ARG:HG2	2.47	0.48
3:C:88:ARG:O	3:C:91:LEU:HB3	2.13	0.48
18:R:53:ARG:O	18:R:55:ARG:N	2.46	0.48
1:A:1368:G:OP1	9:I:111:ARG:NH2	2.45	0.48
1:A:600:C:O2'	1:A:601:C:H5'	2.12	0.48
1:A:538:G:O3'	12:L:114:LYS:HD3	2.13	0.48
11:K:33:THR:CG2	11:K:39:PRO:HA	2.43	0.48
1:A:780:A:O2'	1:A:781:A:H5''	2.13	0.48
1:A:1021:G:H2'	1:A:1022:G:H8	1.78	0.48
1:A:1069:C:O3'	5:E:25:ARG:NH1	2.46	0.48
6:F:33:TYR:CD1	6:F:75:LEU:HA	2.48	0.48
4:D:190:ASP:O	4:D:193:ASP:HB2	2.13	0.48
18:R:59:SER:O	18:R:60:ALA:C	2.51	0.48
1:A:975:A:C8	1:A:975:A:H5'	2.48	0.48
14:N:43:CYS:HA	14:N:46:GLU:CG	2.43	0.48
10:J:78:ASN:O	10:J:80:LYS:N	2.46	0.48
2:B:59:GLU:O	2:B:62:ALA:HB3	2.13	0.48
1:A:1157:A:N6	1:A:1178:G:H1'	2.29	0.48
12:L:53:ARG:HA	12:L:54:LYS:NZ	2.28	0.48
20:T:39:LYS:O	20:T:43:LEU:HG	2.13	0.48
17:Q:23:VAL:O	17:Q:24:GLU:CB	2.60	0.48
1:A:1516:G:H2'	1:A:1518:A:OP2	2.13	0.48
1:A:1006:C:O2'	1:A:1007:C:H5'	2.13	0.48
1:A:1272:G:H5'	1:A:1272:G:H8	1.77	0.48
1:A:166:G:O2'	1:A:167:G:H5'	2.12	0.48
1:A:293:G:O2'	1:A:294:U:H5'	2.13	0.48
13:M:110:ARG:NH1	13:M:110:ARG:HG3	2.28	0.48
4:D:64:LEU:HD23	4:D:198:VAL:HG11	1.95	0.48
4:D:60:GLU:O	4:D:63:LYS:HB3	2.13	0.48
1:A:1380:U:O2'	1:A:1381:U:OP2	2.23	0.48
1:A:1480:G:H2'	1:A:1481:U:C6	2.48	0.48
17:Q:58:GLU:HB2	17:Q:75:ARG:HG2	1.95	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:161:A:C8	1:A:162:A:N7	2.81	0.48
1:A:1373:G:H5'	7:G:36:LYS:HB2	1.94	0.48
7:G:47:CYS:C	7:G:49:ILE:H	2.17	0.48
1:A:1149:C:OP1	9:I:9:ARG:HD3	2.13	0.48
2:B:77:ALA:HB2	2:B:211:ILE:CD1	2.37	0.48
20:T:13:LEU:HD12	20:T:14:LYS:N	2.28	0.48
3:C:17:ASP:HB3	3:C:21:ARG:NH2	2.27	0.48
1:A:1276:G:N3	1:A:1282:C:H1'	2.28	0.48
8:H:92:ARG:HH11	8:H:92:ARG:CG	2.26	0.48
8:H:105:ARG:HH11	8:H:105:ARG:CG	2.24	0.48
1:A:485:G:O2'	1:A:486:U:P	2.71	0.48
1:A:1155:G:O2'	1:A:1156:G:H5'	2.14	0.48
6:F:62:TRP:C	6:F:63:TYR:CD1	2.87	0.48
1:A:1169:A:H2'	1:A:1170:A:C8	2.48	0.48
17:Q:86:GLU:C	17:Q:88:TYR:N	2.65	0.48
17:Q:85:VAL:HG12	17:Q:89:LEU:HG	1.96	0.48
4:D:110:PHE:N	4:D:110:PHE:CD2	2.79	0.48
10:J:3:LYS:N	10:J:77:PRO:HD3	2.28	0.48
2:B:140:HIS:C	2:B:142:LEU:N	2.64	0.48
1:A:1187:G:H1'	14:N:61:TRP:OXT	2.13	0.48
1:A:1318:A:C2	19:S:37:ARG:NH2	2.81	0.48
1:A:383:A:C2'	1:A:384:G:H5'	2.40	0.48
16:P:66:PRO:HG2	16:P:71:ARG:NH1	2.28	0.48
3:C:58:GLU:O	3:C:64:VAL:HA	2.13	0.48
19:S:30:LEU:HD23	19:S:31:ILE:N	2.28	0.48
19:S:31:ILE:O	19:S:50:ALA:HB3	2.13	0.48
20:T:40:ALA:HB2	20:T:55:ILE:HG22	1.95	0.48
1:A:1406:U:O2'	1:A:1407:C:H5'	2.13	0.48
10:J:16:LEU:HA	10:J:19:SER:HB3	1.95	0.48
13:M:49:THR:HB	13:M:52:GLU:OE1	2.14	0.48
1:A:1134:G:C2'	1:A:1135:U:H5'	2.43	0.48
1:A:1057:G:C2'	1:A:1058:G:H5'	2.43	0.48
13:M:79:LYS:O	13:M:79:LYS:HD3	2.12	0.48
2:B:96:ARG:O	2:B:98:LEU:CD2	2.61	0.48
11:K:104:GLN:HA	11:K:104:GLN:NE2	2.18	0.48
1:A:1366:C:C6	1:A:1367:C:H5	2.31	0.48
1:A:129:U:O2'	1:A:130:A:H2'	2.13	0.48
1:A:16:A:N1	1:A:919:A:H2	2.10	0.48
1:A:913:A:H1'	1:A:914:A:O4'	2.13	0.48
13:M:81:LEU:HD23	13:M:81:LEU:N	2.29	0.48
1:A:1211:U:H5'	1:A:1212:U:OP1	2.14	0.48
17:Q:90:ILE:O	17:Q:91:ARG:C	2.51	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:D:82:ALA:O	4:D:83:SER:C	2.52	0.48
4:D:83:SER:HA	4:D:89:THR:HG21	1.94	0.48
1:A:880:C:C6	1:A:880:C:C3'	2.96	0.48
1:A:975:A:H8	1:A:975:A:H5'	1.77	0.48
7:G:46:ALA:CB	7:G:117:ALA:O	2.62	0.48
2:B:74:LYS:HE2	2:B:166:ASP:HB2	1.95	0.48
1:A:789:U:H2'	1:A:791:G:OP2	2.14	0.48
1:A:513:C:H2'	1:A:514:C:H6	1.79	0.48
1:A:333:G:H4'	20:T:16:HIS:NE2	2.28	0.48
1:A:1053:G:O2'	1:A:1199:U:H5	1.96	0.48
1:A:1276:G:H2'	1:A:1277:C:H5'	1.95	0.48
11:K:69:ALA:O	11:K:73:MET:HG2	2.14	0.48
20:T:50:GLU:CG	20:T:100:ILE:HB	2.43	0.48
11:K:50:TYR:HE2	11:K:54:ARG:NH2	2.12	0.48
18:R:39:VAL:CG1	18:R:40:LEU:H	2.26	0.48
5:E:32:VAL:HG12	5:E:58:ALA:CB	2.42	0.48
1:A:295:C:H2'	1:A:296:U:O4'	2.12	0.48
18:R:26:LEU:HD23	18:R:29:PHE:CE2	2.48	0.48
17:Q:48:GLU:C	17:Q:50:LYS:N	2.66	0.48
9:I:116:LYS:HA	9:I:123:PRO:HD3	1.96	0.48
3:C:164:ARG:NH1	3:C:166:GLU:OE1	2.43	0.48
1:A:742:G:P	15:O:35:ARG:HH22	2.35	0.48
1:A:1253:G:N1	1:A:1285:A:N6	2.62	0.48
1:A:736:C:H2'	1:A:737:A:H8	1.78	0.48
2:B:54:THR:HG23	2:B:199:TYR:CB	2.38	0.48
11:K:91:ARG:CZ	18:R:88:LYS:NZ	2.77	0.48
1:A:377:G:OP1	16:P:3:LYS:NZ	2.42	0.48
3:C:91:LEU:HG	3:C:99:VAL:HG22	1.94	0.48
1:A:1402:C:H2'	1:A:1403:C:O4'	2.14	0.48
1:A:537:G:H2'	1:A:538:G:H8	1.79	0.48
9:I:100:GLY:C	9:I:102:LEU:H	2.15	0.48
1:A:706:A:C5	1:A:707:C:C5	3.02	0.48
1:A:1095:U:H2'	1:A:1096:C:O4'	2.14	0.48
4:D:3:ARG:O	4:D:4:TYR:HB3	2.13	0.48
3:C:113:ALA:C	3:C:115:LEU:N	2.66	0.48
3:C:147:LYS:HD2	3:C:204:LEU:O	2.14	0.48
10:J:6:ILE:CD1	10:J:73:ASP:H	2.20	0.48
2:B:221:LEU:HA	2:B:224:GLN:HB3	1.95	0.48
2:B:90:MET:HE1	2:B:222:ILE:CG2	2.43	0.48
1:A:1269:A:H5'	21:U:19:GLY:HA2	1.96	0.48
1:A:1185:G:O2'	1:A:1186:G:H5'	2.13	0.48
8:H:36:LEU:HD12	8:H:61:VAL:HG22	1.95	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1086:U:C6	1:A:1086:U:O5'	2.66	0.48
12:L:27:LEU:C	12:L:29:GLY:N	2.66	0.48
20:T:75:ASN:O	20:T:76:ALA:C	2.52	0.48
3:C:19:GLU:HB2	3:C:54:ARG:HH22	1.78	0.48
4:D:96:LEU:HD23	4:D:96:LEU:O	2.14	0.48
7:G:145:ALA:O	7:G:149:ARG:HB2	2.13	0.48
1:A:166:G:H2'	1:A:167:G:H8	1.79	0.48
9:I:53:VAL:O	9:I:54:ASP:HB2	2.13	0.48
11:K:67:ASP:OD2	11:K:71:LYS:HE3	2.14	0.48
1:A:1123:A:H2'	1:A:1124:G:O4'	2.14	0.48
9:I:9:ARG:CG	9:I:14:VAL:HG12	2.43	0.48
2:B:131:PRO:C	2:B:133:LYS:H	2.16	0.48
2:B:69:LEU:C	2:B:69:LEU:CD2	2.82	0.48
5:E:79:GLU:HG3	5:E:93:PRO:HD2	1.96	0.48
1:A:17:U:H4'	1:A:1080:A:O4'	2.14	0.48
13:M:8:GLU:HG3	13:M:22:ILE:HG23	1.95	0.48
17:Q:76:LEU:HD23	17:Q:77:VAL:C	2.34	0.48
5:E:31:LEU:HD23	5:E:44:GLY:O	2.14	0.48
5:E:76:ILE:HG23	5:E:142:LEU:CD1	2.44	0.48
1:A:620:C:C2	4:D:135:LEU:HD13	2.49	0.48
6:F:10:LEU:HD11	6:F:59:TYR:CD2	2.49	0.48
1:A:281:G:O2'	1:A:282:A:OP2	2.30	0.48
1:A:43:C:OP1	16:P:13:HIS:HD2	1.97	0.48
4:D:200:GLU:CD	4:D:200:GLU:H	2.16	0.48
1:A:1343:G:H4'	9:I:122:ALA:HB3	1.96	0.47
3:C:113:ALA:N	3:C:116:VAL:HG23	2.19	0.47
1:A:1152:A:O2'	1:A:1153:C:H5'	2.14	0.47
9:I:7:THR:HG21	9:I:9:ARG:HH12	1.79	0.47
2:B:15:VAL:CG1	2:B:209:ARG:HB3	2.44	0.47
2:B:53:ARG:HA	2:B:56:ARG:NH1	2.29	0.47
1:A:955:U:OP1	13:M:120:LYS:HD3	2.13	0.47
16:P:19:ILE:O	16:P:20:VAL:HB	2.14	0.47
11:K:79:SER:HB2	11:K:106:LYS:HE3	1.96	0.47
11:K:19:ALA:CB	11:K:80:VAL:HG11	2.44	0.47
1:A:740:U:O2'	1:A:741:G:H5'	2.14	0.47
1:A:1200:C:O2	1:A:1205:U:C5	2.66	0.47
13:M:74:VAL:O	13:M:77:ASN:HB3	2.14	0.47
9:I:70:LYS:O	9:I:74:ILE:HG13	2.14	0.47
1:A:1039:C:H2'	1:A:1040:U:C6	2.49	0.47
6:F:45:LEU:HD23	6:F:59:TYR:HD1	1.79	0.47
9:I:85:LEU:O	9:I:92:TYR:HD1	1.96	0.47
6:F:62:TRP:CE2	18:R:35:ARG:NH2	2.82	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:631:G:H2'	1:A:632:A:C8	2.49	0.47
15:O:13:GLN:C	15:O:15:PHE:H	2.17	0.47
1:A:899:C:O5'	1:A:899:C:H6	1.97	0.47
2:B:206:ASP:C	2:B:208:ILE:H	2.18	0.47
1:A:1117:G:N2	1:A:1180:A:H1'	2.28	0.47
19:S:16:LEU:HA	19:S:19:VAL:HG12	1.96	0.47
19:S:64:GLU:O	19:S:67:VAL:HG23	2.14	0.47
1:A:375:U:H4'	16:P:17:TYR:CE2	2.49	0.47
1:A:1277:C:H1'	1:A:1282:C:C2	2.49	0.47
19:S:33:THR:HG22	19:S:34:TRP:N	2.29	0.47
1:A:781:A:H2	1:A:1514:C:C4'	2.27	0.47
1:A:359:U:H2'	1:A:360:A:C8	2.43	0.47
1:A:866:C:C5	1:A:867:G:H1'	2.48	0.47
8:H:104:ARG:O	8:H:105:ARG:C	2.53	0.47
1:A:724:G:O2'	1:A:725:G:H5'	2.14	0.47
1:A:840:C:H4'	1:A:848:C:C2	2.49	0.47
1:A:860:A:H2'	1:A:861:G:O4'	2.14	0.47
1:A:862:C:C4	1:A:863:U:C5	3.03	0.47
1:A:1063:C:H3'	1:A:1064:G:H2'	1.95	0.47
10:J:40:LEU:HB3	10:J:69:ASN:O	2.15	0.47
1:A:1269:A:C2'	1:A:1270:C:H5'	2.45	0.47
1:A:1316:G:C2'	1:A:1317:C:H5''	2.44	0.47
1:A:542:G:H2'	1:A:543:C:C6	2.45	0.47
4:D:13:ARG:NH2	4:D:40:PRO:HA	2.29	0.47
1:A:1514:C:H2'	1:A:1515:C:C6	2.49	0.47
2:B:23:ARG:O	2:B:24:TRP:O	2.31	0.47
1:A:321:A:O2'	1:A:322:C:H5'	2.14	0.47
15:O:4:THR:O	15:O:5:LYS:C	2.53	0.47
1:A:474:G:O2'	1:A:475:G:H5'	2.15	0.47
7:G:12:LEU:HD12	7:G:12:LEU:N	2.28	0.47
4:D:79:PHE:CZ	4:D:204:ILE:HA	2.49	0.47
8:H:37:ARG:O	8:H:41:ARG:HB2	2.15	0.47
1:A:79:G:N3	1:A:79:G:H2'	2.29	0.47
1:A:1126:U:H6	1:A:1126:U:P	2.38	0.47
9:I:49:PRO:HG2	9:I:81:ILE:HG22	1.94	0.47
2:B:187:LEU:HD23	2:B:201:ILE:O	2.14	0.47
13:M:90:LEU:HA	13:M:93:ARG:CD	2.43	0.47
4:D:13:ARG:HD2	4:D:38:TYR:O	2.14	0.47
8:H:9:MET:O	8:H:10:LEU:C	2.50	0.47
1:A:538:G:P	12:L:115:LYS:HG3	2.54	0.47
1:A:1021:G:N2	1:A:1022:G:H1'	2.29	0.47
1:A:203:U:H4'	1:A:204:U:O5'	2.14	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:J:27:ALA:HB2	10:J:85:LEU:CG	2.38	0.47
2:B:139:LYS:CD	2:B:143:GLU:HG3	2.45	0.47
1:A:1072:G:H2'	1:A:1073:U:C6	2.49	0.47
1:A:659:U:H2'	1:A:660:G:H8	1.79	0.47
11:K:124:LYS:CD	11:K:125:PHE:HE1	2.26	0.47
1:A:939:G:H2'	1:A:940:C:H6	1.78	0.47
5:E:146:ALA:O	5:E:149:GLU:HG2	2.14	0.47
7:G:26:PHE:HB2	7:G:62:PHE:HZ	1.80	0.47
2:B:219:VAL:N	2:B:222:ILE:HD12	2.30	0.47
12:L:38:THR:HB	12:L:57:LYS:HB2	1.95	0.47
1:A:1223:C:OP1	1:A:1224:G:H3'	2.15	0.47
1:A:1317:C:N4	14:N:19:ARG:HH12	2.12	0.47
15:O:17:ARG:NE	15:O:77:ARG:HH11	2.11	0.47
16:P:49:LEU:HD11	16:P:51:VAL:HG23	1.95	0.47
3:C:90:GLU:C	3:C:92:ALA:N	2.67	0.47
11:K:37:GLY:O	11:K:38:ASN:O	2.32	0.47
6:F:15:ASP:O	6:F:18:GLN:NE2	2.47	0.47
1:A:1047:G:H2'	1:A:1048:G:C5'	2.42	0.47
1:A:412:A:H4'	1:A:413:G:C8	2.48	0.47
8:H:117:GLY:O	8:H:119:LEU:HD23	2.13	0.47
1:A:938:A:H8	1:A:938:A:O5'	1.97	0.47
1:A:807:A:H2'	1:A:808:C:C6	2.49	0.47
3:C:207:VAL:HG12	3:C:208:ILE:N	2.30	0.47
4:D:68:TYR:O	4:D:69:GLY:C	2.52	0.47
11:K:14:VAL:HG21	11:K:40:ILE:HD11	1.95	0.47
1:A:39:G:O6	1:A:547:A:H2'	2.15	0.47
9:I:7:THR:O	9:I:83:ARG:CD	2.62	0.47
2:B:161:ALA:HB1	2:B:185:ILE:CD1	2.18	0.47
2:B:184:VAL:HG12	2:B:197:VAL:HG13	1.96	0.47
2:B:12:GLU:OE2	2:B:213:LEU:HD11	2.14	0.47
1:A:1320:C:C2'	1:A:1321:C:H5'	2.44	0.47
1:A:960:U:H1'	1:A:1223:C:H5'	1.95	0.47
1:A:978:A:O2'	1:A:979:C:H5'	2.15	0.47
7:G:69:VAL:HG22	7:G:135:VAL:HG22	1.95	0.47
1:A:419:C:OP1	1:A:513:C:H1'	2.15	0.47
20:T:70:SER:HA	20:T:73:HIS:CD2	2.48	0.47
1:A:1489:G:H2'	1:A:1490:C:O4'	2.14	0.47
6:F:18:GLN:NE2	6:F:18:GLN:H	2.13	0.47
1:A:175:C:C2	1:A:176:C:C5	3.02	0.47
9:I:99:LEU:HB3	9:I:101:PHE:CD1	2.49	0.47
6:F:100:ASN:HB2	18:R:23:LYS:HE3	1.96	0.47
17:Q:12:SER:HB2	17:Q:20:THR:HB	1.95	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:L:8:ASN:O	12:L:11:VAL:HB	2.15	0.47
4:D:79:PHE:CE1	4:D:204:ILE:HA	2.50	0.47
4:D:132:ARG:HG3	4:D:132:ARG:HH11	1.79	0.47
1:A:552:U:O2'	1:A:553:A:H5'	2.15	0.47
5:E:24:ARG:HG3	5:E:24:ARG:O	2.15	0.47
5:E:28:PHE:O	5:E:47:LYS:HA	2.14	0.47
7:G:25:ALA:HA	7:G:28:ASN:HD22	1.80	0.47
11:K:108:ILE:O	18:R:87:ARG:HA	2.14	0.47
12:L:46:LYS:HE2	12:L:47:LYS:HB2	1.97	0.47
1:A:1311:G:H22	1:A:1326:C:H5	1.60	0.47
1:A:1320:C:H1'	19:S:73:GLU:N	2.29	0.47
19:S:40:ILE:HG21	19:S:62:ILE:HD11	1.97	0.47
15:O:88:ARG:HB3	15:O:88:ARG:NH1	2.30	0.47
16:P:67:THR:O	16:P:70:ALA:N	2.48	0.47
4:D:31:CYS:C	4:D:33:MET:H	2.16	0.47
4:D:76:ARG:HD2	4:D:207:TYR:HE2	1.77	0.47
8:H:4:ASP:HB2	8:H:89:PRO:CG	2.44	0.47
1:A:602:A:C6	1:A:637:G:C6	3.02	0.47
1:A:1403:C:O2'	1:A:1404:C:H5'	2.14	0.47
1:A:1502:A:C2	1:A:1504:G:C4	3.01	0.47
20:T:63:ILE:O	20:T:66:ALA:HB3	2.13	0.47
17:Q:17:LYS:O	17:Q:45:HIS:HD2	1.98	0.47
13:M:80:ARG:C	13:M:82:MET:N	2.67	0.47
1:A:179:A:O2'	1:A:180:U:H5'	2.15	0.47
1:A:448:A:OP2	1:A:485:G:N2	2.46	0.47
1:A:1072:G:O6	1:A:1102:A:N6	2.47	0.47
6:F:100:ASN:HD22	18:R:23:LYS:CG	2.28	0.47
1:A:193:C:H2'	1:A:194:C:C6	2.49	0.47
5:E:147:ASP:N	5:E:147:ASP:OD1	2.43	0.47
2:B:195:ASP:O	8:H:74:PRO:HG3	2.14	0.47
8:H:20:TYR:CE2	8:H:75:ARG:HB3	2.50	0.47
7:G:72:ARG:HG2	7:G:72:ARG:NH1	2.29	0.47
4:D:58:LEU:O	4:D:61:LYS:N	2.47	0.47
1:A:936:C:H2'	1:A:937:A:O4'	2.15	0.47
11:K:122:LYS:O	11:K:123:LYS:C	2.51	0.47
1:A:655:A:C2	1:A:656:C:C2	3.03	0.47
1:A:1347:G:H3'	9:I:108:VAL:O	2.15	0.47
7:G:25:ALA:O	7:G:26:PHE:C	2.52	0.47
1:A:1347:G:H8	9:I:107:ARG:HB3	1.80	0.47
9:I:117:HIS:HB2	9:I:121:ARG:HD2	1.96	0.47
3:C:7:PRO:HG2	3:C:184:TYR:HB2	1.97	0.47
9:I:50:LEU:C	9:I:52:ALA:N	2.66	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:M:90:LEU:CA	13:M:93:ARG:HG3	2.45	0.47
14:N:14:PRO:HG2	14:N:16:PHE:O	2.15	0.47
4:D:35:ARG:O	4:D:35:ARG:HG2	2.15	0.47
3:C:132:ARG:HB2	3:C:136:GLN:NE2	2.30	0.47
8:H:6:ILE:HB	8:H:85:ARG:HH12	1.78	0.47
8:H:96:GLY:H	8:H:99:GLU:CG	2.27	0.47
11:K:33:THR:HB	11:K:37:GLY:O	2.15	0.47
1:A:1518:A:H2'	1:A:1519:A:C8	2.50	0.47
1:A:914:A:H2'	1:A:915:A:H8	1.80	0.47
1:A:1049:U:H5	1:A:1203:C:OP1	1.98	0.47
1:A:1048:G:O4'	1:A:1215:G:H4'	2.15	0.47
18:R:36:ASN:HB3	18:R:39:VAL:HG12	1.97	0.47
9:I:40:LEU:CD1	9:I:70:LYS:HG2	2.45	0.47
1:A:429:U:H2'	4:D:25:ARG:CZ	2.45	0.47
1:A:303:A:O2'	1:A:304:U:H5'	2.14	0.47
1:A:593:G:O2'	1:A:594:G:H5'	2.15	0.47
8:H:74:PRO:O	8:H:75:ARG:C	2.53	0.47
4:D:52:SER:O	4:D:56:VAL:HG23	2.14	0.47
3:C:181:ASN:O	3:C:182:ILE:C	2.53	0.47
3:C:203:PHE:CD1	3:C:204:LEU:N	2.76	0.47
2:B:55:PHE:HE2	2:B:218:ALA:HA	1.79	0.47
1:A:1269:A:C2	1:A:1313:U:C1'	2.98	0.47
3:C:143:GLU:C	3:C:145:GLY:H	2.17	0.47
11:K:80:VAL:HG23	11:K:103:LEU:HD22	1.96	0.47
1:A:436:C:H5''	4:D:156:GLU:OE2	2.15	0.47
1:A:372:C:C1'	1:A:373:A:OP2	2.58	0.47
1:A:332:G:O2'	1:A:333:G:H5'	2.14	0.47
5:E:18:ARG:NH2	5:E:25:ARG:HB2	2.29	0.47
8:H:82:HIS:ND1	8:H:138:TRP:CE2	2.80	0.47
1:A:413:G:N3	1:A:413:G:H2'	2.29	0.47
13:M:100:GLY:C	13:M:101:GLN:HG3	2.36	0.47
13:M:96:LEU:HB3	13:M:97:PRO:HD2	1.97	0.47
1:A:1061:G:C1'	10:J:56:HIS:CE1	2.98	0.47
1:A:1130:A:H4'	9:I:3:GLN:OE1	2.14	0.47
2:B:61:LEU:HD21	2:B:160:ASP:CB	2.45	0.47
2:B:19:HIS:CE1	2:B:204:ASN:HB2	2.50	0.47
11:K:84:VAL:HG23	11:K:110:ASP:HA	1.97	0.47
12:L:106:ASP:OD2	12:L:106:ASP:N	2.47	0.47
19:S:11:VAL:CG1	19:S:15:LEU:HD11	2.45	0.47
19:S:42:PRO:C	19:S:44:MET:N	2.69	0.47
4:D:36:ARG:HG2	4:D:36:ARG:O	2.15	0.47
16:P:63:GLY:O	16:P:64:ALA:C	2.53	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:516:U:C4	1:A:517:G:O6	2.67	0.47
20:T:33:ILE:CD1	20:T:63:ILE:HA	2.45	0.47
2:B:42:ILE:CG2	2:B:43:ASP:N	2.77	0.47
13:M:78:ILE:O	13:M:81:LEU:HD23	2.15	0.47
1:A:484:G:H4'	1:A:485:G:O5'	2.15	0.47
5:E:37:ARG:HA	5:E:114:GLY:CA	2.45	0.47
1:A:167:G:H2'	1:A:168:G:C8	2.50	0.47
1:A:848:C:O2'	1:A:849:C:H5'	2.15	0.47
4:D:190:ASP:HB3	4:D:193:ASP:OD2	2.15	0.47
1:A:833:U:H2'	1:A:834:C:C6	2.50	0.47
1:A:1381:U:C6	7:G:156:TRP:HZ2	2.33	0.47
11:K:99:GLN:HG2	11:K:105:VAL:HG11	1.95	0.47
9:I:18:PHE:CD1	9:I:62:TYR:HD2	2.33	0.47
1:A:655:A:H2'	1:A:656:C:C6	2.50	0.47
1:A:151:A:H2'	1:A:152:A:O4'	2.15	0.47
9:I:4:TYR:CZ	9:I:88:TYR:HD1	2.33	0.47
20:T:42:GLN:O	20:T:46:GLU:HG3	2.15	0.47
1:A:1221:G:H4'	19:S:53:ASN:O	2.15	0.47
7:G:28:ASN:O	7:G:31:MET:HB3	2.15	0.46
4:D:112:VAL:HG23	4:D:116:GLN:OE1	2.15	0.46
1:A:1125:U:H5'	1:A:1126:U:C5	2.48	0.46
1:A:1315:U:H2'	1:A:1316:G:O4'	2.15	0.46
19:S:4:SER:C	19:S:5:LEU:HD23	2.36	0.46
19:S:77:THR:C	19:S:78:ARG:HG3	2.35	0.46
1:A:135:C:O2	16:P:1:MET:HB2	2.15	0.46
8:H:44:PHE:C	8:H:45:ILE:HG23	2.36	0.46
2:B:167:PRO:O	2:B:171:ALA:HB2	2.15	0.46
1:A:1407:C:H2'	1:A:1408:A:H8	1.80	0.46
1:A:518:C:H5'	1:A:530:G:O4'	2.15	0.46
4:D:125:HIS:O	4:D:126:ILE:HD13	2.15	0.46
1:A:1201:A:H5'	1:A:1203:C:OP2	2.15	0.46
1:A:726:C:O2'	1:A:727:G:H5'	2.15	0.46
2:B:82:ARG:O	2:B:86:GLU:HG3	2.16	0.46
11:K:11:LYS:N	11:K:12:ARG:CZ	2.78	0.46
4:D:179:GLU:OE1	4:D:179:GLU:N	2.38	0.46
18:R:47:THR:O	18:R:49:LYS:N	2.47	0.46
2:B:97:TRP:HZ2	2:B:102:LEU:CD1	2.19	0.46
20:T:12:ALA:O	20:T:15:ARG:HB2	2.16	0.46
15:O:31:LEU:O	15:O:32:LEU:C	2.54	0.46
4:D:205:GLU:O	4:D:206:PHE:C	2.53	0.46
20:T:53:LEU:HD12	20:T:100:ILE:CG2	2.45	0.46
18:R:57:GLY:C	18:R:58:LEU:HD12	2.36	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1054:C:C6	1:A:1054:C:H5''	2.50	0.46
1:A:928:G:O2'	1:A:929:G:H5'	2.14	0.46
2:B:30:ARG:CG	2:B:31:TYR:N	2.78	0.46
4:D:146:ILE:N	4:D:146:ILE:CD1	2.77	0.46
1:A:261:U:O2	1:A:263:A:C8	2.68	0.46
3:C:42:LEU:C	3:C:44:GLU:N	2.68	0.46
1:A:1095:U:P	1:A:1108:G:H1	2.38	0.46
17:Q:74:LEU:HD13	17:Q:75:ARG:HB3	1.97	0.46
1:A:1296:C:H5'	1:A:1302:U:O4	2.15	0.46
1:A:1175:G:H2'	1:A:1176:A:C8	2.51	0.46
2:B:169:LYS:HD3	2:B:170:GLU:OE2	2.16	0.46
12:L:46:LYS:HE2	12:L:47:LYS:CB	2.46	0.46
15:O:18:PHE:C	15:O:18:PHE:CD1	2.89	0.46
3:C:22:TRP:HB3	3:C:59:ARG:CB	2.45	0.46
7:G:71:PRO:HD3	7:G:103:TRP:CZ3	2.46	0.46
1:A:1277:C:C2'	1:A:1278:U:C5'	2.91	0.46
19:S:50:ALA:HA	19:S:58:VAL:O	2.15	0.46
1:A:36:C:C4	1:A:37:U:C4	3.03	0.46
1:A:1392:G:H2'	1:A:1393:U:H6	1.80	0.46
5:E:57:LYS:O	5:E:61:TYR:CD2	2.68	0.46
6:F:91:VAL:HG21	18:R:72:ARG:CZ	2.45	0.46
1:A:141:A:O2'	1:A:142:G:H5'	2.16	0.46
4:D:83:SER:HA	4:D:89:THR:OG1	2.15	0.46
1:A:1375:A:H2'	1:A:1376:U:C6	2.50	0.46
5:E:33:VAL:HG11	5:E:109:ILE:HG12	1.97	0.46
1:A:820:U:H4'	1:A:821:G:OP2	2.15	0.46
11:K:62:GLN:O	11:K:63:LEU:C	2.52	0.46
1:A:737:A:H2'	1:A:738:C:C6	2.51	0.46
3:C:204:LEU:CD2	3:C:205:GLY:N	2.78	0.46
2:B:98:LEU:HB2	2:B:101:MET:CG	2.46	0.46
2:B:73:THR:HG23	2:B:95:GLN:O	2.16	0.46
1:A:957:U:H3	1:A:960:U:H5''	1.77	0.46
1:A:1220:G:H21	19:S:54:GLY:CA	2.28	0.46
3:C:59:ARG:O	10:J:92:THR:HG23	2.16	0.46
1:A:499:A:H4'	1:A:500:G:H5'	1.97	0.46
1:A:499:A:H4'	1:A:500:G:OP1	2.15	0.46
5:E:127:ASN:O	5:E:130:ASN:N	2.46	0.46
1:A:740:U:C4'	15:O:42:HIS:CD2	2.99	0.46
1:A:336:C:H2'	1:A:337:C:H6	1.80	0.46
18:R:40:LEU:O	18:R:42:ARG:N	2.49	0.46
1:A:865:A:O2'	1:A:866:C:H5'	2.15	0.46
13:M:74:VAL:HA	13:M:77:ASN:HB3	1.96	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:164:U:H2'	1:A:165:C:C6	2.50	0.46
9:I:28:VAL:C	9:I:30:GLY:N	2.68	0.46
3:C:101:LEU:HD23	3:C:102:ASN:O	2.15	0.46
1:A:1415:G:C5	1:A:1416:G:N7	2.83	0.46
11:K:46:GLY:O	11:K:47:VAL:C	2.53	0.46
8:H:107:LEU:N	8:H:107:LEU:HD23	2.30	0.46
1:A:872:A:C8	1:A:874:G:C8	3.03	0.46
3:C:184:TYR:CG	3:C:185:GLY:N	2.83	0.46
2:B:16:HIS:HA	2:B:204:ASN:HB3	1.98	0.46
1:A:640:A:O2'	1:A:641:U:H5'	2.15	0.46
1:A:80:G:C2'	1:A:81:U:H5''	2.46	0.46
1:A:546:G:OP1	4:D:73:ARG:HD3	2.16	0.46
16:P:41:PRO:O	16:P:43:LYS:HG3	2.16	0.46
8:H:78:GLN:O	8:H:81:HIS:NE2	2.48	0.46
1:A:341:C:H2'	1:A:342:C:C6	2.51	0.46
1:A:596:C:O2'	1:A:597:G:H5'	2.15	0.46
4:D:103:ASN:O	4:D:104:VAL:C	2.54	0.46
3:C:113:ALA:HB2	3:C:202:ILE:HD12	1.98	0.46
3:C:117:ALA:O	3:C:118:GLN:C	2.54	0.46
14:N:22:THR:O	14:N:23:ARG:HB2	2.15	0.46
14:N:57:ARG:CG	14:N:58:LYS:N	2.78	0.46
2:B:73:THR:O	2:B:73:THR:HG22	2.14	0.46
3:C:188:LEU:CD1	3:C:188:LEU:N	2.74	0.46
13:M:40:ASN:HB3	13:M:43:THR:CG2	2.38	0.46
1:A:232:G:H2'	1:A:233:C:C6	2.51	0.46
2:B:168:THR:OG1	2:B:192:SER:HB3	2.16	0.46
1:A:1006:C:N4	1:A:1024:G:N2	2.64	0.46
1:A:490:G:C2	1:A:491:G:C8	3.03	0.46
1:A:304:U:O2'	1:A:305:G:H5'	2.15	0.46
1:A:1138:G:C6	1:A:1140:C:H1'	2.50	0.46
1:A:1340:A:O2'	1:A:1341:U:H5'	2.15	0.46
1:A:669:U:H2'	1:A:670:G:H8	1.79	0.46
1:A:860:A:C2	1:A:861:G:H1'	2.51	0.46
1:A:887:G:C2'	1:A:888:G:H5'	2.46	0.46
14:N:29:ARG:NH1	14:N:40:CYS:CB	2.78	0.46
9:I:5:TYR:CE2	9:I:16:ARG:HA	2.51	0.46
10:J:77:PRO:O	10:J:82:ILE:HG12	2.16	0.46
2:B:15:VAL:HG21	2:B:210:SER:CA	2.45	0.46
2:B:61:LEU:HD11	2:B:160:ASP:HB3	1.98	0.46
2:B:172:ILE:H	2:B:172:ILE:CD1	2.09	0.46
2:B:18:GLY:CA	2:B:41:ILE:HA	2.45	0.46
1:A:427:U:H5'	4:D:41:GLY:HA2	1.96	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:501:C:O2'	1:A:502:G:H5'	2.15	0.46
3:C:137:ALA:CA	3:C:140:ARG:NH1	2.75	0.46
1:A:19:C:OP1	5:E:125:SER:HB2	2.15	0.46
1:A:458:C:H2'	1:A:460:G:C8	2.51	0.46
13:M:39:ILE:HG12	13:M:52:GLU:HG3	1.97	0.46
3:C:29:TYR:HE1	10:J:11:PHE:CE1	2.34	0.46
1:A:546:G:P	4:D:72:GLU:HB3	2.56	0.46
1:A:1508:G:H2'	1:A:1509:C:H6	1.81	0.46
1:A:762:C:H5'	17:Q:104:LYS:N	2.31	0.46
1:A:1299:A:C5	1:A:1301:U:O2	2.69	0.46
3:C:66:VAL:HG12	3:C:68:VAL:HG23	1.97	0.46
1:A:1345:U:C4	1:A:1377:A:N3	2.84	0.46
10:J:48:THR:OG1	10:J:62:HIS:CE1	2.69	0.46
7:G:46:ALA:HB2	7:G:117:ALA:HA	1.98	0.46
10:J:64:GLU:OE2	10:J:66:ARG:HD2	2.16	0.46
1:A:406:G:H5''	4:D:5:ILE:CG2	2.46	0.46
8:H:14:ARG:NH1	8:H:14:ARG:CB	2.79	0.46
15:O:27:VAL:O	15:O:28:GLN:C	2.53	0.46
20:T:49:ALA:HB1	20:T:99:LEU:CD1	2.36	0.46
1:A:663:A:O2'	1:A:664:G:H5'	2.16	0.46
11:K:50:TYR:HE2	11:K:54:ARG:HH22	1.63	0.46
2:B:21:ARG:HH22	2:B:23:ARG:HH21	1.64	0.46
5:E:10:MET:HA	5:E:32:VAL:HG23	1.97	0.46
4:D:170:VAL:HG12	4:D:174:LEU:HB2	1.97	0.46
5:E:41:VAL:HG11	5:E:113:ALA:N	2.30	0.46
2:B:9:GLU:HA	2:B:9:GLU:OE1	2.15	0.46
1:A:1137:C:H4'	1:A:1138:G:C2	2.51	0.46
5:E:97:GLY:O	5:E:98:THR:C	2.54	0.46
17:Q:26:GLN:HA	17:Q:37:LYS:HA	1.98	0.46
1:A:568:G:C6	1:A:569:C:N4	2.84	0.46
1:A:310:G:H2'	1:A:311:C:C6	2.50	0.46
7:G:18:TYR:O	7:G:19:GLY:C	2.54	0.46
7:G:39:ALA:O	7:G:41:ARG:N	2.48	0.46
9:I:79:LEU:HD22	9:I:83:ARG:CD	2.42	0.46
10:J:8:LEU:O	10:J:69:ASN:HA	2.16	0.46
2:B:56:ARG:CB	2:B:56:ARG:NH1	2.79	0.46
12:L:43:VAL:HG12	12:L:44:THR:N	2.31	0.46
1:A:961:U:OP1	1:A:1223:C:H4'	2.15	0.46
19:S:42:PRO:O	19:S:44:MET:N	2.44	0.46
1:A:106:C:O2	1:A:379:C:H4'	2.16	0.46
3:C:17:ASP:CB	3:C:21:ARG:HH22	2.29	0.46
3:C:95:THR:O	3:C:97:LYS:N	2.49	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:C:91:LEU:CG	3:C:99:VAL:HG22	2.46	0.46
8:H:86:ILE:HD11	8:H:136:GLU:HG3	1.98	0.46
12:L:97:ARG:C	12:L:98:TYR:CD1	2.89	0.46
1:A:600:C:C2	1:A:639:G:C2	3.03	0.46
13:M:25:ILE:HD11	13:M:60:VAL:HG13	1.98	0.46
1:A:1513:A:H2'	1:A:1514:C:C6	2.50	0.46
3:C:39:ILE:HG22	3:C:40:ARG:N	2.31	0.46
1:A:302:G:O5'	1:A:302:G:H8	1.99	0.46
20:T:16:HIS:O	20:T:17:ARG:C	2.53	0.46
1:A:778:G:C4	1:A:779:C:C6	3.04	0.46
9:I:43:ALA:CA	9:I:74:ILE:HD13	2.45	0.46
1:A:1245:A:H2'	1:A:1246:C:C6	2.51	0.46
4:D:111:ALA:HB2	4:D:120:LEU:CD1	2.46	0.46
3:C:202:ILE:HG22	3:C:203:PHE:H	1.81	0.46
10:J:8:LEU:HA	10:J:96:ILE:HG12	1.98	0.46
2:B:56:ARG:O	2:B:57:PHE:C	2.54	0.46
1:A:378:G:C6	1:A:379:C:C4	3.05	0.46
1:A:740:U:H4'	15:O:42:HIS:CD2	2.51	0.46
6:F:26:ILE:C	6:F:30:LEU:HD12	2.36	0.46
1:A:370:C:O2'	1:A:371:G:H5'	2.15	0.46
6:F:22:GLU:OE1	6:F:82:ARG:HD3	2.16	0.46
2:B:134:GLU:C	2:B:136:VAL:H	2.19	0.46
1:A:980:C:O2'	14:N:21:TYR:CE1	2.67	0.46
9:I:66:ARG:HG3	9:I:66:ARG:NH1	2.30	0.46
4:D:52:SER:O	4:D:55:ALA:N	2.49	0.46
8:H:88:LYS:C	8:H:90:GLY:H	2.18	0.46
4:D:28:SER:O	4:D:30:LYS:N	2.49	0.46
1:A:1459:C:O2'	1:A:1460:A:H5'	2.16	0.46
1:A:1189:C:P	10:J:51:ARG:NH2	2.84	0.45
3:C:184:TYR:CD2	3:C:185:GLY:N	2.84	0.45
1:A:1190:G:OP1	3:C:5:ILE:HG13	2.16	0.45
2:B:102:LEU:CD1	2:B:102:LEU:N	2.79	0.45
2:B:87:ARG:HB2	2:B:219:VAL:HG11	1.97	0.45
17:Q:29:HIS:CD2	17:Q:31:LEU:N	2.66	0.45
1:A:105:G:H2'	1:A:106:C:C6	2.51	0.45
4:D:173:TRP:HB2	4:D:187:ARG:O	2.16	0.45
11:K:79:SER:CB	11:K:106:LYS:HE3	2.46	0.45
13:M:35:GLU:O	13:M:37:THR:N	2.45	0.45
1:A:674:G:H2'	1:A:675:A:C8	2.50	0.45
1:A:1502:A:H4'	1:A:1503:A:OP2	2.16	0.45
1:A:333:G:C4'	20:T:16:HIS:CD2	2.99	0.45
1:A:457:C:O2'	1:A:458:C:H5'	2.15	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:762:C:C5'	17:Q:103:GLY:HA2	2.46	0.45
15:O:45:VAL:HG12	15:O:46:HIS:N	2.31	0.45
4:D:87:GLY:O	4:D:89:THR:N	2.49	0.45
9:I:66:ARG:HD2	9:I:66:ARG:N	2.31	0.45
1:A:1249:C:C6	1:A:1249:C:C3'	2.98	0.45
1:A:306:G:H2'	1:A:307:C:H6	1.80	0.45
7:G:9:VAL:O	7:G:10:ARG:C	2.54	0.45
1:A:1351:U:H4'	7:G:33:ASP:OD1	2.16	0.45
7:G:41:ARG:O	7:G:42:ILE:C	2.53	0.45
7:G:44:TYR:O	7:G:48:LYS:HG3	2.17	0.45
9:I:118:LYS:NZ	9:I:121:ARG:HB2	2.28	0.45
11:K:67:ASP:O	11:K:71:LYS:HG3	2.16	0.45
10:J:49:VAL:O	10:J:60:ARG:HA	2.15	0.45
1:A:1124:G:C5	1:A:1145:C:H2'	2.52	0.45
1:A:1116:C:O2'	1:A:1117:G:H5'	2.15	0.45
11:K:109:VAL:HG22	18:R:86:VAL:HA	1.97	0.45
12:L:39:VAL:HG12	12:L:40:VAL:N	2.31	0.45
12:L:70:ILE:CD1	12:L:77:LEU:HD12	2.46	0.45
3:C:90:GLU:C	3:C:92:ALA:H	2.18	0.45
4:D:206:PHE:HD2	4:D:207:TYR:CD1	2.34	0.45
5:E:127:ASN:O	5:E:128:PRO:C	2.54	0.45
20:T:50:GLU:HB3	20:T:100:ILE:HB	1.97	0.45
20:T:57:ARG:HG2	20:T:57:ARG:HH11	1.81	0.45
8:H:40:ALA:O	8:H:43:GLY:N	2.36	0.45
1:A:1328:C:O2'	1:A:1329:A:H5'	2.15	0.45
1:A:601:C:N3	1:A:638:G:C2	2.85	0.45
1:A:369:C:C2	1:A:370:C:C5	3.05	0.45
1:A:521:G:OP1	12:L:73:GLU:O	2.34	0.45
1:A:991:U:O4	1:A:1212:U:H4'	2.17	0.45
1:A:1192:C:H2'	1:A:1192:C:O2	2.16	0.45
1:A:620:C:C1'	4:D:135:LEU:HD13	2.46	0.45
1:A:473:G:C2	1:A:474:G:C8	3.04	0.45
20:T:45:GLN:C	20:T:47:GLY:N	2.69	0.45
3:C:42:LEU:O	3:C:44:GLU:N	2.48	0.45
1:A:677:U:O2	1:A:777:A:O2'	2.28	0.45
7:G:155:ARG:HB2	7:G:156:TRP:H	1.61	0.45
1:A:551:U:O2'	1:A:552:U:H5'	2.16	0.45
11:K:42:TRP:CZ3	11:K:47:VAL:HG21	2.51	0.45
7:G:42:ILE:CG2	7:G:120:ILE:HD11	2.45	0.45
7:G:37:ASN:O	7:G:38:LEU:C	2.54	0.45
11:K:62:GLN:O	11:K:65:ALA:N	2.48	0.45
1:A:406:G:O2'	1:A:407:G:H5'	2.16	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1067:A:H1'	1:A:1068:G:OP2	2.16	0.45
3:C:6:HIS:CD2	3:C:8:ILE:N	2.76	0.45
10:J:8:LEU:HD13	10:J:70:ARG:O	2.16	0.45
2:B:116:GLU:HA	2:B:119:GLU:OE2	2.16	0.45
1:A:523:A:H61	12:L:53:ARG:NH1	2.14	0.45
2:B:91:PRO:HG2	2:B:155:LEU:HG	1.99	0.45
1:A:390:C:H2'	1:A:391:G:H8	1.79	0.45
3:C:59:ARG:N	10:J:92:THR:HG23	2.31	0.45
5:E:87:SER:OG	5:E:130:ASN:HB3	2.15	0.45
1:A:129(A):G:N3	1:A:189(F):U:H5'	2.31	0.45
1:A:267:C:OP1	17:Q:67:LYS:HB2	2.16	0.45
1:A:686:U:O4	1:A:703:G:H1'	2.17	0.45
6:F:22:GLU:OE1	6:F:25:ILE:HD12	2.16	0.45
1:A:718:G:H4'	11:K:117:ASN:ND2	2.31	0.45
1:A:634:C:O2'	1:A:635:G:H5'	2.15	0.45
8:H:105:ARG:NH1	8:H:105:ARG:HG3	2.28	0.45
1:A:80:G:H2'	1:A:81:U:H5''	1.97	0.45
1:A:411:A:C2'	1:A:412:A:H5'	2.45	0.45
1:A:173:U:H6	1:A:198:G:HO2'	1.63	0.45
1:A:838:G:C2'	1:A:839:U:H5''	2.47	0.45
18:R:73:ALA:HB3	18:R:79:LEU:HD12	1.97	0.45
17:Q:4:LYS:O	17:Q:60:ILE:HA	2.16	0.45
1:A:509:A:O5'	1:A:509:A:H8	1.99	0.45
1:A:1018:C:O5'	1:A:1018:C:H6	1.99	0.45
14:N:7:ILE:O	14:N:7:ILE:HG22	2.17	0.45
1:A:1128:C:C2	1:A:1144:G:N2	2.84	0.45
2:B:16:HIS:O	2:B:17:PHE:C	2.53	0.45
12:L:10:LEU:HD21	12:L:15:ARG:HE	1.81	0.45
1:A:132:C:H5'	1:A:262:A:H1'	1.98	0.45
1:A:796:C:H2'	1:A:797:C:H6	1.81	0.45
1:A:452:A:H1'	16:P:72:ARG:NH1	2.31	0.45
1:A:67:C:H2'	1:A:68:G:C8	2.50	0.45
1:A:57:G:C6	1:A:58:C:N3	2.84	0.45
1:A:505:G:H4'	1:A:534:U:N3	2.32	0.45
1:A:344:A:OP1	1:A:345:C:C5	2.68	0.45
16:P:42:ARG:O	16:P:43:LYS:C	2.55	0.45
1:A:70:G:H2'	1:A:71:C:C6	2.52	0.45
7:G:18:TYR:O	7:G:20:ASP:N	2.50	0.45
4:D:3:ARG:NH1	4:D:70:ILE:HG13	2.32	0.45
2:B:211:ILE:O	2:B:215:LEU:HB2	2.16	0.45
12:L:45:PRO:HD2	12:L:51:ALA:H	1.82	0.45
12:L:75:HIS:ND1	12:L:76:ASN:N	2.65	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1015:A:C6	1:A:1016:A:C6	3.04	0.45
15:O:85:LEU:HB2	15:O:87:ILE:HG22	1.97	0.45
20:T:14:LYS:O	20:T:18:GLN:HG3	2.17	0.45
5:E:103:GLY:O	5:E:106:PRO:HD2	2.16	0.45
8:H:36:LEU:CA	8:H:39:LEU:HB2	2.45	0.45
13:M:15:VAL:HB	13:M:34:LEU:HD11	1.99	0.45
8:H:89:PRO:HA	8:H:92:ARG:NH1	2.31	0.45
2:B:171:ALA:HA	2:B:174:VAL:HB	1.99	0.45
13:M:73:GLU:O	13:M:77:ASN:HB2	2.17	0.45
4:D:153:ARG:O	4:D:154:ASN:HB3	2.17	0.45
5:E:60:TYR:HE2	5:E:64:ARG:NE	2.15	0.45
17:Q:62:SER:CB	17:Q:72:ARG:HG3	2.46	0.45
6:F:2:ARG:NE	6:F:69:GLU:HG2	2.32	0.45
9:I:69:GLY:O	9:I:73:GLN:HG3	2.17	0.45
1:A:143:A:C2	1:A:221:C:O2	2.69	0.45
1:A:976:G:C8	1:A:1358:U:O2	2.69	0.45
10:J:40:LEU:HB3	10:J:69:ASN:C	2.37	0.45
2:B:100:GLY:HA2	2:B:176:GLU:OE2	2.17	0.45
2:B:162:ILE:CG2	2:B:164:VAL:HG23	2.47	0.45
1:A:376:G:OP1	16:P:67:THR:HG21	2.15	0.45
16:P:49:LEU:HD12	16:P:50:LYS:H	1.78	0.45
5:E:51:VAL:CB	5:E:52:PRO:HD3	2.31	0.45
7:G:108:ALA:HB2	7:G:123:GLU:CB	2.46	0.45
12:L:97:ARG:HG3	12:L:98:TYR:HE1	1.75	0.45
1:A:1493:A:H5''	1:A:1494:G:OP2	2.16	0.45
1:A:1495:U:H2'	1:A:1496:C:H6	1.80	0.45
4:D:160:GLN:O	4:D:163:GLU:HB3	2.16	0.45
1:A:1056:U:H5'	3:C:163:ALA:CB	2.47	0.45
1:A:190:U:O2	20:T:105:SER:HB2	2.16	0.45
1:A:1113:C:H4'	3:C:14:ILE:HD11	1.98	0.45
8:H:25:ASP:OD1	8:H:60:ARG:NH1	2.50	0.45
1:A:1431:C:C2'	1:A:1432:G:H5'	2.46	0.45
11:K:51:LYS:HB3	11:K:52:GLY:H	1.70	0.45
6:F:100:ASN:ND2	18:R:23:LYS:HG2	2.32	0.45
1:A:594:G:C2'	1:A:595:G:H5'	2.46	0.45
9:I:69:GLY:C	9:I:73:GLN:HG3	2.36	0.45
3:C:190:ARG:NH1	3:C:190:ARG:HB3	2.32	0.45
3:C:7:PRO:CA	3:C:11:ARG:HH21	2.30	0.45
3:C:120:VAL:HG12	3:C:124:ILE:HD11	1.98	0.45
10:J:80:LYS:CE	10:J:80:LYS:H	2.29	0.45
11:K:92:GLU:O	11:K:96:ARG:HG3	2.17	0.45
1:A:960:U:O2	1:A:960:U:C2'	2.60	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:376:G:C2	1:A:389:A:C2	3.04	0.45
16:P:20:VAL:CG2	16:P:21:VAL:N	2.80	0.45
16:P:66:PRO:HG2	16:P:71:ARG:HG3	1.98	0.45
14:N:8:GLU:O	14:N:8:GLU:HG3	2.16	0.45
6:F:18:GLN:O	6:F:21:LEU:HB3	2.17	0.45
2:B:25:ASN:ND2	2:B:27:LYS:H	2.15	0.45
1:A:451:A:H1'	1:A:452:A:C8	2.52	0.45
1:A:991:U:C5	1:A:1212:U:H4'	2.52	0.45
1:A:993:G:N2	1:A:996:A:N6	2.65	0.45
3:C:35:GLU:HA	3:C:38:ARG:HG2	1.98	0.45
13:M:16:ASP:OD1	13:M:17:VAL:N	2.49	0.45
7:G:145:ALA:O	7:G:147:ALA:N	2.47	0.45
1:A:1038:C:O2'	1:A:1039:C:H5'	2.16	0.45
5:E:144:THR:HB	5:E:147:ASP:OD1	2.17	0.45
1:A:1089:G:C5	1:A:1090:U:C5	3.04	0.45
1:A:188:C:O2'	1:A:189:G:H5'	2.17	0.45
1:A:161:A:H2'	1:A:162:A:C8	2.52	0.45
7:G:8:GLU:O	7:G:10:ARG:N	2.50	0.45
1:A:661:G:H2'	1:A:662:G:H5'	1.99	0.45
1:A:399:G:O2'	1:A:400:C:H5'	2.16	0.45
1:A:547:A:OP2	4:D:2:GLY:HA2	2.17	0.45
14:N:45:ARG:HG2	14:N:49:HIS:NE2	2.32	0.45
1:A:1151:A:HO2'	1:A:1152:A:H5''	1.81	0.45
1:A:1128:C:C5'	9:I:16:ARG:HH22	2.26	0.45
1:A:1321:C:C5	1:A:1322:C:C2	3.04	0.45
1:A:977:A:C2'	1:A:978:A:H5''	2.47	0.45
16:P:28:ARG:NH1	16:P:28:ARG:HG2	2.32	0.45
1:A:502:G:C2	1:A:503:C:C2	3.05	0.45
1:A:1182:G:C5'	1:A:1184:G:H5'	2.32	0.45
13:M:54:VAL:O	13:M:58:GLU:HG2	2.16	0.45
1:A:410:G:C2	1:A:429:U:C2	3.04	0.45
10:J:56:HIS:O	10:J:58:ASP:N	2.50	0.45
4:D:63:LYS:O	4:D:64:LEU:C	2.55	0.45
2:B:8:LYS:O	2:B:9:GLU:CB	2.65	0.45
8:H:119:LEU:HD12	8:H:124:ALA:N	2.32	0.45
5:E:72:GLN:O	5:E:73:ASN:CB	2.65	0.45
17:Q:85:VAL:O	17:Q:88:TYR:HB3	2.16	0.45
17:Q:9:VAL:CG2	17:Q:56:VAL:HG22	2.46	0.45
7:G:42:ILE:HG22	7:G:120:ILE:HD11	1.98	0.45
1:A:1347:G:C5	9:I:107:ARG:NH1	2.84	0.45
9:I:45:ALA:O	9:I:48:GLU:N	2.50	0.45
2:B:16:HIS:NE2	2:B:214:ILE:CD1	2.79	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:53:ARG:NH1	2:B:199:TYR:CD2	2.84	0.45
2:B:55:PHE:CE2	2:B:218:ALA:HA	2.52	0.45
12:L:43:VAL:CG1	12:L:44:THR:N	2.80	0.45
20:T:48:LYS:HB3	20:T:51:GLU:HB2	1.99	0.45
1:A:1305:G:O2'	1:A:1306:A:H8	2.00	0.45
1:A:514:C:C2	1:A:538:G:N2	2.85	0.45
1:A:1518:A:N1	1:A:1519:A:C6	2.84	0.45
1:A:1513:A:C2	1:A:1523:G:C6	3.04	0.45
23:Y:35:C:H2'	23:Y:36:C:C1'	2.47	0.45
1:A:355:C:C4	1:A:356:A:N7	2.85	0.45
20:T:56:MET:HE1	20:T:88:VAL:HG11	1.95	0.45
1:A:660:G:C2	1:A:746:A:C2	3.05	0.45
1:A:1259:C:O2'	1:A:1284:C:H1'	2.16	0.45
1:A:830:G:O2'	1:A:831:U:H5'	2.17	0.45
1:A:1542:U:O2'	1:A:1543:C:H5'	2.17	0.45
16:P:13:HIS:C	16:P:15:PRO:HD3	2.37	0.45
1:A:511:C:H1'	4:D:43:HIS:NE2	2.32	0.45
7:G:112:PRO:O	7:G:113:GLU:C	2.55	0.45
1:A:1065:U:C5	1:A:1190:G:N3	2.85	0.45
3:C:5:ILE:CD1	3:C:6:HIS:N	2.80	0.45
10:J:38:ILE:CB	10:J:71:LEU:HB2	2.46	0.45
2:B:88:ALA:O	2:B:90:MET:HG2	2.17	0.45
12:L:70:ILE:HA	12:L:100:ILE:CG2	2.42	0.45
19:S:11:VAL:HA	19:S:38:SER:HB2	1.99	0.45
1:A:389:A:C2'	1:A:390:C:H5'	2.47	0.45
1:A:524:G:C4	1:A:525:C:C5	3.05	0.45
4:D:32:ALA:HB1	4:D:36:ARG:O	2.16	0.45
5:E:52:PRO:O	5:E:54:ALA:N	2.49	0.45
1:A:1305:G:H5'	21:U:4:GLY:CA	2.47	0.45
8:H:138:TRP:OXT	8:H:138:TRP:HE3	1.99	0.45
1:A:154:C:H6	1:A:154:C:O5'	2.00	0.45
1:A:1273:G:H2'	1:A:1274:G:O4'	2.16	0.45
20:T:79:ARG:HG2	20:T:83:ARG:NH1	2.31	0.45
1:A:1260:C:OP1	1:A:1284:C:O2'	2.32	0.45
1:A:1379:G:O6	7:G:2:ALA:HB3	2.17	0.45
6:F:80:ARG:NH1	6:F:80:ARG:HG2	2.32	0.45
15:O:12:ILE:O	15:O:13:GLN:C	2.55	0.45
1:A:823:G:O2'	1:A:824:C:H5'	2.17	0.45
7:G:105:VAL:O	7:G:109:ASN:HB2	2.17	0.45
3:C:103:VAL:O	3:C:103:VAL:HG12	2.17	0.45
7:G:40:ALA:O	7:G:43:PHE:HB3	2.17	0.44
9:I:5:TYR:OH	9:I:16:ARG:HG3	2.17	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:I:46:ALA:HB1	9:I:77:ILE:HG22	1.99	0.44
2:B:53:ARG:NH1	2:B:199:TYR:HD2	2.16	0.44
14:N:13:THR:N	14:N:14:PRO:CD	2.80	0.44
19:S:52:TYR:OH	19:S:55:LYS:HA	2.17	0.44
19:S:62:ILE:HD12	19:S:66:MET:SD	2.56	0.44
1:A:385:C:O2'	1:A:386:C:H5'	2.17	0.44
1:A:1183:A:O2'	1:A:1184:G:P	2.75	0.44
5:E:103:GLY:C	5:E:106:PRO:HD2	2.37	0.44
1:A:53:A:H2'	1:A:54:C:O5'	2.16	0.44
1:A:781:A:C5	1:A:802:A:C2	3.05	0.44
5:E:31:LEU:HD22	5:E:43:LEU:CD2	2.47	0.44
5:E:15:ARG:O	5:E:16:THR:HG22	2.17	0.44
4:D:176:LEU:HG	4:D:178:VAL:HG23	1.98	0.44
1:A:1472:U:O2'	1:A:1473:A:H5'	2.17	0.44
2:B:85:ALA:HB1	2:B:92:TYR:HB3	1.99	0.44
4:D:78:LEU:HD22	4:D:96:LEU:HD23	1.99	0.44
1:A:28:G:O2'	1:A:296:U:OP1	2.34	0.44
8:H:68:ARG:NH1	8:H:68:ARG:HG2	2.31	0.44
1:A:576:G:H3'	1:A:577:G:H5''	1.98	0.44
11:K:59:TYR:O	11:K:62:GLN:HB3	2.17	0.44
3:C:153:VAL:HG22	3:C:198:VAL:HG12	1.99	0.44
10:J:77:PRO:O	10:J:79:ARG:N	2.50	0.44
10:J:30:SER:HB2	10:J:81:THR:OG1	2.18	0.44
15:O:87:ILE:O	15:O:88:ARG:HB2	2.17	0.44
16:P:52:ASP:OD1	16:P:52:ASP:C	2.55	0.44
7:G:3:ARG:O	7:G:4:ARG:HG2	2.17	0.44
7:G:4:ARG:HH11	7:G:4:ARG:CB	2.13	0.44
18:R:62:GLU:O	18:R:64:ARG:N	2.50	0.44
5:E:152:ARG:HG2	8:H:43:GLY:O	2.17	0.44
8:H:45:ILE:O	8:H:47:GLY:N	2.51	0.44
1:A:1331:G:C2'	1:A:1332:A:OP2	2.65	0.44
12:L:112:ASP:O	12:L:113:ARG:O	2.36	0.44
1:A:1477:C:H2'	1:A:1478:C:H6	1.76	0.44
4:D:154:ASN:N	4:D:154:ASN:ND2	2.63	0.44
6:F:89:MET:HE3	18:R:72:ARG:HB3	1.99	0.44
13:M:17:VAL:O	13:M:18:ALA:C	2.55	0.44
1:A:325:A:H2'	1:A:326:G:O4'	2.17	0.44
8:H:126:LYS:C	8:H:128:GLY:H	2.19	0.44
8:H:17:THR:C	8:H:78:GLN:HE22	2.18	0.44
1:A:1446:U:H2'	1:A:1452:C:C5	2.53	0.44
4:D:29:PRO:O	4:D:30:LYS:HG2	2.17	0.44
9:I:10:ARG:CD	9:I:11:LYS:N	2.80	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
19:S:45:VAL:HG21	19:S:64:GLU:OE1	2.17	0.44
1:A:391:G:C6	1:A:392:G:C5	3.06	0.44
16:P:1:MET:CE	16:P:3:LYS:HE3	2.47	0.44
7:G:65:ALA:O	7:G:69:VAL:HG23	2.17	0.44
18:R:62:GLU:C	18:R:64:ARG:H	2.21	0.44
8:H:10:LEU:HD12	8:H:85:ARG:HG2	1.99	0.44
1:A:1080:A:N7	1:A:1081:G:H1'	2.32	0.44
1:A:1405:G:P	24:A:3001:PAR:O34	2.75	0.44
1:A:706:A:C4'	11:K:29:ILE:HG12	2.47	0.44
1:A:1055:A:H2'	1:A:1056:U:O5'	2.17	0.44
7:G:137:LYS:HA	7:G:140:ASP:HB2	1.99	0.44
1:A:485:G:O2'	1:A:486:U:OP2	2.35	0.44
1:A:185:A:H2'	1:A:186:C:C6	2.50	0.44
1:A:939:G:H5''	7:G:102:ARG:NH2	2.32	0.44
1:A:1308:U:O2'	1:A:1309:G:H5'	2.18	0.44
18:R:34:TYR:CD2	18:R:34:TYR:N	2.76	0.44
14:N:2:ALA:O	14:N:3:ARG:HG3	2.18	0.44
1:A:731:G:OP1	1:A:766:A:H1'	2.17	0.44
4:D:201:GLN:HA	4:D:201:GLN:OE1	2.17	0.44
10:J:53:PRO:HB3	14:N:42:ILE:HD12	1.99	0.44
2:B:189:ASP:CG	2:B:205:ASP:OD1	2.56	0.44
2:B:59:GLU:O	2:B:62:ALA:N	2.51	0.44
16:P:55:ARG:NE	16:P:55:ARG:HA	2.33	0.44
8:H:111:ILE:HB	8:H:134:ILE:HG22	1.98	0.44
1:A:423:G:H2'	1:A:424:G:C5'	2.47	0.44
2:B:150:SER:OG	2:B:151:GLY:N	2.51	0.44
4:D:73:ARG:O	4:D:77:ASN:ND2	2.50	0.44
1:A:636:U:H5''	17:Q:2:PRO:HG2	2.00	0.44
1:A:279:A:H4'	1:A:281:G:C8	2.52	0.44
1:A:1043:C:O2'	1:A:1044:A:H5'	2.17	0.44
5:E:48:ALA:HB1	5:E:49:PRO:HD2	1.99	0.44
4:D:91:SER:O	4:D:94:LEU:N	2.50	0.44
8:H:23:SER:O	8:H:24:THR:HB	2.17	0.44
9:I:5:TYR:C	9:I:84:ALA:HB2	2.37	0.44
10:J:38:ILE:CG2	10:J:71:LEU:HB2	2.47	0.44
10:J:79:ARG:HG2	10:J:79:ARG:HH11	1.83	0.44
2:B:14:GLY:O	2:B:15:VAL:HG22	2.17	0.44
2:B:97:TRP:CZ3	2:B:176:GLU:OE2	2.71	0.44
12:L:81:SER:HB2	12:L:106:ASP:HB2	1.98	0.44
1:A:106:C:HO2'	1:A:107:G:H5'	1.83	0.44
3:C:96:GLY:O	3:C:97:LYS:HD3	2.17	0.44
4:D:10:ARG:NH1	4:D:40:PRO:HB2	2.33	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:D:7:PRO:O	4:D:10:ARG:HB3	2.18	0.44
1:A:1277:C:H1'	1:A:1282:C:O2	2.18	0.44
1:A:1528:U:O2'	1:A:1529:G:P	2.76	0.44
21:U:18:TYR:CE2	21:U:22:ARG:CZ	3.01	0.44
2:B:82:ARG:HH11	2:B:82:ARG:HB2	1.80	0.44
6:F:33:TYR:CB	6:F:75:LEU:HD23	2.46	0.44
1:A:895:G:H2'	1:A:896:C:H6	1.83	0.44
4:D:119:GLN:HG3	4:D:123:HIS:ND1	2.32	0.44
1:A:555:C:H2'	1:A:556:C:H6	1.82	0.44
4:D:111:ALA:HB2	4:D:120:LEU:HD12	1.99	0.44
1:A:622:A:C8	1:A:623:C:C5	3.06	0.44
7:G:5:ARG:O	7:G:6:ARG:HB2	2.18	0.44
3:C:22:TRP:O	3:C:22:TRP:CE3	2.70	0.44
5:E:100:VAL:O	5:E:100:VAL:HG12	2.17	0.44
1:A:818:G:H3'	1:A:819:A:C5'	2.48	0.44
5:E:20:GLN:HE22	5:E:21:ALA:HB3	1.82	0.44
13:M:29:ARG:C	13:M:31:LYS:N	2.69	0.44
11:K:56:GLY:O	11:K:57:THR:C	2.55	0.44
17:Q:59:ILE:HG22	17:Q:71:PHE:CD1	2.52	0.44
9:I:42:ARG:O	9:I:43:ALA:C	2.56	0.44
1:A:950:U:H2'	1:A:951:G:C8	2.53	0.44
1:A:156:G:C6	1:A:166:G:C6	3.05	0.44
5:E:41:VAL:HG11	5:E:113:ALA:HA	2.00	0.44
6:F:44:GLY:HA2	6:F:59:TYR:CE1	2.53	0.44
1:A:890:G:O2'	1:A:906:G:O6	2.27	0.44
7:G:20:ASP:OD1	7:G:22:LEU:HB3	2.18	0.44
7:G:39:ALA:O	7:G:42:ILE:N	2.51	0.44
10:J:57:LYS:HZ2	10:J:60:ARG:CZ	2.30	0.44
2:B:177:ALA:O	2:B:178:ARG:C	2.56	0.44
12:L:83:VAL:HG11	12:L:100:ILE:CD1	2.39	0.44
1:A:1320:C:C2	19:S:72:GLY:HA3	2.53	0.44
1:A:1268:A:H4'	21:U:19:GLY:O	2.18	0.44
1:A:375:U:C2	1:A:376:G:C8	3.06	0.44
1:A:376:G:O3'	16:P:5:ARG:HD2	2.18	0.44
4:D:8:VAL:CG1	4:D:9:CYS:H	2.28	0.44
1:A:673:G:O3'	6:F:87:ARG:NH2	2.51	0.44
6:F:86:ARG:O	6:F:87:ARG:HG2	2.18	0.44
1:A:877:C:O2'	1:A:878:G:H5'	2.17	0.44
1:A:924:C:C5'	1:A:1399:C:OP2	2.62	0.44
2:B:139:LYS:HD3	2:B:139:LYS:O	2.18	0.44
1:A:991:U:O2'	1:A:993:G:H1'	2.18	0.44
1:A:992:U:H4'	1:A:993:G:O5'	2.16	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1058:G:H2'	1:A:1059:C:C6	2.52	0.44
1:A:1057:G:H2'	1:A:1058:G:O4'	2.17	0.44
13:M:88:ARG:HG3	13:M:98:VAL:HG12	2.00	0.44
12:L:60:LEU:HD21	12:L:66:VAL:HG22	2.00	0.44
18:R:66:LEU:O	18:R:67:ALA:C	2.56	0.44
1:A:44:G:H2'	1:A:45:U:O4'	2.18	0.44
1:A:1370:G:C2	1:A:1371:G:N7	2.86	0.44
7:G:47:CYS:O	7:G:50:ILE:HB	2.18	0.44
1:A:1124:G:H5'	10:J:35:SER:C	2.38	0.44
2:B:103:THR:HA	2:B:180:LEU:HD11	1.99	0.44
14:N:18:VAL:HG23	14:N:19:ARG:N	2.33	0.44
1:A:1268:A:H4'	21:U:19:GLY:C	2.38	0.44
15:O:76:GLU:O	15:O:77:ARG:C	2.55	0.44
3:C:87:LEU:C	3:C:89:GLU:H	2.22	0.44
5:E:80:ILE:O	5:E:80:ILE:HD12	2.17	0.44
18:R:62:GLU:C	18:R:64:ARG:N	2.71	0.44
1:A:794:A:C5	1:A:795:C:C4	3.06	0.44
1:A:674:G:H2'	1:A:675:A:H8	1.83	0.44
1:A:1413:A:O2'	1:A:1414:U:H5'	2.18	0.44
12:L:105:TYR:C	12:L:107:ALA:N	2.71	0.44
1:A:175:C:H2'	1:A:176:C:C6	2.48	0.44
1:A:1241:G:C6	1:A:1242:C:N4	2.85	0.44
1:A:1434:A:O2'	1:A:1435:G:H5'	2.18	0.44
1:A:952:U:O2'	1:A:953:G:H5'	2.18	0.44
1:A:330:C:H2'	1:A:331:G:H5'	1.98	0.44
20:T:77:ALA:O	20:T:80:ARG:HB2	2.17	0.44
20:T:83:ARG:HG3	20:T:83:ARG:HH11	1.82	0.44
1:A:594:G:H2'	1:A:595:G:H5'	1.99	0.44
16:P:40:ASP:HB3	16:P:48:TRP:HB2	1.99	0.44
1:A:1031:G:H2'	1:A:1032:G:H8	1.82	0.44
1:A:742:G:OP2	15:O:35:ARG:NH2	2.46	0.44
1:A:1176:A:H2'	1:A:1177:G:C8	2.53	0.44
1:A:1461:G:H2'	1:A:1462:G:H8	1.82	0.44
13:M:45:VAL:O	13:M:48:LEU:HB2	2.18	0.44
1:A:1385:G:O2'	1:A:1386:G:H5'	2.18	0.44
18:R:38:GLU:HA	18:R:38:GLU:OE1	2.18	0.44
7:G:20:ASP:OD1	7:G:22:LEU:N	2.51	0.44
7:G:22:LEU:O	7:G:25:ALA:HB3	2.17	0.44
3:C:183:ASP:O	3:C:201:TYR:HA	2.18	0.44
9:I:63:ILE:HD13	9:I:77:ILE:HG23	1.99	0.44
10:J:75:ILE:HG22	10:J:76:ASN:ND2	2.32	0.44
19:S:45:VAL:HG12	19:S:46:GLY:N	2.33	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:D:10:ARG:HG2	4:D:10:ARG:HH11	1.83	0.44
9:I:113:LYS:CD	9:I:113:LYS:H	2.30	0.44
1:A:684:A:H1'	11:K:39:PRO:HD2	2.00	0.44
1:A:1502:A:C3'	1:A:1503:A:H5''	2.43	0.44
3:C:33:LEU:C	3:C:35:GLU:N	2.70	0.44
18:R:22:VAL:O	18:R:23:LYS:C	2.56	0.44
15:O:9:GLN:O	15:O:10:LYS:C	2.56	0.44
12:L:126:LYS:HD2	12:L:127:GLU:N	2.33	0.44
12:L:127:GLU:O	12:L:127:GLU:HG3	2.17	0.44
2:B:15:VAL:HB	2:B:16:HIS:H	1.63	0.43
2:B:52:GLU:HG2	2:B:56:ARG:HH22	1.83	0.43
11:K:92:GLU:HA	11:K:95:ILE:HD12	2.00	0.43
3:C:21:ARG:HB2	3:C:58:GLU:HA	1.99	0.43
11:K:80:VAL:N	11:K:104:GLN:O	2.51	0.43
1:A:1305:G:H5''	21:U:4:GLY:C	2.39	0.43
1:A:922:G:C2	1:A:1396:A:C6	3.06	0.43
4:D:170:VAL:CG1	4:D:171:GLY:N	2.80	0.43
2:B:121:LEU:HD23	2:B:121:LEU:C	2.38	0.43
20:T:79:ARG:O	20:T:80:ARG:C	2.57	0.43
1:A:762:C:H2'	1:A:763:G:C8	2.53	0.43
1:A:901:A:C5	1:A:902:G:H1'	2.53	0.43
1:A:719:C:O2	18:R:50:ILE:HG13	2.17	0.43
12:L:124:LYS:HG3	12:L:125:PRO:HD2	1.99	0.43
11:K:63:LEU:O	11:K:67:ASP:N	2.38	0.43
3:C:174:PRO:HD2	3:C:203:PHE:CE2	2.49	0.43
3:C:180:ALA:O	3:C:182:ILE:N	2.51	0.43
10:J:5:ARG:C	10:J:6:ILE:HD12	2.37	0.43
1:A:1226:C:H4'	19:S:80:TYR:CZ	2.53	0.43
1:A:393:A:C2	1:A:394:G:C8	3.05	0.43
1:A:377:G:OP1	16:P:3:LYS:HD2	2.17	0.43
3:C:130:VAL:CG2	3:C:131:ARG:H	1.98	0.43
3:C:134:ILE:HG22	3:C:168:ALA:CB	2.48	0.43
19:S:31:ILE:CG2	19:S:32:LYS:H	2.17	0.43
20:T:34:LYS:O	20:T:37:SER:N	2.51	0.43
1:A:778:G:C2'	1:A:779:C:H5'	2.47	0.43
3:C:29:TYR:O	3:C:31:HIS:N	2.51	0.43
1:A:1038:C:H2'	1:A:1039:C:C6	2.53	0.43
18:R:21:LYS:CD	18:R:21:LYS:H	2.29	0.43
1:A:506:G:C5	1:A:507:C:C4	3.07	0.43
1:A:248:C:C2'	1:A:249:U:H5'	2.48	0.43
1:A:761:G:H21	17:Q:105:ALA:HB2	1.84	0.43
7:G:120:ILE:HG22	7:G:124:LEU:HD11	2.00	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:405:U:C3'	1:A:406:G:H5'	2.39	0.43
4:D:101:LEU:O	4:D:105:VAL:HG23	2.19	0.43
14:N:43:CYS:O	14:N:46:GLU:HB2	2.19	0.43
12:L:55:VAL:CG1	12:L:56:ALA:N	2.61	0.43
12:L:71:PRO:HG2	12:L:102:ARG:CG	2.35	0.43
19:S:39:THR:CG2	19:S:40:ILE:H	2.24	0.43
1:A:362:G:H2'	1:A:364:A:OP2	2.19	0.43
20:T:53:LEU:HD23	20:T:53:LEU:H	1.76	0.43
13:M:34:LEU:C	13:M:37:THR:HG22	2.39	0.43
1:A:131:C:H2'	1:A:132:C:H6	1.81	0.43
17:Q:66:SER:HB3	17:Q:69:LYS:HB3	2.00	0.43
1:A:687:A:H4'	1:A:688:G:O5'	2.17	0.43
1:A:1191:A:C4	1:A:1192:C:C5	3.06	0.43
1:A:1262:C:O2'	1:A:1263:C:H5'	2.19	0.43
2:B:193:ASP:HA	2:B:194:PRO:HD2	1.79	0.43
1:A:570:G:H2'	1:A:571:U:C6	2.53	0.43
7:G:46:ALA:HB2	7:G:117:ALA:O	2.18	0.43
7:G:31:MET:HG3	7:G:32:ARG:N	2.33	0.43
1:A:1372:U:OP1	9:I:71:SER:CB	2.66	0.43
1:A:1189:C:H5''	3:C:5:ILE:CG2	2.47	0.43
9:I:49:PRO:CB	9:I:82:ALA:HB2	2.47	0.43
2:B:186:ALA:O	2:B:201:ILE:N	2.47	0.43
12:L:42:THR:HA	12:L:53:ARG:O	2.18	0.43
3:C:167:TRP:O	3:C:168:ALA:CB	2.66	0.43
7:G:68:ASN:O	7:G:138:LYS:HE3	2.18	0.43
5:E:102:ALA:HB2	5:E:120:THR:OG1	2.18	0.43
18:R:58:LEU:CD1	18:R:58:LEU:N	2.81	0.43
8:H:4:ASP:OD2	8:H:7:ALA:HB2	2.18	0.43
1:A:782:A:H2'	1:A:783:C:H5'	2.00	0.43
1:A:356:A:O2'	1:A:357:G:H5'	2.19	0.43
17:Q:21:VAL:O	17:Q:21:VAL:HG23	2.17	0.43
1:A:718:G:C4'	11:K:117:ASN:HD22	2.30	0.43
1:A:315:A:O4'	1:A:353:A:C2	2.71	0.43
21:U:9:ARG:CZ	21:U:22:ARG:HA	2.48	0.43
9:I:37:PHE:HD1	9:I:43:ALA:HB1	1.83	0.43
1:A:1030:C:H2'	1:A:1030(A):G:C8	2.53	0.43
17:Q:36:ILE:H	17:Q:36:ILE:HG12	1.61	0.43
5:E:147:ASP:O	5:E:151:LEU:HB2	2.19	0.43
1:A:160:A:H2'	1:A:161:A:O4'	2.18	0.43
7:G:116:ALA:CA	7:G:119:ARG:NH2	2.73	0.43
11:K:65:ALA:HB1	11:K:98:LEU:HD21	2.00	0.43
1:A:1124:G:N7	1:A:1145:C:H2'	2.33	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:140:HIS:HB2	2:B:141:GLU:OE1	2.19	0.43
2:B:206:ASP:O	2:B:211:ILE:HG13	2.18	0.43
11:K:93:GLN:O	11:K:97:ALA:N	2.48	0.43
12:L:83:VAL:HG13	12:L:84:LEU:N	2.32	0.43
1:A:9:G:OP2	5:E:121:LYS:NZ	2.41	0.43
1:A:673:G:N2	1:A:674:G:C2	2.87	0.43
4:D:165:MET:SD	4:D:168:ARG:HD3	2.58	0.43
1:A:1004:A:H5''	1:A:1025:U:N3	2.32	0.43
3:C:15:THR:O	3:C:16:ARG:HB3	2.18	0.43
9:I:37:PHE:CB	9:I:43:ALA:HB2	2.44	0.43
1:A:485:G:C2'	1:A:486:U:OP2	2.67	0.43
1:A:659:U:O2'	1:A:660:G:H5'	2.18	0.43
13:M:10:PRO:CB	13:M:18:ALA:HB1	2.49	0.43
1:A:1095:U:H5''	1:A:1109:C:O2	2.18	0.43
1:A:830:G:N2	1:A:857:C:C2	2.87	0.43
10:J:4:ILE:HG22	10:J:100:THR:HA	2.00	0.43
16:P:40:ASP:HB3	16:P:48:TRP:CB	2.48	0.43
5:E:149:GLU:HG3	5:E:150:ARG:N	2.34	0.43
2:B:196:LEU:HA	2:B:196:LEU:HD23	1.68	0.43
4:D:110:PHE:N	4:D:110:PHE:HD2	2.16	0.43
20:T:25:ARG:O	20:T:28:ALA:HB3	2.18	0.43
14:N:53:LEU:CB	14:N:56:VAL:HG21	2.48	0.43
14:N:9:LYS:CG	14:N:10:ALA:H	1.98	0.43
3:C:91:LEU:C	3:C:91:LEU:HD23	2.38	0.43
13:M:34:LEU:HA	13:M:37:THR:CG2	2.49	0.43
17:Q:24:GLU:HA	17:Q:39:SER:HA	2.01	0.43
20:T:70:SER:HA	20:T:73:HIS:HD2	1.84	0.43
1:A:1005:A:H62	1:A:1024:G:H1'	1.84	0.43
11:K:54:ARG:HA	11:K:54:ARG:HH11	1.83	0.43
1:A:866:C:C2'	1:A:867:G:O5'	2.67	0.43
1:A:411:A:N9	1:A:413:G:H1'	2.32	0.43
1:A:831:U:O2'	1:A:832:C:H5'	2.18	0.43
3:C:110:ASN:C	3:C:111:LEU:HD23	2.38	0.43
8:H:124:ALA:O	8:H:128:GLY:N	2.51	0.43
9:I:89:ASN:C	9:I:91:ASP:H	2.22	0.43
16:P:43:LYS:HA	16:P:48:TRP:HB3	2.00	0.43
1:A:1249:C:O2'	9:I:73:GLN:NE2	2.52	0.43
16:P:75:ARG:C	16:P:77:ALA:H	2.21	0.43
13:M:67:GLU:O	13:M:68:GLY:C	2.55	0.43
3:C:147:LYS:HG2	3:C:147:LYS:O	2.18	0.43
14:N:23:ARG:HA	14:N:29:ARG:H	1.84	0.43
10:J:13:HIS:CD2	10:J:17:ASP:OD2	2.72	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:J:78:ASN:HB2	10:J:81:THR:OG1	2.19	0.43
2:B:207:ALA:C	2:B:209:ARG:N	2.72	0.43
2:B:223:ILE:HG23	2:B:224:GLN:N	2.33	0.43
12:L:71:PRO:HD2	12:L:100:ILE:CG2	2.48	0.43
19:S:81:ARG:HH11	19:S:81:ARG:HG2	1.84	0.43
1:A:106:C:C2'	1:A:107:G:H5'	2.48	0.43
16:P:32:TYR:O	16:P:32:TYR:CD2	2.72	0.43
16:P:53:VAL:CG2	16:P:54:GLU:N	2.77	0.43
11:K:66:LEU:O	11:K:69:ALA:N	2.48	0.43
20:T:50:GLU:O	20:T:51:GLU:C	2.57	0.43
1:A:1368:G:H5'	9:I:112:LYS:O	2.18	0.43
1:A:1330:U:H2'	1:A:1331:G:H5'	2.01	0.43
1:A:1397:C:HO2'	1:A:1398:A:P	2.41	0.43
1:A:914:A:C4	1:A:915:A:C8	3.07	0.43
1:A:1024:G:H2'	1:A:1025:U:O4'	2.18	0.43
9:I:103:THR:O	9:I:104:ARG:C	2.57	0.43
8:H:104:ARG:C	8:H:106:GLY:N	2.71	0.43
3:C:14:ILE:HG22	3:C:15:THR:N	2.32	0.43
1:A:746:A:C2'	1:A:747:C:H5'	2.48	0.43
9:I:99:LEU:N	9:I:99:LEU:HD22	2.34	0.43
11:K:125:PHE:N	11:K:125:PHE:CD1	2.86	0.43
1:A:442:C:O5'	1:A:442:C:H6	2.01	0.43
6:F:45:LEU:O	6:F:46:ARG:HG3	2.19	0.43
1:A:838:G:N2	1:A:849:C:C2	2.86	0.43
1:A:279:A:H5''	1:A:280:C:H3'	2.00	0.43
1:A:604:G:O2'	1:A:605:U:H5'	2.17	0.43
12:L:7:ILE:HG21	17:Q:34:LYS:HB2	2.00	0.43
1:A:585:G:N3	1:A:879:C:H4'	2.33	0.43
18:R:79:LEU:HD23	18:R:80:PRO:HD2	1.99	0.43
7:G:148:ASN:C	7:G:150:ALA:H	2.22	0.43
1:A:11:G:C6	1:A:12:U:N3	2.86	0.43
11:K:48:ILE:CD1	11:K:64:ALA:N	2.74	0.43
3:C:10:PHE:CZ	3:C:178:LEU:HD22	2.54	0.43
3:C:11:ARG:O	3:C:12:LEU:C	2.57	0.43
3:C:186:PHE:CG	3:C:187:ALA:N	2.86	0.43
10:J:22:LYS:C	10:J:24:VAL:H	2.22	0.43
2:B:108:ILE:HD13	2:B:108:ILE:HA	1.90	0.43
1:A:9:G:C8	5:E:126:ARG:NH1	2.83	0.43
5:E:122:GLU:O	5:E:123:LEU:HD23	2.19	0.43
11:K:101:SER:OG	11:K:103:LEU:HB2	2.18	0.43
20:T:53:LEU:N	20:T:53:LEU:CD2	2.68	0.43
1:A:277:C:H5''	17:Q:68:ARG:HH22	1.82	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
17:Q:66:SER:HB3	17:Q:69:LYS:HD3	2.01	0.43
17:Q:76:LEU:C	17:Q:76:LEU:CD2	2.86	0.43
1:A:781:A:C8	1:A:802:A:C2	3.07	0.43
12:L:7:ILE:HA	12:L:7:ILE:HD13	1.90	0.43
1:A:1382:C:H2'	1:A:1383:C:C6	2.54	0.43
4:D:179:GLU:HG2	4:D:180:GLY:H	1.84	0.43
17:Q:9:VAL:O	17:Q:11:VAL:HG13	2.19	0.43
1:A:577:G:H1'	1:A:816:A:C4	2.54	0.43
8:H:29:SER:O	8:H:30:ARG:C	2.56	0.43
7:G:151:TYR:HD1	7:G:151:TYR:O	2.01	0.43
7:G:62:PHE:O	7:G:66:VAL:HG23	2.19	0.43
8:H:13:ILE:O	8:H:14:ARG:C	2.57	0.43
8:H:14:ARG:HH11	8:H:14:ARG:CB	2.31	0.43
1:A:1148:U:C2	1:A:1149:C:H1'	2.53	0.43
2:B:204:ASN:ND2	2:B:206:ASP:H	2.16	0.43
12:L:83:VAL:HG21	12:L:100:ILE:CD1	2.47	0.43
20:T:54:LYS:HB2	20:T:55:ILE:HD12	2.01	0.43
1:A:16:A:O2'	1:A:17:U:H5'	2.19	0.43
1:A:1054:C:C4	23:Y:35:C:O4'	2.72	0.43
1:A:927:G:H2'	1:A:928:G:H8	1.83	0.43
10:J:25:GLU:C	10:J:27:ALA:H	2.22	0.43
6:F:82:ARG:HE	6:F:82:ARG:HA	1.84	0.43
2:B:25:ASN:HD22	2:B:26:PRO:N	2.16	0.43
13:M:106:ASN:O	13:M:108:ARG:HD2	2.19	0.43
4:D:107:ARG:HH21	4:D:114:ARG:HH22	1.65	0.43
1:A:838:G:C2	1:A:849:C:N3	2.87	0.43
1:A:604:G:C5	1:A:605:U:C5	3.07	0.43
1:A:91:C:H2'	1:A:92:C:C6	2.52	0.43
4:D:52:SER:O	4:D:54:TYR:N	2.52	0.43
5:E:89:ILE:HG13	5:E:90:VAL:N	2.32	0.43
11:K:48:ILE:HD11	11:K:64:ALA:HA	2.00	0.43
9:I:9:ARG:HD3	9:I:14:VAL:HG12	2.01	0.43
2:B:97:TRP:HZ3	2:B:176:GLU:OE2	2.01	0.43
1:A:1318:A:H4'	19:S:10:PHE:CE2	2.53	0.43
1:A:979:C:O2	14:N:19:ARG:NH1	2.52	0.43
19:S:64:GLU:O	19:S:65:ASN:C	2.57	0.43
3:C:134:ILE:O	3:C:137:ALA:HB3	2.18	0.43
15:O:24:SER:OG	15:O:27:VAL:HG23	2.19	0.43
18:R:62:GLU:O	18:R:65:ILE:N	2.48	0.43
1:A:1363(A):A:H4'	1:A:1364:U:H2'	2.01	0.43
1:A:1367:C:P	9:I:112:LYS:NZ	2.92	0.43
8:H:6:ILE:HD12	8:H:35:ILE:CD1	2.49	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
8:H:4:ASP:OD2	8:H:7:ALA:CB	2.67	0.43
1:A:781:A:C2	1:A:1514:C:O4'	2.71	0.43
1:A:1202:G:H2'	1:A:1203:C:C6	2.54	0.43
1:A:174:C:O5'	1:A:174:C:H6	2.01	0.43
1:A:81:U:C6	1:A:83:U:OP2	2.72	0.43
13:M:55:ARG:NH1	13:M:55:ARG:CB	2.80	0.43
12:L:58:VAL:HG12	12:L:59:ARG:N	2.33	0.43
1:A:943:U:C2'	1:A:944:G:H5'	2.49	0.43
10:J:99:LYS:O	10:J:99:LYS:HG2	2.19	0.43
7:G:21:VAL:O	7:G:22:LEU:C	2.58	0.42
7:G:23:VAL:HG23	7:G:24:THR:N	2.35	0.42
11:K:93:GLN:O	11:K:96:ARG:HB2	2.19	0.42
1:A:563:A:H2	12:L:15:ARG:NH1	2.17	0.42
1:A:364:A:C2	1:A:365:U:O4	2.72	0.42
1:A:394:G:C4	1:A:395:C:C5	3.06	0.42
15:O:21:ASP:OD1	15:O:24:SER:HB3	2.18	0.42
1:A:1161:C:C2	1:A:1162:C:C5	3.07	0.42
16:P:39:TYR:CE1	16:P:41:PRO:HA	2.54	0.42
1:A:551:U:H2'	1:A:552:U:C6	2.54	0.42
1:A:39:G:C2	1:A:40:C:C6	3.06	0.42
10:J:37:PRO:O	10:J:38:ILE:HB	2.18	0.42
2:B:102:LEU:HD12	2:B:102:LEU:N	2.34	0.42
19:S:81:ARG:O	19:S:81:ARG:HG2	2.20	0.42
15:O:17:ARG:O	15:O:18:PHE:HB3	2.19	0.42
16:P:34:GLU:OE2	16:P:55:ARG:HD3	2.19	0.42
7:G:93:PRO:HG2	7:G:94:ARG:N	2.32	0.42
15:O:43:LEU:HD11	15:O:53:HIS:HA	2.01	0.42
6:F:86:ARG:H	6:F:86:ARG:HG2	1.62	0.42
1:A:922:G:H2'	1:A:923:A:C8	2.53	0.42
1:A:688:G:O2'	1:A:689:C:H5'	2.18	0.42
1:A:1420:C:O2'	1:A:1421:G:H5'	2.20	0.42
13:M:117:VAL:HG12	13:M:118:ALA:N	2.34	0.42
1:A:66:G:O4'	1:A:173:U:C4	2.72	0.42
6:F:9:VAL:HG22	6:F:60:PHE:CD2	2.55	0.42
1:A:841:U:H5'	1:A:848:C:O4'	2.19	0.42
1:A:279:A:OP2	17:Q:95:TYR:OH	2.24	0.42
8:H:119:LEU:HD12	8:H:123:GLU:C	2.40	0.42
1:A:981:U:O4	1:A:1222:G:O6	2.37	0.42
13:M:125:ARG:O	13:M:125:ARG:HD2	2.18	0.42
2:B:230:VAL:CG1	2:B:231:GLU:N	2.82	0.42
12:L:126:LYS:O	12:L:128:ALA:N	2.53	0.42
1:A:1423:G:O2'	1:A:1424:C:H5'	2.18	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1250:A:C2	1:A:1287:A:C2	3.06	0.42
7:G:17:VAL:CG1	7:G:18:TYR:HD1	2.28	0.42
1:A:1065:U:H5	1:A:1190:G:N3	2.18	0.42
3:C:204:LEU:HD22	3:C:205:GLY:N	2.34	0.42
3:C:3:ASN:HD22	3:C:3:ASN:N	2.15	0.42
10:J:24:VAL:CG1	10:J:24:VAL:O	2.67	0.42
2:B:205:ASP:OD1	2:B:205:ASP:N	2.52	0.42
14:N:10:ALA:C	14:N:12:ARG:N	2.72	0.42
13:M:87:TYR:C	13:M:89:GLY:H	2.23	0.42
1:A:366:C:O2'	1:A:367:U:H5''	2.18	0.42
1:A:1237:C:C4'	1:A:1334:G:N2	2.83	0.42
1:A:35:G:H21	12:L:118:SER:CB	2.32	0.42
12:L:111:LYS:O	12:L:112:ASP:CB	2.67	0.42
11:K:33:THR:CB	11:K:39:PRO:HA	2.49	0.42
1:A:518:C:H4'	1:A:519:C:H6	1.84	0.42
1:A:1002:G:H2'	1:A:1003:G:C1'	2.48	0.42
1:A:1211:U:H1'	1:A:1213:A:N3	2.33	0.42
13:M:97:PRO:HA	13:M:110:ARG:HD3	2.01	0.42
1:A:1037:C:H2'	1:A:1038:C:C6	2.53	0.42
4:D:55:ALA:O	4:D:58:LEU:HB3	2.19	0.42
21:U:13:ILE:O	21:U:16:GLY:N	2.51	0.42
16:P:26:ARG:HD3	16:P:26:ARG:HA	1.92	0.42
1:A:1354:C:H2'	1:A:1355:G:C8	2.51	0.42
3:C:174:PRO:HG2	3:C:177:THR:CG2	2.49	0.42
8:H:14:ARG:HG2	8:H:18:ARG:HE	1.84	0.42
1:A:1131:G:H1	1:A:1143:G:H21	1.66	0.42
1:A:1148:U:C4	1:A:1149:C:C2	3.07	0.42
10:J:9:ARG:HG2	10:J:9:ARG:HH11	1.84	0.42
2:B:178:ARG:O	2:B:179:LYS:C	2.58	0.42
19:S:15:LEU:O	19:S:19:VAL:HG12	2.19	0.42
15:O:76:GLU:C	15:O:78:TYR:N	2.72	0.42
16:P:1:MET:HE1	16:P:3:LYS:HE2	2.01	0.42
1:A:504:C:C2	1:A:542:G:N2	2.87	0.42
4:D:21:LEU:O	4:D:22:LYS:HG2	2.20	0.42
20:T:36:LEU:HD22	20:T:55:ILE:HG23	2.01	0.42
17:Q:70:ARG:CG	17:Q:70:ARG:NH1	2.82	0.42
1:A:795:C:H5''	1:A:796:C:OP2	2.19	0.42
17:Q:17:LYS:HA	17:Q:46:ASP:O	2.19	0.42
10:J:12:ASP:HB3	10:J:15:THR:CG2	2.50	0.42
1:A:743:U:H2'	1:A:744:C:C6	2.54	0.42
4:D:114:ARG:HB2	4:D:114:ARG:NH1	2.32	0.42
20:T:77:ALA:O	20:T:78:ALA:C	2.58	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1095:U:OP1	1:A:1108:G:N2	2.52	0.42
11:K:27:ASN:CG	11:K:28:THR:H	2.23	0.42
1:A:887:G:H2'	1:A:888:G:H5'	2.01	0.42
2:B:240:GLN:N	2:B:240:GLN:CD	2.72	0.42
7:G:14:PRO:O	7:G:15:ASP:HB3	2.19	0.42
11:K:48:ILE:HG21	11:K:63:LEU:CD1	2.48	0.42
2:B:206:ASP:O	2:B:208:ILE:N	2.52	0.42
2:B:237:ALA:C	2:B:239:VAL:N	2.72	0.42
3:C:83:ARG:O	3:C:85:ARG:N	2.47	0.42
16:P:4:ILE:CG1	16:P:64:ALA:HB1	2.42	0.42
5:E:80:ILE:HD11	5:E:91:LEU:CG	2.49	0.42
18:R:51:LEU:O	18:R:56:THR:HG23	2.20	0.42
5:E:148:VAL:HG13	5:E:152:ARG:NH2	2.35	0.42
1:A:520:A:OP1	12:L:52:LEU:HD12	2.19	0.42
4:D:128:VAL:O	4:D:129:ASN:HB2	2.20	0.42
11:K:50:TYR:CE2	11:K:54:ARG:NH2	2.88	0.42
1:A:353:A:H5'	1:A:353:A:C8	2.54	0.42
1:A:451:A:C5	1:A:481:G:C5	3.08	0.42
13:M:74:VAL:HG23	13:M:75:ALA:N	2.34	0.42
13:M:81:LEU:CD2	13:M:81:LEU:H	2.33	0.42
1:A:456:C:C4	1:A:457:C:N4	2.88	0.42
13:M:52:GLU:O	13:M:53:VAL:C	2.57	0.42
3:C:43:LEU:HD12	3:C:43:LEU:N	2.34	0.42
1:A:281:G:O2'	1:A:282:A:H8	2.03	0.42
1:A:50:A:H4'	1:A:51:A:O3'	2.20	0.42
3:C:9:GLY:HA3	14:N:49:HIS:CA	2.50	0.42
1:A:1150:U:O2	1:A:1150:U:C2'	2.67	0.42
9:I:81:ILE:O	9:I:81:ILE:CG2	2.67	0.42
2:B:15:VAL:HG23	2:B:16:HIS:HD1	1.83	0.42
2:B:55:PHE:HA	2:B:58:ILE:HD12	2.01	0.42
12:L:37:CYS:HB3	12:L:80:HIS:O	2.20	0.42
19:S:78:ARG:HG2	19:S:78:ARG:NH1	2.34	0.42
1:A:61:G:OP2	1:A:61:G:O4'	2.37	0.42
15:O:27:VAL:O	15:O:30:ALA:HB3	2.19	0.42
15:O:27:VAL:O	15:O:30:ALA:N	2.52	0.42
1:A:1086:U:O5'	1:A:1086:U:H6	2.01	0.42
13:M:22:ILE:CG2	13:M:66:LEU:HD23	2.50	0.42
1:A:356:A:H1'	1:A:368:U:O2'	2.20	0.42
1:A:1020:U:H2'	1:A:1021:G:C8	2.55	0.42
3:C:156:ARG:N	3:C:196:LEU:HD22	2.33	0.42
1:A:250:A:H8	1:A:250:A:O5'	2.03	0.42
4:D:153:ARG:HH12	4:D:181:MET:HB2	1.84	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1263:C:H2'	1:A:1264:C:H6	1.84	0.42
5:E:112:LEU:C	5:E:114:GLY:H	2.23	0.42
1:A:411:A:C4	1:A:413:G:H1'	2.55	0.42
1:A:1308:U:OP1	13:M:98:VAL:N	2.52	0.42
1:A:1027:C:H2'	1:A:1028:C:C6	2.54	0.42
4:D:200:GLU:CD	4:D:200:GLU:N	2.73	0.42
4:D:106:TYR:CD2	4:D:106:TYR:C	2.92	0.42
1:A:1539:C:N4	7:G:82:GLY:HA2	2.35	0.42
1:A:1350:A:H2'	1:A:1351:U:C6	2.51	0.42
7:G:45:ASP:C	7:G:47:CYS:H	2.22	0.42
1:A:1064:G:C2	1:A:1066:C:N4	2.87	0.42
14:N:29:ARG:CZ	14:N:40:CYS:HB2	2.49	0.42
1:A:1152:A:C4'	10:J:13:HIS:HE2	2.33	0.42
1:A:1115:C:C2'	1:A:1116:C:H5'	2.49	0.42
1:A:390:C:O5'	1:A:390:C:H6	2.03	0.42
20:T:41:VAL:C	20:T:43:LEU:N	2.72	0.42
15:O:57:LEU:HD12	15:O:57:LEU:N	2.16	0.42
17:Q:63:ARG:HG2	17:Q:64:PRO:CD	2.43	0.42
1:A:1196:U:OP1	1:A:1197:G:H5'	2.20	0.42
1:A:913:A:HO2'	1:A:914:A:P	2.43	0.42
1:A:190:U:C2	20:T:105:SER:HB2	2.55	0.42
13:M:81:LEU:HD23	13:M:81:LEU:H	1.85	0.42
1:A:778:G:C6	1:A:779:C:C4	3.08	0.42
1:A:1431:C:C2	1:A:1470:G:N2	2.88	0.42
4:D:81:GLU:HA	4:D:84:LYS:HE2	2.02	0.42
1:A:293:G:H4'	1:A:609:A:N1	2.34	0.42
17:Q:50:LYS:HD2	17:Q:51:TYR:CE1	2.55	0.42
6:F:38:GLU:HB2	6:F:64:GLN:O	2.19	0.42
1:A:1285:A:H8	1:A:1285:A:OP1	2.02	0.42
7:G:45:ASP:C	7:G:47:CYS:N	2.73	0.42
3:C:11:ARG:NH1	3:C:177:THR:O	2.53	0.42
3:C:9:GLY:HA3	14:N:49:HIS:HB2	2.00	0.42
14:N:29:ARG:O	14:N:31:ARG:N	2.53	0.42
14:N:53:LEU:HB3	14:N:56:VAL:CG2	2.50	0.42
14:N:58:LYS:HB3	14:N:58:LYS:HZ3	1.85	0.42
2:B:16:HIS:CE1	2:B:210:SER:HB2	2.55	0.42
2:B:17:PHE:CD1	2:B:18:GLY:N	2.87	0.42
12:L:37:CYS:SG	12:L:56:ALA:HB1	2.60	0.42
1:A:956:U:C2'	1:A:957:U:H5'	2.50	0.42
1:A:994:A:C8	1:A:994:A:OP1	2.73	0.42
19:S:11:VAL:HG13	19:S:15:LEU:HD11	2.01	0.42
1:A:391:G:C6	1:A:392:G:N7	2.88	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
16:P:55:ARG:O	16:P:58:TYR:CB	2.65	0.42
15:O:33:THR:HG22	15:O:37:ASN:ND2	2.24	0.42
20:T:50:GLU:HG2	20:T:100:ILE:HB	2.00	0.42
8:H:39:LEU:O	8:H:40:ALA:C	2.57	0.42
8:H:134:ILE:HG22	8:H:135:CYS:N	2.35	0.42
1:A:17:U:C4'	1:A:1080:A:O4'	2.68	0.42
23:Y:36:C:N3	23:Y:37:C:C6	2.88	0.42
1:A:1205:U:H4'	3:C:195:VAL:CG2	2.49	0.42
9:I:42:ARG:NH2	9:I:75:ASP:OD2	2.52	0.42
13:M:11:ARG:HG3	13:M:12:ASN:N	2.35	0.42
1:A:411:A:H2'	1:A:413:G:C8	2.55	0.42
1:A:280:C:H4'	1:A:281:G:OP2	2.20	0.42
1:A:1256:A:O3'	1:A:1257:U:H4'	2.20	0.42
8:H:119:LEU:CD1	8:H:124:ALA:HA	2.50	0.42
1:A:284:G:C4	1:A:285:G:C8	3.07	0.42
6:F:62:TRP:O	6:F:63:TYR:CD1	2.73	0.42
16:P:6:LEU:N	16:P:6:LEU:HD12	2.34	0.42
1:A:401:C:H2'	1:A:402:G:H8	1.85	0.42
3:C:183:ASP:OD2	3:C:184:TYR:N	2.53	0.42
3:C:6:HIS:HA	3:C:7:PRO:HD2	1.74	0.42
2:B:67:THR:HG22	2:B:68:ILE:N	2.34	0.42
10:J:46:ARG:NE	14:N:61:TRP:CH2	2.88	0.42
11:K:58:PRO:HA	11:K:90:GLY:HA3	2.02	0.42
2:B:91:PRO:HG2	2:B:155:LEU:CG	2.50	0.42
4:D:57:ARG:HE	4:D:205:GLU:CD	2.21	0.42
5:E:80:ILE:HD12	5:E:91:LEU:HB2	2.00	0.42
1:A:18:C:O2'	1:A:19:C:H5'	2.19	0.42
2:B:167:PRO:HG2	2:B:192:SER:CB	2.50	0.42
1:A:512:U:C2	1:A:540:G:N2	2.88	0.42
1:A:913:A:C4'	1:A:914:A:O5'	2.61	0.42
5:E:41:VAL:HG11	5:E:113:ALA:CA	2.50	0.42
17:Q:27:PHE:HB2	17:Q:28:PRO:HD2	2.01	0.42
1:A:1090:U:N3	1:A:1091:U:C5	2.88	0.42
1:A:160:A:C6	1:A:161:A:C2	3.08	0.42
2:B:132:LYS:HG2	2:B:135:GLN:NE2	2.35	0.42
1:A:122:G:C2	1:A:123:C:C2	3.08	0.42
1:A:317:G:C6	1:A:318:G:N7	2.88	0.42
7:G:49:ILE:HG22	7:G:49:ILE:O	2.20	0.42
14:N:58:LYS:HB3	14:N:58:LYS:NZ	2.35	0.42
12:L:71:PRO:O	12:L:102:ARG:HD2	2.20	0.42
12:L:46:LYS:HG2	12:L:92:ASP:O	2.20	0.42
19:S:15:LEU:HD12	19:S:15:LEU:C	2.40	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:G:104:LEU:HA	7:G:104:LEU:HD23	1.82	0.42
4:D:205:GLU:O	4:D:207:TYR:N	2.53	0.42
1:A:1197:G:OP1	1:A:1198:G:OP2	2.38	0.42
11:K:33:THR:HB	11:K:38:ASN:C	2.41	0.42
4:D:78:LEU:CA	4:D:81:GLU:HG2	2.47	0.42
1:A:281:G:HO2'	1:A:282:A:P	2.38	0.42
1:A:939:G:O3'	7:G:102:ARG:NH2	2.53	0.42
4:D:177:ASP:O	4:D:177:ASP:OD1	2.38	0.42
3:C:101:LEU:CD2	3:C:101:LEU:C	2.88	0.42
1:A:259:G:O2'	1:A:260:G:H5'	2.20	0.42
3:C:67:THR:O	3:C:68:VAL:C	2.58	0.42
7:G:148:ASN:C	7:G:150:ALA:N	2.73	0.42
1:A:799:G:O2'	1:A:800:G:H5'	2.20	0.42
1:A:649:G:O2'	1:A:650:G:H5'	2.20	0.42
8:H:122:ARG:HH11	8:H:122:ARG:HG2	1.84	0.42
14:N:57:ARG:CG	14:N:58:LYS:H	2.33	0.41
2:B:170:GLU:C	2:B:172:ILE:HD12	2.41	0.41
2:B:56:ARG:CB	2:B:56:ARG:HH11	2.33	0.41
3:C:91:LEU:HD11	3:C:99:VAL:O	2.20	0.41
5:E:127:ASN:HA	5:E:128:PRO:HD2	1.90	0.41
20:T:50:GLU:HA	20:T:100:ILE:HG22	2.01	0.41
15:O:39:LEU:HD12	15:O:59:MET:HE2	2.02	0.41
1:A:231:G:C2	1:A:232:G:C8	3.08	0.41
1:A:264:U:H2'	1:A:265:G:C5'	2.50	0.41
1:A:1405:G:O2'	1:A:1406:U:H5'	2.19	0.41
5:E:12:LEU:O	5:E:30:ALA:HA	2.20	0.41
5:E:53:LEU:O	5:E:57:LYS:HB2	2.20	0.41
1:A:81:U:O2'	1:A:82:U:OP1	2.35	0.41
1:A:1191:A:C4	1:A:1192:C:H5	2.38	0.41
2:B:92:TYR:N	2:B:151:GLY:O	2.54	0.41
5:E:36:ASP:OD1	5:E:38:GLN:N	2.39	0.41
1:A:169:C:O2'	1:A:170:U:H5'	2.19	0.41
6:F:33:TYR:HD1	6:F:75:LEU:HD22	1.84	0.41
13:M:100:GLY:O	13:M:101:GLN:HG3	2.19	0.41
17:Q:33:GLY:O	17:Q:34:LYS:C	2.57	0.41
1:A:582:U:H2'	1:A:583:A:O4'	2.20	0.41
15:O:12:ILE:O	15:O:15:PHE:N	2.50	0.41
4:D:117:ALA:O	4:D:121:VAL:HG23	2.20	0.41
3:C:201:TYR:N	3:C:201:TYR:HD1	2.18	0.41
10:J:51:ARG:CZ	10:J:61:GLU:HB2	2.50	0.41
12:L:43:VAL:O	12:L:45:PRO:HD3	2.19	0.41
7:G:93:PRO:CG	7:G:94:ARG:H	2.31	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:E:120:THR:O	5:E:121:LYS:CB	2.68	0.41
15:O:53:HIS:O	15:O:57:LEU:CD1	2.69	0.41
1:A:1331:G:O2'	1:A:1332:A:H8	2.02	0.41
1:A:20:U:C2	1:A:21:G:C8	3.07	0.41
9:I:97:LYS:HD3	9:I:102:LEU:HD11	2.02	0.41
20:T:72:LEU:O	20:T:73:HIS:O	2.39	0.41
1:A:358:U:O2'	1:A:359:U:H5'	2.20	0.41
6:F:25:ILE:CD1	6:F:82:ARG:HD2	2.48	0.41
8:H:105:ARG:NH1	8:H:105:ARG:CG	2.81	0.41
1:A:1508:G:C5	1:A:1509:C:C5	3.08	0.41
20:T:45:GLN:HG2	20:T:91:LEU:HD23	2.02	0.41
1:A:58:C:H3'	1:A:58:C:H6	1.85	0.41
1:A:243:A:H4'	1:A:244:U:O5'	2.19	0.41
1:A:1379:G:O2'	1:A:1380:U:H5'	2.20	0.41
17:Q:4:LYS:HE3	17:Q:6:LEU:HD21	2.01	0.41
1:A:623:C:H6	1:A:623:C:O5'	2.03	0.41
1:A:1385:G:C2'	1:A:1386:G:H5'	2.50	0.41
1:A:836:G:C6	1:A:851:G:C6	3.08	0.41
1:A:1372:U:OP1	9:I:71:SER:N	2.50	0.41
9:I:109:VAL:HG23	9:I:109:VAL:O	2.20	0.41
1:A:1075:C:H5''	2:B:179:LYS:NZ	2.35	0.41
2:B:100:GLY:O	2:B:104:ASN:N	2.47	0.41
13:M:89:GLY:O	13:M:93:ARG:HG3	2.19	0.41
19:S:64:GLU:O	19:S:66:MET:N	2.53	0.41
3:C:22:TRP:CH2	3:C:32:LEU:HB2	2.54	0.41
7:G:69:VAL:C	7:G:138:LYS:HG3	2.41	0.41
20:T:36:LEU:O	20:T:39:LYS:HB3	2.20	0.41
20:T:53:LEU:O	20:T:54:LYS:C	2.58	0.41
12:L:26:ALA:O	12:L:33:ARG:HD2	2.20	0.41
1:A:639:G:H2'	1:A:640:A:H8	1.86	0.41
12:L:121:GLY:O	12:L:122:THR:HB	2.20	0.41
1:A:489:C:H2'	1:A:490:G:C8	2.50	0.41
1:A:866:C:C4	1:A:867:G:H1'	2.55	0.41
6:F:77:ARG:CG	6:F:78:GLU:N	2.83	0.41
1:A:745:C:O2'	1:A:746:A:H5'	2.20	0.41
1:A:944:G:N2	1:A:1338:G:C8	2.87	0.41
1:A:556:C:O2'	1:A:557:G:H5'	2.20	0.41
5:E:47:LYS:HB2	5:E:47:LYS:HE3	1.75	0.41
1:A:41:G:O2'	1:A:42:G:H5'	2.20	0.41
15:O:48:LYS:HE3	15:O:48:LYS:HB2	1.87	0.41
14:N:42:ILE:O	14:N:46:GLU:HG2	2.20	0.41
14:N:44:LEU:O	14:N:45:ARG:C	2.58	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1145:C:O2'	1:A:1146:A:P	2.78	0.41
2:B:58:ILE:O	2:B:59:GLU:C	2.58	0.41
1:A:363:A:N6	1:A:364:A:C6	2.88	0.41
11:K:79:SER:OG	11:K:106:LYS:HE3	2.20	0.41
20:T:53:LEU:HD12	20:T:100:ILE:HG23	2.02	0.41
1:A:1408:A:C6	1:A:1494:G:C6	3.09	0.41
1:A:1002:G:C4	1:A:1003:G:H1'	2.55	0.41
1:A:1005:A:C4	1:A:1026:G:N2	2.88	0.41
1:A:490:G:C6	1:A:491:G:N7	2.88	0.41
2:B:136:VAL:O	2:B:139:LYS:HB3	2.20	0.41
3:C:16:ARG:HH11	3:C:16:ARG:CA	2.33	0.41
1:A:294:U:H2'	1:A:295:C:C6	2.55	0.41
1:A:186:C:H2'	1:A:187:C:H6	1.84	0.41
15:O:13:GLN:O	15:O:15:PHE:N	2.52	0.41
7:G:152:ALA:C	7:G:154:TYR:H	2.23	0.41
10:J:76:ASN:C	10:J:78:ASN:H	2.24	0.41
12:L:78:GLN:CD	12:L:78:GLN:H	2.23	0.41
12:L:80:HIS:O	12:L:81:SER:O	2.38	0.41
1:A:139:G:H5'	1:A:139:G:H8	1.85	0.41
1:A:986:A:H1'	19:S:54:GLY:O	2.20	0.41
4:D:20:TYR:CB	4:D:26:CYS:HB3	2.50	0.41
1:A:544:G:OP1	4:D:62:GLN:OE1	2.39	0.41
18:R:55:ARG:CB	18:R:55:ARG:NH1	2.82	0.41
1:A:694:A:H2'	1:A:695:A:O4'	2.21	0.41
1:A:1054:C:H3'	1:A:1054:C:H6	1.84	0.41
1:A:1492:A:N3	22:X:2:G:O2'	2.43	0.41
4:D:156:GLU:C	4:D:160:GLN:HE21	2.24	0.41
12:L:101:VAL:C	12:L:103:GLY:H	2.24	0.41
1:A:353:A:H5'	1:A:353:A:H8	1.86	0.41
1:A:460:G:H1'	1:A:472:A:H61	1.84	0.41
1:A:458:C:H2'	1:A:460:G:H8	1.85	0.41
1:A:1433:A:O2'	1:A:1434:A:H5'	2.20	0.41
2:B:79:ASP:C	2:B:81:VAL:N	2.72	0.41
6:F:91:VAL:HG21	18:R:72:ARG:HH12	1.85	0.41
1:A:1060:C:O2'	1:A:1061:G:H5'	2.20	0.41
1:A:261:U:OP1	20:T:79:ARG:NH2	2.54	0.41
17:Q:94:ASN:O	17:Q:95:TYR:C	2.59	0.41
1:A:511:C:O3'	4:D:43:HIS:CE1	2.73	0.41
7:G:22:LEU:HG	7:G:62:PHE:CE2	2.55	0.41
3:C:113:ALA:CB	3:C:114:PRO:HD3	2.39	0.41
1:A:1125:U:C5	10:J:73:ASP:OD2	2.68	0.41
18:R:86:VAL:O	18:R:87:ARG:HB3	2.21	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:L:47:LYS:CG	12:L:48:PRO:HD3	2.50	0.41
14:N:14:PRO:HG2	14:N:16:PHE:H	1.86	0.41
19:S:67:VAL:C	19:S:69:HIS:H	2.24	0.41
16:P:4:ILE:HG21	16:P:74:LEU:HD11	2.01	0.41
3:C:130:VAL:HB	3:C:134:ILE:CD1	2.43	0.41
3:C:130:VAL:O	3:C:132:ARG:N	2.53	0.41
1:A:1183:A:O2'	1:A:1184:G:OP1	2.34	0.41
15:O:54:ARG:O	15:O:55:GLY:C	2.59	0.41
1:A:1368:G:OP2	9:I:112:LYS:CD	2.63	0.41
5:E:152:ARG:HG2	8:H:43:GLY:HA3	2.03	0.41
8:H:36:LEU:CD2	8:H:36:LEU:N	2.61	0.41
1:A:131:C:O2'	1:A:262:A:H1'	2.20	0.41
1:A:359:U:O2'	1:A:360:A:H5'	2.20	0.41
1:A:521:G:H4'	12:L:73:GLU:CG	2.47	0.41
2:B:43:ASP:OD1	2:B:46:LYS:HE3	2.21	0.41
13:M:81:LEU:HA	13:M:84:ILE:CG1	2.51	0.41
3:C:127:ARG:O	3:C:128:PHE:HB2	2.20	0.41
13:M:55:ARG:HB2	13:M:55:ARG:HH11	1.86	0.41
17:Q:95:TYR:HD1	17:Q:95:TYR:N	2.19	0.41
12:L:32:PHE:CE1	12:L:86:ARG:HB2	2.55	0.41
17:Q:4:LYS:HE3	17:Q:6:LEU:CD2	2.50	0.41
13:M:45:VAL:C	13:M:47:ASP:N	2.74	0.41
1:A:588:G:C6	1:A:589:C:N4	2.89	0.41
1:A:1373:G:H8	1:A:1373:G:O5'	2.04	0.41
19:S:63:THR:O	19:S:66:MET:HG2	2.21	0.41
16:P:49:LEU:HD11	16:P:51:VAL:CG2	2.50	0.41
20:T:10:LEU:HD12	20:T:12:ALA:HB3	2.03	0.41
1:A:504:C:C2	1:A:542:G:C2	3.08	0.41
1:A:1364:U:O2'	1:A:1365:G:H5'	2.20	0.41
17:Q:69:LYS:C	17:Q:70:ARG:HG3	2.41	0.41
8:H:6:ILE:HB	8:H:85:ARG:NH1	2.36	0.41
1:A:1402:C:C5	1:A:1403:C:C5	3.09	0.41
1:A:419:C:H1'	1:A:425:G:N2	2.36	0.41
1:A:53:A:C2'	1:A:54:C:O5'	2.68	0.41
5:E:13:ILE:HG22	5:E:30:ALA:HB2	2.03	0.41
9:I:26:VAL:HG13	9:I:61:ALA:HB3	2.02	0.41
18:R:36:ASN:O	18:R:37:VAL:C	2.59	0.41
1:A:837:G:O2'	1:A:838:G:H5'	2.20	0.41
1:A:1444:C:C4	1:A:1445:C:C5	3.09	0.41
1:A:1231:G:O2'	1:A:1232:U:H5'	2.20	0.41
4:D:54:TYR:O	4:D:55:ALA:C	2.59	0.41
1:A:577:G:H1'	1:A:816:A:N3	2.36	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:761:G:N2	17:Q:105:ALA:HB2	2.36	0.41
1:A:415:A:H2'	1:A:416:G:C8	2.56	0.41
1:A:615:C:H2'	1:A:616:G:O5'	2.21	0.41
13:M:21:TYR:N	13:M:21:TYR:CD1	2.89	0.41
3:C:26:LYS:HE3	10:J:45:ARG:NH2	2.36	0.41
10:J:80:LYS:HD3	10:J:80:LYS:N	2.36	0.41
2:B:114:ARG:HE	2:B:118:LEU:HD11	1.85	0.41
2:B:209:ARG:HH21	2:B:239:VAL:CG1	2.30	0.41
2:B:53:ARG:HH12	2:B:199:TYR:HA	1.86	0.41
11:K:108:ILE:HB	18:R:88:LYS:H	1.85	0.41
12:L:55:VAL:CG1	12:L:67:THR:HB	2.51	0.41
1:A:1223:C:P	19:S:78:ARG:HH12	2.44	0.41
1:A:380:G:C2	1:A:384:G:C6	3.09	0.41
16:P:19:ILE:CG2	16:P:20:VAL:N	2.84	0.41
1:A:500:G:C6	1:A:501:C:C4	3.09	0.41
4:D:8:VAL:CG1	4:D:9:CYS:N	2.84	0.41
15:O:32:LEU:O	15:O:33:THR:C	2.58	0.41
1:A:1183:A:C2'	1:A:1184:G:OP1	2.69	0.41
5:E:137:GLU:OE1	5:E:141:GLN:OE1	2.39	0.41
1:A:129(A):G:C2	1:A:189(F):U:H5'	2.56	0.41
10:J:90:LEU:N	10:J:91:PRO:HD2	2.23	0.41
8:H:51:VAL:O	8:H:51:VAL:HG22	2.20	0.41
1:A:725:G:O2'	1:A:726:C:H5'	2.20	0.41
1:A:57:G:C5	1:A:58:C:N3	2.89	0.41
1:A:916:G:C2	1:A:917:G:N7	2.89	0.41
1:A:1447:A:H5''	1:A:1452:C:C5	2.56	0.41
2:B:132:LYS:HA	2:B:135:GLN:NE2	2.35	0.41
19:S:75:ALA:HA	19:S:76:PRO:HD2	1.90	0.41
10:J:44:VAL:HG13	10:J:45:ARG:N	2.35	0.41
7:G:120:ILE:H	7:G:120:ILE:HG13	1.48	0.41
1:A:398:C:O2'	1:A:399:G:H5'	2.20	0.41
4:D:104:VAL:O	4:D:105:VAL:C	2.59	0.41
4:D:3:ARG:NE	4:D:118:ARG:HH11	2.18	0.41
4:D:70:ILE:HD12	4:D:100:ARG:NE	2.35	0.41
3:C:115:LEU:O	3:C:116:VAL:C	2.58	0.41
14:N:57:ARG:HG2	14:N:58:LYS:N	2.35	0.41
1:A:1130:A:H61	1:A:1144:G:H21	1.67	0.41
1:A:1128:C:C5'	9:I:16:ARG:NH2	2.84	0.41
9:I:2:GLU:O	9:I:3:GLN:HG2	2.21	0.41
2:B:20:GLU:O	2:B:39:ILE:HG23	2.20	0.41
2:B:103:THR:OG1	2:B:176:GLU:HG2	2.20	0.41
1:A:1115:C:H1'	14:N:61:TRP:HB2	2.03	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:L:50:SER:O	12:L:51:ALA:HB2	2.21	0.41
1:A:1314:C:OP2	19:S:6:LYS:HD2	2.21	0.41
19:S:65:ASN:OD1	19:S:66:MET:N	2.54	0.41
1:A:376:G:N3	1:A:389:A:C2	2.89	0.41
3:C:87:LEU:C	3:C:89:GLU:N	2.74	0.41
16:P:2:VAL:HG13	16:P:64:ALA:H	1.86	0.41
5:E:102:ALA:HB1	5:E:106:PRO:HB2	2.03	0.41
5:E:120:THR:O	5:E:121:LYS:HB3	2.20	0.41
5:E:80:ILE:CD1	5:E:138:ALA:HB1	2.50	0.41
1:A:1276:G:H21	1:A:1282:C:C2'	2.34	0.41
12:L:27:LEU:HD23	12:L:33:ARG:NH1	2.36	0.41
1:A:1305:G:H5'	21:U:4:GLY:C	2.41	0.41
20:T:69:GLY:O	20:T:73:HIS:CD2	2.74	0.41
1:A:519:C:C2'	1:A:520:A:O5'	2.68	0.41
1:A:914:A:C6	1:A:915:A:C5	3.09	0.41
1:A:706:A:O4'	11:K:29:ILE:HG12	2.21	0.41
1:A:864:A:C6	1:A:865:A:N1	2.89	0.41
1:A:1425:U:H2'	1:A:1426:C:H6	1.78	0.41
1:A:967:C:H3'	1:A:968:A:C8	2.55	0.41
1:A:743:U:H2'	1:A:744:C:H6	1.85	0.41
1:A:187:C:O2'	20:T:89:ARG:NH1	2.44	0.41
10:J:55:LYS:O	10:J:56:HIS:HB2	2.21	0.41
1:A:59:A:H3'	1:A:331:G:H22	1.86	0.41
2:B:157:ARG:O	2:B:158:LEU:C	2.59	0.41
2:B:182:ILE:O	2:B:183:PRO:C	2.59	0.41
3:C:101:LEU:HD23	3:C:102:ASN:N	2.36	0.41
1:A:916:G:C2	1:A:917:G:C8	3.08	0.41
3:C:66:VAL:HG12	3:C:68:VAL:H	1.85	0.41
1:A:676:A:C1'	11:K:115:PRO:HB3	2.51	0.41
18:R:29:PHE:HE1	18:R:31:LEU:HD23	1.84	0.41
12:L:60:LEU:N	12:L:60:LEU:HD22	2.34	0.41
2:B:230:VAL:HG12	2:B:231:GLU:O	2.21	0.41
1:A:861:G:O2'	1:A:862:C:H5'	2.21	0.41
4:D:55:ALA:O	4:D:58:LEU:N	2.54	0.41
5:E:9:LYS:O	5:E:33:VAL:HG22	2.21	0.41
13:M:48:LEU:HD23	13:M:48:LEU:HA	1.97	0.41
1:A:711:G:H2'	1:A:712:A:C8	2.56	0.41
4:D:19:LEU:HD22	4:D:67:ILE:HG12	2.03	0.41
7:G:110:GLN:OE1	7:G:110:GLN:HA	2.21	0.41
7:G:111:ARG:NH1	7:G:122:HIS:HB3	2.36	0.41
3:C:5:ILE:HD13	3:C:6:HIS:N	2.35	0.41
8:H:11:THR:HG22	8:H:14:ARG:HH22	1.86	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:J:35:SER:CB	10:J:73:ASP:HB2	2.50	0.41
12:L:78:GLN:C	12:L:80:HIS:H	2.24	0.41
13:M:90:LEU:HA	13:M:93:ARG:CG	2.49	0.41
3:C:89:GLU:C	3:C:91:LEU:N	2.74	0.41
1:A:503:C:H2'	1:A:504:C:C6	2.56	0.41
4:D:15:GLU:OE1	4:D:59:ARG:NH2	2.54	0.41
1:A:1184:G:H2'	1:A:1185:G:H8	1.85	0.41
18:R:55:ARG:HB3	18:R:55:ARG:CZ	2.50	0.41
1:A:264:U:H2'	1:A:265:G:H5'	2.01	0.41
1:A:515:G:C5	1:A:516:U:C5	3.09	0.41
1:A:1392:G:C5	1:A:1393:U:C5	3.09	0.41
1:A:1118:C:O2	1:A:1179:A:C6	2.74	0.41
5:E:76:ILE:CG2	5:E:77:PRO:HD2	2.51	0.41
5:E:58:ALA:O	5:E:61:TYR:N	2.54	0.41
1:A:1431:C:C2	1:A:1470:G:C2	3.09	0.41
1:A:1471:G:H2'	1:A:1472:U:C6	2.57	0.41
17:Q:98:LEU:O	17:Q:99:SER:HB3	2.21	0.41
8:H:117:GLY:O	8:H:119:LEU:CD2	2.69	0.41
1:A:184:G:O4'	1:A:224:C:H4'	2.21	0.41
7:G:6:ARG:O	7:G:7:ALA:O	2.39	0.41
5:E:84:PHE:CE2	5:E:133:TYR:HB2	2.56	0.41
1:A:855:G:C6	1:A:856:C:C4	3.09	0.41
3:C:5:ILE:HB	3:C:6:HIS:H	1.49	0.40
8:H:14:ARG:NH1	8:H:14:ARG:HB3	2.36	0.40
1:A:1075:C:H5'	2:B:103:THR:HG21	2.03	0.40
2:B:115:LEU:O	2:B:119:GLU:HB3	2.20	0.40
3:C:70:VAL:C	3:C:106:VAL:HG23	2.41	0.40
3:C:24:ALA:HB1	3:C:28:GLN:CB	2.50	0.40
5:E:118:ILE:HG22	5:E:119:LEU:N	2.34	0.40
5:E:82:VAL:HG21	5:E:138:ALA:N	2.36	0.40
1:A:1367:C:H2'	1:A:1368:G:O5'	2.20	0.40
8:H:44:PHE:O	8:H:45:ILE:CG2	2.69	0.40
1:A:791:G:C2'	1:A:792:A:C5'	2.95	0.40
12:L:29:GLY:O	12:L:30:ALA:C	2.59	0.40
1:A:1005:A:H2'	1:A:1006:C:O4'	2.21	0.40
1:A:147:G:C2	1:A:148:G:C8	3.09	0.40
2:B:42:ILE:HD12	2:B:203:GLY:CA	2.48	0.40
1:A:81:U:OP1	1:A:81:U:H4'	2.21	0.40
1:A:428:G:H1'	1:A:429:U:OP2	2.20	0.40
1:A:1042:G:H2'	1:A:1043:C:C6	2.55	0.40
8:H:126:LYS:C	8:H:128:GLY:N	2.75	0.40
4:D:88:VAL:O	4:D:92:VAL:HG23	2.21	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:I:66:ARG:HG2	9:I:66:ARG:O	2.20	0.40
1:A:1029:C:H1'	1:A:1033:G:N2	2.35	0.40
1:A:552:U:H4'	12:L:86:ARG:O	2.21	0.40
1:A:661:G:C2'	1:A:662:G:H5'	2.51	0.40
1:A:570:G:C6	1:A:873:A:C2	3.09	0.40
1:A:1352:C:H2'	1:A:1353:G:C8	2.56	0.40
1:A:1190:G:OP1	3:C:5:ILE:N	2.54	0.40
1:A:1150:U:O3'	10:J:41:PRO:HA	2.21	0.40
9:I:49:PRO:O	9:I:52:ALA:HB3	2.22	0.40
2:B:142:LEU:CD1	2:B:146:GLN:NE2	2.82	0.40
3:C:71:ALA:N	3:C:106:VAL:HB	2.36	0.40
1:A:1011:G:O2'	1:A:1012:U:H5'	2.22	0.40
1:A:1015:A:H2'	1:A:1016:A:H8	1.82	0.40
7:G:103:TRP:O	7:G:104:LEU:C	2.58	0.40
18:R:53:ARG:HD3	18:R:63:GLN:HB2	2.02	0.40
1:A:17:U:O4'	1:A:1080:A:H1'	2.21	0.40
1:A:923:A:O4'	1:A:1398:A:C2	2.75	0.40
13:M:60:VAL:HG12	13:M:61:GLU:N	2.35	0.40
1:A:438:G:OP1	4:D:125:HIS:HE1	2.04	0.40
1:A:490:G:C2'	1:A:491:G:H5'	2.51	0.40
9:I:55:ALA:O	9:I:56:LEU:HB3	2.21	0.40
1:A:865:A:C5	1:A:866:C:C4	3.09	0.40
1:A:81:U:HO2'	1:A:82:U:P	2.44	0.40
1:A:1030:C:O2'	1:A:1030(A):G:H5'	2.20	0.40
12:L:7:ILE:O	12:L:11:VAL:N	2.48	0.40
1:A:189:G:O2'	1:A:189(A):C:H5'	2.20	0.40
4:D:184:LYS:HE3	4:D:184:LYS:HB2	1.86	0.40
1:A:1288:A:C2	1:A:1289:A:C5	3.09	0.40
7:G:41:ARG:O	7:G:43:PHE:N	2.55	0.40
3:C:177:THR:CG2	3:C:177:THR:O	2.68	0.40
3:C:3:ASN:N	3:C:3:ASN:ND2	2.69	0.40
3:C:3:ASN:C	3:C:4:LYS:HG2	2.40	0.40
14:N:47:LEU:HB2	14:N:53:LEU:HG	2.04	0.40
9:I:79:LEU:O	9:I:82:ALA:HB3	2.20	0.40
21:U:6:ARG:NH2	21:U:15:ARG:HH11	2.18	0.40
1:A:1326:C:P	21:U:12:LYS:NZ	2.94	0.40
1:A:106:C:C2	1:A:107:G:C8	3.09	0.40
7:G:71:PRO:O	7:G:96:GLN:HG3	2.21	0.40
15:O:24:SER:O	15:O:25:THR:C	2.58	0.40
12:L:89:ARG:NH1	12:L:97:ARG:HD3	2.37	0.40
8:H:111:ILE:C	8:H:112:LEU:HD12	2.42	0.40
1:A:98:G:C2'	1:A:99:U:H5'	2.51	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:686:U:C2	1:A:687:A:N7	2.90	0.40
20:T:56:MET:HE2	20:T:88:VAL:HG21	2.02	0.40
1:A:250:A:C4'	1:A:251:G:O5'	2.65	0.40
1:A:251:G:H4'	1:A:252:U:OP1	2.19	0.40
3:C:16:ARG:HH11	3:C:16:ARG:HA	1.86	0.40
8:H:51:VAL:HG11	8:H:60:ARG:HB2	2.02	0.40
5:E:37:ARG:HG2	5:E:37:ARG:HH11	1.86	0.40
20:T:86:ARG:O	20:T:89:ARG:N	2.54	0.40
1:A:247:G:OP2	17:Q:99:SER:HB2	2.21	0.40
1:A:281:G:O2'	1:A:282:A:C8	2.74	0.40
16:P:12:LYS:O	16:P:13:HIS:CB	2.69	0.40
1:A:644:G:C4	1:A:645:C:C6	3.09	0.40
1:A:549:C:C2	1:A:550:G:C8	3.09	0.40
5:E:95:ALA:HB1	5:E:96:PRO:HD2	2.02	0.40
1:A:575:G:OP1	1:A:575:G:H4'	2.21	0.40
7:G:17:VAL:HG12	7:G:18:TYR:N	2.36	0.40
7:G:17:VAL:C	7:G:19:GLY:H	2.25	0.40
1:A:1124:G:H3'	1:A:1145:C:H41	1.86	0.40
9:I:72:GLY:O	9:I:76:ALA:N	2.46	0.40
10:J:30:SER:OG	10:J:81:THR:HG23	2.21	0.40
2:B:114:ARG:HE	2:B:118:LEU:CD1	2.35	0.40
2:B:118:LEU:O	2:B:142:LEU:HG	2.21	0.40
2:B:19:HIS:O	2:B:20:GLU:HB2	2.21	0.40
12:L:102:ARG:HE	12:L:102:ARG:HB3	1.59	0.40
1:A:1220:G:OP1	19:S:37:ARG:NH1	2.54	0.40
1:A:564:C:OP1	12:L:15:ARG:NE	2.55	0.40
16:P:20:VAL:HG22	16:P:21:VAL:O	2.21	0.40
4:D:59:ARG:HH12	4:D:62:GLN:CB	2.34	0.40
5:E:139:LEU:C	5:E:141:GLN:N	2.74	0.40
11:K:72:ALA:HB1	11:K:77:MET:HG3	2.04	0.40
13:M:66:LEU:N	13:M:66:LEU:HD12	2.36	0.40
4:D:163:GLU:O	4:D:165:MET:N	2.54	0.40
6:F:18:GLN:N	6:F:18:GLN:HE21	2.19	0.40
1:A:104:G:H4'	1:A:174:C:O4'	2.21	0.40
6:F:74:ASP:OD1	6:F:77:ARG:HD3	2.20	0.40
1:A:1229:A:C2	1:A:1230:C:C4	3.09	0.40
6:F:101:ALA:HA	18:R:28:GLU:HB2	2.02	0.40
1:A:186:C:H2'	1:A:187:C:C5	2.56	0.40
7:G:90:GLU:O	7:G:91:VAL:CG2	2.68	0.40
17:Q:90:ILE:O	17:Q:93:GLN:N	2.55	0.40
1:A:559:A:H5'	1:A:561:U:OP1	2.20	0.40
18:R:83:GLU:OE1	18:R:83:GLU:HA	2.21	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:774:G:O2'	1:A:775:G:H5'	2.21	0.40
19:S:7:LYS:HB3	19:S:7:LYS:HE3	1.95	0.40
7:G:31:MET:CG	7:G:32:ARG:N	2.84	0.40
14:N:40:CYS:SG	14:N:43:CYS:SG	3.13	0.40
1:A:1129:C:O5'	1:A:1130:A:H5'	2.21	0.40
2:B:71:VAL:HB	2:B:164:VAL:HG22	2.04	0.40
1:A:1220:G:H21	19:S:54:GLY:HA2	1.87	0.40
16:P:21:VAL:HG12	16:P:33:ILE:CG1	2.51	0.40
7:G:138:LYS:HD3	7:G:138:LYS:O	2.21	0.40
15:O:32:LEU:HA	15:O:32:LEU:HD23	1.80	0.40
1:A:1365:G:C2'	1:A:1366:C:H5'	2.51	0.40
1:A:1368:G:C5'	9:I:112:LYS:O	2.69	0.40
1:A:1080:A:C8	1:A:1081:G:H1'	2.57	0.40
5:E:20:GLN:O	5:E:23:GLY:O	2.39	0.40
1:A:1500:A:O2'	1:A:1501:C:H5'	2.22	0.40
1:A:685:G:C2	1:A:686:U:C4	3.10	0.40
1:A:492:G:O2'	1:A:493:G:H5'	2.21	0.40
8:H:105:ARG:HD2	8:H:105:ARG:HA	1.96	0.40
1:A:333:G:H4'	20:T:16:HIS:HE2	1.87	0.40
20:T:16:HIS:ND1	20:T:16:HIS:C	2.74	0.40
1:A:1072:G:H2'	1:A:1073:U:O4'	2.21	0.40
13:M:54:VAL:HG12	13:M:55:ARG:N	2.36	0.40
6:F:69:GLU:HA	6:F:72:VAL:CG2	2.52	0.40
17:Q:95:TYR:CD1	17:Q:95:TYR:N	2.88	0.40
12:L:7:ILE:O	12:L:8:ASN:C	2.60	0.40
1:A:880:C:H3'	1:A:880:C:H6	1.84	0.40
1:A:861:G:H8	1:A:861:G:O5'	2.04	0.40
1:A:1460:A:H2'	1:A:1461:G:O4'	2.22	0.40
1:A:606:G:O5'	1:A:606:G:H8	2.05	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%)	134 (58%)	72 (31%)	27 (12%)	1	4
3	C	205/239 (86%)	116 (57%)	42 (20%)	47 (23%)	0	0
4	D	206/209 (99%)	125 (61%)	47 (23%)	34 (16%)	0	0
5	E	149/162 (92%)	109 (73%)	25 (17%)	15 (10%)	1	6
6	F	99/101 (98%)	72 (73%)	24 (24%)	3 (3%)	7	37
7	G	153/156 (98%)	78 (51%)	44 (29%)	31 (20%)	0	0
8	H	136/138 (99%)	105 (77%)	23 (17%)	8 (6%)	2	17
9	I	125/128 (98%)	80 (64%)	34 (27%)	11 (9%)	1	8
10	J	97/105 (92%)	56 (58%)	24 (25%)	17 (18%)	0	0
11	K	117/129 (91%)	83 (71%)	25 (21%)	9 (8%)	1	11
12	L	123/135 (91%)	70 (57%)	33 (27%)	20 (16%)	0	0
13	M	123/126 (98%)	74 (60%)	29 (24%)	20 (16%)	0	0
14	N	58/61 (95%)	31 (53%)	18 (31%)	9 (16%)	0	1
15	O	86/89 (97%)	43 (50%)	38 (44%)	5 (6%)	3	18
16	P	82/88 (93%)	52 (63%)	22 (27%)	8 (10%)	1	6
17	Q	102/105 (97%)	70 (69%)	26 (26%)	6 (6%)	2	17
18	R	71/88 (81%)	47 (66%)	15 (21%)	9 (13%)	0	3
19	S	79/93 (85%)	47 (60%)	17 (22%)	15 (19%)	0	0
20	T	97/106 (92%)	52 (54%)	37 (38%)	8 (8%)	1	10
21	U	23/27 (85%)	17 (74%)	3 (13%)	3 (13%)	0	3
All	All	2364/2541 (93%)	1461 (62%)	598 (25%)	305 (13%)	0	3

All (305) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	B	9	GLU
2	B	15	VAL
2	B	16	HIS
2	B	17	PHE
2	B	24	TRP
2	B	214	ILE
3	C	3	ASN
3	C	14	ILE
3	C	56	ASP
3	C	68	VAL
3	C	77	ILE

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Mol	Chain	Res	Type
3	C	113	ALA
3	C	128	PHE
3	C	131	ARG
3	C	146	ALA
3	C	168	ALA
3	C	179	ARG
3	C	204	LEU
4	D	25	ARG
4	D	47	ARG
4	D	88	VAL
4	D	154	ASN
5	E	78	HIS
5	E	153	LYS
7	G	4	ARG
7	G	6	ARG
7	G	7	ALA
7	G	9	VAL
7	G	16	LEU
7	G	17	VAL
7	G	19	GLY
7	G	33	ASP
7	G	39	ALA
8	H	46	LYS
8	H	51	VAL
8	H	97	VAL
8	H	105	ARG
9	I	124	GLN
9	I	126	SER
10	J	58	ASP
10	J	78	ASN
10	J	79	ARG
11	K	35	PRO
11	K	52	GLY
12	L	27	LEU
12	L	47	LYS
12	L	56	ALA
12	L	113	ARG
12	L	116	SER
12	L	122	THR
12	L	125	PRO
12	L	126	LYS
12	L	127	GLU

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Mol	Chain	Res	Type
13	M	27	LYS
13	M	45	VAL
13	M	63	THR
13	M	81	LEU
14	N	9	LYS
14	N	33	VAL
15	O	3	ILE
16	P	34	GLU
16	P	53	VAL
16	P	54	GLU
16	P	64	ALA
16	P	83	GLU
17	Q	69	LYS
17	Q	81	ARG
17	Q	99	SER
18	R	21	LYS
18	R	22	VAL
18	R	23	LYS
19	S	6	LYS
19	S	47	HIS
20	T	49	ALA
20	T	95	ALA
21	U	3	LYS
2	B	52	GLU
2	B	89	GLY
2	B	135	GLN
2	B	191	ASP
2	B	195	ASP
2	B	208	ILE
2	B	215	LEU
3	C	4	LYS
3	C	12	LEU
3	C	30	ARG
3	C	39	ILE
3	C	61	ALA
3	C	84	ILE
3	C	127	ARG
3	C	130	VAL
3	C	157	ILE
3	C	202	ILE
3	C	203	PHE
4	D	29	PRO

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Mol	Chain	Res	Type
4	D	42	GLN
4	D	43	HIS
4	D	44	GLY
4	D	95	GLY
4	D	153	ARG
4	D	169	LYS
5	E	73	ASN
5	E	84	PHE
5	E	140	ARG
5	E	146	ALA
6	F	70	ASP
7	G	40	ALA
7	G	78	ARG
7	G	90	GLU
7	G	109	ASN
8	H	24	THR
9	I	81	ILE
9	I	118	LYS
10	J	34	VAL
10	J	44	VAL
10	J	46	ARG
10	J	65	LEU
10	J	83	GLU
11	K	62	GLN
11	K	117	ASN
12	L	41	ARG
12	L	81	SER
12	L	121	GLY
13	M	6	GLY
13	M	43	THR
13	M	67	GLU
13	M	80	ARG
13	M	100	GLY
13	M	118	ALA
14	N	27	CYS
14	N	28	GLY
14	N	30	ALA
15	O	78	TYR
16	P	81	ARG
17	Q	80	GLY
18	R	37	VAL
19	S	3	ARG

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Mol	Chain	Res	Type
19	S	28	LYS
19	S	65	ASN
19	S	67	VAL
20	T	73	HIS
20	T	102	GLY
21	U	17	THR
2	B	26	PRO
2	B	62	ALA
2	B	108	ILE
2	B	130	ARG
2	B	207	ALA
2	B	229	VAL
2	B	238	LEU
3	C	16	ARG
3	C	43	LEU
3	C	47	LEU
3	C	81	GLY
3	C	96	GLY
3	C	98	ASN
3	C	144	SER
4	D	4	TYR
4	D	9	CYS
4	D	10	ARG
4	D	20	TYR
4	D	36	ARG
4	D	39	PRO
4	D	97	LEU
4	D	208	SER
5	E	17	ALA
5	E	52	PRO
5	E	53	LEU
7	G	5	ARG
7	G	67	GLU
9	I	31	GLN
9	I	34	ASN
9	I	51	ARG
9	I	54	ASP
9	I	119	ALA
10	J	55	LYS
10	J	60	ARG
10	J	86	MET
10	J	90	LEU

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Mol	Chain	Res	Type
11	K	13	GLN
11	K	38	ASN
12	L	11	VAL
12	L	91	LYS
12	L	105	TYR
12	L	108	ALA
12	L	112	ASP
13	M	14	ARG
13	M	37	THR
13	M	44	ARG
13	M	61	GLU
14	N	46	GLU
15	O	14	GLU
15	O	80	ALA
17	Q	66	SER
18	R	41	LYS
18	R	48	GLY
19	S	29	ARG
19	S	43	GLU
20	T	34	LYS
21	U	25	LYS
2	B	8	LYS
2	B	132	LYS
3	C	5	ILE
3	C	24	ALA
3	C	26	LYS
3	C	40	ARG
3	C	93	LYS
3	C	103	VAL
3	C	123	GLN
4	D	63	LYS
4	D	83	SER
4	D	164	ALA
4	D	178	VAL
4	D	206	PHE
7	G	59	LEU
7	G	77	SER
7	G	147	ALA
7	G	150	ALA
8	H	40	ALA
9	I	46	ALA
10	J	23	ILE

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Mol	Chain	Res	Type
10	J	38	ILE
11	K	15	ALA
11	K	118	GLY
12	L	106	ASP
13	M	11	ARG
13	M	88	ARG
14	N	23	ARG
18	R	20	ALA
18	R	54	ARG
18	R	63	GLN
19	S	11	VAL
19	S	30	LEU
19	S	55	LYS
19	S	64	GLU
20	T	9	ASN
20	T	103	GLY
2	B	142	LEU
2	B	232	PRO
3	C	48	TYR
3	C	51	GLY
3	C	76	VAL
3	C	122	GLU
3	C	167	TRP
4	D	5	ILE
4	D	7	PRO
4	D	24	GLU
4	D	31	CYS
4	D	53	ASP
4	D	128	VAL
4	D	158	ILE
5	E	16	THR
5	E	121	LYS
6	F	57	GLN
7	G	25	ALA
7	G	42	ILE
7	G	63	LYS
7	G	69	VAL
7	G	83	ALA
7	G	104	LEU
10	J	24	VAL
10	J	72	VAL
10	J	73	ASP

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Mol	Chain	Res	Type
14	N	29	ARG
15	O	88	ARG
17	Q	64	PRO
2	B	123	ALA
3	C	129	ALA
4	D	92	VAL
5	E	98	THR
7	G	93	PRO
7	G	119	ARG
8	H	73	ASP
13	M	85	GLY
14	N	15	LYS
16	P	36	ILE
19	S	8	GLY
20	T	79	ARG
2	B	131	PRO
3	C	207	VAL
7	G	91	VAL
7	G	118	VAL
8	H	137	VAL
11	K	47	VAL
19	S	68	GLY
3	C	86	VAL
3	C	182	ILE
6	F	56	PRO
7	G	120	ILE
12	L	104	VAL
13	M	60	VAL
2	B	228	GLY
3	C	109	PRO
4	D	56	VAL
4	D	104	VAL
5	E	55	VAL
5	E	127	ASN
5	E	128	PRO
12	L	55	VAL
13	M	54	VAL
13	M	117	VAL
9	I	90	PRO
16	P	20	VAL
19	S	9	VAL
7	G	80	VAL

5.3.2 Protein sidechains ⓘ

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
2	B	202/220 (92%)	176 (87%)	26 (13%)	6	24
3	C	160/188 (85%)	145 (91%)	15 (9%)	13	43
4	D	180/181 (99%)	161 (89%)	19 (11%)	10	35
5	E	115/123 (94%)	97 (84%)	18 (16%)	4	14
6	F	90/90 (100%)	79 (88%)	11 (12%)	7	26
7	G	126/127 (99%)	115 (91%)	11 (9%)	15	49
8	H	119/119 (100%)	102 (86%)	17 (14%)	5	19
9	I	98/99 (99%)	86 (88%)	12 (12%)	7	26
10	J	87/92 (95%)	80 (92%)	7 (8%)	17	55
11	K	90/99 (91%)	81 (90%)	9 (10%)	11	38
12	L	104/111 (94%)	95 (91%)	9 (9%)	15	49
13	M	100/101 (99%)	92 (92%)	8 (8%)	17	55
14	N	49/50 (98%)	43 (88%)	6 (12%)	7	26
15	O	79/80 (99%)	72 (91%)	7 (9%)	14	47
16	P	72/74 (97%)	67 (93%)	5 (7%)	22	62
17	Q	96/97 (99%)	90 (94%)	6 (6%)	25	66
18	R	64/77 (83%)	63 (98%)	1 (2%)	75	94
19	S	71/80 (89%)	66 (93%)	5 (7%)	21	61
20	T	76/82 (93%)	64 (84%)	12 (16%)	4	14
21	U	19/22 (86%)	16 (84%)	3 (16%)	4	14
All	All	1997/2112 (95%)	1790 (90%)	207 (10%)	10	36

All (207) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	B	8	LYS
2	B	12	GLU
2	B	15	VAL
2	B	17	PHE

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Mol	Chain	Res	Type
2	B	24	TRP
2	B	25	ASN
2	B	44	LEU
2	B	55	PHE
2	B	60	ASP
2	B	82	ARG
2	B	96	ARG
2	B	97	TRP
2	B	116	GLU
2	B	130	ARG
2	B	142	LEU
2	B	162	ILE
2	B	172	ILE
2	B	176	GLU
2	B	178	ARG
2	B	185	ILE
2	B	187	LEU
2	B	193	ASP
2	B	195	ASP
2	B	198	ASP
2	B	232	PRO
2	B	236	TYR
3	C	3	ASN
3	C	4	LYS
3	C	6	HIS
3	C	15	THR
3	C	16	ARG
3	C	48	TYR
3	C	54	ARG
3	C	56	ASP
3	C	108	ASN
3	C	127	ARG
3	C	139	GLN
3	C	167	TRP
3	C	188	LEU
3	C	190	ARG
3	C	201	TYR
4	D	10	ARG
4	D	20	TYR
4	D	53	ASP
4	D	59	ARG
4	D	64	LEU

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Mol	Chain	Res	Type
4	D	91	SER
4	D	96	LEU
4	D	106	TYR
4	D	114	ARG
4	D	118	ARG
4	D	122	ARG
4	D	131	ARG
4	D	154	ASN
4	D	161	ASN
4	D	193	ASP
4	D	194	LEU
4	D	200	GLU
4	D	201	GLN
4	D	202	LEU
5	E	12	LEU
5	E	14	ARG
5	E	19	MET
5	E	26	PHE
5	E	31	LEU
5	E	43	LEU
5	E	47	LYS
5	E	52	PRO
5	E	60	TYR
5	E	68	GLU
5	E	73	ASN
5	E	79	GLU
5	E	90	VAL
5	E	120	THR
5	E	131	ILE
5	E	135	THR
5	E	137	GLU
5	E	147	ASP
6	F	18	GLN
6	F	27	GLN
6	F	30	LEU
6	F	43	LEU
6	F	69	GLU
6	F	73	ASN
6	F	74	ASP
6	F	86	ARG
6	F	89	MET
6	F	95	GLU

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Mol	Chain	Res	Type
6	F	98	LEU
7	G	4	ARG
7	G	10	ARG
7	G	12	LEU
7	G	16	LEU
7	G	24	THR
7	G	37	ASN
7	G	45	ASP
7	G	126	ASP
7	G	140	ASP
7	G	149	ARG
7	G	151	TYR
8	H	18	ARG
8	H	26	VAL
8	H	31	PHE
8	H	36	LEU
8	H	52	ASP
8	H	63	LEU
8	H	84	ARG
8	H	85	ARG
8	H	91	ARG
8	H	92	ARG
8	H	105	ARG
8	H	109	ILE
8	H	112	LEU
8	H	120	THR
8	H	127	LEU
8	H	133	LEU
8	H	134	ILE
9	I	16	ARG
9	I	19	LEU
9	I	23	ASN
9	I	34	ASN
9	I	66	ARG
9	I	102	LEU
9	I	104	ARG
9	I	114	TYR
9	I	118	LYS
9	I	121	ARG
9	I	125	TYR
9	I	128	ARG
10	J	13	HIS

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Mol	Chain	Res	Type
10	J	46	ARG
10	J	57	LYS
10	J	58	ASP
10	J	86	MET
10	J	95	GLU
10	J	98	ILE
11	K	12	ARG
11	K	29	ILE
11	K	35	PRO
11	K	63	LEU
11	K	103	LEU
11	K	104	GLN
11	K	108	ILE
11	K	116	HIS
11	K	120	ARG
12	L	10	LEU
12	L	44	THR
12	L	48	PRO
12	L	54	LYS
12	L	66	VAL
12	L	75	HIS
12	L	78	GLN
12	L	106	ASP
12	L	126	LYS
13	M	14	ARG
13	M	32	GLU
13	M	35	GLU
13	M	40	ASN
13	M	62	ASN
13	M	63	THR
13	M	109	THR
13	M	125	ARG
14	N	19	ARG
14	N	27	CYS
14	N	31	ARG
14	N	34	TYR
14	N	47	LEU
14	N	49	HIS
15	O	3	ILE
15	O	14	GLU
15	O	34	LEU
15	O	38	ARG

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Mol	Chain	Res	Type
15	O	39	LEU
15	O	54	ARG
15	O	58	MET
16	P	2	VAL
16	P	8	ARG
16	P	29	ASP
16	P	52	ASP
16	P	62	VAL
17	Q	7	THR
17	Q	25	ARG
17	Q	28	PRO
17	Q	38	ARG
17	Q	98	LEU
17	Q	101	ARG
18	R	36	ASN
19	S	32	LYS
19	S	34	TRP
19	S	36	ARG
19	S	37	ARG
19	S	61	TYR
20	T	8	ARG
20	T	10	LEU
20	T	13	LEU
20	T	15	ARG
20	T	19	SER
20	T	45	GLN
20	T	53	LEU
20	T	57	ARG
20	T	62	LEU
20	T	65	LYS
20	T	71	THR
20	T	75	ASN
21	U	8	THR
21	U	13	ILE
21	U	17	THR

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (64) such sidechains are listed below:

Mol	Chain	Res	Type
2	B	25	ASN
2	B	37	ASN
2	B	40	HIS

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Mol	Chain	Res	Type
2	B	78	GLN
2	B	135	GLN
2	B	146	GLN
2	B	204	ASN
3	C	3	ASN
3	C	6	HIS
3	C	69	HIS
3	C	123	GLN
3	C	136	GLN
3	C	139	GLN
3	C	181	ASN
4	D	42	GLN
4	D	45	GLN
4	D	62	GLN
4	D	77	ASN
4	D	154	ASN
4	D	160	GLN
4	D	161	ASN
5	E	20	GLN
5	E	73	ASN
5	E	127	ASN
6	F	18	GLN
6	F	32	ASN
6	F	73	ASN
6	F	94	GLN
6	F	100	ASN
7	G	37	ASN
7	G	68	ASN
7	G	86	GLN
7	G	122	HIS
8	H	70	GLN
9	I	23	ASN
9	I	34	ASN
9	I	73	GLN
10	J	56	HIS
10	J	78	ASN
10	J	84	GLN
11	K	22	HIS
11	K	99	GLN
11	K	104	GLN
11	K	117	ASN
12	L	9	GLN

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Mol	Chain	Res	Type
12	L	76	ASN
12	L	78	GLN
13	M	40	ASN
13	M	62	ASN
13	M	106	ASN
14	N	52	GLN
15	O	13	GLN
15	O	37	ASN
16	P	13	HIS
16	P	16	HIS
16	P	65	GLN
17	Q	16	GLN
17	Q	29	HIS
17	Q	45	HIS
17	Q	94	ASN
18	R	36	ASN
20	T	18	GLN
20	T	42	GLN
20	T	90	GLN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	A	1511/1522 (99%)	217 (14%)	50 (3%)
22	X	3/4 (75%)	1 (33%)	0
23	Y	6/18 (33%)	1 (16%)	0
All	All	1520/1544 (98%)	219 (14%)	50 (3%)

All (219) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	A	8	A
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	49	U
1	A	51	A
1	A	52	G

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Mol	Chain	Res	Type
1	A	61	G
1	A	81	U
1	A	82	U
1	A	96	U
1	A	101	A
1	A	116	A
1	A	121	C
1	A	129(A)	G
1	A	130	A
1	A	131	C
1	A	139	G
1	A	189(F)	U
1	A	189(G)	G
1	A	189(H)	G
1	A	195	A
1	A	197	A
1	A	201	C
1	A	202	U
1	A	204	U
1	A	231	G
1	A	244	U
1	A	247	G
1	A	251	G
1	A	252	U
1	A	266	G
1	A	267	C
1	A	282	A
1	A	289	G
1	A	328	C
1	A	332	G
1	A	344	A
1	A	345	C
1	A	346	G
1	A	352	C
1	A	353	A
1	A	354	G
1	A	365	U
1	A	366	C
1	A	367	U
1	A	373	A
1	A	397	A
1	A	398	C

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Mol	Chain	Res	Type
1	A	411	A
1	A	412	A
1	A	413	G
1	A	421	U
1	A	429	U
1	A	439	A
1	A	448	A
1	A	452	A
1	A	461	A
1	A	470	C
1	A	485	G
1	A	486	U
1	A	496	A
1	A	498	U
1	A	511	C
1	A	518	C
1	A	520	A
1	A	531	U
1	A	532	A
1	A	533	A
1	A	547	A
1	A	559	A
1	A	560	U
1	A	561	U
1	A	572	A
1	A	573	A
1	A	576	G
1	A	577	G
1	A	588	G
1	A	653	A
1	A	665	A
1	A	686	U
1	A	687	A
1	A	688	G
1	A	702	A
1	A	703	G
1	A	723	U
1	A	733	A
1	A	755	G
1	A	777	A
1	A	780	A
1	A	781	A

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Mol	Chain	Res	Type
1	A	787	A
1	A	792	A
1	A	793	U
1	A	813	U
1	A	815	A
1	A	817	C
1	A	818	G
1	A	819	A
1	A	828	A
1	A	839	U
1	A	840	C
1	A	841	U
1	A	859	A
1	A	914	A
1	A	926	G
1	A	927	G
1	A	934	C
1	A	935	A
1	A	945	G
1	A	960	U
1	A	961	U
1	A	969	A
1	A	971	G
1	A	974	A
1	A	975	A
1	A	976	G
1	A	977	A
1	A	992	U
1	A	993	G
1	A	994	A
1	A	998	G
1	A	1001	A
1	A	1001(A)	G
1	A	1003	G
1	A	1005	A
1	A	1009	G
1	A	1010	G
1	A	1023	G
1	A	1024	G
1	A	1025	U
1	A	1026	G
1	A	1027	C

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Mol	Chain	Res	Type
1	A	1049	U
1	A	1050	G
1	A	1054	C
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	1102	A
1	A	1124	G
1	A	1125	U
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	1140	C
1	A	1146	A
1	A	1152	A
1	A	1159	U
1	A	1183	A
1	A	1184	G
1	A	1196	U
1	A	1197	G
1	A	1200	C
1	A	1201	A
1	A	1211	U
1	A	1212	U
1	A	1213	A
1	A	1224	G
1	A	1225	A
1	A	1226	C
1	A	1227	A
1	A	1241	G
1	A	1250	A
1	A	1256	A
1	A	1257	U
1	A	1258	G

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Mol	Chain	Res	Type
1	A	1272	G
1	A	1280	A
1	A	1281	U
1	A	1282	C
1	A	1285	A
1	A	1286	A
1	A	1287	A
1	A	1300	G
1	A	1302	U
1	A	1305	G
1	A	1317	C
1	A	1332	A
1	A	1338	G
1	A	1347	G
1	A	1360	A
1	A	1363	C
1	A	1363(A)	A
1	A	1379	G
1	A	1381	U
1	A	1398	A
1	A	1401	G
1	A	1442	G
1	A	1442(B)	A
1	A	1443	G
1	A	1452	C
1	A	1457	G
1	A	1492	A
1	A	1493	A
1	A	1499	A
1	A	1503	A
1	A	1504	G
1	A	1505	G
1	A	1506	U
1	A	1517	G
1	A	1520	G
1	A	1529	G
1	A	1530	G
1	A	1533	C
1	A	1534	A
22	X	4	U
23	Y	39	A

All (50) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	A	7	G
1	A	30	U
1	A	51	A
1	A	60	A
1	A	81	U
1	A	115	G
1	A	129(A)	G
1	A	203	U
1	A	243	A
1	A	250	A
1	A	251	G
1	A	281	G
1	A	344	A
1	A	353	A
1	A	366	C
1	A	372	C
1	A	428	G
1	A	438	G
1	A	484	G
1	A	485	G
1	A	495	A
1	A	559	A
1	A	687	A
1	A	701	C
1	A	792	A
1	A	812	C
1	A	913	A
1	A	960	U
1	A	975	A
1	A	992	U
1	A	993	G
1	A	1065	U
1	A	1067	A
1	A	1101	A
1	A	1145	C
1	A	1183	A
1	A	1196	U
1	A	1211	U
1	A	1224	G
1	A	1285	A
1	A	1331	G
1	A	1346	A
1	A	1380	U

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Mol	Chain	Res	Type
1	A	1397	C
1	A	1447	A
1	A	1492	A
1	A	1498	U
1	A	1504	G
1	A	1528	U
1	A	1532	U

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

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

5.5 Carbohydrates ⓘ

There are no carbohydrates in this entry.

5.6 Ligand geometry ⓘ

Of 144 ligands modelled in this entry, 143 are monoatomic - leaving 1 for Mogul analysis.

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	$\# Z > 2$
24	PAR	A	3001	-	45,45,45	1.90	9 (20%)	67,67,67	1.25	7 (10%)

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
24	PAR	A	3001	-	-	0/18/94/94	0/4/4/4

All (9) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
24	A	3001	PAR	C22-C32	6.59	1.57	1.52
24	A	3001	PAR	C22-C12	5.97	1.56	1.52
24	A	3001	PAR	O54-C14	3.23	1.50	1.41
24	A	3001	PAR	C52-C42	3.13	1.58	1.52
24	A	3001	PAR	C34-C24	2.88	1.57	1.53
24	A	3001	PAR	C42-C32	2.63	1.56	1.52
24	A	3001	PAR	C11-C21	2.38	1.57	1.52
24	A	3001	PAR	C31-C21	2.29	1.56	1.53
24	A	3001	PAR	O51-C11	2.02	1.47	1.41

All (7) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
24	A	3001	PAR	O54-C54-C64	4.77	112.83	106.97
24	A	3001	PAR	O52-C13-C23	3.47	113.70	107.50
24	A	3001	PAR	C14-O54-C54	3.00	119.56	113.73
24	A	3001	PAR	O52-C13-O43	-2.86	108.77	111.51
24	A	3001	PAR	C22-C32-C42	2.32	113.95	109.83
24	A	3001	PAR	O33-C33-C43	-2.17	105.98	115.27
24	A	3001	PAR	C11-O51-C51	2.15	117.91	113.73

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 ⓘ

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
1	A	1513/1522 (99%)	-0.61	7 (0%) 88 39	18, 65, 147, 201	0
2	B	235/256 (91%)	-0.28	1 (0%) 90 45	27, 82, 159, 197	0
3	C	207/239 (86%)	-0.33	0 100 100	41, 101, 167, 197	0
4	D	208/209 (99%)	-0.24	0 100 100	28, 78, 139, 160	0
5	E	151/162 (93%)	-0.48	0 100 100	14, 46, 91, 164	0
6	F	101/101 (100%)	-0.45	0 100 100	42, 83, 133, 151	0
7	G	155/156 (99%)	-0.21	2 (1%) 74 19	36, 97, 162, 197	0
8	H	138/138 (100%)	-0.55	0 100 100	9, 35, 83, 108	0
9	I	127/128 (99%)	-0.09	0 100 100	23, 98, 159, 190	0
10	J	99/105 (94%)	0.12	1 (1%) 79 23	41, 139, 192, 197	0
11	K	119/129 (92%)	-0.36	2 (1%) 67 15	19, 64, 129, 178	0
12	L	125/135 (92%)	-0.18	0 100 100	5, 75, 133, 187	0
13	M	125/126 (99%)	0.17	8 (6%) 19 3	36, 86, 165, 197	0
14	N	60/61 (98%)	0.05	2 (3%) 44 6	42, 92, 187, 193	0
15	O	88/89 (98%)	-0.42	0 100 100	21, 55, 102, 154	0
16	P	84/88 (95%)	-0.29	0 100 100	24, 48, 91, 140	0
17	Q	104/105 (99%)	-0.25	4 (3%) 38 5	17, 49, 117, 197	0
18	R	73/88 (82%)	-0.41	0 100 100	29, 64, 142, 187	0
19	S	81/93 (87%)	0.10	0 100 100	84, 133, 174, 197	0
20	T	99/106 (93%)	-0.31	0 100 100	33, 63, 121, 151	0
21	U	25/27 (92%)	0.06	0 100 100	47, 69, 115, 123	0
22	X	4/4 (100%)	-0.30	0 100 100	87, 92, 100, 115	0
23	Y	7/18 (38%)	1.17	2 (28%) 1 0	88, 120, 170, 196	0
All	All	3928/4085 (96%)	-0.38	29 (0%) 62 32	5, 72, 157, 201	0

All (29) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	1534	A	11.6
13	M	121	LYS	8.2
13	M	122	LYS	8.1
13	M	120	LYS	7.6
23	Y	34	A	7.3
13	M	123	ALA	6.6
13	M	124	PRO	6.1
11	K	128	ALA	5.0
11	K	129	SER	4.5
1	A	1533	C	4.3
14	N	4	LYS	3.9
17	Q	102	GLY	3.8
13	M	125	ARG	3.4
1	A	1540	U	3.1
7	G	73	MET	2.8
14	N	2	ALA	2.8
7	G	82	GLY	2.6
17	Q	101	ARG	2.5
23	Y	40	U	2.5
13	M	126	LYS	2.5
13	M	119	GLY	2.3
1	A	1018	C	2.3
2	B	132	LYS	2.3
1	A	1539	C	2.3
17	Q	104	LYS	2.3
1	A	1442(A)	G	2.2
17	Q	105	ALA	2.2
1	A	1035	A	2.1
10	J	34	VAL	2.1

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

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

6.3 Carbohydrates ⓘ

There are no carbohydrates in this entry.

6.4 Ligands

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. LLDF column lists the quality of electron density of the group with respect to its neighbouring residues in protein, DNA or RNA chains. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSR	LLDF	B-factors(Å ²)	Q<0.9
25	MG	G	3048	1/1	0.68	-	100,100,100,100	0
25	MG	G	3086	1/1	1.24	-	102,102,102,102	0
25	MG	G	3100	1/1	0.75	-	45,45,45,45	0
25	MG	G	3123	1/1	0.19	-	35,35,35,35	0
25	MG	G	3043	1/1	0.64	-	105,105,105,105	0
25	MG	G	3103	1/1	0.47	-	52,52,52,52	0
25	MG	G	3084	1/1	0.68	-	97,97,97,97	0
25	MG	G	3124	1/1	0.16	-	35,35,35,35	0
25	MG	G	3078	1/1	0.65	-	118,118,118,118	0
25	MG	G	3067	1/1	1.24	-	102,102,102,102	0
25	MG	G	3063	1/1	1.00	-	96,96,96,96	0
25	MG	G	3031	1/1	0.66	-	82,82,82,82	0
25	MG	G	3132	1/1	0.23	-	51,51,51,51	0
25	MG	G	3104	1/1	0.39	-	47,47,47,47	0
25	MG	G	3107	1/1	0.09	-	59,59,59,59	0
25	MG	G	3118	1/1	0.26	-	46,46,46,46	0
25	MG	G	3045	1/1	1.16	-	87,87,87,87	0
25	MG	G	3079	1/1	1.06	-	128,128,128,128	0
25	MG	G	3019	1/1	0.78	-	92,92,92,92	0
25	MG	G	3013	1/1	1.91	-	103,103,103,103	0
25	MG	G	3047	1/1	1.07	-	87,87,87,87	0
25	MG	G	3033	1/1	0.65	-	84,84,84,84	0
25	MG	G	3058	1/1	0.89	-	89,89,89,89	0
25	MG	G	3111	1/1	0.26	-	54,54,54,54	0
25	MG	G	3041	1/1	3.36	-	116,116,116,116	0
25	MG	G	3088	1/1	1.23	-	113,113,113,113	0
25	MG	G	3115	1/1	0.18	-	49,49,49,49	0
25	MG	G	3131	1/1	0.17	-	30,30,30,30	0
25	MG	G	3093	1/1	0.48	-	71,71,71,71	0
25	MG	G	3068	1/1	1.01	-	102,102,102,102	0
25	MG	G	3070	1/1	0.43	-	106,106,106,106	0
24	PAR	A	3001	42/42	0.18	-	67,70,81,87	0
25	MG	G	3002	1/1	0.36	-	79,79,79,79	0
25	MG	G	3083	1/1	0.85	-	162,162,162,162	0
25	MG	G	3073	1/1	0.33	-	93,93,93,93	0

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Mol	Type	Chain	Res	Atoms	RSR	LLDF	B-factors(\AA^2)	Q<0.9
25	MG	G	3037	1/1	0.46	-	90,90,90,90	0
25	MG	G	3028	1/1	0.76	-	90,90,90,90	0
25	MG	G	3052	1/1	0.68	-	99,99,99,99	0
25	MG	G	3051	1/1	0.38	-	80,80,80,80	0
25	MG	G	3096	1/1	0.24	-	43,43,43,43	0
25	MG	G	3128	1/1	0.18	-	58,58,58,58	0
25	MG	G	3126	1/1	0.13	-	45,45,45,45	0
25	MG	G	3026	1/1	1.03	-	108,108,108,108	0
25	MG	G	3091	1/1	1.20	-	110,110,110,110	0
25	MG	G	3109	1/1	0.18	-	57,57,57,57	0
25	MG	G	3125	1/1	0.43	-	60,60,60,60	0
25	MG	G	3021	1/1	1.36	-	108,108,108,108	0
25	MG	G	3056	1/1	0.82	-	113,113,113,113	0
25	MG	G	3106	1/1	0.32	-	39,39,39,39	0
25	MG	G	3119	1/1	0.09	-	47,47,47,47	0
26	K	G	3136	1/1	0.25	-	105,105,105,105	0
25	MG	G	3049	1/1	0.24	-	78,78,78,78	0
25	MG	G	3017	1/1	1.13	-	110,110,110,110	0
25	MG	G	3006	1/1	0.84	-	92,92,92,92	0
25	MG	G	3122	1/1	0.63	-	77,77,77,77	0
25	MG	G	3087	1/1	0.89	-	102,102,102,102	0
25	MG	G	3121	1/1	0.25	-	56,56,56,56	0
25	MG	G	3057	1/1	1.22	-	86,86,86,86	0
25	MG	G	3066	1/1	0.37	-	102,102,102,102	0
25	MG	G	3095	1/1	0.49	-	74,74,74,74	0
25	MG	G	3113	1/1	0.33	-	31,31,31,31	0
25	MG	G	3039	1/1	1.52	-	96,96,96,96	0
25	MG	G	3015	1/1	0.59	-	87,87,87,87	0
25	MG	G	3044	1/1	1.60	-	109,109,109,109	0
25	MG	G	3032	1/1	1.47	-	107,107,107,107	0
26	K	G	3138	1/1	1.05	-	146,146,146,146	0
25	MG	G	3036	1/1	1.33	-	96,96,96,96	0
25	MG	G	3029	1/1	0.38	-	112,112,112,112	0
25	MG	G	3042	1/1	1.16	-	103,103,103,103	0
25	MG	G	3101	1/1	0.21	-	56,56,56,56	0
25	MG	G	3064	1/1	0.84	-	83,83,83,83	0
25	MG	G	3117	1/1	0.31	-	53,53,53,53	0
26	K	G	3142	1/1	0.89	-	156,156,156,156	0
25	MG	G	3094	1/1	0.17	-	49,49,49,49	0
25	MG	G	3011	1/1	0.59	-	106,106,106,106	0
25	MG	G	3129	1/1	0.11	-	48,48,48,48	0
25	MG	G	3085	1/1	1.21	-	116,116,116,116	0

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Mol	Type	Chain	Res	Atoms	RSR	LLDF	B-factors(\AA^2)	Q<0.9
25	MG	G	3130	1/1	0.42	-	47,47,47,47	0
27	ZN	G	3144	1/1	0.25	-	97,97,97,97	0
25	MG	G	3004	1/1	0.37	-	89,89,89,89	0
25	MG	G	3023	1/1	1.03	-	91,91,91,91	0
26	K	G	3141	1/1	0.36	-	145,145,145,145	0
25	MG	G	3020	1/1	1.19	-	115,115,115,115	0
25	MG	G	3003	1/1	1.84	-	102,102,102,102	0
25	MG	G	3053	1/1	0.74	-	96,96,96,96	0
25	MG	G	3120	1/1	0.57	-	59,59,59,59	0
25	MG	G	3055	1/1	1.02	-	91,91,91,91	0
25	MG	G	3077	1/1	1.64	-	103,103,103,103	0
25	MG	G	3060	1/1	0.71	-	91,91,91,91	0
25	MG	G	3027	1/1	2.07	-	89,89,89,89	0
26	K	G	3137	1/1	0.34	-	123,123,123,123	0
25	MG	G	3108	1/1	0.29	-	58,58,58,58	0
25	MG	G	3024	1/1	0.57	-	102,102,102,102	0
25	MG	G	3007	1/1	0.57	-	89,89,89,89	0
25	MG	G	3009	1/1	0.73	-	90,90,90,90	0
27	ZN	G	3143	1/1	0.41	-	118,118,118,118	0
25	MG	G	3046	1/1	0.55	-	77,77,77,77	0
25	MG	G	3089	1/1	0.94	-	106,106,106,106	0
25	MG	G	3099	1/1	1.10	-	102,102,102,102	0
25	MG	G	3030	1/1	0.59	-	83,83,83,83	0
25	MG	G	3116	1/1	0.15	-	43,43,43,43	0
25	MG	G	3054	1/1	1.30	-	95,95,95,95	0
25	MG	G	3081	1/1	1.12	-	110,110,110,110	0
25	MG	G	3014	1/1	1.02	-	101,101,101,101	0
25	MG	G	3010	1/1	1.05	-	103,103,103,103	0
25	MG	G	3074	1/1	2.02	-	112,112,112,112	0
25	MG	G	3127	1/1	0.27	-	49,49,49,49	0
26	K	G	3133	1/1	0.34	-	107,107,107,107	0
25	MG	G	3034	1/1	0.34	-	103,103,103,103	0
25	MG	G	3038	1/1	1.00	-	99,99,99,99	0
25	MG	G	3040	1/1	2.03	-	121,121,121,121	0
25	MG	G	3062	1/1	0.50	-	114,114,114,114	0
25	MG	G	3092	1/1	0.96	-	97,97,97,97	0
25	MG	G	3105	1/1	0.13	-	44,44,44,44	0
25	MG	G	3050	1/1	1.57	-	97,97,97,97	0
25	MG	G	3069	1/1	1.04	-	97,97,97,97	0
25	MG	G	3065	1/1	0.59	-	87,87,87,87	0
25	MG	G	3090	1/1	1.32	-	123,123,123,123	0
25	MG	G	3102	1/1	0.28	-	53,53,53,53	0

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Mol	Type	Chain	Res	Atoms	RSR	LLDF	B-factors(\AA^2)	Q<0.9
25	MG	G	3097	1/1	0.77	-	100,100,100,100	0
25	MG	G	3025	1/1	2.14	-	113,113,113,113	0
25	MG	G	3005	1/1	0.93	-	95,95,95,95	0
25	MG	G	3112	1/1	0.12	-	51,51,51,51	0
25	MG	G	3059	1/1	0.65	-	93,93,93,93	0
26	K	G	3134	1/1	0.32	-	131,131,131,131	0
25	MG	G	3061	1/1	1.64	-	124,124,124,124	0
26	K	G	3140	1/1	0.94	-	161,161,161,161	0
26	K	G	3139	1/1	1.18	-	150,150,150,150	0
25	MG	G	3071	1/1	0.66	-	89,89,89,89	0
25	MG	G	3018	1/1	0.72	-	96,96,96,96	0
25	MG	G	3016	1/1	1.21	-	93,93,93,93	0
25	MG	G	3035	1/1	0.73	-	103,103,103,103	0
25	MG	G	3110	1/1	0.29	-	44,44,44,44	0
25	MG	G	3076	1/1	0.79	-	143,143,143,143	0
25	MG	G	3008	1/1	0.79	-	100,100,100,100	0
25	MG	G	3082	1/1	1.20	-	121,121,121,121	0
25	MG	G	3022	1/1	1.88	-	126,126,126,126	0
25	MG	G	3012	1/1	1.05	-	101,101,101,101	0
25	MG	G	3098	1/1	0.44	-	81,81,81,81	0
25	MG	G	3114	1/1	0.15	-	38,38,38,38	0
25	MG	G	3080	1/1	1.59	-	108,108,108,108	0
25	MG	G	3072	1/1	0.47	-	61,61,61,61	0
26	K	G	3135	1/1	0.44	-	135,135,135,135	0
25	MG	G	3075	1/1	1.04	-	134,134,134,134	0

6.5 Other polymers ⓘ

There are no such residues in this entry.