Full wwPDB X-ray Structure Validation Report (i)

Aug 7, 2023 – 05:25 AM EDT

PDB ID	:	1N8R
Title	:	Structure of large ribosomal subunit in complex with virginiamycin M
Authors	:	Hansen, J.L.; Moore, P.B.; Steitz, T.A.
Deposited on	:	2002-11-21
Resolution	:	3.00 Å(reported)

This is a Full wwPDB X-ray Structure Validation Report for a publicly released PDB entry.

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/XrayValidationReportHelp
with specific help available everywhere you see the (i) symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

The following versions of software and data (see references (1)) were used in the production of this report:

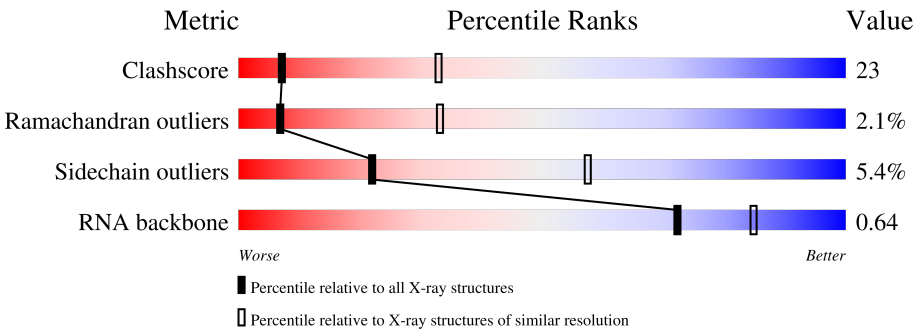
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	NOT EXECUTED
EDS	:	NOT EXECUTED
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.35

1 Overall quality at a glance (i)

The following experimental techniques were used to determine the structure:
X-RAY DIFFRACTION

The reported resolution of this entry is 3.00 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
Clashscore	141614	2416 (3.00-3.00)
Ramachandran outliers	138981	2333 (3.00-3.00)
Sidechain outliers	138945	2336 (3.00-3.00)
RNA backbone	3102	1173 (3.30-2.70)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=5%

Note EDS was not executed.

Mol	Chain	Length	Quality of chain
1	A	2922	48% 37% 8% • 6%
2	B	122	43% 43% 10% •
3	C	239	50% 43% 6% •
4	D	337	49% 45% 7%
5	E	246	52% 43% •
6	F	176	26% 45% 7% • 20%

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Mol	Chain	Length	Quality of chain
7	G	177	54% 42%
8	H	119	52% 45%
9	I	348	5% 92%
10	J	167	33% 54% 6% 7%
11	K	145	54% 37% 7%
12	L	132	60% 39%
13	M	164	46% 41% 12%
14	N	194	37% 59% 5%
15	O	186	40% 54% 6%
16	P	115	72% 27%
17	Q	148	58% 36%
18	R	95	66% 31%
19	S	154	60% 34%
20	T	84	68% 26%
21	U	119	57% 40%
22	V	66	32% 44% 5% 20%
23	W	70	50% 41% 7%
24	X	154	43% 51% 6%
25	Y	91	42% 41% 8% 10%
26	Z	240	38% 19% 41%
27	1	73	23% 70% 7%
28	2	56	62% 38%
29	3	48	54% 40%
30	4	92	29% 65% 5%

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

ria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
35	CL	M	8510	-	-	X	-
35	CL	N	8518	-	-	X	-

2 Entry composition (i)

There are 37 unique types of molecules in this entry. The entry contains 98569 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a RNA chain called 23S ribosomal RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
1	A	2754	59017	26346	10878	19048	2745	0	0	0

- Molecule 2 is a RNA chain called 5S ribosomal RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
2	B	122	2600	1160	472	847	121	0	0	0

- Molecule 3 is a protein called 50S ribosomal protein L2P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
3	C	237	1754	1072	352	325	5	0	0	0

- Molecule 4 is a protein called 50S ribosomal protein L3P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
4	D	337	2624	1616	493	510	5	0	0	0

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
D	?	-	PRO	deletion	UNP P20279
D	310	ARG	PHE	conflict	UNP P20279

- Molecule 5 is a protein called 50S ribosomal protein L4E.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
5	E	246	1858	1131	344	382	1	0	0	0

- Molecule 6 is a protein called 50S ribosomal protein L5P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
6	F	140	1094	685	195	210	4	0	0	0

- Molecule 7 is a protein called 50S ribosomal protein L6P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
7	G	172	1357	840	224	289	4	0	0	0

- Molecule 8 is a protein called 50S ribosomal protein L7Ae.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
8	H	119	885	552	141	191	1	0	0	0

- Molecule 9 is a protein called Acidic ribosomal protein P0 homolog.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
9	I	29	240	149	39	51	1	0	0	0

- Molecule 10 is a protein called 50S ribosomal protein L10e.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
10	J	156	1215	766	233	212	4	0	0	0

- Molecule 11 is a protein called 50S ribosomal protein L13P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
11	K	142	1119	696	199	221	3	0	0	0

- Molecule 12 is a protein called 50S ribosomal protein L14P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
12	L	132	993	609	189	191	4	0	0	0

- Molecule 13 is a protein called 50S ribosomal protein L15P.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
			Total	C	N	O			
13	M	145	1114	668	222	224	0	0	0

- Molecule 14 is a protein called 50S ribosomal protein L15E.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
14	N	194	1605	988	346	266	5	0	0	0

- Molecule 15 is a protein called 50S ribosomal protein L18P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
15	O	186	1444	895	262	285	2	0	0	0

- Molecule 16 is a protein called 50S ribosomal protein L18E.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
			Total	C	N	O			
16	P	115	864	529	161	174	0	0	0

- Molecule 17 is a protein called 50S ribosomal protein L19E.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
			Total	C	N	O			
17	Q	143	1133	680	230	223	0	0	0

- Molecule 18 is a protein called 50S ribosomal protein L21e.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
			Total	C	N	O			
18	R	95	734	450	141	143	0	0	0

- Molecule 19 is a protein called 50S ribosomal protein L22P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
19	S	150	1149	713	209	223	4	0	0	0

- Molecule 20 is a protein called 50S ribosomal protein L23P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
20	T	81	641	389	111	138	3	0	0	0

- Molecule 21 is a protein called 50S ribosomal protein L24P.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
			Total	C	N	O			
21	U	119	949	568	180	201	0	0	0

- Molecule 22 is a protein called 50S ribosomal protein L24E.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
22	V	53	410	244	75	86	5	0	0	0

- Molecule 23 is a protein called 50S ribosomal protein L29P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
23	W	65	499	304	94	100	1	0	0	0

- Molecule 24 is a protein called 50S ribosomal protein L30P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
24	X	154	1195	737	209	243	6	0	0	0

- Molecule 25 is a protein called 50S ribosomal protein L31E.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
25	Y	82	654	402	129	122	1	0	0	0

- Molecule 26 is a protein called 50S ribosomal protein L32E.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
			Total	C	N	O			
26	Z	142	1130	686	228	216	0	0	0

- Molecule 27 is a protein called 50S ribosomal protein L37AE.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
27	1	73	563	359	111	86	7	0	0	0

- Molecule 28 is a protein called 50S ribosomal protein L37e.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
28	2	56	430	258	86	82	4	0	0	0

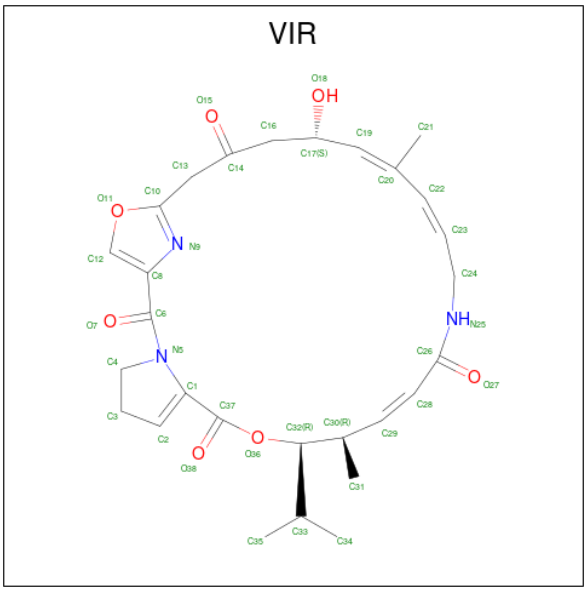
- Molecule 29 is a protein called 50S ribosomal protein L39e.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
29	3	46	393	238	86	68	1	0	0	0

- Molecule 30 is a protein called 50S ribosomal protein L44E.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
30	4	92	755	458	153	137	7	0	0	0

- Molecule 31 is VIRGINIAMYCIN M1 (three-letter code: VIR) (formula: $C_{28}H_{35}N_3O_7$).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
			Total	C	N	O		
31	A	1	38	28	3	7	0	0

- Molecule 32 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
32	A	109	Total Mg 109 109	0	0
32	B	1	Total Mg 1 1	0	0
32	C	2	Total Mg 2 2	0	0
32	D	1	Total Mg 1 1	0	0
32	L	1	Total Mg 1 1	0	0
32	U	1	Total Mg 1 1	0	0
32	Z	1	Total Mg 1 1	0	0
32	4	1	Total Mg 1 1	0	0

- Molecule 33 is POTASSIUM ION (three-letter code: K) (formula: K).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
33	A	1	Total K 1 1	0	0

- Molecule 34 is SODIUM ION (three-letter code: NA) (formula: Na).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
34	A	71	Total Na 71 71	0	0
34	B	2	Total Na 2 2	0	0
34	C	1	Total Na 1 1	0	0
34	E	1	Total Na 1 1	0	0
34	J	2	Total Na 2 2	0	0
34	K	1	Total Na 1 1	0	0
34	M	1	Total Na 1 1	0	0
34	N	1	Total Na 1 1	0	0

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
34	R	1	Total Na 1 1	0	0
34	S	2	Total Na 2 2	0	0
34	T	1	Total Na 1 1	0	0
34	U	1	Total Na 1 1	0	0
34	4	1	Total Na 1 1	0	0

- Molecule 35 is CHLORIDE ION (three-letter code: CL) (formula: Cl).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
35	A	8	Total Cl 8 8	0	0
35	C	1	Total Cl 1 1	0	0
35	D	1	Total Cl 1 1	0	0
35	K	3	Total Cl 3 3	0	0
35	L	1	Total Cl 1 1	0	0
35	M	1	Total Cl 1 1	0	0
35	N	1	Total Cl 1 1	0	0
35	O	1	Total Cl 1 1	0	0
35	P	1	Total Cl 1 1	0	0
35	S	1	Total Cl 1 1	0	0
35	Z	2	Total Cl 2 2	0	0
35	4	1	Total Cl 1 1	0	0

- Molecule 36 is CADMIUM ION (three-letter code: CD) (formula: Cd).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
36	P	1	Total Cd 1 1	0	0
36	V	1	Total Cd 1 1	0	0
36	1	1	Total Cd 1 1	0	0
36	2	1	Total Cd 1 1	0	0
36	4	1	Total Cd 1 1	0	0

- Molecule 37 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
37	A	5881	Total O 5881 5881	0	0
37	B	146	Total O 146 146	0	0
37	C	135	Total O 135 135	0	0
37	D	141	Total O 141 141	0	0
37	E	178	Total O 178 178	0	0
37	F	49	Total O 49 49	0	0
37	G	43	Total O 43 43	0	0
37	H	30	Total O 30 30	0	0
37	I	21	Total O 21 21	0	0
37	J	76	Total O 76 76	0	0
37	K	55	Total O 55 55	0	0
37	L	64	Total O 64 64	0	0
37	M	85	Total O 85 85	0	0
37	N	141	Total O 141 141	0	0
37	O	67	Total O 67 67	0	0

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
37	P	45	Total O 45 45	0	0
37	Q	72	Total O 72 72	0	0
37	R	57	Total O 57 57	0	0
37	S	87	Total O 87 87	0	0
37	T	34	Total O 34 34	0	0
37	U	33	Total O 33 33	0	0
37	V	27	Total O 27 27	0	0
37	W	16	Total O 16 16	0	0
37	X	68	Total O 68 68	0	0
37	Y	27	Total O 27 27	0	0
37	Z	100	Total O 100 100	0	0
37	1	35	Total O 35 35	0	0
37	2	57	Total O 57 57	0	0
37	3	40	Total O 40 40	0	0
37	4	72	Total O 72 72	0	0

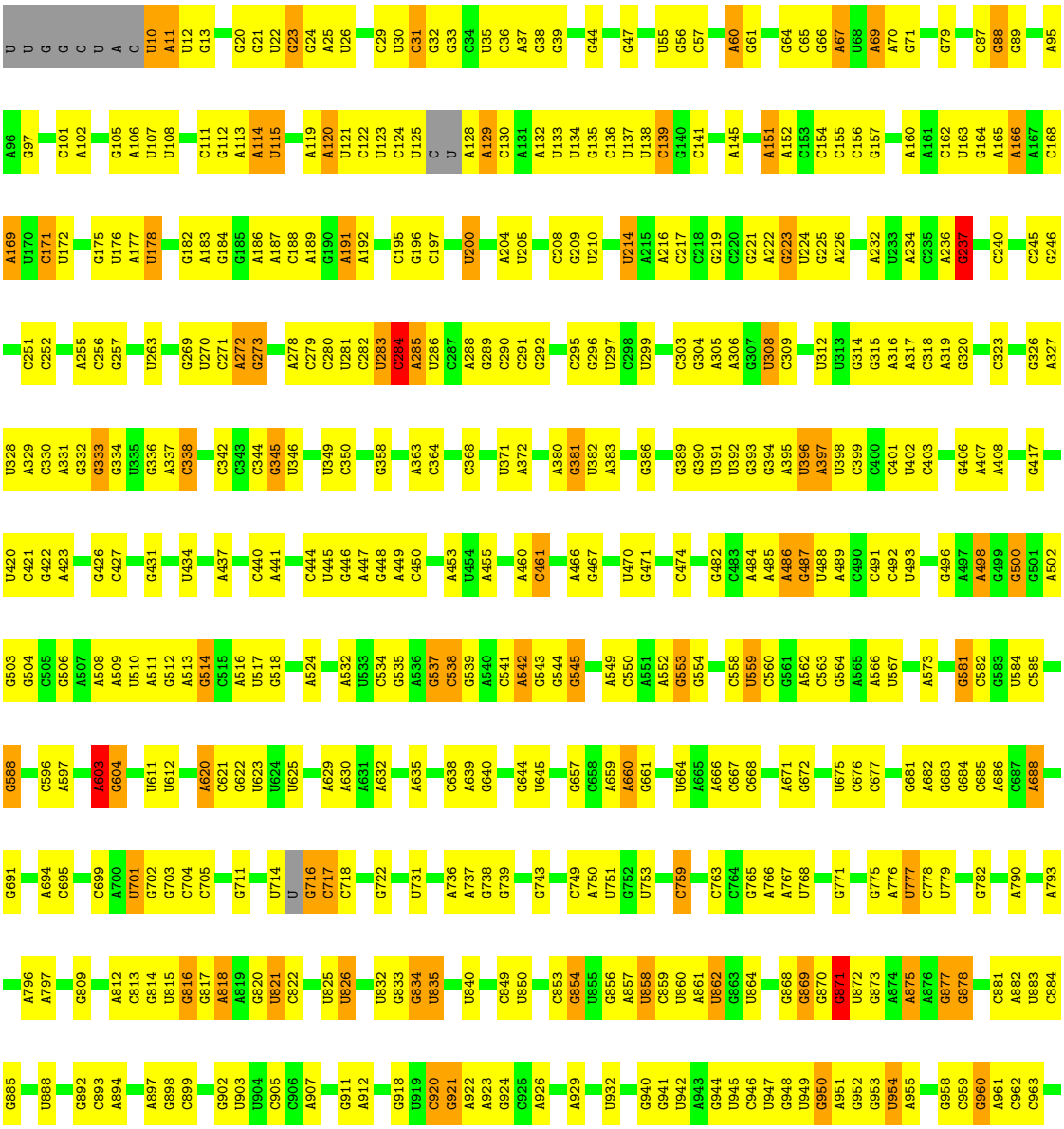
3 Residue-property plots (i)

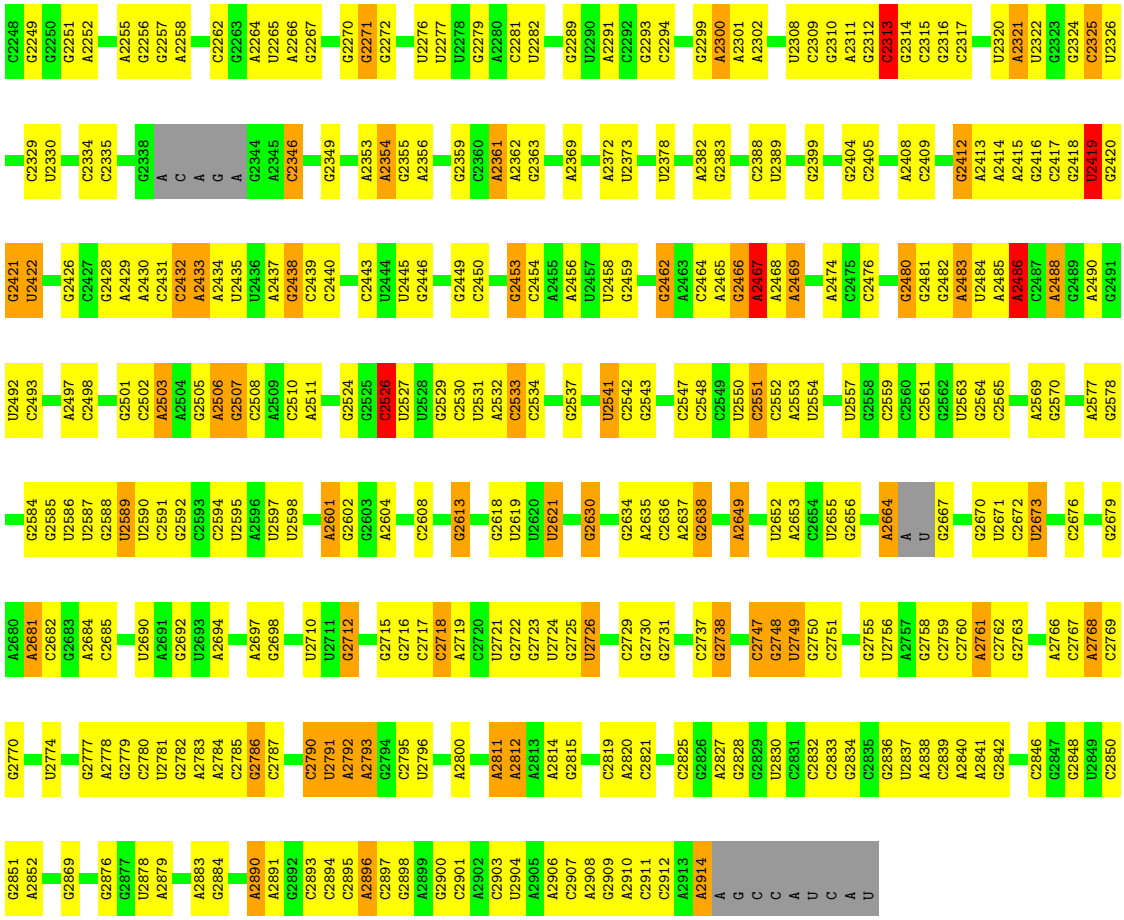
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry. Residues are color-coded 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. Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

Note EDS was not executed.

- Molecule 1: 23S ribosomal RNA

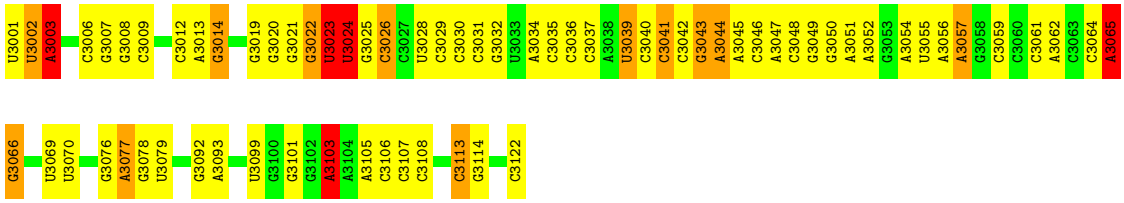
Chain A: 48% 37% 8% • 6%





• Molecule 2: 5S ribosomal RNA

Chain B:



• Molecule 3: 50S ribosomal protein L2P

Chain C:

• Molecule 4: 50S ribosomal protein L3P

Chain D: 49% 45% 7%

P1 Q2 P3 S4 R5 P6 R7 K8 G9 S10 L11 G14 P15 R16 K17 R18 T23 P24 N27 P30 S31 D32 D33 G34 Q35 P36 Q39 G40 F41 A42 G43 V51 V52 L53 V54 N55 D56 R62 E63 G64 M65 E66 P70 V71 T72 V73 I74 E75 T76 P77 P78 M79

R80 A81 V82 A83 L84 R85 A86 Y87 E88 Y92 P96 L97 T98 W101 T102 D103 S107 E108 R111 P116 H119 D120 P121 E125 R129 H132 L137 G138 D139 L140 R141 T144 H145 T146 V147 P148 V154 P155 K156 K157 K158 P159 M162 E163 T164 R165

G168 G169 S170 V171 R174 L175 L179 V182 E183 D184 G185 G186 M190 F194 R195 D201 G204 V205 T206 K207 T211 Q212 G213 P214 V215 K216 R217 V220 Q221 K222 R223 K224 G225 R229 W232 R233 R234 R235 I236 G237 N238 L239 G240 P244 S245 R248

V251 Q254 G255 Q256 T257 G258 Y259 H260 E264 L265 N266 K267 R268 L269 I270 E274 G275 D276 E277 P278 T279 V280 D281 G282 V285 N286 Y287 G288 D291 G292 L296 V297 V301 P302 G303 P304 D305 K306 R307 L308 V309 R310 F311 R312 P313 A314 V315 R316 P317 Q320 P321

R322 L323 D324 P325 E326 V327 R328 Y329 E333 S334 G337

• Molecule 5: 50S ribosomal protein L4E

Chain E: 52% 43% •

M1 Q2 A3 T4 I5 Y6 D7 N11 T12 D13 V16 D17 L18 P19 D20 V21 F22 E23 T24 P25 V26 E27 R27 S28 D29 L30 K33 R36 A37 A38 Q39 A40 K43 Y46 G47 S48 D49 E50 Y51 A52 G53 L54 F61 R65 G66 Q67 A68 H69 L73 R76 A77

R78 R79 V84 K85 G86 R87 S88 A89 H90 P91 P92 K93 T94 E95 K96 D97 R98 S99 L100 D101 L102 N103 D104 R107 Q108 V111 L115 T118 R127 G128 H129 D132 R133 V136 P137 V138 V139 V140 S141 D142 T150 V154 E158 V162 D165 R168

A169 D170 K173 I174 Q178 G179 S180 R184 K185 Y186 R187 R188 P189 A190 S191 I192 L193 F194 P200 S201 T202 A203 N206 V212 A213 T214 V218 N219 T220 E221 D222 L223 A224 P225 P229 G230 R231 L232 T233 V234 F235 T236 E237 S238 A239 L240 A241 E242 V243 R246

• Molecule 6: 50S ribosomal protein L5P

Chain F: 26% 45% 7% • 20%

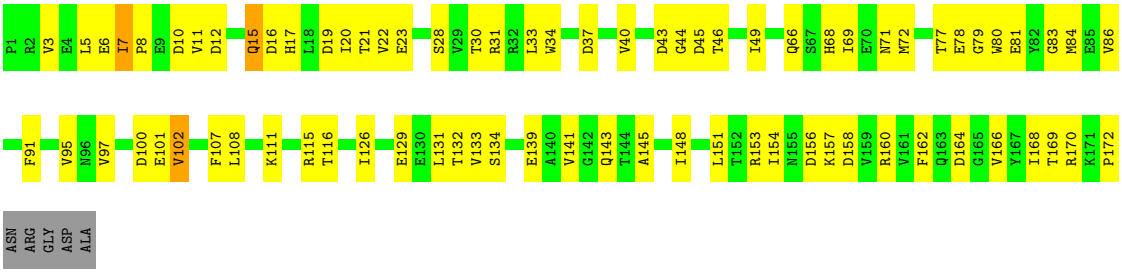
SER SER GLU SER GLU SER GLY GLY ASP F10 H11 E12 M13 R14 E15 P16 E19 K20 V21 V22 V23 H24 M25 G26 I27 G28 H29 GLY GLY ARG ASP LEU A35 N36 A37 E38 D39 I40 L41 I44 T45 P49 V50 R51 T52 K53 A54 K55 R56 T57 V58 G59 E60 F61 D62 I63 R64

E65 G66 D67 P68 I69 G70 A71 K72 V73 T74 L75 R76 D77 E78 E81 E82 F83 L84 Q85 T86 A87 L88 P89 L90 A91 E92 L93 A94 T95 S96 Q97 F98 D99 D100 T101 G102 N103 F104 S105 F106 G107 VAL GLU GLU GLU HIS THR GLU PHE PRO SER GLN GLU GLU TYR ASP PRO SER ILE GLY ILE

TYR GLY L128 T131 V132 N133 L134 V135 R136 P137 G138 Y139 R140 V141 R144 D145 K146 A147 S148 R149 K154 H155 P159 V163 I166 T169 Y170 D171 V172 E173 V174 SER GLU

• Molecule 7: 50S ribosomal protein L6P

Chain G: 54% 42% • •

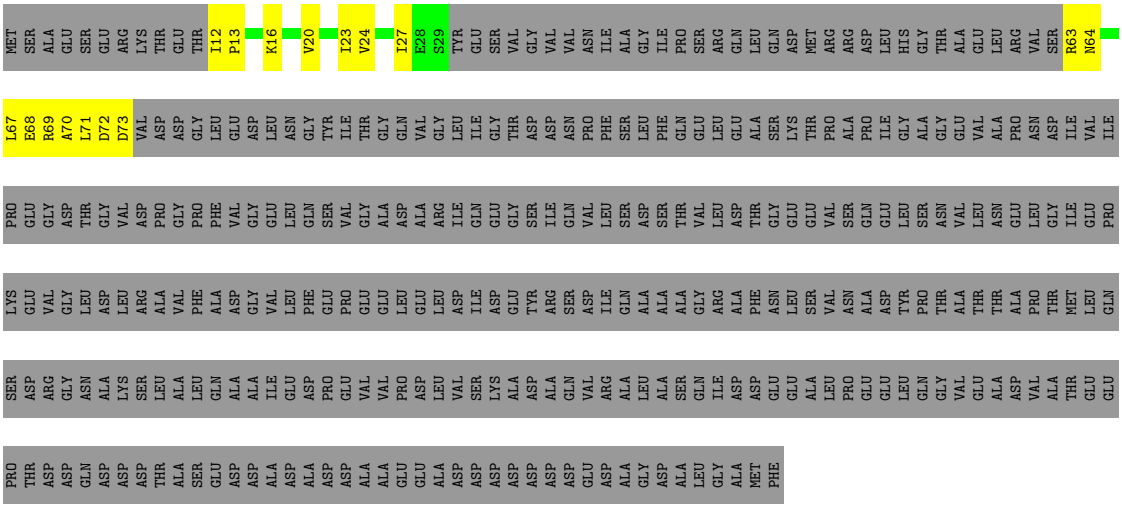


- Molecule 8: 50S ribosomal protein L7Ae

Chain H:

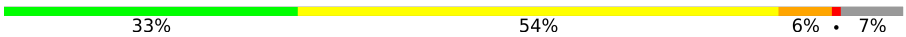
- Molecule 9: Acidic ribosomal protein P0 homolog

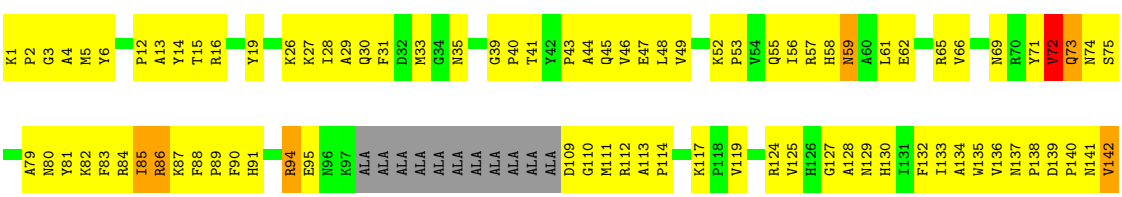
Chain I:

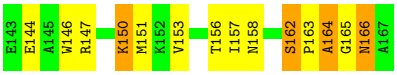


- Molecule 10: 50S ribosomal protein L10e

Chain J:

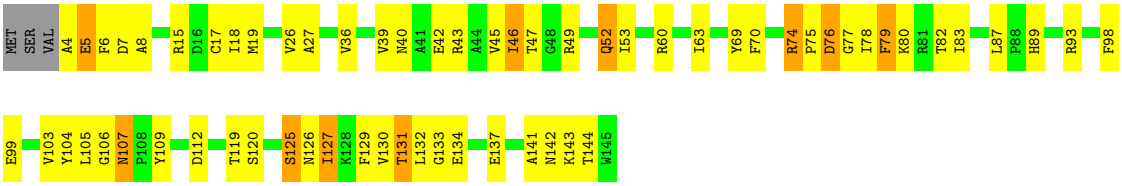






• Molecule 11: 50S ribosomal protein L13P

Chain K:

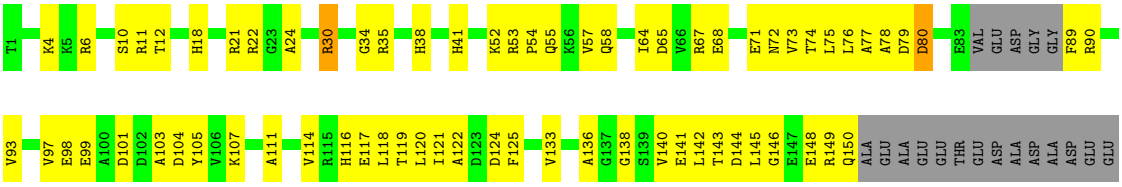


• Molecule 12: 50S ribosomal protein L14P

Chain L:

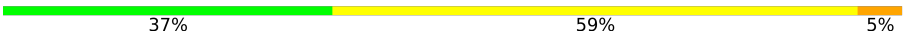
• Molecule 13: 50S ribosomal protein L15P

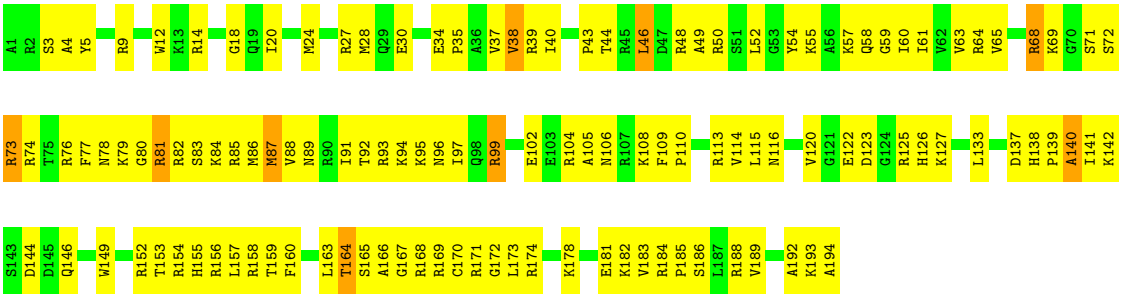
Chain M:



• Molecule 14: 50S ribosomal protein L15E

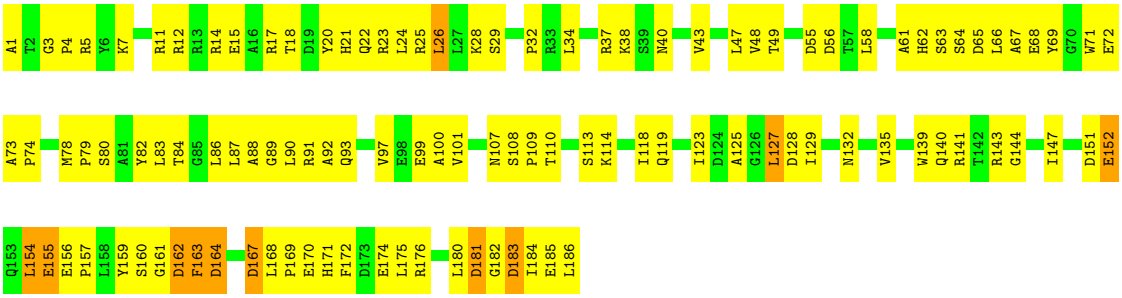
Chain N:





• Molecule 15: 50S ribosomal protein L18P

Chain O:

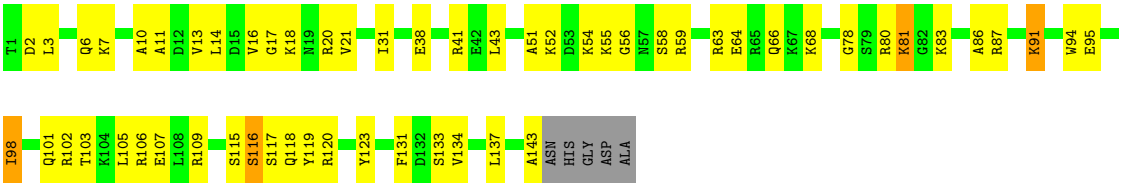


- Molecule 16: 50S ribosomal protein L18E

Chain P:

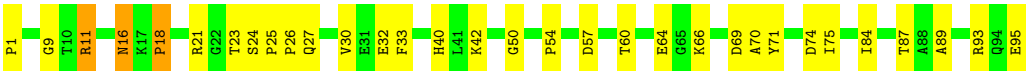
- Molecule 17: 50S ribosomal protein L19E

Chain Q:



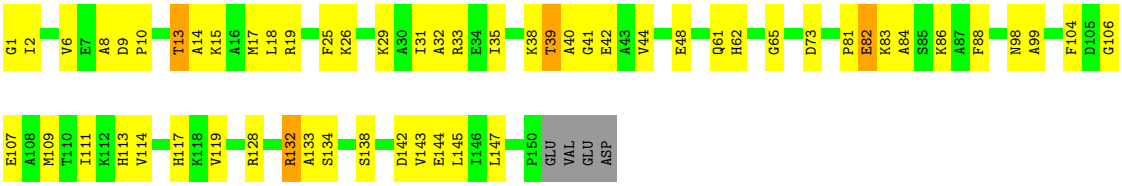
- Molecule 18: 50S ribosomal protein L21e

Chain R:



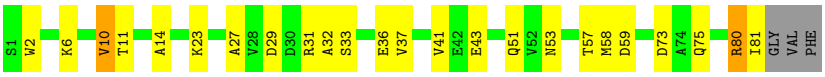
- Molecule 19: 50S ribosomal protein L22P

Chain S:



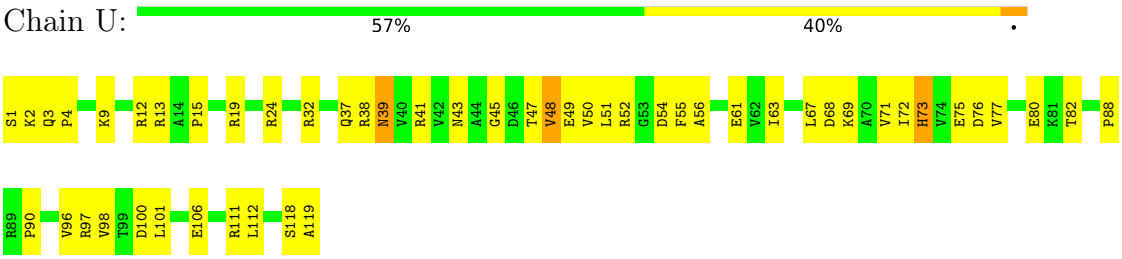
- Molecule 20: 50S ribosomal protein L23P

Chain T:



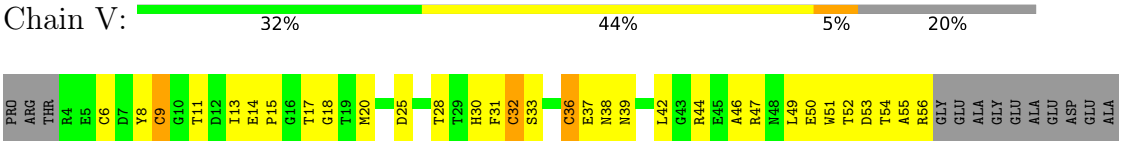
- Molecule 21: 50S ribosomal protein L24P

Chain U:



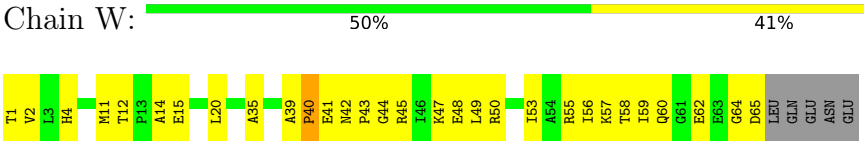
- Molecule 22: 50S ribosomal protein L24E

Chain V:



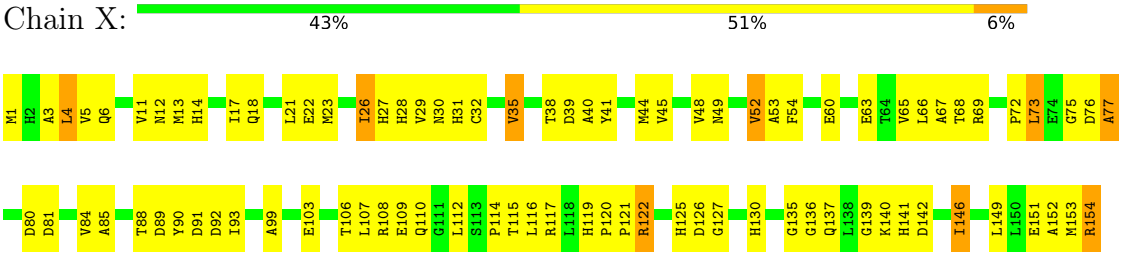
- Molecule 23: 50S ribosomal protein L29P

Chain W:



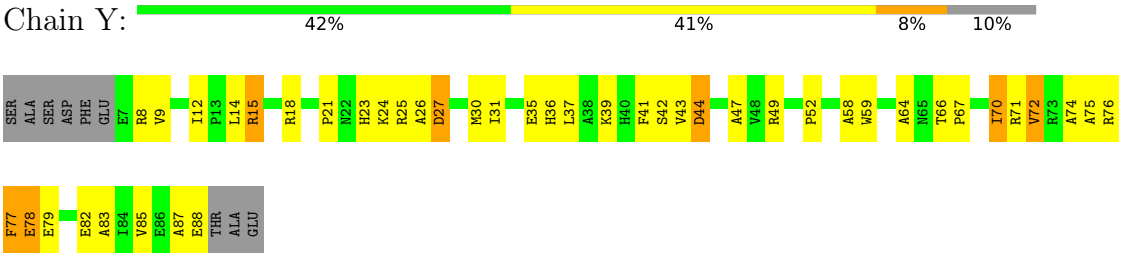
- Molecule 24: 50S ribosomal protein L30P

Chain X:



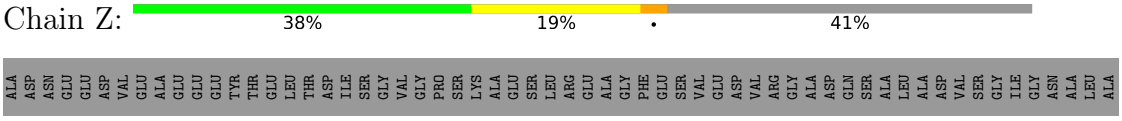
- Molecule 25: 50S ribosomal protein L31E

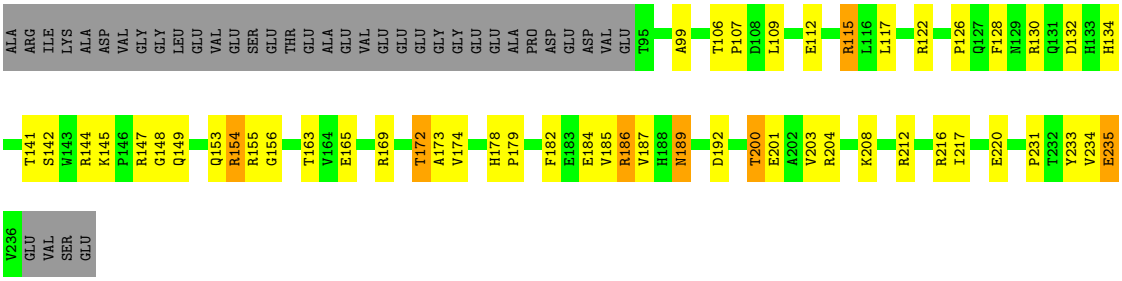
Chain Y:



- Molecule 26: 50S ribosomal protein L32E

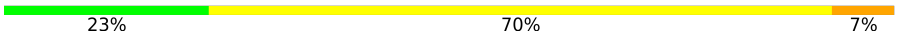
Chain Z:

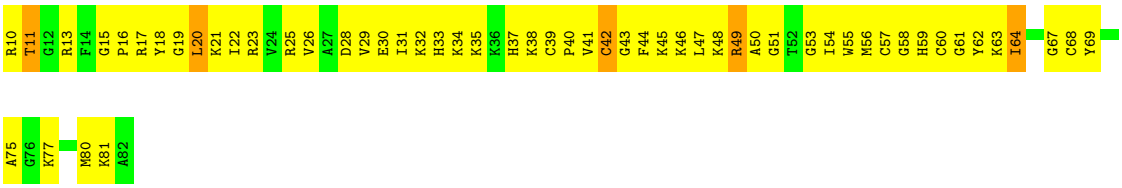




- Molecule 27: 50S ribosomal protein L37AE

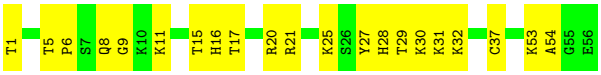
Chain 1:





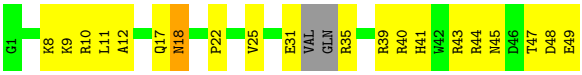
- Molecule 28: 50S ribosomal protein L37e

Chain 2:



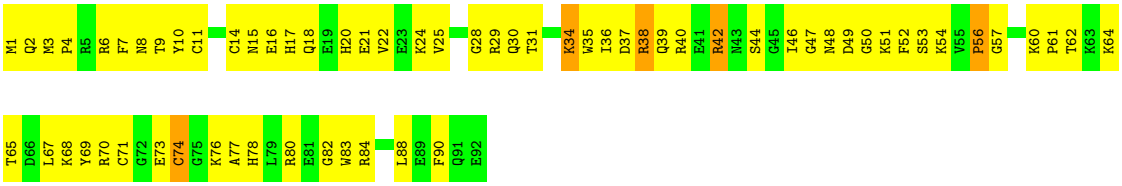
- Molecule 29: 50S ribosomal protein L39e

Chain 3:



- Molecule 30: 50S ribosomal protein L44E

Chain 4:



4 Data and refinement statistics (i)

Xtriage (Phenix) and EDS were not executed - this section is therefore incomplete.

Property	Value	Source
Space group	C 2 2 21	Depositor
Cell constants a, b, c, α, β, γ	212.90Å 300.47Å 575.18Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	20.00 – 3.00	Depositor
% Data completeness (in resolution range)	94.6 (20.00-3.00)	Depositor
R_{merge}	0.14	Depositor
R_{sym}	0.14	Depositor
Refinement program	CNS	Depositor
R, R_{free}	0.201 , 0.242	Depositor
Estimated twinning fraction	No twinning to report.	Xtriage
Total number of atoms	98569	wwPDB-VP
Average B, all atoms (Å^2)	43.0	wwPDB-VP

5 Model quality (i)

5.1 Standard geometry (i)

Bond lengths and bond angles in the following residue types are not validated in this section: K, VIR, CD, MG, CL, NA

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	0.57	9/66076 (0.0%)	0.76	37/103052 (0.0%)
2	B	0.81	10/2905 (0.3%)	0.91	17/4528 (0.4%)
3	C	0.44	0/1787	0.75	0/2409
4	D	0.41	0/2689	0.71	0/3652
5	E	0.48	0/1883	0.74	0/2551
6	F	0.40	0/1111	0.64	0/1498
7	G	0.44	0/1382	0.66	0/1880
8	H	0.40	0/896	0.63	0/1219
9	I	0.33	0/241	0.53	0/324
10	J	0.46	0/1246	0.83	2/1686 (0.1%)
11	K	0.46	0/1135	0.70	0/1530
12	L	0.43	0/1003	0.75	0/1351
13	M	0.42	0/1126	0.75	0/1504
14	N	0.63	0/1633	0.86	1/2180 (0.0%)
15	O	0.42	0/1473	0.71	0/1999
16	P	0.45	0/873	0.71	0/1181
17	Q	0.44	0/1143	0.64	0/1521
18	R	0.45	0/748	0.79	0/1005
19	S	0.45	0/1172	0.76	0/1578
20	T	0.41	0/648	0.65	0/875
21	U	0.38	0/957	0.70	0/1289
22	V	0.82	0/417	0.81	1/562 (0.2%)
23	W	0.40	0/502	0.61	0/675
24	X	0.50	0/1218	0.73	0/1655
25	Y	0.44	0/664	0.70	0/895
26	Z	0.46	0/1146	0.72	0/1536
27	1	0.77	0/575	0.82	0/763
28	2	0.54	0/437	0.78	0/578
29	3	0.42	0/398	0.63	0/527
30	4	0.98	0/771	0.81	0/1024
All	All	0.56	19/98255 (0.0%)	0.76	58/147027 (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	157
2	B	0	4
All	All	1	161

All (19) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	2488	A	O5'-C5'	-8.71	1.28	1.42
2	B	3025	G	C2'-O2'	-7.62	1.31	1.41
2	B	3003	A	O5'-C5'	7.52	1.56	1.44
2	B	3024	U	O5'-C5'	7.15	1.55	1.44
2	B	3023	U	C4'-O4'	7.08	1.54	1.45
1	A	2621	U	O5'-C5'	-6.88	1.31	1.42
2	B	3023	U	C4'-C3'	6.31	1.60	1.53
1	A	2619	U	C4'-O4'	5.80	1.53	1.45
2	B	3019	G	O5'-C5'	5.79	1.53	1.44
1	A	2486	A	O3'-P	-5.54	1.54	1.61
2	B	3023	U	P-OP1	5.45	1.58	1.49
1	A	2104	C	O5'-C5'	5.43	1.53	1.44
1	A	2618	G	C4'-O4'	5.41	1.52	1.45
2	B	3025	G	O4'-C1'	-5.41	1.34	1.41
1	A	2619	U	N1-C2	5.38	1.43	1.38
2	B	3003	A	C2'-O2'	-5.37	1.34	1.41
1	A	2619	U	C2'-O2'	-5.24	1.34	1.41
1	A	1206	U	N1-C2	5.22	1.43	1.38
2	B	3026	C	O5'-C5'	-5.04	1.34	1.42

All (58) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	1164	U	OP2-P-O3'	-18.66	64.14	105.20
1	A	1164	U	OP1-P-O3'	-18.19	65.19	105.20
1	A	1979	G	C2'-C3'-O3'	9.72	130.90	109.50
1	A	1563	G	C2'-C3'-O3'	9.58	130.58	109.50
1	A	1165	G	O5'-P-OP1	-8.38	98.16	105.70
1	A	1942	A	C5'-C4'-C3'	7.70	128.31	116.00
1	A	2618	G	OP2-P-O3'	7.30	121.25	105.20
2	B	3023	U	C5'-C4'-C3'	7.00	127.21	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	B	3023	U	O4'-C4'-C3'	-7.00	97.00	104.00
2	B	3003	A	O5'-P-OP1	6.89	118.97	110.70
1	A	1504	A	C1'-O4'-C4'	-6.60	104.62	109.90
14	N	73	ARG	N-CA-C	-6.53	93.37	111.00
1	A	2432	C	N1-C1'-C2'	6.33	122.23	114.00
1	A	1165	G	OP1-P-OP2	6.26	128.99	119.60
1	A	129	A	C2'-C3'-O3'	6.10	123.45	113.70
2	B	3024	U	C4'-C3'-O3'	6.04	125.07	113.00
2	B	3025	G	C4'-C3'-C2'	-5.99	96.61	102.60
10	J	74	ASN	N-CA-C	-5.93	94.98	111.00
2	B	3103	A	C5'-C4'-O4'	5.90	116.18	109.10
1	A	2313	C	C5'-C4'-O4'	5.89	116.16	109.10
1	A	603	A	N9-C1'-C2'	5.80	121.55	114.00
1	A	2619	U	C1'-O4'-C4'	-5.74	105.31	109.90
1	A	1120	U	C5'-C4'-C3'	-5.70	106.88	116.00
2	B	3039	U	N1-C1'-C2'	5.70	121.42	114.00
1	A	389	G	C5'-C4'-C3'	-5.69	106.89	116.00
22	V	36	CYS	CA-CB-SG	-5.64	103.85	114.00
1	A	1206	U	O5'-P-OP1	-5.60	100.66	105.70
1	A	2793	A	N9-C1'-C2'	-5.58	105.86	112.00
1	A	1738	C	O4'-C4'-C3'	-5.56	98.44	104.00
1	A	2467	A	O5'-P-OP1	-5.55	100.70	105.70
1	A	2419	U	N1-C1'-C2'	5.54	121.20	114.00
2	B	3003	A	C5'-C4'-C3'	5.51	124.82	116.00
1	A	871	G	C5'-C4'-O4'	-5.50	102.50	109.10
1	A	1359	U	N1-C1'-C2'	5.39	121.01	114.00
2	B	3108	C	N1-C1'-C2'	-5.39	106.07	112.00
2	B	3023	U	C4'-C3'-O3'	5.30	123.61	113.00
2	B	3103	A	C4'-C3'-C2'	-5.29	97.31	102.60
2	B	3025	G	OP2-P-O3'	5.24	116.74	105.20
1	A	1559	A	C2'-C3'-O3'	5.21	122.04	113.70
1	A	237	G	N9-C1'-C2'	-5.21	106.27	112.00
1	A	2122	C	OP2-P-O3'	5.21	116.66	105.20
1	A	1592	G	N9-C1'-C2'	5.21	120.77	114.00
2	B	3019	G	O5'-P-OP1	5.20	116.93	110.70
2	B	3113	C	N1-C1'-C2'	5.20	120.75	114.00
2	B	3003	A	O5'-P-OP2	-5.18	101.04	105.70
1	A	1819	G	C1'-O4'-C4'	-5.17	105.76	109.90
1	A	2012	U	N1-C1'-C2'	5.16	120.71	114.00
1	A	284	C	N1-C1'-C2'	5.16	120.71	114.00
10	J	156	THR	N-CA-C	-5.16	97.06	111.00
2	B	3023	U	O5'-P-OP2	5.15	116.88	110.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	2726	U	N1-C1'-C2'	5.13	120.67	114.00
1	A	1829	A	N9-C1'-C2'	-5.12	106.37	112.00
1	A	2467	A	C1'-O4'-C4'	-5.09	105.83	109.90
1	A	1165	G	N9-C1'-C2'	5.07	120.58	114.00
2	B	3024	U	O5'-P-OP1	5.06	116.77	110.70
1	A	1971	G	N9-C1'-C2'	5.04	120.55	114.00
1	A	1415	G	N9-C1'-C2'	-5.04	106.46	112.00
1	A	1579	C	N1-C1'-C2'	5.03	120.54	114.00

All (1) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
1	A	1563	G	C3'

All (161) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	1007	A	Sidechain
1	A	1012	A	Sidechain
1	A	1023	C	Sidechain
1	A	1027	G	Sidechain
1	A	1053	G	Sidechain
1	A	1055	G	Sidechain
1	A	1123	A	Sidechain
1	A	1125	U	Sidechain
1	A	1127	C	Sidechain
1	A	1136	U	Sidechain
1	A	1143	G	Sidechain
1	A	115	U	Sidechain
1	A	1206	U	Sidechain
1	A	1226	G	Sidechain
1	A	1260	G	Sidechain
1	A	1291	A	Sidechain
1	A	1300	G	Sidechain
1	A	1306	U	Sidechain
1	A	1362	U	Sidechain
1	A	1367	A	Sidechain
1	A	1368	U	Sidechain
1	A	1376	G	Sidechain
1	A	1377	C	Sidechain
1	A	1412	U	Sidechain
1	A	1417	G	Sidechain

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Mol	Chain	Res	Type	Group
1	A	1443	G	Sidechain
1	A	1478	U	Sidechain
1	A	1503	U	Sidechain
1	A	1531	U	Sidechain
1	A	1547	A	Sidechain
1	A	1595	G	Sidechain
1	A	1614	G	Sidechain
1	A	1635	U	Sidechain
1	A	1645	U	Sidechain
1	A	1647	G	Sidechain
1	A	1654	U	Sidechain
1	A	166	A	Sidechain
1	A	1681	G	Sidechain
1	A	1688	G	Sidechain
1	A	1706	G	Sidechain
1	A	171	C	Sidechain
1	A	1736	A	Sidechain
1	A	1748	U	Sidechain
1	A	1750	C	Sidechain
1	A	1752	G	Sidechain
1	A	176	U	Sidechain
1	A	1777	G	Sidechain
1	A	178	U	Sidechain
1	A	1822	A	Sidechain
1	A	1825	U	Sidechain
1	A	1826	C	Sidechain
1	A	1835	U	Sidechain
1	A	1844	C	Sidechain
1	A	1845	A	Sidechain
1	A	1848	G	Sidechain
1	A	1851	G	Sidechain
1	A	1861	C	Sidechain
1	A	1878	G	Sidechain
1	A	191	A	Sidechain
1	A	1943	C	Sidechain
1	A	197	C	Sidechain
1	A	1972	U	Sidechain
1	A	2023	G	Sidechain
1	A	2034	U	Sidechain
1	A	2035	C	Sidechain
1	A	2041	G	Sidechain
1	A	2053	G	Sidechain

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Mol	Chain	Res	Type	Group
1	A	2063	U	Sidechain
1	A	2068	G	Sidechain
1	A	2082	G	Sidechain
1	A	2092	G	Sidechain
1	A	2097	G	Sidechain
1	A	2101	A	Sidechain
1	A	2102	G	Sidechain
1	A	214	U	Sidechain
1	A	22	U	Sidechain
1	A	223	G	Sidechain
1	A	224	U	Sidechain
1	A	225	G	Sidechain
1	A	23	G	Sidechain
1	A	2300	A	Sidechain
1	A	2308	U	Sidechain
1	A	2312	G	Sidechain
1	A	2313	C	Sidechain
1	A	2325	C	Sidechain
1	A	2399	G	Sidechain
1	A	2412	G	Sidechain
1	A	2419	U	Sidechain
1	A	2421	G	Sidechain
1	A	2433	A	Sidechain
1	A	2438	G	Sidechain
1	A	2453	G	Sidechain
1	A	2458	U	Sidechain
1	A	2480	G	Sidechain
1	A	2486	A	Sidechain
1	A	2492	U	Sidechain
1	A	2493	C	Sidechain
1	A	2503	A	Sidechain
1	A	2506	A	Sidechain
1	A	2526	C	Sidechain
1	A	2551	C	Sidechain
1	A	2554	U	Sidechain
1	A	26	U	Sidechain
1	A	2630	G	Sidechain
1	A	2673	U	Sidechain
1	A	2692	G	Sidechain
1	A	2712	G	Sidechain
1	A	2722	G	Sidechain
1	A	2738	G	Sidechain

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Mol	Chain	Res	Type	Group
1	A	2747	C	Sidechain
1	A	2774	U	Sidechain
1	A	2790	C	Sidechain
1	A	2793	A	Sidechain
1	A	2811	A	Sidechain
1	A	2842	G	Sidechain
1	A	2891	A	Sidechain
1	A	315	G	Sidechain
1	A	32	G	Sidechain
1	A	323	C	Sidechain
1	A	33	G	Sidechain
1	A	333	G	Sidechain
1	A	395	A	Sidechain
1	A	396	U	Sidechain
1	A	434	U	Sidechain
1	A	44	G	Sidechain
1	A	460	A	Sidechain
1	A	486	A	Sidechain
1	A	500	G	Sidechain
1	A	502	A	Sidechain
1	A	55	U	Sidechain
1	A	552	A	Sidechain
1	A	603	A	Sidechain
1	A	635	A	Sidechain
1	A	664	U	Sidechain
1	A	668	C	Sidechain
1	A	701	U	Sidechain
1	A	722	G	Sidechain
1	A	743	G	Sidechain
1	A	751	U	Sidechain
1	A	753	U	Sidechain
1	A	759	C	Sidechain
1	A	768	U	Sidechain
1	A	782	G	Sidechain
1	A	816	G	Sidechain
1	A	818	A	Sidechain
1	A	826	U	Sidechain
1	A	854	G	Sidechain
1	A	862	U	Sidechain
1	A	864	U	Sidechain
1	A	869	G	Sidechain
1	A	873	G	Sidechain

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Mol	Chain	Res	Type	Group
1	A	881	C	Sidechain
1	A	888	U	Sidechain
1	A	893	C	Sidechain
1	A	918	G	Sidechain
1	A	950	G	Sidechain
1	A	954	U	Sidechain
2	B	3022	G	Sidechain
2	B	3023	U	Sidechain
2	B	3065	A	Sidechain
2	B	3099	U	Sidechain

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	59017	0	29801	1306	0
2	B	2600	0	1326	85	0
3	C	1754	0	1763	144	0
4	D	2624	0	2533	195	0
5	E	1858	0	1816	146	0
6	F	1094	0	1085	135	0
7	G	1357	0	1266	79	0
8	H	885	0	854	73	0
9	I	240	0	231	23	0
10	J	1215	0	1215	168	0
11	K	1119	0	1098	70	0
12	L	993	0	1027	60	0
13	M	1114	0	1072	79	0
14	N	1605	0	1676	212	0
15	O	1444	0	1401	152	0
16	P	864	0	873	29	0
17	Q	1133	0	1127	68	0
18	R	734	0	729	27	0
19	S	1149	0	1122	68	0
20	T	641	0	605	26	0
21	U	949	0	923	52	0
22	V	410	0	368	48	0
23	W	499	0	511	30	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
24	X	1195	0	1137	115	0
25	Y	654	0	653	48	0
26	Z	1130	0	1133	62	0
27	1	563	0	601	83	0
28	2	430	0	426	30	0
29	3	393	0	406	22	0
30	4	755	0	732	89	0
31	A	38	0	34	3	0
32	4	1	0	0	0	0
32	A	109	0	0	0	0
32	B	1	0	0	0	0
32	C	2	0	0	0	0
32	D	1	0	0	0	0
32	L	1	0	0	0	0
32	U	1	0	0	0	0
32	Z	1	0	0	0	0
33	A	1	0	0	0	0
34	4	1	0	0	0	0
34	A	71	0	0	0	0
34	B	2	0	0	0	0
34	C	1	0	0	0	0
34	E	1	0	0	0	0
34	J	2	0	0	0	0
34	K	1	0	0	0	0
34	M	1	0	0	0	0
34	N	1	0	0	0	0
34	R	1	0	0	0	0
34	S	2	0	0	0	0
34	T	1	0	0	0	0
34	U	1	0	0	0	0
35	4	1	0	0	1	0
35	A	8	0	0	0	0
35	C	1	0	0	0	0
35	D	1	0	0	0	0
35	K	3	0	0	1	0
35	L	1	0	0	0	0
35	M	1	0	0	2	0
35	N	1	0	0	2	0
35	O	1	0	0	1	0
35	P	1	0	0	0	0
35	S	1	0	0	0	0
35	Z	2	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
36	1	1	0	0	0	0
36	2	1	0	0	0	0
36	4	1	0	0	0	0
36	P	1	0	0	0	0
36	V	1	0	0	0	0
37	1	35	0	0	15	0
37	2	57	0	0	1	0
37	3	40	0	0	6	0
37	4	72	0	0	11	0
37	A	5881	0	0	302	0
37	B	146	0	0	21	0
37	C	135	0	0	15	0
37	D	141	0	0	33	0
37	E	178	0	0	46	0
37	F	49	0	0	17	0
37	G	43	0	0	10	0
37	H	30	0	0	11	0
37	I	21	0	0	7	0
37	J	76	0	0	23	0
37	K	55	0	0	6	0
37	L	64	0	0	16	0
37	M	85	0	0	21	0
37	N	141	0	0	35	0
37	O	67	0	0	20	0
37	P	45	0	0	10	0
37	Q	72	0	0	10	0
37	R	57	0	0	3	0
37	S	87	0	0	10	0
37	T	34	0	0	5	0
37	U	33	0	0	6	0
37	V	27	0	0	6	0
37	W	16	0	0	2	0
37	X	68	0	0	11	0
37	Y	27	0	0	5	0
37	Z	100	0	0	14	0
All	All	98569	0	59544	3401	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 23.

All (3401) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:86:ARG:NH1	10:J:133:ILE:HG13	1.52	1.20
10:J:165:GLY:HA3	37:J:8397:HOH:O	1.39	1.18
27:1:39:CYS:SG	27:1:47:LEU:HD21	1.84	1.17
14:N:87:MET:HG2	30:4:46:ILE:HG21	1.25	1.15
21:U:71:VAL:HG11	21:U:90:PRO:HB3	1.31	1.11
5:E:236:THR:HG22	5:E:239:ALA:H	1.01	1.10
23:W:12:THR:HG22	23:W:15:GLU:HG3	1.30	1.10
27:1:46:LYS:HD3	27:1:59:HIS:HB2	1.33	1.09
1:A:1751:G:H2'	1:A:1752:G:H5"	1.34	1.09
5:E:115:LEU:HD13	5:E:223:LEU:HD21	1.35	1.06
10:J:86:ARG:HH11	10:J:133:ILE:CG1	1.67	1.06
5:E:5:ILE:HD11	5:E:16:VAL:HG23	1.39	1.04
6:F:134:LEU:HD11	6:F:166:ILE:HD11	1.35	1.04
1:A:2717:C:H2'	1:A:2718:C:H5"	1.37	1.04
10:J:29:ALA:HB3	10:J:65:ARG:HH12	1.22	1.03
1:A:1160:G:H5'	1:A:1161:A:H5'	1.37	1.03
26:Z:200:THR:HG22	26:Z:201:GLU:HG3	1.39	1.02
10:J:45:GLN:HB3	10:J:163:PRO:HD2	1.40	1.02
1:A:856:G:H2'	37:A:5789:HOH:O	1.60	1.02
14:N:164:THR:HG22	14:N:167:GLY:H	1.19	1.01
6:F:25:MET:HE2	6:F:41:LEU:HG	1.42	1.01
27:1:40:PRO:HD3	27:1:47:LEU:HD11	1.41	1.01
1:A:156:C:H5"	14:N:171:ARG:HD3	1.40	1.01
1:A:2121:G:OP2	37:A:3888:HOH:O	1.79	1.01
5:E:127:ARG:NH2	5:E:225:PRO:HG2	1.77	0.99
14:N:74:ARG:O	14:N:88:VAL:HG13	1.60	0.99
1:A:1835:U:H5	1:A:1840:A:N7	1.61	0.98
1:A:870:G:H2'	1:A:871:G:H5"	1.43	0.98
1:A:1134:G:H4'	10:J:151:MET:HE1	1.41	0.98
14:N:87:MET:CG	30:4:46:ILE:HG21	1.93	0.98
4:D:238:ASN:HD22	4:D:240:GLY:H	1.10	0.97
5:E:78:ARG:HG3	5:E:78:ARG:HH11	1.29	0.97
4:D:86:ALA:HA	37:D:8580:HOH:O	1.65	0.97
2:B:3006:C:H5"	15:O:37:ARG:NH1	1.77	0.96
2:B:3076:G:H3'	2:B:3077:A:H5"	1.47	0.96
1:A:962:C:H1'	15:O:5:ARG:NH1	1.80	0.96
4:D:258:GLY:H	4:D:260:HIS:CE1	1.83	0.96
5:E:140:VAL:HB	37:E:8458:HOH:O	1.65	0.96
1:A:871:G:H5'	1:A:871:G:H8	1.30	0.95
1:A:542:A:H5'	1:A:542:A:H8	1.31	0.95
25:Y:37:LEU:HD13	25:Y:85:VAL:HG21	1.44	0.95
12:L:81:ARG:HB2	12:L:87:ARG:HH11	1.31	0.95

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:27:LYS:H	10:J:58:HIS:HD2	1.14	0.95
1:A:1242:A:H5'	11:K:82:THR:HG23	1.46	0.94
1:A:2717:C:C2'	1:A:2718:C:H5"	1.96	0.94
24:X:88:THR:HG22	24:X:89:ASP:H	1.31	0.94
11:K:76:ASP:HA	37:K:5907:HOH:O	1.67	0.94
4:D:264:GLU:HG2	4:D:267:LYS:HE2	1.47	0.94
14:N:69:LYS:O	14:N:73:ARG:NH2	2.01	0.94
1:A:1474:C:H6	1:A:1474:C:H5'	1.31	0.94
10:J:162:SER:HB2	10:J:163:PRO:HD3	1.50	0.94
1:A:21:G:H5'	19:S:2:ILE:HA	1.48	0.94
15:O:47:LEU:HD11	15:O:127:LEU:HD21	1.46	0.94
2:B:3056:A:H2'	2:B:3057:A:H5"	1.49	0.94
1:A:2467:A:H2'	37:A:5819:HOH:O	1.68	0.93
5:E:242:GLU:HG3	37:E:8386:HOH:O	1.67	0.93
1:A:871:G:H5'	1:A:871:G:C8	2.02	0.93
14:N:52:LEU:HD11	37:N:8620:HOH:O	1.67	0.93
30:4:48:ASN:ND2	30:4:50:GLY:H	1.66	0.93
1:A:2123:A:OP2	37:A:5652:HOH:O	1.85	0.93
1:A:1603:A:H5'	1:A:1605:G:O4'	1.68	0.93
10:J:86:ARG:HH11	10:J:133:ILE:HG13	0.77	0.93
17:Q:115:SER:H	17:Q:118:GLN:HE21	0.96	0.92
3:C:211:LYS:HB3	3:C:212:PRO:HD2	1.51	0.92
15:O:49:THR:HG22	15:O:56:ASP:HB2	1.52	0.92
5:E:236:THR:HG21	37:E:8378:HOH:O	1.70	0.92
37:A:5314:HOH:O	2:B:3103:A:H4'	1.67	0.92
10:J:55:GLN:HE21	10:J:124:ARG:HE	1.12	0.92
14:N:35:PRO:CG	14:N:38:VAL:HG23	1.98	0.92
17:Q:115:SER:OG	17:Q:118:GLN:HG3	1.69	0.92
26:Z:187:VAL:HG23	26:Z:192:ASP:HB2	1.52	0.92
37:A:4103:HOH:O	14:N:157:LEU:HD11	1.69	0.91
1:A:506:G:H22	1:A:509:A:H5'	1.35	0.91
15:O:87:LEU:HD12	15:O:186:LEU:HD21	1.52	0.91
37:A:5224:HOH:O	14:N:14:ARG:HG2	1.68	0.91
10:J:59:ASN:H	10:J:59:ASN:HD22	1.17	0.91
24:X:88:THR:HB	37:X:6679:HOH:O	1.69	0.91
5:E:2:GLN:HB3	37:E:8337:HOH:O	1.70	0.91
25:Y:78:GLU:HG2	25:Y:79:GLU:H	1.37	0.90
1:A:960:G:H4'	37:A:7787:HOH:O	1.69	0.90
10:J:26:LYS:HD2	10:J:28:ILE:HD12	1.53	0.90
1:A:2122:C:OP2	37:A:6938:HOH:O	1.90	0.90
5:E:236:THR:HG22	5:E:239:ALA:N	1.86	0.90

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:Q:115:SER:H	17:Q:118:GLN:NE2	1.70	0.90
18:R:25:PRO:HB2	37:R:4350:HOH:O	1.71	0.90
1:A:1116:U:HO2'	1:A:1118:A:H2	0.91	0.89
27:1:42:CYS:SG	27:1:44:PHE:HB2	2.12	0.89
26:Z:212:ARG:HD2	37:Z:8605:HOH:O	1.71	0.89
14:N:35:PRO:HG2	14:N:38:VAL:HG23	1.54	0.89
1:A:2064:U:H4'	1:A:2653:A:OP1	1.72	0.89
19:S:99:ALA:HB1	19:S:109:MET:HE1	1.51	0.89
30:4:70:ARG:HG2	30:4:77:ALA:HB2	1.53	0.89
17:Q:55:LYS:HA	37:Q:185:HOH:O	1.73	0.89
37:A:7916:HOH:O	30:4:60:LYS:HG3	1.71	0.88
1:A:31:C:H4'	37:A:7781:HOH:O	1.74	0.88
1:A:1701:A:H5'	37:A:6644:HOH:O	1.73	0.88
5:E:132:ASP:HB3	37:E:8367:HOH:O	1.73	0.88
13:M:68:GLU:HA	37:M:8547:HOH:O	1.73	0.88
14:N:84:LYS:O	37:N:8534:HOH:O	1.89	0.88
1:A:1372:A:H3'	37:A:7549:HOH:O	1.72	0.88
11:K:19:MET:CE	11:K:132:LEU:HD11	2.04	0.88
1:A:1474:C:H5'	1:A:1474:C:C6	2.09	0.87
14:N:173:LEU:HD23	14:N:183:VAL:HG12	1.56	0.87
1:A:1244:U:OP1	11:K:18:ILE:HD13	1.74	0.87
1:A:1166:A:H1'	1:A:1192:A:C2	2.09	0.87
1:A:2420:G:O2'	1:A:2421:G:H5'	1.72	0.87
3:C:88:ILE:HD13	3:C:100:PRO:HD3	1.57	0.87
3:C:192:VAL:HB	37:C:8602:HOH:O	1.72	0.87
24:X:137:GLN:HE21	24:X:141:HIS:HE1	1.21	0.87
1:A:2432:C:O4'	37:A:3119:HOH:O	1.92	0.86
7:G:100:ASP:HB2	37:G:2789:HOH:O	1.73	0.86
8:H:96:ALA:HA	37:H:3111:HOH:O	1.74	0.86
19:S:9:ASP:O	19:S:13:THR:HB	1.75	0.86
10:J:162:SER:HB2	10:J:163:PRO:CD	2.05	0.86
24:X:4:LEU:HD22	24:X:52:VAL:HG21	1.56	0.86
5:E:214:THR:HG21	37:E:8410:HOH:O	1.74	0.86
25:Y:15:ARG:HB3	25:Y:15:ARG:HH11	1.41	0.86
22:V:9:CYS:SG	22:V:11:THR:HG23	2.14	0.86
30:4:74:CYS:SG	30:4:76:LYS:HB2	2.16	0.86
12:L:10:GLN:NE2	12:L:10:GLN:H	1.72	0.85
11:K:99:GLU:HA	37:K:7377:HOH:O	1.74	0.85
5:E:104:ASP:HA	5:E:107:ARG:HH12	1.39	0.85
4:D:140:LEU:HA	37:D:8580:HOH:O	1.76	0.85
37:A:5445:HOH:O	4:D:216:LYS:HA	1.77	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:162:MET:HE3	4:D:308:LEU:HD21	1.58	0.85
20:T:57:THR:HG22	20:T:59:ASP:H	1.41	0.85
24:X:122:ARG:HH21	24:X:154:ARG:HD2	1.42	0.85
1:A:2506:A:HO2'	1:A:2507:G:H8	0.87	0.85
12:L:29:LEU:HB3	12:L:55:VAL:HG11	1.57	0.84
13:M:133:VAL:HA	37:M:8578:HOH:O	1.75	0.84
28:2:8:GLN:HE22	28:2:11:LYS:NZ	1.74	0.84
10:J:150:LYS:HE2	37:J:8381:HOH:O	1.77	0.84
1:A:1184:C:H1'	37:A:7822:HOH:O	1.77	0.84
1:A:2755:G:H1'	37:A:5048:HOH:O	1.78	0.84
24:X:130:HIS:O	24:X:136:GLY:HA3	1.76	0.84
1:A:2094:G:H4'	4:D:245:SER:HB3	1.59	0.84
14:N:87:MET:HG2	30:4:46:ILE:CG2	2.06	0.84
1:A:2064:U:H5'	1:A:2652:U:O3'	1.78	0.84
1:A:2533:C:H6	1:A:2533:C:H5'	1.43	0.84
14:N:164:THR:HG23	14:N:165:SER:N	1.91	0.84
1:A:962:C:H1'	15:O:5:ARG:HH12	1.43	0.84
24:X:65:VAL:HA	24:X:68:THR:HG22	1.60	0.84
4:D:212:GLN:HB2	4:D:257:THR:HG21	1.57	0.84
9:I:12:ILE:HA	37:I:4499:HOH:O	1.77	0.84
7:G:6:GLU:HA	7:G:46:THR:HG22	1.60	0.83
1:A:1116:U:H3	1:A:1246:A:H62	1.26	0.83
6:F:105:SER:HB2	6:F:131:THR:HG23	1.58	0.83
1:A:1165:G:H4'	1:A:1174:A:O2'	1.78	0.83
1:A:1205:U:H2'	1:A:1206:U:H5'	1.61	0.83
21:U:9:LYS:HE3	21:U:13:ARG:NH1	1.93	0.82
6:F:20:LYS:HA	6:F:75:LEU:O	1.80	0.82
12:L:81:ARG:HB2	12:L:87:ARG:NH1	1.94	0.82
1:A:2271:G:OP2	37:A:9817:HOH:O	1.98	0.82
37:A:4163:HOH:O	14:N:189:VAL:HG21	1.78	0.82
1:A:541:C:H2'	1:A:542:A:H5"	1.61	0.82
29:3:41:HIS:H	29:3:45:ASN:HD22	1.27	0.82
1:A:1450:C:H4'	1:A:1451:C:OP2	1.78	0.82
12:L:10:GLN:H	12:L:10:GLN:HE21	1.24	0.81
1:A:288:A:H61	1:A:364:C:H42	1.27	0.81
4:D:18:ARG:HG3	4:D:256:GLN:HG3	1.63	0.81
19:S:39:THR:HB	19:S:42:GLU:HG3	1.60	0.81
27:1:38:LYS:HE2	27:1:45:LYS:HE2	1.62	0.81
12:L:39:GLY:HA2	37:L:4183:HOH:O	1.81	0.81
26:Z:220:GLU:HG2	37:Z:8552:HOH:O	1.81	0.81
1:A:541:C:C2'	1:A:542:A:H5"	2.10	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:A:9513:HOH:O	14:N:82:ARG:HD2	1.78	0.81
6:F:27:ILE:HG22	6:F:28:GLY:H	1.45	0.81
9:I:23:ILE:HD13	9:I:67:LEU:HD23	1.60	0.81
17:Q:59:ARG:NH2	17:Q:66:GLN:HE22	1.78	0.81
3:C:121:ALA:O	3:C:124:VAL:HG22	1.80	0.81
24:X:68:THR:HG23	24:X:69:ARG:HG2	1.61	0.81
14:N:164:THR:HG22	14:N:167:GLY:N	1.95	0.81
10:J:59:ASN:HD22	10:J:59:ASN:N	1.77	0.81
11:K:26:VAL:HG13	11:K:36:VAL:HG11	1.63	0.81
1:A:1209:C:H4'	37:A:5643:HOH:O	1.81	0.81
12:L:22:ASP:HB2	37:L:5264:HOH:O	1.78	0.81
1:A:2426:G:H1'	37:A:6453:HOH:O	1.81	0.80
4:D:321:PRO:HA	37:D:8653:HOH:O	1.80	0.80
1:A:870:G:C2'	1:A:871:G:H5"	2.10	0.80
24:X:122:ARG:HG2	24:X:122:ARG:HH11	1.43	0.80
1:A:1080:C:H4'	1:A:1081:A:OP1	1.80	0.80
10:J:26:LYS:HG2	10:J:28:ILE:H	1.46	0.80
13:M:79:ASP:HB3	37:M:8563:HOH:O	1.79	0.80
1:A:2502:C:H2'	1:A:2503:A:H5'	1.62	0.80
37:A:4832:HOH:O	14:N:146:GLN:HG2	1.82	0.80
3:C:36:ASP:OD2	3:C:85:ASP:HB2	1.80	0.80
4:D:190:MET:HE2	4:D:194:PHE:CD1	2.17	0.80
8:H:63:ILE:HB	8:H:64:PRO:HD3	1.63	0.80
16:P:42:GLU:HB2	37:P:2176:HOH:O	1.81	0.80
24:X:4:LEU:HD22	24:X:52:VAL:CG2	2.12	0.80
22:V:13:ILE:HG12	22:V:32:CYS:CB	2.12	0.80
3:C:35:GLY:O	3:C:36:ASP:HB3	1.80	0.80
12:L:14:LYS:HB2	12:L:45:PRO:HG2	1.62	0.80
12:L:62:PRO:HG3	12:L:65:ARG:HH21	1.46	0.80
25:Y:25:ARG:HD2	37:Y:3861:HOH:O	1.82	0.80
1:A:871:G:H8	1:A:871:G:C5'	1.96	0.79
15:O:144:GLY:O	15:O:147:ILE:HG22	1.81	0.79
25:Y:71:ARG:HB3	25:Y:88:GLU:OE1	1.83	0.79
1:A:2363:G:O3'	18:R:11:ARG:NH1	2.15	0.79
8:H:2:VAL:HG22	8:H:57:GLU:OE1	1.82	0.79
6:F:154:LYS:H	6:F:154:LYS:HD2	1.45	0.79
1:A:56:G:H5"	23:W:50:ARG:HH12	1.48	0.79
1:A:282:C:H1'	1:A:368:C:N4	1.96	0.79
7:G:97:VAL:HG12	37:G:4191:HOH:O	1.82	0.79
10:J:142:VAL:HG13	37:J:8379:HOH:O	1.82	0.79
1:A:545:G:H5'	1:A:545:G:H8	1.47	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:56:ILE:HG22	10:J:61:LEU:HD22	1.65	0.79
11:K:19:MET:HE3	11:K:132:LEU:HD11	1.64	0.79
17:Q:115:SER:N	17:Q:118:GLN:HE21	1.77	0.79
19:S:18:LEU:HD12	19:S:143:VAL:HG11	1.65	0.79
29:3:35:ARG:HB2	37:3:2691:HOH:O	1.83	0.79
10:J:139:ASP:N	10:J:140:PRO:HD3	1.97	0.79
1:A:1118:A:C8	1:A:1118:A:H3'	2.18	0.78
2:B:3020:G:H3'	37:B:2984:HOH:O	1.83	0.78
14:N:102:GLU:OE1	14:N:164:THR:HG21	1.82	0.78
15:O:7:LYS:HE3	18:R:21:ARG:O	1.84	0.78
26:Z:187:VAL:HG23	26:Z:192:ASP:CB	2.14	0.78
13:M:120:LEU:HD12	13:M:133:VAL:HG21	1.65	0.78
26:Z:216:ARG:HD3	37:Z:8574:HOH:O	1.83	0.78
1:A:1771:U:H4'	27:1:20:LEU:HD21	1.64	0.78
1:A:2433:A:H2'	1:A:2434:A:H8	1.48	0.78
11:K:74:ARG:HB3	11:K:74:ARG:HH11	1.49	0.78
1:A:560:C:H42	1:A:597:A:H61	1.30	0.78
1:A:2435:U:OP1	30:4:28:GLY:HA3	1.84	0.78
14:N:74:ARG:HH11	14:N:74:ARG:HG3	1.46	0.78
1:A:2466:G:H5"	37:A:4025:HOH:O	1.82	0.78
1:A:2502:C:C2'	1:A:2503:A:H5'	2.14	0.78
14:N:12:TRP:CE2	14:N:20:ILE:HD11	2.19	0.78
22:V:9:CYS:HA	22:V:52:THR:HG23	1.65	0.78
1:A:2466:G:OP1	37:A:4025:HOH:O	2.01	0.78
5:E:214:THR:HG23	37:E:8443:HOH:O	1.84	0.78
14:N:186:SER:O	14:N:189:VAL:HG12	1.83	0.78
27:1:29:VAL:O	27:1:33:HIS:HB2	1.83	0.78
1:A:21:G:C5'	19:S:2:ILE:HA	2.13	0.78
5:E:78:ARG:HG3	5:E:78:ARG:NH1	1.98	0.78
1:A:1835:U:C5	1:A:1840:A:N7	2.50	0.78
37:A:6857:HOH:O	26:Z:141:THR:HG23	1.83	0.78
11:K:131:THR:HG22	11:K:134:GLU:H	1.47	0.78
25:Y:41:PHE:O	25:Y:43:VAL:HG23	1.82	0.78
1:A:506:G:H22	1:A:509:A:C5'	1.96	0.77
4:D:238:ASN:HD22	4:D:240:GLY:N	1.82	0.77
27:1:38:LYS:HG2	27:1:45:LYS:HG2	1.64	0.77
1:A:820:G:OP1	27:1:17:ARG:NH2	2.17	0.77
37:A:5198:HOH:O	11:K:47:THR:HB	1.83	0.77
37:A:6656:HOH:O	6:F:99:ASP:HA	1.84	0.77
26:Z:186:ARG:HG2	26:Z:186:ARG:HH11	1.47	0.77
15:O:113:SER:HB2	37:O:8560:HOH:O	1.83	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:1:39:CYS:HA	27:1:47:LEU:HD11	1.65	0.77
1:A:1160:G:C5'	1:A:1161:A:H5'	2.14	0.77
14:N:169:ARG:HD2	37:N:8593:HOH:O	1.84	0.77
21:U:61:GLU:HG3	37:U:3851:HOH:O	1.82	0.77
10:J:139:ASP:HA	37:J:8369:HOH:O	1.83	0.77
12:L:74:VAL:HG13	12:L:113:ILE:HG23	1.66	0.77
1:A:2433:A:H2'	1:A:2434:A:C8	2.20	0.77
10:J:2:PRO:HB2	37:J:8364:HOH:O	1.84	0.77
5:E:5:ILE:HD11	5:E:16:VAL:CG2	2.13	0.77
13:M:67:ARG:O	13:M:71:GLU:HG3	1.85	0.77
22:V:6:CYS:SG	22:V:31:PHE:HA	2.24	0.77
6:F:64:ARG:HG2	6:F:67:ASP:HB3	1.67	0.76
19:S:8:ALA:HB1	19:S:13:THR:HG21	1.68	0.76
1:A:1118:A:H3'	1:A:1118:A:H8	1.48	0.76
23:W:12:THR:HG22	23:W:15:GLU:CG	2.15	0.76
24:X:6:GLN:HB2	24:X:26:ILE:HD12	1.66	0.76
1:A:1886:A:N3	37:A:5184:HOH:O	2.16	0.76
1:A:558:C:H5'	37:A:5621:HOH:O	1.85	0.76
1:A:2586:U:H3	1:A:2592:G:H22	1.31	0.76
5:E:236:THR:H	5:E:239:ALA:HB3	1.51	0.76
23:W:1:THR:HG23	23:W:2:VAL:H	1.50	0.76
27:1:49:ARG:HD2	37:1:8425:HOH:O	1.85	0.76
1:A:645:U:OP2	13:M:4:LYS:HE2	1.85	0.76
27:1:30:GLU:HA	27:1:33:HIS:HB3	1.68	0.76
3:C:69:LEU:HD21	3:C:120:ARG:HB3	1.67	0.76
12:L:62:PRO:HG3	12:L:65:ARG:NH2	1.99	0.76
19:S:99:ALA:HB1	19:S:109:MET:CE	2.14	0.76
19:S:106:GLY:HA2	19:S:109:MET:HE3	1.65	0.76
2:B:3006:C:H5"	15:O:37:ARG:HH12	1.48	0.76
23:W:42:ASN:HB3	37:W:7247:HOH:O	1.84	0.76
30:4:69:TYR:HB2	30:4:78:HIS:CE1	2.21	0.76
1:A:381:G:H5"	37:A:4688:HOH:O	1.84	0.76
1:A:2780:C:H1'	7:G:143:GLN:HE21	1.49	0.76
25:Y:76:ARG:HH11	25:Y:76:ARG:HG3	1.50	0.76
1:A:2748:G:H2'	37:A:7899:HOH:O	1.86	0.75
5:E:139:VAL:HG13	37:E:8455:HOH:O	1.83	0.75
1:A:56:G:H5"	23:W:50:ARG:NH1	2.01	0.75
1:A:2467:A:H3'	37:A:5819:HOH:O	1.85	0.75
8:H:58:GLU:HA	8:H:61:MET:HG3	1.69	0.75
1:A:1679:C:H5'	37:A:9711:HOH:O	1.86	0.75
5:E:47:GLY:HA2	5:E:92:PRO:HB2	1.68	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:T:57:THR:HG22	20:T:59:ASP:N	2.00	0.75
1:A:1684:A:H1'	29:3:43:ARG:HH22	1.51	0.75
1:A:2768:A:H2'	1:A:2769:C:O4'	1.86	0.75
2:B:3048:C:H4'	15:O:141:ARG:HH21	1.51	0.75
10:J:130:HIS:CD2	10:J:133:ILE:HD11	2.21	0.75
5:E:219:ASN:O	5:E:222:ASP:OD1	2.05	0.75
1:A:1172:G:H1'	37:A:5338:HOH:O	1.85	0.74
1:A:2346:C:O2'	6:F:52:THR:HG21	1.86	0.74
37:A:7357:HOH:O	18:R:9:GLY:HA2	1.87	0.74
10:J:27:LYS:N	10:J:58:HIS:HD2	1.84	0.74
15:O:71:TRP:CE3	15:O:175:LEU:HD22	2.22	0.74
1:A:1751:G:C2'	1:A:1752:G:H5"	2.15	0.74
1:A:2758:G:H2'	1:A:2759:C:C6	2.22	0.74
1:A:2812:A:N7	37:A:7874:HOH:O	2.19	0.74
3:C:153:ARG:HB2	3:C:153:ARG:HH11	1.52	0.74
10:J:41:THR:HA	37:J:8395:HOH:O	1.86	0.74
15:O:43:VAL:HG13	15:O:118:ILE:HD11	1.70	0.74
27:1:46:LYS:HB2	27:1:57:CYS:SG	2.27	0.74
1:A:541:C:H2'	1:A:542:A:C5'	2.17	0.74
14:N:87:MET:CB	30:4:46:ILE:HG21	2.17	0.74
1:A:559:U:H6	1:A:559:U:H5'	1.53	0.74
1:A:272:A:H3'	37:A:7887:HOH:O	1.87	0.74
1:A:877:G:H5'	1:A:878:G:OP1	1.88	0.74
15:O:48:VAL:CG1	15:O:55:ASP:HB3	2.17	0.74
1:A:2526:C:O2'	1:A:2527:U:H5'	1.87	0.74
14:N:59:GLY:HA3	14:N:141:ILE:CD1	2.17	0.74
1:A:1759:A:N7	37:A:9936:HOH:O	2.21	0.74
24:X:88:THR:HG22	24:X:89:ASP:N	2.03	0.74
1:A:2291:A:C8	1:A:2309:C:H5'	2.23	0.73
1:A:2432:C:O2'	1:A:2433:A:H5'	1.88	0.73
2:B:3014:G:H5'	2:B:3014:G:H8	1.53	0.73
10:J:140:PRO:HB3	37:J:8379:HOH:O	1.88	0.73
1:A:284:C:H4'	1:A:285:A:O5'	1.87	0.73
1:A:1886:A:H4'	37:1:8405:HOH:O	1.87	0.73
1:A:2506:A:O2'	1:A:2507:G:H8	1.66	0.73
1:A:1191:A:H3'	1:A:1192:A:H5"	1.68	0.73
1:A:2467:A:OP1	37:A:9444:HOH:O	2.06	0.73
1:A:2635:A:O2'	1:A:2636:C:H5'	1.89	0.73
7:G:107:PHE:CE2	7:G:108:LEU:HD13	2.23	0.73
27:1:31:ILE:O	27:1:35:LYS:HG3	1.88	0.73
13:M:143:THR:HG22	13:M:144:ASP:N	2.02	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:P:38:ARG:NH1	37:P:7674:HOH:O	2.20	0.73
30:4:25:VAL:HG22	30:4:68:LYS:HG3	1.68	0.73
1:A:711:G:H1'	37:A:7453:HOH:O	1.88	0.73
7:G:166:VAL:HG12	37:G:3134:HOH:O	1.88	0.73
9:I:12:ILE:HB	37:I:4714:HOH:O	1.89	0.73
10:J:150:LYS:HB2	10:J:157:ILE:HD12	1.71	0.73
15:O:86:LEU:HD12	15:O:125:ALA:HB2	1.70	0.73
1:A:113:A:H3'	1:A:114:A:H5"	1.70	0.73
1:A:2271:G:P	37:A:9817:HOH:O	2.46	0.73
37:A:7781:HOH:O	21:U:9:LYS:HB2	1.86	0.73
1:A:2467:A:C2'	37:A:5819:HOH:O	2.33	0.73
2:B:3006:C:C5'	15:O:37:ARG:NH1	2.52	0.73
15:O:183:ASP:OD2	15:O:186:LEU:HD12	1.89	0.73
5:E:115:LEU:O	5:E:118:THR:HB	1.89	0.73
22:V:9:CYS:CA	22:V:52:THR:HG23	2.19	0.73
1:A:1477:C:O2'	1:A:1478:U:H5'	1.87	0.72
1:A:2578:G:H5'	1:A:2578:G:H8	1.53	0.72
37:A:4440:HOH:O	4:D:27:ASN:HB2	1.88	0.72
11:K:74:ARG:HH11	11:K:74:ARG:CB	2.01	0.72
15:O:73:ALA:N	37:O:8567:HOH:O	2.22	0.72
3:C:88:ILE:HD13	3:C:100:PRO:CD	2.19	0.72
10:J:162:SER:CB	10:J:163:PRO:HD3	2.18	0.72
12:L:82:ARG:NH2	12:L:115:ARG:HG2	2.04	0.72
19:S:132:ARG:NH2	37:S:8585:HOH:O	2.20	0.72
24:X:84:VAL:HG12	37:X:6679:HOH:O	1.90	0.72
30:4:48:ASN:ND2	30:4:50:GLY:N	2.38	0.72
1:A:338:C:H4'	5:E:174:ILE:CD1	2.19	0.72
6:F:25:MET:HE1	6:F:37:ALA:HB1	1.69	0.72
13:M:52:LYS:HA	35:M:8510:CL:CL	2.27	0.72
14:N:87:MET:CB	30:4:46:ILE:HD13	2.18	0.72
19:S:39:THR:HG22	19:S:42:GLU:H	1.54	0.72
1:A:2276:U:H2'	1:A:2277:U:C6	2.25	0.72
10:J:5:MET:HG3	37:J:8364:HOH:O	1.89	0.72
10:J:49:VAL:O	10:J:157:ILE:HG23	1.90	0.72
6:F:146:LYS:NZ	15:O:107:ASN:HD21	1.88	0.72
27:1:42:CYS:SG	27:1:44:PHE:N	2.58	0.72
1:A:1909:A:N1	1:A:2128:G:H1'	2.04	0.72
6:F:88:LEU:HB2	6:F:89:PRO:HD3	1.72	0.72
10:J:3:GLY:HA2	10:J:57:ARG:HH12	1.55	0.72
1:A:69:A:H5'	1:A:69:A:C8	2.25	0.72
1:A:69:A:H5'	1:A:69:A:H8	1.53	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1164:U:H3	1:A:1192:A:H2	1.35	0.72
6:F:25:MET:CE	6:F:41:LEU:HG	2.20	0.72
11:K:45:VAL:HG23	11:K:130:VAL:O	1.90	0.72
1:A:182:G:H5'	37:A:5522:HOH:O	1.89	0.72
1:A:1874:U:H2'	3:C:120:ARG:HG3	1.70	0.72
7:G:20:ILE:HD11	7:G:40:VAL:HG11	1.72	0.72
10:J:14:TYR:H	10:J:91:HIS:CE1	2.08	0.72
10:J:141:ASN:HA	37:J:8365:HOH:O	1.90	0.72
13:M:30:ARG:NH2	37:M:8523:HOH:O	2.19	0.72
24:X:154:ARG:C	37:X:4276:HOH:O	2.27	0.72
1:A:2716:G:H5"	4:D:206:THR:HG21	1.72	0.72
4:D:162:MET:CE	4:D:308:LEU:HD21	2.19	0.72
14:N:59:GLY:HA3	14:N:141:ILE:HD12	1.71	0.72
1:A:1919:A:H4'	37:A:5211:HOH:O	1.89	0.71
2:B:3056:A:C2'	2:B:3057:A:H5"	2.19	0.71
4:D:314:ALA:HB3	4:D:317:PRO:HG3	1.72	0.71
4:D:329:TYR:CE2	22:V:15:PRO:HG2	2.25	0.71
22:V:13:ILE:HG12	22:V:32:CYS:HB2	1.71	0.71
1:A:2004:U:H4'	37:A:5669:HOH:O	1.91	0.71
4:D:36:PRO:HA	4:D:168:GLY:HA3	1.72	0.71
14:N:64:ARG:HD2	37:N:8588:HOH:O	1.88	0.71
14:N:122:GLU:OE2	14:N:127:LYS:HE2	1.90	0.71
15:O:119:GLN:O	15:O:123:ILE:HG13	1.89	0.71
24:X:88:THR:HG23	24:X:110:GLN:NE2	2.05	0.71
2:B:3092:G:H2'	2:B:3093:A:C8	2.25	0.71
7:G:23:GLU:HG2	7:G:28:SER:HB3	1.72	0.71
15:O:83:LEU:HD13	15:O:175:LEU:HD23	1.72	0.71
19:S:14:ALA:HB3	19:S:147:LEU:HB2	1.72	0.71
2:B:3023:U:H5"	2:B:3024:U:OP2	1.91	0.71
14:N:52:LEU:HD13	14:N:116:ASN:HB3	1.73	0.71
30:4:74:CYS:SG	30:4:76:LYS:CB	2.78	0.71
2:B:3007:G:H4'	15:O:55:ASP:OD2	1.90	0.71
27:1:18:TYR:HB3	27:1:22:ILE:HG21	1.72	0.71
5:E:246:ARG:HB3	5:E:246:ARG:NH1	2.05	0.71
14:N:172:GLY:O	14:N:183:VAL:HG11	1.91	0.71
26:Z:115:ARG:NE	37:Z:8559:HOH:O	2.22	0.71
1:A:175:G:H2'	14:N:192:ALA:HB3	1.71	0.71
1:A:603:A:H5"	1:A:604:G:OP1	1.91	0.71
1:A:1160:G:H5'	1:A:1161:A:C5'	2.16	0.71
2:B:3049:G:H5"	37:B:4707:HOH:O	1.90	0.71
7:G:31:ARG:NH1	37:G:5919:HOH:O	2.22	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:27:LYS:H	10:J:58:HIS:CD2	2.04	0.71
1:A:1119:G:H2'	11:K:52:GLN:NE2	2.06	0.71
1:A:2851:G:O2'	1:A:2852:A:H5'	1.91	0.71
3:C:199:HIS:CD2	3:C:201:PHE:H	2.09	0.71
3:C:223:ARG:HG3	37:C:8610:HOH:O	1.90	0.71
10:J:47:GLU:HB3	10:J:133:ILE:HD13	1.72	0.71
1:A:1329:A:H2	37:A:5049:HOH:O	1.74	0.71
1:A:2690:U:O2'	7:G:111:LYS:HE3	1.90	0.71
9:I:12:ILE:N	9:I:13:PRO:HD3	2.06	0.71
15:O:159:TYR:HB3	15:O:162:ASP:HB2	1.73	0.71
27:1:28:ASP:O	27:1:31:ILE:HG22	1.90	0.71
2:B:3029:C:H2'	2:B:3030:C:H5'	1.73	0.70
4:D:141:ARG:HD2	4:D:163:GLU:OE2	1.90	0.70
4:D:145:HIS:HD2	4:D:146:THR:O	1.74	0.70
7:G:15:GLN:HG3	7:G:20:ILE:HG12	1.72	0.70
12:L:34:VAL:HG22	12:L:47:ALA:HB2	1.71	0.70
1:A:1380:U:OP1	37:A:8414:HOH:O	2.09	0.70
1:A:1625:U:H4'	37:A:5033:HOH:O	1.89	0.70
1:A:1834:C:H2'	1:A:1840:A:N6	2.07	0.70
17:Q:98:ILE:HD12	17:Q:102:ARG:NE	2.06	0.70
26:Z:187:VAL:CG2	26:Z:192:ASP:HB2	2.21	0.70
1:A:289:G:H22	1:A:363:A:H2	1.40	0.70
1:A:2421:G:H3'	1:A:2422:U:H5"	1.74	0.70
4:D:258:GLY:H	4:D:260:HIS:HE1	1.33	0.70
12:L:10:GLN:HE21	12:L:10:GLN:N	1.89	0.70
1:A:125:U:H2'	37:A:4146:HOH:O	1.91	0.70
1:A:1176:C:H1'	37:A:4310:HOH:O	1.90	0.70
1:A:2054:A:N3	19:S:128:ARG:NH2	2.40	0.70
1:A:2812:A:H2	1:A:2814:A:H62	1.36	0.70
5:E:61:PHE:HB3	37:E:8451:HOH:O	1.89	0.70
6:F:19:GLU:O	6:F:20:LYS:HG2	1.92	0.70
7:G:11:VAL:HG12	7:G:12:ASP:N	2.06	0.70
14:N:139:PRO:O	14:N:140:ALA:CB	2.39	0.70
15:O:61:ALA:HB3	15:O:88:ALA:HB2	1.73	0.70
27:1:23:ARG:NH1	37:1:8404:HOH:O	2.24	0.70
1:A:1170:U:O2'	1:A:1172:G:N7	2.22	0.70
2:B:3006:C:OP1	15:O:37:ARG:NH1	2.24	0.70
3:C:33:GLU:O	3:C:34:ASP:HB2	1.91	0.70
1:A:1666:C:H2'	1:A:1667:A:H5'	1.73	0.70
21:U:71:VAL:HG11	21:U:90:PRO:CB	2.17	0.70
1:A:1130:U:H2'	1:A:1131:G:O4'	1.92	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1086:A:C6	24:X:11:VAL:HG11	2.26	0.70
37:A:7128:HOH:O	15:O:4:PRO:HD2	1.90	0.70
2:B:3039:U:H1'	2:B:3044:A:H61	1.56	0.70
10:J:84:ARG:NH2	10:J:135:TRP:HH2	1.89	0.70
10:J:137:ASN:O	10:J:139:ASP:N	2.25	0.70
14:N:78:ASN:ND2	37:N:8654:HOH:O	2.24	0.70
1:A:2710:U:H1'	37:A:7983:HOH:O	1.91	0.70
4:D:179:LEU:O	4:D:183:GLU:HG2	1.92	0.70
24:X:13:MET:HE1	24:X:18:GLN:HA	1.72	0.70
1:A:738:G:H3'	37:A:7405:HOH:O	1.92	0.69
4:D:307:ARG:HH11	4:D:307:ARG:HB2	1.57	0.69
6:F:57:THR:HG23	6:F:63:ILE:HG22	1.74	0.69
10:J:47:GLU:HB3	10:J:133:ILE:CD1	2.21	0.69
10:J:59:ASN:H	10:J:59:ASN:ND2	1.90	0.69
4:D:201:ASP:HB2	4:D:312:ARG:HD2	1.73	0.69
14:N:34:GLU:HB3	14:N:35:PRO:HD2	1.75	0.69
1:A:1699:C:H4'	37:A:6803:HOH:O	1.92	0.69
1:A:2267:G:OP1	37:A:3905:HOH:O	2.10	0.69
1:A:2508:C:H2'	37:A:7110:HOH:O	1.90	0.69
14:N:60:ILE:C	14:N:61:ILE:HD12	2.12	0.69
16:P:7:LEU:HD22	37:P:5650:HOH:O	1.91	0.69
1:A:236:A:H4'	1:A:237:G:H5'	1.75	0.69
23:W:39:ALA:N	23:W:40:PRO:HD2	2.08	0.69
1:A:168:C:O2'	1:A:169:A:H5'	1.92	0.69
1:A:338:C:H5"	37:E:8428:HOH:O	1.92	0.69
14:N:72:SER:OG	14:N:74:ARG:HB2	1.92	0.69
1:A:281:U:H2'	1:A:282:C:O4'	1.93	0.69
1:A:1701:A:H4'	1:A:1702:U:H5"	1.74	0.69
5:E:127:ARG:HD2	5:E:229:PRO:O	1.93	0.69
1:A:157:G:H4'	14:N:95:LYS:CE	2.22	0.69
1:A:1362:U:H5'	37:A:3641:HOH:O	1.92	0.69
5:E:37:ALA:HB2	37:E:8385:HOH:O	1.93	0.69
10:J:56:ILE:HG22	10:J:61:LEU:CD2	2.22	0.69
16:P:47:ARG:HH11	16:P:47:ARG:HG3	1.58	0.69
1:A:739:G:C5	37:A:7901:HOH:O	2.45	0.69
37:A:7231:HOH:O	14:N:178:LYS:HB2	1.92	0.69
6:F:174:VAL:HG13	37:F:6555:HOH:O	1.93	0.69
25:Y:78:GLU:CG	25:Y:79:GLU:H	2.05	0.69
5:E:77:ALA:O	5:E:78:ARG:HG3	1.93	0.69
10:J:55:GLN:NE2	10:J:124:ARG:HE	1.89	0.69
22:V:9:CYS:HA	22:V:52:THR:CG2	2.23	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:A:7811:HOH:O	4:D:211:THR:HG21	1.93	0.68
1:A:450:C:OP1	5:E:184:ARG:NH2	2.23	0.68
1:A:797:A:H4'	27:1:10:ARG:N	2.09	0.68
1:A:2361:A:H5"	37:A:9404:HOH:O	1.92	0.68
1:A:346:U:H4'	37:A:7200:HOH:O	1.93	0.68
1:A:1130:U:H5'	37:A:8142:HOH:O	1.93	0.68
1:A:2783:A:H3'	37:A:5596:HOH:O	1.91	0.68
14:N:84:LYS:HE2	37:N:8580:HOH:O	1.93	0.68
1:A:1730:G:H5'	1:A:1731:C:C5	2.29	0.68
10:J:136:VAL:HG22	10:J:137:ASN:O	1.93	0.68
12:L:27:ARG:HD2	37:L:4747:HOH:O	1.93	0.68
17:Q:143:ALA:HA	37:Q:169:HOH:O	1.92	0.68
30:4:39:GLN:HA	30:4:42:ARG:NH2	2.08	0.68
1:A:1086:A:N6	24:X:11:VAL:HG11	2.08	0.68
19:S:18:LEU:HD12	19:S:143:VAL:CG1	2.24	0.68
10:J:33:MET:HB2	10:J:83:PHE:HB3	1.75	0.68
11:K:103:VAL:HG12	37:K:5907:HOH:O	1.93	0.68
13:M:125:PHE:CZ	13:M:140:VAL:HG13	2.28	0.68
14:N:139:PRO:O	14:N:140:ALA:HB3	1.92	0.68
15:O:164:ASP:CG	15:O:167:ASP:HA	2.14	0.68
1:A:797:A:C4'	27:1:10:ARG:N	2.56	0.68
4:D:258:GLY:N	4:D:260:HIS:CE1	2.59	0.68
14:N:35:PRO:O	37:N:8539:HOH:O	2.11	0.68
14:N:152:ARG:HG3	37:N:8558:HOH:O	1.94	0.68
1:A:1118:A:H62	1:A:1244:U:H3	1.39	0.68
37:A:7063:HOH:O	26:Z:165:GLU:HB3	1.93	0.68
6:F:97:GLN:HG2	6:F:97:GLN:O	1.94	0.68
19:S:17:MET:SD	37:S:8549:HOH:O	2.52	0.68
1:A:2896:A:H5"	37:A:6460:HOH:O	1.92	0.68
4:D:248:ARG:NH2	37:D:8524:HOH:O	2.26	0.68
13:M:65:ASP:CG	13:M:111:ALA:HB3	2.14	0.68
14:N:74:ARG:NH2	37:N:8634:HOH:O	2.27	0.68
14:N:91:ILE:HG23	37:N:8652:HOH:O	1.94	0.68
16:P:32:ARG:O	16:P:32:ARG:HD3	1.93	0.68
27:1:30:GLU:HA	27:1:33:HIS:CB	2.24	0.68
5:E:127:ARG:HG2	5:E:127:ARG:HH11	1.58	0.68
1:A:1829:A:H61	27:1:18:TYR:HA	1.60	0.67
2:B:3020:G:O2'	2:B:3021:G:H5'	1.94	0.67
1:A:182:G:O3'	14:N:157:LEU:HD13	1.94	0.67
1:A:815:U:OP1	37:A:3044:HOH:O	2.11	0.67
1:A:2408:A:H2	37:4:8517:HOH:O	1.76	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:107:VAL:HG23	37:H:6617:HOH:O	1.93	0.67
24:X:122:ARG:NH2	24:X:154:ARG:HD2	2.07	0.67
1:A:948:G:N7	37:A:6210:HOH:O	2.26	0.67
1:A:2748:G:H5'	37:A:7899:HOH:O	1.93	0.67
3:C:53:ALA:HB3	37:C:8616:HOH:O	1.94	0.67
1:A:2604:A:H5'	37:A:6153:HOH:O	1.95	0.67
5:E:107:ARG:NH1	5:E:107:ARG:HB3	2.10	0.67
6:F:101:THR:HG22	37:F:7400:HOH:O	1.95	0.67
8:H:91:VAL:HG12	8:H:92:GLY:N	2.09	0.67
10:J:58:HIS:HA	10:J:61:LEU:HD23	1.76	0.67
1:A:1058:A:H2'	1:A:1060:C:H5"	1.75	0.67
11:K:19:MET:HE1	11:K:132:LEU:HD11	1.75	0.67
1:A:542:A:H5'	1:A:542:A:C8	2.21	0.67
1:A:2123:A:P	14:N:89:ASN:HD22	2.18	0.67
6:F:64:ARG:CG	6:F:67:ASP:HB3	2.24	0.67
6:F:95:THR:O	6:F:97:GLN:N	2.25	0.67
28:2:8:GLN:HE22	28:2:11:LYS:HZ2	1.41	0.67
1:A:1869:A:N3	37:A:9744:HOH:O	2.28	0.67
4:D:36:PRO:HA	4:D:168:GLY:CA	2.25	0.67
4:D:138:GLY:O	4:D:139:ASP:O	2.13	0.67
15:O:61:ALA:CB	15:O:88:ALA:HB2	2.23	0.67
15:O:164:ASP:OD2	15:O:167:ASP:HA	1.95	0.67
1:A:2467:A:C3'	37:A:5819:HOH:O	2.41	0.67
1:A:2502:C:H4'	10:J:151:MET:HG2	1.76	0.67
37:A:3176:HOH:O	12:L:39:GLY:HA3	1.94	0.67
1:A:299:U:H5'	37:A:7695:HOH:O	1.95	0.67
1:A:821:U:H2'	1:A:822:C:H6	1.59	0.67
1:A:2241:C:O2'	1:A:2242:U:H5'	1.95	0.67
1:A:2890:A:H1'	22:V:56:ARG:NH2	2.10	0.67
5:E:104:ASP:HA	5:E:107:ARG:NH1	2.08	0.67
9:I:12:ILE:HD12	37:I:692:HOH:O	1.94	0.67
10:J:45:GLN:HE21	10:J:135:TRP:HE1	1.41	0.67
1:A:1015:C:H2'	1:A:1016:U:H6	1.60	0.66
37:A:6155:HOH:O	14:N:170:CYS:SG	2.53	0.66
37:A:7813:HOH:O	5:E:188:ARG:HD2	1.95	0.66
2:B:3069:U:OP1	15:O:4:PRO:HG3	1.94	0.66
3:C:76:VAL:HG23	27:1:63:LYS:HB3	1.77	0.66
4:D:51:VAL:HG23	4:D:329:TYR:O	1.94	0.66
19:S:104:PHE:HB2	19:S:109:MET:HE1	1.75	0.66
1:A:2717:C:H2'	1:A:2718:C:C5'	2.20	0.66
37:B:5071:HOH:O	15:O:20:TYR:CE2	2.48	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:Y:72:VAL:HG22	25:Y:85:VAL:HG12	1.76	0.66
1:A:2123:A:OP1	14:N:89:ASN:ND2	2.26	0.66
3:C:199:HIS:HD2	3:C:201:PHE:H	1.42	0.66
4:D:72:THR:HB	37:D:8603:HOH:O	1.96	0.66
6:F:41:LEU:HA	6:F:44:ILE:HG22	1.76	0.66
6:F:64:ARG:O	6:F:67:ASP:OD2	2.12	0.66
24:X:21:LEU:HD21	24:X:48:VAL:CG1	2.25	0.66
1:A:1651:C:OP1	37:A:5877:HOH:O	2.12	0.66
8:H:53:ASP:OD1	8:H:80:GLN:HB2	1.96	0.66
10:J:4:ALA:HB3	37:J:8364:HOH:O	1.94	0.66
10:J:69:ASN:O	10:J:72:VAL:HG12	1.95	0.66
17:Q:78:GLY:O	37:Q:155:HOH:O	2.13	0.66
18:R:11:ARG:HD3	37:R:5620:HOH:O	1.95	0.66
1:A:21:G:H4'	19:S:2:ILE:HG22	1.78	0.66
1:A:2781:U:H2'	1:A:2782:G:H5'	1.77	0.66
13:M:143:THR:HG22	13:M:145:LEU:H	1.59	0.66
27:1:37:HIS:HB2	27:1:47:LEU:HB2	1.77	0.66
1:A:31:C:H2'	37:A:8158:HOH:O	1.96	0.66
37:B:4707:HOH:O	15:O:147:ILE:HD12	1.95	0.66
17:Q:58:SER:HB3	37:Q:186:HOH:O	1.94	0.66
29:3:39:ARG:HG2	37:3:3143:HOH:O	1.95	0.66
1:A:1377:C:H6	1:A:1377:C:H5'	1.61	0.66
4:D:62:ARG:HA	4:D:65:MET:CE	2.24	0.66
14:N:114:VAL:HG21	14:N:159:THR:HG21	1.77	0.66
27:1:53:GLY:HA2	27:1:67:GLY:O	1.96	0.66
25:Y:66:THR:HG23	25:Y:67:PRO:HD2	1.77	0.66
1:A:775:G:OP1	28:2:16:HIS:HE1	1.79	0.66
1:A:1474:C:H6	1:A:1474:C:C5'	2.07	0.66
15:O:12:ARG:HD3	15:O:18:THR:OG1	1.95	0.66
24:X:6:GLN:HB2	24:X:26:ILE:CD1	2.26	0.66
25:Y:18:ARG:NH1	37:Y:4132:HOH:O	2.24	0.66
27:1:75:ALA:HB3	37:1:8434:HOH:O	1.95	0.66
1:A:1441:G:O2'	1:A:1442:A:H5'	1.95	0.66
1:A:1666:C:O2'	1:A:1667:A:H5"	1.96	0.66
1:A:2414:A:H2'	1:A:2415:A:C8	2.31	0.66
10:J:48:LEU:HG	10:J:157:ILE:HG21	1.78	0.66
10:J:127:GLY:O	10:J:128:ALA:HB3	1.96	0.66
1:A:461:C:H2'	37:A:4377:HOH:O	1.95	0.65
3:C:100:PRO:HG2	3:C:103:VAL:HG21	1.77	0.65
7:G:69:ILE:HA	7:G:72:MET:HE2	1.79	0.65
18:R:24:SER:O	37:R:2847:HOH:O	2.13	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:N:138:HIS:ND1	14:N:139:PRO:O	2.26	0.65
1:A:1741:U:H5'	1:A:1742:A:OP1	1.96	0.65
1:A:2281:C:C2'	1:A:2282:U:H5'	2.25	0.65
1:A:2359:G:N7	37:A:4080:HOH:O	2.28	0.65
4:D:312:ARG:HD3	4:D:315:VAL:HG13	1.77	0.65
25:Y:37:LEU:CD1	25:Y:85:VAL:HG21	2.25	0.65
28:2:1:THR:HA	37:2:435:HOH:O	1.94	0.65
1:A:671:A:O2'	1:A:672:G:H2'	1.97	0.65
1:A:2748:G:C5'	37:A:7899:HOH:O	2.43	0.65
10:J:166:ASN:N	10:J:166:ASN:HD22	1.93	0.65
12:L:74:VAL:HG11	12:L:113:ILE:HG12	1.79	0.65
23:W:4:HIS:HB3	37:W:6622:HOH:O	1.95	0.65
5:E:1:MET:HG2	5:E:2:GLN:H	1.61	0.65
6:F:35:ALA:N	37:F:5576:HOH:O	2.29	0.65
6:F:54:ALA:HB2	6:F:69:ILE:HD12	1.78	0.65
7:G:23:GLU:HG2	7:G:28:SER:CB	2.27	0.65
14:N:39:ARG:NH2	37:N:8626:HOH:O	2.30	0.65
8:H:46:GLU:O	8:H:73:PRO:HD2	1.97	0.65
24:X:13:MET:HE3	24:X:17:ILE:HG22	1.79	0.65
24:X:72:PRO:HG2	24:X:77:ALA:HB3	1.78	0.65
30:4:65:THR:HG23	30:4:67:LEU:HG	1.77	0.65
1:A:731:U:OP2	37:A:4402:HOH:O	2.14	0.65
1:A:1743:G:N7	37:A:9647:HOH:O	2.28	0.65
10:J:28:ILE:HA	10:J:62:GLU:OE1	1.96	0.65
1:A:2827:A:H2'	1:A:2828:G:O4'	1.96	0.65
6:F:135:VAL:HG22	6:F:136:ARG:H	1.60	0.65
14:N:68:ARG:O	14:N:68:ARG:HD3	1.96	0.65
15:O:71:TRP:HE3	15:O:175:LEU:HD22	1.62	0.65
19:S:132:ARG:CZ	37:S:8585:HOH:O	2.45	0.65
24:X:21:LEU:HD21	24:X:48:VAL:HG11	1.78	0.65
1:A:1874:U:OP1	37:A:4691:HOH:O	2.15	0.64
1:A:1923:G:H4'	30:4:31:THR:O	1.96	0.64
8:H:110:GLU:HG2	37:H:6926:HOH:O	1.95	0.64
15:O:32:PRO:HD2	15:O:99:GLU:O	1.97	0.64
25:Y:78:GLU:HG2	25:Y:79:GLU:N	2.10	0.64
1:A:2310:G:OP2	10:J:114:PRO:HD2	1.96	0.64
1:A:2421:G:H3'	1:A:2422:U:C5'	2.28	0.64
1:A:2459:G:OP1	30:4:64:LYS:N	2.19	0.64
6:F:55:LYS:HA	37:F:6752:HOH:O	1.97	0.64
16:P:14:LEU:HD23	16:P:102:ILE:HD11	1.78	0.64
17:Q:64:GLU:HG2	37:Q:170:HOH:O	1.97	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S:18:LEU:HB2	19:S:143:VAL:HG12	1.78	0.64
5:E:162:VAL:HG12	5:E:192:ILE:HD11	1.78	0.64
6:F:69:ILE:HG22	6:F:69:ILE:O	1.96	0.64
11:K:74:ARG:O	11:K:78:ILE:HG12	1.98	0.64
21:U:9:LYS:HE3	21:U:13:ARG:HH11	1.61	0.64
1:A:1713:G:C2'	37:A:5435:HOH:O	2.44	0.64
1:A:1741:U:O2'	1:A:2723:G:H4'	1.97	0.64
11:K:19:MET:HE2	11:K:79:PHE:HA	1.78	0.64
1:A:1197:G:N2	37:A:6597:HOH:O	2.31	0.64
11:K:45:VAL:HG21	11:K:129:PHE:CD1	2.33	0.64
20:T:23:LYS:HE2	37:T:8330:HOH:O	1.97	0.64
26:Z:235:GLU:H	26:Z:235:GLU:CD	2.01	0.64
27:1:30:GLU:HB3	27:1:34:LYS:HE3	1.80	0.64
1:A:407:A:H5'	37:A:6386:HOH:O	1.97	0.64
1:A:485:A:N3	1:A:487:G:H5"	2.13	0.64
1:A:814:G:H4'	37:A:3507:HOH:O	1.97	0.64
10:J:136:VAL:HG23	37:J:8343:HOH:O	1.97	0.64
12:L:115:ARG:HG3	12:L:116:GLU:N	2.13	0.64
14:N:164:THR:CG2	14:N:167:GLY:H	2.03	0.64
1:A:1209:C:H2'	1:A:1210:G:H8	1.61	0.64
1:A:1484:G:H2'	37:A:9501:HOH:O	1.96	0.64
2:B:3003:A:H2'	37:B:2430:HOH:O	1.98	0.64
17:Q:87:ARG:HG2	37:Q:190:HOH:O	1.97	0.64
1:A:382:U:C5	1:A:406:G:N2	2.65	0.64
1:A:447:A:OP1	21:U:2:LYS:HG2	1.97	0.64
3:C:94:LEU:N	3:C:94:LEU:HD23	2.12	0.64
4:D:140:LEU:HD23	37:D:8580:HOH:O	1.96	0.64
15:O:49:THR:CG2	15:O:56:ASP:HB2	2.26	0.64
15:O:89:GLY:O	15:O:92:ALA:HB3	1.98	0.64
19:S:39:THR:HG23	19:S:107:GLU:O	1.97	0.64
19:S:113:HIS:O	19:S:145:LEU:HD12	1.98	0.64
1:A:1119:G:N2	1:A:1246:A:C2	2.63	0.64
1:A:1594:C:OP2	17:Q:120:ARG:HD2	1.98	0.64
1:A:1659:A:H2'	1:A:1660:G:O4'	1.98	0.64
1:A:1829:A:N6	27:1:18:TYR:HA	2.13	0.64
14:N:172:GLY:C	14:N:183:VAL:HG11	2.19	0.64
15:O:169:PRO:O	15:O:172:PHE:HB3	1.98	0.64
25:Y:15:ARG:HB3	25:Y:15:ARG:NH1	2.10	0.64
1:A:1234:U:N3	4:D:244:PRO:HB3	2.13	0.63
1:A:2763:G:OP1	12:L:9:THR:OG1	2.13	0.63
5:E:54:LEU:HD21	5:E:87:ARG:HD2	1.80	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:37:ASP:OD1	11:K:125:SER:HB3	1.98	0.63
1:A:111:C:O2'	28:2:20:ARG:HG2	1.97	0.63
1:A:263:U:O4'	8:H:59:ILE:HD13	1.99	0.63
1:A:2431:C:N3	37:A:4064:HOH:O	2.30	0.63
5:E:12:THR:HB	37:E:8448:HOH:O	1.97	0.63
6:F:23:VAL:HG21	6:F:45:THR:HG21	1.79	0.63
7:G:79:GLY:HA3	37:G:7046:HOH:O	1.98	0.63
12:L:28:GLU:OE2	12:L:58:THR:HG21	1.99	0.63
24:X:137:GLN:HE21	24:X:141:HIS:CE1	2.09	0.63
26:Z:189:ASN:HD22	26:Z:189:ASN:C	2.01	0.63
1:A:282:C:H1'	1:A:368:C:H42	1.60	0.63
1:A:285:A:H2'	1:A:286:U:O4'	1.98	0.63
1:A:2781:U:C2'	1:A:2782:G:H5'	2.28	0.63
37:A:7384:HOH:O	3:C:211:LYS:HG2	1.97	0.63
17:Q:16:VAL:HG12	17:Q:17:GLY:N	2.13	0.63
27:1:47:LEU:HD23	27:1:57:CYS:HB2	1.80	0.63
1:A:926:A:O2'	13:M:41:HIS:HD2	1.80	0.63
10:J:55:GLN:HE22	10:J:91:HIS:CD2	2.16	0.63
24:X:110:GLN:NE2	24:X:110:GLN:HA	2.13	0.63
1:A:1003:U:HO2'	10:J:90:PHE:HE1	1.44	0.63
1:A:2359:G:H3'	37:A:6051:HOH:O	1.97	0.63
1:A:2758:G:H2'	1:A:2759:C:H6	1.63	0.63
4:D:238:ASN:ND2	4:D:240:GLY:H	1.91	0.63
6:F:38:GLU:HB3	6:F:49:PRO:HG2	1.80	0.63
24:X:149:LEU:HG	24:X:153:MET:HE2	1.80	0.63
26:Z:144:ARG:CZ	37:Z:8616:HOH:O	2.46	0.63
30:4:11:CYS:SG	30:4:71:CYS:HB2	2.39	0.63
1:A:793:A:N3	37:A:4475:HOH:O	2.31	0.63
1:A:2270:G:H4'	3:C:223:ARG:HH12	1.64	0.63
2:B:3107:C:C5	37:B:3167:HOH:O	2.51	0.63
14:N:113:ARG:NH2	14:N:156:ARG:HG2	2.14	0.63
24:X:21:LEU:HB3	24:X:26:ILE:HG12	1.80	0.63
1:A:2421:G:H4'	37:A:5144:HOH:O	1.98	0.63
4:D:141:ARG:HG2	4:D:165:ARG:HA	1.79	0.63
8:H:101:ALA:HA	37:H:5413:HOH:O	1.99	0.63
20:T:51:GLN:HE21	20:T:53:ASN:HD21	1.46	0.63
23:W:64:GLY:O	23:W:65:ASP:HB2	1.97	0.63
1:A:1015:C:H2'	1:A:1016:U:C6	2.33	0.63
17:Q:103:THR:HA	17:Q:106:ARG:NH1	2.12	0.63
26:Z:200:THR:HG22	26:Z:201:GLU:CG	2.23	0.63
28:2:25:LYS:HE2	37:3:7213:HOH:O	1.98	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:3107:C:H5	37:B:3167:HOH:O	1.82	0.63
5:E:76:ARG:HD2	37:E:8441:HOH:O	1.99	0.63
14:N:61:ILE:HD12	14:N:61:ILE:N	2.14	0.63
3:C:171:LYS:NZ	37:C:8525:HOH:O	2.22	0.62
6:F:51:ARG:HD3	37:F:7636:HOH:O	1.99	0.62
14:N:48:ARG:NH2	37:N:8565:HOH:O	2.32	0.62
18:R:64:GLU:HG3	18:R:74:ASP:OD2	1.97	0.62
24:X:21:LEU:HD22	24:X:26:ILE:CD1	2.29	0.62
1:A:1185:U:H5'	37:A:7822:HOH:O	1.99	0.62
1:A:2437:A:H2'	1:A:2438:G:C8	2.34	0.62
6:F:23:VAL:HG23	6:F:23:VAL:O	1.99	0.62
6:F:91:ALA:HB1	37:F:5198:HOH:O	1.99	0.62
7:G:69:ILE:HA	7:G:72:MET:CE	2.29	0.62
8:H:99:THR:HA	37:H:3461:HOH:O	2.00	0.62
10:J:71:TYR:C	10:J:73:GLN:H	2.03	0.62
22:V:46:ALA:HB1	22:V:52:THR:HG21	1.81	0.62
30:4:35:TRP:HA	30:4:38:ARG:NH1	2.13	0.62
1:A:1116:U:O2'	1:A:1118:A:C2	2.51	0.62
1:A:1872:C:C2	37:A:7669:HOH:O	2.50	0.62
1:A:2769:C:H2'	1:A:2770:G:O4'	2.00	0.62
13:M:114:VAL:HG11	37:M:8578:HOH:O	1.99	0.62
14:N:37:VAL:HG21	14:N:108:LYS:HG3	1.80	0.62
15:O:48:VAL:HG11	15:O:55:ASP:HB3	1.81	0.62
1:A:488:U:H2'	37:A:4384:HOH:O	1.99	0.62
1:A:776:A:OP1	28:2:28:HIS:HE1	1.82	0.62
1:A:820:G:C6	3:C:171:LYS:HB2	2.34	0.62
1:A:871:G:C8	1:A:871:G:C5'	2.74	0.62
1:A:1759:A:N3	1:A:1818:C:H2'	2.14	0.62
1:A:2419:U:H5"	1:A:2420:G:H5'	1.82	0.62
6:F:22:VAL:HG22	6:F:74:THR:HG22	1.81	0.62
24:X:122:ARG:HH22	24:X:154:ARG:C	2.01	0.62
1:A:1878:G:H1'	37:A:6482:HOH:O	2.00	0.62
4:D:71:VAL:HG11	4:D:296:LEU:HB3	1.82	0.62
8:H:50:VAL:HG21	8:H:63:ILE:HG21	1.81	0.62
1:A:1053:G:OP1	10:J:12:PRO:HG3	1.98	0.62
1:A:2346:C:O5'	1:A:2346:C:H6	1.83	0.62
3:C:37:VAL:HG22	37:C:8605:HOH:O	2.00	0.62
14:N:61:ILE:HG13	37:N:8626:HOH:O	1.99	0.62
15:O:154:LEU:O	15:O:155:GLU:HB3	1.99	0.62
24:X:139:GLY:O	24:X:141:HIS:HD2	1.83	0.62
1:A:157:G:H4'	14:N:95:LYS:HE2	1.82	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2533:C:H5'	1:A:2533:C:C6	2.32	0.62
2:B:3047:A:C2	2:B:3048:C:C2	2.87	0.62
6:F:105:SER:CB	6:F:131:THR:HG23	2.30	0.62
15:O:37:ARG:NH2	37:O:8534:HOH:O	2.32	0.62
22:V:14:GLU:O	22:V:17:THR:HB	1.99	0.62
1:A:2276:U:H2'	1:A:2277:U:H6	1.65	0.62
1:A:2301:A:H5"	1:A:2302:A:H5'	1.82	0.62
37:A:4060:HOH:O	14:N:79:LYS:HD3	1.98	0.62
9:I:23:ILE:O	9:I:27:ILE:HG13	2.00	0.62
10:J:3:GLY:HA2	10:J:57:ARG:NH1	2.14	0.62
1:A:558:C:O2'	1:A:559:U:H5"	2.00	0.62
3:C:179:MET:HG2	3:C:186:TRP:CB	2.30	0.62
4:D:74:ILE:HD13	4:D:309:VAL:HG21	1.80	0.62
4:D:85:ARG:NH1	37:D:8632:HOH:O	2.32	0.62
5:E:27:ARG:HG3	5:E:29:ASP:OD1	1.99	0.62
1:A:282:C:O2'	1:A:283:U:H5'	2.00	0.62
1:A:303:C:O2'	1:A:304:G:H5'	2.00	0.62
1:A:396:U:H1'	37:A:7991:HOH:O	1.99	0.62
1:A:1942:A:H3'	37:A:7704:HOH:O	2.00	0.62
9:I:12:ILE:N	9:I:13:PRO:CD	2.63	0.62
14:N:74:ARG:HG3	14:N:74:ARG:NH1	2.10	0.62
19:S:39:THR:HB	19:S:42:GLU:CG	2.29	0.62
19:S:61:GLN:NE2	37:S:8541:HOH:O	2.32	0.62
24:X:22:GLU:HG2	24:X:27:HIS:CD2	2.35	0.62
27:1:39:CYS:CB	27:1:47:LEU:HD21	2.29	0.62
1:A:902:G:N7	13:M:18:HIS:HD2	1.98	0.61
9:I:64:ASN:HD22	9:I:64:ASN:N	1.96	0.61
15:O:151:ASP:O	15:O:154:LEU:HB2	2.00	0.61
1:A:12:U:H2'	1:A:13:G:H5'	1.81	0.61
1:A:1268:C:O2'	1:A:1269:G:H5'	2.00	0.61
1:A:1819:G:H2'	1:A:1820:G:H4'	1.81	0.61
1:A:2531:U:O2'	1:A:2532:A:H5'	2.00	0.61
37:A:3837:HOH:O	11:K:46:ILE:HD12	1.99	0.61
4:D:314:ALA:CB	4:D:317:PRO:HG3	2.30	0.61
7:G:3:VAL:HG22	7:G:49:ILE:HB	1.82	0.61
10:J:29:ALA:HB3	10:J:65:ARG:NH1	2.06	0.61
10:J:86:ARG:NH1	10:J:130:HIS:CD2	2.69	0.61
1:A:567:U:H5"	37:X:5817:HOH:O	2.00	0.61
1:A:2428:G:O6	1:A:2464:C:H1'	2.01	0.61
2:B:3014:G:H5'	2:B:3014:G:C8	2.34	0.61
5:E:180:SER:HB2	37:E:8452:HOH:O	1.99	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:50:VAL:HG13	8:H:60:VAL:HG11	1.82	0.61
12:L:28:GLU:HG2	12:L:58:THR:HB	1.83	0.61
24:X:141:HIS:HB2	24:X:146:ILE:HG12	1.82	0.61
1:A:2505:G:O2'	1:A:2506:A:H5'	2.00	0.61
10:J:53:PRO:HG3	10:J:127:GLY:H	1.64	0.61
13:M:104:ASP:HB3	37:M:8569:HOH:O	1.99	0.61
28:2:21:ARG:HD2	28:2:37:CYS:SG	2.41	0.61
1:A:280:C:H2'	1:A:281:U:O4'	2.01	0.61
3:C:105:VAL:CG1	3:C:154:ALA:HB1	2.30	0.61
17:Q:115:SER:O	17:Q:117:SER:N	2.34	0.61
1:A:1164:U:C4'	1:A:1165:G:OP1	2.44	0.61
1:A:1974:G:OP1	37:A:7219:HOH:O	2.16	0.61
3:C:88:ILE:CD1	3:C:100:PRO:HD3	2.29	0.61
3:C:131:HIS:O	3:C:132:ASP:HB2	1.99	0.61
4:D:103:ASP:HB2	37:D:8591:HOH:O	1.99	0.61
11:K:79:PHE:O	11:K:83:ILE:HG13	2.00	0.61
15:O:11:ARG:HG3	15:O:14:ARG:NH1	2.14	0.61
24:X:106:THR:OG1	24:X:109:GLU:HG3	2.00	0.61
1:A:661:G:C5	1:A:686:A:C2	2.88	0.61
1:A:2123:A:P	14:N:89:ASN:ND2	2.73	0.61
37:A:3079:HOH:O	4:D:254:GLN:HG3	2.00	0.61
17:Q:83:LYS:O	17:Q:86:ALA:HB3	2.01	0.61
21:U:50:VAL:HG12	21:U:56:ALA:HA	1.81	0.61
24:X:81:ASP:OD1	24:X:92:ASP:HB2	2.00	0.61
1:A:558:C:C2'	1:A:559:U:H5"	2.31	0.61
37:B:5071:HOH:O	15:O:23:ARG:HD3	2.00	0.61
4:D:305:ASP:O	4:D:306:LYS:HB2	2.01	0.61
11:K:75:PRO:HG2	11:K:105:LEU:HD21	1.81	0.61
19:S:17:MET:HE1	19:S:19:ARG:NH2	2.16	0.61
1:A:1120:U:H5'	1:A:1121:G:OP2	2.00	0.61
1:A:2466:G:C5'	37:A:4025:HOH:O	2.45	0.61
37:A:7813:HOH:O	5:E:188:ARG:CD	2.48	0.61
37:A:9782:HOH:O	14:N:94:LYS:HE2	2.00	0.61
3:C:192:VAL:O	3:C:192:VAL:HG12	2.00	0.61
4:D:204:GLY:HA3	37:D:8649:HOH:O	2.01	0.61
14:N:164:THR:CG2	14:N:165:SER:N	2.59	0.61
3:C:88:ILE:HG22	3:C:88:ILE:O	2.00	0.61
6:F:67:ASP:O	6:F:69:ILE:HG13	2.01	0.61
1:A:500:G:H21	19:S:98:ASN:HD21	1.49	0.60
1:A:2432:C:C4'	37:A:3119:HOH:O	2.46	0.60
4:D:62:ARG:HA	4:D:65:MET:HE2	1.82	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:223:ARG:HG3	4:D:232:TRP:O	2.01	0.60
6:F:95:THR:C	6:F:97:GLN:H	2.04	0.60
1:A:349:U:O2'	1:A:350:C:H5'	2.01	0.60
1:A:1972:U:H2'	1:A:1973:A:H5'	1.83	0.60
1:A:2081:A:H4'	11:K:69:TYR:CE1	2.36	0.60
1:A:2435:U:P	30:4:28:GLY:HA3	2.40	0.60
1:A:2717:C:O2'	1:A:2718:C:H5"	2.01	0.60
10:J:26:LYS:HD2	10:J:28:ILE:CD1	2.28	0.60
14:N:173:LEU:HD23	14:N:183:VAL:CG1	2.31	0.60
1:A:2105:C:H2'	1:A:2106:C:C6	2.36	0.60
5:E:16:VAL:HG12	5:E:17:ASP:N	2.16	0.60
13:M:145:LEU:O	13:M:148:GLU:HG3	2.01	0.60
16:P:87:THR:O	16:P:91:GLN:HG3	2.02	0.60
24:X:65:VAL:HA	24:X:68:THR:CG2	2.31	0.60
27:1:57:CYS:O	27:1:61:GLY:N	2.31	0.60
1:A:1393:A:H2'	1:A:1394:C:C6	2.36	0.60
1:A:2506:A:O2'	1:A:2507:G:O5'	2.19	0.60
3:C:211:LYS:NZ	37:C:8579:HOH:O	2.34	0.60
29:3:18:ASN:HD21	29:3:40:ARG:H	1.46	0.60
1:A:1788:U:C2	1:A:1805:G:N2	2.69	0.60
1:A:1942:A:O2'	1:A:1943:C:H5'	2.01	0.60
1:A:2621:U:OP2	37:A:3360:HOH:O	2.16	0.60
6:F:170:TYR:O	6:F:171:ASP:HB3	2.01	0.60
25:Y:15:ARG:HH11	25:Y:15:ARG:CB	2.12	0.60
29:3:41:HIS:N	29:3:45:ASN:HD22	1.98	0.60
30:4:73:GLU:HB3	37:4:8561:HOH:O	2.00	0.60
1:A:39:G:N2	1:A:444:C:C2	2.70	0.60
1:A:2468:A:H61	30:4:48:ASN:HD21	1.48	0.60
2:B:3039:U:H1'	2:B:3044:A:N6	2.16	0.60
9:I:12:ILE:HG13	37:I:6833:HOH:O	2.00	0.60
10:J:147:ARG:HA	10:J:150:LYS:NZ	2.17	0.60
14:N:96:ASN:ND2	37:N:8542:HOH:O	2.28	0.60
26:Z:216:ARG:CD	37:Z:8574:HOH:O	2.47	0.60
27:1:11:THR:CG2	27:1:23:ARG:HB2	2.32	0.60
30:4:18:GLN:OE1	30:4:73:GLU:HB3	2.01	0.60
1:A:470:U:O2'	28:2:16:HIS:HD2	1.83	0.60
1:A:1123:A:C6	1:A:1238:C:H5'	2.37	0.60
1:A:1884:G:O6	3:C:190:ARG:HD2	2.01	0.60
1:A:2584:G:C2	1:A:2585:G:N7	2.69	0.60
37:A:7042:HOH:O	21:U:38:ARG:NH1	2.35	0.60
1:A:1165:G:OP1	1:A:1165:G:H3'	2.01	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1667:A:H5'	1:A:1667:A:H8	1.67	0.60
1:A:1918:U:OP2	37:A:4400:HOH:O	2.16	0.60
6:F:65:GLU:HG3	37:F:6752:HOH:O	2.00	0.60
11:K:93:ARG:HB3	11:K:93:ARG:HH11	1.66	0.60
17:Q:105:LEU:HD21	17:Q:137:LEU:HD21	1.82	0.60
1:A:134:U:C2	1:A:145:A:C2	2.90	0.60
1:A:1182:C:H1'	1:A:1192:A:H8	1.67	0.60
11:K:75:PRO:HG2	11:K:105:LEU:CD2	2.32	0.60
11:K:107:ASN:ND2	11:K:109:TYR:H	2.00	0.60
23:W:39:ALA:C	23:W:41:GLU:H	2.05	0.60
6:F:54:ALA:CB	6:F:69:ILE:HD12	2.31	0.60
8:H:19:ALA:O	8:H:22:VAL:HG22	2.02	0.60
10:J:75:SER:O	10:J:79:ALA:HB2	2.02	0.60
27:1:39:CYS:HA	27:1:47:LEU:CD1	2.32	0.60
28:2:8:GLN:HE22	28:2:11:LYS:HZ1	1.48	0.60
1:A:386:G:N7	37:A:5778:HOH:O	2.31	0.59
1:A:2104:C:O2	1:A:2486:A:C2	2.55	0.59
4:D:297:VAL:HB	37:D:8603:HOH:O	2.02	0.59
1:A:182:G:O3'	14:N:157:LEU:CD1	2.50	0.59
1:A:1751:G:H2'	1:A:1752:G:C5'	2.21	0.59
37:A:4937:HOH:O	14:N:86:MET:SD	2.57	0.59
2:B:3001:U:O3'	2:B:3003:A:H5"	2.02	0.59
4:D:7:ARG:HG2	4:D:7:ARG:HH11	1.67	0.59
4:D:207:LYS:HG2	4:D:304:PRO:HB3	1.84	0.59
6:F:135:VAL:HG22	6:F:136:ARG:N	2.17	0.59
15:O:47:LEU:HD13	15:O:97:VAL:HG11	1.84	0.59
26:Z:186:ARG:HG2	26:Z:186:ARG:NH1	2.15	0.59
27:1:62:TYR:CE2	27:1:64:ILE:HG23	2.37	0.59
28:2:5:THR:N	28:2:6:PRO:HD2	2.16	0.59
1:A:659:A:H5"	37:P:6799:HOH:O	2.01	0.59
1:A:1834:C:H2'	1:A:1840:A:H62	1.66	0.59
1:A:2316:G:H8	37:A:6015:HOH:O	1.85	0.59
1:A:2326:U:H4'	1:A:2412:G:C4'	2.33	0.59
4:D:55:ASN:HB3	4:D:63:GLU:HA	1.83	0.59
5:E:178:GLN:OE1	37:E:8474:HOH:O	2.16	0.59
6:F:19:GLU:HG3	37:F:6165:HOH:O	2.01	0.59
12:L:109:LEU:HD13	12:L:113:ILE:HD11	1.84	0.59
14:N:87:MET:HB3	30:4:46:ILE:HG21	1.84	0.59
17:Q:55:LYS:CA	37:Q:185:HOH:O	2.41	0.59
24:X:21:LEU:HD22	24:X:26:ILE:HD11	1.84	0.59
25:Y:74:ALA:CB	25:Y:85:VAL:HG22	2.32	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:611:U:H2'	1:A:612:U:C6	2.37	0.59
1:A:1887:U:OP1	27:1:21:LYS:HE3	2.02	0.59
20:T:81:ILE:HG23	37:T:8336:HOH:O	2.02	0.59
26:Z:155:ARG:NH1	37:Z:8561:HOH:O	2.35	0.59
1:A:691:G:N2	1:A:694:A:OP2	2.28	0.59
1:A:951:A:C2'	1:A:952:G:H5'	2.33	0.59
1:A:1713:G:H1'	37:A:5435:HOH:O	2.02	0.59
4:D:88:GLU:O	4:D:88:GLU:HG3	2.01	0.59
5:E:246:ARG:HB3	5:E:246:ARG:HH11	1.66	0.59
10:J:13:ALA:HA	10:J:91:HIS:CE1	2.38	0.59
12:L:99:ASP:OD1	12:L:101:ASN:N	2.36	0.59
14:N:87:MET:CG	30:4:46:ILE:HD13	2.33	0.59
21:U:37:GLN:OE1	21:U:118:SER:HA	2.02	0.59
1:A:138:U:H5"	1:A:139:C:OP2	2.03	0.59
4:D:7:ARG:HD3	4:D:9:GLY:O	2.03	0.59
4:D:154:VAL:HG12	4:D:156:LYS:HG2	1.84	0.59
6:F:99:ASP:CB	6:F:103:ASN:H	2.16	0.59
8:H:34:ASN:HA	14:N:4:ALA:HB2	1.84	0.59
17:Q:105:LEU:CD2	17:Q:137:LEU:HD21	2.33	0.59
1:A:121:U:OP2	29:3:10:ARG:NH2	2.36	0.59
1:A:447:A:O2'	1:A:448:G:H5'	2.03	0.59
1:A:1127:C:H2'	1:A:1128:U:H5'	1.84	0.59
1:A:2459:G:P	30:4:64:LYS:HB2	2.42	0.59
2:B:3002:U:OP2	2:B:3002:U:H4'	2.03	0.59
2:B:3044:A:O4'	6:F:76:ARG:NE	2.36	0.59
1:A:154:C:H2'	1:A:155:C:H6	1.67	0.59
1:A:920:C:H4'	1:A:921:G:C2	2.37	0.59
3:C:101:GLU:OE2	3:C:131:HIS:HB2	2.03	0.59
10:J:44:ALA:HA	10:J:163:PRO:O	2.02	0.59
14:N:37:VAL:HG21	14:N:108:LYS:CG	2.32	0.59
17:Q:115:SER:HG	17:Q:118:GLN:HG3	1.67	0.59
22:V:38:ASN:O	22:V:42:LEU:HG	2.03	0.59
1:A:553:G:P	26:Z:204:ARG:HH22	2.26	0.59
1:A:1461:U:H2'	1:A:1462:C:C6	2.38	0.59
4:D:75:GLU:C	4:D:77:PRO:HD3	2.22	0.59
5:E:191:SER:OG	5:E:192:ILE:N	2.36	0.59
6:F:155:HIS:NE2	37:F:7597:HOH:O	2.32	0.59
15:O:34:LEU:HA	15:O:47:LEU:HD23	1.85	0.59
21:U:48:VAL:HG23	21:U:98:VAL:HA	1.84	0.59
24:X:75:GLY:HA3	37:X:5763:HOH:O	2.02	0.59
27:1:22:ILE:O	27:1:26:VAL:HG23	2.03	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:629:A:C2	1:A:2074:A:C2	2.91	0.59
1:A:739:G:N7	37:A:7901:HOH:O	2.35	0.59
1:A:2247:C:H5"	37:A:7702:HOH:O	2.02	0.59
4:D:190:MET:HE2	4:D:194:PHE:HD1	1.66	0.59
13:M:104:ASP:O	13:M:105:TYR:HB3	2.03	0.59
24:X:125:HIS:HE1	37:X:3071:HOH:O	1.85	0.59
1:A:184:G:H5"	14:N:153:THR:HG22	1.84	0.58
1:A:1951:G:N2	37:A:6623:HOH:O	2.35	0.58
1:A:2548:C:OP2	4:D:5:ARG:NH2	2.36	0.58
6:F:166:ILE:HD12	37:F:6326:HOH:O	2.03	0.58
14:N:52:LEU:HD13	14:N:116:ASN:CB	2.33	0.58
17:Q:80:ARG:HG2	17:Q:87:ARG:CZ	2.33	0.58
24:X:88:THR:CG2	24:X:89:ASP:H	2.12	0.58
1:A:382:U:C5	1:A:406:G:C2	2.91	0.58
1:A:926:A:O2'	13:M:41:HIS:CD2	2.56	0.58
1:A:1185:U:H2'	1:A:1186:C:C6	2.38	0.58
1:A:2314:G:C2'	1:A:2315:C:H5'	2.33	0.58
2:B:3029:C:C2'	2:B:3030:C:H5'	2.33	0.58
6:F:25:MET:CE	6:F:37:ALA:HB1	2.32	0.58
19:S:111:ILE:HG23	19:S:145:LEU:HD11	1.84	0.58
1:A:1515:A:H2'	1:A:1516:C:C6	2.38	0.58
1:A:2587:U:H2'	1:A:2589:U:H5"	1.85	0.58
13:M:143:THR:CG2	13:M:144:ASP:N	2.66	0.58
14:N:58:GLN:HG3	37:N:8610:HOH:O	2.03	0.58
14:N:87:MET:SD	30:4:46:ILE:HD13	2.43	0.58
1:A:1766:U:O2	1:A:1778:A:H5'	2.04	0.58
15:O:91:ARG:HG3	15:O:186:LEU:HD23	1.85	0.58
17:Q:59:ARG:HH22	17:Q:66:GLN:HE22	1.50	0.58
19:S:44:VAL:O	19:S:48:GLU:HG3	2.04	0.58
1:A:105:G:O2'	1:A:106:A:H5'	2.02	0.58
1:A:544:G:C2'	1:A:545:G:H5"	2.34	0.58
4:D:217:ARG:HG3	4:D:257:THR:HG22	1.84	0.58
5:E:133:ARG:HD2	37:E:8419:HOH:O	2.03	0.58
6:F:36:ASN:HA	37:F:7500:HOH:O	2.03	0.58
7:G:126:ILE:HB	7:G:131:LEU:CD2	2.33	0.58
14:N:154:ARG:HD3	37:N:8648:HOH:O	2.03	0.58
1:A:1730:G:H5'	1:A:1731:C:C6	2.39	0.58
1:A:2594:C:O2'	1:A:2595:U:H5'	2.04	0.58
7:G:31:ARG:HH12	7:G:68:HIS:CE1	2.21	0.58
8:H:107:VAL:O	8:H:111:ILE:HG13	2.02	0.58
15:O:86:LEU:O	15:O:90:LEU:HG	2.04	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:Y:31:ILE:O	25:Y:35:GLU:HG3	2.04	0.58
1:A:1666:C:C2'	1:A:1667:A:H5'	2.33	0.58
1:A:2694:A:H4'	7:G:91:PHE:CE1	2.38	0.58
5:E:236:THR:HA	37:E:8458:HOH:O	2.03	0.58
10:J:147:ARG:HA	10:J:150:LYS:HZ2	1.69	0.58
20:T:80:ARG:HG2	37:T:8336:HOH:O	2.02	0.58
23:W:11:MET:HB3	23:W:15:GLU:HB2	1.85	0.58
1:A:407:A:C2	1:A:408:A:C4	2.92	0.58
1:A:558:C:H2'	1:A:559:U:C5'	2.34	0.58
1:A:1535:G:H2'	1:A:1536:C:C6	2.39	0.58
1:A:1773:G:C8	27:1:16:PRO:HA	2.39	0.58
1:A:2115:U:H2'	1:A:2116:U:C6	2.38	0.58
1:A:2761:A:C4	1:A:2763:G:C8	2.91	0.58
37:A:5336:HOH:O	10:J:57:ARG:HG3	2.04	0.58
13:M:54:PRO:HG2	13:M:57:VAL:CG2	2.34	0.58
14:N:97:ILE:CD1	14:N:127:LYS:HD2	2.34	0.58
19:S:119:VAL:O	19:S:119:VAL:HG12	2.03	0.58
19:S:119:VAL:HG21	19:S:142:ASP:CG	2.24	0.58
1:A:2878:U:H2'	1:A:2879:A:O4'	2.04	0.58
2:B:3057:A:N6	37:B:3535:HOH:O	2.32	0.58
3:C:94:LEU:HG	3:C:99:ILE:HD11	1.85	0.58
6:F:86:THR:O	6:F:90:LEU:HG	2.04	0.58
7:G:126:ILE:HB	7:G:131:LEU:HD23	1.84	0.58
8:H:48:VAL:HG23	8:H:74:PHE:CB	2.34	0.58
11:K:130:VAL:HG12	11:K:131:THR:N	2.17	0.58
25:Y:75:ALA:O	25:Y:83:ALA:HA	2.04	0.58
29:3:22:PRO:HG2	29:3:25:VAL:HG23	1.86	0.58
30:4:3:MET:O	30:4:90:PHE:HA	2.04	0.58
1:A:2094:G:C4'	4:D:245:SER:HB3	2.32	0.58
15:O:43:VAL:CG1	15:O:118:ILE:HD11	2.33	0.58
1:A:2281:C:H2'	1:A:2282:U:H5'	1.84	0.57
5:E:142:ASP:OD1	5:E:237:GLU:HB3	2.04	0.57
11:K:107:ASN:HD21	11:K:109:TYR:HB2	1.68	0.57
19:S:18:LEU:HB2	19:S:143:VAL:CG1	2.34	0.57
1:A:240:C:H4'	14:N:146:GLN:NE2	2.20	0.57
4:D:205:VAL:O	4:D:307:ARG:NE	2.37	0.57
23:W:56:ILE:O	23:W:60:GLN:HG3	2.04	0.57
24:X:80:ASP:O	24:X:84:VAL:HG23	2.03	0.57
1:A:1528:A:H2'	1:A:1529:G:O4'	2.04	0.57
1:A:2748:G:OP1	1:A:2749:U:H5"	2.04	0.57
4:D:264:GLU:HG2	4:D:267:LYS:CE	2.30	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:44:ILE:HG23	6:F:45:THR:HG23	1.86	0.57
7:G:7:ILE:HG22	7:G:45:ASP:O	2.04	0.57
13:M:148:GLU:HA	37:M:8577:HOH:O	2.02	0.57
14:N:97:ILE:HD13	14:N:127:LYS:HD2	1.87	0.57
24:X:4:LEU:O	24:X:32:CYS:HA	2.04	0.57
24:X:108:ARG:HE	24:X:114:PRO:HG3	1.69	0.57
1:A:816:G:H5'	1:A:1598:A:H4'	1.85	0.57
1:A:834:G:H4'	1:A:835:U:OP2	2.04	0.57
1:A:1132:A:N6	1:A:1229:C:H2'	2.20	0.57
1:A:1681:G:H5"	1:A:1682:A:H5'	1.86	0.57
1:A:2465:A:H3'	37:A:4025:HOH:O	2.04	0.57
1:A:2791:U:H1'	1:A:2792:A:H5"	1.86	0.57
15:O:22:GLN:HG2	15:O:26:LEU:HD22	1.85	0.57
18:R:75:ILE:CD1	18:R:84:ILE:HD11	2.35	0.57
20:T:53:ASN:ND2	37:T:8321:HOH:O	2.37	0.57
1:A:189:A:OP1	14:N:171:ARG:NH2	2.38	0.57
1:A:537:G:C6	1:A:620:A:C8	2.92	0.57
13:M:136:ALA:HB3	37:M:8578:HOH:O	2.05	0.57
24:X:54:PHE:CZ	24:X:140:LYS:HB2	2.39	0.57
1:A:1174:A:C5	1:A:1201:C:H4'	2.39	0.57
1:A:2256:G:H2'	1:A:2257:G:H5'	1.87	0.57
3:C:140:LEU:HB3	3:C:141:PRO:HD2	1.87	0.57
8:H:46:GLU:N	37:H:3461:HOH:O	2.37	0.57
8:H:117:GLU:C	8:H:119:ARG:H	2.06	0.57
14:N:87:MET:HB3	30:4:46:ILE:HD13	1.86	0.57
1:A:371:U:H2'	1:A:372:A:H8	1.69	0.57
37:E:8360:HOH:O	16:P:3:THR:HG21	2.04	0.57
6:F:37:ALA:O	6:F:40:ILE:HG12	2.05	0.57
8:H:47:LEU:HB2	8:H:108:LEU:HD11	1.87	0.57
13:M:10:SER:O	13:M:11:ARG:HB3	2.04	0.57
14:N:55:LYS:HB2	14:N:60:ILE:CD1	2.35	0.57
15:O:141:ARG:HB3	37:O:8570:HOH:O	2.05	0.57
21:U:69:LYS:O	21:U:71:VAL:HG23	2.04	0.57
1:A:1135:G:H5'	37:A:6290:HOH:O	2.03	0.57
1:A:2840:A:OP1	4:D:211:THR:HG23	2.05	0.57
6:F:44:ILE:HG12	6:F:83:PHE:HE1	1.68	0.57
8:H:58:GLU:OE1	14:N:27:ARG:NH2	2.38	0.57
10:J:117:LYS:O	10:J:119:VAL:HG13	2.05	0.57
14:N:89:ASN:HA	37:N:8556:HOH:O	2.04	0.57
16:P:113:VAL:O	16:P:114:ILE:HD13	2.05	0.57
1:A:524:A:H5'	19:S:29:LYS:HE2	1.85	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:544:G:H2'	1:A:545:G:H5"	1.87	0.57
37:A:8150:HOH:O	14:N:154:ARG:HB2	2.05	0.57
4:D:275:GLY:O	4:D:291:ASP:HA	2.05	0.57
7:G:15:GLN:NE2	7:G:40:VAL:O	2.36	0.57
10:J:75:SER:HB3	10:J:79:ALA:HB1	1.85	0.57
15:O:37:ARG:NE	37:O:8534:HOH:O	2.37	0.57
15:O:58:LEU:HD12	15:O:58:LEU:N	2.20	0.57
26:Z:187:VAL:HB	37:Z:8575:HOH:O	2.04	0.57
1:A:1471:A:H2'	1:A:1472:C:C6	2.40	0.57
1:A:1733:A:H4'	4:D:212:GLN:HA	1.87	0.57
1:A:2637:A:H5'	37:A:9663:HOH:O	2.04	0.57
1:A:2638:G:H1'	37:A:8230:HOH:O	2.05	0.57
5:E:162:VAL:HG12	5:E:162:VAL:O	2.03	0.57
5:E:236:THR:CG2	5:E:239:ALA:H	1.95	0.57
15:O:154:LEU:HG	15:O:155:GLU:H	1.68	0.57
1:A:329:A:OP2	5:E:206:ASN:HB2	2.05	0.56
1:A:920:C:H5'	1:A:921:G:C4	2.39	0.56
1:A:2908:A:H2'	1:A:2909:G:O4'	2.04	0.56
2:B:3048:C:H4'	15:O:141:ARG:NH2	2.20	0.56
13:M:143:THR:HG22	13:M:144:ASP:H	1.70	0.56
14:N:38:VAL:C	14:N:63:VAL:HG13	2.25	0.56
15:O:67:ALA:HA	15:O:71:TRP:H	1.67	0.56
21:U:101:LEU:HD13	21:U:112:LEU:HD11	1.86	0.56
5:E:39:GLN:O	5:E:43:LYS:HD3	2.05	0.56
5:E:168:ARG:NH2	5:E:190:ALA:O	2.38	0.56
10:J:62:GLU:O	10:J:66:VAL:HG23	2.05	0.56
26:Z:99:ALA:HB2	26:Z:233:TYR:CZ	2.40	0.56
1:A:251:C:O2'	1:A:252:C:H5'	2.05	0.56
1:A:449:A:N7	5:E:43:LYS:HG2	2.19	0.56
1:A:694:A:H2'	1:A:695:C:H5'	1.87	0.56
1:A:1249:U:H2'	1:A:1250:C:C6	2.40	0.56
1:A:2405:C:P	37:A:6957:HOH:O	2.63	0.56
37:A:6387:HOH:O	18:R:50:GLY:HA2	2.05	0.56
3:C:36:ASP:HA	3:C:83:GLY:HA3	1.87	0.56
4:D:132:HIS:CE1	4:D:171:VAL:HG21	2.39	0.56
5:E:236:THR:O	5:E:237:GLU:C	2.42	0.56
6:F:99:ASP:HB2	6:F:103:ASN:HB2	1.87	0.56
10:J:46:VAL:HG12	10:J:146:TRP:HZ3	1.70	0.56
11:K:19:MET:HE1	11:K:132:LEU:CD1	2.35	0.56
12:L:55:VAL:HG12	12:L:56:SER:N	2.20	0.56
14:N:57:LYS:HE2	14:N:140:ALA:O	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:O:37:ARG:CZ	37:O:8534:HOH:O	2.54	0.56
17:Q:94:TRP:CZ2	17:Q:98:ILE:HG13	2.40	0.56
22:V:31:PHE:CG	22:V:37:GLU:HG2	2.40	0.56
23:W:39:ALA:N	23:W:40:PRO:CD	2.67	0.56
23:W:39:ALA:O	23:W:41:GLU:N	2.38	0.56
24:X:4:LEU:HD23	24:X:54:PHE:HB3	1.88	0.56
24:X:119:HIS:HD2	24:X:120:PRO:O	1.89	0.56
26:Z:189:ASN:ND2	26:Z:192:ASP:H	2.04	0.56
1:A:113:A:H3'	1:A:114:A:C5'	2.35	0.56
1:A:1181:A:H2'	1:A:1182:C:O4'	2.05	0.56
1:A:2483:A:HO2'	1:A:2484:U:H5	1.53	0.56
3:C:25:ALA:HA	37:C:8571:HOH:O	2.04	0.56
12:L:34:VAL:CG2	12:L:47:ALA:HB2	2.34	0.56
13:M:149:ARG:O	13:M:150:GLN:HB2	2.06	0.56
14:N:74:ARG:O	14:N:88:VAL:CG1	2.46	0.56
21:U:1:SER:N	37:U:5837:HOH:O	2.39	0.56
26:Z:112:GLU:OE1	26:Z:112:GLU:HA	2.06	0.56
1:A:1333:U:H2'	1:A:1334:C:C6	2.40	0.56
1:A:2121:G:C2'	1:A:2122:C:H5'	2.35	0.56
37:A:4988:HOH:O	3:C:6:GLY:HA3	2.04	0.56
3:C:199:HIS:HD2	3:C:201:PHE:HB2	1.69	0.56
12:L:14:LYS:HG3	12:L:32:ILE:O	2.06	0.56
1:A:281:U:H3'	37:A:7566:HOH:O	2.06	0.56
1:A:777:U:O2'	28:2:11:LYS:HG2	2.05	0.56
1:A:1527:A:H1'	1:A:1528:A:C8	2.40	0.56
1:A:2329:C:O2'	1:A:2330:U:H5'	2.04	0.56
5:E:129:HIS:HD2	5:E:165:ASP:OD2	1.89	0.56
5:E:221:GLU:OE1	37:E:8332:HOH:O	2.18	0.56
6:F:41:LEU:HA	6:F:44:ILE:CG2	2.35	0.56
6:F:64:ARG:CD	6:F:67:ASP:HB3	2.36	0.56
10:J:130:HIS:CG	10:J:133:ILE:HD11	2.40	0.56
12:L:30:LYS:O	12:L:55:VAL:HG13	2.05	0.56
24:X:88:THR:HG23	24:X:110:GLN:HE21	1.71	0.56
30:4:48:ASN:HD22	30:4:50:GLY:H	1.47	0.56
1:A:2547:C:H2'	1:A:2548:C:H6	1.69	0.56
3:C:105:VAL:HG11	3:C:154:ALA:HB1	1.86	0.56
3:C:135:VAL:HG21	3:C:147:ARG:NH1	2.21	0.56
4:D:2:GLN:HA	37:D:8619:HOH:O	2.05	0.56
6:F:38:GLU:OE2	6:F:51:ARG:CZ	2.54	0.56
7:G:31:ARG:NH1	7:G:68:HIS:CG	2.74	0.56
8:H:100:ASP:O	8:H:101:ALA:O	2.24	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:K:104:TYR:HA	37:K:2238:HOH:O	2.04	0.56
19:S:114:VAL:O	19:S:114:VAL:HG13	2.06	0.56
23:W:44:GLY:O	23:W:48:GLU:HG2	2.05	0.56
24:X:122:ARG:HH11	24:X:122:ARG:CG	2.16	0.56
26:Z:117:LEU:HD12	26:Z:174:VAL:HG11	1.87	0.56
4:D:55:ASN:HB3	4:D:64:GLY:H	1.70	0.56
4:D:148:PRO:HD2	37:D:8581:HOH:O	2.05	0.56
5:E:162:VAL:HG13	5:E:232:LEU:HD21	1.86	0.56
6:F:99:ASP:HB3	6:F:103:ASN:H	1.71	0.56
8:H:91:VAL:HG12	8:H:92:GLY:H	1.70	0.56
14:N:35:PRO:HG3	14:N:38:VAL:HG23	1.87	0.56
14:N:114:VAL:HB	14:N:159:THR:HG23	1.86	0.56
1:A:2719:A:OP1	37:A:4389:HOH:O	2.18	0.56
3:C:105:VAL:HG13	3:C:155:THR:O	2.06	0.56
7:G:7:ILE:HD11	7:G:11:VAL:O	2.06	0.56
11:K:39:VAL:HG13	11:K:106:GLY:O	2.05	0.56
11:K:133:GLY:O	11:K:137:GLU:HG3	2.06	0.56
13:M:21:ARG:N	37:M:8533:HOH:O	2.39	0.56
13:M:72:ASN:O	13:M:76:LEU:HG	2.05	0.56
14:N:52:LEU:HD13	14:N:116:ASN:CG	2.26	0.56
14:N:87:MET:HE1	37:N:8532:HOH:O	2.05	0.56
14:N:104:ARG:O	14:N:108:LYS:HG2	2.05	0.56
27:1:25:ARG:O	27:1:29:VAL:HG23	2.06	0.56
27:1:42:CYS:SG	27:1:43:GLY:N	2.79	0.56
30:4:60:LYS:HD2	30:4:61:PRO:HD2	1.88	0.56
1:A:128:A:H3'	1:A:128:A:C8	2.40	0.56
1:A:564:G:H1'	37:A:6670:HOH:O	2.06	0.56
1:A:2787:C:H5	37:A:4999:HOH:O	1.88	0.56
37:B:4707:HOH:O	15:O:147:ILE:HB	2.05	0.56
3:C:211:LYS:NZ	37:C:8631:HOH:O	2.39	0.56
13:M:89:PHE:N	37:M:8576:HOH:O	2.39	0.56
24:X:139:GLY:O	24:X:141:HIS:CD2	2.58	0.56
30:4:62:THR:HB	37:4:8551:HOH:O	2.04	0.56
1:A:188:C:H5"	14:N:163:LEU:HD21	1.87	0.55
1:A:921:G:H4'	1:A:924:G:C6	2.42	0.55
1:A:1166:A:H1'	1:A:1192:A:N1	2.20	0.55
1:A:1187:U:O2'	1:A:1189:A:H2	1.89	0.55
1:A:1189:A:O2'	1:A:1208:C:H2'	2.05	0.55
1:A:2450:C:H3'	37:A:5544:HOH:O	2.06	0.55
2:B:3040:C:N4	6:F:51:ARG:HB2	2.21	0.55
3:C:81:GLN:HB2	3:C:92:ASN:ND2	2.21	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:41:PHE:HA	4:D:79:MET:HE2	1.86	0.55
4:D:307:ARG:HH11	4:D:307:ARG:CB	2.20	0.55
6:F:10:PHE:CG	6:F:11:HIS:N	2.74	0.55
6:F:50:VAL:O	6:F:71:ALA:HA	2.06	0.55
10:J:75:SER:C	10:J:79:ALA:HB2	2.27	0.55
12:L:32:ILE:HD11	12:L:56:SER:HB3	1.89	0.55
22:V:17:THR:HG22	22:V:18:GLY:N	2.21	0.55
1:A:1119:G:H2'	11:K:52:GLN:HE22	1.68	0.55
1:A:1183:C:N4	37:A:4768:HOH:O	2.34	0.55
1:A:1497:G:H4'	1:A:1627:G:O2'	2.06	0.55
1:A:1862:C:H1'	37:A:7579:HOH:O	2.06	0.55
1:A:2064:U:H4'	1:A:2653:A:P	2.47	0.55
1:A:2897:C:H2'	1:A:2898:G:H8	1.69	0.55
7:G:20:ILE:CD1	7:G:40:VAL:HG11	2.35	0.55
13:M:73:VAL:HG23	13:M:74:THR:H	1.70	0.55
15:O:34:LEU:HD22	15:O:129:ILE:CD1	2.35	0.55
26:Z:154:ARG:HH12	26:Z:155:ARG:HG3	1.70	0.55
1:A:453:A:H4'	1:A:455:A:N7	2.21	0.55
1:A:1008:C:H5"	10:J:16:ARG:HH12	1.71	0.55
37:A:3539:HOH:O	14:N:87:MET:HE3	2.05	0.55
3:C:9:ARG:HG2	3:C:16:PHE:CD2	2.42	0.55
6:F:23:VAL:HG22	6:F:73:VAL:HB	1.87	0.55
21:U:9:LYS:CE	21:U:13:ARG:NH1	2.66	0.55
27:1:37:HIS:O	27:1:45:LYS:HA	2.05	0.55
29:3:18:ASN:ND2	29:3:40:ARG:H	2.05	0.55
30:4:10:TYR:HB2	30:4:17:HIS:CE1	2.41	0.55
1:A:156:C:H5"	14:N:171:ARG:CD	2.26	0.55
1:A:625:U:H5"	1:A:1044:C:N4	2.21	0.55
1:A:2634:G:O2'	1:A:2635:A:H5'	2.06	0.55
4:D:175:LEU:HD23	4:D:175:LEU:C	2.26	0.55
15:O:159:TYR:HE2	15:O:163:PHE:HE2	1.54	0.55
1:A:1205:U:H2'	1:A:1206:U:C5'	2.34	0.55
1:A:2266:A:P	37:A:6221:HOH:O	2.63	0.55
3:C:211:LYS:HB3	3:C:212:PRO:CD	2.33	0.55
7:G:10:ASP:HA	37:G:3707:HOH:O	2.06	0.55
1:A:214:U:H5'	37:A:6502:HOH:O	2.05	0.55
1:A:553:G:O4'	1:A:1325:G:H5'	2.06	0.55
1:A:681:G:H5'	1:A:681:G:N3	2.22	0.55
1:A:2783:A:O2'	1:A:2784:A:H5'	2.06	0.55
4:D:221:GLN:HE22	12:L:42:ASN:HD22	1.52	0.55
5:E:200:PRO:HB3	5:E:212:VAL:HG23	1.89	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:K:126:ASN:O	11:K:129:PHE:HE2	1.90	0.55
15:O:24:LEU:O	15:O:28:LYS:HG2	2.06	0.55
26:Z:185:VAL:HA	37:Z:8567:HOH:O	2.05	0.55
1:A:714:U:H3'	37:A:7299:HOH:O	2.07	0.55
1:A:1119:G:H8	11:K:52:GLN:HE22	1.54	0.55
1:A:1159:G:H21	1:A:1189:A:H8	1.53	0.55
1:A:1299:G:N2	37:A:5049:HOH:O	2.40	0.55
1:A:1717:A:H5"	17:Q:54:LYS:HB2	1.89	0.55
1:A:2324:G:H4'	1:A:2418:G:O2'	2.07	0.55
8:H:99:THR:O	8:H:100:ASP:HB2	2.06	0.55
14:N:59:GLY:HA3	14:N:141:ILE:HD11	1.88	0.55
1:A:289:G:O2'	1:A:290:C:H5'	2.06	0.55
1:A:485:A:O2'	1:A:487:G:H5'	2.07	0.55
1:A:1168:C:H2'	1:A:1169:U:O4'	2.06	0.55
1:A:2256:G:C2'	1:A:2257:G:H5'	2.37	0.55
1:A:2467:A:P	37:A:9444:HOH:O	2.64	0.55
2:B:3031:C:H1'	37:B:1137:HOH:O	2.07	0.55
12:L:74:VAL:HG12	12:L:75:ARG:HG3	1.89	0.55
13:M:57:VAL:O	13:M:57:VAL:HG12	2.06	0.55
14:N:85:ARG:NE	37:N:8519:HOH:O	2.40	0.55
1:A:1874:U:P	3:C:51:ARG:HD2	2.47	0.55
1:A:2563:U:H2'	1:A:2565:C:O5'	2.07	0.55
3:C:109:GLU:HG2	3:C:116:GLY:H	1.71	0.55
4:D:32:ASP:HA	37:D:8574:HOH:O	2.06	0.55
4:D:329:TYR:HE2	22:V:15:PRO:HG2	1.72	0.55
6:F:11:HIS:O	6:F:12:GLU:HB3	2.06	0.55
12:L:65:ARG:HD3	37:L:5358:HOH:O	2.07	0.55
20:T:37:VAL:O	20:T:41:VAL:HG23	2.06	0.55
24:X:110:GLN:HA	24:X:110:GLN:HE21	1.71	0.55
26:Z:112:GLU:CD	26:Z:115:ARG:NH1	2.60	0.55
26:Z:178:HIS:CG	26:Z:179:PRO:HD2	2.42	0.55
1:A:2507:G:H2'	1:A:2510:C:H42	1.72	0.55
37:A:9608:HOH:O	3:C:11:ARG:HD3	2.06	0.55
4:D:185:GLY:HA2	37:D:8631:HOH:O	2.07	0.55
8:H:100:ASP:HB3	37:H:5691:HOH:O	2.07	0.55
9:I:64:ASN:O	9:I:68:GLU:HG3	2.07	0.55
11:K:46:ILE:HG12	11:K:53:ILE:HD13	1.89	0.55
24:X:90:TYR:CE2	24:X:99:ALA:HB2	2.42	0.55
26:Z:154:ARG:NH1	26:Z:155:ARG:HG3	2.22	0.55
27:1:30:GLU:HB2	37:1:8414:HOH:O	2.07	0.55
1:A:29:C:O2'	1:A:30:U:H5'	2.07	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1187:U:H2'	37:A:7253:HOH:O	2.05	0.54
1:A:2524:G:H21	1:A:2526:C:N4	2.04	0.54
1:A:2756:U:H3	1:A:2896:A:H2	1.52	0.54
1:A:2781:U:H2'	1:A:2782:G:C5'	2.36	0.54
37:A:9476:HOH:O	4:D:214:PRO:HD2	2.07	0.54
3:C:191:GLY:HA2	3:C:194:MET:HE3	1.89	0.54
3:C:199:HIS:CD2	3:C:201:PHE:HB2	2.42	0.54
5:E:184:ARG:NE	37:E:8420:HOH:O	2.32	0.54
11:K:127:ILE:N	35:K:8501:CL:CL	2.67	0.54
12:L:75:ARG:CZ	37:L:4172:HOH:O	2.54	0.54
21:U:47:THR:HB	21:U:100:ASP:HB3	1.89	0.54
22:V:11:THR:HG22	22:V:53:ASP:OD2	2.06	0.54
24:X:4:LEU:CD2	24:X:52:VAL:HG21	2.32	0.54
25:Y:70:ILE:O	25:Y:70:ILE:HG23	2.07	0.54
26:Z:107:PRO:HB3	26:Z:182:PHE:CE2	2.42	0.54
1:A:1118:A:C8	1:A:1118:A:C3'	2.85	0.54
1:A:1500:U:P	17:Q:41:ARG:HH22	2.30	0.54
1:A:2836:G:C6	1:A:2838:A:C2	2.95	0.54
3:C:57:ALA:HA	3:C:67:LEU:HD23	1.88	0.54
10:J:35:ASN:ND2	10:J:80:ASN:HA	2.22	0.54
14:N:84:LYS:HA	30:4:46:ILE:O	2.06	0.54
15:O:107:ASN:OD1	35:O:8507:CL:CL	2.62	0.54
15:O:184:ILE:HG22	15:O:185:GLU:HG3	1.88	0.54
24:X:65:VAL:HG12	24:X:116:LEU:HD13	1.89	0.54
27:1:19:GLY:O	27:1:23:ARG:HG2	2.06	0.54
1:A:283:U:H5"	1:A:284:C:P	2.47	0.54
1:A:1503:U:H2'	1:A:1504:A:O4'	2.07	0.54
5:E:65:ARG:HG3	5:E:67:GLN:HB2	1.89	0.54
14:N:123:ASP:C	14:N:123:ASP:OD1	2.46	0.54
16:P:14:LEU:CD2	16:P:102:ILE:HD11	2.36	0.54
22:V:33:SER:O	22:V:37:GLU:HG3	2.07	0.54
24:X:38:THR:HG22	24:X:39:ASP:N	2.22	0.54
27:1:46:LYS:HE2	37:1:8436:HOH:O	2.07	0.54
1:A:20:G:H21	19:S:117:HIS:HD2	1.55	0.54
1:A:2453:G:H5"	37:M:8546:HOH:O	2.06	0.54
1:A:2502:C:C4'	10:J:151:MET:HG2	2.36	0.54
17:Q:115:SER:C	17:Q:117:SER:H	2.11	0.54
1:A:1589:G:N2	1:A:1605:G:H1'	2.23	0.54
1:A:1743:G:H1'	37:A:5254:HOH:O	2.06	0.54
1:A:1787:C:OP1	17:Q:68:LYS:HE2	2.08	0.54
1:A:2111:G:H1'	37:A:9448:HOH:O	2.07	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:192:VAL:O	3:C:192:VAL:CG1	2.55	0.54
3:C:217:ARG:HG2	3:C:229:ALA:HB2	1.90	0.54
11:K:39:VAL:HG12	11:K:40:ASN:ND2	2.22	0.54
17:Q:31:ILE:HG12	17:Q:43:LEU:HD13	1.90	0.54
22:V:47:ARG:HG3	37:V:4381:HOH:O	2.07	0.54
25:Y:74:ALA:HB2	25:Y:85:VAL:HG13	1.89	0.54
29:3:41:HIS:H	29:3:45:ASN:ND2	2.01	0.54
1:A:1250:C:O2'	1:A:1251:C:H5'	2.08	0.54
2:B:3049:G:O2'	2:B:3050:G:H5'	2.08	0.54
4:D:27:ASN:HB3	37:D:8626:HOH:O	2.07	0.54
5:E:25:PRO:HG2	37:E:8324:HOH:O	2.08	0.54
10:J:150:LYS:HA	10:J:153:VAL:HG22	1.89	0.54
24:X:121:PRO:HA	24:X:153:MET:HG2	1.89	0.54
30:4:74:CYS:SG	30:4:76:LYS:CG	2.95	0.54
30:4:84:ARG:HB3	37:4:8551:HOH:O	2.08	0.54
2:B:3023:U:C5'	2:B:3024:U:OP2	2.55	0.54
5:E:111:VAL:HB	37:E:8323:HOH:O	2.07	0.54
7:G:84:MET:HE1	7:G:148:ILE:HD12	1.89	0.54
10:J:59:ASN:N	10:J:59:ASN:ND2	2.51	0.54
10:J:166:ASN:N	10:J:166:ASN:ND2	2.55	0.54
12:L:106:GLY:HA3	37:L:5264:HOH:O	2.07	0.54
25:Y:76:ARG:O	25:Y:77:PHE:HB3	2.07	0.54
28:2:28:HIS:O	28:2:32:LYS:N	2.40	0.54
1:A:920:C:H4'	1:A:921:G:N2	2.21	0.54
1:A:1583:U:H1'	37:A:3355:HOH:O	2.07	0.54
3:C:18:ALA:O	3:C:20:SER:N	2.38	0.54
4:D:7:ARG:NH1	4:D:11:LEU:HD22	2.23	0.54
5:E:40:ALA:CB	5:E:100:LEU:HD12	2.38	0.54
5:E:127:ARG:HG2	5:E:127:ARG:NH1	2.23	0.54
6:F:23:VAL:HG21	6:F:45:THR:CG2	2.37	0.54
25:Y:9:VAL:HG22	25:Y:88:GLU:OE2	2.07	0.54
1:A:396:U:H4'	37:A:4800:HOH:O	2.08	0.54
1:A:420:U:H2'	1:A:421:C:C6	2.42	0.54
1:A:1134:G:H4'	10:J:151:MET:CE	2.28	0.54
1:A:1421:C:O2'	1:A:1422:U:H5'	2.08	0.54
3:C:29:HIS:CE1	3:C:107:ASN:ND2	2.76	0.54
3:C:109:GLU:HG2	3:C:116:GLY:N	2.23	0.54
4:D:320:GLN:HG3	4:D:321:PRO:HD2	1.90	0.54
5:E:246:ARG:NH1	37:E:8374:HOH:O	2.41	0.54
6:F:27:ILE:HG22	6:F:28:GLY:N	2.17	0.54
7:G:86:VAL:CG1	7:G:129:GLU:HA	2.38	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:Q:103:THR:O	17:Q:107:GLU:HG3	2.08	0.54
19:S:39:THR:CB	19:S:42:GLU:HG3	2.34	0.54
29:3:48:ASP:O	29:3:49:GLU:HB2	2.08	0.54
1:A:558:C:H2'	1:A:559:U:H5'	1.90	0.54
1:A:797:A:O4'	27:1:10:ARG:N	2.41	0.54
1:A:2123:A:H5'	14:N:89:ASN:HD21	1.73	0.54
37:A:4153:HOH:O	22:V:17:THR:CG2	2.56	0.54
14:N:30:GLU:O	14:N:34:GLU:HG3	2.08	0.54
19:S:82:GLU:O	19:S:86:LYS:HG3	2.08	0.54
21:U:12:ARG:NH1	37:U:3035:HOH:O	2.40	0.54
1:A:545:G:H5'	1:A:545:G:C8	2.36	0.53
1:A:820:G:C5	3:C:171:LYS:HB2	2.43	0.53
1:A:1246:A:O2'	1:A:1247:A:H3'	2.08	0.53
1:A:1595:G:O2'	1:A:1596:U:H5'	2.08	0.53
2:B:3051:A:H5'	15:O:160:SER:HB3	1.91	0.53
4:D:280:VAL:HG13	4:D:334:SER:HA	1.90	0.53
4:D:333:GLU:HB2	22:V:14:GLU:OE2	2.08	0.53
14:N:65:VAL:HG21	14:N:105:ALA:HB2	1.90	0.53
14:N:168:ARG:NH1	37:N:8606:HOH:O	2.36	0.53
1:A:622:G:O2'	1:A:623:U:H5'	2.08	0.53
1:A:1056:U:H2'	1:A:1057:A:O4'	2.08	0.53
1:A:1209:C:H2'	1:A:1210:G:C8	2.42	0.53
1:A:1500:U:OP2	17:Q:41:ARG:NH2	2.41	0.53
1:A:1753:C:O2	4:D:229:ARG:NH2	2.41	0.53
1:A:2326:U:H4'	1:A:2412:G:H4'	1.90	0.53
1:A:2488:A:H61	1:A:2534:C:H42	1.56	0.53
37:A:5093:HOH:O	15:O:21:HIS:HD2	1.91	0.53
3:C:8:ARG:HG2	37:C:8556:HOH:O	2.08	0.53
12:L:125:ALA:C	12:L:127:ALA:H	2.11	0.53
13:M:125:PHE:CE1	13:M:140:VAL:HG13	2.44	0.53
14:N:39:ARG:CZ	37:N:8626:HOH:O	2.56	0.53
14:N:106:ASN:ND2	35:N:8518:CL:CL	2.79	0.53
14:N:122:GLU:HB2	14:N:126:HIS:O	2.08	0.53
19:S:132:ARG:HG2	19:S:133:ALA:N	2.22	0.53
23:W:64:GLY:O	23:W:65:ASP:CB	2.56	0.53
25:Y:30:MET:HE1	25:Y:58:ALA:HB3	1.90	0.53
27:1:39:CYS:SG	27:1:47:LEU:CD2	2.78	0.53
27:1:47:LEU:CD2	27:1:57:CYS:HB2	2.38	0.53
30:4:44:SER:HA	30:4:49:ASP:OD1	2.08	0.53
1:A:970:U:H2'	37:A:6688:HOH:O	2.08	0.53
1:A:2503:A:OP1	10:J:147:ARG:NH2	2.31	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:173:GLY:O	3:C:177:HIS:CD2	2.62	0.53
4:D:30:PRO:HB2	4:D:39:GLN:NE2	2.23	0.53
22:V:44:ARG:HB3	37:V:3805:HOH:O	2.07	0.53
24:X:14:HIS:HB2	24:X:17:ILE:HG13	1.90	0.53
1:A:1189:A:H1'	1:A:1209:C:O4'	2.08	0.53
1:A:1687:C:O2	28:2:9:GLY:HA2	2.08	0.53
1:A:2415:A:N3	15:O:26:LEU:HD13	2.23	0.53
3:C:164:ARG:NE	37:C:8596:HOH:O	2.41	0.53
3:C:200:PRO:HD3	37:C:8520:HOH:O	2.07	0.53
5:E:154:VAL:O	5:E:158:GLU:HG3	2.08	0.53
5:E:246:ARG:NE	37:E:8431:HOH:O	2.42	0.53
27:1:50:ALA:HB3	27:1:54:ILE:HG22	1.91	0.53
1:A:506:G:N2	1:A:509:A:H5'	2.16	0.53
1:A:513:A:N3	37:A:4039:HOH:O	2.34	0.53
1:A:912:A:C4	1:A:1294:A:C2	2.97	0.53
1:A:1845:A:OP2	3:C:190:ARG:NH1	2.41	0.53
4:D:217:ARG:HG3	4:D:257:THR:CG2	2.38	0.53
8:H:37:THR:O	8:H:41:GLU:HG3	2.09	0.53
1:A:113:A:OP2	1:A:114:A:H2'	2.08	0.53
1:A:960:G:H2'	1:A:960:G:N3	2.24	0.53
1:A:1119:G:H8	11:K:52:GLN:NE2	2.06	0.53
1:A:1304:U:H2'	1:A:1305:C:C6	2.44	0.53
1:A:2766:A:O2'	1:A:2767:C:H5'	2.09	0.53
5:E:118:THR:O	5:E:136:VAL:HG13	2.07	0.53
13:M:90:ARG:NH2	13:M:121:ILE:HD11	2.22	0.53
19:S:65:GLY:C	37:S:8518:HOH:O	2.46	0.53
1:A:172:U:OP2	37:A:6574:HOH:O	2.18	0.53
1:A:639:A:H2'	1:A:640:G:C8	2.43	0.53
1:A:2093:G:H5"	37:A:9864:HOH:O	2.07	0.53
1:A:2256:G:H2'	1:A:2257:G:C5'	2.39	0.53
1:A:2432:C:H2'	1:A:2433:A:H8	1.74	0.53
1:A:2445:U:H2'	1:A:2446:G:C8	2.44	0.53
1:A:2541:U:H2'	1:A:2542:C:H6	1.74	0.53
1:A:2737:C:H2'	37:A:6504:HOH:O	2.08	0.53
4:D:51:VAL:CG2	4:D:327:VAL:HG13	2.38	0.53
9:I:12:ILE:HG22	9:I:12:ILE:O	2.08	0.53
10:J:53:PRO:HA	10:J:125:VAL:O	2.08	0.53
10:J:56:ILE:HG21	10:J:61:LEU:HD13	1.90	0.53
21:U:32:ARG:NH1	21:U:38:ARG:HH12	2.06	0.53
1:A:1718:G:OP2	17:Q:20:ARG:HD2	2.08	0.53
1:A:2432:C:H4'	30:4:36:ILE:HG12	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2464:C:H5"	1:A:2465:A:OP1	2.08	0.53
37:A:4777:HOH:O	3:C:11:ARG:CZ	2.57	0.53
15:O:87:LEU:CD1	15:O:186:LEU:HD21	2.33	0.53
19:S:82:GLU:HG3	19:S:83:LYS:N	2.24	0.53
1:A:221:G:H2'	1:A:222:A:C8	2.43	0.53
1:A:952:G:OP1	18:R:42:LYS:HE2	2.09	0.53
1:A:1735:C:O2'	1:A:1736:A:H5'	2.08	0.53
7:G:7:ILE:HD11	7:G:11:VAL:C	2.28	0.53
20:T:57:THR:C	20:T:59:ASP:H	2.12	0.53
1:A:474:C:O3'	5:E:73:LEU:HD21	2.08	0.53
1:A:1173:A:H2'	37:A:4715:HOH:O	2.09	0.53
1:A:1213:C:O2'	1:A:1214:G:H5'	2.09	0.53
1:A:1299:G:O6	13:M:6:ARG:HD3	2.09	0.53
1:A:1943:C:O4'	3:C:212:PRO:HA	2.08	0.53
1:A:2088:C:H1'	1:A:2841:A:N1	2.23	0.53
1:A:2505:G:H8	37:A:5999:HOH:O	1.92	0.53
1:A:2578:G:H5'	1:A:2578:G:C8	2.40	0.53
4:D:307:ARG:HH11	4:D:307:ARG:CG	2.22	0.53
11:K:52:GLN:HG3	11:K:53:ILE:N	2.24	0.53
14:N:154:ARG:CD	37:N:8648:HOH:O	2.56	0.53
25:Y:76:ARG:HG3	25:Y:76:ARG:NH1	2.22	0.53
26:Z:144:ARG:NE	37:Z:8616:HOH:O	2.42	0.53
1:A:61:G:OP1	29:3:17:GLN:HG2	2.09	0.52
1:A:272:A:H5'	1:A:273:G:OP2	2.09	0.52
1:A:1713:G:C1'	37:A:5435:HOH:O	2.56	0.52
1:A:2073:G:OP2	1:A:2490:A:H5'	2.09	0.52
5:E:89:ALA:O	37:E:8315:HOH:O	2.19	0.52
10:J:85:ILE:HB	10:J:132:PHE:CE2	2.44	0.52
13:M:72:ASN:OD1	13:M:75:LEU:HD12	2.09	0.52
24:X:151:GLU:O	24:X:154:ARG:HB3	2.09	0.52
26:Z:126:PRO:HG2	26:Z:128:PHE:CE1	2.43	0.52
1:A:542:A:H2'	1:A:543:G:O4'	2.08	0.52
1:A:2320:U:H4'	1:A:2321:A:O4'	2.09	0.52
4:D:2:GLN:CD	37:D:8619:HOH:O	2.47	0.52
7:G:11:VAL:CG1	7:G:12:ASP:N	2.71	0.52
7:G:43:ASP:HA	37:G:5864:HOH:O	2.10	0.52
29:3:49:GLU:HB2	37:3:719:HOH:O	2.08	0.52
1:A:47:G:N3	1:A:114:A:C2	2.77	0.52
1:A:538:C:OP2	26:Z:134:HIS:HE1	1.93	0.52
1:A:962:C:C1'	15:O:5:ARG:NH1	2.66	0.52
1:A:1787:C:H4'	1:A:2883:A:O4'	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2428:G:C6	1:A:2464:C:H1'	2.44	0.52
1:A:2724:U:H2'	1:A:2725:G:O4'	2.08	0.52
37:A:6680:HOH:O	6:F:55:LYS:HB2	2.09	0.52
3:C:153:ARG:HH11	3:C:153:ARG:CB	2.22	0.52
8:H:21:GLU:O	8:H:24:ARG:HG3	2.08	0.52
8:H:48:VAL:CG2	8:H:74:PHE:HB3	2.38	0.52
10:J:47:GLU:CB	10:J:133:ILE:HD13	2.39	0.52
1:A:344:C:H2'	1:A:345:G:O4'	2.09	0.52
1:A:383:A:H4'	37:A:5690:HOH:O	2.09	0.52
1:A:796:A:C2	1:A:818:A:H1'	2.45	0.52
1:A:1711:A:O2'	1:A:1712:A:H5'	2.10	0.52
1:A:2015:A:H2'	1:A:2016:U:O4'	2.08	0.52
1:A:2064:U:H5'	1:A:2652:U:H4'	1.91	0.52
1:A:2262:C:O5'	1:A:2262:C:H6	1.91	0.52
37:A:7762:HOH:O	21:U:2:LYS:HE2	2.08	0.52
4:D:24:PRO:CG	4:D:204:GLY:HA2	2.40	0.52
5:E:40:ALA:HB3	5:E:100:LEU:HD12	1.90	0.52
6:F:65:GLU:HA	37:F:6752:HOH:O	2.08	0.52
14:N:108:LYS:HE3	37:N:8618:HOH:O	2.10	0.52
16:P:44:ASN:HA	16:P:65:LEU:O	2.10	0.52
16:P:59:VAL:HG23	16:P:111:VAL:HG23	1.90	0.52
25:Y:21:PRO:HG2	25:Y:24:LYS:HD3	1.91	0.52
1:A:392:U:O2'	14:N:182:LYS:HE2	2.08	0.52
1:A:431:G:P	14:N:48:ARG:HH12	2.31	0.52
1:A:1160:G:HO2'	1:A:1190:G:H8	1.58	0.52
1:A:1730:G:H4'	1:A:1731:C:O5'	2.10	0.52
1:A:1878:G:O2'	1:A:1879:U:C6	2.60	0.52
1:A:2249:G:OP2	37:A:5804:HOH:O	2.18	0.52
1:A:2779:G:H21	7:G:143:GLN:NE2	2.08	0.52
1:A:2837:U:H2'	37:A:7196:HOH:O	2.09	0.52
5:E:115:LEU:HD13	5:E:223:LEU:CD2	2.24	0.52
8:H:110:GLU:O	8:H:114:LYS:HG3	2.09	0.52
10:J:29:ALA:N	10:J:62:GLU:OE1	2.40	0.52
24:X:121:PRO:CA	24:X:153:MET:HG2	2.40	0.52
26:Z:184:GLU:OE1	26:Z:204:ARG:NH1	2.42	0.52
1:A:316:A:H5'	21:U:54:ASP:OD2	2.09	0.52
1:A:911:G:H5'	1:A:932:U:OP1	2.10	0.52
1:A:1778:A:H2'	1:A:1779:A:H5'	1.91	0.52
7:G:116:THR:HG22	7:G:151:LEU:HD22	1.92	0.52
13:M:143:THR:CG2	13:M:144:ASP:H	2.23	0.52
14:N:106:ASN:HD22	14:N:114:VAL:HG23	1.74	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:O:29:SER:HA	37:O:8557:HOH:O	2.09	0.52
24:X:26:ILE:O	24:X:26:ILE:CG1	2.57	0.52
1:A:1636:G:O2'	1:A:1637:A:H5'	2.09	0.52
1:A:2851:G:C2'	1:A:2852:A:H5'	2.40	0.52
15:O:143:ARG:HA	15:O:172:PHE:CD2	2.45	0.52
21:U:48:VAL:HG22	21:U:97:ARG:C	2.30	0.52
21:U:75:GLU:O	21:U:76:ASP:HB2	2.09	0.52
22:V:13:ILE:HG12	22:V:32:CYS:HB3	1.90	0.52
1:A:256:C:H2'	1:A:257:G:O4'	2.09	0.52
1:A:675:U:H2'	1:A:676:C:H5'	1.91	0.52
1:A:1559:A:H1'	37:A:6226:HOH:O	2.10	0.52
1:A:1603:A:H5'	1:A:1605:G:C4'	2.40	0.52
2:B:3045:A:H2'	2:B:3046:C:H6	1.74	0.52
3:C:51:ARG:HB2	37:C:8616:HOH:O	2.09	0.52
4:D:204:GLY:C	37:D:8649:HOH:O	2.47	0.52
5:E:118:THR:HG22	5:E:137:PRO:HB3	1.92	0.52
6:F:41:LEU:CA	6:F:44:ILE:HG22	2.39	0.52
6:F:103:ASN:ND2	6:F:134:LEU:H	2.07	0.52
30:4:40:ARG:HG3	30:4:52:PHE:CD2	2.44	0.52
30:4:62:THR:HG23	37:4:8530:HOH:O	2.10	0.52
1:A:1886:A:O2'	27:1:20:LEU:HB2	2.10	0.52
1:A:1887:U:OP1	27:1:21:LYS:HG3	2.10	0.52
3:C:217:ARG:HH11	3:C:217:ARG:CG	2.22	0.52
8:H:6:PHE:CD1	8:H:6:PHE:O	2.63	0.52
8:H:39:SER:HB3	8:H:45:ALA:HB2	1.91	0.52
37:L:408:HOH:O	22:V:37:GLU:HB3	2.09	0.52
16:P:47:ARG:NH1	37:P:4564:HOH:O	2.42	0.52
1:A:542:A:H1'	37:A:5042:HOH:O	2.10	0.52
1:A:1189:A:H1'	1:A:1209:C:C1'	2.39	0.52
1:A:1211:G:O2'	1:A:1212:C:H5'	2.09	0.52
1:A:2314:G:H2'	1:A:2315:C:H5'	1.92	0.52
1:A:2443:C:H3'	37:A:3850:HOH:O	2.09	0.52
1:A:2630:G:O6	3:C:206:ARG:NH2	2.43	0.52
1:A:2909:G:O2'	1:A:2910:A:H5'	2.10	0.52
2:B:3013:A:O2'	2:B:3014:G:H5"	2.10	0.52
4:D:215:VAL:HA	4:D:220:VAL:HG22	1.92	0.52
15:O:43:VAL:O	15:O:43:VAL:HG12	2.10	0.52
21:U:19:ARG:NH1	21:U:68:ASP:O	2.42	0.52
1:A:1164:U:O4'	1:A:1165:G:OP1	2.27	0.51
1:A:2559:C:H4'	37:A:7614:HOH:O	2.09	0.51
8:H:58:GLU:CA	8:H:61:MET:HG3	2.38	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:O:113:SER:HB3	37:O:8555:HOH:O	2.10	0.51
24:X:149:LEU:HG	24:X:153:MET:CE	2.39	0.51
1:A:2429:A:H2'	1:A:2430:A:C8	2.45	0.51
37:A:7781:HOH:O	21:U:9:LYS:HD2	2.10	0.51
5:E:185:LYS:HD3	5:E:186:TYR:CE1	2.44	0.51
18:R:50:GLY:HA3	18:R:87:THR:OG1	2.11	0.51
24:X:122:ARG:HG2	24:X:152:ALA:O	2.09	0.51
27:1:48:LYS:HG2	37:1:8428:HOH:O	2.11	0.51
1:A:1010:C:H4'	15:O:4:PRO:HB2	1.92	0.51
1:A:2114:C:OP1	3:C:1:GLY:HA2	2.11	0.51
1:A:2768:A:O2'	1:A:2769:C:H5'	2.10	0.51
1:A:2894:C:O2'	1:A:2895:C:H5'	2.10	0.51
4:D:162:MET:CE	4:D:310:ARG:HD3	2.40	0.51
5:E:237:GLU:HB2	37:E:8438:HOH:O	2.10	0.51
7:G:101:GLU:HB2	7:G:116:THR:O	2.09	0.51
10:J:110:GLY:N	37:J:8396:HOH:O	2.42	0.51
13:M:140:VAL:HG23	37:M:8562:HOH:O	2.09	0.51
15:O:25:ARG:HA	15:O:28:LYS:HG3	1.92	0.51
1:A:1391:G:H2'	1:A:1392:A:H5'	1.93	0.51
1:A:1791:U:H2'	1:A:1792:C:C6	2.46	0.51
1:A:2010:A:C2'	37:A:6320:HOH:O	2.59	0.51
3:C:99:ILE:O	3:C:131:HIS:CE1	2.62	0.51
3:C:123:GLY:HA2	3:C:159:VAL:O	2.11	0.51
4:D:280:VAL:CG1	4:D:334:SER:HA	2.41	0.51
20:T:11:THR:H	20:T:14:ALA:HB3	1.74	0.51
23:W:49:LEU:O	23:W:53:ILE:HG13	2.10	0.51
24:X:122:ARG:CG	24:X:152:ALA:O	2.59	0.51
4:D:1:PRO:O	4:D:2:GLN:HB2	2.10	0.51
14:N:184:ARG:HG3	14:N:185:PRO:HA	1.91	0.51
16:P:80:ASP:OD1	16:P:81:PHE:N	2.44	0.51
22:V:9:CYS:SG	22:V:11:THR:N	2.74	0.51
24:X:90:TYR:N	24:X:90:TYR:CD1	2.78	0.51
30:4:69:TYR:CB	30:4:78:HIS:CE1	2.93	0.51
1:A:88:G:H5'	1:A:88:G:H8	1.76	0.51
1:A:1014:A:H5"	2:B:3101:G:O2'	2.10	0.51
1:A:1180:U:H2'	1:A:1181:A:O4'	2.11	0.51
1:A:1188:A:C5	1:A:1189:A:C2	2.99	0.51
1:A:1316:G:H1'	1:A:1340:G:N2	2.26	0.51
1:A:1666:C:O2'	1:A:1667:A:C5'	2.58	0.51
1:A:1979:G:OP1	37:A:6674:HOH:O	2.19	0.51
37:A:4235:HOH:O	10:J:90:PHE:CD2	2.55	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:82:VAL:O	4:D:82:VAL:HG12	2.10	0.51
10:J:35:ASN:ND2	10:J:79:ALA:O	2.43	0.51
1:A:1669:A:H2'	1:A:1670:G:C8	2.46	0.51
1:A:2092:G:H2'	1:A:2613:G:OP1	2.11	0.51
1:A:2782:G:OP1	7:G:71:ASN:ND2	2.41	0.51
7:G:20:ILE:CD1	7:G:33:LEU:HD12	2.40	0.51
10:J:26:LYS:HD3	10:J:89:PRO:HG3	1.93	0.51
14:N:76:ARG:HB2	14:N:88:VAL:HG21	1.92	0.51
14:N:87:MET:CE	37:N:8532:HOH:O	2.58	0.51
1:A:120:A:H2'	1:A:120:A:N3	2.26	0.51
1:A:398:U:H2'	1:A:399:C:C6	2.46	0.51
1:A:541:C:O2'	1:A:542:A:H5"	2.10	0.51
1:A:1377:C:H5'	1:A:1377:C:C6	2.43	0.51
1:A:1504:A:O2'	1:A:1506:U:OP2	2.29	0.51
1:A:2869:G:H5'	37:A:5856:HOH:O	2.11	0.51
6:F:99:ASP:O	6:F:159:PRO:HG3	2.10	0.51
11:K:19:MET:SD	11:K:132:LEU:HD21	2.51	0.51
13:M:73:VAL:HG23	13:M:74:THR:N	2.26	0.51
13:M:143:THR:HG21	37:M:8543:HOH:O	2.10	0.51
29:3:49:GLU:CD	37:3:719:HOH:O	2.48	0.51
30:4:6:ARG:NH1	30:4:21:GLU:HB2	2.25	0.51
1:A:1791:U:H2'	1:A:1792:C:H6	1.74	0.51
1:A:2004:U:H1'	37:A:3569:HOH:O	2.09	0.51
37:A:4889:HOH:O	14:N:94:LYS:HE3	2.11	0.51
4:D:132:HIS:CE1	4:D:171:VAL:CG2	2.94	0.51
6:F:57:THR:HG23	6:F:63:ILE:CG2	2.39	0.51
14:N:71:SER:O	14:N:73:ARG:NH1	2.41	0.51
20:T:29:ASP:OD1	20:T:31:ARG:NH1	2.44	0.51
1:A:585:C:H6	37:A:6456:HOH:O	1.93	0.51
1:A:1384:C:H5'	25:Y:30:MET:HG2	1.93	0.51
1:A:1654:U:H2'	3:C:47:HIS:CD2	2.47	0.51
1:A:1862:C:O2'	1:A:1863:G:H5'	2.11	0.51
4:D:162:MET:HE3	4:D:308:LEU:CD2	2.37	0.51
7:G:133:VAL:HG12	7:G:141:VAL:HG13	1.93	0.51
10:J:83:PHE:HZ	10:J:146:TRP:HE1	1.53	0.51
10:J:157:ILE:HG22	10:J:158:ASN:N	2.26	0.51
11:K:80:LYS:HE2	11:K:98:PHE:CZ	2.46	0.51
15:O:3:GLY:HA3	37:O:8512:HOH:O	2.10	0.51
30:4:11:CYS:SG	30:4:20:HIS:NE2	2.82	0.51
1:A:269:G:C2	1:A:270:U:O4	2.64	0.50
1:A:401:C:H5'	37:A:6155:HOH:O	2.10	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:508:A:H2'	1:A:509:A:H5"	1.92	0.50
1:A:657:G:OP1	5:E:27:ARG:NH2	2.43	0.50
1:A:821:U:H2'	1:A:822:C:C6	2.44	0.50
37:A:3326:HOH:O	25:Y:23:HIS:HD2	1.93	0.50
4:D:125:GLU:O	4:D:129:ARG:HG3	2.11	0.50
10:J:62:GLU:HA	37:J:8383:HOH:O	2.09	0.50
15:O:67:ALA:C	15:O:69:TYR:N	2.64	0.50
15:O:139:TRP:HA	15:O:139:TRP:CE3	2.45	0.50
20:T:43:GLU:HB3	37:T:8343:HOH:O	2.12	0.50
1:A:485:A:HO2'	1:A:487:G:H8	1.59	0.50
1:A:559:U:H2'	1:A:560:C:O4'	2.11	0.50
1:A:1921:A:C6	1:A:1922:A:C2	2.99	0.50
10:J:39:GLY:O	10:J:41:THR:N	2.45	0.50
15:O:80:SER:HB2	37:O:8536:HOH:O	2.12	0.50
15:O:154:LEU:O	15:O:155:GLU:CB	2.60	0.50
15:O:180:LEU:O	15:O:181:ASP:HB3	2.10	0.50
17:Q:10:ALA:HA	17:Q:13:VAL:HG12	1.92	0.50
22:V:36:CYS:HG	22:V:51:TRP:HH2	1.58	0.50
24:X:4:LEU:HD21	24:X:52:VAL:HG11	1.93	0.50
1:A:111:C:H2'	1:A:112:G:O4'	2.12	0.50
1:A:660:A:H4'	1:A:661:G:O5'	2.12	0.50
1:A:1129:C:H5"	1:A:1130:U:OP2	2.11	0.50
1:A:2482:G:N2	1:A:2485:A:OP2	2.43	0.50
2:B:3059:C:H5'	37:B:5233:HOH:O	2.10	0.50
5:E:133:ARG:NH2	37:E:8433:HOH:O	2.44	0.50
5:E:150:THR:HA	5:E:203:ALA:O	2.10	0.50
10:J:127:GLY:O	10:J:128:ALA:CB	2.59	0.50
10:J:141:ASN:CA	37:J:8365:HOH:O	2.54	0.50
12:L:58:THR:HG22	12:L:59:LYS:HG3	1.94	0.50
15:O:154:LEU:HG	15:O:155:GLU:N	2.26	0.50
21:U:49:GLU:OE2	21:U:97:ARG:HD2	2.11	0.50
26:Z:172:THR:HG22	26:Z:173:ALA:N	2.24	0.50
29:3:22:PRO:HG2	29:3:25:VAL:CG2	2.40	0.50
1:A:394:G:H1	14:N:181:GLU:CD	2.15	0.50
1:A:1641:A:H2'	1:A:1642:A:H5'	1.93	0.50
1:A:2010:A:H2'	37:A:6320:HOH:O	2.11	0.50
37:A:4562:HOH:O	26:Z:186:ARG:HD2	2.11	0.50
37:A:7500:HOH:O	28:2:1:THR:HB	2.10	0.50
2:B:3055:U:H4'	2:B:3056:A:C8	2.46	0.50
4:D:248:ARG:HG2	37:K:3517:HOH:O	2.11	0.50
6:F:136:ARG:HD2	6:F:155:HIS:O	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:11:VAL:HG13	7:G:23:GLU:O	2.10	0.50
14:N:37:VAL:CG1	14:N:63:VAL:HG11	2.41	0.50
15:O:110:THR:HB	15:O:113:SER:OG	2.11	0.50
17:Q:38:GLU:HA	17:Q:41:ARG:NH1	2.27	0.50
18:R:75:ILE:HD13	18:R:84:ILE:HD11	1.94	0.50
1:A:88:G:H2'	1:A:89:G:C8	2.45	0.50
1:A:2718:C:H6	1:A:2718:C:H5'	1.77	0.50
5:E:20:ASP:O	5:E:23:GLU:HB2	2.12	0.50
7:G:20:ILE:HD12	7:G:33:LEU:HD12	1.93	0.50
8:H:34:ASN:O	8:H:38:LYS:HG3	2.11	0.50
14:N:115:LEU:HD13	14:N:116:ASN:HB2	1.94	0.50
21:U:80:GLU:HA	37:U:6653:HOH:O	2.12	0.50
24:X:65:VAL:CA	24:X:68:THR:HG22	2.36	0.50
1:A:289:G:N2	1:A:363:A:H2	2.06	0.50
1:A:466:A:H2'	1:A:467:G:O4'	2.12	0.50
1:A:470:U:O2'	28:2:16:HIS:CD2	2.63	0.50
1:A:488:U:C2'	37:A:4384:HOH:O	2.59	0.50
1:A:2434:A:H2'	1:A:2435:U:H6	1.77	0.50
1:A:2570:G:H5"	37:A:5277:HOH:O	2.11	0.50
37:A:3337:HOH:O	30:4:84:ARG:HB2	2.12	0.50
37:A:3364:HOH:O	13:M:22:ARG:HG2	2.12	0.50
23:W:58:THR:O	23:W:62:GLU:HG3	2.11	0.50
26:Z:234:VAL:HG12	26:Z:235:GLU:N	2.26	0.50
30:4:7:PHE:CE1	30:4:9:THR:HB	2.47	0.50
1:A:160:A:C4	1:A:177:A:C2	2.99	0.50
1:A:1183:C:O2	37:A:6608:HOH:O	2.20	0.50
1:A:2413:A:N7	15:O:109:PRO:HB3	2.27	0.50
1:A:2679:G:H2'	1:A:2681:A:OP2	2.11	0.50
4:D:76:THR:N	4:D:77:PRO:HD3	2.26	0.50
5:E:104:ASP:O	5:E:108:GLN:HG3	2.12	0.50
7:G:5:LEU:HD21	7:G:66:GLN:HG3	1.93	0.50
7:G:11:VAL:HG12	7:G:12:ASP:H	1.76	0.50
8:H:50:VAL:CG2	8:H:63:ILE:HG21	2.42	0.50
14:N:95:LYS:HG2	14:N:99:ARG:HB3	1.93	0.50
24:X:26:ILE:O	24:X:26:ILE:HG13	2.10	0.50
25:Y:43:VAL:HG12	25:Y:44:ASP:N	2.26	0.50
26:Z:106:THR:HG23	26:Z:107:PRO:HD2	1.94	0.50
30:4:40:ARG:HA	30:4:52:PHE:CZ	2.47	0.50
1:A:1331:A:OP2	26:Z:142:SER:OG	2.29	0.50
1:A:1593:C:H5'	17:Q:116:SER:O	2.12	0.50
2:B:3030:C:OP1	6:F:137:PRO:O	2.29	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:72:VAL:HG11	10:J:81:TYR:CZ	2.47	0.50
10:J:163:PRO:HG2	37:J:8338:HOH:O	2.11	0.50
13:M:90:ARG:HH11	13:M:90:ARG:HG3	1.76	0.50
13:M:93:VAL:HG12	13:M:97:VAL:HG23	1.94	0.50
24:X:3:ALA:O	24:X:54:PHE:HA	2.11	0.50
1:A:151:A:H2'	1:A:152:A:O4'	2.11	0.50
1:A:777:U:H5	28:2:15:THR:HG1	1.59	0.50
1:A:940:G:C5	1:A:1027:G:C2	2.99	0.50
1:A:1060:C:H6	1:A:1060:C:H5'	1.77	0.50
1:A:1422:U:H2'	1:A:1423:C:C6	2.46	0.50
1:A:1450:C:C4'	1:A:1451:C:OP2	2.57	0.50
1:A:1760:G:OP2	37:A:3298:HOH:O	2.18	0.50
10:J:13:ALA:HA	10:J:91:HIS:HE1	1.77	0.50
12:L:105:ARG:HG3	37:L:3385:HOH:O	2.12	0.50
14:N:35:PRO:CG	14:N:38:VAL:CG2	2.83	0.50
1:A:422:G:C6	1:A:2446:G:C6	3.00	0.49
1:A:1265:G:H1'	37:A:5365:HOH:O	2.11	0.49
1:A:1434:A:H2'	1:A:1436:C:C5	2.47	0.49
1:A:2291:A:H8	37:A:6831:HOH:O	1.94	0.49
1:A:2694:A:H4'	7:G:91:PHE:HE1	1.76	0.49
1:A:2697:A:H2'	1:A:2698:G:O4'	2.12	0.49
4:D:254:GLN:HG2	4:D:255:GLY:N	2.26	0.49
4:D:305:ASP:O	4:D:306:LYS:CB	2.59	0.49
10:J:14:TYR:N	10:J:91:HIS:CE1	2.78	0.49
14:N:39:ARG:NE	37:N:8626:HOH:O	2.45	0.49
14:N:113:ARG:HH21	14:N:156:ARG:HG2	1.76	0.49
15:O:64:SER:C	15:O:66:LEU:H	2.16	0.49
15:O:132:ASN:O	15:O:135:VAL:HG12	2.12	0.49
15:O:152:GLU:C	15:O:154:LEU:H	2.13	0.49
17:Q:7:LYS:HD2	17:Q:21:VAL:CG2	2.41	0.49
27:1:47:LEU:HD13	27:1:64:ILE:HD11	1.94	0.49
30:4:65:THR:O	30:4:82:GLY:HA3	2.12	0.49
1:A:195:C:H2'	1:A:196:G:H5'	1.94	0.49
1:A:611:U:H2'	1:A:612:U:H6	1.75	0.49
1:A:1166:A:H61	1:A:1180:U:H3	1.59	0.49
1:A:1861:C:H4'	3:C:6:GLY:O	2.12	0.49
1:A:2729:C:O2'	1:A:2730:G:H5'	2.12	0.49
5:E:50:GLU:HG2	37:E:8392:HOH:O	2.10	0.49
6:F:49:PRO:HA	6:F:73:VAL:HG22	1.93	0.49
7:G:31:ARG:CZ	37:G:5919:HOH:O	2.60	0.49
9:I:67:LEU:O	9:I:71:LEU:HG	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:157:G:H4'	14:N:95:LYS:HE3	1.95	0.49
1:A:200:U:H2'	37:A:3820:HOH:O	2.11	0.49
1:A:288:A:H2'	1:A:289:G:C8	2.47	0.49
1:A:371:U:H2'	1:A:372:A:C8	2.46	0.49
1:A:516:A:OP2	37:A:6006:HOH:O	2.19	0.49
1:A:812:A:H1'	37:A:4337:HOH:O	2.13	0.49
1:A:1137:G:H1'	37:A:4257:HOH:O	2.11	0.49
3:C:93:THR:C	3:C:94:LEU:HD23	2.32	0.49
4:D:145:HIS:CD2	4:D:146:THR:O	2.61	0.49
5:E:233:THR:HG22	5:E:234:VAL:N	2.26	0.49
9:I:69:ARG:NH1	37:I:3513:HOH:O	2.45	0.49
10:J:48:LEU:HD13	10:J:146:TRP:HB3	1.95	0.49
12:L:9:THR:O	12:L:10:GLN:C	2.49	0.49
15:O:155:GLU:O	15:O:156:GLU:HG3	2.12	0.49
23:W:12:THR:CG2	23:W:15:GLU:HG3	2.21	0.49
25:Y:25:ARG:HG2	37:Y:5356:HOH:O	2.11	0.49
1:A:949:U:O2'	18:R:40:HIS:HE1	1.95	0.49
37:A:5313:HOH:O	14:N:82:ARG:HB3	2.13	0.49
14:N:173:LEU:HA	14:N:183:VAL:HG11	1.95	0.49
17:Q:16:VAL:CG1	17:Q:17:GLY:N	2.75	0.49
1:A:338:C:H4'	5:E:174:ILE:HD11	1.94	0.49
1:A:2004:U:O2	1:A:2004:U:H2'	2.11	0.49
1:A:2019:A:H5'	37:A:4905:HOH:O	2.12	0.49
1:A:2404:G:OP1	18:R:69:ASP:N	2.38	0.49
1:A:2780:C:H1'	7:G:143:GLN:NE2	2.23	0.49
6:F:163:VAL:HA	37:F:6326:HOH:O	2.11	0.49
13:M:53:ARG:N	35:M:8510:CL:CL	2.80	0.49
24:X:6:GLN:CB	24:X:26:ILE:HD12	2.38	0.49
27:1:77:LYS:HA	27:1:80:MET:CE	2.43	0.49
1:A:1125:U:H2'	1:A:1126:C:H5'	1.95	0.49
1:A:1205:U:C2'	1:A:1206:U:H5'	2.39	0.49
1:A:1483:C:O2'	1:A:1484:G:H5'	2.13	0.49
1:A:1819:G:H5'	37:A:5076:HOH:O	2.13	0.49
1:A:2769:C:O2'	1:A:2770:G:H5'	2.12	0.49
8:H:60:VAL:O	8:H:61:MET:C	2.50	0.49
10:J:45:GLN:HG3	10:J:135:TRP:NE1	2.28	0.49
15:O:90:LEU:HB2	15:O:186:LEU:HD22	1.93	0.49
17:Q:7:LYS:CD	17:Q:21:VAL:CG2	2.91	0.49
21:U:48:VAL:HG22	21:U:97:ARG:O	2.13	0.49
1:A:10:U:H5'	37:A:6399:HOH:O	2.12	0.49
1:A:661:G:C4	1:A:686:A:C2	3.01	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1505:U:H6	1:A:1505:U:H5'	1.76	0.49
1:A:1562:C:O2	1:A:1562:C:H2'	2.11	0.49
1:A:2730:G:O2'	1:A:2731:G:H5'	2.13	0.49
1:A:2791:U:C1'	1:A:2792:A:H5"	2.43	0.49
1:A:2846:C:H4'	37:A:5443:HOH:O	2.11	0.49
9:I:27:ILE:HD12	9:I:70:ALA:HB1	1.94	0.49
14:N:149:TRP:O	14:N:152:ARG:HG2	2.12	0.49
15:O:62:HIS:HB3	15:O:65:ASP:OD1	2.12	0.49
18:R:40:HIS:HD2	18:R:60:THR:OG1	1.96	0.49
22:V:20:MET:HG3	22:V:28:THR:HG23	1.94	0.49
24:X:35:VAL:HG23	24:X:41:TYR:CD2	2.48	0.49
26:Z:112:GLU:OE1	26:Z:115:ARG:NH1	2.45	0.49
26:Z:235:GLU:CD	26:Z:235:GLU:N	2.66	0.49
1:A:835:U:H3'	37:A:9757:HOH:O	2.13	0.49
1:A:1119:G:OP1	11:K:49:ARG:NH1	2.46	0.49
1:A:1328:A:OP1	26:Z:169:ARG:HD2	2.13	0.49
1:A:1462:C:H2'	1:A:1463:A:C8	2.48	0.49
1:A:2712:G:H5'	37:L:4183:HOH:O	2.11	0.49
5:E:187:ARG:NH2	37:E:8369:HOH:O	2.33	0.49
10:J:165:GLY:C	10:J:166:ASN:HD22	2.15	0.49
11:K:39:VAL:CG1	11:K:40:ASN:N	2.75	0.49
12:L:87:ARG:CZ	37:L:4854:HOH:O	2.61	0.49
14:N:77:PHE:HD2	37:N:8528:HOH:O	1.96	0.49
22:V:44:ARG:HD3	22:V:49:LEU:HD21	1.93	0.49
27:1:51:GLY:HA3	37:1:8416:HOH:O	2.12	0.49
1:A:392:U:C5'	14:N:193:LYS:HB3	2.42	0.49
1:A:558:C:C2'	1:A:559:U:C5'	2.91	0.49
1:A:2055:A:H4'	19:S:132:ARG:NH2	2.27	0.49
1:A:2906:A:H5'	1:A:2907:C:O4'	2.12	0.49
4:D:66:GLU:OE1	4:D:328:ARG:HD2	2.13	0.49
4:D:168:GLY:N	4:D:174:ARG:HD3	2.28	0.49
6:F:57:THR:HG23	6:F:63:ILE:CB	2.43	0.49
13:M:55:GLN:HA	13:M:58:GLN:NE2	2.26	0.49
37:A:5198:HOH:O	11:K:47:THR:CB	2.53	0.49
37:A:6556:HOH:O	29:3:44:ARG:HG2	2.13	0.49
3:C:123:GLY:HA3	3:C:162:GLY:HA2	1.95	0.49
10:J:71:TYR:C	10:J:73:GLN:N	2.65	0.49
19:S:31:ILE:O	19:S:32:ALA:C	2.50	0.49
24:X:6:GLN:HG2	24:X:29:VAL:HA	1.94	0.49
1:A:950:G:O2'	1:A:951:A:H5'	2.12	0.48
1:A:1684:A:N1	37:A:9689:HOH:O	2.35	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2120:U:H2'	1:A:2121:G:O4'	2.13	0.48
4:D:82:VAL:HG12	4:D:101:TRP:CE3	2.48	0.48
5:E:19:PRO:HG2	5:E:22:PHE:CD1	2.48	0.48
6:F:94:ALA:HB3	6:F:174:VAL:HA	1.95	0.48
8:H:16:ALA:HA	8:H:111:ILE:HD13	1.95	0.48
15:O:67:ALA:C	15:O:69:TYR:H	2.17	0.48
22:V:49:LEU:O	22:V:55:ALA:CB	2.61	0.48
27:1:11:THR:OG1	27:1:23:ARG:HB2	2.13	0.48
30:4:69:TYR:O	30:4:77:ALA:HA	2.13	0.48
1:A:306:A:P	21:U:38:ARG:HH21	2.36	0.48
1:A:514:G:H8	1:A:514:G:O5'	1.96	0.48
1:A:1805:G:H2'	1:A:1806:G:H8	1.78	0.48
1:A:1886:A:C5'	37:1:8405:HOH:O	2.60	0.48
3:C:173:GLY:O	3:C:176:HIS:HB3	2.13	0.48
8:H:91:VAL:CG1	8:H:92:GLY:N	2.76	0.48
20:T:32:ALA:HA	20:T:36:GLU:OE1	2.13	0.48
1:A:596:C:H2'	1:A:597:A:C8	2.49	0.48
1:A:1003:U:O2'	10:J:90:PHE:HE1	1.95	0.48
1:A:1351:G:OP1	5:E:96:LYS:NZ	2.45	0.48
1:A:1417:G:OP2	29:3:47:THR:OG1	2.31	0.48
1:A:1878:G:C1'	37:A:6482:HOH:O	2.60	0.48
3:C:36:ASP:HB2	3:C:85:ASP:H	1.79	0.48
7:G:16:ASP:O	7:G:17:HIS:HB2	2.13	0.48
16:P:26:TRP:HA	16:P:26:TRP:CE3	2.49	0.48
30:4:7:PHE:HE1	30:4:9:THR:HB	1.78	0.48
30:4:39:GLN:CA	30:4:42:ARG:NH2	2.74	0.48
1:A:338:C:H4'	5:E:174:ILE:HD12	1.94	0.48
1:A:1051:C:H2'	1:A:1052:G:O4'	2.13	0.48
1:A:1523:G:H2'	1:A:1524:U:C6	2.48	0.48
37:A:4937:HOH:O	14:N:83:SER:HA	2.12	0.48
2:B:3026:C:P	37:B:3472:HOH:O	2.71	0.48
2:B:3054:A:O2'	2:B:3055:U:H5'	2.13	0.48
4:D:238:ASN:ND2	4:D:240:GLY:N	2.57	0.48
4:D:274:GLU:HA	4:D:292:GLY:O	2.12	0.48
11:K:6:PHE:HB3	11:K:109:TYR:OH	2.12	0.48
11:K:74:ARG:HD3	37:K:5061:HOH:O	2.12	0.48
15:O:171:HIS:CE1	37:O:8567:HOH:O	2.65	0.48
18:R:26:PRO:O	18:R:30:VAL:HG23	2.13	0.48
22:V:9:CYS:O	22:V:52:THR:HG23	2.12	0.48
1:A:79:G:H22	1:A:97:G:H1'	1.79	0.48
1:A:380:A:H5"	14:N:48:ARG:NH2	2.28	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:860:U:C2'	37:A:6042:HOH:O	2.62	0.48
1:A:1450:C:O2'	1:A:1494:A:H5'	2.13	0.48
1:A:1667:A:H2'	1:A:1668:U:C6	2.48	0.48
1:A:1684:A:O2'	1:A:1685:A:H5"	2.13	0.48
1:A:1701:A:H4'	1:A:1702:U:C5'	2.43	0.48
1:A:2251:G:H2'	1:A:2252:A:C8	2.49	0.48
1:A:2420:G:H4'	37:A:4471:HOH:O	2.14	0.48
6:F:86:THR:C	6:F:89:PRO:HD2	2.34	0.48
8:H:63:ILE:HB	8:H:64:PRO:CD	2.38	0.48
8:H:101:ALA:HB2	8:H:108:LEU:HD22	1.96	0.48
9:I:64:ASN:N	9:I:64:ASN:ND2	2.60	0.48
15:O:182:GLY:O	15:O:183:ASP:O	2.31	0.48
16:P:39:THR:O	16:P:115:ARG:NH2	2.46	0.48
1:A:136:C:H2'	1:A:137:U:O4'	2.13	0.48
1:A:1565:C:O4'	1:A:2738:G:H1'	2.13	0.48
1:A:1850:U:H2'	1:A:1851:G:H8	1.77	0.48
1:A:2089:A:O2'	1:A:2090:G:H5'	2.13	0.48
1:A:2271:G:H2'	1:A:2271:G:N3	2.28	0.48
1:A:2721:U:H4'	12:L:87:ARG:HG3	1.96	0.48
1:A:2815:G:N7	11:K:80:LYS:NZ	2.61	0.48
2:B:3055:U:H4'	2:B:3056:A:H8	1.78	0.48
10:J:144:GLU:OE1	10:J:144:GLU:HA	2.13	0.48
15:O:38:LYS:HE2	15:O:107:ASN:ND2	2.29	0.48
24:X:122:ARG:CG	24:X:122:ARG:NH1	2.76	0.48
1:A:281:U:O2'	1:A:282:C:H5'	2.14	0.48
1:A:638:C:H2'	1:A:639:A:C8	2.48	0.48
1:A:1123:A:N6	1:A:1238:C:H5'	2.29	0.48
1:A:1245:C:O5'	1:A:1245:C:H6	1.97	0.48
1:A:1586:G:O2'	1:A:1587:U:H5'	2.12	0.48
1:A:2256:G:O2'	1:A:2257:G:H5'	2.13	0.48
1:A:2265:U:H2'	1:A:2266:A:C8	2.49	0.48
1:A:2529:G:O2'	1:A:2530:C:H5'	2.13	0.48
1:A:2830:U:H3'	37:A:5592:HOH:O	2.12	0.48
2:B:3012:C:H5'	2:B:3070:U:O4'	2.14	0.48
37:B:466:HOH:O	18:R:27:GLN:HB2	2.13	0.48
4:D:265:LEU:CD2	4:D:316:ARG:HD3	2.44	0.48
5:E:214:THR:CG2	37:E:8443:HOH:O	2.50	0.48
7:G:145:ALA:HB1	7:G:168:ILE:CD1	2.43	0.48
8:H:13:GLU:OE2	8:H:78:GLU:HG2	2.14	0.48
8:H:46:GLU:OE1	8:H:100:ASP:HA	2.13	0.48
10:J:84:ARG:CZ	10:J:135:TRP:HH2	2.25	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:N:182:LYS:HB2	14:N:194:ALA:HB2	1.94	0.48
15:O:47:LEU:CD1	15:O:97:VAL:HG11	2.44	0.48
1:A:182:G:H4'	14:N:157:LEU:HD13	1.95	0.48
1:A:396:U:C3'	37:A:4712:HOH:O	2.61	0.48
1:A:694:A:C2'	1:A:695:C:H5'	2.43	0.48
1:A:1060:C:H2'	1:A:1061:C:H6	1.78	0.48
1:A:1192:A:H3'	1:A:1193:A:H5'	1.95	0.48
4:D:320:GLN:HG3	4:D:321:PRO:CD	2.43	0.48
6:F:93:LEU:HB3	6:F:97:GLN:OE1	2.13	0.48
9:I:63:ARG:O	9:I:67:LEU:HG	2.14	0.48
12:L:11:GLY:O	12:L:12:LEU:HD23	2.13	0.48
12:L:34:VAL:HB	37:L:7169:HOH:O	2.14	0.48
14:N:20:ILE:O	14:N:24:MET:HG2	2.13	0.48
14:N:184:ARG:HB2	14:N:184:ARG:CZ	2.43	0.48
24:X:154:ARG:HB3	24:X:154:ARG:HE	1.53	0.48
27:1:56:MET:HA	27:1:62:TYR:O	2.13	0.48
1:A:1342:C:C2'	1:A:1343:C:H5'	2.44	0.48
1:A:1609:C:H2'	1:A:1610:G:H8	1.79	0.48
1:A:1819:G:H2'	1:A:1820:G:C5'	2.44	0.48
1:A:1829:A:H61	27:1:18:TYR:CA	2.27	0.48
1:A:2533:C:O2'	1:A:2534:C:H5'	2.13	0.48
1:A:2911:C:H2'	1:A:2912:C:C6	2.49	0.48
4:D:27:ASN:HD22	4:D:27:ASN:H	1.61	0.48
4:D:56:ASP:OD1	4:D:322:ARG:HB3	2.12	0.48
10:J:26:LYS:HD2	10:J:28:ILE:HB	1.95	0.48
12:L:45:PRO:HB2	37:L:7169:HOH:O	2.14	0.48
14:N:37:VAL:HG13	14:N:63:VAL:HG11	1.96	0.48
16:P:39:THR:HB	37:P:3360:HOH:O	2.13	0.48
24:X:122:ARG:HG2	24:X:122:ARG:NH1	2.19	0.48
30:4:74:CYS:SG	30:4:76:LYS:HG3	2.54	0.48
1:A:107:U:H2'	1:A:108:U:H5'	1.96	0.48
1:A:128:A:H3'	1:A:128:A:H8	1.79	0.48
1:A:1205:U:C2'	1:A:1206:U:C5'	2.91	0.48
1:A:1311:G:C2	1:A:1312:G:C8	3.02	0.48
2:B:3026:C:OP2	37:B:3472:HOH:O	2.20	0.48
4:D:62:ARG:HA	4:D:65:MET:HE3	1.95	0.48
4:D:195:ARG:HG2	4:D:323:LEU:HD22	1.96	0.48
5:E:51:TYR:CE2	28:2:53:LYS:HB3	2.49	0.48
6:F:146:LYS:HZ1	15:O:107:ASN:HD21	1.58	0.48
13:M:11:ARG:HG2	13:M:12:THR:HG23	1.96	0.48
19:S:106:GLY:HA2	19:S:109:MET:CE	2.40	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:25:A:H5'	37:A:9515:HOH:O	2.14	0.47
1:A:282:C:H2'	1:A:283:U:O4'	2.13	0.47
1:A:488:U:C4	1:A:512:G:C5	3.01	0.47
1:A:1616:A:H5"	1:A:1617:C:OP1	2.13	0.47
1:A:2769:C:C2'	1:A:2770:G:H5'	2.43	0.47
37:A:4458:HOH:O	8:H:31:LYS:HE3	2.13	0.47
4:D:51:VAL:HG13	4:D:53:LEU:HD13	1.95	0.47
5:E:162:VAL:O	5:E:162:VAL:CG1	2.61	0.47
1:A:516:A:P	37:A:6006:HOH:O	2.72	0.47
1:A:584:U:H3'	37:A:6456:HOH:O	2.14	0.47
1:A:1292:G:HO2'	1:A:1293:U:H6	1.62	0.47
1:A:1308:A:H5'	37:A:7291:HOH:O	2.13	0.47
1:A:1543:G:N1	1:A:1641:A:OP2	2.38	0.47
1:A:1804:A:H2'	1:A:1805:G:C8	2.49	0.47
37:A:3446:HOH:O	19:S:83:LYS:HB3	2.14	0.47
37:A:3571:HOH:O	13:M:4:LYS:HG3	2.14	0.47
37:A:6905:HOH:O	27:1:22:ILE:HG13	2.13	0.47
3:C:192:VAL:O	3:C:207:GLN:HG2	2.14	0.47
4:D:14:GLY:HA2	4:D:15:PRO:C	2.34	0.47
6:F:92:GLU:O	6:F:93:LEU:O	2.32	0.47
1:A:119:A:H2'	1:A:120:A:H5"	1.96	0.47
1:A:860:U:H2'	1:A:861:A:C8	2.49	0.47
1:A:1461:U:H2'	1:A:1462:C:H6	1.75	0.47
1:A:1925:G:OP1	30:4:29:ARG:NH2	2.48	0.47
1:A:2676:C:H4'	11:K:70:PHE:CE1	2.49	0.47
37:A:6704:HOH:O	14:N:125:ARG:HB2	2.14	0.47
3:C:22:ARG:HG2	37:C:8612:HOH:O	2.13	0.47
6:F:84:LEU:C	6:F:86:THR:H	2.17	0.47
8:H:38:LYS:NZ	14:N:3:SER:HA	2.29	0.47
10:J:31:PHE:CD2	10:J:88:PHE:CZ	3.02	0.47
10:J:139:ASP:H	10:J:140:PRO:HD3	1.73	0.47
13:M:54:PRO:HG2	13:M:57:VAL:HG21	1.94	0.47
13:M:90:ARG:NH1	13:M:119:THR:HG21	2.29	0.47
19:S:61:GLN:CD	37:S:8541:HOH:O	2.52	0.47
23:W:55:ARG:O	23:W:59:ILE:HG12	2.13	0.47
1:A:37:A:H2'	1:A:38:G:C8	2.48	0.47
1:A:278:A:H2'	1:A:279:C:O4'	2.15	0.47
1:A:403:C:H6	1:A:403:C:O5'	1.97	0.47
1:A:553:G:H2'	1:A:554:G:H5'	1.96	0.47
1:A:1574:C:H6	1:A:1574:C:O5'	1.97	0.47
1:A:2011:A:P	37:A:6320:HOH:O	2.72	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2353:A:H4'	1:A:2354:A:O5'	2.14	0.47
37:A:6021:HOH:O	21:U:68:ASP:HB2	2.12	0.47
2:B:3006:C:P	15:O:37:ARG:NH1	2.87	0.47
4:D:53:LEU:HD21	4:D:270:ILE:HD12	1.97	0.47
4:D:55:ASN:HB3	4:D:64:GLY:N	2.29	0.47
4:D:222:LYS:HE2	37:D:8547:HOH:O	2.14	0.47
7:G:158:ASP:OD1	7:G:160:ARG:HB2	2.14	0.47
8:H:28:ALA:HB3	8:H:99:THR:O	2.13	0.47
8:H:47:LEU:HD22	8:H:108:LEU:CD1	2.45	0.47
10:J:83:PHE:CD1	10:J:134:ALA:HB2	2.49	0.47
11:K:45:VAL:HG22	11:K:46:ILE:N	2.28	0.47
11:K:70:PHE:CD2	11:K:70:PHE:O	2.68	0.47
14:N:114:VAL:HG21	14:N:159:THR:CG2	2.44	0.47
16:P:4:ASN:HB3	16:P:7:LEU:HB3	1.96	0.47
24:X:130:HIS:C	24:X:136:GLY:HA3	2.34	0.47
25:Y:43:VAL:CG1	25:Y:47:ALA:HB3	2.44	0.47
30:4:11:CYS:HB2	30:4:20:HIS:CE1	2.49	0.47
1:A:164:G:C6	1:A:165:A:C5	3.02	0.47
1:A:164:G:O6	1:A:165:A:C6	2.68	0.47
1:A:177:A:H2'	1:A:178:U:O4'	2.14	0.47
1:A:1930:A:H1'	1:A:2128:G:H5'	1.96	0.47
2:B:3041:C:O4'	6:F:50:VAL:HG23	2.15	0.47
6:F:11:HIS:C	6:F:13:MET:H	2.18	0.47
6:F:19:GLU:O	6:F:133:ASN:HB3	2.15	0.47
8:H:48:VAL:HG23	8:H:74:PHE:HB3	1.97	0.47
10:J:84:ARG:CZ	10:J:135:TRP:CH2	2.98	0.47
24:X:122:ARG:NH2	37:X:4276:HOH:O	2.44	0.47
1:A:39:G:C2	1:A:444:C:N3	2.83	0.47
1:A:283:U:H5	1:A:284:C:N4	2.12	0.47
1:A:308:U:H5'	21:U:97:ARG:NH2	2.30	0.47
1:A:319:A:H4'	1:A:338:C:C4	2.49	0.47
1:A:407:A:H2'	1:A:408:A:C8	2.50	0.47
1:A:1015:C:H6	1:A:1015:C:O5'	1.97	0.47
1:A:1116:U:H3	1:A:1246:A:N6	2.04	0.47
1:A:1768:C:H2'	1:A:1769:C:O4'	2.14	0.47
1:A:2405:C:OP1	37:A:6957:HOH:O	2.20	0.47
1:A:2541:U:H2'	1:A:2542:C:C6	2.49	0.47
1:A:2896:A:H2'	1:A:2896:A:N3	2.29	0.47
2:B:3006:C:P	15:O:37:ARG:HH11	2.38	0.47
2:B:3014:G:O2'	15:O:1:ALA:HB2	2.14	0.47
3:C:81:GLN:HG3	3:C:92:ASN:HD21	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:94:LEU:HG	3:C:99:ILE:CD1	2.44	0.47
5:E:200:PRO:HB3	5:E:212:VAL:CG2	2.45	0.47
10:J:157:ILE:CG2	10:J:158:ASN:N	2.78	0.47
10:J:162:SER:CB	10:J:163:PRO:CD	2.80	0.47
19:S:17:MET:CE	19:S:19:ARG:NH2	2.78	0.47
27:1:77:LYS:HA	27:1:80:MET:HE2	1.97	0.47
30:4:74:CYS:SG	30:4:76:LYS:N	2.81	0.47
1:A:21:G:H5"	19:S:1:GLY:O	2.15	0.47
1:A:128:A:C8	1:A:128:A:C3'	2.98	0.47
1:A:183:A:H5'	14:N:157:LEU:HD12	1.97	0.47
1:A:1151:G:OP1	9:I:63:ARG:NH1	2.47	0.47
1:A:1162:G:H2'	37:A:6944:HOH:O	2.14	0.47
1:A:1494:A:H1'	1:A:1495:C:C6	2.49	0.47
1:A:1653:A:H5'	3:C:178:LYS:HA	1.97	0.47
1:A:2670:G:O2'	1:A:2671:U:H5'	2.14	0.47
1:A:2900:G:H2'	1:A:2901:C:O4'	2.15	0.47
2:B:3028:U:H5"	15:O:40:ASN:ND2	2.30	0.47
2:B:3064:C:H2'	2:B:3065:A:H5'	1.97	0.47
2:B:3092:G:H22	10:J:52:LYS:NZ	2.12	0.47
3:C:43:VAL:O	3:C:44:ASP:HB2	2.14	0.47
3:C:186:TRP:CG	3:C:187:PRO:HA	2.49	0.47
3:C:217:ARG:CG	3:C:217:ARG:NH1	2.77	0.47
5:E:107:ARG:CB	5:E:107:ARG:HH11	2.27	0.47
5:E:115:LEU:HD21	5:E:243:VAL:HG13	1.95	0.47
5:E:129:HIS:CE1	5:E:231:ARG:HA	2.50	0.47
5:E:219:ASN:N	5:E:222:ASP:OD1	2.48	0.47
6:F:25:MET:HE1	6:F:37:ALA:O	2.14	0.47
6:F:81:GLU:O	6:F:85:GLN:HG3	2.15	0.47
6:F:86:THR:HG23	37:F:7477:HOH:O	2.13	0.47
8:H:56:PRO:CG	14:N:44:THR:HA	2.44	0.47
10:J:14:TYR:HB2	37:J:8352:HOH:O	2.15	0.47
10:J:46:VAL:O	10:J:146:TRP:HH2	1.97	0.47
10:J:111:MET:O	10:J:114:PRO:HD3	2.15	0.47
14:N:80:GLY:O	14:N:81:ARG:HD3	2.15	0.47
14:N:155:HIS:ND1	14:N:158:ARG:NE	2.58	0.47
15:O:67:ALA:O	15:O:69:TYR:N	2.48	0.47
15:O:101:VAL:HG12	37:O:8530:HOH:O	2.14	0.47
17:Q:13:VAL:HG21	17:Q:41:ARG:HG2	1.97	0.47
17:Q:98:ILE:CD1	17:Q:102:ARG:NE	2.78	0.47
22:V:9:CYS:HG	22:V:11:THR:HG23	1.78	0.47
26:Z:122:ARG:NH2	37:Z:8538:HOH:O	2.47	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:Z:189:ASN:HA	26:Z:217:ILE:HD11	1.95	0.47
27:1:38:LYS:HE2	27:1:45:LYS:CE	2.39	0.47
1:A:234:A:H4'	1:A:437:A:O4'	2.14	0.47
1:A:1525:G:H5'	1:A:1526:A:OP2	2.15	0.47
2:B:3006:C:C5'	15:O:37:ARG:HH12	2.19	0.47
2:B:3042:C:O2	6:F:76:ARG:NH1	2.48	0.47
3:C:81:GLN:H	3:C:92:ASN:CG	2.18	0.47
6:F:95:THR:OG1	6:F:174:VAL:HG22	2.15	0.47
7:G:102:VAL:HG11	7:G:148:ILE:HD11	1.96	0.47
14:N:139:PRO:HA	14:N:142:LYS:HB2	1.97	0.47
17:Q:10:ALA:O	17:Q:13:VAL:HG12	2.15	0.47
17:Q:115:SER:C	17:Q:117:SER:N	2.68	0.47
27:1:57:CYS:O	27:1:61:GLY:CA	2.62	0.47
27:1:59:HIS:HA	37:1:8438:HOH:O	2.14	0.47
30:4:7:PHE:HE2	30:4:22:VAL:HG21	1.79	0.47
1:A:60:A:C2	1:A:61:G:C8	3.03	0.47
1:A:945:U:H2'	1:A:946:C:C6	2.50	0.47
1:A:1021:G:O2'	1:A:1022:A:H5'	2.14	0.47
1:A:1191:A:C3'	1:A:1192:A:H5"	2.40	0.47
1:A:1730:G:H5'	1:A:1731:C:H5	1.77	0.47
1:A:1825:U:O4'	1:A:1999:C:H5"	2.14	0.47
1:A:2103:A:N7	31:A:9403:VIR:H241	2.29	0.47
1:A:2409:C:O2'	30:4:17:HIS:CD2	2.68	0.47
3:C:47:HIS:O	3:C:49:PRO:HD3	2.15	0.47
3:C:105:VAL:HG12	3:C:106:CYS:N	2.30	0.47
4:D:7:ARG:CD	4:D:9:GLY:O	2.63	0.47
4:D:42:ALA:HB1	4:D:308:LEU:HD11	1.96	0.47
4:D:195:ARG:HD2	4:D:324:ASP:OD1	2.15	0.47
6:F:94:ALA:O	6:F:95:THR:O	2.33	0.47
7:G:49:ILE:HD11	7:G:69:ILE:HD12	1.97	0.47
11:K:74:ARG:NH1	11:K:76:ASP:HB2	2.30	0.47
16:P:25:VAL:HG23	16:P:26:TRP:N	2.30	0.47
16:P:96:VAL:HG13	16:P:100:GLN:HB2	1.96	0.47
17:Q:59:ARG:HH22	17:Q:66:GLN:NE2	2.13	0.47
1:A:120:A:H5'	28:2:20:ARG:HH21	1.80	0.47
1:A:155:C:O2'	1:A:156:C:H5'	2.15	0.47
1:A:204:A:H2'	1:A:205:U:H5'	1.96	0.47
1:A:1058:A:H2'	1:A:1060:C:C5'	2.42	0.47
1:A:1072:G:OP2	26:Z:154:ARG:NH2	2.47	0.47
1:A:1098:A:H2'	1:A:1099:G:O4'	2.14	0.47
1:A:1882:C:O2'	1:A:2012:U:OP2	2.30	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2440:C:C2	1:A:2453:G:C2	3.03	0.47
1:A:2667:G:H1'	1:A:2914:A:N3	2.29	0.47
3:C:36:ASP:CB	3:C:85:ASP:H	2.28	0.47
3:C:132:ASP:OD1	3:C:133:ARG:N	2.47	0.47
4:D:204:GLY:CA	37:D:8649:HOH:O	2.62	0.47
6:F:10:PHE:CD1	6:F:11:HIS:N	2.83	0.47
6:F:23:VAL:CG2	6:F:73:VAL:HB	2.44	0.47
6:F:35:ALA:O	6:F:37:ALA:N	2.47	0.47
14:N:155:HIS:CE1	14:N:158:ARG:HE	2.32	0.47
15:O:67:ALA:HA	15:O:71:TRP:HB3	1.96	0.47
15:O:108:SER:HA	15:O:109:PRO:HD3	1.75	0.47
22:V:8:TYR:CD2	22:V:36:CYS:HB3	2.50	0.47
24:X:6:GLN:HA	24:X:52:VAL:HG23	1.95	0.47
1:A:123:U:O2'	1:A:124:C:H5'	2.15	0.46
1:A:135:G:OP1	14:N:39:ARG:NH1	2.42	0.46
1:A:251:C:H1'	14:N:58:GLN:HE22	1.79	0.46
1:A:1189:A:H1'	1:A:1209:C:H1'	1.97	0.46
1:A:1314:U:H5"	1:A:1316:G:O4'	2.15	0.46
1:A:1754:A:H2'	1:A:1755:A:O4'	2.15	0.46
1:A:1819:G:H2'	1:A:1820:G:C4'	2.46	0.46
1:A:2084:C:H2'	1:A:2085:A:C8	2.50	0.46
1:A:2557:U:O2'	1:A:2684:A:H5"	2.16	0.46
2:B:3049:G:H2'	2:B:3050:G:O4'	2.15	0.46
4:D:24:PRO:HG3	4:D:204:GLY:HA2	1.96	0.46
4:D:63:GLU:O	4:D:63:GLU:HG3	2.14	0.46
5:E:7:ASP:OD1	5:E:11:ASN:O	2.33	0.46
5:E:78:ARG:NH1	5:E:78:ARG:CG	2.72	0.46
6:F:169:THR:O	6:F:170:TYR:HB2	2.15	0.46
7:G:7:ILE:CG2	7:G:45:ASP:O	2.62	0.46
10:J:43:PRO:HD2	10:J:137:ASN:HA	1.96	0.46
10:J:47:GLU:HG2	10:J:133:ILE:HD12	1.95	0.46
11:K:4:ALA:O	11:K:5:GLU:O	2.33	0.46
15:O:62:HIS:O	15:O:65:ASP:OD1	2.33	0.46
20:T:10:VAL:CG1	23:W:35:ALA:O	2.63	0.46
27:1:38:LYS:HG2	37:1:8409:HOH:O	2.15	0.46
1:A:2119:C:O2'	1:A:2120:U:H5'	2.15	0.46
1:A:2300:A:H4'	1:A:2301:A:O5'	2.15	0.46
1:A:2449:G:H2'	1:A:2450:C:C6	2.51	0.46
1:A:2896:A:OP1	25:Y:15:ARG:NH1	2.48	0.46
2:B:3028:U:H5	37:B:1361:HOH:O	1.97	0.46
3:C:51:ARG:NH2	3:C:69:LEU:HD13	2.29	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:75:GLY:HA2	27:1:63:LYS:O	2.15	0.46
4:D:16:ARG:NH1	37:D:8614:HOH:O	2.48	0.46
4:D:36:PRO:CA	4:D:168:GLY:HA3	2.43	0.46
4:D:225:GLY:HA3	37:D:8569:HOH:O	2.15	0.46
4:D:304:PRO:CG	4:D:307:ARG:NH1	2.78	0.46
6:F:140:ARG:HH11	6:F:140:ARG:HG3	1.79	0.46
10:J:26:LYS:CD	10:J:28:ILE:HB	2.46	0.46
10:J:150:LYS:NZ	37:J:8377:HOH:O	2.46	0.46
14:N:38:VAL:O	14:N:38:VAL:HG12	2.14	0.46
15:O:11:ARG:O	15:O:15:GLU:HG3	2.15	0.46
30:4:7:PHE:HE2	30:4:22:VAL:CG2	2.28	0.46
1:A:470:U:H2'	1:A:471:G:O4'	2.16	0.46
1:A:951:A:H2'	1:A:952:G:H5'	1.97	0.46
1:A:1517:U:C2	1:A:1670:G:N2	2.83	0.46
1:A:1847:A:OP1	3:C:175:LYS:HG3	2.15	0.46
1:A:2247:C:C5'	37:A:7702:HOH:O	2.63	0.46
1:A:2382:A:OP1	30:4:80:ARG:HG2	2.15	0.46
3:C:95:PRO:HG2	3:C:98:GLU:HG2	1.96	0.46
4:D:132:HIS:HB2	4:D:137:LEU:HD22	1.98	0.46
6:F:135:VAL:HG21	6:F:139:TYR:CD1	2.50	0.46
7:G:170:ARG:HE	7:G:170:ARG:HB2	1.55	0.46
14:N:185:PRO:HD2	14:N:189:VAL:HG11	1.97	0.46
16:P:45:LEU:HD12	16:P:88:LYS:HD2	1.97	0.46
17:Q:11:ALA:HB2	17:Q:18:LYS:HA	1.97	0.46
30:4:40:ARG:HA	30:4:52:PHE:CE1	2.50	0.46
1:A:514:G:OP1	1:A:514:G:H2'	2.15	0.46
1:A:1592:G:O2'	1:A:1593:C:O5'	2.33	0.46
1:A:1973:A:H2'	1:A:1974:G:O4'	2.16	0.46
1:A:2100:A:H5'	37:E:8470:HOH:O	2.14	0.46
1:A:2672:C:H1'	37:D:8632:HOH:O	2.15	0.46
37:A:6558:HOH:O	14:N:174:ARG:HD3	2.14	0.46
3:C:99:ILE:O	3:C:131:HIS:HE1	1.98	0.46
4:D:277:GLU:N	37:D:8646:HOH:O	2.30	0.46
4:D:285:VAL:O	4:D:286:ASN:HB2	2.14	0.46
5:E:235:PHE:HE2	5:E:243:VAL:HG21	1.80	0.46
6:F:58:VAL:HG12	6:F:59:GLY:N	2.31	0.46
13:M:78:ALA:N	37:M:8532:HOH:O	2.48	0.46
19:S:128:ARG:HB2	19:S:132:ARG:O	2.14	0.46
28:2:29:THR:O	28:2:32:LYS:HE2	2.15	0.46
1:A:333:G:O2'	1:A:334:G:H5'	2.16	0.46
1:A:1143:G:N7	37:A:7758:HOH:O	2.36	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1352:A:N1	5:E:48:SER:HB3	2.30	0.46
1:A:2281:C:O2'	1:A:2282:U:H5'	2.16	0.46
1:A:2672:C:O2'	1:A:2673:U:H5'	2.15	0.46
1:A:2819:C:O4'	4:D:96:PRO:HB2	2.16	0.46
37:A:7855:HOH:O	22:V:50:GLU:CD	2.53	0.46
7:G:154:ILE:HG13	7:G:156:ASP:OD1	2.15	0.46
11:K:15:ARG:NH1	11:K:43:ARG:NH1	2.63	0.46
19:S:29:LYS:NZ	37:S:8541:HOH:O	2.48	0.46
20:T:51:GLN:HE21	20:T:53:ASN:ND2	2.13	0.46
1:A:10:U:O4	1:A:532:A:OP2	2.34	0.46
1:A:1419:U:H2'	1:A:1685:A:C2	2.51	0.46
1:A:1924:A:C2'	37:A:6109:HOH:O	2.64	0.46
1:A:2434:A:O3'	30:4:28:GLY:HA3	2.15	0.46
3:C:195:ASN:O	3:C:196:ALA:C	2.54	0.46
6:F:154:LYS:H	6:F:154:LYS:CD	2.21	0.46
14:N:40:ILE:HG13	14:N:40:ILE:O	2.16	0.46
14:N:69:LYS:N	14:N:125:ARG:O	2.46	0.46
16:P:26:TRP:HA	16:P:26:TRP:HE3	1.79	0.46
1:A:297:U:H1'	37:A:4315:HOH:O	2.14	0.46
1:A:849:C:O2'	1:A:850:U:H5'	2.16	0.46
1:A:1874:U:OP1	3:C:51:ARG:HD2	2.15	0.46
1:A:2039:A:H4'	1:A:2760:C:O2'	2.16	0.46
1:A:2264:A:H2'	1:A:2265:U:O4'	2.16	0.46
2:B:3023:U:C4'	2:B:3024:U:OP2	2.64	0.46
2:B:3031:C:H2'	2:B:3032:G:O4'	2.16	0.46
7:G:21:THR:HG23	7:G:30:THR:OG1	2.16	0.46
7:G:22:VAL:O	7:G:28:SER:HA	2.16	0.46
13:M:24:ALA:HB2	13:M:30:ARG:HD2	1.98	0.46
13:M:125:PHE:CE2	13:M:140:VAL:HG22	2.51	0.46
24:X:88:THR:HG23	24:X:110:GLN:HB3	1.98	0.46
1:A:37:A:H2'	1:A:38:G:H8	1.81	0.46
1:A:401:C:C5'	37:A:6155:HOH:O	2.64	0.46
1:A:524:A:C5'	19:S:29:LYS:HE2	2.45	0.46
1:A:771:G:OP2	14:N:79:LYS:HE3	2.15	0.46
1:A:1242:A:OP2	11:K:60:ARG:NH2	2.47	0.46
1:A:2819:C:H2'	1:A:2820:A:C8	2.51	0.46
37:A:6304:HOH:O	27:1:34:LYS:HE2	2.16	0.46
2:B:3045:A:H2'	2:B:3046:C:C6	2.51	0.46
5:E:140:VAL:HG12	5:E:141:SER:N	2.31	0.46
6:F:23:VAL:O	6:F:23:VAL:CG2	2.63	0.46
6:F:52:THR:N	6:F:70:GLY:O	2.49	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:94:ALA:HB3	6:F:174:VAL:CA	2.45	0.46
10:J:30:GLN:H	10:J:65:ARG:NH1	2.13	0.46
10:J:45:GLN:NE2	10:J:135:TRP:HE1	2.11	0.46
14:N:61:ILE:HA	37:N:8626:HOH:O	2.16	0.46
14:N:137:ASP:HA	14:N:142:LYS:HE3	1.98	0.46
15:O:23:ARG:NH2	15:O:55:ASP:OD1	2.49	0.46
18:R:32:GLU:HA	18:R:71:TYR:OH	2.16	0.46
20:T:29:ASP:OD1	20:T:31:ARG:HG3	2.16	0.46
24:X:115:THR:HG23	37:X:5420:HOH:O	2.14	0.46
25:Y:12:ILE:HG23	25:Y:36:HIS:CG	2.51	0.46
1:A:517:U:C2'	1:A:518:G:H5'	2.46	0.46
1:A:682:A:H2'	1:A:683:G:O4'	2.16	0.46
1:A:2004:U:H5"	1:A:2005:G:C8	2.51	0.46
1:A:2055:A:H5'	19:S:134:SER:HB2	1.97	0.46
1:A:2506:A:O2'	1:A:2507:G:P	2.74	0.46
37:A:9917:HOH:O	17:Q:81:LYS:HG2	2.15	0.46
3:C:105:VAL:HG11	3:C:154:ALA:CB	2.46	0.46
3:C:191:GLY:HA2	3:C:194:MET:CE	2.46	0.46
6:F:76:ARG:O	6:F:77:ASP:HB2	2.16	0.46
7:G:101:GLU:OE2	7:G:115:ARG:HD3	2.15	0.46
10:J:14:TYR:N	10:J:91:HIS:HE1	2.13	0.46
11:K:142:ASN:O	11:K:144:THR:N	2.49	0.46
13:M:107:LYS:HD2	13:M:124:ASP:OD2	2.16	0.46
14:N:155:HIS:O	14:N:158:ARG:HG2	2.15	0.46
21:U:19:ARG:HD3	21:U:67:LEU:O	2.15	0.46
21:U:63:ILE:HD11	21:U:75:GLU:HB2	1.98	0.46
23:W:57:LYS:HA	23:W:60:GLN:HE21	1.81	0.46
24:X:73:LEU:HD12	24:X:73:LEU:HA	1.81	0.46
1:A:666:A:H2'	1:A:667:C:O4'	2.16	0.46
1:A:875:A:C2	3:C:194:MET:SD	3.09	0.46
1:A:1006:A:N1	1:A:2311:A:H1'	2.31	0.46
1:A:1857:A:N6	1:A:2247:C:H1'	2.31	0.46
1:A:2474:A:N3	37:A:5025:HOH:O	2.36	0.46
1:A:2897:C:O2'	1:A:2898:G:H5'	2.16	0.46
4:D:41:PHE:CD1	4:D:79:MET:HE2	2.51	0.46
4:D:304:PRO:HD2	4:D:307:ARG:HD2	1.98	0.46
5:E:173:LYS:HB3	5:E:187:ARG:HG3	1.97	0.46
6:F:173:GLU:HG3	6:F:174:VAL:N	2.30	0.46
7:G:81:GLU:HG2	7:G:134:SER:HB3	1.98	0.46
15:O:161:GLY:O	15:O:162:ASP:C	2.53	0.46
24:X:31:HIS:HB3	37:X:5420:HOH:O	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:X:108:ARG:HG3	37:X:3483:HOH:O	2.16	0.46
25:Y:8:ARG:NH1	37:Y:2479:HOH:O	2.29	0.46
1:A:1289:C:O2'	1:A:1290:G:H5'	2.16	0.45
1:A:1741:U:HO2'	1:A:2723:G:H4'	1.81	0.45
1:A:1859:A:H8	1:A:1859:A:O5'	2.00	0.45
1:A:1947:G:N2	1:A:1966:U:C2	2.85	0.45
1:A:2264:A:OP1	14:N:71:SER:HB3	2.16	0.45
1:A:2909:G:H2'	1:A:2910:A:H8	1.81	0.45
4:D:146:THR:O	4:D:159:PRO:HB3	2.15	0.45
5:E:107:ARG:HB3	5:E:107:ARG:HH11	1.81	0.45
8:H:28:ALA:CB	8:H:99:THR:HG23	2.45	0.45
10:J:33:MET:SD	10:J:83:PHE:HD2	2.38	0.45
15:O:141:ARG:N	37:O:8570:HOH:O	2.49	0.45
17:Q:120:ARG:NH2	17:Q:123:TYR:CD2	2.84	0.45
20:T:33:SER:OG	20:T:36:GLU:HG3	2.15	0.45
27:1:39:CYS:SG	27:1:40:PRO:HD2	2.55	0.45
1:A:24:G:N2	1:A:518:G:H1'	2.31	0.45
1:A:303:C:H2'	1:A:304:G:O4'	2.16	0.45
1:A:426:G:H2'	1:A:427:C:O4'	2.16	0.45
1:A:1902:G:H2'	1:A:1903:U:O4'	2.15	0.45
1:A:2122:C:P	37:A:6938:HOH:O	2.65	0.45
1:A:2490:A:C2	1:A:2533:C:N4	2.85	0.45
37:A:6611:HOH:O	22:V:56:ARG:HB3	2.15	0.45
4:D:108:GLU:HB3	4:D:111:ARG:HD2	1.97	0.45
8:H:21:GLU:HA	8:H:24:ARG:HE	1.81	0.45
10:J:31:PHE:HE2	10:J:87:LYS:O	1.98	0.45
12:L:4:LEU:HD22	12:L:116:GLU:HB3	1.99	0.45
12:L:40:THR:O	12:L:41:LYS:C	2.55	0.45
14:N:27:ARG:O	14:N:30:GLU:N	2.49	0.45
14:N:157:LEU:HA	35:N:8518:CL:CL	2.54	0.45
22:V:52:THR:HG22	22:V:54:THR:HB	1.98	0.45
24:X:4:LEU:HD22	24:X:52:VAL:HG22	1.95	0.45
24:X:60:GLU:O	24:X:63:GLU:HB2	2.17	0.45
24:X:67:ALA:HB2	24:X:93:ILE:HD13	1.97	0.45
25:Y:30:MET:CE	25:Y:58:ALA:HB3	2.46	0.45
27:1:59:HIS:CE1	37:1:8435:HOH:O	2.69	0.45
1:A:204:A:C2'	1:A:205:U:H5'	2.46	0.45
1:A:380:A:OP2	14:N:9:ARG:HD2	2.16	0.45
1:A:903:U:OP2	13:M:11:ARG:NH1	2.45	0.45
1:A:1057:A:C6	1:A:1058:A:C6	3.05	0.45
1:A:1329:A:C2	37:A:5049:HOH:O	2.56	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1829:A:H5”	37:A:3458:HOH:O	2.16	0.45
1:A:1880:C:C2	1:A:1881:A:C8	3.04	0.45
1:A:2408:A:O2’	30:4:16:GLU:HA	2.16	0.45
1:A:2684:A:H2’	1:A:2685:C:C6	2.51	0.45
1:A:2795:C:O2’	1:A:2796:U:H5’	2.15	0.45
3:C:125:ASN:HB3	3:C:158:VAL:HG12	1.99	0.45
4:D:233:ARG:HG2	4:D:233:ARG:HH11	1.81	0.45
7:G:11:VAL:CG1	7:G:12:ASP:H	2.29	0.45
8:H:24:ARG:NH2	37:H:6800:HOH:O	2.50	0.45
10:J:27:LYS:HG3	10:J:58:HIS:CD2	2.51	0.45
11:K:27:ALA:HB1	11:K:87:LEU:CD2	2.47	0.45
12:L:81:ARG:HD3	12:L:87:ARG:NH1	2.31	0.45
14:N:74:ARG:HD3	14:N:91:ILE:HD12	1.97	0.45
15:O:5:ARG:HG3	18:R:18:PRO:CB	2.46	0.45
15:O:47:LEU:HD23	15:O:47:LEU:HA	1.70	0.45
15:O:184:ILE:HG22	15:O:185:GLU:N	2.31	0.45
19:S:26:LYS:HD3	19:S:62:HIS:CG	2.51	0.45
23:W:12:THR:HG23	23:W:14:ALA:H	1.80	0.45
25:Y:25:ARG:HD3	25:Y:64:ALA:O	2.16	0.45
25:Y:74:ALA:HB2	25:Y:85:VAL:HG22	1.98	0.45
25:Y:78:GLU:CG	25:Y:79:GLU:N	2.70	0.45
27:1:38:LYS:HA	27:1:45:LYS:HA	1.98	0.45
28:2:8:GLN:NE2	28:2:11:LYS:NZ	2.54	0.45
30:4:3:MET:HG3	30:4:4:PRO:HD2	1.98	0.45
1:A:154:C:H2’	1:A:155:C:C6	2.47	0.45
1:A:694:A:H8	1:A:694:A:O5’	1.99	0.45
1:A:797:A:H5’	27:1:10:ARG:HG2	1.99	0.45
1:A:2121:G:H2’	1:A:2122:C:H5’	1.98	0.45
1:A:2459:G:OP2	30:4:64:LYS:HD2	2.16	0.45
1:A:2469:A:H1’	37:A:3797:HOH:O	2.16	0.45
1:A:2832:C:H5	37:A:7573:HOH:O	2.00	0.45
3:C:69:LEU:CD2	3:C:120:ARG:HB3	2.40	0.45
3:C:110:SER:N	3:C:114:ASP:OD2	2.49	0.45
4:D:266:ASN:OD1	4:D:317:PRO:HA	2.16	0.45
5:E:246:ARG:NH2	37:E:8431:HOH:O	2.48	0.45
11:K:131:THR:HG22	11:K:133:GLY:N	2.31	0.45
16:P:47:ARG:HG3	16:P:47:ARG:NH1	2.29	0.45
28:2:29:THR:O	28:2:32:LYS:CE	2.65	0.45
1:A:716:G:H2’	1:A:717:C:O5’	2.17	0.45
1:A:883:U:O2	1:A:883:U:C2’	2.65	0.45
1:A:947:U:O2’	1:A:948:G:H5’	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1175:G:H1'	1:A:1193:A:H2'	1.99	0.45
1:A:1730:G:C5'	1:A:1731:C:C6	3.00	0.45
1:A:1827:G:H2'	1:A:1828:G:C8	2.51	0.45
1:A:2445:U:H2'	1:A:2446:G:H8	1.81	0.45
2:B:3065:A:O2'	2:B:3066:G:P	2.74	0.45
5:E:223:LEU:HD12	5:E:223:LEU:HA	1.74	0.45
8:H:57:GLU:O	8:H:61:MET:HG3	2.17	0.45
10:J:86:ARG:HD3	10:J:130:HIS:HD2	1.81	0.45
12:L:66:ARG:HG2	12:L:66:ARG:HH11	1.82	0.45
12:L:74:VAL:HG12	12:L:74:VAL:O	2.16	0.45
14:N:59:GLY:CA	14:N:141:ILE:HD11	2.46	0.45
15:O:72:GLU:H	15:O:171:HIS:CE1	2.34	0.45
19:S:39:THR:O	19:S:40:ALA:C	2.53	0.45
23:W:42:ASN:O	23:W:44:GLY:N	2.49	0.45
24:X:21:LEU:HD21	24:X:48:VAL:HG13	1.97	0.45
27:1:47:LEU:HD23	27:1:57:CYS:CB	2.46	0.45
1:A:283:U:H5"	1:A:284:C:OP2	2.17	0.45
1:A:383:A:C6	1:A:407:A:C8	3.05	0.45
1:A:512:G:O3'	1:A:513:A:H8	2.00	0.45
1:A:818:A:H5"	37:A:6949:HOH:O	2.16	0.45
1:A:1206:U:H5'	1:A:1206:U:H6	1.80	0.45
1:A:2116:U:C4	1:A:2271:G:C6	3.04	0.45
1:A:2409:C:H4'	30:4:17:HIS:HB2	1.98	0.45
2:B:3045:A:C8	2:B:3046:C:C5	3.05	0.45
37:B:7568:HOH:O	15:O:107:ASN:HB3	2.17	0.45
5:E:36:ARG:NH1	37:E:8403:HOH:O	2.49	0.45
6:F:173:GLU:O	6:F:174:VAL:C	2.54	0.45
8:H:78:GLU:HG3	37:H:5966:HOH:O	2.17	0.45
10:J:95:GLU:HB3	10:J:119:VAL:HG11	1.98	0.45
13:M:73:VAL:HG11	13:M:118:LEU:HD21	1.99	0.45
14:N:59:GLY:C	14:N:141:ILE:HD11	2.36	0.45
14:N:63:VAL:HG21	14:N:109:PHE:CE1	2.51	0.45
15:O:93:GLN:HG2	37:O:8558:HOH:O	2.15	0.45
21:U:48:VAL:CG2	21:U:98:VAL:HA	2.46	0.45
1:A:566:A:H2'	1:A:567:U:O4'	2.17	0.45
1:A:639:A:H2'	1:A:640:G:H8	1.81	0.45
1:A:639:A:C2	1:A:1363:G:C2	3.05	0.45
1:A:929:A:H8	1:A:929:A:O5'	1.99	0.45
1:A:1189:A:C4	37:A:8151:HOH:O	2.56	0.45
1:A:1495:C:H1'	1:A:1573:A:H1'	1.99	0.45
1:A:2094:G:C2	1:A:2652:U:O2	2.69	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2123:A:H5'	14:N:89:ASN:ND2	2.31	0.45
3:C:81:GLN:H	3:C:92:ASN:ND2	2.15	0.45
3:C:200:PRO:HG2	3:C:225:VAL:HG21	1.99	0.45
4:D:74:ILE:HG13	37:D:8603:HOH:O	2.15	0.45
5:E:16:VAL:HG12	5:E:17:ASP:H	1.80	0.45
5:E:236:THR:C	37:E:8455:HOH:O	2.54	0.45
16:P:73:ASP:HA	16:P:92:VAL:O	2.17	0.45
1:A:236:A:H4'	1:A:237:G:OP1	2.16	0.45
1:A:484:A:C6	1:A:486:A:C6	3.05	0.45
1:A:1557:G:O2'	1:A:1558:C:H5'	2.17	0.45
1:A:1940:C:H5"	3:C:234:GLY:HA3	1.98	0.45
1:A:2547:C:H2'	1:A:2548:C:C6	2.50	0.45
1:A:2883:A:H2'	1:A:2884:G:O4'	2.17	0.45
6:F:91:ALA:HB2	6:F:106:PHE:CD2	2.51	0.45
8:H:117:GLU:C	8:H:119:ARG:N	2.69	0.45
9:I:12:ILE:O	9:I:13:PRO:C	2.54	0.45
10:J:55:GLN:NE2	10:J:91:HIS:CD2	2.84	0.45
10:J:81:TYR:CD1	10:J:81:TYR:C	2.90	0.45
13:M:97:VAL:HG12	13:M:98:GLU:O	2.16	0.45
15:O:58:LEU:N	15:O:58:LEU:CD1	2.79	0.45
15:O:80:SER:CB	37:O:8536:HOH:O	2.64	0.45
20:T:2:TRP:CZ3	20:T:29:ASP:HB3	2.51	0.45
21:U:24:ARG:HH21	21:U:39:ASN:HD22	1.64	0.45
1:A:255:A:C5	1:A:256:C:C4	3.05	0.45
1:A:331:A:C6	1:A:332:G:C4	3.04	0.45
1:A:517:U:H2'	1:A:518:G:H5'	1.98	0.45
1:A:897:A:H2'	1:A:899:C:C5	2.52	0.45
1:A:1095:U:O2	24:X:120:PRO:HG2	2.17	0.45
1:A:1498:G:O2'	1:A:1499:U:H5'	2.17	0.45
1:A:2084:C:H2'	1:A:2085:A:H8	1.82	0.45
1:A:2363:G:O2'	18:R:11:ARG:HG3	2.17	0.45
1:A:2450:C:O5'	1:A:2450:C:H6	2.00	0.45
1:A:2453:G:H2'	1:A:2454:C:C6	2.52	0.45
1:A:2456:A:H5'	37:A:6055:HOH:O	2.17	0.45
37:A:4137:HOH:O	21:U:9:LYS:HD3	2.16	0.45
4:D:87:TYR:O	4:D:138:GLY:N	2.42	0.45
5:E:165:ASP:O	5:E:168:ARG:HB3	2.16	0.45
21:U:49:GLU:OE2	21:U:51:LEU:HD21	2.17	0.45
24:X:5:VAL:HG22	24:X:32:CYS:HB2	1.99	0.45
1:A:23:G:C6	1:A:24:G:N1	2.85	0.45
1:A:67:A:H5"	1:A:69:A:C8	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:922:A:N7	1:A:2281:C:H5'	2.32	0.45
37:A:7384:HOH:O	3:C:211:LYS:CG	2.60	0.45
3:C:81:GLN:CB	3:C:92:ASN:ND2	2.80	0.45
4:D:154:VAL:CG1	4:D:156:LYS:HG2	2.47	0.45
5:E:1:MET:HG2	5:E:2:GLN:NE2	2.32	0.45
5:E:25:PRO:HD2	37:E:8436:HOH:O	2.15	0.45
5:E:27:ARG:HG2	5:E:30:LEU:HG	1.98	0.45
5:E:118:THR:CG2	5:E:137:PRO:HB3	2.47	0.45
5:E:218:VAL:HG12	37:E:8431:HOH:O	2.17	0.45
7:G:31:ARG:HH12	7:G:68:HIS:CG	2.35	0.45
8:H:58:GLU:HA	8:H:61:MET:CG	2.45	0.45
8:H:59:ILE:O	8:H:59:ILE:HG22	2.15	0.45
12:L:86:THR:HG22	12:L:87:ARG:N	2.32	0.45
17:Q:3:LEU:HA	17:Q:6:GLN:OE1	2.16	0.45
26:Z:107:PRO:HB3	26:Z:182:PHE:CD2	2.52	0.45
26:Z:130:ARG:HB2	26:Z:142:SER:O	2.17	0.45
28:2:28:HIS:HD2	28:2:30:LYS:H	1.65	0.45
30:4:10:TYR:HB2	30:4:17:HIS:HE1	1.80	0.45
1:A:496:G:C6	1:A:498:A:C6	3.06	0.44
1:A:716:G:C2'	1:A:717:C:O5'	2.66	0.44
1:A:1023:C:O2'	1:A:1024:G:H5'	2.17	0.44
1:A:1570:C:C2'	1:A:1571:G:H5'	2.47	0.44
1:A:2550:U:O2'	1:A:2551:C:H5'	2.17	0.44
5:E:1:MET:HG2	5:E:2:GLN:N	2.30	0.44
5:E:192:ILE:CG2	5:E:234:VAL:HG12	2.48	0.44
6:F:64:ARG:HG2	6:F:66:GLY:O	2.18	0.44
12:L:130:MET:SD	22:V:25:ASP:O	2.74	0.44
14:N:24:MET:HE1	14:N:120:VAL:O	2.17	0.44
14:N:104:ARG:O	14:N:108:LYS:HE2	2.17	0.44
17:Q:38:GLU:HA	17:Q:41:ARG:HH11	1.81	0.44
20:T:6:LYS:HB2	20:T:27:ALA:O	2.17	0.44
25:Y:74:ALA:HB1	25:Y:85:VAL:HG22	1.99	0.44
1:A:295:C:H2'	1:A:296:G:O4'	2.17	0.44
1:A:688:A:H62	13:M:111:ALA:HB2	1.82	0.44
1:A:920:C:C4'	1:A:921:G:C2	3.00	0.44
1:A:1125:U:C2'	1:A:1126:C:H5'	2.47	0.44
1:A:1167:G:O2'	1:A:1168:C:H5'	2.17	0.44
1:A:1192:A:O2'	1:A:1193:A:OP1	2.28	0.44
1:A:1314:U:C2	1:A:1316:G:N2	2.86	0.44
1:A:1512:G:O2'	1:A:1513:C:H5'	2.17	0.44
1:A:1945:G:O2'	1:A:1946:C:H5'	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2453:G:H3'	37:A:6282:HOH:O	2.16	0.44
1:A:2502:C:H2'	1:A:2503:A:C5'	2.39	0.44
1:A:2833:C:C2	1:A:2848:G:N2	2.85	0.44
2:B:3042:C:H5'	2:B:3043:G:OP2	2.16	0.44
3:C:211:LYS:CB	3:C:212:PRO:HD2	2.35	0.44
4:D:144:THR:HG22	4:D:145:HIS:N	2.31	0.44
5:E:218:VAL:CG1	37:E:8431:HOH:O	2.65	0.44
8:H:99:THR:O	8:H:99:THR:HG23	2.17	0.44
10:J:72:VAL:O	10:J:72:VAL:HG13	2.15	0.44
14:N:49:ALA:C	14:N:54:TYR:HB3	2.37	0.44
14:N:156:ARG:NH1	37:N:8563:HOH:O	2.49	0.44
15:O:34:LEU:HD22	15:O:129:ILE:HD13	1.98	0.44
15:O:163:PHE:HA	37:O:8518:HOH:O	2.17	0.44
22:V:49:LEU:HD11	37:V:3805:HOH:O	2.17	0.44
24:X:13:MET:HE1	24:X:18:GLN:CA	2.43	0.44
1:A:35:U:H2'	1:A:36:C:C6	2.52	0.44
1:A:534:C:N4	37:A:7937:HOH:O	2.49	0.44
1:A:1127:C:C2'	1:A:1128:U:H5'	2.47	0.44
1:A:1287:A:O4'	24:X:117:ARG:HD3	2.17	0.44
1:A:1855:G:H8	3:C:144:GLU:OE2	2.01	0.44
1:A:2072:G:H3'	1:A:2073:G:C5'	2.48	0.44
1:A:2320:U:H2'	30:4:2:GLN:O	2.17	0.44
37:A:4235:HOH:O	10:J:90:PHE:HD2	1.99	0.44
2:B:3105:A:H2'	2:B:3106:C:O4'	2.17	0.44
3:C:126:ALA:HB1	3:C:138:VAL:CG1	2.47	0.44
4:D:195:ARG:NH1	4:D:324:ASP:OD1	2.51	0.44
7:G:15:GLN:HG2	7:G:19:ASP:O	2.17	0.44
8:H:33:THR:HG21	8:H:59:ILE:O	2.18	0.44
11:K:39:VAL:HG11	11:K:107:ASN:HB2	1.99	0.44
13:M:146:GLY:C	13:M:148:GLU:H	2.21	0.44
19:S:32:ALA:O	19:S:33:ARG:C	2.56	0.44
21:U:55:PHE:HB2	37:U:6384:HOH:O	2.16	0.44
24:X:13:MET:CE	24:X:17:ILE:HG22	2.47	0.44
1:A:291:C:H2'	1:A:292:G:O4'	2.17	0.44
1:A:445:U:H2'	1:A:446:G:H8	1.82	0.44
1:A:958:G:O2'	1:A:959:C:H5'	2.18	0.44
1:A:1024:G:C5	1:A:1025:C:C4	3.05	0.44
1:A:1024:G:C6	1:A:1025:C:N3	2.85	0.44
1:A:1477:C:H5'	1:A:1868:G:C5'	2.48	0.44
1:A:1983:C:O5'	1:A:1983:C:H6	2.01	0.44
1:A:2321:A:O2'	1:A:2322:U:H3'	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2349:G:OP1	6:F:20:LYS:NZ	2.43	0.44
1:A:2715:G:N2	4:D:264:GLU:OE1	2.50	0.44
1:A:2821:C:H4'	4:D:116:PRO:HB3	1.98	0.44
7:G:132:THR:HB	37:G:2227:HOH:O	2.17	0.44
10:J:136:VAL:HA	37:J:8343:HOH:O	2.18	0.44
14:N:77:PHE:CD1	14:N:77:PHE:O	2.71	0.44
15:O:71:TRP:CE3	15:O:175:LEU:CD2	2.96	0.44
17:Q:7:LYS:CD	17:Q:21:VAL:HG21	2.48	0.44
18:R:33:PHE:N	18:R:71:TYR:OH	2.36	0.44
24:X:122:ARG:NH1	24:X:152:ALA:O	2.51	0.44
30:4:50:GLY:O	30:4:53:SER:HB2	2.17	0.44
1:A:245:C:H2'	1:A:246:G:H5'	1.98	0.44
1:A:703:G:O2'	1:A:704:C:H5'	2.17	0.44
1:A:1119:G:H22	1:A:1246:A:H2	1.51	0.44
1:A:1313:A:H5'	26:Z:208:LYS:O	2.18	0.44
1:A:1494:A:C4	1:A:1495:C:C5	3.05	0.44
1:A:2551:C:O2'	1:A:2552:C:H5'	2.17	0.44
2:B:3042:C:H2'	37:B:6700:HOH:O	2.17	0.44
4:D:268:ARG:NE	37:D:8605:HOH:O	2.50	0.44
7:G:31:ARG:HH12	7:G:68:HIS:CD2	2.36	0.44
8:H:58:GLU:HA	8:H:61:MET:HE2	1.99	0.44
15:O:110:THR:CG2	37:O:8553:HOH:O	2.65	0.44
19:S:35:ILE:O	19:S:38:LYS:HB2	2.17	0.44
21:U:96:VAL:CG1	21:U:97:ARG:N	2.81	0.44
24:X:125:HIS:CD2	24:X:127:GLY:H	2.36	0.44
25:Y:25:ARG:NH1	37:Y:3861:HOH:O	2.51	0.44
1:A:10:U:HO2'	1:A:11:A:P	2.41	0.44
1:A:332:G:O2'	1:A:333:G:H5'	2.18	0.44
1:A:482:G:H4'	1:A:508:A:N1	2.33	0.44
1:A:765:G:O3'	5:E:69:HIS:HB3	2.18	0.44
1:A:1127:C:C5	1:A:1128:U:C4	3.05	0.44
1:A:1730:G:C5'	1:A:1731:C:H6	2.30	0.44
1:A:2547:C:OP2	4:D:5:ARG:NH1	2.50	0.44
2:B:3008:G:O6	15:O:11:ARG:NH1	2.48	0.44
3:C:35:GLY:O	3:C:36:ASP:CB	2.58	0.44
3:C:36:ASP:O	3:C:38:ILE:N	2.50	0.44
8:H:38:LYS:HZ3	14:N:3:SER:HA	1.82	0.44
14:N:154:ARG:NE	37:N:8648:HOH:O	2.51	0.44
15:O:170:GLU:O	15:O:174:GLU:HG3	2.17	0.44
17:Q:10:ALA:HA	17:Q:13:VAL:CG1	2.48	0.44
20:T:51:GLN:NE2	20:T:53:ASN:HD21	2.12	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:X:40:ALA:O	24:X:44:MET:HG3	2.18	0.44
1:A:825:U:H5"	1:A:826:U:OP1	2.18	0.44
1:A:920:C:H5'	1:A:921:G:N3	2.33	0.44
1:A:1003:U:O2	10:J:90:PHE:CZ	2.71	0.44
1:A:1592:G:HO2'	1:A:1593:C:C4'	2.31	0.44
1:A:2064:U:C5'	1:A:2652:U:O3'	2.59	0.44
1:A:2897:C:H2'	1:A:2898:G:C8	2.51	0.44
37:A:9509:HOH:O	5:E:103:ASN:HB3	2.17	0.44
5:E:93:LYS:O	5:E:98:ARG:NH2	2.51	0.44
6:F:101:THR:CG2	37:F:7400:HOH:O	2.61	0.44
10:J:6:TYR:HE2	10:J:94:ARG:O	2.01	0.44
10:J:139:ASP:N	10:J:140:PRO:CD	2.73	0.44
14:N:61:ILE:N	14:N:61:ILE:CD1	2.80	0.44
21:U:96:VAL:HG13	21:U:97:ARG:N	2.32	0.44
22:V:44:ARG:CB	37:V:3805:HOH:O	2.65	0.44
1:A:308:U:C4	1:A:342:C:H1'	2.52	0.44
1:A:711:G:C2	1:A:718:C:C2	3.06	0.44
1:A:1436:C:O2'	1:A:1437:A:H5'	2.17	0.44
1:A:1453:G:H2'	1:A:1454:U:O4'	2.18	0.44
1:A:2299:G:O6	18:R:1:PRO:HA	2.18	0.44
1:A:2361:A:H2'	1:A:2362:A:C8	2.53	0.44
1:A:2432:C:C1'	37:A:4455:HOH:O	2.66	0.44
1:A:2621:U:H5	37:A:3360:HOH:O	2.00	0.44
1:A:2724:U:H6	1:A:2724:U:O5'	2.01	0.44
2:B:3078:G:N2	2:B:3103:A:OP2	2.48	0.44
3:C:36:ASP:O	3:C:37:VAL:C	2.56	0.44
3:C:94:LEU:N	3:C:94:LEU:CD2	2.81	0.44
5:E:76:ARG:HD3	37:E:8371:HOH:O	2.17	0.44
7:G:172:PRO:HB3	37:G:6931:HOH:O	2.18	0.44
10:J:31:PHE:HA	10:J:85:ILE:CG2	2.48	0.44
14:N:157:LEU:HB3	14:N:160:PHE:HD1	1.83	0.44
15:O:67:ALA:HA	15:O:71:TRP:CB	2.48	0.44
23:W:20:LEU:HD22	23:W:60:GLN:HE22	1.82	0.44
24:X:21:LEU:HB3	24:X:26:ILE:CG1	2.47	0.44
1:A:489:A:C8	21:U:82:THR:HG22	2.53	0.44
1:A:1160:G:N3	37:A:5993:HOH:O	2.36	0.44
1:A:1293:U:O2'	26:Z:149:GLN:NE2	2.46	0.44
1:A:2118:A:H2'	1:A:2119:C:H6	1.83	0.44
1:A:2649:A:H5'	1:A:2649:A:H8	1.83	0.44
4:D:265:LEU:HD21	4:D:316:ARG:HD3	2.00	0.44
5:E:214:THR:HB	37:E:8326:HOH:O	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:52:THR:HB	6:F:70:GLY:O	2.17	0.44
15:O:47:LEU:HD12	15:O:92:ALA:HB1	1.99	0.44
15:O:127:LEU:HD12	15:O:127:LEU:HA	1.84	0.44
17:Q:143:ALA:HA	37:Q:197:HOH:O	2.16	0.44
24:X:107:LEU:O	24:X:112:LEU:HB2	2.16	0.44
30:4:40:ARG:HD2	37:4:8549:HOH:O	2.16	0.44
1:A:1119:G:C5	1:A:1243:C:C4	3.06	0.43
1:A:1682:A:H5"	37:A:9839:HOH:O	2.17	0.43
1:A:1845:A:P	3:C:190:ARG:HH11	2.41	0.43
1:A:2038:A:H5"	4:D:222:LYS:HG3	2.00	0.43
3:C:153:ARG:HB2	3:C:153:ARG:NH1	2.28	0.43
4:D:24:PRO:HG2	4:D:204:GLY:HA2	2.00	0.43
4:D:301:VAL:O	4:D:302:PRO:O	2.36	0.43
5:E:46:TYR:CE2	5:E:98:ARG:NH1	2.86	0.43
15:O:139:TRP:HA	15:O:139:TRP:HE3	1.83	0.43
20:T:57:THR:CG2	20:T:58:MET:N	2.81	0.43
21:U:106:GLU:HG3	37:U:4913:HOH:O	2.18	0.43
24:X:76:ASP:O	24:X:77:ALA:C	2.57	0.43
1:A:39:G:C2	1:A:444:C:C2	3.06	0.43
1:A:155:C:OP2	14:N:188:ARG:HD3	2.18	0.43
1:A:169:A:C6	1:A:2469:A:C6	3.07	0.43
1:A:305:A:C5	1:A:329:A:C2	3.06	0.43
1:A:328:U:O4'	5:E:202:THR:HG22	2.18	0.43
1:A:702:G:O2'	1:A:703:G:H5'	2.18	0.43
1:A:1360:C:H4'	37:A:9575:HOH:O	2.17	0.43
1:A:1773:G:O2'	27:1:15:GLY:HA2	2.18	0.43
1:A:1888:C:N4	1:A:1889:C:C4	2.87	0.43
1:A:2121:G:O2'	30:4:47:GLY:HA2	2.18	0.43
1:A:2122:C:H3'	37:A:5652:HOH:O	2.18	0.43
1:A:2416:G:H2'	1:A:2417:C:C6	2.53	0.43
1:A:2748:G:C2'	37:A:7899:HOH:O	2.53	0.43
3:C:42:VAL:HG11	3:C:75:GLY:O	2.18	0.43
7:G:34:TRP:O	11:K:127:ILE:HD11	2.18	0.43
7:G:157:LYS:HE2	7:G:157:LYS:HB2	1.84	0.43
10:J:26:LYS:CG	10:J:28:ILE:H	2.21	0.43
11:K:6:PHE:O	11:K:8:ALA:N	2.51	0.43
11:K:27:ALA:HB1	11:K:87:LEU:HD21	1.99	0.43
11:K:130:VAL:CG1	11:K:131:THR:N	2.80	0.43
12:L:13:GLU:OE2	12:L:44:HIS:HB2	2.18	0.43
12:L:74:VAL:O	12:L:74:VAL:CG1	2.66	0.43
14:N:3:SER:OG	14:N:5:TYR:HB2	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:N:43:PRO:O	37:N:8625:HOH:O	2.20	0.43
14:N:87:MET:HB2	14:N:91:ILE:HD11	1.99	0.43
17:Q:91:LYS:O	17:Q:95:GLU:HG3	2.18	0.43
27:1:10:ARG:HA	37:1:8414:HOH:O	2.18	0.43
27:1:13:ARG:NH1	37:1:8419:HOH:O	2.50	0.43
27:1:30:GLU:CA	27:1:33:HIS:HB3	2.45	0.43
1:A:588:G:O6	24:X:154:ARG:NH1	2.52	0.43
1:A:2846:C:OP1	4:D:158:LYS:HD3	2.19	0.43
3:C:194:MET:HE1	3:C:199:HIS:HB2	2.00	0.43
5:E:13:ASP:OD1	5:E:13:ASP:O	2.36	0.43
6:F:55:LYS:O	6:F:56:ARG:HB2	2.18	0.43
10:J:84:ARG:NH2	10:J:135:TRP:CH2	2.79	0.43
10:J:139:ASP:OD2	37:J:8392:HOH:O	2.21	0.43
13:M:105:TYR:CD1	13:M:105:TYR:C	2.92	0.43
14:N:133:LEU:HD12	14:N:133:LEU:N	2.33	0.43
15:O:3:GLY:CA	37:O:8512:HOH:O	2.65	0.43
19:S:73:ASP:OD1	37:S:8525:HOH:O	2.21	0.43
30:4:70:ARG:HG2	30:4:77:ALA:CB	2.38	0.43
1:A:101:C:O2'	1:A:102:A:H5'	2.18	0.43
1:A:175:G:C2'	14:N:192:ALA:HB3	2.44	0.43
1:A:422:G:O2'	1:A:423:A:H5'	2.17	0.43
1:A:484:A:N6	1:A:486:A:C6	2.86	0.43
1:A:737:A:H2'	1:A:738:G:O4'	2.18	0.43
1:A:766:A:O2'	1:A:767:A:H5"	2.18	0.43
1:A:1298:U:H2'	1:A:1299:G:C8	2.53	0.43
1:A:2241:C:H2'	1:A:2242:U:C6	2.53	0.43
37:A:9942:HOH:O	4:D:267:LYS:HD3	2.17	0.43
3:C:215:ILE:HG13	3:C:216:SER:N	2.33	0.43
4:D:43:GLY:O	4:D:308:LEU:HD12	2.17	0.43
5:E:84:VAL:O	5:E:85:LYS:HB2	2.17	0.43
9:I:16:LYS:O	9:I:20:VAL:HG23	2.18	0.43
10:J:47:GLU:CB	10:J:133:ILE:CD1	2.94	0.43
14:N:52:LEU:CD1	14:N:116:ASN:HB3	2.46	0.43
15:O:157:PRO:HA	37:O:8525:HOH:O	2.17	0.43
17:Q:2:ASP:C	17:Q:2:ASP:OD1	2.57	0.43
24:X:110:GLN:NE2	24:X:110:GLN:CA	2.76	0.43
29:3:18:ASN:HD22	29:3:18:ASN:HA	1.58	0.43
30:4:22:VAL:CG1	30:4:67:LEU:HD13	2.48	0.43
30:4:37:ASP:HA	37:4:8557:HOH:O	2.18	0.43
1:A:391:U:OP2	14:N:84:LYS:NZ	2.51	0.43
1:A:677:C:H4'	5:E:246:ARG:NH2	2.34	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:778:C:C4	1:A:779:U:C4	3.07	0.43
1:A:941:G:C6	1:A:942:U:C4	3.06	0.43
1:A:962:C:H5"	37:A:5279:HOH:O	2.17	0.43
1:A:1566:C:H2'	1:A:1567:A:H8	1.84	0.43
1:A:1825:U:O2'	1:A:1826:C:H5'	2.18	0.43
1:A:1896:G:C6	1:A:1897:U:C4	3.06	0.43
1:A:2543:G:O3'	1:A:2590:U:H5'	2.19	0.43
1:A:2837:U:H1'	4:D:307:ARG:HH12	1.84	0.43
2:B:3028:U:H2'	2:B:3029:C:C6	2.54	0.43
4:D:41:PHE:CZ	4:D:79:MET:HG3	2.54	0.43
4:D:119:HIS:O	4:D:121:PRO:HD3	2.18	0.43
10:J:112:ARG:O	10:J:113:ALA:C	2.56	0.43
15:O:43:VAL:O	15:O:84:THR:HG21	2.18	0.43
15:O:139:TRP:CH2	15:O:176:ARG:NH1	2.87	0.43
15:O:152:GLU:OE1	15:O:152:GLU:HA	2.18	0.43
19:S:39:THR:CG2	19:S:42:GLU:HG3	2.49	0.43
22:V:39:ASN:ND2	22:V:44:ARG:HH11	2.16	0.43
27:1:55:TRP:HB2	27:1:64:ILE:HG13	2.01	0.43
1:A:492:C:O2'	1:A:493:U:H5'	2.19	0.43
1:A:503:G:H2'	1:A:504:G:H8	1.83	0.43
1:A:944:G:H1'	24:X:23:MET:SD	2.59	0.43
1:A:1052:G:N3	1:A:1052:G:H2'	2.32	0.43
1:A:1069:C:H4'	1:A:1081:A:O2'	2.18	0.43
1:A:1544:U:H2'	1:A:1545:C:H6	1.83	0.43
1:A:2467:A:O2'	1:A:2468:A:H2'	2.19	0.43
31:A:9403:VIR:HC42	31:A:9403:VIR:N9	2.33	0.43
4:D:224:LYS:HD3	4:D:224:LYS:HA	1.74	0.43
4:D:310:ARG:HD2	37:D:8644:HOH:O	2.18	0.43
5:E:142:ASP:OD1	5:E:236:THR:HG23	2.18	0.43
6:F:49:PRO:HG3	37:F:5828:HOH:O	2.18	0.43
6:F:128:LEU:HD23	6:F:128:LEU:C	2.38	0.43
7:G:132:THR:O	7:G:132:THR:HG23	2.18	0.43
10:J:86:ARG:CZ	10:J:130:HIS:CD2	3.01	0.43
13:M:72:ASN:HB2	37:M:8587:HOH:O	2.19	0.43
21:U:71:VAL:HG12	21:U:72:ILE:N	2.33	0.43
26:Z:189:ASN:C	26:Z:189:ASN:ND2	2.71	0.43
27:1:22:ILE:HG22	27:1:23:ARG:N	2.33	0.43
30:4:65:THR:HB	30:4:83:TRP:H	1.83	0.43
1:A:95:A:H5"	1:A:97:G:O4'	2.18	0.43
1:A:1594:C:C2	1:A:1601:G:C2	3.06	0.43
1:A:1666:C:C2'	1:A:1667:A:C5'	2.95	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2279:G:OP1	37:A:5460:HOH:O	2.21	0.43
1:A:2430:A:H2'	1:A:2431:C:C6	2.53	0.43
1:A:2533:C:H6	1:A:2533:C:C5'	2.23	0.43
1:A:2777:G:O2'	1:A:2778:A:H5'	2.18	0.43
31:A:9403:VIR:N9	31:A:9403:VIR:C4	2.82	0.43
37:A:4910:HOH:O	10:J:151:MET:HE2	2.18	0.43
2:B:3061:C:H2'	2:B:3062:A:H8	1.83	0.43
4:D:238:ASN:HA	37:D:8522:HOH:O	2.17	0.43
4:D:301:VAL:O	4:D:302:PRO:C	2.56	0.43
5:E:194:PHE:HA	5:E:234:VAL:HG13	2.01	0.43
6:F:59:GLY:O	6:F:61:PHE:N	2.42	0.43
8:H:50:VAL:CG1	8:H:60:VAL:HG11	2.48	0.43
10:J:129:ASN:N	10:J:129:ASN:HD22	2.16	0.43
16:P:77:ALA:HA	16:P:96:VAL:O	2.18	0.43
20:T:10:VAL:HG13	23:W:35:ALA:O	2.19	0.43
26:Z:109:LEU:HA	37:Z:8576:HOH:O	2.18	0.43
26:Z:112:GLU:CD	26:Z:115:ARG:HH12	2.21	0.43
26:Z:187:VAL:HG23	26:Z:192:ASP:HB3	1.98	0.43
1:A:65:C:O2'	1:A:66:G:H5'	2.18	0.43
1:A:183:A:O2'	1:A:184:G:H5'	2.19	0.43
1:A:208:C:N3	1:A:232:A:C2	2.87	0.43
1:A:736:A:H2'	1:A:737:A:O4'	2.19	0.43
1:A:790:A:H1'	1:A:1710:A:H2'	2.00	0.43
1:A:894:A:C2	5:E:87:ARG:NH2	2.87	0.43
1:A:963:C:O2	1:A:1005:A:N1	2.52	0.43
1:A:1023:C:H2'	1:A:1024:G:O4'	2.18	0.43
1:A:1262:C:H1'	24:X:120:PRO:HG3	2.00	0.43
1:A:1398:G:H2'	1:A:1399:A:C8	2.54	0.43
1:A:1423:C:O2'	1:A:1424:A:H5'	2.19	0.43
1:A:1654:U:H2'	3:C:47:HIS:HD2	1.83	0.43
1:A:2346:C:H4'	6:F:52:THR:HG22	2.01	0.43
1:A:2501:G:H1'	37:A:4910:HOH:O	2.18	0.43
1:A:2898:G:H4'	4:D:288:GLY:HA2	2.00	0.43
6:F:84:LEU:HA	6:F:87:ALA:HB3	2.01	0.43
6:F:104:PHE:CE2	6:F:166:ILE:CD1	3.02	0.43
10:J:26:LYS:HD3	10:J:89:PRO:CG	2.49	0.43
15:O:110:THR:HB	15:O:113:SER:HG	1.82	0.43
19:S:6:VAL:HG21	19:S:113:HIS:CD2	2.53	0.43
24:X:85:ALA:HB2	24:X:91:ASP:O	2.18	0.43
28:2:15:THR:O	28:2:29:THR:HG22	2.18	0.43
1:A:330:C:H5	5:E:170:ASP:OD2	2.02	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1593:C:OP1	17:Q:117:SER:CB	2.66	0.43
1:A:1613:C:H2'	1:A:1614:G:O4'	2.18	0.43
1:A:1675:C:O2'	1:A:1676:G:H5'	2.19	0.43
1:A:1878:G:H4'	37:A:4492:HOH:O	2.18	0.43
1:A:2011:A:C1'	1:A:2013:G:C8	3.02	0.43
1:A:2601:A:N1	12:L:38:SER:HB2	2.33	0.43
2:B:3061:C:C2	2:B:3062:A:C8	3.07	0.43
3:C:33:GLU:H	3:C:33:GLU:CD	2.15	0.43
3:C:217:ARG:HH11	3:C:217:ARG:HG3	1.84	0.43
10:J:158:ASN:ND2	37:J:8387:HOH:O	2.51	0.43
13:M:121:ILE:HG12	13:M:141:GLU:HB2	1.99	0.43
15:O:34:LEU:HD13	15:O:47:LEU:HD21	2.01	0.43
17:Q:56:GLY:N	37:Q:185:HOH:O	2.50	0.43
24:X:41:TYR:O	24:X:45:VAL:HG13	2.19	0.43
28:2:17:THR:N	28:2:27:TYR:O	2.43	0.43
30:4:11:CYS:HB2	30:4:20:HIS:HE1	1.81	0.43
1:A:544:G:H2'	1:A:545:G:C5'	2.49	0.43
1:A:834:G:H3'	1:A:835:U:H4'	2.01	0.43
1:A:2293:G:C5	1:A:2294:C:C5	3.07	0.43
1:A:2428:G:C5	37:A:4161:HOH:O	2.56	0.43
1:A:2655:U:C4	1:A:2656:G:N7	2.87	0.43
1:A:2749:U:O2'	1:A:2751:C:OP2	2.23	0.43
1:A:2781:U:H1'	7:G:139:GLU:OE2	2.17	0.43
4:D:268:ARG:NH2	4:D:325:PRO:HG3	2.33	0.43
5:E:127:ARG:HD3	5:E:230:GLY:O	2.19	0.43
6:F:99:ASP:HB2	6:F:103:ASN:H	1.84	0.43
13:M:125:PHE:O	37:M:8592:HOH:O	2.22	0.43
14:N:49:ALA:HB1	14:N:54:TYR:CB	2.48	0.43
14:N:57:LYS:NZ	14:N:144:ASP:OD2	2.49	0.43
18:R:93:ARG:HH11	18:R:93:ARG:HG3	1.84	0.43
23:W:12:THR:HG23	23:W:14:ALA:N	2.34	0.43
26:Z:144:ARG:NH2	37:Z:8616:HOH:O	2.52	0.43
28:2:29:THR:O	28:2:32:LYS:NZ	2.51	0.43
1:A:133:U:C4	1:A:134:U:C5	3.07	0.42
1:A:162:C:H2'	1:A:163:U:H5'	2.00	0.42
1:A:813:C:H3'	37:A:7569:HOH:O	2.19	0.42
1:A:1477:C:C2'	1:A:1478:U:H5'	2.48	0.42
1:A:1850:U:O4'	1:A:1941:A:C2	2.71	0.42
1:A:2820:A:H2'	1:A:2821:C:C6	2.54	0.42
2:B:3009:C:OP2	37:B:466:HOH:O	2.22	0.42
3:C:164:ARG:HA	27:1:69:TYR:CE1	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:115:LEU:CD1	5:E:223:LEU:HD21	2.27	0.42
6:F:60:GLU:C	6:F:62:ASP:N	2.72	0.42
7:G:162:PHE:CD1	7:G:162:PHE:N	2.86	0.42
8:H:110:GLU:HA	8:H:113:ASP:OD2	2.19	0.42
10:J:71:TYR:O	10:J:73:GLN:N	2.52	0.42
12:L:75:ARG:HG2	12:L:90:PHE:CD2	2.53	0.42
13:M:140:VAL:CG2	37:M:8562:HOH:O	2.67	0.42
15:O:100:ALA:O	15:O:129:ILE:HG23	2.19	0.42
19:S:40:ALA:O	19:S:44:VAL:HG23	2.19	0.42
21:U:3:GLN:HA	21:U:4:PRO:HD3	1.91	0.42
24:X:1:MET:HB2	24:X:103:GLU:HG2	2.01	0.42
1:A:119:A:C2	1:A:122:C:N3	2.87	0.42
1:A:941:G:C5	1:A:942:U:C4	3.07	0.42
1:A:1067:A:C6	1:A:1068:C:C4	3.07	0.42
1:A:1080:C:O5'	1:A:1080:C:H6	2.01	0.42
1:A:1182:C:H1'	1:A:1192:A:C8	2.51	0.42
1:A:1566:C:O2'	1:A:1567:A:H5'	2.19	0.42
1:A:1588:G:C6	1:A:1589:G:N1	2.87	0.42
1:A:1916:C:C2	1:A:1924:A:C2	3.07	0.42
1:A:2679:G:H5'	4:D:11:LEU:HB3	2.00	0.42
1:A:2779:G:N7	1:A:2790:C:C2	2.87	0.42
2:B:3076:G:C3'	2:B:3077:A:H5"	2.30	0.42
5:E:246:ARG:CZ	37:E:8431:HOH:O	2.67	0.42
7:G:84:MET:HE1	7:G:133:VAL:HG21	2.01	0.42
8:H:6:PHE:CD1	8:H:6:PHE:C	2.93	0.42
9:I:12:ILE:CD1	37:I:692:HOH:O	2.60	0.42
10:J:163:PRO:O	10:J:164:ALA:HB2	2.19	0.42
11:K:77:GLY:O	11:K:78:ILE:C	2.57	0.42
11:K:107:ASN:C	11:K:107:ASN:HD22	2.21	0.42
17:Q:14:LEU:HD13	17:Q:51:ALA:HB2	2.00	0.42
17:Q:134:VAL:O	17:Q:137:LEU:HB3	2.18	0.42
25:Y:41:PHE:O	25:Y:42:SER:C	2.57	0.42
1:A:24:G:C2	1:A:518:G:N3	2.87	0.42
1:A:445:U:H1'	37:A:7695:HOH:O	2.19	0.42
1:A:1269:G:H2'	1:A:1270:U:C6	2.54	0.42
1:A:1385:G:O3'	25:Y:49:ARG:NH1	2.53	0.42
1:A:1414:A:H2	37:A:5267:HOH:O	2.02	0.42
1:A:2577:A:H5'	37:A:8223:HOH:O	2.19	0.42
1:A:2898:G:H1'	4:D:282:GLY:O	2.19	0.42
4:D:205:VAL:O	4:D:307:ARG:CD	2.68	0.42
4:D:234:ARG:NH1	37:D:8617:HOH:O	2.44	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:48:LEU:CG	10:J:157:ILE:HG21	2.48	0.42
24:X:11:VAL:O	24:X:12:ASN:HB2	2.19	0.42
29:3:11:LEU:HD23	29:3:11:LEU:HA	1.85	0.42
1:A:326:G:O2'	1:A:327:A:H5'	2.18	0.42
1:A:401:C:H2'	1:A:402:U:C6	2.54	0.42
1:A:440:C:H2'	1:A:441:A:C8	2.55	0.42
1:A:541:C:H2'	1:A:542:A:H5'	1.94	0.42
1:A:549:A:O2'	1:A:550:C:H5'	2.19	0.42
1:A:629:A:H2'	1:A:630:A:O4'	2.20	0.42
1:A:820:G:OP2	3:C:171:LYS:NZ	2.46	0.42
1:A:1164:U:C1'	1:A:1165:G:OP1	2.67	0.42
1:A:1265:G:C1'	37:A:5365:HOH:O	2.67	0.42
1:A:1762:C:H2'	1:A:1763:C:H6	1.85	0.42
1:A:2839:C:H2'	1:A:2840:A:H5"	2.01	0.42
2:B:3008:G:P	37:B:5071:HOH:O	2.76	0.42
2:B:3041:C:C6	6:F:50:VAL:HG21	2.55	0.42
7:G:80:TRP:O	7:G:134:SER:HA	2.19	0.42
8:H:17:LEU:O	8:H:20:LEU:HB3	2.19	0.42
8:H:21:GLU:O	8:H:24:ARG:CG	2.67	0.42
10:J:56:ILE:HG21	10:J:61:LEU:CD1	2.49	0.42
11:K:17:CYS:HA	11:K:119:THR:O	2.20	0.42
13:M:101:ASP:C	13:M:103:ALA:H	2.22	0.42
14:N:146:GLN:NE2	37:N:8656:HOH:O	2.52	0.42
26:Z:185:VAL:HG12	37:Z:8575:HOH:O	2.17	0.42
27:1:57:CYS:O	27:1:61:GLY:HA2	2.19	0.42
1:A:101:C:H2'	1:A:102:A:C8	2.54	0.42
1:A:1902:G:O2'	1:A:1903:U:H5'	2.20	0.42
1:A:2355:G:H5"	1:A:2356:A:OP2	2.20	0.42
1:A:2481:G:H3'	1:A:2482:G:H5"	2.00	0.42
2:B:3092:G:C6	2:B:3093:A:C6	3.08	0.42
3:C:44:ASP:O	3:C:45:ILE:HD13	2.20	0.42
6:F:104:PHE:CE2	6:F:166:ILE:HD13	2.55	0.42
6:F:146:LYS:HZ3	15:O:107:ASN:HD21	1.66	0.42
7:G:83:GLY:O	7:G:169:THR:N	2.39	0.42
8:H:4:VAL:HA	8:H:76:PHE:CE1	2.54	0.42
10:J:150:LYS:CB	10:J:157:ILE:HD12	2.46	0.42
12:L:65:ARG:CD	37:L:5358:HOH:O	2.66	0.42
14:N:35:PRO:HD2	14:N:38:VAL:HG21	2.02	0.42
17:Q:14:LEU:O	17:Q:16:VAL:HG23	2.20	0.42
19:S:39:THR:HG22	19:S:41:GLY:N	2.35	0.42
24:X:29:VAL:O	24:X:30:ASN:HB2	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:X:65:VAL:CG1	24:X:116:LEU:HD13	2.49	0.42
26:Z:153:GLN:O	26:Z:156:GLY:N	2.38	0.42
1:A:484:A:N1	1:A:506:G:H4'	2.35	0.42
1:A:621:C:H5'	26:Z:132:ASP:OD2	2.20	0.42
1:A:793:A:H5"	17:Q:83:LYS:HG2	2.01	0.42
1:A:1025:C:H5'	24:X:23:MET:O	2.20	0.42
1:A:1244:U:P	11:K:18:ILE:HD13	2.60	0.42
1:A:1279:U:H5"	37:A:9970:HOH:O	2.19	0.42
1:A:1734:C:O5'	1:A:1734:C:H6	2.02	0.42
1:A:1734:C:OP1	4:D:234:ARG:HD3	2.18	0.42
1:A:1883:U:O2'	1:A:1884:G:H5'	2.19	0.42
1:A:1972:U:C2'	1:A:1973:A:H5'	2.47	0.42
4:D:16:ARG:NE	37:D:8553:HOH:O	2.36	0.42
10:J:26:LYS:HD2	10:J:28:ILE:CG1	2.49	0.42
13:M:122:ALA:HB3	13:M:125:PHE:CZ	2.55	0.42
15:O:163:PHE:CZ	15:O:164:ASP:OD2	2.72	0.42
21:U:111:ARG:HB3	21:U:119:ALA:HB2	2.02	0.42
26:Z:112:GLU:OE2	26:Z:115:ARG:NH1	2.53	0.42
26:Z:126:PRO:HG2	26:Z:128:PHE:CZ	2.55	0.42
1:A:240:C:O2	1:A:240:C:H2'	2.20	0.42
1:A:812:A:H2'	1:A:813:C:C6	2.54	0.42
1:A:1174:A:N7	1:A:1201:C:O5'	2.53	0.42
1:A:1570:C:O2'	1:A:1571:G:H5'	2.18	0.42
1:A:2437:A:H2'	1:A:2438:G:H8	1.83	0.42
1:A:2561:C:OP1	7:G:153:ARG:NH2	2.52	0.42
4:D:7:ARG:NH1	4:D:11:LEU:CD2	2.83	0.42
4:D:81:ALA:O	4:D:186:GLY:HA3	2.20	0.42
4:D:279:THR:CG2	4:D:280:VAL:N	2.82	0.42
4:D:316:ARG:N	4:D:317:PRO:HD3	2.35	0.42
5:E:3:ALA:HA	37:E:8460:HOH:O	2.19	0.42
7:G:84:MET:HB2	7:G:131:LEU:HB2	2.01	0.42
12:L:62:PRO:CG	12:L:65:ARG:HH21	2.25	0.42
14:N:81:ARG:O	14:N:86:MET:HE2	2.19	0.42
15:O:176:ARG:O	15:O:180:LEU:HG	2.19	0.42
16:P:115:ARG:NH1	37:P:6194:HOH:O	2.53	0.42
23:W:39:ALA:C	23:W:41:GLU:N	2.73	0.42
27:1:58:GLY:HA3	37:1:8436:HOH:O	2.20	0.42
30:4:34:LYS:HB2	30:4:37:ASP:OD2	2.20	0.42
1:A:222:A:H2'	1:A:223:G:O4'	2.19	0.42
1:A:1188:A:C6	1:A:1189:A:C6	3.08	0.42
1:A:1375:A:C2'	1:A:1376:G:H5'	2.49	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1609:C:H2'	1:A:1610:G:C8	2.55	0.42
1:A:1795:G:H2'	1:A:1796:A:O4'	2.19	0.42
1:A:1850:U:H2'	1:A:1851:G:C8	2.54	0.42
1:A:1894:C:C2	1:A:1939:U:C4	3.07	0.42
1:A:1898:G:H2'	1:A:1899:C:C6	2.55	0.42
1:A:2781:U:O2'	1:A:2782:G:H5'	2.19	0.42
5:E:49:ASP:HB3	5:E:52:ALA:HB2	2.01	0.42
6:F:95:THR:C	6:F:97:GLN:N	2.68	0.42
9:I:20:VAL:O	9:I:24:VAL:HG23	2.20	0.42
10:J:62:GLU:OE2	10:J:66:VAL:CG2	2.68	0.42
14:N:68:ARG:O	14:N:68:ARG:CD	2.66	0.42
15:O:63:SER:O	15:O:66:LEU:HB2	2.19	0.42
15:O:78:MET:HB2	15:O:79:PRO:HD3	2.00	0.42
16:P:39:THR:CB	37:P:3360:HOH:O	2.68	0.42
21:U:15:PRO:O	21:U:19:ARG:HG3	2.19	0.42
24:X:21:LEU:HD22	24:X:26:ILE:HD13	1.99	0.42
24:X:38:THR:HG22	37:X:3580:HOH:O	2.19	0.42
30:4:1:MET:HG3	30:4:88:LEU:HD12	2.02	0.42
1:A:1516:C:H2'	1:A:1517:U:C6	2.55	0.42
1:A:1940:C:H4'	37:A:7704:HOH:O	2.19	0.42
1:A:2028:U:H2'	1:A:2029:C:C6	2.54	0.42
1:A:2289:G:C2	1:A:2309:C:N4	2.88	0.42
1:A:2434:A:H2'	1:A:2435:U:C6	2.55	0.42
1:A:2438:G:H2'	1:A:2439:C:O4'	2.20	0.42
2:B:3035:C:H5"	37:B:4078:HOH:O	2.19	0.42
2:B:3057:A:C8	6:F:141:VAL:HG21	2.55	0.42
4:D:70:PRO:O	4:D:71:VAL:HG23	2.19	0.42
5:E:79:ARG:O	5:E:87:ARG:HG2	2.20	0.42
10:J:109:ASP:HB2	37:J:8345:HOH:O	2.18	0.42
1:A:57:C:H5"	37:A:7115:HOH:O	2.20	0.42
1:A:216:A:O2'	1:A:217:C:H5'	2.20	0.42
1:A:226:A:H1'	1:A:393:G:C5	2.54	0.42
1:A:319:A:H4'	1:A:338:C:C5	2.54	0.42
1:A:332:G:H4'	21:U:2:LYS:O	2.20	0.42
1:A:553:G:C2'	1:A:554:G:H5'	2.50	0.42
1:A:562:A:C6	1:A:563:C:C4	3.07	0.42
1:A:775:G:OP1	28:2:16:HIS:CE1	2.67	0.42
1:A:1215:A:O3'	1:A:1216:G:C4'	2.68	0.42
1:A:1215:A:O3'	1:A:1216:G:H4'	2.19	0.42
1:A:1314:U:H2'	37:A:6235:HOH:O	2.18	0.42
1:A:1420:C:C2	1:A:1445:G:N2	2.87	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1762:C:H2'	1:A:1763:C:C6	2.55	0.42
1:A:1771:U:O2'	27:1:23:ARG:NH2	2.51	0.42
1:A:1916:C:O2	1:A:1924:A:C2	2.72	0.42
1:A:2428:G:N7	37:A:4161:HOH:O	2.53	0.42
1:A:2464:C:P	37:A:3313:HOH:O	2.78	0.42
1:A:2638:G:H5'	37:A:5293:HOH:O	2.19	0.42
1:A:2834:G:OP1	25:Y:39:LYS:HE2	2.20	0.42
37:A:9933:HOH:O	24:X:119:HIS:HE1	2.01	0.42
2:B:3064:C:C2'	2:B:3065:A:H5'	2.50	0.42
5:E:178:GLN:C	5:E:180:SER:N	2.71	0.42
7:G:20:ILE:HD12	7:G:33:LEU:CD1	2.49	0.42
11:K:131:THR:HB	11:K:134:GLU:HG3	2.00	0.42
14:N:46:LEU:CD2	14:N:50:ARG:HG3	2.50	0.42
15:O:38:LYS:HD2	15:O:114:LYS:HE3	2.01	0.42
15:O:82:TYR:OH	15:O:176:ARG:NH1	2.53	0.42
17:Q:38:GLU:OE1	17:Q:41:ARG:NH1	2.53	0.42
19:S:39:THR:HB	19:S:42:GLU:CD	2.40	0.42
20:T:73:ASP:OD1	20:T:75:GLN:HB2	2.20	0.42
26:Z:99:ALA:HB2	26:Z:233:TYR:CE2	2.54	0.42
30:4:70:ARG:HA	37:4:8572:HOH:O	2.19	0.42
1:A:111:C:O2'	1:A:112:G:H5'	2.20	0.41
1:A:951:A:O2'	1:A:952:G:H5'	2.20	0.41
1:A:960:G:N3	1:A:960:G:C2'	2.82	0.41
1:A:1641:A:C8	1:A:1702:U:O4	2.73	0.41
1:A:2316:G:O2'	1:A:2462:G:O6	2.37	0.41
3:C:125:ASN:ND2	37:C:8539:HOH:O	2.52	0.41
6:F:99:ASP:CB	6:F:103:ASN:HB2	2.50	0.41
8:H:20:LEU:O	8:H:23:ALA:HB3	2.21	0.41
13:M:138:GLY:HA3	37:M:8558:HOH:O	2.20	0.41
14:N:74:ARG:CD	14:N:91:ILE:CD1	2.98	0.41
15:O:140:GLN:O	15:O:143:ARG:HB2	2.19	0.41
18:R:25:PRO:HA	18:R:26:PRO:HD3	1.90	0.41
18:R:66:LYS:HB2	18:R:70:ALA:O	2.19	0.41
21:U:41:ARG:O	21:U:43:ASN:ND2	2.53	0.41
24:X:126:ASP:HB3	24:X:135:GLY:O	2.20	0.41
29:3:31:GLU:O	37:3:2890:HOH:O	2.22	0.41
1:A:401:C:H5"	14:N:96:ASN:HB3	2.02	0.41
1:A:853:C:H2'	1:A:854:G:O4'	2.19	0.41
1:A:870:G:OP2	3:C:3:ARG:NH1	2.53	0.41
1:A:954:U:O2'	1:A:955:A:H5'	2.20	0.41
1:A:1902:G:N2	1:A:1936:C:C2	2.89	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2314:G:O2'	1:A:2315:C:H5'	2.20	0.41
37:A:5770:HOH:O	13:M:34:GLY:HA2	2.20	0.41
3:C:66:ARG:HB2	3:C:66:ARG:HH11	1.83	0.41
3:C:231:LYS:O	3:C:232:ARG:HB3	2.20	0.41
6:F:25:MET:SD	6:F:40:ILE:HD11	2.60	0.41
10:J:132:PHE:O	10:J:133:ILE:HD13	2.20	0.41
12:L:74:VAL:CG1	12:L:113:ILE:HG12	2.47	0.41
14:N:91:ILE:HA	37:N:8652:HOH:O	2.20	0.41
22:V:14:GLU:HA	22:V:15:PRO:HD2	1.89	0.41
24:X:28:HIS:HD2	24:X:31:HIS:CE1	2.38	0.41
25:Y:30:MET:HE3	25:Y:59:TRP:HE1	1.84	0.41
1:A:64:G:H2'	1:A:65:C:O4'	2.21	0.41
1:A:154:C:H3'	14:N:188:ARG:NH1	2.35	0.41
1:A:290:C:H1'	37:A:6465:HOH:O	2.20	0.41
1:A:314:G:N2	1:A:316:A:H3'	2.34	0.41
1:A:849:C:C2'	1:A:850:U:H5'	2.51	0.41
1:A:1159:G:P	37:A:4662:HOH:O	2.79	0.41
1:A:1441:G:H1'	37:A:8236:HOH:O	2.19	0.41
1:A:1531:U:O2	1:A:1661:A:C2	2.74	0.41
1:A:1617:C:C4	1:A:1643:C:H4'	2.55	0.41
1:A:1810:C:OP1	22:V:44:ARG:NE	2.31	0.41
1:A:1846:U:H5"	3:C:186:TRP:CZ2	2.55	0.41
1:A:2004:U:H2'	1:A:2005:G:OP1	2.19	0.41
1:A:2325:C:H2'	1:A:2326:U:C6	2.55	0.41
1:A:2481:G:C3'	1:A:2482:G:H5"	2.50	0.41
1:A:2684:A:H2'	1:A:2685:C:H6	1.84	0.41
1:A:2785:C:H4'	1:A:2786:G:OP2	2.21	0.41
2:B:3056:A:C3'	2:B:3057:A:H5"	2.50	0.41
3:C:81:GLN:N	3:C:92:ASN:ND2	2.67	0.41
4:D:7:ARG:HH11	4:D:7:ARG:CG	2.31	0.41
4:D:84:LEU:O	4:D:84:LEU:HD13	2.19	0.41
4:D:102:THR:HG23	4:D:182:VAL:HG12	2.02	0.41
6:F:84:LEU:HD23	6:F:87:ALA:HB3	2.03	0.41
8:H:28:ALA:HB3	8:H:99:THR:HG23	2.02	0.41
14:N:125:ARG:NH1	37:N:8599:HOH:O	2.52	0.41
15:O:15:GLU:HB2	15:O:17:ARG:HG3	2.01	0.41
17:Q:109:ARG:NH1	17:Q:119:TYR:CE2	2.88	0.41
22:V:20:MET:HE2	22:V:30:HIS:NE2	2.35	0.41
23:W:45:ARG:C	23:W:47:LYS:N	2.73	0.41
25:Y:76:ARG:HA	25:Y:82:GLU:O	2.20	0.41
26:Z:145:LYS:O	26:Z:147:ARG:HG2	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:4:51:LYS:HG3	30:4:52:PHE:N	2.34	0.41
1:A:1324:G:C2	1:A:1334:C:O2	2.74	0.41
1:A:1494:A:C2	1:A:1495:C:C4	3.08	0.41
1:A:1878:G:O2'	1:A:1879:U:OP2	2.37	0.41
1:A:2053:G:OP1	19:S:138:SER:OG	2.32	0.41
1:A:2716:G:H1'	37:D:8543:HOH:O	2.20	0.41
2:B:3007:G:OP1	15:O:23:ARG:NE	2.54	0.41
2:B:3078:G:O2'	2:B:3079:U:P	2.78	0.41
3:C:125:ASN:CB	3:C:158:VAL:HG12	2.50	0.41
6:F:59:GLY:C	6:F:61:PHE:H	2.19	0.41
6:F:140:ARG:O	6:F:144:ARG:HG2	2.20	0.41
10:J:75:SER:HB3	10:J:79:ALA:CB	2.49	0.41
13:M:133:VAL:HB	37:M:8562:HOH:O	2.19	0.41
13:M:142:LEU:HG	13:M:146:GLY:HA3	2.02	0.41
14:N:94:LYS:CE	37:N:8653:HOH:O	2.68	0.41
18:R:16:ASN:HD22	18:R:16:ASN:HA	1.61	0.41
21:U:55:PHE:CD2	21:U:77:VAL:HG13	2.56	0.41
1:A:24:G:C4	1:A:518:G:N2	2.88	0.41
1:A:312:U:C2	1:A:320:G:N2	2.88	0.41
1:A:622:G:P	26:Z:148:GLY:HA3	2.60	0.41
1:A:1074:G:C2	1:A:1075:G:C8	3.08	0.41
1:A:1081:A:C6	1:A:1082:A:N1	2.88	0.41
1:A:1333:U:H2'	1:A:1334:C:H6	1.82	0.41
1:A:1728:G:N1	1:A:1729:A:C5	2.89	0.41
1:A:2032:U:H2'	1:A:2033:G:H5'	2.03	0.41
1:A:2246:U:N3	1:A:2256:G:C2	2.88	0.41
1:A:2334:C:O2'	1:A:2335:C:H5'	2.21	0.41
2:B:3078:G:O2'	2:B:3079:U:OP2	2.38	0.41
4:D:23:THR:HA	4:D:24:PRO:HD3	1.88	0.41
4:D:92:TYR:CD1	4:D:92:TYR:N	2.88	0.41
6:F:57:THR:HA	6:F:63:ILE:HA	2.01	0.41
6:F:170:TYR:N	6:F:170:TYR:CD1	2.89	0.41
6:F:174:VAL:HG11	37:F:2195:HOH:O	2.21	0.41
12:L:87:ARG:NE	37:L:4854:HOH:O	2.52	0.41
13:M:53:ARG:NH2	13:M:57:VAL:HG12	2.35	0.41
13:M:77:ALA:HB3	37:M:8532:HOH:O	2.20	0.41
13:M:107:LYS:CD	13:M:124:ASP:OD2	2.68	0.41
19:S:15:LYS:HE3	37:S:8580:HOH:O	2.20	0.41
20:T:58:MET:SD	29:3:8:LYS:HE3	2.60	0.41
21:U:43:ASN:C	21:U:45:GLY:H	2.24	0.41
21:U:73:HIS:CD2	21:U:88:PRO:HG3	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:V:52:THR:HG22	22:V:54:THR:N	2.36	0.41
28:2:28:HIS:CE1	28:2:31:LYS:HE2	2.56	0.41
1:A:12:U:C2'	1:A:13:G:H5'	2.50	0.41
1:A:816:G:C6	1:A:817:G:N1	2.88	0.41
1:A:921:G:H4'	1:A:924:G:N1	2.36	0.41
1:A:1014:A:H2'	1:A:1015:C:H5'	2.02	0.41
1:A:1135:G:C6	1:A:1136:U:C4	3.08	0.41
1:A:1238:C:H4'	37:A:6381:HOH:O	2.20	0.41
1:A:1545:C:O2'	1:A:1546:G:H5'	2.20	0.41
1:A:1644:C:C2	1:A:1645:U:C6	3.09	0.41
1:A:1657:A:H2'	1:A:1658:A:C8	2.55	0.41
1:A:2133:U:H4'	1:A:2134:G:H5'	2.02	0.41
1:A:2453:G:H5'	37:A:5057:HOH:O	2.21	0.41
4:D:156:LYS:HE3	37:D:8628:HOH:O	2.20	0.41
4:D:223:ARG:HG3	4:D:232:TRP:C	2.41	0.41
7:G:95:VAL:O	7:G:126:ILE:HD13	2.20	0.41
13:M:73:VAL:HG21	13:M:116:HIS:CD2	2.56	0.41
14:N:68:ARG:O	14:N:68:ARG:CG	2.67	0.41
15:O:113:SER:CB	37:O:8560:HOH:O	2.55	0.41
17:Q:58:SER:CB	37:Q:186:HOH:O	2.61	0.41
19:S:104:PHE:CB	19:S:109:MET:HE1	2.48	0.41
1:A:171:C:OP2	14:N:84:LYS:HG3	2.21	0.41
1:A:1185:U:C5'	37:A:7822:HOH:O	2.65	0.41
1:A:1813:U:O2'	17:Q:81:LYS:HE3	2.20	0.41
1:A:2291:A:N9	1:A:2309:C:H5'	2.35	0.41
1:A:2388:C:H2'	1:A:2389:U:O4'	2.20	0.41
1:A:2430:A:O5'	1:A:2430:A:H8	2.03	0.41
1:A:2497:A:H2'	1:A:2498:C:O4'	2.21	0.41
3:C:65:ARG:HH11	3:C:65:ARG:HG2	1.86	0.41
4:D:102:THR:CG2	4:D:182:VAL:HG12	2.51	0.41
4:D:315:VAL:HG23	4:D:316:ARG:HG2	2.03	0.41
5:E:4:THR:N	37:E:8460:HOH:O	2.53	0.41
5:E:43:LYS:NZ	37:E:8396:HOH:O	2.45	0.41
8:H:34:ASN:HB2	37:H:1111:HOH:O	2.21	0.41
15:O:154:LEU:CG	15:O:155:GLU:H	2.27	0.41
18:R:93:ARG:HG3	18:R:93:ARG:NH1	2.36	0.41
19:S:25:PHE:CE2	19:S:29:LYS:HE2	2.55	0.41
22:V:6:CYS:HB2	22:V:32:CYS:HB3	2.03	0.41
1:A:187:A:H3'	1:A:188:C:H6	1.85	0.41
1:A:382:U:H5	1:A:406:G:C2	2.37	0.41
1:A:559:U:H5'	1:A:559:U:C6	2.44	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:573:A:P	37:A:7403:HOH:O	2.78	0.41
1:A:661:G:C6	1:A:686:A:C2	3.09	0.41
1:A:1380:U:P	37:A:8414:HOH:O	2.77	0.41
1:A:1634:G:H2'	1:A:1635:U:C6	2.55	0.41
1:A:1652:C:O2	3:C:164:ARG:HD2	2.21	0.41
1:A:1874:U:O4	3:C:117:LYS:HD2	2.21	0.41
1:A:2419:U:C1'	37:A:3284:HOH:O	2.68	0.41
1:A:2904:U:H4'	25:Y:8:ARG:NH1	2.35	0.41
37:A:3881:HOH:O	17:Q:133:SER:HA	2.21	0.41
2:B:3036:C:C5	2:B:3037:C:C5	3.09	0.41
4:D:255:GLY:O	4:D:257:THR:HG23	2.20	0.41
7:G:7:ILE:HA	7:G:8:PRO:HD3	1.94	0.41
10:J:15:THR:HG22	10:J:90:PHE:O	2.20	0.41
10:J:83:PHE:HD1	10:J:134:ALA:HB2	1.86	0.41
19:S:17:MET:HG2	19:S:144:GLU:HA	2.02	0.41
22:V:49:LEU:CD1	37:V:3805:HOH:O	2.69	0.41
25:Y:26:ALA:O	25:Y:27:ASP:C	2.57	0.41
27:1:39:CYS:O	27:1:42:CYS:O	2.39	0.41
30:4:15:ASN:ND2	37:4:8548:HOH:O	2.52	0.41
1:A:101:C:H2'	1:A:102:A:H8	1.86	0.41
1:A:208:C:C2	1:A:232:A:C2	3.08	0.41
1:A:308:U:C2	21:U:52:ARG:NH2	2.89	0.41
1:A:396:U:O2'	1:A:397:A:P	2.79	0.41
1:A:541:C:C2'	1:A:542:A:C5'	2.84	0.41
1:A:684:G:H2'	1:A:685:C:C6	2.56	0.41
1:A:821:U:H5"	37:A:3427:HOH:O	2.21	0.41
1:A:861:A:H2'	1:A:862:U:C6	2.55	0.41
1:A:877:G:C5'	1:A:878:G:OP1	2.65	0.41
1:A:1158:G:C2'	1:A:1159:G:H5'	2.51	0.41
1:A:1849:G:C6	1:A:1850:U:C5	3.09	0.41
1:A:2011:A:H4'	1:A:2012:U:O5'	2.21	0.41
1:A:2378:U:H3'	30:4:8:ASN:O	2.20	0.41
1:A:2383:G:N3	37:A:7062:HOH:O	2.37	0.41
1:A:2712:G:P	37:L:4183:HOH:O	2.79	0.41
1:A:2719:A:C2	4:D:70:PRO:HG3	2.55	0.41
1:A:2748:G:OP1	1:A:2749:U:C5'	2.67	0.41
37:A:9778:HOH:O	27:1:34:LYS:HD3	2.21	0.41
2:B:3034:A:H2'	2:B:3035:C:O4'	2.20	0.41
3:C:103:VAL:HA	3:C:104:PRO:HD3	1.87	0.41
3:C:192:VAL:CG1	3:C:207:GLN:HB3	2.50	0.41
4:D:2:GLN:HB2	37:D:8634:HOH:O	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:4:SER:O	4:D:5:ARG:HB2	2.21	0.41
4:D:140:LEU:HD13	4:D:175:LEU:HA	2.01	0.41
4:D:307:ARG:CG	4:D:307:ARG:NH1	2.84	0.41
5:E:16:VAL:CG1	5:E:17:ASP:N	2.82	0.41
5:E:33:LYS:HE2	37:E:8362:HOH:O	2.20	0.41
6:F:58:VAL:CG1	6:F:59:GLY:N	2.83	0.41
7:G:77:THR:OG1	7:G:78:GLU:N	2.52	0.41
8:H:109:GLU:O	8:H:112:ALA:HB3	2.21	0.41
10:J:139:ASP:HB2	37:J:8346:HOH:O	2.21	0.41
11:K:42:GLU:O	11:K:131:THR:HG23	2.20	0.41
12:L:87:ARG:NH1	37:L:4066:HOH:O	2.53	0.41
13:M:34:GLY:HA3	13:M:38:HIS:CE1	2.56	0.41
13:M:104:ASP:HB2	37:M:8581:HOH:O	2.20	0.41
14:N:24:MET:HE2	14:N:28:MET:HE3	2.03	0.41
14:N:115:LEU:HD13	14:N:115:LEU:C	2.41	0.41
14:N:165:SER:HB2	37:N:8550:HOH:O	2.21	0.41
14:N:184:ARG:CG	14:N:185:PRO:HA	2.50	0.41
15:O:175:LEU:HD12	15:O:175:LEU:HA	1.88	0.41
16:P:56:GLU:HB2	37:P:6111:HOH:O	2.20	0.41
17:Q:101:GLN:NE2	17:Q:131:PHE:O	2.47	0.41
19:S:9:ASP:HA	19:S:10:PRO:HD2	1.91	0.41
22:V:28:THR:CG2	22:V:30:HIS:CE1	3.04	0.41
22:V:52:THR:CG2	22:V:54:THR:HB	2.51	0.41
24:X:119:HIS:CG	24:X:120:PRO:HD2	2.56	0.41
27:1:42:CYS:SG	27:1:44:PHE:CB	2.98	0.41
29:3:9:LYS:O	29:3:12:ALA:HB3	2.21	0.41
30:4:39:GLN:HA	30:4:42:ARG:CZ	2.51	0.41
30:4:54:LYS:HD3	37:4:8534:HOH:O	2.21	0.41
1:A:535:G:C5	1:A:2063:U:C4	3.09	0.41
1:A:558:C:H2'	1:A:559:U:H5"	1.96	0.41
1:A:1969:A:N7	1:A:1970:G:C6	2.89	0.41
1:A:2372:A:H2'	1:A:2373:U:C6	2.56	0.41
1:A:2432:C:H1'	37:A:4455:HOH:O	2.21	0.41
1:A:2664:A:H8	1:A:2664:A:OP1	2.04	0.41
4:D:54:VAL:HB	37:D:8610:HOH:O	2.21	0.41
5:E:115:LEU:HD12	5:E:115:LEU:HA	1.91	0.41
5:E:136:VAL:HG22	5:E:137:PRO:HA	2.03	0.41
6:F:27:ILE:HD11	6:F:37:ALA:CB	2.50	0.41
9:I:71:LEU:C	9:I:73:ASP:H	2.24	0.41
10:J:150:LYS:HE2	37:J:8377:HOH:O	2.21	0.41
13:M:142:LEU:HD12	13:M:142:LEU:HA	1.94	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:N:71:SER:HB2	14:N:92:THR:HG22	2.03	0.41
14:N:184:ARG:HB2	14:N:184:ARG:NH1	2.36	0.41
15:O:163:PHE:O	15:O:164:ASP:O	2.38	0.41
15:O:167:ASP:O	15:O:168:LEU:HD23	2.21	0.41
24:X:52:VAL:HG22	24:X:53:ALA:H	1.85	0.41
24:X:66:LEU:HD23	24:X:66:LEU:HA	1.82	0.41
30:4:38:ARG:O	30:4:42:ARG:HB2	2.21	0.41
1:A:491:C:O2'	1:A:492:C:H5'	2.21	0.40
1:A:820:G:O2'	1:A:856:G:H4'	2.21	0.40
1:A:1007:A:H2'	10:J:19:TYR:CZ	2.57	0.40
1:A:1349:G:H5"	37:A:4166:HOH:O	2.21	0.40
1:A:1594:C:O2'	1:A:1607:A:H4'	2.21	0.40
1:A:1874:U:C2'	3:C:120:ARG:HG3	2.47	0.40
1:A:2265:U:H2'	1:A:2266:A:H8	1.86	0.40
1:A:2717:C:OP1	4:D:207:LYS:HG3	2.21	0.40
1:A:2729:C:H4'	1:A:2893:C:O2	2.21	0.40
37:A:6632:HOH:O	17:Q:63:ARG:NH2	2.38	0.40
3:C:2:ARG:HB3	37:C:8528:HOH:O	2.21	0.40
3:C:39:ALA:HB3	3:C:61:GLU:OE2	2.21	0.40
4:D:85:ARG:HD2	4:D:163:GLU:OE1	2.21	0.40
6:F:77:ASP:HB3	6:F:78:GLU:H	1.61	0.40
8:H:48:VAL:HG23	8:H:74:PHE:HB2	2.02	0.40
10:J:140:PRO:HA	10:J:142:VAL:HG12	2.02	0.40
15:O:139:TRP:HH2	15:O:176:ARG:HH11	1.68	0.40
20:T:57:THR:C	20:T:59:ASP:N	2.74	0.40
22:V:17:THR:CG2	22:V:18:GLY:N	2.84	0.40
22:V:47:ARG:CG	37:V:4381:HOH:O	2.67	0.40
25:Y:14:LEU:HD12	25:Y:67:PRO:O	2.21	0.40
28:2:15:THR:OG1	28:2:16:HIS:N	2.54	0.40
30:4:24:LYS:HG2	35:4:8504:CL:CL	2.59	0.40
1:A:132:A:C6	1:A:133:U:C4	3.10	0.40
1:A:797:A:N1	37:A:3783:HOH:O	2.37	0.40
1:A:902:G:N7	13:M:18:HIS:CD2	2.85	0.40
1:A:1055:G:OP2	10:J:94:ARG:NH1	2.54	0.40
1:A:1236:A:C8	11:K:63:ILE:HD11	2.56	0.40
1:A:1592:G:H2'	1:A:1593:C:C6	2.57	0.40
1:A:1603:A:H5"	1:A:1605:G:H5'	2.02	0.40
1:A:1897:U:O2'	1:A:1898:G:H5'	2.21	0.40
1:A:2123:A:C5'	14:N:89:ASN:HD21	2.34	0.40
1:A:2126:C:C4	1:A:2127:U:C4	3.09	0.40
1:A:2588:G:C6	1:A:2589:U:O2	2.74	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2591:C:H2'	1:A:2592:G:O4'	2.22	0.40
1:A:2724:U:C4	1:A:2725:G:C6	3.09	0.40
1:A:2896:A:C4	37:A:6460:HOH:O	2.71	0.40
1:A:2910:A:H5"	37:A:4505:HOH:O	2.22	0.40
3:C:48:ASP:HA	3:C:49:PRO:HD3	1.78	0.40
4:D:132:HIS:HE1	4:D:171:VAL:HG21	1.84	0.40
5:E:5:ILE:HG12	37:E:8438:HOH:O	2.20	0.40
7:G:107:PHE:CZ	7:G:108:LEU:HD13	2.55	0.40
10:J:46:VAL:HG12	10:J:146:TRP:CZ3	2.54	0.40
14:N:164:THR:HG23	14:N:166:ALA:N	2.36	0.40
17:Q:10:ALA:CA	17:Q:13:VAL:HG12	2.52	0.40
19:S:29:LYS:HD3	37:S:8534:HOH:O	2.20	0.40
19:S:84:ALA:O	19:S:88:PHE:HD1	2.04	0.40
19:S:119:VAL:O	19:S:119:VAL:CG1	2.69	0.40
20:T:10:VAL:O	20:T:10:VAL:HG22	2.21	0.40
21:U:71:VAL:CG1	21:U:90:PRO:HB3	2.23	0.40
30:4:25:VAL:HG22	30:4:68:LYS:CG	2.45	0.40
30:4:30:GLN:NE2	37:4:8554:HOH:O	2.32	0.40
1:A:209:G:C6	1:A:210:U:N3	2.90	0.40
1:A:581:G:O2'	1:A:582:C:H5'	2.21	0.40
1:A:749:C:O2'	1:A:750:A:H5'	2.21	0.40
1:A:763:C:H5"	37:A:9507:HOH:O	2.21	0.40
1:A:775:G:H1'	37:A:9703:HOH:O	2.22	0.40
1:A:832:U:H2'	1:A:833:G:C8	2.56	0.40
1:A:858:U:H2'	1:A:859:C:C6	2.56	0.40
1:A:892:G:H5"	28:2:54:ALA:HB2	2.02	0.40
1:A:907:A:H4'	1:A:1328:A:C2	2.57	0.40
1:A:1135:G:C2	1:A:1228:C:C2	3.09	0.40
1:A:1319:G:H1'	37:A:5058:HOH:O	2.20	0.40
1:A:1512:G:N2	1:A:1513:C:H1'	2.36	0.40
1:A:1592:G:O2'	1:A:1593:C:O4'	2.32	0.40
1:A:1712:A:H2'	1:A:1713:G:O4'	2.21	0.40
1:A:1761:U:H5'	17:Q:81:LYS:O	2.20	0.40
1:A:2016:U:O5'	1:A:2016:U:H6	2.04	0.40
1:A:2597:U:H2'	1:A:2598:U:H5'	2.03	0.40
1:A:2748:G:H1'	37:A:8442:HOH:O	2.21	0.40
37:A:5313:HOH:O	14:N:82:ARG:CB	2.68	0.40
5:E:19:PRO:HG2	5:E:22:PHE:CE1	2.56	0.40
5:E:108:GLN:HA	37:E:8323:HOH:O	2.20	0.40
6:F:15:GLU:HA	6:F:16:PRO:HD3	1.87	0.40
8:H:104:ALA:O	8:H:108:LEU:HB3	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:N:63:VAL:HG21	14:N:109:PHE:CZ	2.56	0.40
25:Y:76:ARG:NH1	25:Y:76:ARG:CG	2.84	0.40
1:A:35:U:H2'	1:A:36:C:H6	1.87	0.40
1:A:1189:A:N3	37:A:8151:HOH:O	2.54	0.40
1:A:1252:A:H2'	1:A:1253:C:O4'	2.21	0.40
1:A:1314:U:C2	1:A:1316:G:C2	3.10	0.40
1:A:1562:C:H42	1:A:2738:G:H1	1.70	0.40
1:A:1805:G:H2'	1:A:1806:G:C8	2.55	0.40
1:A:1865:A:H2'	1:A:1866:A:C8	2.56	0.40
1:A:1943:C:C4'	3:C:212:PRO:HA	2.51	0.40
1:A:2587:U:C2	1:A:2589:U:H5'	2.57	0.40
1:A:2769:C:H2'	1:A:2770:G:C5'	2.51	0.40
8:H:104:ALA:HA	37:H:6617:HOH:O	2.19	0.40
9:I:12:ILE:CB	37:I:4714:HOH:O	2.57	0.40
12:L:65:ARG:O	12:L:66:ARG:HB2	2.22	0.40
13:M:64:ILE:O	13:M:64:ILE:HG23	2.21	0.40
13:M:98:GLU:O	13:M:99:GLU:CB	2.69	0.40
13:M:140:VAL:O	13:M:140:VAL:HG12	2.21	0.40
15:O:73:ALA:HB1	15:O:74:PRO:CD	2.50	0.40
27:1:39:CYS:HA	27:1:40:PRO:HD3	1.82	0.40
30:4:34:LYS:O	30:4:37:ASP:HB2	2.21	0.40
1:A:390:G:OP1	30:4:46:ILE:N	2.32	0.40
1:A:702:G:C2	1:A:703:G:C8	3.09	0.40
1:A:812:A:H2'	1:A:813:C:O4'	2.21	0.40
1:A:940:G:C6	1:A:1027:G:C2	3.10	0.40
1:A:958:G:H2'	1:A:959:C:C6	2.57	0.40
1:A:1052:G:C5	1:A:1063:G:C6	3.09	0.40
1:A:1894:C:N4	1:A:1939:U:H2'	2.37	0.40
1:A:2255:A:H2'	1:A:2256:G:O4'	2.21	0.40
1:A:2469:A:H1'	37:A:3618:HOH:O	2.20	0.40
1:A:2505:G:C2'	1:A:2506:A:H5'	2.51	0.40
1:A:2569:A:H2'	1:A:2570:G:O5'	2.21	0.40
3:C:1:GLY:HA2	3:C:197:VAL:HG23	2.03	0.40
4:D:33:ASP:HB3	4:D:34:GLY:H	1.77	0.40
6:F:35:ALA:C	6:F:37:ALA:N	2.75	0.40
12:L:98:VAL:HG22	12:L:102:GLU:C	2.42	0.40
16:P:32:ARG:NH1	37:P:2336:HOH:O	2.55	0.40
23:W:12:THR:HG23	23:W:14:ALA:HB3	2.03	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
3	C	235/239 (98%)	200 (85%)	29 (12%)	6 (3%)	5	27
4	D	335/337 (99%)	302 (90%)	22 (7%)	11 (3%)	4	21
5	E	244/246 (99%)	222 (91%)	22 (9%)	0	100	100
6	F	134/176 (76%)	95 (71%)	27 (20%)	12 (9%)	1	3
7	G	170/177 (96%)	157 (92%)	12 (7%)	1 (1%)	25	64
8	H	117/119 (98%)	104 (89%)	10 (8%)	3 (3%)	5	27
9	I	25/348 (7%)	23 (92%)	1 (4%)	1 (4%)	3	17
10	J	152/167 (91%)	130 (86%)	17 (11%)	5 (3%)	4	21
11	K	140/145 (97%)	127 (91%)	8 (6%)	5 (4%)	3	19
12	L	130/132 (98%)	120 (92%)	8 (6%)	2 (2%)	10	42
13	M	141/164 (86%)	120 (85%)	20 (14%)	1 (1%)	22	60
14	N	192/194 (99%)	165 (86%)	24 (12%)	3 (2%)	9	40
15	O	184/186 (99%)	164 (89%)	12 (6%)	8 (4%)	2	15
16	P	113/115 (98%)	109 (96%)	4 (4%)	0	100	100
17	Q	141/148 (95%)	135 (96%)	5 (4%)	1 (1%)	22	60
18	R	93/95 (98%)	86 (92%)	3 (3%)	4 (4%)	2	15
19	S	148/154 (96%)	134 (90%)	13 (9%)	1 (1%)	22	60
20	T	79/84 (94%)	73 (92%)	6 (8%)	0	100	100
21	U	117/119 (98%)	110 (94%)	7 (6%)	0	100	100
22	V	51/66 (77%)	48 (94%)	3 (6%)	0	100	100
23	W	63/70 (90%)	58 (92%)	3 (5%)	2 (3%)	4	22
24	X	152/154 (99%)	142 (93%)	8 (5%)	2 (1%)	12	45
25	Y	80/91 (88%)	71 (89%)	5 (6%)	4 (5%)	2	12
26	Z	140/240 (58%)	133 (95%)	7 (5%)	0	100	100
27	1	71/73 (97%)	61 (86%)	7 (10%)	3 (4%)	3	16

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
28	2	54/56 (96%)	52 (96%)	2 (4%)	0	100	100
29	3	42/48 (88%)	41 (98%)	1 (2%)	0	100	100
30	4	90/92 (98%)	83 (92%)	5 (6%)	2 (2%)	6	31
All	All	3633/4235 (86%)	3265 (90%)	291 (8%)	77 (2%)	7	33

All (77) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
4	D	139	ASP
6	F	93	LEU
6	F	95	THR
6	F	173	GLU
8	H	101	ALA
10	J	162	SER
13	M	80	ASP
15	O	154	LEU
15	O	164	ASP
15	O	167	ASP
15	O	183	ASP
23	W	43	PRO
3	C	34	ASP
3	C	119	ALA
4	D	34	GLY
4	D	107	SER
4	D	169	GLY
6	F	11	HIS
6	F	20	LYS
6	F	36	ASN
6	F	137	PRO
6	F	171	ASP
10	J	164	ALA
11	K	5	GLU
11	K	7	ASP
11	K	89	HIS
11	K	143	LYS
14	N	140	ALA
15	O	162	ASP
15	O	181	ASP
17	Q	116	SER
18	R	89	ALA
24	X	77	ALA

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Mol	Chain	Res	Type
27	1	81	LYS
3	C	132	ASP
4	D	184	ASP
6	F	61	PHE
7	G	44	GLY
8	H	64	PRO
10	J	40	PRO
10	J	138	PRO
12	L	119	GLN
18	R	23	THR
25	Y	77	PHE
25	Y	87	ALA
30	4	56	PRO
3	C	37	VAL
3	C	62	ASP
12	L	126	SER
15	O	68	GLU
15	O	155	GLU
24	X	49	ASN
27	1	20	LEU
4	D	2	GLN
4	D	185	GLY
6	F	16	PRO
6	F	147	ALA
8	H	61	MET
9	I	72	ASP
11	K	141	ALA
18	R	54	PRO
25	Y	78	GLU
30	4	57	GLY
3	C	232	ARG
4	D	206	THR
6	F	170	TYR
10	J	72	VAL
23	W	40	PRO
19	S	81	PRO
14	N	18	GLY
4	D	236	ILE
27	1	41	VAL
4	D	302	PRO
14	N	110	PRO
18	R	18	PRO

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Mol	Chain	Res	Type
25	Y	70	ILE
4	D	5	ARG

5.3.2 Protein sidechains (i)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
3	C	179/181 (99%)	166 (93%)	13 (7%)	14	44
4	D	282/282 (100%)	264 (94%)	18 (6%)	17	51
5	E	193/193 (100%)	178 (92%)	15 (8%)	12	42
6	F	117/147 (80%)	106 (91%)	11 (9%)	8	32
7	G	152/155 (98%)	148 (97%)	4 (3%)	46	78
8	H	92/92 (100%)	91 (99%)	1 (1%)	73	90
9	I	27/283 (10%)	27 (100%)	0	100	100
10	J	122/122 (100%)	111 (91%)	11 (9%)	9	35
11	K	118/121 (98%)	107 (91%)	11 (9%)	9	33
12	L	106/106 (100%)	102 (96%)	4 (4%)	33	69
13	M	112/126 (89%)	108 (96%)	4 (4%)	35	70
14	N	166/166 (100%)	158 (95%)	8 (5%)	25	62
15	O	149/149 (100%)	144 (97%)	5 (3%)	37	72
16	P	93/93 (100%)	91 (98%)	2 (2%)	52	81
17	Q	113/116 (97%)	109 (96%)	4 (4%)	36	71
18	R	79/79 (100%)	75 (95%)	4 (5%)	24	60
19	S	117/121 (97%)	113 (97%)	4 (3%)	37	72
20	T	71/73 (97%)	69 (97%)	2 (3%)	43	77
21	U	105/105 (100%)	102 (97%)	3 (3%)	42	76
22	V	44/52 (85%)	42 (96%)	2 (4%)	27	64
23	W	51/56 (91%)	51 (100%)	0	100	100
24	X	130/130 (100%)	121 (93%)	9 (7%)	15	48

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
25	Y	66/73 (90%)	61 (92%)	5 (8%)	13	43
26	Z	120/195 (62%)	110 (92%)	10 (8%)	11	39
27	1	56/56 (100%)	49 (88%)	7 (12%)	4	20
28	2	46/46 (100%)	46 (100%)	0	100	100
29	3	42/44 (96%)	41 (98%)	1 (2%)	49	79
30	4	79/79 (100%)	73 (92%)	6 (8%)	13	43
All	All	3027/3441 (88%)	2863 (95%)	164 (5%)	22	57

All (164) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	C	3	ARG
3	C	33	GLU
3	C	36	ASP
3	C	55	VAL
3	C	68	ILE
3	C	69	LEU
3	C	94	LEU
3	C	120	ARG
3	C	131	HIS
3	C	153	ARG
3	C	179	MET
3	C	216	SER
3	C	217	ARG
4	D	7	ARG
4	D	11	LEU
4	D	27	ASN
4	D	33	ASP
4	D	63	GLU
4	D	97	LEU
4	D	98	THR
4	D	103	ASP
4	D	162	MET
4	D	195	ARG
4	D	245	SER
4	D	251	VAL
4	D	254	GLN
4	D	256	GLN
4	D	264	GLU
4	D	304	PRO

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Mol	Chain	Res	Type
4	D	307	ARG
4	D	312	ARG
5	E	2	GLN
5	E	27	ARG
5	E	67	GLN
5	E	91	PRO
5	E	94	THR
5	E	101	ASP
5	E	115	LEU
5	E	136	VAL
5	E	187	ARG
5	E	214	THR
5	E	222	ASP
5	E	223	LEU
5	E	234	VAL
5	E	236	THR
5	E	240	LEU
6	F	24	HIS
6	F	50	VAL
6	F	61	PHE
6	F	95	THR
6	F	99	ASP
6	F	100	ASP
6	F	131	THR
6	F	133	ASN
6	F	136	ARG
6	F	137	PRO
6	F	149	ARG
7	G	7	ILE
7	G	15	GLN
7	G	102	VAL
7	G	164	ASP
8	H	12	LEU
10	J	1	LYS
10	J	59	ASN
10	J	72	VAL
10	J	73	GLN
10	J	82	LYS
10	J	85	ILE
10	J	86	ARG
10	J	94	ARG
10	J	142	VAL

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Mol	Chain	Res	Type
10	J	150	LYS
10	J	166	ASN
11	K	46	ILE
11	K	52	GLN
11	K	74	ARG
11	K	76	ASP
11	K	79	PHE
11	K	107	ASN
11	K	112	ASP
11	K	120	SER
11	K	125	SER
11	K	127	ILE
11	K	131	THR
12	L	7	ASP
12	L	10	GLN
12	L	49	LEU
12	L	98	VAL
13	M	30	ARG
13	M	35	ARG
13	M	80	ASP
13	M	117	GLU
14	N	38	VAL
14	N	46	LEU
14	N	68	ARG
14	N	81	ARG
14	N	87	MET
14	N	93	ARG
14	N	99	ARG
14	N	164	THR
15	O	26	LEU
15	O	127	LEU
15	O	128	ASP
15	O	152	GLU
15	O	163	PHE
16	P	3	THR
16	P	28	ASP
17	Q	52	LYS
17	Q	81	LYS
17	Q	91	LYS
17	Q	98	ILE
18	R	11	ARG
18	R	16	ASN

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Mol	Chain	Res	Type
18	R	57	ASP
18	R	95	GLU
19	S	13	THR
19	S	39	THR
19	S	82	GLU
19	S	132	ARG
20	T	10	VAL
20	T	80	ARG
21	U	39	ASN
21	U	48	VAL
21	U	73	HIS
22	V	9	CYS
22	V	32	CYS
24	X	4	LEU
24	X	26	ILE
24	X	35	VAL
24	X	52	VAL
24	X	73	LEU
24	X	122	ARG
24	X	142	ASP
24	X	146	ILE
24	X	154	ARG
25	Y	15	ARG
25	Y	27	ASP
25	Y	44	ASP
25	Y	52	PRO
25	Y	72	VAL
26	Z	115	ARG
26	Z	154	ARG
26	Z	163	THR
26	Z	172	THR
26	Z	186	ARG
26	Z	189	ASN
26	Z	200	THR
26	Z	203	VAL
26	Z	231	PRO
26	Z	235	GLU
27	1	11	THR
27	1	32	LYS
27	1	42	CYS
27	1	49	ARG
27	1	60	CYS

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Mol	Chain	Res	Type
27	1	64	ILE
27	1	68	CYS
29	3	18	ASN
30	4	14	CYS
30	4	34	LYS
30	4	38	ARG
30	4	42	ARG
30	4	56	PRO
30	4	74	CYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (95) such sidechains are listed below:

Mol	Chain	Res	Type
3	C	47	HIS
3	C	92	ASN
3	C	127	GLN
3	C	199	HIS
4	D	27	ASN
4	D	145	HIS
4	D	191	ASN
4	D	221	GLN
4	D	238	ASN
4	D	256	GLN
4	D	260	HIS
4	D	332	ASN
5	E	2	GLN
5	E	39	GLN
5	E	129	HIS
5	E	163	HIS
6	F	85	GLN
6	F	103	ASN
6	F	133	ASN
7	G	106	ASN
7	G	143	GLN
9	I	17	GLN
9	I	64	ASN
10	J	8	ASN
10	J	35	ASN
10	J	55	GLN
10	J	58	HIS
10	J	59	ASN
10	J	69	ASN

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Mol	Chain	Res	Type
10	J	74	ASN
10	J	80	ASN
10	J	91	HIS
10	J	129	ASN
10	J	130	HIS
10	J	137	ASN
10	J	166	ASN
11	K	52	GLN
11	K	107	ASN
12	L	10	GLN
13	M	18	HIS
13	M	41	HIS
13	M	58	GLN
13	M	116	HIS
14	N	26	HIS
14	N	58	GLN
14	N	89	ASN
14	N	176	GLN
15	O	107	ASN
15	O	153	GLN
17	Q	50	GLN
17	Q	66	GLN
17	Q	73	HIS
17	Q	118	GLN
18	R	40	HIS
19	S	61	GLN
19	S	94	ASN
19	S	98	ASN
19	S	113	HIS
19	S	117	HIS
19	S	123	GLN
20	T	9	HIS
20	T	53	ASN
21	U	39	ASN
21	U	43	ASN
21	U	73	HIS
22	V	39	ASN
22	V	48	ASN
23	W	60	GLN
24	X	12	ASN
24	X	27	HIS
24	X	28	HIS

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Mol	Chain	Res	Type
24	X	31	HIS
24	X	87	HIS
24	X	110	GLN
24	X	119	HIS
24	X	125	HIS
24	X	141	HIS
25	Y	23	HIS
26	Z	133	HIS
26	Z	134	HIS
26	Z	149	GLN
26	Z	189	ASN
27	1	70	GLN
28	2	8	GLN
28	2	16	HIS
28	2	28	HIS
29	3	16	ASN
29	3	18	ASN
29	3	37	HIS
29	3	41	HIS
29	3	45	ASN
30	4	13	HIS
30	4	17	HIS
30	4	30	GLN
30	4	48	ASN

5.3.3 RNA (i)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	A	2747/2922 (94%)	248 (9%)	38 (1%)
2	B	121/122 (99%)	14 (11%)	4 (3%)
All	All	2868/3044 (94%)	262 (9%)	42 (1%)

All (262) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	A	11	A
1	A	31	C
1	A	60	A
1	A	67	A
1	A	69	A
1	A	70	A

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Mol	Chain	Res	Type
1	A	71	G
1	A	87	C
1	A	88	G
1	A	114	A
1	A	115	U
1	A	120	A
1	A	130	C
1	A	139	C
1	A	141	C
1	A	151	A
1	A	166	A
1	A	169	A
1	A	186	A
1	A	191	A
1	A	192	A
1	A	200	U
1	A	219	G
1	A	237	G
1	A	271	C
1	A	272	A
1	A	273	G
1	A	283	U
1	A	284	C
1	A	285	A
1	A	308	U
1	A	309	C
1	A	317	A
1	A	318	C
1	A	336	G
1	A	337	A
1	A	345	G
1	A	358	G
1	A	381	G
1	A	397	A
1	A	417	G
1	A	461	C
1	A	487	G
1	A	498	A
1	A	510	U
1	A	511	A
1	A	514	G
1	A	537	G

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Mol	Chain	Res	Type
1	A	538	C
1	A	539	G
1	A	542	A
1	A	545	G
1	A	553	G
1	A	559	U
1	A	581	G
1	A	588	G
1	A	604	G
1	A	620	A
1	A	632	A
1	A	644	G
1	A	660	A
1	A	688	A
1	A	701	U
1	A	705	C
1	A	717	C
1	A	759	C
1	A	777	U
1	A	809	G
1	A	821	U
1	A	835	U
1	A	840	U
1	A	857	A
1	A	858	U
1	A	868	G
1	A	869	G
1	A	871	G
1	A	872	U
1	A	875	A
1	A	877	G
1	A	878	G
1	A	882	A
1	A	884	C
1	A	885	G
1	A	898	G
1	A	905	C
1	A	920	C
1	A	921	G
1	A	923	A
1	A	953	G
1	A	960	G

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Mol	Chain	Res	Type
1	A	961	A
1	A	1006	A
1	A	1008	C
1	A	1029	U
1	A	1045	G
1	A	1059	G
1	A	1060	C
1	A	1072	G
1	A	1081	A
1	A	1088	A
1	A	1109	U
1	A	1110	G
1	A	1119	G
1	A	1130	U
1	A	1137	G
1	A	1162	G
1	A	1164	U
1	A	1165	G
1	A	1166	A
1	A	1171	A
1	A	1174	A
1	A	1175	G
1	A	1177	A
1	A	1185	U
1	A	1192	A
1	A	1193	A
1	A	1206	U
1	A	1208	C
1	A	1216	G
1	A	1237	U
1	A	1238	C
1	A	1239	G
1	A	1279	U
1	A	1287	A
1	A	1289	C
1	A	1342	C
1	A	1353	C
1	A	1360	C
1	A	1377	C
1	A	1406	A
1	A	1407	A
1	A	1451	C

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Mol	Chain	Res	Type
1	A	1474	C
1	A	1485	A
1	A	1505	U
1	A	1506	U
1	A	1524	U
1	A	1525	G
1	A	1526	A
1	A	1528	A
1	A	1564	C
1	A	1580	A
1	A	1592	G
1	A	1617	C
1	A	1625	U
1	A	1626	A
1	A	1633	C
1	A	1634	G
1	A	1656	A
1	A	1667	A
1	A	1682	A
1	A	1684	A
1	A	1685	A
1	A	1692	C
1	A	1701	A
1	A	1722	U
1	A	1723	G
1	A	1725	C
1	A	1731	C
1	A	1752	G
1	A	1778	A
1	A	1779	A
1	A	1798	C
1	A	1820	G
1	A	1829	A
1	A	1856	C
1	A	1857	A
1	A	1879	U
1	A	1904	A
1	A	1919	A
1	A	1942	A
1	A	1971	G
1	A	1973	A
1	A	1974	G

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Mol	Chain	Res	Type
1	A	1978	A
1	A	1979	G
1	A	1980	U
1	A	1996	U
1	A	2006	C
1	A	2008	U
1	A	2011	A
1	A	2012	U
1	A	2013	G
1	A	2033	G
1	A	2034	U
1	A	2064	U
1	A	2072	G
1	A	2073	G
1	A	2074	A
1	A	2096	A
1	A	2101	A
1	A	2102	G
1	A	2103	A
1	A	2110	G
1	A	2238	A
1	A	2258	A
1	A	2271	G
1	A	2272	G
1	A	2317	C
1	A	2321	A
1	A	2346	C
1	A	2354	A
1	A	2361	A
1	A	2369	A
1	A	2422	U
1	A	2462	G
1	A	2466	G
1	A	2467	A
1	A	2469	A
1	A	2476	C
1	A	2480	G
1	A	2483	A
1	A	2507	G
1	A	2511	A
1	A	2533	C
1	A	2537	G

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Mol	Chain	Res	Type
1	A	2541	U
1	A	2553	A
1	A	2564	G
1	A	2589	U
1	A	2601	A
1	A	2602	G
1	A	2608	C
1	A	2613	G
1	A	2638	G
1	A	2649	A
1	A	2664	A
1	A	2681	A
1	A	2682	C
1	A	2726	U
1	A	2747	C
1	A	2748	G
1	A	2749	U
1	A	2750	G
1	A	2762	C
1	A	2768	A
1	A	2786	G
1	A	2792	A
1	A	2800	A
1	A	2811	A
1	A	2812	A
1	A	2825	C
1	A	2850	C
1	A	2876	G
1	A	2890	A
1	A	2896	A
1	A	2903	C
1	A	2914	A
2	B	3002	U
2	B	3003	A
2	B	3014	G
2	B	3022	G
2	B	3024	U
2	B	3041	C
2	B	3043	G
2	B	3044	A
2	B	3052	A
2	B	3057	A

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Mol	Chain	Res	Type
2	B	3066	G
2	B	3077	A
2	B	3114	G
2	B	3122	C

All (42) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	A	10	U
1	A	69	A
1	A	129	A
1	A	284	C
1	A	338	C
1	A	603	A
1	A	644	G
1	A	699	C
1	A	716	G
1	A	834	G
1	A	857	A
1	A	871	G
1	A	877	G
1	A	898	G
1	A	1080	C
1	A	1164	U
1	A	1237	U
1	A	1246	A
1	A	1352	A
1	A	1377	C
1	A	1450	C
1	A	1474	C
1	A	1563	G
1	A	1667	A
1	A	1685	A
1	A	1856	C
1	A	1942	A
1	A	1979	G
1	A	2005	G
1	A	2011	A
1	A	2313	C
1	A	2466	G
1	A	2467	A
1	A	2526	C

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Mol	Chain	Res	Type
1	A	2649	A
1	A	2718	C
1	A	2761	A
1	A	2791	U
2	B	3023	U
2	B	3065	A
2	B	3103	A
2	B	3113	C

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

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

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

Of 232 ligands modelled in this entry, 231 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	$\#\|Z\| > 2$
31	VIR	A	9403	-	34,40,40	2.51	16 (47%)	36,55,55	2.42	11 (30%)

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
31	VIR	A	9403	-	-	11/42/58/58	0/2/3/3

All (16) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
31	A	9403	VIR	C28-C29	-7.33	1.15	1.32
31	A	9403	VIR	C4-N5	4.21	1.53	1.47
31	A	9403	VIR	C28-C26	3.53	1.55	1.48
31	A	9403	VIR	C17-C19	-3.49	1.46	1.50
31	A	9403	VIR	C13-C10	-3.33	1.44	1.50
31	A	9403	VIR	C34-C33	3.31	1.64	1.52
31	A	9403	VIR	C13-C14	-3.22	1.46	1.52
31	A	9403	VIR	C1-C37	-3.10	1.38	1.48
31	A	9403	VIR	C30-C32	2.84	1.61	1.54
31	A	9403	VIR	O36-C32	2.76	1.49	1.44
31	A	9403	VIR	C26-N25	2.69	1.40	1.34
31	A	9403	VIR	C16-C17	-2.68	1.50	1.54
31	A	9403	VIR	O15-C14	2.44	1.25	1.21
31	A	9403	VIR	C1-N5	2.41	1.42	1.39
31	A	9403	VIR	C21-C20	2.05	1.55	1.50
31	A	9403	VIR	O38-C37	2.03	1.25	1.21

All (11) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
31	A	9403	VIR	C28-C26-N25	-6.11	103.44	114.97
31	A	9403	VIR	C8-C6-N5	-6.09	110.64	118.48
31	A	9403	VIR	O27-C26-C28	5.60	135.79	123.03
31	A	9403	VIR	C4-N5-C6	5.39	126.88	118.83
31	A	9403	VIR	O36-C37-C1	3.31	114.56	110.53
31	A	9403	VIR	O7-C6-N5	3.17	125.35	120.19
31	A	9403	VIR	O7-C6-C8	2.55	123.92	119.00
31	A	9403	VIR	C30-C29-C28	2.31	132.74	126.44
31	A	9403	VIR	C31-C30-C32	2.24	115.25	111.11
31	A	9403	VIR	C32-C30-C29	-2.22	102.34	109.52
31	A	9403	VIR	C22-C20-C19	-2.02	112.77	119.42

There are no chirality outliers.

All (11) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
31	A	9403	VIR	C14-C16-C17-O18
31	A	9403	VIR	N5-C1-C37-O38
31	A	9403	VIR	N5-C1-C37-O36
31	A	9403	VIR	C14-C16-C17-C19
31	A	9403	VIR	C10-C13-C14-O15

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Mol	Chain	Res	Type	Atoms
31	A	9403	VIR	C8-C6-N5-C1
31	A	9403	VIR	C2-C1-C37-O38
31	A	9403	VIR	O7-C6-N5-C4
31	A	9403	VIR	C10-C13-C14-C16
31	A	9403	VIR	C28-C29-C30-C31
31	A	9403	VIR	C2-C1-C37-O36

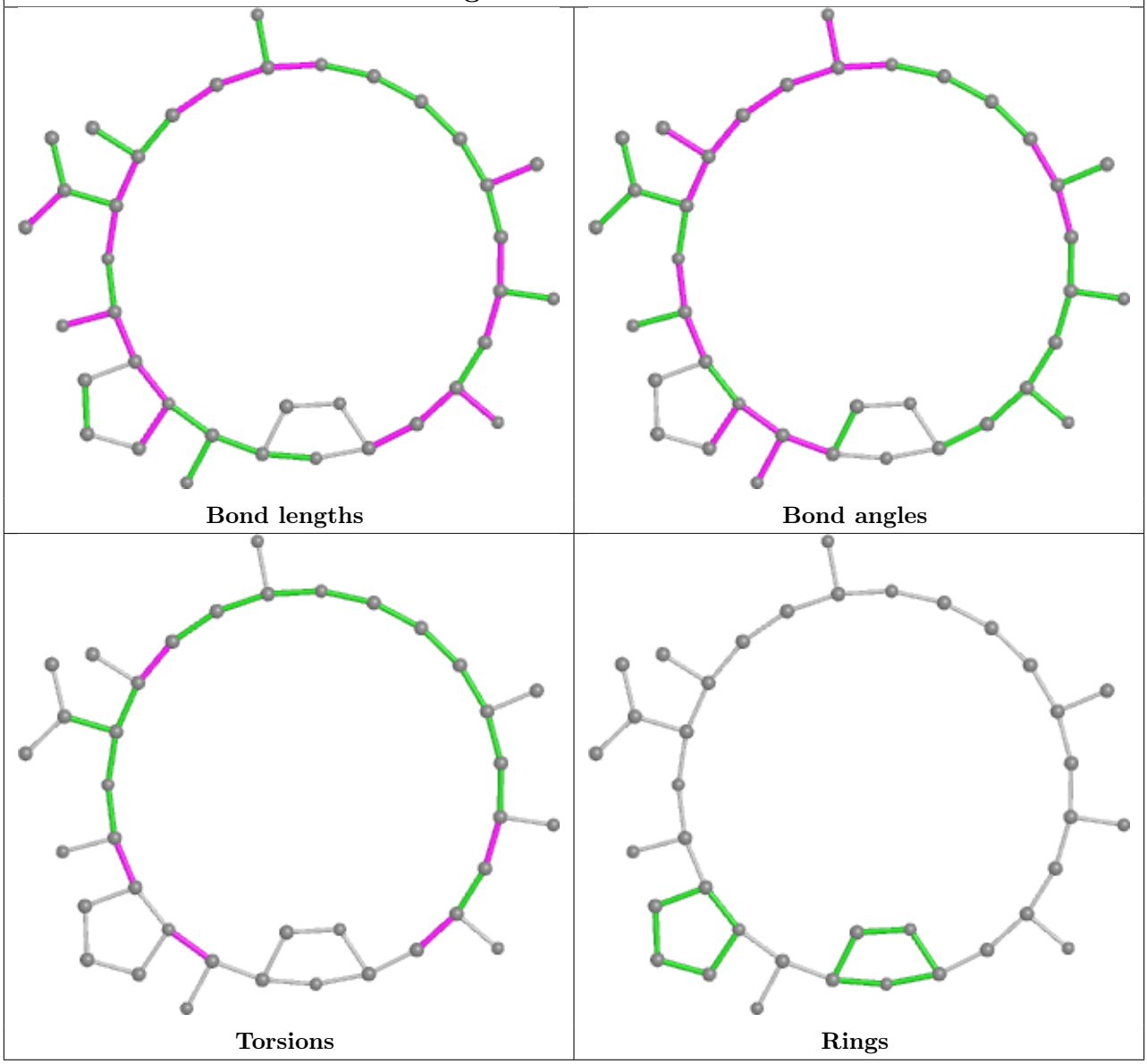
There are no ring outliers.

1 monomer is involved in 3 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
31	A	9403	VIR	3	0

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

Ligand VIR A 9403



5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

6 Fit of model and data (i)

6.1 Protein, DNA and RNA chains (i)

EDS was not executed - this section is therefore empty.

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

EDS was not executed - this section is therefore empty.

6.3 Carbohydrates (i)

EDS was not executed - this section is therefore empty.

6.4 Ligands (i)

EDS was not executed - this section is therefore empty.

6.5 Other polymers (i)

EDS was not executed - this section is therefore empty.