Full wwPDB X-ray Structure Validation Report (i)

Aug 22, 2023 – 12:35 PM EDT

PDB ID	:	2RKJ
Title	:	Cocrystal structure of a tyrosyl-tRNA synthetase splicing factor with a group I intron RNA
Authors	:	Paukstelis, P.J.; Chen, J.-H.; Chase, E.; Lambowitz, A.M.; Golden, B.L.
Deposited on	:	2007-10-16
Resolution	:	4.50 Å(reported)

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

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

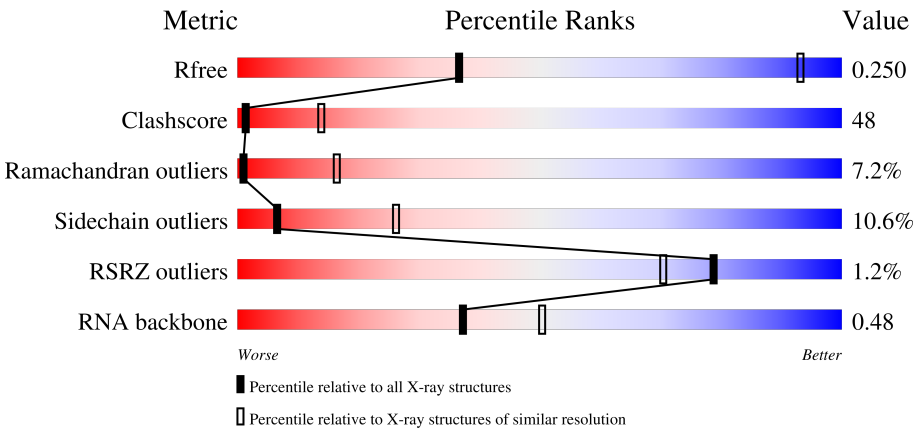
MolProbity	:	4.02b-467
Xtriage (Phenix)	:	1.13
EDS	:	2.35
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.35

1 Overall quality at a glance (i)

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

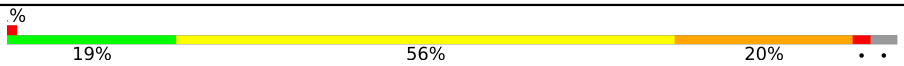
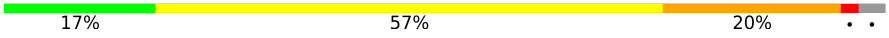
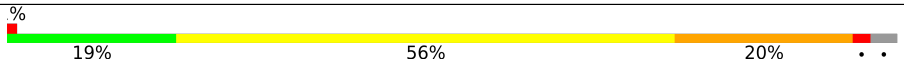
The reported resolution of this entry is 4.50 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	1055 (5.20-3.80)
Clashscore	141614	1123 (5.20-3.80)
Ramachandran outliers	138981	1069 (5.20-3.80)
Sidechain outliers	138945	1050 (5.20-3.80)
RSRZ outliers	127900	1101 (5.30-3.70)
RNA backbone	3102	1063 (6.00-3.00)

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% The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	C	246	
1	G	246	
1	K	246	
1	O	246	

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Mol	Chain	Length	Quality of chain
2	D	4	75% 25%
2	H	4	75% 25%
2	L	4	25% 50% 25%
2	P	4	75% 25%
3	A	392	.% 27% 57% 9% • 6%
3	B	392	.% 30% 52% 11% • 6%
3	E	392	2% 25% 58% 10% • 6%
3	F	392	2% 30% 52% 11% • 6%
3	I	392	3% 26% 57% 10% • 6%
3	J	392	.% 30% 52% 11% • 6%
3	M	392	.% 26% 58% 9% • 6%
3	N	392	.% 30% 51% 11% • 6%

2 Entry composition (i)

There are 3 unique types of molecules in this entry. The entry contains 44328 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a RNA chain called RNA (238-MER).

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

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

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

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

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

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

There are 8 discrepancies between the modelled and reference sequences:

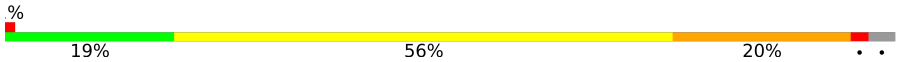
Chain	Residue	Modelled	Actual	Comment	Reference
A	32	MET	-	initiating methionine	UNP P12063
B	32	MET	-	initiating methionine	UNP P12063
E	32	MET	-	initiating methionine	UNP P12063
F	32	MET	-	initiating methionine	UNP P12063
I	32	MET	-	initiating methionine	UNP P12063
J	32	MET	-	initiating methionine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

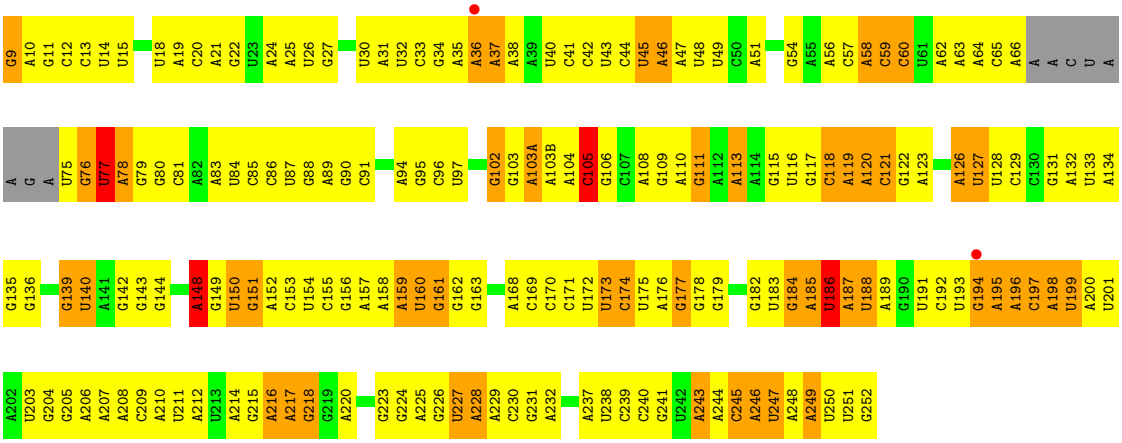
3 Residue-property plots (i)

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 and electron density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red dot above a residue indicates a poor fit to the electron density (RSRZ > 2). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

- Molecule 1: RNA (238-MER)

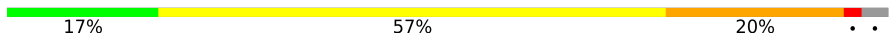
Chain C:

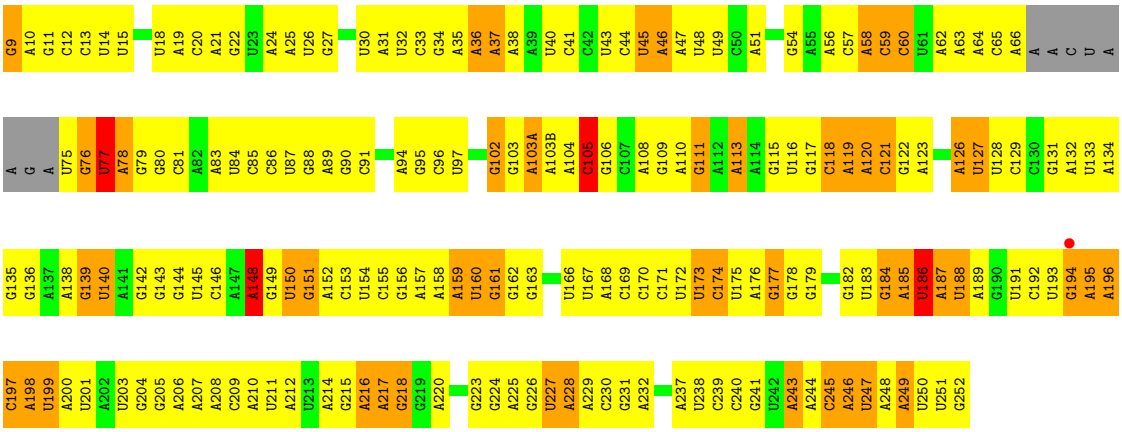




- Molecule 1: RNA (238-MER)

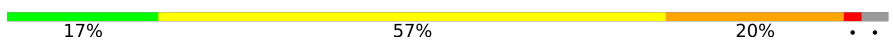
Chain G:

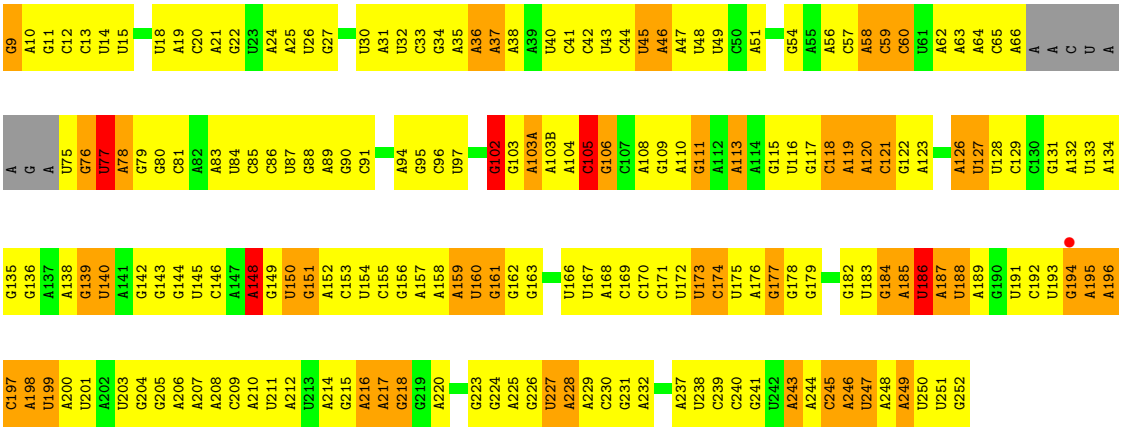




- Molecule 1: RNA (238-MER)

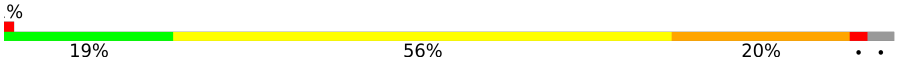
Chain K:

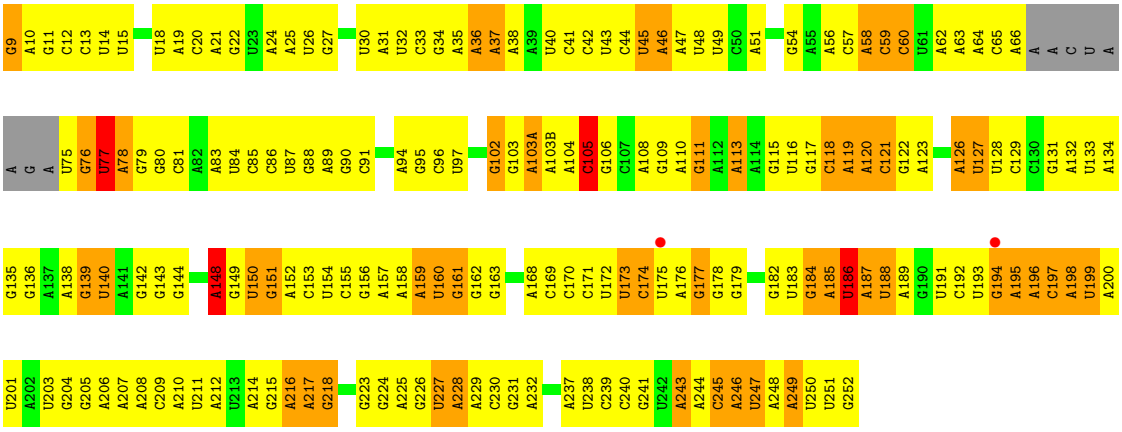




• Molecule 1: RNA (238-MER)

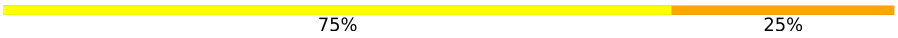
Chain O:





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

Chain D:

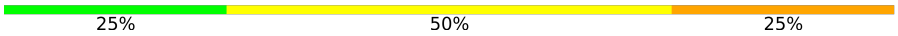


• Molecule 2: RNA (5'-R(P*GP*CP*UP*U)-3')

Chain H:

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

Chain L:



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

Chain P: 75% 25%

G1 C2 U3 U4

• Molecule 3: Tyrosyl-tRNA synthetase

Chain A: % 27% 57% 9% • 6%

MET LEU ARG ARG GLU PHE GLY P39 K40 Y41 T42 A43 K44 E47 A48 E49 Q53 A54 R55 A56 E57 A58 I59 K60 K61 G62 K63 K64 Q65 N66 T67 W68 D69 L70 F71 E72 E73 R74 K78 D79 G82 T83 K84 E85 H86 I87 A88 E89 L90 M91 R92 T93 R94 R95 I96 G97

A98 Y99 V100 G101 I102 D103 P104 S108 L109 H110 V111 L114 L115 P116 L117 M118 F121 W122 M123 Y124 L125 E126 G127 Y128 K129 A130 F131 T132 L133 I134 G135 G136 S137 T138 A139 K140 I141 G142 D143 P144 T145 G146 ARG LEU LYS SER ARG ASP HIS LEU SER SER SER D158 N162 M163

T164 K165 I166 H167 Y168 Q169 L170 K171 K172 L173 W174 E175 N176 V177 D178 T179 Q180 M181 R182 A183 R184 G185 Y186 D189 R192 K193 R194 G195 I196 V197 N198 N199 N200 H201 W202 W203 N204 K205 Q206 P207 M208 L209 E210 V211 L212 R213 R214 V215 G216 R220 I221 G222 P223 M224 L225 S226 R227

D228 T229 V230 K231 N232 K233 M234 D238 G239 V240 S241 F242 A243 E244 F245 T246 Y247 P248 I249 M250 Q251 G252 W253 F256 E257 L258 F259 Y260 Q261 Q262 G263 V264 Q265 M266 Q267 I268 G269 G270 S271 D272 Q273 Y274 I277 I278 S279 G280 L281 E282 V283 V284 K285 R288 E289 S290 E291 P292

D293 P294 Q295 E296 R297 K298 Y299 V300 T301 P302 K303 T304 A305 L306 D307 E308 C309 V310 T313 L316 L317 T318 D319 S320 S321 G322 A323 K324 F325 G326 K327 G330 N331 A332 I333 W334 L335 D336 T340 S341 V342 F343 D344 F345 Y346 G347 Y348 F349 V350 R351 R352 S353 D354 Q355 E356 V357

E358 N359 L360 L361 K362 L363 F364 T365 F366 M367 P368 I369 S370 E371 I372 T373 K374 E377 E378 H379 I380 K381 D382 P383 S384 K385 R386 V387 A388 Q389 H390 T391 L392 V397 T398 L399 V400 H401 G402 K403 Q404 E405 A406 S407 A408 A409 E410 D411 Q412 H413 R414 M415 M416 TYR THR GLY GLN MET

THR ILE

• Molecule 3: Tyrosyl-tRNA synthetase

Chain B: % 30% 52% 11% • 6%

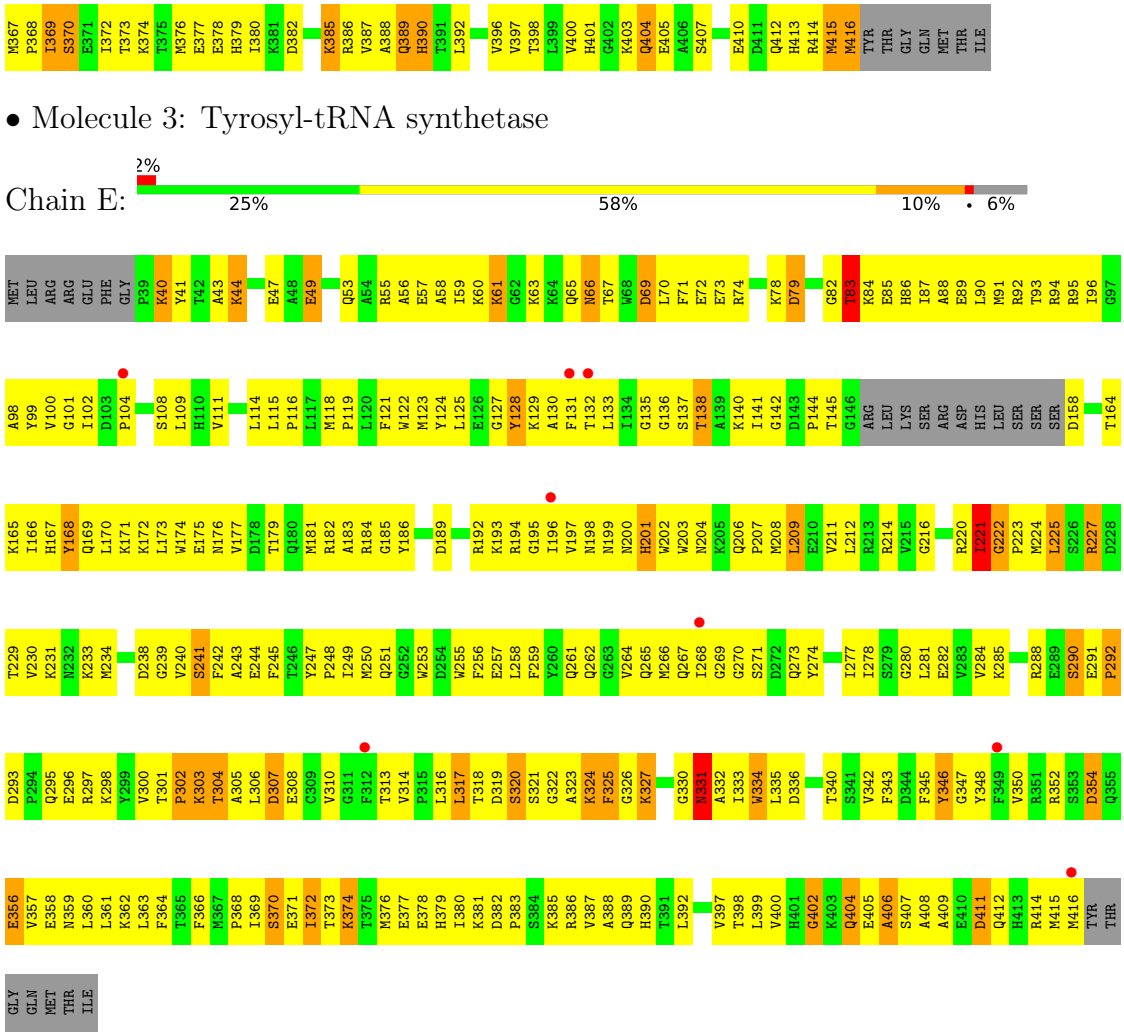
MET LEU ARG ARG GLU PHE GLY P39 K40 Y41 T42 A43 K44 I45 N46 E49 W52 Q53 E57 A58 I59 K60 K61 G62 K63 K64 Q65 N66 T67 W68 D69 L70 F71 E72 E73 R74 G75 Y76 V77 K78 D79 T83 K84 E85 H86 I87 R94 R95 I96 G97 A98 Y99 D103 P104

P107 S108 L109 H110 V111 G112 H113 L114 L115 P116 L117 M118 P119 L120 F121 W122 M123 Y124 L125 E126 K129 A130 F131 T132 L133 I134 G135 G136 S137 T138 A139 K140 I141 G146 ARG LEU LYS SER ARG ASP HIS LEU SER SER SER D158 A159 T160 M161 N162 M163 T164 K165 I166 H167 Q168

L170 K171 K172 L173 W174 E175 N176 V177 D178 T179 Q180 M181 R182 A183 R184 G185 Y186 E187 A188 D189 W190 A191 R192 K193 N198 N199 N200 H201 W202 W203 Q206 P207 M208 L209 E210 V211 L212 R213 R214 V215 G216 H217 A218 L219 R220 I221 G222 P223 M224 L225 S226 R227 D228 T229 V230 K231 N232 K233

M234 T235 Q236 V240 S241 F242 A243 E244 F245 T246 Y247 P248 I249 M250 Q251 G252 W253 D254 W255 F256 E257 Y260 Q261 Q262 Q265 M266 Q267 I268 S271 D272 Q273 Y274 G275 N276 I277 L281 E282 V283 V284 K285 A286 A287 R288 E289 S290 E291 P292 D293 P294 Q295 E296 R297 K298 Y299 V300

T301 P302 D307 E308 C309 V310 T313 V314 P315 T318 D319 S320 S321 K324 F325 G326 K327 S328 A329 G330 N331 A332 I333 W334 L335 D336 P337 Y338 Q339 T340 S341 V342 F343 D344 F345 Y346 G347 Y348 F349 V350 R351 R352 S353 D354 Q355 E356 V357 E358 N359 L360 L361 K362 L363 F364 T365 F366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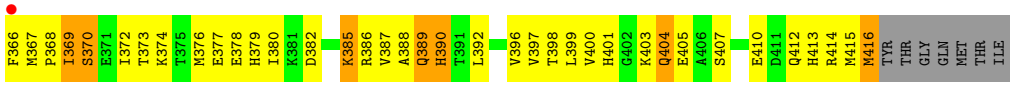
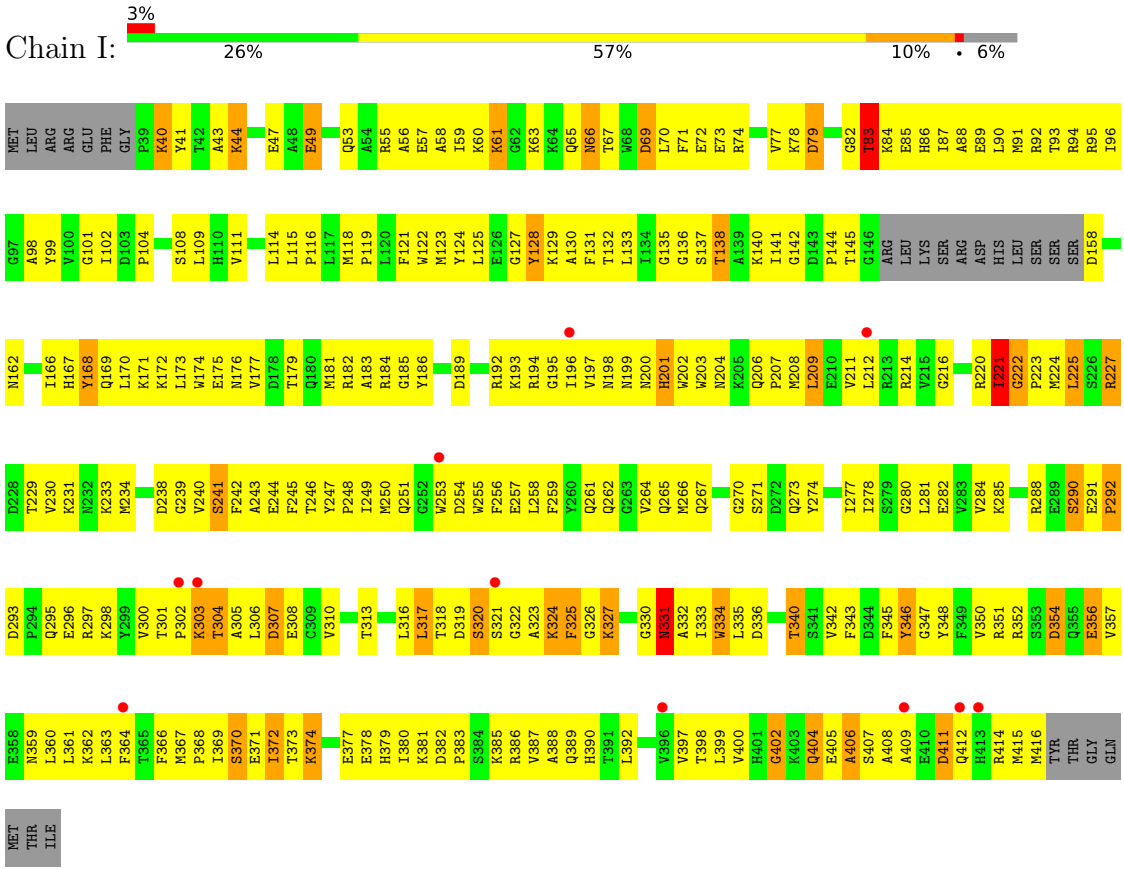
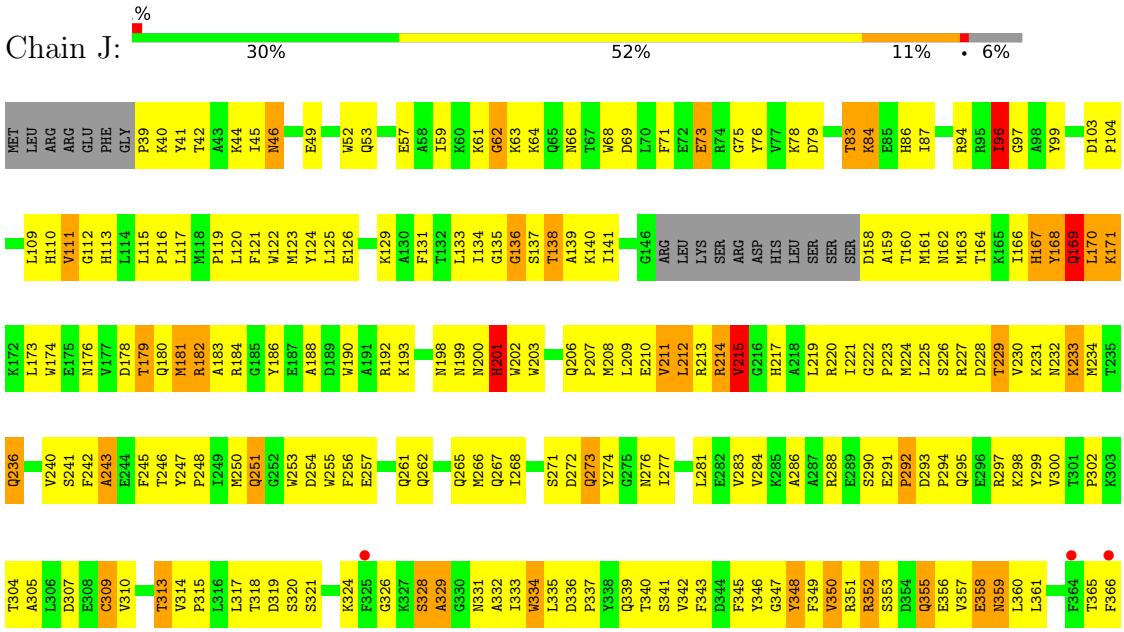
• Molecule 3: Tyrosyl-tRNA synthetase
Chain E:
2%
25%
58%
10%
6%
MET LEU ARG ARG GLU PHE GLY P39 K40 Y41 T42 A43 K44 E47 A48 E49 Q53 A54 R55 A56 E57 A58 I59 K60 K61 G62 K63 K64 Q65 N66 T67 W68 D69 L70 F71 E72 E73 R74 K78 D79 G82 T83 K84 E85 H86 I87 A88 E89 L90 M91 R92 T93 R94 R95 I96 G97
A98 Y99 V100 G101 I102 D103 P104 S108 L109 H110 V111 L114 L115 P116 L117 M118 P119 L120 F121 W122 M123 Y124 L125 E126 G127 Y128 K129 A130 F131 T132 L133 I134 G135 G136 S137 T138 A139 K140 I141 G142 D143 P144 T145 G146 ARG LEU LYS SER ARG ASP HIS LEU SER SER SER D158 T164
K165 I166 H167 Y168 G169 L170 K171 K172 L173 W174 E175 N176 V177 D178 T179 Q180 M181 R182 A183 R184 G185 Y186 D189 R192 K193 R194 G195 I196 V197 N198 N199 N200 H201 W202 W203 N204 K205 Q206 P207 M208 L209 E210 V211 L212 R213 R214 V215 G216 R220 I221 G222 P223 M224 L225 S226 R227 D228
T229 V230 K231 N232 K233 M234 D238 G239 V240 S241 F242 A243 E244 F245 T246 Y247 P248 I249 M250 Q251 G252 W253 D254 W255 F256 E257 L258 F259 Y260 Q261 Q262 G263 V264 Q265 M266 Q267 I268 G269 G270 S271 D272 Q273 Y274 I277 I278 S279 G280 L281 E282 V283 V284 K285 R288 E289 S290 E291 P292
D293 P294 Q295 E296 R297 K298 Y299 V300 T301 P302 K303 T304 A305 L306 D307 E308 C309 V310 G311 F312 T313 V314 P315 L316 L317 T318 D319 S320 S321 G322 A323 K324 F325 G326 K327 G330 N331 A332 I333 W334 L335 D336 T340 S341 V342 F343 D344 F345 Y346 G347 Y348 F349 V350 R351 R352 S353 D354 Q355
E356 V357 E358 N359 L360 L361 K362 L363 F364 T365 F366 M367 P368 I369 S370 E371 I372 T373 K374 T375 M376 E377 E378 H379 I380 K381 D382 P383 S384 K385 R386 V387 A388 Q389 H390 T391 L392 V397 T398 L399 V400 H401 G402 K403 Q404 E405 A406 S407 A408 A409 E410 D411 Q412 H413 R414 M415 M416 TYR THR
GLY GLN MET THR ILE
• Molecule 3: Tyrosyl-tRNA synthetase
Chain F:
2%
30%
52%
11%
6%
MET LEU ARG ARG GLU PHE GLY P39 K40 Y41 T42 A43 K44 I45 N46 E49 W52 Q53 E57 A58 I59 K60 K61 G62 K63 K64 Q65 N66 T67 W68 D69 L70 F71 E72 E73 R74 G75 Y76 W77 K78 D79 T83 K84 E85 H86 I87 R94 R95 I96 G97 A98 Y99 D103 P104
S108 L109 H110 V111 G112 H113 L114 L115 P116 L117 L120 F121 W122 M123 Y124 L125 E126 K129 A130 F131 T132 L133 I134 G135 G136 S137 T138 A139 K140 I141 G146 ARG LEU LYS SER ARG ASP HIS LEU SER SER SER D158 A159 T160 M161 N162 M163 T164 K165 T166 H167 Y168 Q169 L170 K171
K172 L173 W174 E175 N176 V177 D178 T179 Q180 M181 R182 A183 R184 G185 Y186 E187 A188 D189 W190 A191 R192 K193 N198 N199 N200 H201 W202 W203 Q206 P207 M208 L209 E210 Y211 L212 R213 R214 V215 G216 H217 A218 L219 R220 I221 G222 P223 M224 L225 S226 R227 D228 T229 V230 K231 N232 K233 M234 T235
Q236 V240 S241 F242 A243 E244 F245 T246 Y247 P248 I249 M250 Q251 G252 W253 D254 W255 F256 E257 Q261 Q262 Q265 M266 Q267 I268 S271 D272 Q273 Y274 G275 N276 I277 L281 E282 V283 V284 K285 A286 A287 R288 E289 S290 E291 P292 D293 P294 Q295 E296 R297 K298 Y299 V300 T301 P302 K303
T304 A305 L306 D307 E308 C309 V310 G311 F312 T313 V314 P315 L316 L317 T318 D319 S320 S321 K324 F325 G326 K327 S328 A329 G330 N331 A332 I333 W334 L335 D336 P337 Y338 Q339 T340 S341 V342 F343 D344 F345 Y346 G347 Y348 F349 V350 R351 R352 S353 D354 Q355 E356 V357 E358 N359 L360 L361 F364 T365

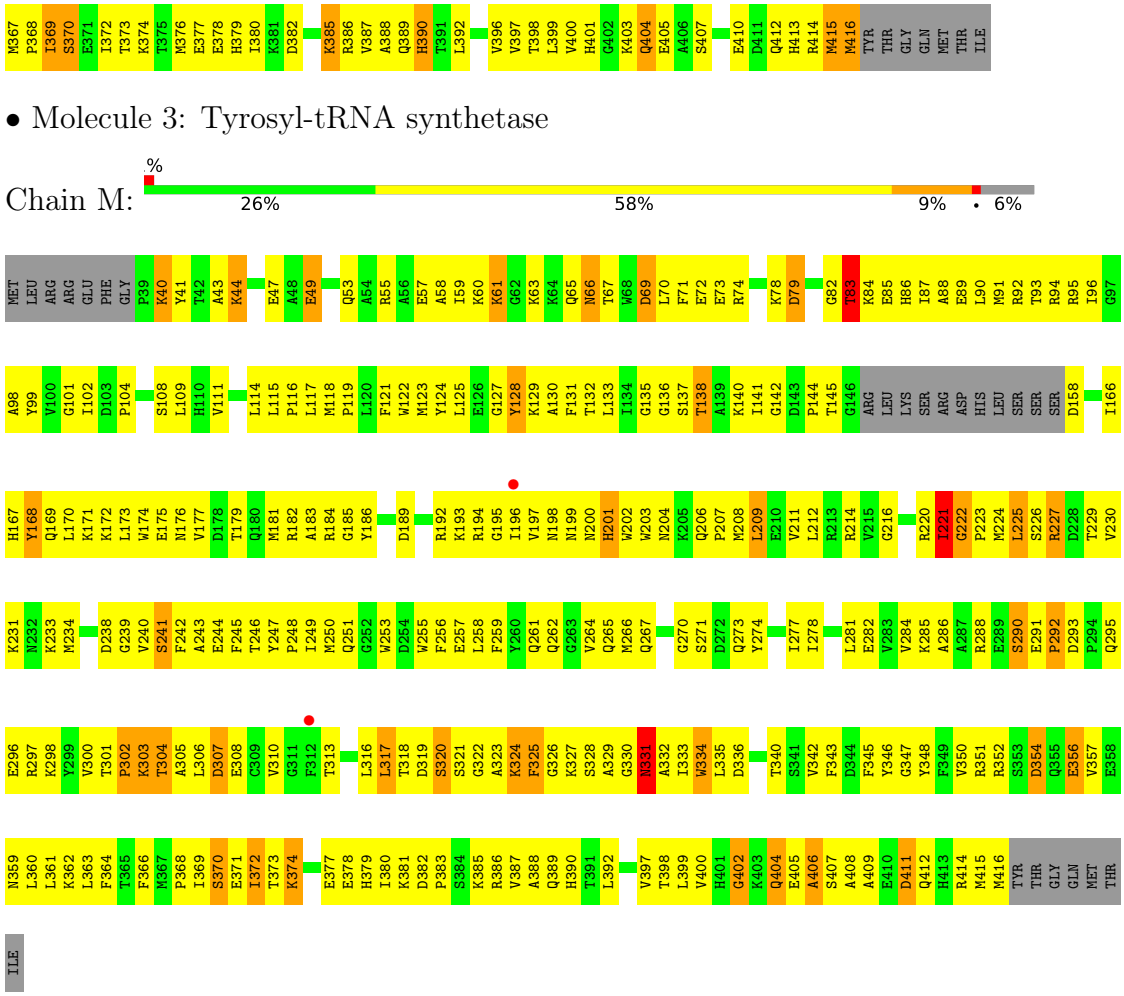


• Molecule 3: Tyrosyl-tRNA synthetase



• Molecule 3: Tyrosyl-tRNA synthetase




M367 P368 I369 S370 E371 I372 T373 K374 T375 M376 E377 E378 H379 I380 K381 D382 K385 R386 V387 A388 Q389 H390 T391 L392 V396 V397 T398 L399 V400 H401 G402 K403 Q404 E405 A406 S407 E410 D411 Q412 H413 R414 M415 M416 TYR THR GLY GLN MET THR ILE
• Molecule 3: Tyrosyl-tRNA synthetase
Chain M:
%
26%
58%
9%
6%
MET LEU ARG ARG GLU PHE GLY P39 K40 Y41 T42 A43 K44 E47 A48 E49 Q53 A54 R55 A56 E57 A58 I59 K60 K61 G62 K63 K64 Q65 N66 T67 W68 D69 L70 F71 E72 E73 R74 K78 D79 G82 T83 K84 E85 H86 I87 A88 E89 L90 M91 R92 T93 R94 R95 I96 G97
A98 Y99 V100 G101 I102 D103 P104 S108 L109 H110 V111 L114 L115 P116 L117 M118 P119 L120 F121 W122 M123 Y124 L125 E126 G127 Y128 K129 A130 F131 T132 L133 I134 G135 G136 S137 T138 A139 K140 I141 G146 ARG LEU LYS SER ARG ASP HIS LEU SER SER SER D158 I166
H167 Y168 Q169 L170 K171 K172 L173 W174 E175 N176 V177 D178 T179 Q180 M181 R182 A183 R184 G185 Y186 D189 R192 K193 R194 G195 I196 V197 N198 N199 N200 H201 W202 W203 N204 K205 Q206 P207 M208 L209 E210 V211 L212 R213 R214 V215 G216 R220 I221 G222 P223 M224 L225 S226 R227 D228 T229 V230
K231 M232 K233 M234 D238 G239 V240 S241 F242 A243 E244 F245 T246 Y247 P248 I249 M250 Q251 G252 W253 D254 W255 F256 E257 L258 F259 Y260 Q261 Q262 G263 V264 Q265 M266 Q267 G270 S271 D272 Q273 Y274 I277 I278 L281 E282 V283 V284 K285 A286 A287 R288 E289 S290 E291 P292 D293 P294 Q295
E296 R297 K298 Y299 V300 T301 P302 K303 T304 A305 L306 D307 E308 C309 V310 G311 F312 T313 L316 L317 T318 D319 S320 S321 G322 A323 K324 F325 G326 K327 S328 A329 G330 N331 A332 I333 W334 L335 D336 T340 S341 V342 F343 D344 F345 Y346 G347 Y348 F349 V350 R351 R352 S353 D354 Q355 E356 V357 E358
N359 L360 L361 K362 L363 F364 T365 F366 M367 P368 I369 S370 E371 T372 T373 K374 E377 E378 H379 I380 K381 D382 P383 S384 K385 R386 V387 A388 Q389 H390 T391 L392 V397 T398 L399 V400 H401 G402 K403 Q404 E405 A406 S407 A408 A409 E410 D411 Q412 H413 R414 M415 M416 TYR THR GLY GLN MET THR
ILE
• Molecule 3: Tyrosyl-tRNA synthetase
Chain N:
%
30%
51%
11%
6%
MET LEU ARG ARG GLU PHE GLY P39 K40 Y41 T42 A43 K44 I45 N46 E49 W52 Q53 E57 A58 I59 K60 K61 G62 K63 K64 Q65 N66 T67 W68 D69 L70 F71 E72 E73 R74 G75 Y76 V77 K78 D79 T83 K84 E85 H86 I87 R94 R95 I96 G97 A98 Y99 D103 P104
P107 S108 L109 H110 V111 G112 H113 L114 L115 P116 L117 M118 P119 L120 F121 W122 M123 Y124 L125 E126 K129 A130 F131 T132 L133 I134 G135 G136 S137 T138 A139 K140 I141 G146 ARG LEU LYS SER ARG ASP HIS LEU SER SER SER D158 A159 T160 M161 N162 M163 T164 K165 I166 H167 Y168 Q169
L170 K171 K172 L173 W174 E175 N176 V177 D178 T179 Q180 M181 R182 A183 R184 G185 Y186 E187 A188 D189 W190 A191 R192 K193 N198 N199 N200 H201 W202 W203 Q206 P207 M208 L209 E210 V211 L212 R213 R214 V215 G216 H217 A218 L219 R220 I221 G222 P223 M224 L225 S226 R227 D228 T229 V230 K231 N232 K233
M234 T235 Q236 V240 S241 F242 A243 E244 F245 T246 Y247 P248 I249 M250 Q251 G252 W253 D254 W255 F256 E257 Q261 Q262 Q265 M266 Q267 I268 S271 D272 Q273 Y274 G275 N276 I277 L281 E282 V283 V284 K285 A286 A287 R288 E289 S290 E291 P292 D293 P294 Q295 E296 R297 K298 Y299 V300 T301
P302 D307 E308 C309 V310 T313 V314 P315 T318 D319 S320 S321 K324 F325 G326 K327 S328 A329 G330 N331 A332 I333 W334 L335 D336 P337 Y338 Q339 T340 S341 V342 F343 D344 F345 Y346 G347 Y348 F349 V350 R351 R352 S353 D354 Q355 E356 V357 E358 N359 L360 L361 K362 L363 F364 T365 F366 M367

P368
I369
S370
E371
I372
T373
K374
T375
M376
E377
E378
H379
I380
K381
D382
K385
R386
V387
A388
Q389
H390
T391
L392
V396
V397
T398
L399
V400
H401
G402
K403
Q404
E405
A406
S407
E410
D411
Q412
H413
R414
M415
M416
TYR
THR
GLY
GLN
MET
THR
ILE

4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 1 2 1	Depositor
Cell constants a, b, c, α, β, γ	231.06Å 123.53Å 235.23Å 90.00° 90.26° 90.00°	Depositor
Resolution (Å)	47.88 – 4.50 49.47 – 4.47	Depositor EDS
% Data completeness (in resolution range)	83.3 (47.88-4.50) 82.1 (49.47-4.47)	Depositor EDS
R_{merge}	0.09	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	2.10 (at 4.45Å)	Xtriage
Refinement program	CNS 1.2	Depositor
R, R_{free}	0.235 , 0.249 0.235 , 0.250	Depositor DCC
R_{free} test set	3334 reflections (5.04%)	wwPDB-VP
Wilson B-factor (Å^2)	167.2	Xtriage
Anisotropy	0.414	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.27 , 232.6	EDS
L-test for twinning[2]	$< \|L\| > = 0.48$, $< L^2 > = 0.31$	Xtriage
Estimated twinning fraction	0.247 for l,k,-h 0.388 for h,-k,-l 0.257 for l,-k,h	Xtriage
F_o,F_c correlation	0.91	EDS
Total number of atoms	44328	wwPDB-VP
Average B, all atoms (Å^2)	211.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.69% of the height of the origin peak. No significant pseudotranslation is detected.*

[1]Intensities estimated from amplitudes.

[2]Theoretical values of $< |L| >$, $< L^2 >$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality (i)

5.1 Standard geometry (i)

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#$\|Z\|$ >5	RMSZ	#$\|Z\|$ >5
1	C	0.62	1/5710 (0.0%)	0.81	2/8894 (0.0%)
1	G	0.62	1/5710 (0.0%)	0.81	2/8894 (0.0%)
1	K	0.68	5/5710 (0.1%)	0.83	6/8894 (0.1%)
1	O	0.62	1/5710 (0.0%)	0.80	2/8894 (0.0%)
2	D	1.05	1/92 (1.1%)	0.86	0/139
2	H	1.02	1/92 (1.1%)	0.86	1/139 (0.7%)
2	L	1.03	1/92 (1.1%)	0.87	1/139 (0.7%)
2	P	0.99	1/92 (1.1%)	0.84	0/139
3	A	0.48	0/3023	0.64	0/4083
3	B	0.48	0/3023	0.64	1/4083 (0.0%)
3	E	0.50	0/3023	0.64	0/4083
3	F	0.49	0/3023	0.65	1/4083 (0.0%)
3	I	0.49	0/3023	0.64	0/4083
3	J	0.49	0/3023	0.65	1/4083 (0.0%)
3	M	0.47	0/3023	0.64	0/4083
3	N	0.49	0/3023	0.64	1/4083 (0.0%)
All	All	0.57	12/47392 (0.0%)	0.74	18/68796 (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	C	0	9
1	G	0	9
1	K	0	9
1	O	0	9
All	All	0	36

All (12) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	K	105	C	P-OP2	8.61	1.63	1.49
1	K	9	G	OP3-P	-7.41	1.52	1.61
1	G	9	G	OP3-P	-7.30	1.52	1.61
1	O	9	G	OP3-P	-7.26	1.52	1.61
2	D	1	G	OP3-P	-7.17	1.52	1.61
1	K	102	G	C2-N3	7.07	1.38	1.32
2	P	1	G	OP3-P	-6.83	1.52	1.61
1	C	9	G	OP3-P	-6.75	1.53	1.61
2	L	1	G	OP3-P	-6.53	1.53	1.61
2	H	1	G	OP3-P	-6.52	1.53	1.61
1	K	106	G	C2-N3	-5.21	1.28	1.32
1	K	102	G	C5-C6	5.15	1.47	1.42

All (18) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	G	186	U	N1-C1'-C2'	6.62	122.60	114.00
1	O	186	U	N1-C1'-C2'	6.62	122.60	114.00
1	C	186	U	N1-C1'-C2'	6.45	122.38	114.00
1	K	186	U	N1-C1'-C2'	6.37	122.28	114.00
1	G	66	A	N9-C1'-C2'	6.21	122.07	114.00
1	K	66	A	N9-C1'-C2'	5.84	121.59	114.00
1	K	102	G	C3'-C2'-O2'	5.82	130.17	113.30
1	C	66	A	N9-C1'-C2'	5.69	121.40	114.00
1	O	66	A	N9-C1'-C2'	5.69	121.39	114.00
1	K	102	G	N3-C2-N2	5.54	123.78	119.90
3	F	416	MET	CG-SD-CE	5.44	108.91	100.20
1	K	102	G	N1-C2-N2	-5.32	111.41	116.20
3	J	416	MET	CG-SD-CE	5.30	108.68	100.20
2	L	1	G	OP1-P-OP2	-5.27	111.69	119.60
3	N	416	MET	CG-SD-CE	5.23	108.57	100.20
1	K	105	C	O5'-P-OP1	-5.21	101.02	105.70
3	B	416	MET	CG-SD-CE	5.15	108.45	100.20
2	H	1	G	OP1-P-OP2	-5.02	112.07	119.60

There are no chirality outliers.

All (36) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	C	102	G	Sidechain
1	C	105	C	Sidechain
1	C	148	A	Sidechain

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

5.2 Too-close contacts (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	C	5096	0	2564	305	0
1	G	5096	0	2564	303	0
1	K	5096	0	2564	315	0
1	O	5096	0	2564	307	0
2	D	84	0	43	9	0
2	H	84	0	43	9	0
2	L	84	0	43	8	0
2	P	84	0	43	9	0
3	A	2951	0	2903	341	0
3	B	2951	0	2903	312	0
3	E	2951	0	2903	337	0
3	F	2951	0	2903	320	0
3	I	2951	0	2903	342	0
3	J	2951	0	2903	312	0
3	M	2951	0	2903	343	0
3	N	2951	0	2903	318	0
All	All	44328	0	33652	3740	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 48.

All (3740) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:E:108:SER:HA	3:E:169:GLN:HE22	1.15	1.11
3:M:108:SER:HA	3:M:169:GLN:HE22	1.16	1.09
3:A:108:SER:HA	3:A:169:GLN:HE22	1.17	1.07
3:I:108:SER:HA	3:I:169:GLN:HE22	1.14	1.05
1:K:102:G:N2	1:K:105:C:N3	2.05	1.02
1:C:126:A:H1'	1:C:158:A:N1	1.74	1.01
1:O:126:A:H1'	1:O:158:A:N1	1.75	1.00
1:G:126:A:H1'	1:G:158:A:N1	1.76	1.00
1:G:216:A:H61	1:G:246:A:H5'	1.29	0.98
1:K:126:A:H1'	1:K:158:A:N1	1.78	0.98
1:K:229:A:C2	1:K:230:C:H5	1.83	0.97
1:O:160:U:O2	1:O:184:G:H2'	1.64	0.96
1:C:216:A:H61	1:C:246:A:H5'	1.28	0.96
3:A:141:ILE:HD12	3:A:243:ALA:HB1	1.48	0.96
1:K:105:C:OP2	1:K:105:C:C6	2.19	0.96
1:K:160:U:O2	1:K:184:G:H2'	1.65	0.96
3:M:319:ASP:HB2	3:M:352:ARG:NH1	1.81	0.96
1:C:160:U:O2	1:C:184:G:H2'	1.65	0.96

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:O:216:A:H61	1:O:246:A:H5'	1.28	0.96
3:A:319:ASP:HB2	3:A:352:ARG:NH1	1.81	0.95
1:K:126:A:H5'	1:K:127:U:OP1	1.67	0.95
3:I:319:ASP:HB2	3:I:352:ARG:NH1	1.81	0.95
3:M:141:ILE:HD12	3:M:243:ALA:HB1	1.49	0.95
1:K:216:A:H61	1:K:246:A:H5'	1.28	0.95
1:C:229:A:C2	1:C:230:C:H5	1.84	0.95
1:G:229:A:C2	1:G:230:C:H5	1.84	0.95
3:E:319:ASP:HB2	3:E:352:ARG:NH1	1.81	0.95
3:I:335:LEU:HD22	3:I:400:VAL:HG11	1.48	0.95
1:O:229:A:C2	1:O:230:C:H5	1.85	0.95
1:O:78:A:H2'	1:O:79:G:C8	2.02	0.94
3:I:141:ILE:HD12	3:I:243:ALA:HB1	1.50	0.94
1:K:78:A:H2'	1:K:79:G:C8	2.02	0.94
1:K:56:A:H2'	1:K:57:C:H5'	1.49	0.94
1:C:78:A:H2'	1:C:79:G:C8	2.02	0.94
1:O:56:A:H2'	1:O:57:C:H5'	1.48	0.94
1:O:126:A:H5'	1:O:127:U:OP1	1.67	0.94
3:N:138:THR:HG22	3:N:199:ASN:ND2	1.82	0.94
3:E:335:LEU:HD22	3:E:400:VAL:HG11	1.48	0.94
1:G:126:A:H5'	1:G:127:U:OP1	1.68	0.94
3:F:138:THR:HG22	3:F:199:ASN:ND2	1.83	0.93
1:C:216:A:N6	1:C:246:A:H5'	1.83	0.93
1:G:160:U:O2	1:G:184:G:H2'	1.67	0.93
1:G:216:A:N6	1:G:246:A:H5'	1.83	0.93
1:K:216:A:N6	1:K:246:A:H5'	1.83	0.93
1:O:216:A:N6	1:O:246:A:H5'	1.83	0.93
3:E:141:ILE:HD12	3:E:243:ALA:HB1	1.49	0.93
1:G:78:A:H2'	1:G:79:G:C8	2.04	0.93
3:B:335:LEU:HD22	3:B:400:VAL:HG11	1.49	0.93
1:C:56:A:H2'	1:C:57:C:H5'	1.49	0.93
1:C:126:A:H5'	1:C:127:U:OP1	1.69	0.93
3:B:138:THR:HG22	3:B:199:ASN:ND2	1.84	0.92
3:J:138:THR:HG22	3:J:199:ASN:ND2	1.83	0.92
3:F:369:ILE:O	3:F:372:ILE:HG22	1.69	0.91
3:J:335:LEU:HD22	3:J:400:VAL:HG11	1.50	0.91
1:G:56:A:H2'	1:G:57:C:H5'	1.50	0.91
3:J:369:ILE:O	3:J:372:ILE:HG22	1.70	0.91
3:F:140:LYS:O	3:F:141:ILE:HD13	1.70	0.91
3:F:335:LEU:HD22	3:F:400:VAL:HG11	1.52	0.89
3:M:335:LEU:HD22	3:M:400:VAL:HG11	1.53	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:335:LEU:HD22	3:A:400:VAL:HG11	1.53	0.89
3:N:140:LYS:O	3:N:141:ILE:HD13	1.69	0.89
3:N:335:LEU:HD22	3:N:400:VAL:HG11	1.52	0.89
3:J:140:LYS:O	3:J:141:ILE:HD13	1.71	0.89
3:N:44:LYS:HD3	3:N:190:TRP:NE1	1.87	0.89
3:N:369:ILE:O	3:N:372:ILE:HG22	1.72	0.89
1:O:60:C:H42	1:O:79:G:H1	1.15	0.89
1:G:60:C:H42	1:G:79:G:H1	1.19	0.88
3:B:44:LYS:HD3	3:B:190:TRP:NE1	1.88	0.88
3:A:295:GLN:O	3:A:298:LYS:HE2	1.73	0.88
1:C:60:C:H42	1:C:79:G:H1	1.17	0.88
1:K:159:A:H1'	1:K:185:A:N6	1.89	0.88
3:B:140:LYS:O	3:B:141:ILE:HD13	1.71	0.88
3:B:369:ILE:O	3:B:372:ILE:HG22	1.73	0.88
3:M:295:GLN:O	3:M:298:LYS:HE2	1.74	0.88
1:O:159:A:H1'	1:O:185:A:N6	1.88	0.88
1:G:159:A:H1'	1:G:185:A:N6	1.88	0.87
3:J:44:LYS:HD3	3:J:190:TRP:NE1	1.89	0.87
3:E:102:ILE:HD12	3:E:170:LEU:HD11	1.57	0.87
1:O:102:G:N2	1:O:105:C:N3	2.21	0.87
1:K:103(B):A:H2'	1:K:104:A:O4'	1.75	0.87
3:M:318:THR:HG22	3:M:324:LYS:HA	1.54	0.87
1:C:159:A:H1'	1:C:185:A:N6	1.88	0.87
1:C:102:G:N2	1:C:105:C:N3	2.22	0.87
3:M:331:ASN:HD22	3:M:334:TRP:HE1	1.23	0.87
3:I:102:ILE:HD12	3:I:170:LEU:HD11	1.57	0.87
3:A:57:GLU:HG3	3:A:61:LYS:HE3	1.57	0.86
3:F:44:LYS:HD3	3:F:190:TRP:NE1	1.90	0.86
3:B:83:THR:HB	3:B:86:HIS:HB2	1.58	0.86
3:A:331:ASN:HD22	3:A:334:TRP:HE1	1.24	0.86
3:E:318:THR:HG22	3:E:324:LYS:HA	1.56	0.86
1:G:102:G:N2	1:G:105:C:N3	2.23	0.86
3:M:57:GLU:HG3	3:M:61:LYS:HE3	1.58	0.86
3:E:57:GLU:HG3	3:E:61:LYS:HE3	1.57	0.86
3:A:318:THR:HG22	3:A:324:LYS:HA	1.55	0.86
1:K:60:C:H42	1:K:79:G:H1	1.18	0.86
3:A:102:ILE:HD12	3:A:170:LEU:HD11	1.57	0.86
3:I:318:THR:HG22	3:I:324:LYS:HA	1.57	0.86
3:N:83:THR:HB	3:N:86:HIS:HB2	1.58	0.85
3:I:295:GLN:O	3:I:298:LYS:HE2	1.76	0.85
3:M:102:ILE:HD12	3:M:170:LEU:HD11	1.58	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:103(B):A:H2'	1:C:104:A:O4'	1.76	0.85
1:G:103(B):A:H2'	1:G:104:A:O4'	1.76	0.85
3:I:57:GLU:HG3	3:I:61:LYS:HE3	1.57	0.85
3:E:208:MET:HE2	3:F:208:MET:SD	2.17	0.85
1:K:105:C:OP2	1:K:105:C:H6	1.58	0.84
3:E:295:GLN:O	3:E:298:LYS:HE2	1.77	0.84
3:E:326:GLY:O	3:E:333:ILE:HD12	1.77	0.84
1:G:149:G:C6	1:G:230:C:N4	2.46	0.84
1:O:103(B):A:H2'	1:O:104:A:O4'	1.77	0.84
3:A:326:GLY:O	3:A:333:ILE:HD12	1.77	0.84
1:C:149:G:C6	1:C:230:C:N4	2.45	0.84
3:I:208:MET:HE2	3:J:208:MET:SD	2.18	0.84
3:M:326:GLY:O	3:M:333:ILE:HD12	1.78	0.83
3:F:83:THR:HB	3:F:86:HIS:HB2	1.60	0.83
3:F:225:LEU:O	3:F:225:LEU:HD23	1.78	0.83
1:O:149:G:C6	1:O:230:C:N4	2.46	0.83
3:E:317:LEU:O	3:E:325:PHE:HB2	1.79	0.83
3:J:188:ALA:HA	3:J:192:ARG:HH11	1.41	0.83
1:C:148:A:N6	1:C:232:A:H5'	1.94	0.83
3:I:317:LEU:O	3:I:325:PHE:HB2	1.79	0.83
1:O:148:A:N6	1:O:232:A:H5'	1.94	0.82
3:N:78:LYS:HD3	3:N:315:PRO:HA	1.61	0.82
3:B:318:THR:HG22	3:B:324:LYS:HA	1.61	0.82
3:E:331:ASN:HD22	3:E:334:TRP:HE1	1.26	0.82
1:G:218:G:H4'	1:G:218:G:OP1	1.80	0.82
1:K:149:G:C6	1:K:230:C:N4	2.46	0.82
3:B:382:ASP:CG	3:B:385:LYS:HB2	2.00	0.82
3:M:317:LEU:O	3:M:325:PHE:HB2	1.79	0.82
3:A:208:MET:HE2	3:B:208:MET:SD	2.19	0.82
3:A:317:LEU:O	3:A:325:PHE:HB2	1.80	0.81
3:J:83:THR:HB	3:J:86:HIS:HB2	1.60	0.81
3:N:207:PRO:O	3:N:211:VAL:HG23	1.80	0.81
1:G:148:A:N6	1:G:232:A:H5'	1.96	0.81
3:B:207:PRO:O	3:B:211:VAL:HG23	1.79	0.81
3:J:225:LEU:HD23	3:J:225:LEU:O	1.79	0.81
3:N:40:LYS:HG3	3:N:41:TYR:H	1.44	0.81
3:B:188:ALA:HA	3:B:192:ARG:HH11	1.44	0.81
1:O:49:U:O4	1:O:117:G:H1'	1.80	0.81
3:F:288:ARG:CZ	3:F:302:PRO:HG3	2.11	0.81
3:I:331:ASN:HD22	3:I:334:TRP:HE1	1.27	0.81
3:N:188:ALA:HA	3:N:192:ARG:HH11	1.44	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:78:A:H2'	1:K:79:G:H8	1.46	0.81
3:F:188:ALA:HA	3:F:192:ARG:HH11	1.42	0.81
3:F:318:THR:HG22	3:F:324:LYS:HA	1.62	0.81
3:N:382:ASP:CG	3:N:385:LYS:HB2	2.01	0.81
3:N:318:THR:HG22	3:N:324:LYS:HA	1.62	0.81
3:B:40:LYS:HG3	3:B:41:TYR:H	1.44	0.81
3:F:78:LYS:HD3	3:F:315:PRO:HA	1.61	0.81
1:K:218:G:OP1	1:K:218:G:H4'	1.79	0.80
3:J:44:LYS:HD3	3:J:190:TRP:HE1	1.46	0.80
3:B:78:LYS:HD3	3:B:315:PRO:HA	1.63	0.80
1:K:148:A:N6	1:K:232:A:H5'	1.97	0.80
3:J:288:ARG:CZ	3:J:302:PRO:HG3	2.10	0.80
3:N:44:LYS:HD3	3:N:190:TRP:HE1	1.43	0.80
3:E:359:ASN:HA	3:E:362:LYS:HE2	1.62	0.80
3:I:326:GLY:O	3:I:333:ILE:HD12	1.79	0.80
3:I:359:ASN:HA	3:I:362:LYS:HE2	1.64	0.80
3:B:44:LYS:HD3	3:B:190:TRP:HE1	1.44	0.80
3:B:225:LEU:HD23	3:B:225:LEU:O	1.81	0.80
3:M:359:ASN:HA	3:M:362:LYS:HE2	1.63	0.80
3:E:179:THR:HA	3:E:182:ARG:NH1	1.97	0.80
3:J:78:LYS:HD3	3:J:315:PRO:HA	1.63	0.80
3:N:225:LEU:O	3:N:225:LEU:HD23	1.82	0.80
3:N:288:ARG:CZ	3:N:302:PRO:HG3	2.11	0.80
2:D:1:G:H3'	2:D:1:G:OP2	1.82	0.79
1:K:49:U:O4	1:K:117:G:H1'	1.82	0.79
1:O:78:A:H2'	1:O:79:G:H8	1.44	0.79
3:B:288:ARG:CZ	3:B:302:PRO:HG3	2.11	0.79
1:C:49:U:O4	1:C:117:G:H1'	1.82	0.79
3:E:334:TRP:HB2	3:E:340:THR:OG1	1.83	0.79
1:G:158:A:H8	1:G:188:U:H3	1.27	0.79
3:J:39:PRO:HG2	3:J:42:THR:OG1	1.83	0.79
3:J:40:LYS:HG3	3:J:41:TYR:H	1.46	0.79
3:J:319:ASP:OD1	3:J:321:SER:HB3	1.83	0.79
3:A:359:ASN:HA	3:A:362:LYS:HE2	1.64	0.79
3:J:382:ASP:CG	3:J:385:LYS:HB2	2.02	0.79
1:C:158:A:H8	1:C:188:U:H3	1.31	0.79
2:H:1:G:H3'	2:H:1:G:OP2	1.83	0.79
3:F:207:PRO:O	3:F:211:VAL:HG23	1.83	0.79
1:O:218:G:H4'	1:O:218:G:OP1	1.81	0.79
3:I:273:GLN:O	3:I:277:ILE:HG13	1.83	0.79
3:J:318:THR:HG22	3:J:324:LYS:HA	1.64	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:N:159:ALA:HA	3:N:162:ASN:HD22	1.46	0.78
1:C:78:A:H2'	1:C:79:G:H8	1.44	0.78
3:B:234:MET:HG2	3:B:240:VAL:HG12	1.66	0.78
3:F:382:ASP:CG	3:F:385:LYS:HB2	2.02	0.78
2:P:1:G:H3'	2:P:1:G:OP2	1.83	0.78
3:B:159:ALA:HA	3:B:162:ASN:HD22	1.47	0.78
1:K:158:A:H8	1:K:188:U:H3	1.28	0.78
3:M:208:MET:HE2	3:N:208:MET:SD	2.23	0.78
3:F:40:LYS:HG3	3:F:41:TYR:H	1.47	0.78
3:N:39:PRO:HG2	3:N:42:THR:OG1	1.84	0.78
1:G:78:A:H2'	1:G:79:G:H8	1.47	0.78
3:B:39:PRO:HG2	3:B:42:THR:OG1	1.84	0.78
1:K:224:G:H2'	1:K:225:A:O4'	1.84	0.78
3:A:44:LYS:NZ	3:A:44:LYS:HB3	1.99	0.78
3:N:234:MET:HG2	3:N:240:VAL:HG12	1.66	0.78
3:F:319:ASP:OD1	3:F:321:SER:HB3	1.84	0.78
1:G:49:U:O4	1:G:117:G:H1'	1.84	0.78
2:L:1:G:H3'	2:L:1:G:OP2	1.84	0.78
3:F:39:PRO:HG2	3:F:42:THR:OG1	1.83	0.78
3:I:334:TRP:HB2	3:I:340:THR:OG1	1.84	0.78
3:F:44:LYS:HD3	3:F:190:TRP:HE1	1.46	0.77
3:F:386:ARG:HB3	3:F:389:GLN:HB2	1.65	0.77
1:C:218:G:OP1	1:C:218:G:H4'	1.82	0.77
3:I:44:LYS:NZ	3:I:44:LYS:HB3	1.98	0.77
1:G:224:G:H2'	1:G:225:A:O4'	1.84	0.77
3:B:236:GLN:OE1	3:B:236:GLN:HA	1.83	0.77
3:E:273:GLN:O	3:E:277:ILE:HG13	1.84	0.77
1:C:149:G:C8	1:C:231:G:N2	2.53	0.77
1:O:158:A:H8	1:O:188:U:H3	1.32	0.77
1:O:224:G:H2'	1:O:225:A:O4'	1.85	0.77
3:F:236:GLN:OE1	3:F:236:GLN:HA	1.84	0.77
3:I:179:THR:HA	3:I:182:ARG:NH1	1.98	0.77
3:J:159:ALA:HA	3:J:162:ASN:HD22	1.48	0.77
3:J:207:PRO:O	3:J:211:VAL:HG23	1.84	0.77
1:K:102:G:N2	1:K:105:C:C2	2.49	0.77
3:B:415:MET:HA	3:B:415:MET:CE	2.15	0.77
1:C:31:A:H2'	1:C:32:U:H6	1.50	0.77
1:K:31:A:H2'	1:K:32:U:C6	2.20	0.77
3:E:137:SER:HA	3:E:140:LYS:HE3	1.67	0.76
3:N:415:MET:CE	3:N:415:MET:HA	2.15	0.76
1:C:224:G:H2'	1:C:225:A:O4'	1.85	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:O:149:G:C8	1:O:231:G:N2	2.53	0.76
3:F:234:MET:HG2	3:F:240:VAL:HG12	1.66	0.76
3:J:398:THR:HG23	3:J:403:LYS:HA	1.67	0.76
3:F:159:ALA:HA	3:F:162:ASN:HD22	1.47	0.76
3:J:236:GLN:OE1	3:J:236:GLN:HA	1.84	0.76
3:M:44:LYS:HB3	3:M:44:LYS:NZ	2.00	0.76
1:C:31:A:H2'	1:C:32:U:C6	2.21	0.76
3:J:386:ARG:HB3	3:J:389:GLN:HB2	1.65	0.76
3:M:334:TRP:HB2	3:M:340:THR:OG1	1.86	0.76
3:N:319:ASP:OD1	3:N:321:SER:HB3	1.85	0.76
3:B:83:THR:CB	3:B:86:HIS:HB2	2.16	0.76
3:J:76:TYR:O	3:J:314:VAL:HA	1.86	0.76
3:J:234:MET:HG2	3:J:240:VAL:HG12	1.65	0.76
3:N:236:GLN:OE1	3:N:236:GLN:HA	1.84	0.76
3:B:386:ARG:HB3	3:B:389:GLN:HB2	1.67	0.76
3:A:334:TRP:HB2	3:A:340:THR:OG1	1.86	0.76
3:B:398:THR:HG23	3:B:403:LYS:HA	1.66	0.76
3:I:94:ARG:HH22	3:I:304:THR:HG23	1.51	0.76
1:K:149:G:C8	1:K:231:G:N2	2.54	0.75
1:K:229:A:C2	1:K:230:C:C5	2.73	0.75
3:A:224:MET:HB3	3:A:245:PHE:HE2	1.51	0.75
3:E:44:LYS:HB3	3:E:44:LYS:NZ	2.00	0.75
3:F:385:LYS:O	3:F:385:LYS:HD3	1.86	0.75
3:M:224:MET:HB3	3:M:245:PHE:HE2	1.51	0.75
1:O:57:C:O2'	1:O:58:A:H5'	1.87	0.75
3:N:333:ILE:HG21	3:N:348:TYR:CD1	2.21	0.75
1:K:31:A:H2'	1:K:32:U:H6	1.49	0.75
1:O:31:A:H2'	1:O:32:U:H6	1.51	0.75
3:B:333:ILE:HG21	3:B:348:TYR:CD1	2.21	0.75
3:F:415:MET:CE	3:F:415:MET:HA	2.16	0.75
1:G:31:A:H2'	1:G:32:U:C6	2.21	0.75
3:M:304:THR:HG23	3:M:307:ASP:HB2	1.67	0.75
3:N:83:THR:CB	3:N:86:HIS:HB2	2.17	0.75
3:E:94:ARG:HH22	3:E:304:THR:HG23	1.49	0.75
1:C:132:A:N6	1:G:135:G:O2'	2.19	0.75
3:A:304:THR:HG23	3:A:307:ASP:HB2	1.68	0.75
3:J:385:LYS:O	3:J:385:LYS:HD3	1.87	0.75
3:N:386:ARG:HB2	3:N:386:ARG:NH1	2.01	0.75
1:G:149:G:C8	1:G:231:G:N2	2.54	0.75
3:B:319:ASP:OD1	3:B:321:SER:HB3	1.85	0.75
3:J:353:SER:HB2	3:J:356:GLU:HB2	1.68	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:N:360:LEU:HB3	3:N:392:LEU:HD21	1.67	0.75
1:O:31:A:H2'	1:O:32:U:C6	2.22	0.75
3:F:350:VAL:HG13	3:F:351:ARG:HG3	1.69	0.75
3:M:240:VAL:HG23	3:M:244:GLU:HB2	1.69	0.75
3:B:360:LEU:HB3	3:B:392:LEU:HD21	1.68	0.75
3:M:179:THR:HA	3:M:182:ARG:NH1	2.01	0.75
3:N:40:LYS:HG3	3:N:41:TYR:N	2.01	0.75
3:N:350:VAL:HG13	3:N:351:ARG:HG3	1.69	0.75
3:B:40:LYS:HG3	3:B:41:TYR:N	2.01	0.74
3:B:122:TRP:CZ2	3:B:366:PHE:HA	2.22	0.74
3:F:333:ILE:HG21	3:F:348:TYR:CD1	2.22	0.74
3:F:353:SER:HB2	3:F:356:GLU:HB2	1.68	0.74
1:O:60:C:N4	1:O:79:G:H1	1.85	0.74
3:B:350:VAL:HG13	3:B:351:ARG:HG3	1.69	0.74
3:J:122:TRP:CZ2	3:J:366:PHE:HA	2.22	0.74
3:N:76:TYR:O	3:N:314:VAL:HA	1.87	0.74
3:N:122:TRP:CZ2	3:N:366:PHE:HA	2.22	0.74
1:C:57:C:O2'	1:C:58:A:H5'	1.88	0.74
3:A:240:VAL:HG23	3:A:244:GLU:HB2	1.69	0.74
3:F:398:THR:HG23	3:F:403:LYS:HA	1.68	0.74
3:N:386:ARG:HB3	3:N:389:GLN:HB2	1.69	0.74
3:F:76:TYR:O	3:F:314:VAL:HA	1.86	0.74
3:A:179:THR:HA	3:A:182:ARG:NH1	2.02	0.74
3:M:137:SER:HA	3:M:140:LYS:HE3	1.70	0.74
1:G:229:A:C2	1:G:230:C:C5	2.74	0.74
3:A:137:SER:HA	3:A:140:LYS:HE3	1.70	0.74
3:B:353:SER:HB2	3:B:356:GLU:HB2	1.69	0.74
3:F:180:GLN:O	3:F:183:ALA:HB3	1.88	0.74
1:G:126:A:H1'	1:G:158:A:C2	2.23	0.74
3:F:360:LEU:HB3	3:F:392:LEU:HD21	1.68	0.74
3:J:415:MET:HA	3:J:415:MET:CE	2.17	0.74
3:I:304:THR:HG23	3:I:307:ASP:HB2	1.69	0.74
3:J:350:VAL:HG13	3:J:351:ARG:HG3	1.70	0.74
3:N:398:THR:HG23	3:N:403:LYS:HA	1.68	0.74
1:G:31:A:H2'	1:G:32:U:H6	1.51	0.74
3:A:94:ARG:HH22	3:A:304:THR:HG23	1.53	0.74
3:A:273:GLN:O	3:A:277:ILE:HG13	1.86	0.74
3:B:76:TYR:O	3:B:314:VAL:HA	1.88	0.74
3:B:386:ARG:NH1	3:B:386:ARG:HB2	2.03	0.74
1:G:212:A:H1'	3:F:295:GLN:NE2	2.02	0.73
3:M:94:ARG:HH22	3:M:304:THR:HG23	1.53	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:O:126:A:H1'	1:O:158:A:C2	2.23	0.73
3:A:259:PHE:HA	3:A:264:VAL:H	1.53	0.73
3:E:127:GLY:HA2	3:E:192:ARG:HG3	1.70	0.73
3:F:122:TRP:CZ2	3:F:366:PHE:HA	2.24	0.73
1:C:60:C:N4	1:C:79:G:H1	1.86	0.73
1:C:126:A:H1'	1:C:158:A:C2	2.23	0.73
3:J:386:ARG:NH1	3:J:386:ARG:HB2	2.03	0.73
3:F:386:ARG:HB2	3:F:386:ARG:NH1	2.04	0.73
3:J:333:ILE:HG21	3:J:348:TYR:CD1	2.23	0.73
1:K:57:C:O2'	1:K:58:A:H5'	1.88	0.73
3:E:304:THR:HG23	3:E:307:ASP:HB2	1.68	0.73
3:I:137:SER:HA	3:I:140:LYS:HE3	1.69	0.73
3:I:224:MET:HB3	3:I:245:PHE:HE2	1.53	0.73
3:E:224:MET:HB3	3:E:245:PHE:HE2	1.52	0.73
3:J:39:PRO:O	3:J:42:THR:HB	1.88	0.73
1:G:57:C:O2'	1:G:58:A:H5'	1.88	0.73
1:G:143:G:H1'	1:G:191:U:O2'	1.88	0.73
3:F:367:MET:HE2	3:F:372:ILE:HG13	1.70	0.73
1:K:60:C:N4	1:K:79:G:H1	1.87	0.73
1:K:212:A:H1'	3:J:295:GLN:NE2	2.03	0.73
1:O:149:G:H21	1:O:150:U:H1'	1.54	0.73
3:F:40:LYS:HG3	3:F:41:TYR:N	2.04	0.73
3:J:40:LYS:HG3	3:J:41:TYR:N	2.03	0.73
3:J:360:LEU:HB3	3:J:392:LEU:HD21	1.69	0.72
1:G:149:G:H21	1:G:150:U:H1'	1.53	0.72
3:M:382:ASP:OD2	3:M:385:LYS:HG2	1.89	0.72
1:C:149:G:H21	1:C:150:U:H1'	1.55	0.72
3:N:353:SER:HB2	3:N:356:GLU:HB2	1.70	0.72
1:C:212:A:H1'	3:B:295:GLN:NE2	2.04	0.72
3:A:127:GLY:HA2	3:A:192:ARG:HG3	1.72	0.72
3:F:83:THR:CB	3:F:86:HIS:HB2	2.20	0.72
3:F:400:VAL:O	3:F:400:VAL:HG12	1.90	0.72
3:F:39:PRO:O	3:F:42:THR:HB	1.90	0.72
3:I:259:PHE:HA	3:I:264:VAL:H	1.53	0.72
3:J:367:MET:HE2	3:J:372:ILE:HG13	1.71	0.72
3:M:259:PHE:HA	3:M:264:VAL:H	1.54	0.72
3:N:385:LYS:O	3:N:385:LYS:HD3	1.88	0.72
1:G:105:C:OP2	1:G:105:C:H6	1.73	0.72
1:K:149:G:H21	1:K:150:U:H1'	1.54	0.72
3:B:367:MET:HE2	3:B:372:ILE:HG13	1.71	0.72
3:E:259:PHE:HA	3:E:264:VAL:H	1.54	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:60:C:N4	1:G:79:G:H1	1.88	0.72
1:K:143:G:H1'	1:K:191:U:O2'	1.90	0.72
3:A:209:LEU:HD12	3:B:203:TRP:HB3	1.72	0.72
3:B:385:LYS:O	3:B:385:LYS:HD3	1.88	0.72
3:J:356:GLU:HB3	3:J:360:LEU:HD12	1.72	0.72
3:N:351:ARG:O	3:N:352:ARG:HG2	1.89	0.72
1:C:24:A:H2'	1:C:25:A:C8	2.25	0.72
1:G:159:A:H1'	1:G:185:A:H61	1.55	0.72
1:G:199:U:O4	1:G:214:A:N1	2.23	0.72
3:E:240:VAL:HG23	3:E:244:GLU:HB2	1.70	0.72
3:I:111:VAL:HA	3:I:114:LEU:CD1	2.19	0.72
3:I:240:VAL:HG23	3:I:244:GLU:HB2	1.70	0.72
3:N:198:ASN:O	3:N:201:HIS:HB2	1.90	0.72
1:C:199:U:O4	1:C:214:A:N1	2.23	0.71
1:O:57:C:C2'	1:O:58:A:H5'	2.19	0.71
1:O:199:U:O4	1:O:214:A:N1	2.23	0.71
3:J:180:GLN:O	3:J:183:ALA:HB3	1.90	0.71
1:K:24:A:H2'	1:K:25:A:C8	2.25	0.71
3:A:111:VAL:HA	3:A:114:LEU:CD1	2.20	0.71
3:I:171:LYS:O	3:I:175:GLU:HG3	1.90	0.71
3:J:83:THR:CB	3:J:86:HIS:HB2	2.20	0.71
3:E:82:GLY:O	3:E:87:ILE:HD11	1.90	0.71
3:F:356:GLU:HB3	3:F:360:LEU:HD12	1.72	0.71
1:C:57:C:C2'	1:C:58:A:H5'	2.20	0.71
1:K:57:C:O2	1:K:57:C:H2'	1.90	0.71
3:A:137:SER:HB3	3:B:209:LEU:HD21	1.72	0.71
1:K:57:C:C2'	1:K:58:A:H5'	2.21	0.71
1:O:24:A:H2'	1:O:25:A:C8	2.26	0.71
1:O:56:A:C2'	1:O:57:C:H5'	2.21	0.71
3:B:198:ASN:O	3:B:201:HIS:HB2	1.90	0.71
3:E:111:VAL:HA	3:E:114:LEU:CD1	2.20	0.71
3:M:127:GLY:HA2	3:M:192:ARG:HG3	1.73	0.71
3:M:273:GLN:O	3:M:277:ILE:HG13	1.89	0.71
1:C:229:A:C2	1:C:230:C:C5	2.74	0.71
3:B:42:THR:O	3:B:45:ILE:HG22	1.91	0.71
3:N:273:GLN:O	3:N:277:ILE:HG13	1.91	0.71
1:O:159:A:H1'	1:O:185:A:H61	1.55	0.71
3:A:142:GLY:O	3:A:144:PRO:HD3	1.90	0.71
3:A:197:VAL:HG12	3:A:198:ASN:H	1.54	0.71
3:M:137:SER:HB3	3:N:209:LEU:HD21	1.72	0.71
3:M:220:ARG:HE	3:N:240:VAL:H	1.38	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:214:ARG:O	3:F:215:VAL:HG13	1.91	0.71
1:C:105:C:H2'	1:C:106:G:H5'	1.73	0.71
1:K:199:U:O4	1:K:214:A:N1	2.23	0.71
3:B:351:ARG:O	3:B:352:ARG:HG2	1.90	0.71
1:C:56:A:C2'	1:C:57:C:H5'	2.21	0.70
1:G:158:A:H8	1:G:188:U:N3	1.88	0.70
1:C:159:A:H1'	1:C:185:A:H61	1.55	0.70
1:O:105:C:H2'	1:O:106:G:H5'	1.73	0.70
3:A:111:VAL:HA	3:A:114:LEU:HD12	1.73	0.70
3:A:197:VAL:HG12	3:A:198:ASN:N	2.06	0.70
3:E:290:SER:O	3:E:292:PRO:HD3	1.91	0.70
3:M:111:VAL:HA	3:M:114:LEU:CD1	2.21	0.70
1:C:90:G:H1	1:C:116:U:H3	1.38	0.70
3:A:382:ASP:OD2	3:A:385:LYS:HG2	1.92	0.70
3:J:351:ARG:O	3:J:352:ARG:HG2	1.90	0.70
1:G:105:C:OP2	1:G:105:C:C6	2.45	0.70
3:E:319:ASP:OD2	3:E:323:ALA:HB3	1.91	0.70
3:I:44:LYS:HB3	3:I:44:LYS:HZ2	1.53	0.70
1:G:83:A:H2'	1:G:84:U:H5'	1.74	0.70
1:O:229:A:C2	1:O:230:C:C5	2.74	0.70
3:E:209:LEU:HD12	3:F:203:TRP:HB3	1.74	0.70
3:I:127:GLY:HA2	3:I:192:ARG:HG3	1.72	0.70
3:I:209:LEU:HD12	3:J:203:TRP:HB3	1.72	0.70
1:G:24:A:H2'	1:G:25:A:C8	2.25	0.70
1:K:126:A:H1'	1:K:158:A:C2	2.25	0.70
3:A:204:ASN:HA	3:B:209:LEU:HD12	1.72	0.70
3:N:39:PRO:O	3:N:42:THR:HB	1.92	0.70
3:N:367:MET:HE2	3:N:372:ILE:HG13	1.73	0.70
3:A:319:ASP:OD2	3:A:323:ALA:HB3	1.89	0.70
3:F:198:ASN:O	3:F:201:HIS:HB2	1.92	0.70
3:I:319:ASP:OD2	3:I:323:ALA:HB3	1.91	0.70
3:M:142:GLY:O	3:M:144:PRO:HD3	1.91	0.70
3:M:290:SER:O	3:M:292:PRO:HD3	1.92	0.70
3:N:42:THR:O	3:N:45:ILE:HG22	1.92	0.70
1:G:203:U:H2'	1:G:204:G:H8	1.57	0.70
1:K:158:A:H8	1:K:188:U:N3	1.89	0.70
3:M:171:LYS:O	3:M:175:GLU:HG3	1.91	0.70
1:G:57:C:C2'	1:G:58:A:H5'	2.22	0.70
1:O:57:C:O2	1:O:57:C:H2'	1.90	0.70
1:O:143:G:H1'	1:O:191:U:O2'	1.91	0.70
3:B:39:PRO:O	3:B:42:THR:HB	1.92	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:180:GLN:O	3:B:183:ALA:HB3	1.92	0.70
3:A:290:SER:O	3:A:292:PRO:HD3	1.92	0.70
3:I:220:ARG:HE	3:J:240:VAL:H	1.39	0.70
1:C:143:G:H1'	1:C:191:U:O2'	1.91	0.69
3:E:142:GLY:O	3:E:144:PRO:HD3	1.91	0.69
3:F:351:ARG:O	3:F:352:ARG:HG2	1.92	0.69
3:I:305:ALA:O	3:I:308:GLU:HG2	1.92	0.69
1:K:159:A:H1'	1:K:185:A:H61	1.56	0.69
3:I:142:GLY:O	3:I:144:PRO:HD3	1.92	0.69
3:I:290:SER:O	3:I:292:PRO:HD3	1.91	0.69
3:M:197:VAL:HG12	3:M:198:ASN:H	1.56	0.69
1:K:35:A:H2'	1:K:35:A:N3	2.08	0.69
3:M:319:ASP:OD2	3:M:323:ALA:HB3	1.90	0.69
3:N:180:GLN:O	3:N:183:ALA:HB3	1.93	0.69
3:N:214:ARG:O	3:N:215:VAL:HG13	1.91	0.69
3:M:82:GLY:O	3:M:87:ILE:HD11	1.93	0.69
1:G:105:C:H2'	1:G:106:G:H5'	1.74	0.69
1:O:105:C:OP2	1:O:105:C:H6	1.74	0.69
3:E:350:VAL:HG22	3:E:386:ARG:NH2	2.07	0.69
3:I:350:VAL:HG22	3:I:386:ARG:NH2	2.07	0.69
3:J:214:ARG:O	3:J:215:VAL:HG13	1.92	0.69
1:O:90:G:H1	1:O:116:U:H3	1.39	0.69
3:M:209:LEU:HD12	3:N:203:TRP:HB3	1.74	0.69
1:C:57:C:O2	1:C:57:C:H2'	1.92	0.69
1:O:83:A:H2'	1:O:84:U:H5'	1.75	0.69
1:O:212:A:H1'	3:N:295:GLN:NE2	2.08	0.69
3:I:59:ILE:HB	3:I:92:ARG:HG3	1.74	0.69
3:M:197:VAL:HG12	3:M:198:ASN:N	2.08	0.69
3:N:356:GLU:HB3	3:N:360:LEU:HD12	1.72	0.69
1:G:90:G:H1	1:G:116:U:H3	1.40	0.69
1:K:212:A:H1'	3:J:295:GLN:HE22	1.57	0.69
3:B:356:GLU:HB3	3:B:360:LEU:HD12	1.73	0.69
3:E:171:LYS:O	3:E:175:GLU:HG3	1.92	0.69
1:C:105:C:OP2	1:C:105:C:H6	1.75	0.69
3:A:59:ILE:HB	3:A:92:ARG:HG3	1.75	0.69
3:B:273:GLN:O	3:B:277:ILE:HG13	1.93	0.69
3:J:198:ASN:O	3:J:201:HIS:HB2	1.93	0.69
3:M:111:VAL:HA	3:M:114:LEU:HD12	1.75	0.69
1:C:158:A:H8	1:C:188:U:N3	1.91	0.68
1:G:57:C:O2	1:G:57:C:H2'	1.91	0.68
3:B:214:ARG:O	3:B:215:VAL:HG13	1.92	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:273:GLN:O	3:F:277:ILE:HG13	1.93	0.68
3:I:137:SER:HB3	3:J:209:LEU:HD21	1.74	0.68
3:I:197:VAL:HG12	3:I:198:ASN:H	1.59	0.68
3:M:331:ASN:ND2	3:M:334:TRP:HE1	1.89	0.68
3:M:392:LEU:HD23	3:M:392:LEU:C	2.13	0.68
1:C:35:A:H2'	1:C:35:A:N3	2.07	0.68
3:M:59:ILE:HB	3:M:92:ARG:HG3	1.75	0.68
1:K:83:A:H2'	1:K:84:U:H5'	1.74	0.68
3:E:197:VAL:HG12	3:E:198:ASN:H	1.57	0.68
1:O:105:C:OP2	1:O:105:C:C6	2.46	0.68
3:A:141:ILE:HD12	3:A:243:ALA:CB	2.23	0.68
3:A:220:ARG:HE	3:B:240:VAL:H	1.41	0.68
3:I:259:PHE:HE1	3:I:288:ARG:NE	1.91	0.68
3:I:324:LYS:HB3	3:I:324:LYS:NZ	2.08	0.68
1:G:35:A:N3	1:G:35:A:H2'	2.08	0.68
1:K:90:G:H1	1:K:116:U:H3	1.40	0.68
1:O:35:A:N3	1:O:35:A:H2'	2.07	0.68
1:O:158:A:H8	1:O:188:U:N3	1.91	0.68
3:A:171:LYS:O	3:A:175:GLU:HG3	1.93	0.68
3:I:82:GLY:O	3:I:87:ILE:HD11	1.92	0.68
3:J:400:VAL:O	3:J:400:VAL:HG12	1.93	0.68
1:C:148:A:H62	1:C:232:A:H5'	1.59	0.68
1:G:102:G:H2'	1:G:103:G:C8	2.29	0.68
3:I:382:ASP:OD2	3:I:385:LYS:HG2	1.94	0.68
3:M:83:THR:OG1	3:M:86:HIS:HB3	1.94	0.68
1:C:105:C:OP2	1:C:105:C:C6	2.46	0.68
1:O:148:A:H62	1:O:232:A:H5'	1.59	0.68
3:I:111:VAL:HA	3:I:114:LEU:HD12	1.75	0.68
3:I:204:ASN:HA	3:J:209:LEU:HD12	1.76	0.68
3:N:357:VAL:HG21	3:N:388:ALA:CB	2.23	0.68
3:A:82:GLY:O	3:A:87:ILE:HD11	1.94	0.68
3:A:331:ASN:ND2	3:A:334:TRP:HE1	1.90	0.68
3:E:83:THR:OG1	3:E:86:HIS:HB3	1.94	0.68
3:E:111:VAL:HA	3:E:114:LEU:HD12	1.76	0.68
3:E:305:ALA:O	3:E:308:GLU:HG2	1.93	0.68
3:A:392:LEU:HD23	3:A:392:LEU:C	2.14	0.68
3:E:392:LEU:HD23	3:E:392:LEU:C	2.14	0.68
3:M:204:ASN:HA	3:N:209:LEU:HD12	1.75	0.68
3:M:259:PHE:HE1	3:M:288:ARG:NE	1.92	0.68
3:M:305:ALA:O	3:M:308:GLU:HG2	1.93	0.68
1:K:105:C:H2'	1:K:106:G:H5'	1.75	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:O:102:G:H2'	1:O:103:G:C8	2.28	0.67
3:M:350:VAL:HG22	3:M:386:ARG:NH2	2.08	0.67
1:C:83:A:H2'	1:C:84:U:H5'	1.76	0.67
3:A:350:VAL:HG22	3:A:386:ARG:NH2	2.08	0.67
3:M:141:ILE:HD12	3:M:243:ALA:CB	2.23	0.67
3:N:400:VAL:O	3:N:400:VAL:HG12	1.94	0.67
1:G:204:G:H1	1:G:209:C:H42	1.43	0.67
1:K:56:A:C2'	1:K:57:C:H5'	2.21	0.67
3:E:204:ASN:HA	3:F:209:LEU:HD12	1.77	0.67
1:G:56:A:C2'	1:G:57:C:H5'	2.23	0.67
1:K:149:G:O6	1:K:229:A:N6	2.27	0.67
3:B:357:VAL:HG21	3:B:388:ALA:CB	2.24	0.67
3:E:220:ARG:HE	3:F:240:VAL:H	1.41	0.67
3:F:96:ILE:HD12	3:F:97:GLY:N	2.10	0.67
3:I:415:MET:O	3:I:416:MET:HB2	1.94	0.67
1:G:212:A:H1'	3:F:295:GLN:HE22	1.57	0.67
3:B:166:ILE:HA	3:B:169:GLN:HE21	1.59	0.67
3:E:59:ILE:HB	3:E:92:ARG:HG3	1.74	0.67
3:E:197:VAL:HG12	3:E:198:ASN:N	2.10	0.67
3:F:357:VAL:HG21	3:F:388:ALA:CB	2.25	0.67
3:F:390:HIS:CE1	3:F:410:GLU:HG3	2.30	0.67
3:I:392:LEU:HD23	3:I:392:LEU:C	2.15	0.67
3:M:324:LYS:NZ	3:M:324:LYS:HB3	2.10	0.67
1:K:203:U:H2'	1:K:204:G:H8	1.58	0.67
3:A:305:ALA:O	3:A:308:GLU:HG2	1.94	0.67
3:E:331:ASN:ND2	3:E:334:TRP:HE1	1.92	0.67
3:E:382:ASP:OD2	3:E:385:LYS:HG2	1.93	0.67
3:J:273:GLN:O	3:J:277:ILE:HG13	1.95	0.67
1:C:102:G:H2'	1:C:103:G:C8	2.29	0.67
3:A:324:LYS:HB3	3:A:324:LYS:NZ	2.10	0.67
3:B:392:LEU:O	3:B:392:LEU:HD12	1.94	0.67
3:J:42:THR:O	3:J:45:ILE:HG22	1.95	0.67
3:J:357:VAL:HG21	3:J:388:ALA:CB	2.25	0.67
1:C:149:G:O6	1:C:229:A:N6	2.28	0.67
3:E:324:LYS:NZ	3:E:324:LYS:HB3	2.09	0.67
3:J:96:ILE:HD12	3:J:97:GLY:N	2.10	0.67
3:B:369:ILE:HD13	3:B:370:SER:H	1.58	0.67
3:E:179:THR:HA	3:E:182:ARG:HH12	1.57	0.67
3:M:109:LEU:HD11	3:M:166:ILE:HG23	1.77	0.67
3:N:166:ILE:HA	3:N:169:GLN:HE21	1.60	0.67
3:E:301:THR:O	3:E:303:LYS:HG3	1.95	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:I:207:PRO:HA	3:J:206:GLN:O	1.95	0.66
3:I:241:SER:HA	3:J:219:LEU:O	1.95	0.66
3:J:166:ILE:HA	3:J:169:GLN:HE21	1.60	0.66
1:O:149:G:O6	1:O:229:A:N6	2.29	0.66
3:B:390:HIS:CE1	3:B:410:GLU:HG3	2.30	0.66
3:E:259:PHE:HE1	3:E:288:ARG:NE	1.92	0.66
3:F:294:PRO:HG2	3:F:295:GLN:H	1.60	0.66
3:I:141:ILE:HD12	3:I:243:ALA:CB	2.24	0.66
3:J:390:HIS:CE1	3:J:410:GLU:HG3	2.29	0.66
3:N:122:TRP:HZ2	3:N:366:PHE:HA	1.59	0.66
3:N:159:ALA:O	3:N:162:ASN:HB2	1.95	0.66
3:N:378:GLU:HB3	3:N:387:VAL:HG11	1.77	0.66
3:N:390:HIS:CE1	3:N:410:GLU:HG3	2.30	0.66
1:K:149:G:H21	1:K:150:U:C1'	2.08	0.66
3:F:386:ARG:HH12	3:F:390:HIS:CD2	2.14	0.66
3:N:178:ASP:O	3:N:181:MET:HB3	1.95	0.66
3:A:259:PHE:HE1	3:A:288:ARG:NE	1.94	0.66
3:F:122:TRP:HZ2	3:F:366:PHE:HA	1.61	0.66
3:I:301:THR:O	3:I:303:LYS:HG3	1.95	0.66
3:M:301:THR:O	3:M:303:LYS:HG3	1.94	0.66
1:C:203:U:H2'	1:C:204:G:H8	1.59	0.66
1:O:203:U:H2'	1:O:204:G:H8	1.59	0.66
3:B:122:TRP:HZ2	3:B:366:PHE:HA	1.60	0.66
3:B:378:GLU:HB3	3:B:387:VAL:HG11	1.78	0.66
3:E:258:LEU:HB3	3:E:264:VAL:HG21	1.76	0.66
3:E:398:THR:O	3:E:402:GLY:N	2.27	0.66
3:I:179:THR:HA	3:I:182:ARG:HH12	1.58	0.66
1:K:102:G:H1	1:K:105:C:N4	1.93	0.66
3:B:400:VAL:O	3:B:400:VAL:HG12	1.95	0.66
3:I:197:VAL:HG12	3:I:198:ASN:N	2.10	0.66
3:F:42:THR:O	3:F:45:ILE:HG22	1.96	0.66
3:J:392:LEU:O	3:J:392:LEU:HD12	1.95	0.66
3:N:294:PRO:HG2	3:N:295:GLN:H	1.61	0.66
1:G:149:G:H21	1:G:150:U:C1'	2.08	0.66
3:M:241:SER:HA	3:N:219:LEU:O	1.95	0.66
1:G:214:A:O2'	1:G:215:G:H5'	1.95	0.66
3:E:44:LYS:HB3	3:E:44:LYS:HZ2	1.60	0.66
3:E:137:SER:HB3	3:F:209:LEU:HD21	1.76	0.66
3:F:166:ILE:HA	3:F:169:GLN:HE21	1.59	0.66
3:M:133:LEU:HD12	3:M:197:VAL:HB	1.78	0.66
3:B:266:MET:HA	3:B:310:VAL:O	1.96	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:E:79:ASP:HB3	3:E:274:TYR:CE1	2.31	0.65
3:I:61:LYS:HB2	3:I:61:LYS:HZ3	1.60	0.65
3:J:369:ILE:HD13	3:J:370:SER:H	1.61	0.65
3:M:79:ASP:HB3	3:M:274:TYR:CE1	2.31	0.65
3:N:392:LEU:HD12	3:N:392:LEU:O	1.95	0.65
1:C:149:G:H21	1:C:150:U:C1'	2.09	0.65
1:K:204:G:H1	1:K:209:C:H42	1.43	0.65
1:O:149:G:H21	1:O:150:U:C1'	2.09	0.65
1:O:228:A:C2	1:O:229:A:C8	2.84	0.65
3:A:79:ASP:HB3	3:A:274:TYR:CE1	2.31	0.65
3:J:213:ARG:HG3	3:J:217:HIS:CD2	2.30	0.65
3:M:179:THR:HA	3:M:182:ARG:HH12	1.61	0.65
1:C:159:A:O2'	1:C:160:U:OP1	2.13	0.65
1:K:36:A:H2'	1:K:37:A:O4'	1.96	0.65
1:K:188:U:H2'	1:K:189:A:H8	1.61	0.65
1:G:142:G:H1	1:G:155:C:H42	1.43	0.65
1:G:149:G:O6	1:G:229:A:N6	2.28	0.65
3:A:83:THR:OG1	3:A:86:HIS:HB3	1.97	0.65
3:A:301:THR:O	3:A:303:LYS:HG3	1.96	0.65
3:B:294:PRO:HG2	3:B:295:GLN:H	1.61	0.65
3:I:380:ILE:HD12	3:I:381:LYS:HG3	1.79	0.65
3:M:258:LEU:HB3	3:M:264:VAL:HG21	1.79	0.65
3:M:415:MET:O	3:M:416:MET:HB2	1.96	0.65
3:N:96:ILE:HD12	3:N:97:GLY:N	2.11	0.65
1:G:14:U:H1'	1:G:34:G:N2	2.11	0.65
1:K:214:A:O2'	1:K:215:G:H5'	1.96	0.65
3:E:141:ILE:HD12	3:E:243:ALA:CB	2.23	0.65
3:E:207:PRO:HA	3:F:206:GLN:O	1.96	0.65
3:E:380:ILE:HD12	3:E:381:LYS:HG3	1.78	0.65
3:N:369:ILE:HD13	3:N:370:SER:H	1.60	0.65
1:C:151:G:O2'	1:C:152:A:H5'	1.96	0.65
3:B:96:ILE:HD12	3:B:97:GLY:N	2.11	0.65
3:F:392:LEU:HD12	3:F:392:LEU:O	1.96	0.65
3:M:130:ALA:O	3:M:131:PHE:CD2	2.50	0.65
1:K:148:A:H62	1:K:232:A:H5'	1.62	0.65
3:E:397:VAL:HG12	3:E:406:ALA:HB2	1.78	0.65
3:M:380:ILE:HD12	3:M:381:LYS:HG3	1.79	0.65
3:B:159:ALA:O	3:B:162:ASN:HB2	1.97	0.65
3:E:49:GLU:O	3:E:53:GLN:HG2	1.96	0.65
3:F:369:ILE:HD13	3:F:370:SER:H	1.60	0.65
3:I:398:THR:O	3:I:402:GLY:N	2.29	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:N:266:MET:HA	3:N:310:VAL:O	1.97	0.65
1:O:151:G:O2'	1:O:152:A:H5'	1.96	0.65
3:A:415:MET:O	3:A:416:MET:HB2	1.96	0.65
3:E:98:ALA:HB2	3:E:266:MET:HB3	1.79	0.65
3:I:83:THR:OG1	3:I:86:HIS:HB3	1.96	0.65
3:I:397:VAL:HG12	3:I:406:ALA:HB2	1.79	0.65
3:N:357:VAL:HG21	3:N:388:ALA:HB1	1.79	0.65
3:A:49:GLU:O	3:A:53:GLN:HG2	1.96	0.65
3:A:130:ALA:O	3:A:131:PHE:CD2	2.50	0.65
3:F:97:GLY:HA2	3:F:129:LYS:O	1.97	0.65
3:I:181:MET:O	3:I:186:TYR:HB2	1.97	0.65
3:M:181:MET:O	3:M:186:TYR:HB2	1.97	0.65
3:A:380:ILE:HD12	3:A:381:LYS:HG3	1.79	0.64
3:E:326:GLY:O	3:E:332:ALA:HB1	1.96	0.64
3:F:159:ALA:O	3:F:162:ASN:HB2	1.97	0.64
3:I:49:GLU:O	3:I:53:GLN:HG2	1.98	0.64
3:I:98:ALA:HB2	3:I:266:MET:HB3	1.79	0.64
3:J:122:TRP:HZ2	3:J:366:PHE:HA	1.59	0.64
3:M:49:GLU:O	3:M:53:GLN:HG2	1.96	0.64
3:M:207:PRO:HA	3:N:206:GLN:O	1.97	0.64
1:O:36:A:H2'	1:O:37:A:O4'	1.97	0.64
3:A:258:LEU:HB3	3:A:264:VAL:HG21	1.79	0.64
3:B:355:GLN:OE1	3:B:356:GLU:HG3	1.97	0.64
3:E:123:MET:O	3:E:128:TYR:HD1	1.79	0.64
3:E:335:LEU:CD2	3:E:400:VAL:HG11	2.26	0.64
3:J:357:VAL:HG21	3:J:388:ALA:HB1	1.79	0.64
1:G:227:U:H1'	1:G:229:A:C2	2.33	0.64
3:B:357:VAL:HG21	3:B:388:ALA:HB1	1.79	0.64
3:E:133:LEU:HD12	3:E:197:VAL:HB	1.80	0.64
3:E:326:GLY:C	3:E:333:ILE:HD12	2.18	0.64
3:F:357:VAL:HG13	3:F:358:GLU:N	2.12	0.64
1:C:204:G:H1	1:C:209:C:H42	1.44	0.64
1:C:214:A:O2'	1:C:215:G:H5'	1.97	0.64
1:K:14:U:H1'	1:K:34:G:N2	2.12	0.64
1:K:102:G:H2'	1:K:103:G:C8	2.33	0.64
3:N:355:GLN:OE1	3:N:356:GLU:HG3	1.98	0.64
1:C:247:U:H2'	1:C:248:A:C4	2.33	0.64
1:G:36:A:H2'	1:G:37:A:O4'	1.97	0.64
1:G:188:U:H2'	1:G:189:A:H8	1.61	0.64
1:O:227:U:H1'	1:O:229:A:C2	2.32	0.64
3:A:179:THR:HA	3:A:182:ARG:HH12	1.62	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:207:PRO:HA	3:B:206:GLN:O	1.97	0.64
3:I:61:LYS:HZ3	3:I:63:LYS:HG3	1.61	0.64
3:I:317:LEU:C	3:I:325:PHE:HB2	2.18	0.64
3:J:386:ARG:HH12	3:J:390:HIS:CD2	2.15	0.64
3:M:98:ALA:HB2	3:M:266:MET:HB3	1.78	0.64
3:N:347:GLY:HA3	3:N:351:ARG:HH12	1.62	0.64
1:C:212:A:H1'	3:B:295:GLN:HE22	1.60	0.64
3:F:355:GLN:OE1	3:F:356:GLU:HG3	1.98	0.64
3:I:79:ASP:HB3	3:I:274:TYR:CE1	2.33	0.64
3:I:109:LEU:HD11	3:I:166:ILE:HG23	1.78	0.64
1:C:36:A:H2'	1:C:37:A:O4'	1.97	0.64
1:O:247:U:H2'	1:O:248:A:C4	2.33	0.64
3:B:347:GLY:HA3	3:B:351:ARG:HH12	1.62	0.64
3:J:415:MET:HA	3:J:415:MET:HE3	1.79	0.64
1:C:227:U:H1'	1:C:229:A:C2	2.32	0.64
3:I:73:GLU:HG2	3:I:369:ILE:HG13	1.80	0.64
3:I:108:SER:HA	3:I:169:GLN:NE2	2.00	0.64
3:I:130:ALA:O	3:I:131:PHE:CD2	2.51	0.64
3:J:294:PRO:HG2	3:J:295:GLN:H	1.63	0.64
1:O:160:U:O2	1:O:184:G:C2'	2.44	0.64
3:A:133:LEU:HD12	3:A:197:VAL:HB	1.80	0.64
3:F:357:VAL:HG21	3:F:388:ALA:HB1	1.79	0.64
3:I:326:GLY:O	3:I:332:ALA:HB1	1.97	0.64
3:M:326:GLY:O	3:M:332:ALA:HB1	1.98	0.64
3:A:398:THR:O	3:A:402:GLY:N	2.31	0.64
3:E:61:LYS:HZ3	3:E:63:LYS:HG3	1.63	0.64
3:E:240:VAL:HG23	3:E:244:GLU:OE2	1.98	0.64
3:M:317:LEU:C	3:M:325:PHE:HB2	2.18	0.64
1:C:142:G:H1	1:C:155:C:H42	1.45	0.63
1:G:148:A:H62	1:G:232:A:H5'	1.61	0.63
1:G:185:A:O2'	1:G:186:U:OP2	2.16	0.63
1:K:251:U:O2'	1:K:252:G:H5'	1.99	0.63
1:C:160:U:O2	1:C:184:G:C2'	2.45	0.63
1:G:238:U:H2'	1:G:239:C:C6	2.34	0.63
1:K:142:G:H1	1:K:155:C:H42	1.45	0.63
1:K:247:U:H2'	1:K:248:A:C4	2.33	0.63
1:O:25:A:H1'	1:O:171:C:C4'	2.28	0.63
3:A:208:MET:HG2	3:A:212:LEU:HD12	1.80	0.63
3:B:178:ASP:O	3:B:181:MET:HB3	1.98	0.63
3:M:398:THR:O	3:M:402:GLY:N	2.31	0.63
1:O:142:G:H1	1:O:155:C:H42	1.44	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:O:214:A:O2'	1:O:215:G:H5'	1.98	0.63
3:B:386:ARG:HH12	3:B:390:HIS:CD2	2.15	0.63
3:E:241:SER:HA	3:F:219:LEU:O	1.97	0.63
3:N:386:ARG:HH12	3:N:390:HIS:CD2	2.15	0.63
3:F:213:ARG:HG3	3:F:217:HIS:CD2	2.33	0.63
3:F:266:MET:HA	3:F:310:VAL:O	1.98	0.63
3:I:258:LEU:HB3	3:I:264:VAL:HG21	1.80	0.63
3:M:240:VAL:HG23	3:M:244:GLU:OE2	1.97	0.63
3:N:357:VAL:HG13	3:N:358:GLU:N	2.14	0.63
1:G:251:U:O2'	1:G:252:G:H5'	1.98	0.63
3:E:67:THR:HB	3:E:91:MET:HE1	1.80	0.63
3:E:415:MET:O	3:E:416:MET:HB2	1.96	0.63
3:J:159:ALA:O	3:J:162:ASN:HB2	1.97	0.63
3:J:232:ASN:C	3:J:234:MET:H	2.02	0.63
3:N:297:ARG:HA	3:N:300:VAL:CG2	2.29	0.63
1:C:188:U:H2'	1:C:189:A:H8	1.61	0.63
1:G:15:U:O4'	1:G:35:A:N6	2.32	0.63
1:G:247:U:H2'	1:G:248:A:C4	2.34	0.63
1:K:228:A:C2	1:K:229:A:C8	2.86	0.63
3:B:213:ARG:HG3	3:B:217:HIS:CD2	2.34	0.63
3:E:411:ASP:O	3:E:415:MET:HB2	1.98	0.63
3:F:232:ASN:C	3:F:234:MET:H	2.02	0.63
3:I:331:ASN:ND2	3:I:334:TRP:HE1	1.94	0.63
3:J:355:GLN:NE2	3:J:356:GLU:N	2.46	0.63
3:M:397:VAL:HG12	3:M:406:ALA:HB2	1.80	0.63
3:F:378:GLU:HB3	3:F:387:VAL:HG11	1.80	0.63
3:J:357:VAL:HG13	3:J:358:GLU:N	2.14	0.63
1:K:151:G:O2'	1:K:152:A:H5'	1.99	0.63
3:B:97:GLY:HA2	3:B:129:LYS:O	1.99	0.63
3:F:230:VAL:HG12	3:F:234:MET:SD	2.39	0.63
3:F:390:HIS:HE1	3:F:410:GLU:HG3	1.64	0.63
3:I:270:GLY:H	3:I:273:GLN:HG3	1.62	0.63
3:I:411:ASP:O	3:I:415:MET:HB2	1.99	0.63
3:J:355:GLN:OE1	3:J:356:GLU:HG3	1.99	0.63
3:J:403:LYS:HG3	3:J:404:GLN:N	2.13	0.63
3:M:44:LYS:HB3	3:M:44:LYS:HZ3	1.64	0.63
1:O:204:G:H1	1:O:209:C:H42	1.45	0.63
3:A:109:LEU:HD11	3:A:166:ILE:HG23	1.81	0.63
3:B:403:LYS:HG3	3:B:404:GLN:N	2.14	0.63
3:F:178:ASP:O	3:F:181:MET:HB3	1.99	0.63
3:I:335:LEU:CD2	3:I:400:VAL:HG11	2.27	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:J:97:GLY:HA2	3:J:129:LYS:O	1.98	0.63
3:J:378:GLU:HB3	3:J:387:VAL:HG11	1.79	0.63
1:C:251:U:O2'	1:C:252:G:H5'	1.99	0.62
3:A:44:LYS:HB3	3:A:44:LYS:HZ3	1.64	0.62
3:E:317:LEU:C	3:E:325:PHE:HB2	2.18	0.62
3:F:403:LYS:HG3	3:F:404:GLN:N	2.13	0.62
3:I:123:MET:O	3:I:128:TYR:HD1	1.82	0.62
3:J:319:ASP:C	3:J:321:SER:H	2.01	0.62
3:M:63:LYS:NZ	3:M:63:LYS:HB3	2.13	0.62
3:N:232:ASN:C	3:N:234:MET:H	2.02	0.62
1:G:105:C:H2'	1:G:106:G:C5'	2.29	0.62
1:K:45:U:H5"	1:K:46:A:OP1	1.99	0.62
1:O:15:U:O4'	1:O:35:A:N6	2.31	0.62
3:A:270:GLY:H	3:A:273:GLN:HG3	1.63	0.62
3:A:326:GLY:O	3:A:332:ALA:HB1	1.99	0.62
3:E:181:MET:O	3:E:186:TYR:HB2	1.99	0.62
3:I:40:LYS:O	3:I:43:ALA:HB3	1.99	0.62
3:J:178:ASP:O	3:J:181:MET:HB3	1.98	0.62
3:M:61:LYS:HZ3	3:M:61:LYS:HB2	1.63	0.62
1:C:14:U:H1'	1:C:34:G:N2	2.14	0.62
3:A:241:SER:HA	3:B:219:LEU:O	1.98	0.62
3:A:317:LEU:C	3:A:325:PHE:HB2	2.19	0.62
3:A:397:VAL:HG12	3:A:406:ALA:HB2	1.81	0.62
3:B:390:HIS:HE1	3:B:410:GLU:HG3	1.64	0.62
1:C:228:A:C2	1:C:229:A:C8	2.87	0.62
1:O:185:A:O2'	1:O:186:U:OP2	2.16	0.62
1:O:212:A:H1'	3:N:295:GLN:HE22	1.62	0.62
3:B:297:ARG:HA	3:B:300:VAL:CG2	2.30	0.62
3:F:46:ASN:O	3:F:49:GLU:HB3	2.00	0.62
3:F:297:ARG:HA	3:F:300:VAL:CG2	2.29	0.62
3:I:196:ILE:HD12	3:I:196:ILE:N	2.14	0.62
3:J:266:MET:HA	3:J:310:VAL:O	1.99	0.62
3:A:181:MET:O	3:A:186:TYR:HB2	1.99	0.62
3:E:40:LYS:O	3:E:43:ALA:HB3	1.98	0.62
3:E:222:GLY:C	3:E:224:MET:H	2.03	0.62
1:G:159:A:O2'	1:G:160:U:OP1	2.16	0.62
3:A:63:LYS:NZ	3:A:63:LYS:HB3	2.13	0.62
3:I:104:PRO:CB	3:I:166:ILE:HD13	2.29	0.62
3:M:40:LYS:O	3:M:43:ALA:HB3	2.00	0.62
1:O:188:U:H2'	1:O:189:A:H8	1.62	0.62
3:A:67:THR:HB	3:A:91:MET:HE1	1.81	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:277:ILE:O	3:A:281:LEU:HG	2.00	0.62
3:B:355:GLN:NE2	3:B:356:GLU:N	2.47	0.62
3:E:130:ALA:O	3:E:131:PHE:CD2	2.52	0.62
3:F:319:ASP:C	3:F:321:SER:H	2.02	0.62
3:I:63:LYS:NZ	3:I:63:LYS:HB3	2.15	0.62
3:M:222:GLY:C	3:M:224:MET:H	2.03	0.62
3:N:333:ILE:HG12	3:N:348:TYR:CE1	2.34	0.62
3:N:355:GLN:NE2	3:N:356:GLU:N	2.47	0.62
1:C:15:U:O4'	1:C:35:A:N6	2.32	0.62
1:K:159:A:O2'	1:K:160:U:OP1	2.15	0.62
1:K:238:U:H2'	1:K:239:C:C6	2.35	0.62
3:F:355:GLN:NE2	3:F:356:GLU:N	2.47	0.62
3:J:46:ASN:O	3:J:49:GLU:HB3	1.99	0.62
3:M:67:THR:HB	3:M:91:MET:HE1	1.81	0.62
3:M:121:PHE:O	3:M:125:LEU:HG	1.98	0.62
1:C:25:A:H1'	1:C:171:C:C4'	2.30	0.62
1:C:105:C:H2'	1:C:106:G:C5'	2.30	0.62
3:A:98:ALA:HB2	3:A:266:MET:HB3	1.80	0.62
3:M:220:ARG:HE	3:N:240:VAL:N	1.97	0.62
3:N:213:ARG:HG3	3:N:217:HIS:CD2	2.35	0.62
3:N:334:TRP:N	3:N:334:TRP:CD1	2.68	0.62
3:N:390:HIS:HE1	3:N:410:GLU:HG3	1.65	0.62
1:C:89:A:OP1	3:B:171:LYS:HD2	1.99	0.62
1:C:247:U:H2'	1:C:248:A:C5	2.35	0.62
1:G:228:A:C2	1:G:229:A:C8	2.87	0.62
3:E:73:GLU:HG2	3:E:369:ILE:HG13	1.80	0.62
3:E:108:SER:HA	3:E:169:GLN:NE2	2.00	0.62
3:E:270:GLY:H	3:E:273:GLN:HG3	1.64	0.62
3:M:326:GLY:C	3:M:333:ILE:HD12	2.18	0.62
1:C:34:G:N2	1:C:36:A:H61	1.97	0.61
1:K:34:G:N2	1:K:36:A:H61	1.98	0.61
3:B:232:ASN:C	3:B:234:MET:H	2.03	0.61
3:B:357:VAL:HG13	3:B:358:GLU:N	2.15	0.61
3:E:196:ILE:N	3:E:196:ILE:HD12	2.15	0.61
3:E:277:ILE:O	3:E:281:LEU:HG	2.00	0.61
1:C:79:G:O2'	1:C:80:G:H5'	2.00	0.61
1:K:185:A:O2'	1:K:186:U:OP2	2.17	0.61
1:K:227:U:H1'	1:K:229:A:C2	2.35	0.61
3:A:240:VAL:HG23	3:A:244:GLU:OE2	1.99	0.61
3:M:270:GLY:H	3:M:273:GLN:HG3	1.64	0.61
1:O:14:U:H1'	1:O:34:G:N2	2.15	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:O:105:C:H2'	1:O:106:G:C5'	2.30	0.61
1:O:251:U:O2'	1:O:252:G:H5'	2.00	0.61
3:J:138:THR:H	3:J:199:ASN:HD21	1.48	0.61
3:M:277:ILE:O	3:M:281:LEU:HG	2.00	0.61
1:G:211:U:O2'	1:G:212:A:H5'	2.00	0.61
1:K:20:C:O5'	1:K:20:C:H6	1.83	0.61
3:A:121:PHE:O	3:A:125:LEU:HG	2.00	0.61
3:B:415:MET:HA	3:B:415:MET:HE3	1.82	0.61
3:F:179:THR:HA	3:F:182:ARG:CZ	2.29	0.61
3:I:121:PHE:O	3:I:125:LEU:HG	2.01	0.61
1:G:120:A:O2'	1:G:121:C:OP1	2.14	0.61
1:G:217:A:O2'	1:G:218:G:O5'	2.17	0.61
1:K:25:A:H1'	1:K:171:C:C4'	2.30	0.61
3:A:222:GLY:C	3:A:224:MET:H	2.04	0.61
3:B:333:ILE:HG12	3:B:348:TYR:CE1	2.35	0.61
3:F:271:SER:HA	3:F:313:THR:OG1	2.01	0.61
1:G:171:C:C2	1:G:178:G:N2	2.69	0.61
1:K:105:C:H2'	1:K:106:G:C5'	2.30	0.61
3:B:179:THR:HA	3:B:182:ARG:CZ	2.29	0.61
3:E:111:VAL:HG21	3:E:333:ILE:HD13	1.82	0.61
3:E:208:MET:HG2	3:E:212:LEU:HD12	1.83	0.61
3:E:266:MET:HA	3:E:310:VAL:O	1.99	0.61
3:I:111:VAL:HG21	3:I:333:ILE:HD13	1.83	0.61
3:J:390:HIS:HE1	3:J:410:GLU:HG3	1.64	0.61
3:N:403:LYS:HG3	3:N:404:GLN:N	2.16	0.61
1:G:25:A:C2	1:G:179:G:H1'	2.36	0.61
1:K:12:C:H2'	1:K:13:C:C6	2.36	0.61
1:O:79:G:O2'	1:O:80:G:H5'	2.01	0.61
3:F:138:THR:H	3:F:199:ASN:HD21	1.49	0.61
1:G:139:G:O2'	1:G:140:U:P	2.58	0.61
1:K:79:G:O2'	1:K:80:G:H5'	2.01	0.61
3:A:123:MET:O	3:A:128:TYR:HD1	1.83	0.61
3:A:326:GLY:C	3:A:333:ILE:HD12	2.19	0.61
3:I:222:GLY:C	3:I:224:MET:H	2.04	0.61
3:M:267:GLN:NE2	3:M:277:ILE:HG12	2.16	0.61
1:K:211:U:O2'	1:K:212:A:H5'	2.01	0.61
3:A:411:ASP:O	3:A:415:MET:HB2	2.01	0.61
3:M:61:LYS:HZ3	3:M:63:LYS:HG3	1.65	0.61
3:N:291:GLU:HG2	3:N:300:VAL:HG21	1.82	0.61
1:C:15:U:O2	1:C:33:C:H1'	2.01	0.61
3:B:158:ASP:CG	3:B:159:ALA:H	2.03	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:E:109:LEU:HD11	3:E:166:ILE:HG23	1.82	0.61
3:E:121:PHE:O	3:E:125:LEU:HG	2.00	0.61
3:F:79:ASP:HB2	3:F:313:THR:CG2	2.31	0.61
3:J:254:ASP:O	3:J:257:GLU:HB2	2.01	0.61
3:N:79:ASP:HB2	3:N:313:THR:CG2	2.31	0.61
3:N:415:MET:HA	3:N:415:MET:HE3	1.83	0.61
1:K:139:G:O2'	1:K:140:U:P	2.58	0.60
1:O:120:A:O2'	1:O:121:C:OP1	2.14	0.60
3:A:266:MET:HA	3:A:310:VAL:O	2.01	0.60
3:I:67:THR:HB	3:I:91:MET:HE1	1.81	0.60
3:J:158:ASP:CG	3:J:159:ALA:H	2.03	0.60
3:J:291:GLU:HG2	3:J:300:VAL:HG21	1.83	0.60
3:J:297:ARG:HA	3:J:300:VAL:CG2	2.31	0.60
3:J:347:GLY:HA3	3:J:351:ARG:HH12	1.65	0.60
1:K:160:U:O2	1:K:184:G:C2'	2.45	0.60
3:B:291:GLU:HG2	3:B:300:VAL:HG21	1.83	0.60
3:I:133:LEU:HD12	3:I:197:VAL:HB	1.84	0.60
3:M:123:MET:O	3:M:128:TYR:HD1	1.84	0.60
1:C:211:U:O2'	1:C:212:A:H5'	2.00	0.60
1:G:79:G:O2'	1:G:80:G:H5'	2.01	0.60
1:K:25:A:C2	1:K:179:G:H1'	2.36	0.60
1:O:25:A:H1'	1:O:171:C:H4'	1.82	0.60
3:B:254:ASP:O	3:B:257:GLU:HB2	2.01	0.60
3:B:334:TRP:CD1	3:B:334:TRP:N	2.69	0.60
3:E:104:PRO:CB	3:E:166:ILE:HD13	2.31	0.60
3:F:215:VAL:HG12	3:F:286:ALA:HB3	1.83	0.60
3:I:277:ILE:O	3:I:281:LEU:HG	2.01	0.60
3:N:271:SER:HA	3:N:313:THR:OG1	2.01	0.60
1:C:12:C:H2'	1:C:13:C:C6	2.36	0.60
1:C:185:A:O2'	1:C:186:U:OP2	2.18	0.60
1:G:247:U:H2'	1:G:248:A:C5	2.37	0.60
1:K:58:A:H4'	1:K:59:C:O5'	2.01	0.60
1:O:102:G:N2	1:O:105:C:C2	2.65	0.60
1:O:247:U:H2'	1:O:248:A:C5	2.37	0.60
3:A:40:LYS:O	3:A:43:ALA:HB3	2.02	0.60
3:A:61:LYS:HZ3	3:A:63:LYS:HG3	1.66	0.60
3:B:79:ASP:HB2	3:B:313:THR:CG2	2.32	0.60
3:F:181:MET:O	3:F:186:TYR:HB2	2.01	0.60
3:I:326:GLY:C	3:I:333:ILE:HD12	2.21	0.60
3:J:94:ARG:HG2	3:J:96:ILE:HG22	1.83	0.60
3:J:230:VAL:HG12	3:J:234:MET:SD	2.41	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:M:208:MET:HG2	3:M:212:LEU:HD12	1.83	0.60
3:N:97:GLY:HA2	3:N:129:LYS:O	2.02	0.60
3:N:138:THR:HG22	3:N:199:ASN:HD21	1.65	0.60
3:N:181:MET:O	3:N:186:TYR:HB2	1.99	0.60
1:C:102:G:H1	1:C:105:C:N4	1.99	0.60
1:C:149:G:N1	1:C:230:C:N4	2.50	0.60
1:G:25:A:H1'	1:G:171:C:C4'	2.31	0.60
1:K:15:U:O4'	1:K:35:A:N6	2.34	0.60
1:O:238:U:H2'	1:O:239:C:C6	2.36	0.60
3:A:108:SER:HA	3:A:169:GLN:NE2	2.02	0.60
3:F:96:ILE:HD12	3:F:96:ILE:C	2.22	0.60
3:F:347:GLY:HA3	3:F:351:ARG:HH12	1.65	0.60
3:J:215:VAL:HG12	3:J:286:ALA:HB3	1.84	0.60
3:N:94:ARG:HG2	3:N:96:ILE:HG22	1.82	0.60
3:A:267:GLN:NE2	3:A:277:ILE:HG12	2.17	0.60
3:F:333:ILE:HG12	3:F:348:TYR:CE1	2.36	0.60
3:I:67:THR:O	3:I:70:LEU:HB3	2.01	0.60
3:I:266:MET:HA	3:I:310:VAL:O	2.01	0.60
3:J:179:THR:HA	3:J:182:ARG:CZ	2.32	0.60
3:M:108:SER:HA	3:M:169:GLN:NE2	2.01	0.60
3:N:158:ASP:CG	3:N:159:ALA:H	2.03	0.60
1:O:102:G:H1	1:O:105:C:N4	1.98	0.60
1:O:215:G:H21	1:O:244:A:H61	1.50	0.60
3:N:83:THR:HB	3:N:86:HIS:H	1.66	0.60
1:O:12:C:H2'	1:O:13:C:C6	2.37	0.60
3:A:104:PRO:CB	3:A:166:ILE:HD13	2.31	0.60
3:M:87:ILE:HG23	3:M:310:VAL:HG21	1.84	0.60
1:C:215:G:O6	1:C:246:A:C6	2.55	0.60
1:G:12:C:H2'	1:G:13:C:C6	2.37	0.60
1:K:103(A):A:C2	1:O:228:A:C2	2.89	0.60
3:B:319:ASP:C	3:B:321:SER:H	2.03	0.60
3:N:247:TYR:N	3:N:248:PRO:HD2	2.17	0.60
1:C:139:G:O2'	1:C:140:U:P	2.59	0.60
1:G:20:C:H6	1:G:20:C:O5'	1.84	0.60
1:K:247:U:H2'	1:K:248:A:C5	2.36	0.60
1:O:171:C:C2	1:O:178:G:N2	2.70	0.60
3:E:63:LYS:NZ	3:E:63:LYS:HB3	2.17	0.60
3:I:234:MET:HA	3:I:239:GLY:HA2	1.83	0.60
3:J:333:ILE:HG12	3:J:348:TYR:CE1	2.37	0.60
1:C:238:U:H2'	1:C:239:C:C6	2.36	0.59
1:O:25:A:C2	1:O:179:G:H1'	2.37	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:O:34:G:N2	1:O:36:A:H61	1.99	0.59
3:I:183:ALA:C	3:I:185:GLY:H	2.05	0.59
3:M:415:MET:O	3:M:416:MET:CB	2.50	0.59
3:N:288:ARG:HB3	3:N:300:VAL:O	2.01	0.59
1:O:211:U:O2'	1:O:212:A:H5'	2.01	0.59
3:A:234:MET:HA	3:A:239:GLY:HA2	1.84	0.59
3:I:415:MET:O	3:I:416:MET:CB	2.50	0.59
3:M:240:VAL:O	3:N:220:ARG:HA	2.01	0.59
3:M:266:MET:HA	3:M:310:VAL:O	2.02	0.59
1:G:45:U:H5"	1:G:46:A:OP1	2.01	0.59
1:G:102:G:H1	1:G:105:C:N4	2.00	0.59
1:K:171:C:C2	1:K:178:G:N2	2.69	0.59
1:O:20:C:O5'	1:O:20:C:H6	1.85	0.59
3:J:96:ILE:HD12	3:J:96:ILE:C	2.23	0.59
1:C:34:G:H21	1:C:36:A:H61	1.50	0.59
1:G:149:G:N1	1:G:230:C:N4	2.49	0.59
1:O:96:C:O5'	1:O:96:C:H6	1.86	0.59
3:A:61:LYS:HZ3	3:A:61:LYS:HB2	1.66	0.59
3:B:96:ILE:HD12	3:B:96:ILE:C	2.22	0.59
3:B:271:SER:HA	3:B:313:THR:OG1	2.02	0.59
3:M:73:GLU:HG2	3:M:369:ILE:HG13	1.84	0.59
3:M:104:PRO:CB	3:M:166:ILE:HD13	2.32	0.59
3:M:411:ASP:O	3:M:415:MET:HB2	2.02	0.59
1:C:96:C:O5'	1:C:96:C:H6	1.86	0.59
1:O:149:G:N1	1:O:230:C:N4	2.51	0.59
3:I:55:ARG:NH2	3:I:128:TYR:OH	2.36	0.59
3:M:183:ALA:C	3:M:185:GLY:H	2.06	0.59
3:M:234:MET:HA	3:M:239:GLY:HA2	1.84	0.59
1:C:102:G:N2	1:C:105:C:C2	2.66	0.59
1:G:250:U:O2'	1:G:251:U:H5'	2.03	0.59
1:K:215:G:O6	1:K:246:A:C6	2.56	0.59
1:O:15:U:O2	1:O:33:C:H1'	2.03	0.59
3:B:46:ASN:O	3:B:49:GLU:HB3	2.02	0.59
3:F:158:ASP:CG	3:F:159:ALA:H	2.04	0.59
3:F:230:VAL:O	3:F:233:LYS:N	2.35	0.59
3:J:288:ARG:HB3	3:J:300:VAL:O	2.02	0.59
3:M:240:VAL:CG2	3:M:244:GLU:HB2	2.32	0.59
3:N:179:THR:HA	3:N:182:ARG:CZ	2.31	0.59
1:G:151:G:O2'	1:G:152:A:H5'	2.01	0.59
1:O:45:U:H5"	1:O:46:A:OP1	2.03	0.59
1:O:139:G:O2'	1:O:140:U:P	2.60	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:78:LYS:HB3	3:A:313:THR:O	2.03	0.59
3:B:83:THR:HB	3:B:86:HIS:H	1.68	0.59
3:F:254:ASP:O	3:F:257:GLU:HB2	2.02	0.59
3:I:125:LEU:HA	3:I:192:ARG:NH2	2.17	0.59
3:I:240:VAL:HG23	3:I:244:GLU:OE2	2.01	0.59
3:M:111:VAL:HG21	3:M:333:ILE:HD13	1.84	0.59
1:C:20:C:O5'	1:C:20:C:H6	1.85	0.59
1:C:25:A:H1'	1:C:171:C:H4'	1.84	0.59
1:C:25:A:C2	1:C:179:G:H1'	2.37	0.59
1:K:34:G:H21	1:K:36:A:H61	1.50	0.59
1:O:250:U:O2'	1:O:251:U:H5'	2.02	0.59
2:P:1:G:H8	2:P:1:G:OP1	1.86	0.59
3:B:181:MET:O	3:B:186:TYR:HB2	2.01	0.59
3:E:121:PHE:O	3:E:124:TYR:HB3	2.03	0.59
3:J:230:VAL:O	3:J:233:LYS:N	2.36	0.59
1:O:168:A:O2'	1:O:169:C:H5'	2.02	0.59
3:A:111:VAL:HG21	3:A:333:ILE:HD13	1.84	0.59
3:A:220:ARG:HD3	3:A:222:GLY:H	1.68	0.59
3:J:181:MET:O	3:J:186:TYR:HB2	2.02	0.59
3:J:334:TRP:CD1	3:J:334:TRP:N	2.71	0.59
3:N:319:ASP:C	3:N:321:SER:H	2.04	0.59
1:C:58:A:H4'	1:C:59:C:O5'	2.01	0.59
1:G:25:A:H1'	1:G:171:C:H4'	1.84	0.59
1:G:123:A:O3'	3:F:39:PRO:HB3	2.02	0.59
3:A:361:LEU:HD13	3:A:392:LEU:HB2	1.85	0.59
3:E:55:ARG:NH2	3:E:128:TYR:OH	2.36	0.59
3:E:267:GLN:NE2	3:E:277:ILE:HG12	2.17	0.59
3:J:99:TYR:HE1	3:J:133:LEU:HD23	1.68	0.59
1:C:171:C:C2	1:C:178:G:N2	2.71	0.58
1:G:103(A):A:O2'	1:G:103(B):A:H5'	2.03	0.58
3:A:73:GLU:HG2	3:A:369:ILE:HG13	1.84	0.58
3:J:403:LYS:HG3	3:J:404:GLN:H	1.68	0.58
3:M:67:THR:O	3:M:70:LEU:HB3	2.03	0.58
3:N:46:ASN:O	3:N:49:GLU:HB3	2.02	0.58
3:N:214:ARG:HD2	3:N:290:SER:HB2	1.85	0.58
1:K:25:A:H1'	1:K:171:C:H4'	1.84	0.58
1:K:102:G:H1	1:K:105:C:H42	1.47	0.58
3:A:240:VAL:CG2	3:A:244:GLU:HB2	2.33	0.58
3:A:415:MET:O	3:A:416:MET:CB	2.52	0.58
3:E:183:ALA:C	3:E:185:GLY:H	2.06	0.58
3:F:355:GLN:CD	3:F:356:GLU:N	2.56	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:J:271:SER:HA	3:J:313:THR:OG1	2.02	0.58
3:M:94:ARG:HH21	3:M:306:LEU:HB2	1.68	0.58
1:O:58:A:H4'	1:O:59:C:O5'	2.01	0.58
3:B:346:TYR:CE2	3:B:410:GLU:HA	2.39	0.58
3:E:67:THR:O	3:E:70:LEU:HB3	2.04	0.58
3:E:125:LEU:HA	3:E:192:ARG:NH2	2.18	0.58
3:F:297:ARG:HA	3:F:300:VAL:HG22	1.85	0.58
3:F:415:MET:HA	3:F:415:MET:HE3	1.86	0.58
3:J:79:ASP:HB2	3:J:313:THR:CG2	2.32	0.58
3:J:355:GLN:CD	3:J:356:GLU:N	2.56	0.58
3:N:346:TYR:CE2	3:N:410:GLU:HA	2.39	0.58
1:C:250:U:O2'	1:C:251:U:H5'	2.03	0.58
1:G:34:G:N2	1:G:36:A:H61	1.99	0.58
1:G:215:G:O6	1:G:246:A:C6	2.56	0.58
3:F:94:ARG:HG2	3:F:96:ILE:HG22	1.86	0.58
3:F:334:TRP:N	3:F:334:TRP:CD1	2.71	0.58
1:G:96:C:O5'	1:G:96:C:H6	1.86	0.58
1:G:102:G:N2	1:G:105:C:C2	2.66	0.58
3:A:55:ARG:NH2	3:A:128:TYR:OH	2.37	0.58
3:A:196:ILE:HD12	3:A:196:ILE:N	2.17	0.58
3:I:208:MET:HG2	3:I:212:LEU:HD12	1.83	0.58
3:I:240:VAL:O	3:J:220:ARG:HA	2.04	0.58
1:K:245:C:H3'	1:K:246:A:H5"	1.86	0.58
1:O:34:G:H21	1:O:36:A:H61	1.51	0.58
3:A:183:ALA:C	3:A:185:GLY:H	2.07	0.58
3:B:247:TYR:N	3:B:248:PRO:HD2	2.18	0.58
3:B:288:ARG:HB3	3:B:300:VAL:O	2.03	0.58
1:K:250:U:O2'	1:K:251:U:H5'	2.03	0.58
2:L:1:G:H8	2:L:1:G:OP1	1.87	0.58
1:O:102:G:H2'	1:O:103:G:H8	1.68	0.58
3:A:67:THR:O	3:A:70:LEU:HB3	2.04	0.58
3:I:212:LEU:O	3:I:216:GLY:HA3	2.04	0.58
3:I:293:ASP:HB3	3:I:296:GLU:HB2	1.85	0.58
3:M:196:ILE:N	3:M:196:ILE:HD12	2.18	0.58
3:N:254:ASP:O	3:N:257:GLU:HB2	2.03	0.58
1:K:188:U:OP2	1:K:189:A:OP2	2.22	0.58
3:B:94:ARG:HG2	3:B:96:ILE:HG22	1.84	0.58
3:B:138:THR:HG22	3:B:199:ASN:HD21	1.67	0.58
3:B:347:GLY:O	3:B:349:PHE:N	2.37	0.58
3:E:172:LYS:HA	3:E:175:GLU:OE2	2.04	0.58
3:I:172:LYS:HA	3:I:175:GLU:OE2	2.04	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:M:361:LEU:HD13	3:M:392:LEU:HB2	1.86	0.58
3:N:347:GLY:O	3:N:349:PHE:N	2.37	0.58
1:G:58:A:H4'	1:G:59:C:O5'	2.02	0.58
1:K:87:U:O2'	1:K:88:G:H5'	2.04	0.58
1:K:155:C:H2'	1:K:156:G:H5'	1.85	0.58
1:O:89:A:OP1	3:N:171:LYS:HD2	2.03	0.58
1:O:215:G:O6	1:O:246:A:C6	2.57	0.58
3:I:350:VAL:HG22	3:I:386:ARG:HH22	1.67	0.58
1:K:232:A:H8	1:K:232:A:O5'	1.87	0.58
3:A:94:ARG:HH21	3:A:306:LEU:HB2	1.69	0.58
3:A:293:ASP:HB3	3:A:296:GLU:HB2	1.86	0.58
3:B:99:TYR:HE1	3:B:133:LEU:HD23	1.67	0.58
3:B:215:VAL:HG12	3:B:286:ALA:HB3	1.85	0.58
3:E:234:MET:HA	3:E:239:GLY:HA2	1.85	0.58
3:J:139:ALA:C	3:J:141:ILE:H	2.07	0.58
3:N:297:ARG:HA	3:N:300:VAL:HG22	1.84	0.58
1:C:45:U:H5"	1:C:46:A:OP1	2.04	0.57
1:C:46:A:H2'	1:C:47:A:C8	2.39	0.57
1:C:120:A:O2'	1:C:121:C:OP1	2.16	0.57
3:F:288:ARG:HB3	3:F:300:VAL:O	2.03	0.57
3:F:291:GLU:HG2	3:F:300:VAL:HG21	1.85	0.57
3:F:403:LYS:HG3	3:F:404:GLN:H	1.67	0.57
3:J:347:GLY:O	3:J:349:PHE:N	2.37	0.57
3:M:220:ARG:HD3	3:M:222:GLY:H	1.69	0.57
3:N:96:ILE:HD12	3:N:97:GLY:C	2.25	0.57
3:N:215:VAL:HG12	3:N:286:ALA:HB3	1.85	0.57
3:N:355:GLN:CD	3:N:356:GLU:N	2.57	0.57
1:C:239:C:O2'	1:C:240:C:H5'	2.04	0.57
2:D:1:G:H8	2:D:1:G:OP1	1.87	0.57
1:G:155:C:H2'	1:G:156:G:H5'	1.85	0.57
1:K:149:G:N1	1:K:230:C:N4	2.51	0.57
3:A:176:ASN:HA	3:A:179:THR:OG1	2.05	0.57
3:B:355:GLN:CD	3:B:356:GLU:N	2.57	0.57
3:E:212:LEU:O	3:E:216:GLY:HA3	2.04	0.57
3:F:99:TYR:HE1	3:F:133:LEU:HD23	1.69	0.57
3:I:176:ASN:HA	3:I:179:THR:OG1	2.03	0.57
3:N:230:VAL:O	3:N:233:LYS:N	2.36	0.57
1:G:102:G:H2'	1:G:103:G:H8	1.69	0.57
1:G:232:A:H8	1:G:232:A:O5'	1.87	0.57
3:J:176:ASN:HA	3:J:179:THR:HB	1.86	0.57
3:M:55:ARG:NH2	3:M:128:TYR:OH	2.37	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:N:99:TYR:HE1	3:N:133:LEU:HD23	1.68	0.57
3:N:138:THR:H	3:N:199:ASN:HD21	1.50	0.57
1:G:37:A:H2'	1:G:38:A:O4'	2.05	0.57
1:G:245:C:H3'	1:G:246:A:H5"	1.87	0.57
1:O:239:C:O2'	1:O:240:C:H5'	2.04	0.57
3:B:230:VAL:HG12	3:B:234:MET:SD	2.44	0.57
3:E:83:THR:O	3:E:87:ILE:HG13	2.04	0.57
3:E:293:ASP:HB3	3:E:296:GLU:HB2	1.85	0.57
3:I:361:LEU:HD13	3:I:392:LEU:HB2	1.87	0.57
3:M:293:ASP:HB3	3:M:296:GLU:HB2	1.86	0.57
1:C:37:A:H2'	1:C:38:A:O4'	2.04	0.57
2:H:1:G:H8	2:H:1:G:OP1	1.88	0.57
1:K:96:C:O5'	1:K:96:C:H6	1.88	0.57
3:A:220:ARG:HE	3:B:240:VAL:N	2.02	0.57
3:A:324:LYS:HB3	3:A:324:LYS:HZ2	1.67	0.57
3:B:297:ARG:HA	3:B:300:VAL:HG22	1.85	0.57
3:I:392:LEU:HD23	3:I:392:LEU:O	2.04	0.57
3:J:346:TYR:CE2	3:J:410:GLU:HA	2.40	0.57
3:M:392:LEU:HD23	3:M:392:LEU:O	2.04	0.57
3:N:96:ILE:HD12	3:N:96:ILE:C	2.24	0.57
3:N:192:ARG:HH21	3:N:192:ARG:HG3	1.67	0.57
1:G:51:A:OP1	3:F:261:GLN:HG2	2.04	0.57
1:K:51:A:OP1	3:J:261:GLN:HG2	2.05	0.57
1:O:30:U:H2'	1:O:31:A:C8	2.40	0.57
1:O:37:A:H2'	1:O:38:A:O4'	2.05	0.57
3:E:392:LEU:HD23	3:E:392:LEU:O	2.04	0.57
3:F:347:GLY:O	3:F:349:PHE:N	2.38	0.57
3:I:220:ARG:HE	3:J:240:VAL:N	2.02	0.57
3:I:374:LYS:HA	3:I:374:LYS:HZ2	1.68	0.57
3:M:78:LYS:HB3	3:M:313:THR:O	2.04	0.57
2:L:1:G:H8	2:L:1:G:P	2.28	0.57
1:O:46:A:H2'	1:O:47:A:C8	2.39	0.57
3:A:350:VAL:HG22	3:A:386:ARG:HH22	1.68	0.57
3:I:121:PHE:O	3:I:124:TYR:HB3	2.05	0.57
1:G:34:G:H21	1:G:36:A:H61	1.52	0.57
1:G:102:G:H1	1:G:105:C:H42	1.51	0.57
1:K:123:A:O3'	3:J:39:PRO:HB3	2.05	0.57
1:O:245:C:H3'	1:O:246:A:H5"	1.85	0.57
2:P:1:G:H8	2:P:1:G:P	2.27	0.57
3:A:293:ASP:O	3:A:297:ARG:HG3	2.04	0.57
3:B:192:ARG:HH21	3:B:192:ARG:HG3	1.68	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:E:125:LEU:HB3	3:E:186:TYR:CE2	2.39	0.57
3:J:297:ARG:HA	3:J:300:VAL:HG22	1.86	0.57
1:G:58:A:C4	1:G:58:A:OP2	2.58	0.57
1:G:89:A:OP1	3:F:171:LYS:HD2	2.04	0.57
1:K:103(A):A:O2'	1:K:103(B):A:H5'	2.04	0.57
1:K:196:A:OP2	1:K:197:C:N4	2.38	0.57
1:K:215:G:H21	1:K:244:A:H61	1.53	0.57
3:A:87:ILE:HG23	3:A:310:VAL:HG21	1.87	0.57
3:A:240:VAL:O	3:B:220:ARG:HA	2.04	0.57
3:E:240:VAL:CG2	3:E:244:GLU:HB2	2.34	0.57
3:E:350:VAL:HG22	3:E:386:ARG:HH22	1.68	0.57
3:F:198:ASN:ND2	3:F:200:ASN:HD21	2.02	0.57
3:I:125:LEU:HB3	3:I:186:TYR:CE2	2.39	0.57
3:M:83:THR:O	3:M:87:ILE:HG13	2.04	0.57
1:C:58:A:C5	1:C:58:A:OP2	2.58	0.57
1:C:155:C:H2'	1:C:156:G:H5'	1.87	0.57
3:A:121:PHE:O	3:A:124:TYR:HB3	2.05	0.57
3:E:176:ASN:HA	3:E:179:THR:OG1	2.04	0.57
3:I:138:THR:HG22	3:I:199:ASN:ND2	2.20	0.57
1:C:103(A):A:O2'	1:C:103(B):A:H5'	2.04	0.56
1:C:215:G:H21	1:C:244:A:H61	1.53	0.56
3:A:392:LEU:HD23	3:A:392:LEU:O	2.04	0.56
3:B:403:LYS:HG3	3:B:404:GLN:H	1.69	0.56
3:E:240:VAL:O	3:F:220:ARG:HA	2.04	0.56
3:I:267:GLN:NE2	3:I:277:ILE:HG12	2.19	0.56
3:I:278:ILE:O	3:I:281:LEU:HB2	2.05	0.56
3:J:96:ILE:HD12	3:J:97:GLY:C	2.26	0.56
3:M:122:TRP:HA	3:M:125:LEU:HD12	1.86	0.56
3:M:259:PHE:CE1	3:M:288:ARG:NE	2.73	0.56
3:N:333:ILE:HG21	3:N:348:TYR:HD1	1.69	0.56
1:C:51:A:OP1	3:B:261:GLN:HG2	2.04	0.56
1:C:245:C:H3'	1:C:246:A:H5"	1.86	0.56
1:G:168:A:O2'	1:G:169:C:H5'	2.05	0.56
1:G:196:A:OP2	1:G:197:C:N4	2.38	0.56
1:O:155:C:H2'	1:O:156:G:H5'	1.88	0.56
1:O:227:U:H2'	1:O:229:A:OP2	2.04	0.56
3:B:138:THR:H	3:B:199:ASN:HD21	1.52	0.56
3:E:61:LYS:HZ3	3:E:61:LYS:HB2	1.70	0.56
3:M:172:LYS:HA	3:M:175:GLU:OE2	2.04	0.56
1:C:58:A:OP2	1:C:58:A:C4	2.58	0.56
1:G:15:U:O2	1:G:33:C:H1'	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:227:U:H2'	1:G:229:A:OP2	2.06	0.56
2:H:1:G:H8	2:H:1:G:P	2.28	0.56
1:K:58:A:OP2	1:K:58:A:C4	2.58	0.56
1:O:102:G:H1	1:O:105:C:H42	1.49	0.56
1:O:103(A):A:O2'	1:O:103(B):A:H5'	2.04	0.56
3:A:83:THR:O	3:A:87:ILE:HG13	2.04	0.56
3:E:94:ARG:HH21	3:E:306:LEU:HB2	1.70	0.56
3:E:415:MET:O	3:E:416:MET:CB	2.52	0.56
3:F:169:GLN:O	3:F:170:LEU:C	2.43	0.56
3:F:386:ARG:HH12	3:F:390:HIS:HD2	1.53	0.56
3:I:225:LEU:HD23	3:I:225:LEU:C	2.26	0.56
3:I:259:PHE:CE1	3:I:288:ARG:NE	2.73	0.56
3:J:192:ARG:HH21	3:J:192:ARG:HG3	1.70	0.56
3:J:214:ARG:HD2	3:J:290:SER:HB2	1.86	0.56
3:M:240:VAL:CG1	3:N:221:ILE:HG12	2.36	0.56
1:C:168:A:O2'	1:C:169:C:H5'	2.05	0.56
1:G:171:C:C2	1:G:178:G:C2	2.93	0.56
1:G:185:A:H4'	1:G:186:U:C5'	2.36	0.56
1:K:58:A:OP2	1:K:58:A:C5	2.59	0.56
3:B:333:ILE:HG21	3:B:348:TYR:HD1	1.69	0.56
3:M:138:THR:HG22	3:M:199:ASN:ND2	2.20	0.56
3:M:293:ASP:O	3:M:297:ARG:HG3	2.05	0.56
1:G:46:A:H2'	1:G:47:A:C8	2.40	0.56
1:G:58:A:OP2	1:G:58:A:C5	2.59	0.56
3:I:405:GLU:O	3:I:408:ALA:N	2.38	0.56
3:J:59:ILE:HG21	3:J:66:ASN:HB2	1.87	0.56
3:M:350:VAL:HG22	3:M:386:ARG:HH22	1.69	0.56
1:C:30:U:H2'	1:C:31:A:C8	2.41	0.56
1:C:196:A:H2	1:C:250:U:H3	1.52	0.56
1:G:149:G:N2	1:G:150:U:H1'	2.20	0.56
1:G:188:U:OP2	1:G:189:A:OP2	2.24	0.56
1:O:196:A:OP2	1:O:197:C:N4	2.39	0.56
3:A:49:GLU:OE1	3:A:49:GLU:HA	2.04	0.56
3:E:405:GLU:O	3:E:408:ALA:N	2.39	0.56
3:M:325:PHE:HE2	3:M:348:TYR:HE1	1.51	0.56
3:M:372:ILE:HG22	3:M:373:THR:N	2.20	0.56
1:G:87:U:O2'	1:G:88:G:H5'	2.05	0.56
3:A:125:LEU:HA	3:A:192:ARG:NH2	2.20	0.56
3:F:192:ARG:HH21	3:F:192:ARG:HG3	1.69	0.56
3:I:49:GLU:OE1	3:I:49:GLU:HA	2.03	0.56
3:I:87:ILE:HG23	3:I:310:VAL:HG21	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:I:94:ARG:HH21	3:I:306:LEU:HB2	1.70	0.56
3:I:357:VAL:O	3:I:361:LEU:HB2	2.05	0.56
3:J:83:THR:HB	3:J:86:HIS:H	1.70	0.56
3:M:176:ASN:HA	3:M:179:THR:OG1	2.06	0.56
3:N:110:HIS:CE1	3:N:112:GLY:HA3	2.41	0.56
3:N:139:ALA:C	3:N:141:ILE:H	2.08	0.56
1:G:185:A:H4'	1:G:186:U:H5"	1.87	0.56
1:K:37:A:H2'	1:K:38:A:O4'	2.05	0.56
1:K:239:C:O2'	1:K:240:C:H5'	2.05	0.56
3:B:349:PHE:CE2	3:B:396:VAL:HG21	2.40	0.56
3:F:346:TYR:CE2	3:F:410:GLU:HA	2.40	0.56
3:M:249:ILE:HG13	3:N:242:PHE:CE2	2.40	0.56
2:D:1:G:H8	2:D:1:G:P	2.29	0.56
1:G:30:U:H2'	1:G:31:A:C8	2.40	0.56
1:K:30:U:H2'	1:K:31:A:C8	2.40	0.56
1:O:196:A:H2	1:O:250:U:H3	1.52	0.56
3:I:240:VAL:CG2	3:I:244:GLU:HB2	2.34	0.56
3:I:300:VAL:HG23	3:I:301:THR:N	2.21	0.56
3:M:125:LEU:HA	3:M:192:ARG:NH2	2.20	0.56
3:M:319:ASP:O	3:M:321:SER:N	2.39	0.56
1:C:94:A:H61	1:C:113:A:H62	1.54	0.56
1:C:102:G:H1	1:C:105:C:H42	1.49	0.56
1:K:246:A:H1'	1:K:247:U:C5	2.40	0.56
1:O:58:A:C5	1:O:58:A:OP2	2.59	0.56
3:A:300:VAL:HG23	3:A:301:THR:N	2.21	0.56
3:B:59:ILE:HG21	3:B:66:ASN:HB2	1.88	0.56
3:B:139:ALA:C	3:B:141:ILE:H	2.08	0.56
3:B:272:ASP:C	3:B:274:TYR:H	2.10	0.56
3:E:259:PHE:CE1	3:E:288:ARG:NE	2.73	0.56
3:F:139:ALA:C	3:F:141:ILE:H	2.08	0.56
3:J:180:GLN:O	3:J:184:ARG:HG2	2.06	0.56
3:N:230:VAL:HG12	3:N:234:MET:SD	2.46	0.56
3:N:403:LYS:HG3	3:N:404:GLN:H	1.70	0.56
1:C:123:A:O3'	3:B:39:PRO:HB3	2.06	0.55
1:C:196:A:OP2	1:C:197:C:N4	2.40	0.55
1:G:246:A:H1'	1:G:247:U:C5	2.41	0.55
1:O:171:C:C2	1:O:178:G:C2	2.94	0.55
1:O:188:U:OP2	1:O:189:A:OP2	2.25	0.55
1:O:246:A:H1'	1:O:247:U:C5	2.41	0.55
3:E:319:ASP:O	3:E:321:SER:N	2.39	0.55
3:E:325:PHE:HE2	3:E:348:TYR:HE1	1.53	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:I:220:ARG:HD3	3:I:222:GLY:H	1.70	0.55
3:I:325:PHE:HE2	3:I:348:TYR:HE1	1.52	0.55
3:M:121:PHE:O	3:M:124:TYR:HB3	2.06	0.55
3:M:225:LEU:HD23	3:M:225:LEU:C	2.25	0.55
1:G:30:U:H2'	1:G:31:A:H8	1.71	0.55
3:A:259:PHE:CE1	3:A:288:ARG:NE	2.74	0.55
3:E:220:ARG:HD3	3:E:222:GLY:H	1.70	0.55
3:E:357:VAL:O	3:E:361:LEU:HB2	2.07	0.55
3:F:96:ILE:HD12	3:F:97:GLY:C	2.26	0.55
3:J:133:LEU:HD21	3:J:254:ASP:OD2	2.06	0.55
3:J:272:ASP:C	3:J:274:TYR:H	2.10	0.55
1:C:227:U:H2'	1:C:229:A:OP2	2.06	0.55
1:C:232:A:H8	1:C:232:A:O5'	1.90	0.55
1:G:239:C:O2'	1:G:240:C:H5'	2.06	0.55
1:K:171:C:C2	1:K:178:G:C2	2.94	0.55
3:A:172:LYS:HA	3:A:175:GLU:OE2	2.06	0.55
3:B:230:VAL:O	3:B:233:LYS:N	2.39	0.55
3:E:49:GLU:OE1	3:E:49:GLU:HA	2.04	0.55
3:E:224:MET:HB3	3:E:245:PHE:CE2	2.39	0.55
3:J:138:THR:HG22	3:J:199:ASN:HD21	1.67	0.55
3:M:278:ILE:O	3:M:281:LEU:HB2	2.06	0.55
1:G:160:U:O2	1:G:184:G:C2'	2.48	0.55
1:K:46:A:H2'	1:K:47:A:C8	2.41	0.55
1:K:120:A:O2'	1:K:121:C:OP1	2.16	0.55
1:K:227:U:H2'	1:K:229:A:OP2	2.07	0.55
3:A:225:LEU:HD23	3:A:225:LEU:C	2.26	0.55
3:B:110:HIS:CE1	3:B:112:GLY:HA3	2.42	0.55
3:E:138:THR:HG22	3:E:199:ASN:ND2	2.21	0.55
3:F:180:GLN:O	3:F:184:ARG:HG2	2.06	0.55
3:I:83:THR:O	3:I:87:ILE:HG13	2.05	0.55
3:J:290:SER:O	3:J:291:GLU:C	2.44	0.55
1:C:172:U:O2'	1:C:177:G:N2	2.40	0.55
1:O:51:A:OP1	3:N:261:GLN:HG2	2.06	0.55
1:O:134:A:H2'	1:O:135:G:H5'	1.88	0.55
3:B:96:ILE:HD12	3:B:97:GLY:C	2.27	0.55
3:B:214:ARG:HD2	3:B:290:SER:HB2	1.88	0.55
3:E:300:VAL:HG23	3:E:301:THR:N	2.22	0.55
3:F:214:ARG:HD2	3:F:290:SER:HB2	1.88	0.55
3:F:328:SER:O	3:F:329:ALA:HB3	2.06	0.55
3:M:49:GLU:OE1	3:M:49:GLU:HA	2.05	0.55
3:N:180:GLN:O	3:N:184:ARG:HG2	2.06	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:134:A:H2'	1:C:135:G:H5'	1.88	0.55
1:C:171:C:C2	1:C:178:G:C2	2.95	0.55
1:K:94:A:H61	1:K:113:A:H62	1.53	0.55
1:K:168:A:O2'	1:K:169:C:H5'	2.06	0.55
1:O:57:C:C2'	1:O:57:C:O2	2.54	0.55
3:J:198:ASN:ND2	3:J:200:ASN:HD21	2.04	0.55
3:N:273:GLN:OE1	3:N:276:ASN:OD1	2.25	0.55
1:G:22:G:N2	1:G:24:A:H3'	2.21	0.55
1:K:57:C:O2	1:K:57:C:C2'	2.54	0.55
1:K:102:G:H2'	1:K:103:G:H8	1.70	0.55
1:O:30:U:H2'	1:O:31:A:H8	1.70	0.55
1:O:123:A:O3'	3:N:39:PRO:HB3	2.07	0.55
3:A:138:THR:HG22	3:A:199:ASN:ND2	2.22	0.55
3:F:83:THR:HB	3:F:86:HIS:H	1.71	0.55
3:J:232:ASN:O	3:J:234:MET:N	2.39	0.55
1:K:103:G:O2'	1:K:103(B):A:N7	2.39	0.55
1:O:22:G:N2	1:O:24:A:H3'	2.22	0.55
1:O:87:U:O2'	1:O:88:G:H5'	2.07	0.55
1:O:153:C:O2'	1:O:154:U:H5'	2.06	0.55
3:A:212:LEU:O	3:A:216:GLY:HA3	2.06	0.55
3:E:145:THR:HG23	3:E:145:THR:O	2.07	0.55
3:F:133:LEU:HD21	3:F:254:ASP:OD2	2.07	0.55
3:F:247:TYR:N	3:F:248:PRO:HD2	2.22	0.55
3:I:173:LEU:O	3:I:177:VAL:HG23	2.07	0.55
1:C:188:U:OP2	1:C:189:A:OP2	2.25	0.55
1:G:94:A:H61	1:G:113:A:H62	1.54	0.55
1:G:142:G:H1	1:G:155:C:N4	2.04	0.55
1:O:94:A:H61	1:O:113:A:H62	1.55	0.55
1:O:232:A:H8	1:O:232:A:O5'	1.90	0.55
3:A:325:PHE:HE2	3:A:348:TYR:HE1	1.53	0.55
3:E:78:LYS:HB3	3:E:313:THR:O	2.07	0.55
3:E:87:ILE:HG23	3:E:310:VAL:HG21	1.87	0.55
3:E:173:LEU:O	3:E:177:VAL:HG23	2.06	0.55
3:F:272:ASP:C	3:F:274:TYR:H	2.10	0.55
3:F:290:SER:O	3:F:291:GLU:C	2.46	0.55
3:M:61:LYS:HB2	3:M:61:LYS:NZ	2.21	0.55
1:K:142:G:H1	1:K:155:C:N4	2.05	0.55
3:A:84:LYS:H	3:A:84:LYS:HD2	1.71	0.55
3:A:319:ASP:O	3:A:321:SER:N	2.40	0.55
3:I:122:TRP:HA	3:I:125:LEU:HD12	1.89	0.55
3:N:272:ASP:C	3:N:274:TYR:H	2.11	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:N:328:SER:O	3:N:329:ALA:HB3	2.07	0.55
1:G:139:G:O2'	1:G:140:U:O5'	2.25	0.54
1:G:172:U:O2'	1:G:177:G:N2	2.40	0.54
1:O:58:A:OP2	1:O:58:A:C4	2.60	0.54
1:O:142:G:H1	1:O:155:C:N4	2.05	0.54
3:A:102:ILE:HD13	3:A:109:LEU:HD21	1.89	0.54
3:A:124:TYR:CE1	3:A:194:ARG:HB3	2.42	0.54
3:A:125:LEU:HB3	3:A:186:TYR:CE2	2.42	0.54
3:A:357:VAL:O	3:A:361:LEU:HB2	2.06	0.54
3:B:125:LEU:HB3	3:B:186:TYR:CE1	2.42	0.54
3:B:281:LEU:O	3:B:284:VAL:HB	2.06	0.54
3:E:179:THR:CA	3:E:182:ARG:HH12	2.18	0.54
3:E:278:ILE:O	3:E:281:LEU:HB2	2.07	0.54
3:E:361:LEU:HD13	3:E:392:LEU:HB2	1.88	0.54
3:F:87:ILE:HG23	3:F:310:VAL:HG21	1.88	0.54
3:J:342:VAL:HG23	3:J:343:PHE:N	2.22	0.54
3:M:220:ARG:HA	3:N:241:SER:HA	1.89	0.54
3:M:357:VAL:HG21	3:M:389:GLN:NE2	2.22	0.54
3:N:176:ASN:HA	3:N:179:THR:HB	1.87	0.54
1:C:246:A:H1'	1:C:247:U:C5	2.43	0.54
3:I:414:ARG:O	3:I:414:ARG:HG2	2.07	0.54
3:J:87:ILE:HG23	3:J:310:VAL:HG21	1.89	0.54
3:J:328:SER:O	3:J:329:ALA:HB3	2.07	0.54
3:M:125:LEU:HB3	3:M:186:TYR:CE2	2.42	0.54
3:M:414:ARG:HG2	3:M:414:ARG:O	2.07	0.54
3:N:288:ARG:CB	3:N:302:PRO:HD3	2.38	0.54
1:C:121:C:C5	1:C:195:A:O4'	2.60	0.54
1:O:103(A):A:C2'	1:O:103(B):A:H5'	2.38	0.54
1:O:149:G:N2	1:O:150:U:H1'	2.22	0.54
1:O:246:A:O2'	1:O:247:U:O5'	2.25	0.54
3:E:59:ILE:CB	3:E:92:ARG:HG3	2.37	0.54
3:I:78:LYS:HB3	3:I:313:THR:O	2.08	0.54
3:M:137:SER:HB2	3:M:199:ASN:HD21	1.72	0.54
3:M:224:MET:HB3	3:M:245:PHE:CE2	2.39	0.54
1:C:142:G:H1	1:C:155:C:N4	2.05	0.54
1:C:185:A:H4'	1:C:186:U:H5"	1.89	0.54
1:K:172:U:O2'	1:K:177:G:N2	2.40	0.54
3:A:278:ILE:O	3:A:281:LEU:HB2	2.07	0.54
3:B:292:PRO:HG2	3:B:293:ASP:H	1.70	0.54
3:F:176:ASN:HA	3:F:179:THR:HB	1.89	0.54
3:N:125:LEU:HB3	3:N:186:TYR:CE1	2.43	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:N:332:ALA:HB3	3:N:334:TRP:NE1	2.22	0.54
1:C:22:G:N2	1:C:24:A:H3'	2.23	0.54
1:C:139:G:O2'	1:C:140:U:O5'	2.26	0.54
1:C:239:C:H2'	1:C:240:C:H6	1.72	0.54
1:G:57:C:C2'	1:G:57:C:O2	2.55	0.54
1:O:159:A:O2'	1:O:160:U:OP1	2.16	0.54
3:I:59:ILE:CB	3:I:92:ARG:HG3	2.37	0.54
3:I:145:THR:HG23	3:I:145:THR:O	2.07	0.54
3:I:293:ASP:O	3:I:297:ARG:HG3	2.07	0.54
3:J:169:GLN:O	3:J:170:LEU:C	2.45	0.54
3:J:319:ASP:HB2	3:J:352:ARG:HH12	1.72	0.54
3:M:173:LEU:O	3:M:177:VAL:HG23	2.06	0.54
3:M:357:VAL:O	3:M:361:LEU:HB2	2.06	0.54
1:K:134:A:H2'	1:K:135:G:H5'	1.89	0.54
1:K:185:A:H4'	1:K:186:U:H5"	1.89	0.54
3:B:290:SER:O	3:B:291:GLU:C	2.46	0.54
3:B:415:MET:HA	3:B:415:MET:HE2	1.90	0.54
3:F:138:THR:HG22	3:F:199:ASN:HD21	1.68	0.54
3:I:84:LYS:H	3:I:84:LYS:HD2	1.70	0.54
3:M:222:GLY:O	3:M:224:MET:N	2.41	0.54
1:C:149:G:N2	1:C:150:U:H1'	2.23	0.54
1:O:200:A:H2'	1:O:201:U:O4'	2.08	0.54
1:O:239:C:H2'	1:O:240:C:H6	1.72	0.54
3:A:122:TRP:HA	3:A:125:LEU:HD12	1.89	0.54
3:A:224:MET:HB3	3:A:245:PHE:CE2	2.39	0.54
3:A:372:ILE:HG22	3:A:373:THR:N	2.22	0.54
3:B:198:ASN:ND2	3:B:200:ASN:HD21	2.05	0.54
3:F:292:PRO:HG2	3:F:293:ASP:H	1.73	0.54
3:I:319:ASP:O	3:I:321:SER:N	2.41	0.54
3:I:368:PRO:C	3:I:370:SER:N	2.60	0.54
3:J:288:ARG:CB	3:J:302:PRO:HD3	2.38	0.54
3:J:292:PRO:HG2	3:J:293:ASP:H	1.71	0.54
3:M:145:THR:HG23	3:M:145:THR:O	2.08	0.54
3:N:59:ILE:HG21	3:N:66:ASN:HB2	1.90	0.54
1:C:30:U:H2'	1:C:31:A:H8	1.71	0.54
1:K:105:C:C2'	1:K:106:G:H5'	2.38	0.54
1:K:149:G:N2	1:K:150:U:H1'	2.21	0.54
1:O:139:G:O2'	1:O:140:U:O5'	2.26	0.54
3:B:180:GLN:O	3:B:184:ARG:HG2	2.07	0.54
3:E:137:SER:HB2	3:E:199:ASN:HD21	1.72	0.54
3:E:293:ASP:O	3:E:297:ARG:HG3	2.08	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:79:ASP:HB2	3:F:313:THR:HG23	1.89	0.54
3:N:319:ASP:HB2	3:N:352:ARG:HH12	1.73	0.54
3:N:386:ARG:HB2	3:N:386:ARG:CZ	2.38	0.54
1:G:34:G:H4'	1:G:35:A:C8	2.42	0.54
1:G:139:G:C2'	1:G:140:U:OP2	2.56	0.54
1:G:215:G:H21	1:G:244:A:H61	1.55	0.54
1:K:89:A:OP1	3:J:171:LYS:HD2	2.07	0.54
1:O:159:A:C2'	1:O:160:U:H5"	2.38	0.54
1:O:245:C:H3'	1:O:246:A:C5'	2.38	0.54
3:A:240:VAL:CG1	3:B:221:ILE:HG12	2.38	0.54
3:B:176:ASN:HA	3:B:179:THR:HB	1.88	0.54
3:E:414:ARG:HG2	3:E:414:ARG:O	2.08	0.54
3:F:284:VAL:HG11	3:F:309:CYS:SG	2.48	0.54
3:I:61:LYS:HB2	3:I:61:LYS:NZ	2.23	0.54
3:J:333:ILE:HG21	3:J:348:TYR:HD1	1.72	0.54
3:M:212:LEU:O	3:M:216:GLY:HA3	2.07	0.54
1:C:87:U:O2'	1:C:88:G:H5'	2.08	0.54
1:G:105:C:C2'	1:G:106:G:H5'	2.37	0.54
1:G:149:G:N2	1:G:150:U:C1'	2.71	0.54
1:G:196:A:H2	1:G:250:U:H3	1.53	0.54
1:K:30:U:H2'	1:K:31:A:H8	1.71	0.54
3:B:83:THR:HB	3:B:86:HIS:CB	2.35	0.54
3:E:84:LYS:H	3:E:84:LYS:HD2	1.72	0.54
3:E:179:THR:CA	3:E:182:ARG:NH1	2.69	0.54
3:F:357:VAL:HG13	3:F:358:GLU:H	1.73	0.54
3:J:110:HIS:CE1	3:J:112:GLY:HA3	2.43	0.54
1:C:102:G:H2'	1:C:103:G:H8	1.70	0.53
1:C:148:A:C6	1:C:232:A:O4'	2.61	0.53
1:C:188:U:O2'	1:C:189:A:H5'	2.08	0.53
1:C:200:A:H2'	1:C:201:U:O4'	2.08	0.53
1:G:239:C:H2'	1:G:240:C:H6	1.73	0.53
1:K:139:G:O2'	1:K:140:U:O5'	2.26	0.53
3:A:173:LEU:O	3:A:177:VAL:HG23	2.07	0.53
3:B:288:ARG:CB	3:B:302:PRO:HD3	2.38	0.53
3:B:332:ALA:HB3	3:B:334:TRP:NE1	2.23	0.53
3:E:61:LYS:HZ3	3:E:63:LYS:CD	2.21	0.53
3:J:247:TYR:N	3:J:248:PRO:HD2	2.22	0.53
3:J:342:VAL:HG23	3:J:343:PHE:H	1.72	0.53
3:M:102:ILE:HD13	3:M:109:LEU:HD21	1.90	0.53
3:N:133:LEU:HD21	3:N:254:ASP:OD2	2.07	0.53
3:N:213:ARG:O	3:N:215:VAL:N	2.40	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:N:232:ASN:O	3:N:234:MET:N	2.41	0.53
3:N:415:MET:HA	3:N:415:MET:HE2	1.90	0.53
1:C:84:U:O2'	1:C:85:C:H5'	2.08	0.53
1:G:103(A):A:C2'	1:G:103(B):A:H5'	2.39	0.53
1:K:22:G:N2	1:K:24:A:H3'	2.22	0.53
1:K:103(A):A:C2'	1:K:103(B):A:H5'	2.39	0.53
1:K:245:C:H3'	1:K:246:A:C5'	2.38	0.53
1:O:185:A:H4'	1:O:186:U:C5'	2.38	0.53
3:A:222:GLY:O	3:A:224:MET:N	2.41	0.53
3:B:349:PHE:CZ	3:B:396:VAL:HG11	2.43	0.53
3:E:222:GLY:O	3:E:224:MET:N	2.41	0.53
3:E:225:LEU:HD23	3:E:225:LEU:C	2.28	0.53
3:F:59:ILE:HG21	3:F:66:ASN:HB2	1.88	0.53
3:F:288:ARG:CB	3:F:302:PRO:HD3	2.37	0.53
3:F:398:THR:HG23	3:F:403:LYS:CA	2.38	0.53
3:M:300:VAL:HG23	3:M:301:THR:N	2.23	0.53
3:N:198:ASN:ND2	3:N:200:ASN:HD21	2.05	0.53
3:N:292:PRO:HG2	3:N:293:ASP:H	1.71	0.53
3:N:342:VAL:HG23	3:N:343:PHE:N	2.22	0.53
1:G:109:G:OP1	3:F:182:ARG:CZ	2.57	0.53
1:K:153:C:O2'	1:K:154:U:H5'	2.08	0.53
1:O:139:G:O2'	1:O:140:U:H6	1.91	0.53
1:O:185:A:H4'	1:O:186:U:H5"	1.90	0.53
1:O:228:A:C2	1:O:229:A:N7	2.76	0.53
3:A:89:GLU:HA	3:A:89:GLU:OE2	2.08	0.53
3:B:62:GLY:O	3:B:63:LYS:HG3	2.08	0.53
3:E:61:LYS:HB2	3:E:61:LYS:NZ	2.23	0.53
3:E:372:ILE:HG22	3:E:373:THR:N	2.23	0.53
3:F:342:VAL:HG23	3:F:343:PHE:N	2.23	0.53
3:F:415:MET:HA	3:F:415:MET:HE2	1.89	0.53
3:M:135:GLY:CA	3:M:138:THR:HG23	2.39	0.53
1:C:57:C:C2'	1:C:57:C:O2	2.56	0.53
1:G:153:C:O2'	1:G:154:U:H5'	2.08	0.53
1:K:15:U:O2	1:K:33:C:H1'	2.08	0.53
3:A:145:THR:HG23	3:A:145:THR:O	2.09	0.53
3:A:357:VAL:HG21	3:A:389:GLN:NE2	2.24	0.53
3:B:319:ASP:HB2	3:B:352:ARG:HH12	1.73	0.53
3:E:220:ARG:HE	3:F:240:VAL:N	2.04	0.53
3:E:368:PRO:C	3:E:370:SER:N	2.60	0.53
3:F:57:GLU:OE2	3:F:61:LYS:HG3	2.08	0.53
3:F:125:LEU:HB3	3:F:186:TYR:CE1	2.43	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:169:GLN:O	3:F:171:LYS:N	2.42	0.53
3:I:249:ILE:HG13	3:J:242:PHE:CE2	2.44	0.53
3:I:386:ARG:NH1	3:I:389:GLN:HG2	2.23	0.53
3:J:57:GLU:OE2	3:J:61:LYS:HG3	2.09	0.53
3:M:59:ILE:CB	3:M:92:ARG:HG3	2.38	0.53
1:C:185:A:H4'	1:C:186:U:C5'	2.39	0.53
1:G:134:A:H2'	1:G:135:G:H5'	1.90	0.53
1:K:185:A:H4'	1:K:186:U:C5'	2.39	0.53
1:O:172:U:O2'	1:O:177:G:N2	2.42	0.53
3:A:59:ILE:CB	3:A:92:ARG:HG3	2.38	0.53
3:F:288:ARG:HB3	3:F:302:PRO:HD3	1.90	0.53
3:F:361:LEU:CD2	3:F:392:LEU:HB2	2.39	0.53
3:N:57:GLU:OE2	3:N:61:LYS:HG3	2.07	0.53
3:N:62:GLY:O	3:N:63:LYS:HG3	2.08	0.53
3:N:79:ASP:HB2	3:N:313:THR:HG23	1.90	0.53
3:N:83:THR:HB	3:N:86:HIS:CB	2.35	0.53
3:N:385:LYS:HA	3:N:385:LYS:NZ	2.23	0.53
1:C:105:C:C2'	1:C:106:G:H5'	2.38	0.53
1:O:159:A:N3	1:O:185:A:C6	2.77	0.53
3:A:137:SER:HB2	3:A:199:ASN:HD21	1.73	0.53
3:A:221:ILE:HD11	3:B:234:MET:CE	2.39	0.53
3:B:158:ASP:C	3:B:160:THR:N	2.62	0.53
3:I:135:GLY:CA	3:I:138:THR:HG23	2.38	0.53
3:J:333:ILE:HD12	3:J:333:ILE:N	2.23	0.53
1:C:171:C:H2'	1:C:172:U:O4'	2.09	0.53
1:K:109:G:OP1	3:J:182:ARG:CZ	2.57	0.53
1:K:121:C:C5	1:K:195:A:O4'	2.61	0.53
1:O:172:U:H1'	1:O:177:G:H22	1.73	0.53
3:A:414:ARG:O	3:A:414:ARG:HG2	2.09	0.53
3:B:328:SER:O	3:B:329:ALA:HB3	2.09	0.53
3:E:249:ILE:HG13	3:F:242:PHE:CE2	2.44	0.53
3:F:62:GLY:O	3:F:63:LYS:HG3	2.08	0.53
3:I:137:SER:HB2	3:I:199:ASN:HD21	1.73	0.53
3:J:349:PHE:CZ	3:J:396:VAL:HG11	2.44	0.53
3:M:84:LYS:H	3:M:84:LYS:HD2	1.73	0.53
3:N:223:PRO:HA	3:N:226:SER:HB2	1.90	0.53
3:N:347:GLY:HA2	3:N:350:VAL:HG12	1.91	0.53
1:C:139:G:O2'	1:C:140:U:H6	1.92	0.53
1:C:159:A:N3	1:C:185:A:C6	2.77	0.53
1:G:159:A:N3	1:G:185:A:C6	2.77	0.53
1:G:245:C:H3'	1:G:246:A:C5'	2.39	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:34:G:H4'	1:K:35:A:C8	2.43	0.53
1:O:148:A:C6	1:O:232:A:O4'	2.62	0.53
3:B:342:VAL:HG23	3:B:343:PHE:N	2.23	0.53
3:F:213:ARG:O	3:F:215:VAL:N	2.42	0.53
3:F:232:ASN:O	3:F:234:MET:N	2.40	0.53
3:F:349:PHE:CE2	3:F:396:VAL:HG21	2.43	0.53
3:F:349:PHE:CZ	3:F:396:VAL:HG11	2.44	0.53
3:J:79:ASP:HB2	3:J:313:THR:HG23	1.91	0.53
3:N:342:VAL:HG23	3:N:343:PHE:H	1.73	0.53
1:C:245:C:H3'	1:C:246:A:C5'	2.39	0.53
1:G:97:U:C2	1:G:111:G:N2	2.77	0.53
1:K:149:G:N2	1:K:150:U:C1'	2.71	0.53
1:K:223:G:H2'	1:K:224:G:H5'	1.91	0.53
3:B:232:ASN:O	3:B:234:MET:N	2.42	0.53
3:J:281:LEU:O	3:J:284:VAL:HB	2.09	0.53
3:J:288:ARG:HB3	3:J:302:PRO:HD3	1.91	0.53
1:C:159:A:C2'	1:C:160:U:H5"	2.39	0.53
1:G:185:A:H4'	1:G:186:U:O5'	2.09	0.53
1:G:223:G:H2'	1:G:224:G:H5'	1.91	0.53
1:K:159:A:C2'	1:K:160:U:H5"	2.39	0.53
1:O:153:C:H2'	1:O:154:U:H6	1.74	0.53
3:A:135:GLY:CA	3:A:138:THR:HG23	2.39	0.53
3:A:374:LYS:HA	3:A:374:LYS:NZ	2.24	0.53
3:B:386:ARG:HB2	3:B:386:ARG:CZ	2.39	0.53
3:B:398:THR:HG23	3:B:403:LYS:CA	2.37	0.53
3:E:124:TYR:CE1	3:E:194:ARG:HB3	2.44	0.53
3:F:294:PRO:HA	3:F:297:ARG:HD3	1.91	0.53
3:I:222:GLY:O	3:I:224:MET:N	2.41	0.53
3:J:349:PHE:CE2	3:J:396:VAL:HG21	2.44	0.53
3:N:69:ASP:O	3:N:73:GLU:HB2	2.09	0.53
1:C:153:C:O2'	1:C:154:U:H5'	2.09	0.52
1:G:121:C:C5	1:G:195:A:O4'	2.62	0.52
1:K:196:A:H2	1:K:250:U:H3	1.53	0.52
1:O:105:C:C2'	1:O:106:G:H5'	2.38	0.52
1:O:128:U:H2'	1:O:129:C:H6	1.74	0.52
3:A:249:ILE:HG13	3:B:242:PHE:CE2	2.44	0.52
3:B:57:GLU:OE2	3:B:61:LYS:HG3	2.08	0.52
3:B:133:LEU:HD21	3:B:254:ASP:OD2	2.09	0.52
3:B:347:GLY:HA2	3:B:350:VAL:HG12	1.91	0.52
3:J:213:ARG:O	3:J:215:VAL:N	2.42	0.52
3:M:243:ALA:HA	3:N:212:LEU:CD2	2.39	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:M:368:PRO:C	3:M:370:SER:N	2.61	0.52
3:N:288:ARG:HB3	3:N:302:PRO:HD3	1.91	0.52
1:C:160:U:H1'	1:C:184:G:C4	2.44	0.52
1:C:162:G:H2'	1:C:163:G:C8	2.45	0.52
1:K:97:U:C2	1:K:111:G:N2	2.77	0.52
1:O:84:U:O2'	1:O:85:C:H5'	2.09	0.52
1:O:97:U:C2	1:O:111:G:N2	2.77	0.52
3:F:319:ASP:HB2	3:F:352:ARG:HH12	1.73	0.52
3:I:179:THR:CA	3:I:182:ARG:HH12	2.20	0.52
3:I:374:LYS:HA	3:I:374:LYS:NZ	2.24	0.52
3:N:247:TYR:OH	3:N:251:GLN:NE2	2.42	0.52
1:C:172:U:H1'	1:C:177:G:H22	1.73	0.52
1:G:128:U:H2'	1:G:129:C:H6	1.74	0.52
1:K:153:C:H2'	1:K:154:U:H6	1.75	0.52
1:K:239:C:H2'	1:K:240:C:H6	1.74	0.52
3:E:135:GLY:CA	3:E:138:THR:HG23	2.39	0.52
3:J:386:ARG:HH12	3:J:390:HIS:HD2	1.55	0.52
3:J:398:THR:HG23	3:J:403:LYS:CA	2.37	0.52
3:N:158:ASP:C	3:N:160:THR:N	2.62	0.52
1:C:103(A):A:C2'	1:C:103(B):A:H5'	2.40	0.52
1:C:153:C:H2'	1:C:154:U:H6	1.75	0.52
1:O:121:C:C5	1:O:195:A:O4'	2.62	0.52
3:B:79:ASP:HB2	3:B:313:THR:HG23	1.91	0.52
3:B:213:ARG:O	3:B:215:VAL:N	2.42	0.52
3:E:102:ILE:HD13	3:E:109:LEU:HD21	1.91	0.52
3:E:379:HIS:CB	3:E:388:ALA:HB2	2.39	0.52
3:I:125:LEU:HA	3:I:192:ARG:HH22	1.75	0.52
3:M:124:TYR:CE1	3:M:194:ARG:HB3	2.44	0.52
3:M:221:ILE:HG12	3:N:240:VAL:HG13	1.90	0.52
3:M:379:HIS:CB	3:M:388:ALA:HB2	2.40	0.52
3:N:333:ILE:N	3:N:333:ILE:HD12	2.25	0.52
1:G:48:U:H1'	1:G:116:U:O2'	2.10	0.52
1:K:139:G:O2'	1:K:140:U:H6	1.92	0.52
1:O:62:A:N1	1:O:77:U:O4	2.42	0.52
1:O:188:U:O2'	1:O:189:A:H5'	2.09	0.52
3:A:61:LYS:HB2	3:A:61:LYS:NZ	2.24	0.52
3:A:379:HIS:CB	3:A:388:ALA:HB2	2.40	0.52
3:B:345:PHE:O	3:B:346:TYR:C	2.47	0.52
3:E:281:LEU:O	3:E:284:VAL:HB	2.09	0.52
3:F:273:GLN:OE1	3:F:276:ASN:OD1	2.28	0.52
3:I:360:LEU:HD23	3:I:363:LEU:HD12	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:N:290:SER:O	3:N:291:GLU:C	2.47	0.52
3:N:349:PHE:CE2	3:N:396:VAL:HG21	2.44	0.52
1:G:162:G:H2'	1:G:163:G:C8	2.45	0.52
1:K:103(A):A:C6	1:O:228:A:N3	2.78	0.52
1:K:172:U:H1'	1:K:177:G:H22	1.74	0.52
1:K:228:A:C2	1:K:229:A:N7	2.78	0.52
3:A:335:LEU:CD2	3:A:400:VAL:HG11	2.32	0.52
3:A:368:PRO:C	3:A:370:SER:N	2.61	0.52
3:B:169:GLN:O	3:B:170:LEU:C	2.46	0.52
3:F:158:ASP:C	3:F:160:THR:N	2.63	0.52
3:F:332:ALA:HB3	3:F:334:TRP:NE1	2.24	0.52
3:F:333:ILE:HG21	3:F:348:TYR:HD1	1.71	0.52
3:F:385:LYS:HA	3:F:385:LYS:NZ	2.25	0.52
3:I:256:PHE:O	3:I:257:GLU:C	2.48	0.52
3:J:180:GLN:HA	3:J:183:ALA:HB3	1.91	0.52
1:C:223:G:H2'	1:C:224:G:H5'	1.92	0.52
1:G:243:A:H2'	1:G:244:A:C8	2.45	0.52
1:O:90:G:H2'	1:O:91:C:O4'	2.10	0.52
3:B:288:ARG:HB3	3:B:302:PRO:HD3	1.92	0.52
3:B:342:VAL:HG23	3:B:343:PHE:H	1.73	0.52
3:E:61:LYS:HZ3	3:E:63:LYS:HD2	1.73	0.52
3:E:360:LEU:HD23	3:E:363:LEU:HD12	1.92	0.52
3:E:374:LYS:HA	3:E:374:LYS:NZ	2.25	0.52
3:F:96:ILE:HD11	3:F:123:MET:HE1	1.91	0.52
3:I:357:VAL:HB	3:I:389:GLN:HE21	1.75	0.52
3:I:372:ILE:HG22	3:I:373:THR:N	2.24	0.52
3:J:125:LEU:HB3	3:J:186:TYR:CE1	2.44	0.52
3:N:398:THR:HG23	3:N:403:LYS:CA	2.38	0.52
1:C:90:G:H2'	1:C:91:C:O4'	2.10	0.52
1:G:84:U:O2'	1:G:85:C:H5'	2.09	0.52
1:K:103(A):A:N1	1:O:228:A:C2	2.78	0.52
1:K:128:U:H2'	1:K:129:C:H6	1.74	0.52
1:K:159:A:N3	1:K:185:A:C6	2.78	0.52
1:K:228:A:C6	1:K:229:A:N7	2.78	0.52
1:O:25:A:N3	1:O:171:C:H1'	2.25	0.52
1:O:171:C:H2'	1:O:172:U:O4'	2.10	0.52
3:B:87:ILE:HG23	3:B:310:VAL:HG21	1.92	0.52
3:B:333:ILE:HD12	3:B:333:ILE:N	2.25	0.52
3:E:115:LEU:HB3	3:E:116:PRO:HD3	1.91	0.52
3:E:293:ASP:OD1	3:E:296:GLU:HB2	2.10	0.52
3:E:386:ARG:NH1	3:E:389:GLN:HG2	2.25	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:I:89:GLU:HA	3:I:89:GLU:OE2	2.09	0.52
3:I:115:LEU:HB3	3:I:116:PRO:HD3	1.92	0.52
3:J:62:GLY:O	3:J:63:LYS:HG3	2.08	0.52
3:M:83:THR:OG1	3:M:86:HIS:CB	2.58	0.52
3:M:221:ILE:HD12	3:M:221:ILE:O	2.10	0.52
3:M:240:VAL:HG13	3:N:221:ILE:HG23	1.91	0.52
3:N:345:PHE:O	3:N:346:TYR:C	2.48	0.52
3:N:357:VAL:HG13	3:N:358:GLU:H	1.75	0.52
1:C:34:G:H4'	1:C:35:A:C8	2.44	0.52
1:C:62:A:N1	1:C:77:U:O4	2.43	0.52
1:C:128:U:H2'	1:C:129:C:H6	1.75	0.52
1:G:109:G:OP1	3:F:182:ARG:NH2	2.43	0.52
1:G:188:U:O2'	1:G:189:A:H5'	2.09	0.52
1:K:139:G:C2'	1:K:140:U:OP2	2.58	0.52
3:B:272:ASP:O	3:B:274:TYR:N	2.43	0.52
3:F:247:TYR:OH	3:F:251:GLN:NE2	2.43	0.52
3:F:342:VAL:HG23	3:F:343:PHE:H	1.73	0.52
3:F:386:ARG:HB2	3:F:386:ARG:CZ	2.40	0.52
3:J:361:LEU:CD2	3:J:392:LEU:HB2	2.40	0.52
3:M:256:PHE:O	3:M:257:GLU:C	2.48	0.52
3:N:281:LEU:O	3:N:284:VAL:HB	2.09	0.52
1:G:171:C:H2'	1:G:172:U:O4'	2.09	0.52
1:K:188:U:O2'	1:K:189:A:H5'	2.10	0.52
1:K:200:A:H2'	1:K:201:U:O4'	2.10	0.52
1:O:223:G:H2'	1:O:224:G:H5'	1.92	0.52
3:A:374:LYS:HA	3:A:374:LYS:HZ2	1.75	0.52
3:A:386:ARG:NH1	3:A:389:GLN:HG2	2.25	0.52
3:B:223:PRO:HA	3:B:226:SER:HB2	1.91	0.52
3:E:122:TRP:HA	3:E:125:LEU:HD12	1.91	0.52
3:F:281:LEU:O	3:F:284:VAL:HB	2.09	0.52
3:I:208:MET:HG3	3:J:208:MET:SD	2.50	0.52
3:I:221:ILE:HD12	3:I:221:ILE:O	2.10	0.52
3:N:169:GLN:O	3:N:170:LEU:C	2.46	0.52
1:G:148:A:C6	1:G:232:A:O4'	2.63	0.51
1:K:90:G:H2'	1:K:91:C:O4'	2.10	0.51
3:A:405:GLU:O	3:A:408:ALA:N	2.43	0.51
3:E:83:THR:OG1	3:E:86:HIS:CB	2.57	0.51
3:I:99:TYR:HA	3:I:131:PHE:O	2.10	0.51
3:I:214:ARG:NH2	3:I:291:GLU:OE1	2.44	0.51
3:J:294:PRO:HA	3:J:297:ARG:HD3	1.92	0.51
1:G:200:A:H2'	1:G:201:U:O4'	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:O:162:G:H2'	1:O:163:G:C8	2.46	0.51
3:E:225:LEU:O	3:E:231:LYS:HB2	2.10	0.51
3:J:223:PRO:HA	3:J:226:SER:HB2	1.91	0.51
3:M:225:LEU:O	3:M:231:LYS:HB2	2.09	0.51
3:M:335:LEU:CD2	3:M:400:VAL:HG11	2.32	0.51
1:C:246:A:O2'	1:C:247:U:P	2.68	0.51
1:K:171:C:H2'	1:K:172:U:O4'	2.10	0.51
1:K:197:C:H5"	1:K:198:A:OP2	2.10	0.51
3:B:245:PHE:O	3:B:248:PRO:HD2	2.10	0.51
3:B:273:GLN:OE1	3:B:276:ASN:OD1	2.29	0.51
3:E:357:VAL:HG21	3:E:389:GLN:NE2	2.25	0.51
3:F:319:ASP:C	3:F:321:SER:N	2.64	0.51
3:I:357:VAL:HG21	3:I:389:GLN:NE2	2.26	0.51
3:M:416:MET:HA	3:M:416:MET:CE	2.41	0.51
3:N:294:PRO:HA	3:N:297:ARG:HD3	1.91	0.51
3:N:349:PHE:O	3:N:351:ARG:N	2.44	0.51
1:C:97:U:C2	1:C:111:G:N2	2.78	0.51
1:G:90:G:H2'	1:G:91:C:O4'	2.11	0.51
1:K:131:G:HO2'	1:K:133:U:H5	1.56	0.51
1:K:246:A:O2'	1:K:247:U:O5'	2.25	0.51
1:O:109:G:OP1	3:N:182:ARG:CZ	2.59	0.51
1:O:160:U:H1'	1:O:184:G:C4	2.45	0.51
1:O:228:A:N3	1:O:229:A:C8	2.79	0.51
3:E:357:VAL:HB	3:E:389:GLN:HE21	1.76	0.51
3:F:69:ASP:O	3:F:73:GLU:HB2	2.11	0.51
3:J:169:GLN:O	3:J:171:LYS:N	2.43	0.51
3:J:247:TYR:OH	3:J:251:GLN:NE2	2.43	0.51
3:J:357:VAL:HG13	3:J:358:GLU:H	1.75	0.51
3:M:89:GLU:OE2	3:M:89:GLU:HA	2.10	0.51
1:C:109:G:H2'	1:C:110:A:H8	1.75	0.51
1:K:243:A:H2'	1:K:244:A:C8	2.44	0.51
1:O:38:A:C2	1:O:182:G:C4	2.99	0.51
1:O:149:G:N2	1:O:150:U:C1'	2.73	0.51
3:A:221:ILE:HG23	3:B:240:VAL:O	2.10	0.51
3:I:293:ASP:OD1	3:I:296:GLU:HB2	2.11	0.51
3:M:374:LYS:HA	3:M:374:LYS:NZ	2.26	0.51
1:C:25:A:N3	1:C:171:C:H1'	2.26	0.51
1:G:139:G:O2'	1:G:140:U:H6	1.93	0.51
1:G:172:U:H1'	1:G:177:G:H22	1.75	0.51
1:K:148:A:C6	1:K:232:A:O4'	2.63	0.51
1:K:162:G:H2'	1:K:163:G:C8	2.45	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:O:197:C:H5"	1:O:198:A:OP2	2.10	0.51
3:A:98:ALA:HA	3:A:266:MET:O	2.11	0.51
3:A:221:ILE:HD12	3:A:221:ILE:O	2.11	0.51
3:B:385:LYS:HA	3:B:385:LYS:NZ	2.25	0.51
3:E:70:LEU:C	3:E:70:LEU:HD23	2.31	0.51
3:E:379:HIS:HB2	3:E:388:ALA:HB2	1.91	0.51
3:I:70:LEU:HD23	3:I:70:LEU:C	2.31	0.51
3:I:378:GLU:OE2	3:I:378:GLU:O	2.29	0.51
3:J:288:ARG:NE	3:J:302:PRO:HG3	2.25	0.51
3:J:332:ALA:HB3	3:J:334:TRP:NE1	2.25	0.51
3:J:350:VAL:CG1	3:J:351:ARG:HG3	2.39	0.51
3:J:379:HIS:HB2	3:J:388:ALA:HB2	1.92	0.51
3:J:386:ARG:HB2	3:J:386:ARG:CZ	2.40	0.51
3:M:221:ILE:HD11	3:N:234:MET:CE	2.41	0.51
3:M:379:HIS:HB2	3:M:388:ALA:HB2	1.92	0.51
1:G:18:U:H2'	1:G:19:A:C8	2.46	0.51
1:K:84:U:O2'	1:K:85:C:H5'	2.10	0.51
1:K:203:U:H2'	1:K:204:G:C8	2.44	0.51
1:O:185:A:H4'	1:O:186:U:O5'	2.10	0.51
1:O:228:A:C6	1:O:229:A:N7	2.79	0.51
3:A:221:ILE:HG12	3:B:240:VAL:HG13	1.91	0.51
3:B:233:LYS:O	3:B:233:LYS:HG3	2.10	0.51
3:B:250:MET:O	3:B:253:TRP:N	2.44	0.51
3:E:125:LEU:HA	3:E:192:ARG:HH22	1.76	0.51
3:F:223:PRO:HA	3:F:226:SER:HB2	1.92	0.51
3:F:349:PHE:O	3:F:351:ARG:N	2.44	0.51
3:J:158:ASP:C	3:J:160:THR:N	2.61	0.51
3:J:385:LYS:HA	3:J:385:LYS:NZ	2.25	0.51
3:M:73:GLU:HG2	3:M:73:GLU:O	2.10	0.51
3:M:405:GLU:O	3:M:408:ALA:N	2.43	0.51
3:N:180:GLN:HA	3:N:183:ALA:HB3	1.93	0.51
1:C:139:G:C2'	1:C:140:U:OP2	2.58	0.51
1:C:149:G:N2	1:C:150:U:C1'	2.73	0.51
1:G:228:A:C2	1:G:229:A:N7	2.79	0.51
3:A:73:GLU:HG2	3:A:73:GLU:O	2.11	0.51
3:A:225:LEU:O	3:A:231:LYS:HB2	2.10	0.51
3:A:281:LEU:O	3:A:284:VAL:HB	2.11	0.51
3:E:224:MET:O	3:E:227:ARG:HB2	2.11	0.51
3:F:350:VAL:CG1	3:F:351:ARG:HG3	2.39	0.51
3:F:379:HIS:HB2	3:F:388:ALA:HB2	1.93	0.51
3:J:272:ASP:O	3:J:274:TYR:N	2.44	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:M:183:ALA:O	3:M:185:GLY:N	2.44	0.51
3:M:200:ASN:HB2	3:M:204:ASN:ND2	2.26	0.51
1:C:38:A:C2	1:C:182:G:C4	2.99	0.51
1:G:62:A:N1	1:G:77:U:O4	2.44	0.51
1:K:109:G:OP1	3:J:182:ARG:NH2	2.44	0.51
1:O:47:A:H2	1:O:115:G:N3	2.09	0.51
3:B:69:ASP:O	3:B:73:GLU:HB2	2.11	0.51
3:B:294:PRO:HA	3:B:297:ARG:HD3	1.92	0.51
3:E:89:GLU:OE2	3:E:89:GLU:HA	2.10	0.51
3:F:180:GLN:HA	3:F:183:ALA:HB3	1.92	0.51
3:F:233:LYS:HG3	3:F:233:LYS:O	2.11	0.51
3:I:379:HIS:CB	3:I:388:ALA:HB2	2.41	0.51
3:J:273:GLN:OE1	3:J:276:ASN:OD1	2.28	0.51
1:C:228:A:C2	1:C:229:A:N7	2.79	0.51
1:C:228:A:C6	1:C:229:A:N7	2.79	0.51
1:G:47:A:H2	1:G:115:G:N3	2.08	0.51
1:G:246:A:O2'	1:G:247:U:P	2.69	0.51
1:O:12:C:O5'	1:O:12:C:H6	1.95	0.51
1:O:34:G:H4'	1:O:35:A:C8	2.45	0.51
1:O:84:U:OP1	2:P:4:U:O2'	2.18	0.51
3:A:115:LEU:HB3	3:A:116:PRO:HD3	1.92	0.51
3:A:132:THR:HG23	3:A:174:TRP:HZ2	1.75	0.51
3:A:216:GLY:O	3:B:241:SER:OG	2.29	0.51
3:B:374:LYS:O	3:B:374:LYS:HD3	2.11	0.51
3:E:214:ARG:NH2	3:E:291:GLU:OE1	2.44	0.51
3:E:247:TYR:N	3:E:248:PRO:HD2	2.26	0.51
3:F:59:ILE:HG12	3:F:64:LYS:O	2.11	0.51
3:F:333:ILE:N	3:F:333:ILE:HD12	2.26	0.51
3:I:183:ALA:O	3:I:185:GLY:N	2.45	0.51
3:J:233:LYS:O	3:J:233:LYS:HG3	2.11	0.51
3:N:96:ILE:HD11	3:N:123:MET:HE1	1.92	0.51
1:C:159:A:C5	1:C:161:G:C5	2.99	0.50
1:C:243:A:H2'	1:C:244:A:C8	2.46	0.50
1:G:159:A:C2'	1:G:160:U:H5"	2.41	0.50
1:K:62:A:N1	1:K:77:U:O4	2.44	0.50
1:O:243:A:H2'	1:O:244:A:C8	2.46	0.50
3:E:132:THR:HG23	3:E:174:TRP:HZ2	1.75	0.50
3:M:179:THR:CA	3:M:182:ARG:HH12	2.23	0.50
3:N:358:GLU:HG3	3:N:359:ASN:N	2.26	0.50
1:G:95:G:H1'	1:G:163:G:O2'	2.12	0.50
1:G:197:C:H5"	1:G:198:A:OP2	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:227:ARG:CZ	3:A:229:THR:OG1	2.59	0.50
3:E:221:ILE:HD12	3:E:221:ILE:O	2.11	0.50
3:I:102:ILE:HD13	3:I:109:LEU:HD21	1.91	0.50
3:I:203:TRP:CZ2	3:I:253:TRP:HB3	2.46	0.50
3:I:240:VAL:HG13	3:J:221:ILE:HG23	1.92	0.50
3:J:349:PHE:O	3:J:351:ARG:N	2.43	0.50
1:C:12:C:O5'	1:C:12:C:H6	1.95	0.50
3:A:61:LYS:HZ3	3:A:63:LYS:HD2	1.76	0.50
3:A:379:HIS:HB2	3:A:388:ALA:HB2	1.93	0.50
3:B:180:GLN:HA	3:B:183:ALA:HB3	1.93	0.50
3:B:357:VAL:HG13	3:B:358:GLU:H	1.76	0.50
3:B:361:LEU:CD2	3:B:392:LEU:HB2	2.42	0.50
3:F:94:ARG:O	3:F:96:ILE:HG23	2.12	0.50
3:I:281:LEU:O	3:I:284:VAL:HB	2.11	0.50
3:J:347:GLY:HA2	3:J:350:VAL:HG12	1.94	0.50
3:M:227:ARG:CZ	3:M:229:THR:OG1	2.59	0.50
1:G:153:C:H2'	1:G:154:U:H6	1.75	0.50
1:G:203:U:H2'	1:G:204:G:C8	2.42	0.50
1:G:228:A:C6	1:G:229:A:N7	2.80	0.50
1:K:18:U:H2'	1:K:19:A:C8	2.46	0.50
1:K:25:A:N3	1:K:171:C:H1'	2.27	0.50
1:K:185:A:H4'	1:K:186:U:O5'	2.12	0.50
1:O:139:G:C2'	1:O:140:U:OP2	2.59	0.50
3:A:124:TYR:CZ	3:A:194:ARG:HD3	2.46	0.50
3:E:256:PHE:O	3:E:257:GLU:C	2.49	0.50
3:F:59:ILE:HD13	3:F:66:ASN:HA	1.94	0.50
3:F:110:HIS:CE1	3:F:112:GLY:HA3	2.46	0.50
3:I:58:ALA:HB1	3:I:63:LYS:HB2	1.94	0.50
3:N:272:ASP:O	3:N:274:TYR:N	2.45	0.50
3:N:288:ARG:HH12	3:N:307:ASP:HB3	1.76	0.50
1:C:197:C:H5"	1:C:198:A:OP2	2.11	0.50
1:G:246:A:O2'	1:G:247:U:O5'	2.24	0.50
1:K:47:A:H2	1:K:115:G:N3	2.10	0.50
3:A:220:ARG:HA	3:B:241:SER:HA	1.94	0.50
3:B:59:ILE:HD13	3:B:66:ASN:HA	1.94	0.50
3:E:220:ARG:O	3:E:222:GLY:N	2.44	0.50
3:E:414:ARG:HH11	3:E:414:ARG:HG3	1.76	0.50
3:F:288:ARG:HH12	3:F:307:ASP:HB3	1.77	0.50
3:I:61:LYS:HZ3	3:I:63:LYS:CG	2.25	0.50
3:I:225:LEU:O	3:I:231:LYS:HB2	2.12	0.50
3:J:288:ARG:HH12	3:J:307:ASP:HB3	1.76	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:M:221:ILE:HG23	3:N:240:VAL:O	2.11	0.50
3:N:87:ILE:HG23	3:N:310:VAL:HG21	1.94	0.50
1:C:18:U:H2'	1:C:19:A:C8	2.46	0.50
1:O:48:U:H1'	1:O:116:U:O2'	2.11	0.50
1:O:135:G:H2'	1:O:136:G:H8	1.75	0.50
3:A:82:GLY:O	3:A:83:THR:C	2.49	0.50
3:A:179:THR:CA	3:A:182:ARG:HH12	2.23	0.50
3:A:200:ASN:HB2	3:A:204:ASN:ND2	2.26	0.50
3:A:390:HIS:HB3	3:A:414:ARG:NH2	2.27	0.50
3:F:294:PRO:O	3:F:297:ARG:N	2.45	0.50
3:M:360:LEU:HD23	3:M:363:LEU:HD12	1.92	0.50
3:M:386:ARG:NH1	3:M:389:GLN:HG2	2.27	0.50
3:N:104:PRO:HB2	3:N:163:MET:HA	1.93	0.50
3:N:349:PHE:CZ	3:N:396:VAL:HG11	2.46	0.50
3:N:374:LYS:O	3:N:374:LYS:HD3	2.12	0.50
1:G:109:G:H2'	1:G:110:A:H8	1.77	0.50
1:O:109:G:H2'	1:O:110:A:H8	1.76	0.50
3:A:183:ALA:O	3:A:185:GLY:N	2.45	0.50
3:B:247:TYR:OH	3:B:251:GLN:NE2	2.45	0.50
3:B:319:ASP:C	3:B:321:SER:N	2.65	0.50
3:B:349:PHE:O	3:B:351:ARG:N	2.45	0.50
3:E:115:LEU:HB3	3:E:116:PRO:CD	2.41	0.50
3:E:203:TRP:CZ2	3:E:253:TRP:HB3	2.46	0.50
3:E:324:LYS:HB3	3:E:324:LYS:HZ3	1.75	0.50
3:I:83:THR:OG1	3:I:86:HIS:CB	2.59	0.50
3:I:124:TYR:CE1	3:I:194:ARG:HB3	2.46	0.50
3:I:132:THR:HG23	3:I:174:TRP:HZ2	1.76	0.50
3:I:335:LEU:HD22	3:I:400:VAL:CG1	2.32	0.50
3:I:379:HIS:HB2	3:I:388:ALA:HB2	1.93	0.50
3:J:138:THR:N	3:J:199:ASN:HD21	2.10	0.50
3:J:294:PRO:O	3:J:297:ARG:N	2.45	0.50
3:M:95:ARG:HG2	3:M:95:ARG:O	2.12	0.50
1:C:198:A:OP1	1:C:198:A:C8	2.65	0.50
1:G:12:C:O5'	1:G:12:C:H6	1.93	0.50
1:O:161:G:C2	1:O:162:G:C8	2.99	0.50
1:O:246:A:O2'	1:O:247:U:P	2.70	0.50
3:A:83:THR:OG1	3:A:86:HIS:CB	2.60	0.50
3:E:73:GLU:HG2	3:E:73:GLU:O	2.11	0.50
3:F:347:GLY:HA2	3:F:350:VAL:HG12	1.92	0.50
3:I:354:ASP:O	3:I:357:VAL:HG12	2.12	0.50
3:J:158:ASP:C	3:J:160:THR:H	2.15	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:J:166:ILE:HG22	3:J:170:LEU:CD1	2.42	0.50
3:M:70:LEU:C	3:M:70:LEU:HD23	2.32	0.50
3:M:224:MET:O	3:M:227:ARG:HB2	2.12	0.50
3:N:361:LEU:CD2	3:N:392:LEU:HB2	2.42	0.50
1:C:47:A:H2	1:C:115:G:N3	2.10	0.50
1:C:95:G:H1'	1:C:163:G:O2'	2.12	0.50
1:K:48:U:H1'	1:K:116:U:O2'	2.11	0.50
3:A:95:ARG:O	3:A:95:ARG:HG2	2.12	0.50
3:E:95:ARG:O	3:E:95:ARG:HG2	2.12	0.50
3:F:104:PRO:HB2	3:F:163:MET:HA	1.94	0.50
3:F:135:GLY:O	3:F:137:SER:N	2.45	0.50
3:J:176:ASN:O	3:J:179:THR:HB	2.12	0.50
3:N:245:PHE:O	3:N:248:PRO:HD2	2.11	0.50
1:G:25:A:N3	1:G:171:C:H1'	2.27	0.49
1:G:38:A:C2	1:G:182:G:C4	2.99	0.49
3:B:358:GLU:HG3	3:B:359:ASN:N	2.27	0.49
3:E:79:ASP:HB3	3:E:274:TYR:CD1	2.47	0.49
3:E:390:HIS:HB3	3:E:414:ARG:NH2	2.27	0.49
3:I:179:THR:CA	3:I:182:ARG:NH1	2.70	0.49
3:I:203:TRP:HZ2	3:I:253:TRP:HB3	1.77	0.49
3:J:284:VAL:HG11	3:J:309:CYS:SG	2.52	0.49
3:M:293:ASP:OD1	3:M:296:GLU:HB2	2.11	0.49
3:M:325:PHE:HE2	3:M:348:TYR:CE1	2.30	0.49
1:G:20:C:H2'	1:G:21:A:H5'	1.93	0.49
1:G:188:U:H2'	1:G:189:A:C8	2.45	0.49
1:K:95:G:O2'	1:K:96:C:H5'	2.12	0.49
1:K:160:U:H1'	1:K:184:G:C4	2.47	0.49
1:O:25:A:C1'	1:O:171:C:H4'	2.41	0.49
3:B:215:VAL:HG11	3:B:283:VAL:HG13	1.94	0.49
3:B:288:ARG:HH12	3:B:307:ASP:HB3	1.77	0.49
3:F:87:ILE:HG12	3:F:310:VAL:HG21	1.94	0.49
3:F:374:LYS:O	3:F:374:LYS:HD3	2.12	0.49
3:I:306:LEU:C	3:I:308:GLU:H	2.15	0.49
3:I:361:LEU:HA	3:I:392:LEU:HD12	1.94	0.49
3:J:319:ASP:C	3:J:321:SER:N	2.63	0.49
3:M:369:ILE:HA	3:M:372:ILE:HB	1.94	0.49
1:C:184:G:H8	1:C:184:G:O5'	1.96	0.49
1:C:187:A:O2'	1:C:188:U:P	2.70	0.49
1:C:203:U:H2'	1:C:204:G:C8	2.45	0.49
1:C:246:A:O2'	1:C:247:U:O5'	2.24	0.49
1:G:160:U:H1'	1:G:184:G:C4	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:94:ARG:C	3:F:96:ILE:H	2.16	0.49
3:I:256:PHE:O	3:I:259:PHE:N	2.46	0.49
3:I:324:LYS:HB3	3:I:324:LYS:HZ3	1.74	0.49
3:J:96:ILE:HD11	3:J:123:MET:HE1	1.94	0.49
3:J:374:LYS:O	3:J:374:LYS:HD3	2.12	0.49
3:M:115:LEU:HB3	3:M:116:PRO:HD3	1.93	0.49
3:N:288:ARG:NE	3:N:302:PRO:HG3	2.26	0.49
1:C:48:U:H1'	1:C:116:U:O2'	2.12	0.49
1:K:12:C:O5'	1:K:12:C:H6	1.94	0.49
1:K:210:A:O2'	1:K:211:U:H5'	2.13	0.49
1:K:217:A:O2'	1:K:218:G:O5'	2.18	0.49
1:O:109:G:OP1	3:N:182:ARG:NH2	2.45	0.49
1:O:198:A:OP1	1:O:198:A:C8	2.66	0.49
3:A:53:GLN:NE2	3:A:53:GLN:HA	2.27	0.49
3:A:61:LYS:HZ3	3:A:63:LYS:CD	2.25	0.49
3:A:256:PHE:O	3:A:257:GLU:C	2.50	0.49
3:A:306:LEU:C	3:A:308:GLU:H	2.16	0.49
3:A:360:LEU:HD23	3:A:363:LEU:HD12	1.93	0.49
3:A:369:ILE:HA	3:A:372:ILE:HB	1.94	0.49
3:B:96:ILE:HD11	3:B:123:MET:HE1	1.93	0.49
3:B:169:GLN:O	3:B:171:LYS:N	2.45	0.49
3:B:386:ARG:HH12	3:B:390:HIS:HD2	1.56	0.49
3:F:159:ALA:HA	3:F:162:ASN:ND2	2.24	0.49
3:F:358:GLU:HG3	3:F:359:ASN:N	2.28	0.49
3:I:95:ARG:O	3:I:95:ARG:HG2	2.13	0.49
3:I:224:MET:HB3	3:I:245:PHE:CE2	2.41	0.49
3:M:82:GLY:O	3:M:83:THR:C	2.49	0.49
3:M:361:LEU:HA	3:M:392:LEU:HD12	1.94	0.49
3:N:379:HIS:HB2	3:N:388:ALA:HB2	1.94	0.49
1:K:135:G:H2'	1:K:136:G:H8	1.78	0.49
1:K:198:A:OP1	1:K:198:A:C8	2.66	0.49
3:A:115:LEU:HB3	3:A:116:PRO:CD	2.43	0.49
3:A:361:LEU:HA	3:A:392:LEU:HD12	1.94	0.49
3:B:379:HIS:HB2	3:B:388:ALA:HB2	1.95	0.49
3:E:61:LYS:HZ3	3:E:63:LYS:CG	2.23	0.49
3:F:272:ASP:O	3:F:274:TYR:N	2.46	0.49
3:I:115:LEU:HB3	3:I:116:PRO:CD	2.42	0.49
3:I:224:MET:O	3:I:227:ARG:HB2	2.12	0.49
3:J:109:LEU:HD22	3:J:113:HIS:ND1	2.27	0.49
3:M:179:THR:CA	3:M:182:ARG:NH1	2.73	0.49
3:M:247:TYR:N	3:M:248:PRO:HD2	2.28	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:M:378:GLU:O	3:M:378:GLU:OE2	2.30	0.49
3:N:138:THR:N	3:N:199:ASN:HD21	2.11	0.49
3:N:294:PRO:O	3:N:297:ARG:N	2.45	0.49
1:K:20:C:H2'	1:K:21:A:H5'	1.93	0.49
1:K:102:G:C2	1:K:105:C:N3	2.78	0.49
1:O:194:G:C8	1:O:194:G:H3'	2.47	0.49
1:O:203:U:H2'	1:O:204:G:C8	2.45	0.49
3:A:70:LEU:HD23	3:A:70:LEU:C	2.33	0.49
3:B:294:PRO:O	3:B:297:ARG:N	2.46	0.49
3:E:94:ARG:NH2	3:E:304:THR:HG23	2.24	0.49
3:E:306:LEU:C	3:E:308:GLU:H	2.15	0.49
3:I:220:ARG:O	3:I:222:GLY:N	2.45	0.49
3:N:59:ILE:HD13	3:N:66:ASN:HA	1.95	0.49
3:N:94:ARG:O	3:N:96:ILE:HG23	2.12	0.49
3:N:176:ASN:O	3:N:179:THR:HB	2.12	0.49
1:C:134:A:C2'	1:C:135:G:H5'	2.43	0.49
1:C:135:G:H2'	1:C:136:G:H8	1.76	0.49
1:G:14:U:H2'	1:G:35:A:H61	1.78	0.49
1:G:210:A:O2'	1:G:211:U:H5'	2.13	0.49
1:K:109:G:H2'	1:K:110:A:H8	1.76	0.49
1:K:225:A:H5'	1:K:226:G:OP2	2.13	0.49
1:K:251:U:H3'	1:K:251:U:H6	1.77	0.49
1:O:95:G:H1'	1:O:163:G:O2'	2.13	0.49
1:O:225:A:H5'	1:O:226:G:OP2	2.12	0.49
3:B:284:VAL:HG11	3:B:309:CYS:SG	2.53	0.49
3:E:58:ALA:HB1	3:E:63:LYS:HB2	1.95	0.49
3:M:61:LYS:HZ3	3:M:63:LYS:HD2	1.78	0.49
3:M:227:ARG:NH1	3:M:229:THR:OG1	2.46	0.49
3:N:250:MET:O	3:N:253:TRP:N	2.46	0.49
1:C:188:U:H2'	1:C:189:A:C8	2.45	0.49
1:K:161:G:C2	1:K:162:G:C8	3.00	0.49
1:O:139:G:HO2'	1:O:140:U:H6	1.56	0.49
3:A:203:TRP:CZ2	3:A:253:TRP:HB3	2.47	0.49
3:E:82:GLY:O	3:E:83:THR:C	2.51	0.49
3:F:343:PHE:CD1	3:F:412:GLN:HB2	2.48	0.49
3:I:369:ILE:HA	3:I:372:ILE:HB	1.95	0.49
3:J:87:ILE:HG12	3:J:310:VAL:HG21	1.95	0.49
3:M:256:PHE:O	3:M:259:PHE:N	2.45	0.49
3:N:378:GLU:OE1	3:N:378:GLU:HA	2.13	0.49
1:C:10:A:H2'	1:C:11:G:C8	2.47	0.49
1:K:246:A:O2'	1:K:247:U:P	2.71	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:202:TRP:CD1	3:A:203:TRP:N	2.81	0.49
3:A:345:PHE:O	3:A:347:GLY:N	2.45	0.49
3:B:104:PRO:HB2	3:B:163:MET:HA	1.95	0.49
3:B:176:ASN:O	3:B:179:THR:HB	2.12	0.49
3:E:99:TYR:HA	3:E:131:PHE:O	2.12	0.49
3:F:83:THR:HB	3:F:86:HIS:CB	2.39	0.49
3:F:288:ARG:NE	3:F:302:PRO:HG3	2.26	0.49
3:I:82:GLY:O	3:I:83:THR:C	2.51	0.49
3:I:390:HIS:HB3	3:I:414:ARG:NH2	2.28	0.49
3:J:104:PRO:HB2	3:J:163:MET:HA	1.95	0.49
3:M:203:TRP:CZ2	3:M:253:TRP:HB3	2.48	0.49
3:M:374:LYS:HA	3:M:374:LYS:HZ2	1.78	0.49
3:N:386:ARG:HH12	3:N:390:HIS:HD2	1.55	0.49
1:C:225:A:H5'	1:C:226:G:OP2	2.12	0.49
1:G:194:G:C8	1:G:194:G:H3'	2.48	0.49
1:K:184:G:H5"	1:K:185:A:OP2	2.13	0.49
1:O:134:A:C2'	1:O:135:G:H5'	2.43	0.49
1:O:159:A:C5	1:O:161:G:C5	3.01	0.49
3:A:224:MET:O	3:A:227:ARG:HB2	2.12	0.49
3:A:416:MET:HA	3:A:416:MET:CE	2.43	0.49
3:B:288:ARG:NE	3:B:302:PRO:HG3	2.27	0.49
3:E:58:ALA:HA	3:E:63:LYS:HB2	1.95	0.49
3:E:352:ARG:HD3	3:E:356:GLU:OE2	2.13	0.49
3:I:247:TYR:N	3:I:248:PRO:HD2	2.27	0.49
3:M:58:ALA:HB1	3:M:63:LYS:HB2	1.95	0.49
3:M:98:ALA:HA	3:M:266:MET:O	2.13	0.49
3:N:319:ASP:C	3:N:321:SER:N	2.67	0.49
1:C:20:C:H2'	1:C:21:A:H5'	1.95	0.48
1:C:95:G:O2'	1:C:96:C:H5'	2.13	0.48
1:K:38:A:C2	1:K:182:G:C4	3.01	0.48
1:K:194:G:C8	1:K:194:G:H3'	2.48	0.48
1:K:228:A:N3	1:K:229:A:C8	2.81	0.48
1:O:18:U:H2'	1:O:19:A:C8	2.48	0.48
1:O:97:U:C2	1:O:111:G:C2	3.02	0.48
3:A:227:ARG:NH2	3:A:229:THR:OG1	2.46	0.48
3:A:316:LEU:HD11	3:A:324:LYS:HD3	1.95	0.48
3:A:333:ILE:O	3:A:334:TRP:O	2.31	0.48
3:E:374:LYS:HA	3:E:374:LYS:HZ2	1.78	0.48
3:I:345:PHE:O	3:I:347:GLY:N	2.46	0.48
3:I:414:ARG:HH11	3:I:414:ARG:HG3	1.78	0.48
3:M:281:LEU:O	3:M:284:VAL:HB	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:185:A:H4'	1:C:186:U:O5'	2.12	0.48
1:C:194:G:C8	1:C:194:G:H3'	2.48	0.48
1:K:14:U:H2'	1:K:35:A:H61	1.78	0.48
1:K:25:A:C1'	1:K:171:C:H4'	2.43	0.48
1:K:187:A:O2'	1:K:188:U:P	2.71	0.48
1:K:218:G:OP1	1:K:218:G:C4'	2.58	0.48
1:K:245:C:O2	1:K:246:A:C8	2.65	0.48
1:O:20:C:H2'	1:O:21:A:H5'	1.95	0.48
1:O:40:U:H2'	1:O:41:C:H6	1.78	0.48
3:A:179:THR:CA	3:A:182:ARG:NH1	2.73	0.48
3:E:98:ALA:HA	3:E:266:MET:O	2.13	0.48
3:E:124:TYR:CZ	3:E:194:ARG:HD3	2.47	0.48
3:E:200:ASN:HB2	3:E:204:ASN:ND2	2.28	0.48
3:F:138:THR:N	3:F:199:ASN:HD21	2.10	0.48
3:M:44:LYS:O	3:M:47:GLU:HB3	2.12	0.48
3:M:202:TRP:CD1	3:M:203:TRP:N	2.81	0.48
3:M:390:HIS:HB3	3:M:414:ARG:NH2	2.28	0.48
3:N:166:ILE:HG22	3:N:170:LEU:CD1	2.43	0.48
3:N:405:GLU:HA	3:N:405:GLU:OE2	2.13	0.48
1:G:161:G:C2	1:G:162:G:C8	3.01	0.48
1:K:95:G:H1'	1:K:163:G:O2'	2.13	0.48
1:K:103(A):A:C5	1:O:228:A:C4	3.02	0.48
3:A:44:LYS:HB3	3:A:44:LYS:HZ2	1.76	0.48
3:A:220:ARG:O	3:A:222:GLY:N	2.47	0.48
3:A:378:GLU:O	3:A:378:GLU:OE2	2.31	0.48
3:E:404:GLN:NE2	3:E:404:GLN:H	2.12	0.48
3:I:124:TYR:CZ	3:I:194:ARG:HD3	2.48	0.48
3:I:371:GLU:OE2	3:I:374:LYS:HB3	2.13	0.48
3:I:404:GLN:NE2	3:I:404:GLN:H	2.11	0.48
3:J:213:ARG:C	3:J:215:VAL:H	2.17	0.48
3:J:261:GLN:O	3:J:262:GLN:HG2	2.14	0.48
3:M:99:TYR:HA	3:M:131:PHE:O	2.12	0.48
3:M:135:GLY:O	3:M:137:SER:N	2.46	0.48
3:M:316:LEU:HD11	3:M:324:LYS:HD3	1.95	0.48
1:C:132:A:N6	1:G:134:A:C6	2.81	0.48
1:G:135:G:H2'	1:G:136:G:H8	1.78	0.48
1:G:198:A:OP1	1:G:198:A:C8	2.67	0.48
1:K:139:G:HO2'	1:K:140:U:H6	1.58	0.48
3:A:58:ALA:HB1	3:A:63:LYS:HB2	1.95	0.48
3:A:247:TYR:N	3:A:248:PRO:HD2	2.29	0.48
3:A:405:GLU:OE2	3:A:409:ALA:HB2	2.12	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:53:GLN:HA	3:B:53:GLN:NE2	2.28	0.48
3:E:183:ALA:O	3:E:185:GLY:N	2.45	0.48
3:E:203:TRP:HZ2	3:E:253:TRP:HB3	1.77	0.48
3:E:354:ASP:O	3:E:357:VAL:HG12	2.13	0.48
3:F:111:VAL:CG1	3:F:345:PHE:HE1	2.27	0.48
3:I:58:ALA:CA	3:I:63:LYS:HB2	2.43	0.48
3:I:94:ARG:NH2	3:I:304:THR:HG23	2.25	0.48
3:I:405:GLU:O	3:I:407:SER:N	2.46	0.48
3:M:125:LEU:HA	3:M:192:ARG:HH22	1.77	0.48
1:C:204:G:N2	1:C:209:C:N3	2.51	0.48
1:G:32:U:H2'	1:G:33:C:O4'	2.13	0.48
1:G:225:A:H5'	1:G:226:G:OP2	2.14	0.48
1:K:159:A:C5	1:K:161:G:C5	3.01	0.48
3:A:325:PHE:HE2	3:A:348:TYR:CE1	2.32	0.48
3:B:166:ILE:HG22	3:B:170:LEU:CD1	2.43	0.48
3:E:227:ARG:CZ	3:E:229:THR:OG1	2.62	0.48
3:F:166:ILE:HG22	3:F:170:LEU:CD1	2.43	0.48
3:F:188:ALA:CA	3:F:192:ARG:HH11	2.22	0.48
3:F:250:MET:O	3:F:253:TRP:N	2.46	0.48
3:I:227:ARG:CZ	3:I:229:THR:OG1	2.61	0.48
3:M:414:ARG:HH11	3:M:414:ARG:HG3	1.77	0.48
1:C:24:A:H1'	1:C:172:U:H5'	1.95	0.48
1:C:161:G:C2	1:C:162:G:C8	3.01	0.48
1:K:24:A:H1'	1:K:172:U:H5'	1.95	0.48
1:K:32:U:H2'	1:K:33:C:O4'	2.13	0.48
3:A:125:LEU:HA	3:A:192:ARG:HH22	1.77	0.48
3:A:256:PHE:O	3:A:259:PHE:N	2.46	0.48
3:E:181:MET:HG2	3:E:186:TYR:HB2	1.95	0.48
3:F:243:ALA:O	3:F:246:THR:N	2.44	0.48
3:F:261:GLN:O	3:F:262:GLN:HG2	2.14	0.48
3:I:58:ALA:HA	3:I:63:LYS:HB2	1.95	0.48
3:J:59:ILE:HG12	3:J:64:LYS:O	2.14	0.48
3:J:215:VAL:HG11	3:J:283:VAL:HG13	1.95	0.48
3:M:200:ASN:HB2	3:M:204:ASN:HD22	1.78	0.48
3:M:239:GLY:HA3	3:N:220:ARG:HE	1.79	0.48
3:M:245:PHE:HB2	3:N:221:ILE:HG21	1.96	0.48
3:N:96:ILE:HD12	3:N:97:GLY:CA	2.44	0.48
3:N:135:GLY:O	3:N:137:SER:N	2.47	0.48
3:N:233:LYS:HG3	3:N:233:LYS:O	2.13	0.48
1:C:245:C:O2	1:C:246:A:C8	2.66	0.48
1:G:159:A:C5	1:G:161:G:C5	3.01	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:173:U:O2'	1:G:174:C:OP1	2.24	0.48
1:G:251:U:H3'	1:G:251:U:H6	1.78	0.48
1:K:10:A:H2'	1:K:11:G:C8	2.49	0.48
1:K:223:G:C2'	1:K:224:G:H5'	2.44	0.48
3:A:243:ALA:HA	3:B:212:LEU:CD2	2.44	0.48
3:A:357:VAL:HB	3:A:389:GLN:HE21	1.78	0.48
3:B:158:ASP:CG	3:B:159:ALA:N	2.67	0.48
3:E:94:ARG:NH2	3:E:307:ASP:N	2.62	0.48
3:E:378:GLU:O	3:E:378:GLU:OE2	2.32	0.48
3:F:176:ASN:O	3:F:179:THR:HB	2.14	0.48
3:F:345:PHE:O	3:F:346:TYR:C	2.51	0.48
3:I:73:GLU:HG2	3:I:73:GLU:O	2.13	0.48
3:I:98:ALA:HA	3:I:266:MET:O	2.13	0.48
3:I:200:ASN:HB2	3:I:204:ASN:ND2	2.28	0.48
3:J:343:PHE:CD1	3:J:412:GLN:HB2	2.48	0.48
3:M:61:LYS:HZ3	3:M:63:LYS:CD	2.26	0.48
3:M:124:TYR:CZ	3:M:194:ARG:HD3	2.48	0.48
3:N:357:VAL:HG21	3:N:388:ALA:HB3	1.95	0.48
1:C:14:U:H4'	1:C:37:A:C2	2.49	0.48
1:C:97:U:C2	1:C:111:G:C2	3.02	0.48
1:G:25:A:C1'	1:G:171:C:H4'	2.43	0.48
1:G:95:G:O2'	1:G:96:C:H5'	2.13	0.48
1:O:24:A:H1'	1:O:172:U:H5'	1.96	0.48
1:O:177:G:O2'	1:O:178:G:H5'	2.14	0.48
1:O:187:A:O2'	1:O:188:U:P	2.71	0.48
3:B:138:THR:N	3:B:199:ASN:HD21	2.12	0.48
3:E:285:LYS:HA	3:E:288:ARG:HD3	1.96	0.48
3:I:79:ASP:HB3	3:I:274:TYR:CD1	2.49	0.48
3:I:135:GLY:O	3:I:137:SER:N	2.47	0.48
3:I:168:TYR:C	3:I:168:TYR:CD2	2.86	0.48
3:I:202:TRP:CD1	3:I:203:TRP:N	2.81	0.48
3:J:94:ARG:O	3:J:96:ILE:HG23	2.13	0.48
3:M:79:ASP:HB3	3:M:274:TYR:CD1	2.49	0.48
3:M:216:GLY:O	3:N:241:SER:OG	2.32	0.48
3:N:284:VAL:HG11	3:N:309:CYS:SG	2.54	0.48
3:N:294:PRO:O	3:N:297:ARG:HB2	2.14	0.48
1:C:25:A:C1'	1:C:171:C:H4'	2.43	0.48
1:C:251:U:H3'	1:C:251:U:H6	1.77	0.48
1:G:184:G:H5"	1:G:185:A:OP2	2.14	0.48
1:K:134:A:C2'	1:K:135:G:H5'	2.44	0.48
3:A:79:ASP:HB3	3:A:274:TYR:CD1	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:200:ASN:HB2	3:A:204:ASN:HD22	1.78	0.48
3:A:203:TRP:HZ2	3:A:253:TRP:HB3	1.78	0.48
3:E:202:TRP:CD1	3:E:203:TRP:N	2.82	0.48
3:F:84:LYS:H	3:F:84:LYS:HG2	1.34	0.48
3:F:109:LEU:HD22	3:F:113:HIS:ND1	2.28	0.48
3:I:222:GLY:C	3:I:224:MET:N	2.67	0.48
3:M:61:LYS:HZ3	3:M:63:LYS:CG	2.27	0.48
3:M:220:ARG:O	3:M:222:GLY:N	2.47	0.48
1:C:228:A:N3	1:C:229:A:C8	2.82	0.48
1:G:24:A:H1'	1:G:172:U:H5'	1.95	0.48
1:G:97:U:C2	1:G:111:G:C2	3.02	0.48
1:G:245:C:O2	1:G:246:A:C8	2.67	0.48
1:O:184:G:O5'	1:O:184:G:H8	1.97	0.48
3:A:99:TYR:HA	3:A:131:PHE:O	2.13	0.48
3:A:245:PHE:HB2	3:B:221:ILE:HG21	1.96	0.48
3:B:405:GLU:OE2	3:B:405:GLU:HA	2.14	0.48
3:E:73:GLU:CG	3:E:369:ILE:HG13	2.43	0.48
3:E:208:MET:HG3	3:F:208:MET:SD	2.54	0.48
3:F:198:ASN:OD1	3:F:200:ASN:ND2	2.47	0.48
3:I:73:GLU:CG	3:I:369:ILE:HG13	2.43	0.48
3:I:220:ARG:HA	3:J:241:SER:HA	1.95	0.48
3:J:59:ILE:HD13	3:J:66:ASN:HA	1.94	0.48
3:J:94:ARG:C	3:J:96:ILE:H	2.17	0.48
3:J:111:VAL:CG1	3:J:345:PHE:HE1	2.26	0.48
3:J:358:GLU:HG3	3:J:359:ASN:N	2.27	0.48
3:M:115:LEU:HB3	3:M:116:PRO:CD	2.44	0.48
3:M:404:GLN:NE2	3:M:404:GLN:H	2.12	0.48
3:N:169:GLN:O	3:N:171:LYS:N	2.46	0.48
1:C:32:U:H2'	1:C:33:C:O4'	2.14	0.47
1:C:84:U:OP1	2:D:4:U:O2'	2.22	0.47
1:G:14:U:O2	1:G:34:G:C2	2.66	0.47
1:G:84:U:OP1	2:H:4:U:O2'	2.26	0.47
1:K:200:A:H5'	1:K:243:A:C2	2.49	0.47
1:O:223:G:C2'	1:O:224:G:H5'	2.44	0.47
3:A:61:LYS:HZ3	3:A:63:LYS:CG	2.27	0.47
3:E:371:GLU:OE2	3:E:374:LYS:HB3	2.14	0.47
3:E:405:GLU:O	3:E:407:SER:N	2.47	0.47
3:I:240:VAL:CG1	3:J:221:ILE:HG12	2.43	0.47
3:I:357:VAL:CB	3:I:389:GLN:HE21	2.27	0.47
3:J:243:ALA:O	3:J:246:THR:N	2.44	0.47
3:J:345:PHE:O	3:J:346:TYR:C	2.51	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:M:306:LEU:C	3:M:308:GLU:H	2.17	0.47
3:M:357:VAL:HB	3:M:389:GLN:HE21	1.78	0.47
3:N:59:ILE:HG12	3:N:64:LYS:O	2.14	0.47
3:N:94:ARG:C	3:N:96:ILE:H	2.15	0.47
3:N:109:LEU:HD22	3:N:113:HIS:ND1	2.28	0.47
1:O:118:C:O2'	1:O:119:A:P	2.73	0.47
3:A:352:ARG:HD3	3:A:356:GLU:OE2	2.14	0.47
3:E:200:ASN:OD1	3:E:201:HIS:N	2.47	0.47
3:E:345:PHE:O	3:E:347:GLY:N	2.48	0.47
3:I:94:ARG:NH2	3:I:307:ASP:N	2.62	0.47
3:I:200:ASN:HB2	3:I:204:ASN:HD22	1.79	0.47
3:I:319:ASP:HB2	3:I:352:ARG:HH11	1.75	0.47
3:J:386:ARG:HB2	3:J:386:ARG:HH11	1.79	0.47
3:N:135:GLY:HA3	3:N:138:THR:HG23	1.95	0.47
1:G:9:G:H2'	1:G:9:G:N3	2.30	0.47
1:G:149:G:N2	1:G:150:U:O4'	2.47	0.47
1:O:95:G:O2'	1:O:96:C:H5'	2.14	0.47
1:O:159:A:O2'	1:O:160:U:H5"	2.14	0.47
1:O:246:A:C1'	1:O:247:U:C5	2.97	0.47
3:A:227:ARG:NH1	3:A:229:THR:OG1	2.48	0.47
3:A:320:SER:HB2	3:A:356:GLU:CD	2.33	0.47
3:B:158:ASP:C	3:B:160:THR:H	2.17	0.47
3:E:70:LEU:HD23	3:E:70:LEU:O	2.14	0.47
3:E:227:ARG:NH2	3:E:229:THR:OG1	2.47	0.47
3:E:369:ILE:HA	3:E:372:ILE:HB	1.95	0.47
3:F:135:GLY:HA3	3:F:138:THR:HG23	1.96	0.47
3:F:215:VAL:HG11	3:F:283:VAL:HG13	1.96	0.47
3:I:94:ARG:HH22	3:I:304:THR:CG2	2.25	0.47
3:I:352:ARG:HD3	3:I:356:GLU:OE2	2.14	0.47
3:I:354:ASP:OD2	3:I:354:ASP:N	2.46	0.47
3:I:405:GLU:OE2	3:I:409:ALA:HB2	2.14	0.47
3:M:203:TRP:HZ2	3:M:253:TRP:HB3	1.79	0.47
3:M:222:GLY:C	3:M:224:MET:N	2.66	0.47
1:C:9:G:N3	1:C:9:G:H2'	2.29	0.47
1:C:43:U:H2'	1:C:44:C:C6	2.50	0.47
1:G:223:G:C2'	1:G:224:G:H5'	2.44	0.47
1:K:149:G:N2	1:K:150:U:O4'	2.47	0.47
1:K:159:A:O2'	1:K:160:U:H5"	2.14	0.47
2:L:1:G:OP1	2:L:1:G:C8	2.68	0.47
1:O:10:A:H2'	1:O:11:G:C8	2.49	0.47
1:O:188:U:H2'	1:O:189:A:C8	2.47	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:94:ARG:NH2	3:A:307:ASP:N	2.62	0.47
3:A:200:ASN:OD1	3:A:201:HIS:N	2.48	0.47
3:B:135:GLY:HA3	3:B:138:THR:HG23	1.96	0.47
3:E:63:LYS:HB3	3:E:63:LYS:HZ2	1.79	0.47
3:E:265:GLN:HE22	3:E:307:ASP:HA	1.79	0.47
3:I:66:ASN:O	3:I:69:ASP:N	2.48	0.47
3:I:200:ASN:OD1	3:I:201:HIS:N	2.47	0.47
3:J:135:GLY:O	3:J:137:SER:N	2.47	0.47
3:J:135:GLY:HA3	3:J:138:THR:HG23	1.95	0.47
3:M:94:ARG:NH2	3:M:307:ASP:N	2.62	0.47
1:C:109:G:OP1	3:B:182:ARG:CZ	2.63	0.47
1:G:43:U:H2'	1:G:44:C:C6	2.49	0.47
1:K:14:U:O2	1:K:34:G:C2	2.68	0.47
1:K:97:U:C2	1:K:111:G:C2	3.02	0.47
3:A:214:ARG:NH2	3:A:291:GLU:OE1	2.47	0.47
3:B:68:TRP:O	3:B:71:PHE:HB2	2.15	0.47
3:B:109:LEU:HD22	3:B:113:HIS:ND1	2.29	0.47
3:B:122:TRP:O	3:B:125:LEU:HB2	2.15	0.47
3:B:350:VAL:CG1	3:B:351:ARG:HG3	2.40	0.47
3:B:357:VAL:HG21	3:B:388:ALA:HB3	1.97	0.47
3:E:335:LEU:HD22	3:E:400:VAL:CG1	2.32	0.47
3:F:200:ASN:O	3:F:202:TRP:N	2.48	0.47
3:F:213:ARG:C	3:F:215:VAL:H	2.17	0.47
3:I:227:ARG:NH2	3:I:229:THR:OG1	2.47	0.47
3:I:239:GLY:HA3	3:J:220:ARG:HE	1.79	0.47
3:J:228:ASP:O	3:J:230:VAL:N	2.48	0.47
3:J:245:PHE:O	3:J:248:PRO:HD2	2.14	0.47
3:J:276:ASN:HD22	3:J:276:ASN:N	2.12	0.47
3:M:53:GLN:HA	3:M:53:GLN:NE2	2.29	0.47
3:M:227:ARG:NH2	3:M:229:THR:OG1	2.47	0.47
3:N:350:VAL:CG1	3:N:351:ARG:HG3	2.40	0.47
1:G:246:A:C1'	1:G:247:U:C5	2.98	0.47
1:K:43:U:H2'	1:K:44:C:C6	2.49	0.47
1:O:32:U:H2'	1:O:33:C:O4'	2.15	0.47
1:O:184:G:H5"	1:O:185:A:OP2	2.14	0.47
1:O:251:U:H3'	1:O:251:U:H6	1.78	0.47
3:A:404:GLN:NE2	3:A:404:GLN:H	2.12	0.47
3:E:222:GLY:C	3:E:224:MET:N	2.66	0.47
3:F:353:SER:HB3	3:F:355:GLN:HG3	1.95	0.47
3:J:250:MET:O	3:J:253:TRP:N	2.47	0.47
3:M:200:ASN:OD1	3:M:201:HIS:N	2.48	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:N:200:ASN:O	3:N:202:TRP:N	2.48	0.47
1:C:109:G:OP1	3:B:182:ARG:NH2	2.48	0.47
1:C:159:A:C2	1:C:161:G:C8	3.03	0.47
1:C:210:A:O2'	1:C:211:U:H5'	2.15	0.47
1:G:10:A:H2'	1:G:11:G:C8	2.49	0.47
1:K:173:U:O2'	1:K:174:C:OP1	2.25	0.47
1:K:184:G:H8	1:K:184:G:O5'	1.97	0.47
1:O:210:A:O2'	1:O:211:U:H5'	2.15	0.47
3:A:44:LYS:O	3:A:47:GLU:HB3	2.14	0.47
3:A:208:MET:HG3	3:B:208:MET:SD	2.55	0.47
3:A:414:ARG:HH11	3:A:414:ARG:HG3	1.78	0.47
3:B:213:ARG:C	3:B:215:VAL:H	2.17	0.47
3:B:247:TYR:HE2	3:B:276:ASN:OD1	1.98	0.47
3:B:378:GLU:OE1	3:B:378:GLU:HA	2.15	0.47
3:E:44:LYS:O	3:E:47:GLU:HB3	2.15	0.47
3:E:58:ALA:CA	3:E:63:LYS:HB2	2.44	0.47
3:E:221:ILE:HG12	3:F:240:VAL:HG13	1.97	0.47
3:E:397:VAL:HG12	3:E:406:ALA:CB	2.44	0.47
3:F:96:ILE:HD12	3:F:97:GLY:CA	2.45	0.47
3:F:247:TYR:HE2	3:F:276:ASN:OD1	1.96	0.47
3:J:122:TRP:O	3:J:125:LEU:HB2	2.15	0.47
3:J:397:VAL:O	3:J:401:HIS:HB2	2.14	0.47
3:M:60:LYS:HE3	3:M:92:ARG:HH12	1.79	0.47
3:M:66:ASN:O	3:M:69:ASP:N	2.47	0.47
3:M:208:MET:HG3	3:N:208:MET:SD	2.55	0.47
3:M:214:ARG:NH2	3:M:291:GLU:OE1	2.47	0.47
3:M:320:SER:HB2	3:M:356:GLU:CD	2.34	0.47
3:N:158:ASP:CG	3:N:159:ALA:N	2.68	0.47
3:N:158:ASP:C	3:N:160:THR:H	2.17	0.47
1:C:96:C:H2'	1:C:97:U:C6	2.49	0.47
1:K:228:A:C2	1:O:103(A):A:C2	3.03	0.47
1:O:194:G:H3'	1:O:194:G:H8	1.80	0.47
3:B:41:TYR:O	3:B:44:LYS:HB2	2.15	0.47
3:B:59:ILE:HG12	3:B:64:LYS:O	2.15	0.47
3:E:320:SER:HB2	3:E:356:GLU:CD	2.34	0.47
3:I:265:GLN:HE22	3:I:307:ASP:HA	1.78	0.47
3:N:41:TYR:O	3:N:44:LYS:HB2	2.15	0.47
3:N:111:VAL:CG1	3:N:345:PHE:HE1	2.28	0.47
3:N:213:ARG:C	3:N:215:VAL:H	2.17	0.47
3:N:386:ARG:HB2	3:N:386:ARG:HH11	1.78	0.47
1:C:159:A:O2'	1:C:160:U:H5"	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:191:U:C5	1:K:192:C:C5	3.03	0.47
1:O:248:A:H2'	1:O:249:A:O4'	2.15	0.47
3:A:70:LEU:HD23	3:A:70:LEU:O	2.15	0.47
3:B:343:PHE:CD1	3:B:412:GLN:HB2	2.50	0.47
3:E:256:PHE:O	3:E:259:PHE:N	2.47	0.47
3:E:405:GLU:OE2	3:E:409:ALA:HB2	2.15	0.47
3:F:158:ASP:C	3:F:160:THR:H	2.17	0.47
3:F:400:VAL:O	3:F:400:VAL:CG1	2.61	0.47
3:I:325:PHE:HE2	3:I:348:TYR:CE1	2.32	0.47
3:M:70:LEU:HD23	3:M:70:LEU:O	2.15	0.47
3:M:168:TYR:CD2	3:M:168:TYR:C	2.87	0.47
3:M:181:MET:HG2	3:M:186:TYR:HB2	1.96	0.47
3:M:405:GLU:OE2	3:M:409:ALA:HB2	2.14	0.47
3:N:215:VAL:HG11	3:N:283:VAL:HG13	1.97	0.47
1:C:223:G:C2'	1:C:224:G:H5'	2.45	0.47
1:G:51:A:H4'	3:F:261:GLN:OE1	2.15	0.47
1:G:194:G:H3'	1:G:194:G:H8	1.80	0.47
1:G:228:A:N3	1:G:229:A:C8	2.83	0.47
1:K:108:A:H2'	1:K:109:G:C8	2.50	0.47
1:K:148:A:N6	1:K:232:A:C5'	2.75	0.47
1:O:15:U:H5'	1:O:35:A:N1	2.29	0.47
3:A:135:GLY:O	3:A:137:SER:N	2.48	0.47
3:A:181:MET:HG2	3:A:186:TYR:HB2	1.97	0.47
3:B:111:VAL:CG1	3:B:345:PHE:HE1	2.28	0.47
3:E:238:ASP:CG	3:E:239:GLY:N	2.68	0.47
3:E:392:LEU:C	3:E:392:LEU:CD2	2.84	0.47
3:I:243:ALA:HA	3:J:212:LEU:CD2	2.45	0.47
3:I:285:LYS:HA	3:I:288:ARG:HD3	1.97	0.47
3:J:69:ASP:O	3:J:73:GLU:HB2	2.14	0.47
3:J:200:ASN:O	3:J:202:TRP:N	2.48	0.47
3:M:371:GLU:OE2	3:M:374:LYS:HB3	2.15	0.47
3:N:198:ASN:OD1	3:N:200:ASN:ND2	2.47	0.47
1:C:40:U:H2'	1:C:41:C:H6	1.80	0.46
1:C:126:A:N1	1:C:159:A:C8	2.83	0.46
1:C:194:G:H3'	1:C:194:G:H8	1.80	0.46
1:C:248:A:H2'	1:C:249:A:O4'	2.15	0.46
1:G:40:U:O2'	1:G:41:C:H5'	2.15	0.46
1:G:46:A:H2'	1:G:47:A:O4'	2.15	0.46
1:G:200:A:H5'	1:G:243:A:C2	2.50	0.46
1:K:246:A:C1'	1:K:247:U:C5	2.98	0.46
1:O:43:U:H2'	1:O:44:C:C6	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:O:204:G:N2	1:O:209:C:N3	2.52	0.46
3:A:285:LYS:HA	3:A:288:ARG:HD3	1.97	0.46
3:B:294:PRO:O	3:B:295:GLN:C	2.53	0.46
3:E:53:GLN:HA	3:E:53:GLN:NE2	2.30	0.46
3:F:122:TRP:O	3:F:125:LEU:HB2	2.15	0.46
3:F:294:PRO:O	3:F:295:GLN:C	2.53	0.46
3:I:227:ARG:NH1	3:I:229:THR:OG1	2.48	0.46
3:I:416:MET:CE	3:I:416:MET:HA	2.44	0.46
3:J:232:ASN:C	3:J:234:MET:N	2.68	0.46
3:J:247:TYR:HE2	3:J:276:ASN:OD1	1.98	0.46
3:J:355:GLN:NE2	3:J:355:GLN:C	2.69	0.46
3:M:132:THR:HG23	3:M:174:TRP:HZ2	1.80	0.46
3:M:324:LYS:HB3	3:M:324:LYS:HZ2	1.79	0.46
3:N:261:GLN:O	3:N:262:GLN:HG2	2.15	0.46
3:N:357:VAL:CG2	3:N:388:ALA:HB1	2.45	0.46
1:G:15:U:H5'	1:G:35:A:N1	2.30	0.46
1:G:139:G:H2'	1:G:140:U:OP2	2.15	0.46
1:G:248:A:H2'	1:G:249:A:O4'	2.16	0.46
1:O:131:G:HO2'	1:O:133:U:H5	1.63	0.46
1:O:191:U:C5	1:O:192:C:C5	3.03	0.46
1:O:245:C:O2	1:O:246:A:C8	2.68	0.46
3:A:74:ARG:HB3	3:A:362:LYS:O	2.16	0.46
3:B:87:ILE:HG12	3:B:310:VAL:HG21	1.97	0.46
3:B:193:LYS:HB2	3:B:193:LYS:NZ	2.29	0.46
3:E:361:LEU:HA	3:E:392:LEU:HD12	1.96	0.46
3:I:44:LYS:O	3:I:47:GLU:HB3	2.15	0.46
3:I:53:GLN:NE2	3:I:53:GLN:HA	2.30	0.46
3:I:111:VAL:CA	3:I:114:LEU:HD12	2.44	0.46
3:I:397:VAL:HG12	3:I:406:ALA:CB	2.45	0.46
3:J:415:MET:HA	3:J:415:MET:HE2	1.96	0.46
3:M:352:ARG:HD3	3:M:356:GLU:OE2	2.15	0.46
3:N:247:TYR:HE2	3:N:276:ASN:OD1	1.99	0.46
1:C:14:U:H2'	1:C:35:A:H61	1.80	0.46
1:G:115:G:H2'	1:G:116:U:H6	1.78	0.46
1:K:109:G:OP1	3:J:182:ARG:NH1	2.48	0.46
1:K:118:C:O2'	1:K:119:A:P	2.74	0.46
1:O:148:A:N6	1:O:232:A:C5'	2.72	0.46
3:A:111:VAL:CA	3:A:114:LEU:HD12	2.44	0.46
3:E:325:PHE:HE2	3:E:348:TYR:CE1	2.32	0.46
3:E:371:GLU:O	3:E:374:LYS:HB3	2.15	0.46
3:I:55:ARG:HG2	3:I:55:ARG:NH1	2.31	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:I:60:LYS:HE3	3:I:92:ARG:HH12	1.81	0.46
3:I:85:GLU:O	3:I:88:ALA:HB3	2.15	0.46
3:I:181:MET:HG2	3:I:186:TYR:HB2	1.96	0.46
3:J:73:GLU:C	3:J:75:GLY:H	2.19	0.46
3:J:83:THR:HB	3:J:86:HIS:CB	2.38	0.46
3:J:324:LYS:C	3:J:326:GLY:H	2.19	0.46
3:M:74:ARG:HB3	3:M:362:LYS:O	2.16	0.46
3:N:122:TRP:O	3:N:125:LEU:HB2	2.16	0.46
3:N:382:ASP:OD1	3:N:385:LYS:HB2	2.15	0.46
1:C:192:C:O2	1:C:192:C:H2'	2.15	0.46
1:G:63:A:C2	1:G:64:A:H1'	2.51	0.46
1:G:159:A:O2'	1:G:160:U:H5"	2.16	0.46
1:G:184:G:H8	1:G:184:G:O5'	1.98	0.46
1:K:103:G:N2	1:K:104:A:OP2	2.49	0.46
1:O:63:A:C2	1:O:64:A:H1'	2.51	0.46
3:A:222:GLY:C	3:A:224:MET:N	2.67	0.46
3:A:265:GLN:HE22	3:A:307:ASP:HA	1.80	0.46
3:B:94:ARG:C	3:B:96:ILE:H	2.17	0.46
3:B:135:GLY:O	3:B:137:SER:N	2.48	0.46
3:E:168:TYR:CD2	3:E:168:TYR:C	2.87	0.46
3:J:41:TYR:O	3:J:44:LYS:HB2	2.15	0.46
3:J:135:GLY:CA	3:J:138:THR:CG2	2.93	0.46
3:J:158:ASP:CG	3:J:159:ALA:N	2.69	0.46
3:J:193:LYS:HB2	3:J:193:LYS:NZ	2.31	0.46
3:J:198:ASN:OD1	3:J:200:ASN:ND2	2.48	0.46
3:N:135:GLY:CA	3:N:138:THR:CG2	2.93	0.46
3:N:193:LYS:HB2	3:N:193:LYS:NZ	2.30	0.46
3:N:343:PHE:CD1	3:N:412:GLN:HB2	2.50	0.46
1:C:184:G:H5"	1:C:185:A:OP2	2.16	0.46
1:G:200:A:O4'	1:G:243:A:C6	2.68	0.46
1:K:40:U:O2'	1:K:41:C:H5'	2.15	0.46
1:K:200:A:O4'	1:K:243:A:C6	2.69	0.46
1:K:248:A:H2'	1:K:249:A:O4'	2.16	0.46
1:O:76:G:H2'	1:O:77:U:O4'	2.16	0.46
1:O:126:A:N1	1:O:159:A:C8	2.84	0.46
1:O:144:G:H8	1:O:144:G:O5'	1.99	0.46
3:B:135:GLY:CA	3:B:138:THR:CG2	2.93	0.46
3:B:173:LEU:O	3:B:174:TRP:C	2.54	0.46
3:E:200:ASN:HB2	3:E:204:ASN:HD22	1.80	0.46
3:E:243:ALA:HA	3:F:212:LEU:CD2	2.45	0.46
3:F:405:GLU:HA	3:F:405:GLU:OE2	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:J:96:ILE:HD12	3:J:97:GLY:CA	2.45	0.46
1:C:144:G:H8	1:C:144:G:O5'	1.99	0.46
1:K:9:G:N3	1:K:9:G:H2'	2.30	0.46
1:K:103(A):A:C2	1:K:103(B):A:C4	3.03	0.46
1:K:194:G:H3'	1:K:194:G:H8	1.81	0.46
1:O:9:G:H2'	1:O:9:G:N3	2.31	0.46
1:O:14:U:H4'	1:O:37:A:C2	2.51	0.46
3:A:221:ILE:HD11	3:B:234:MET:HE1	1.98	0.46
3:A:240:VAL:HG13	3:B:221:ILE:HG23	1.97	0.46
3:B:210:GLU:O	3:B:211:VAL:C	2.54	0.46
3:E:227:ARG:NH1	3:E:229:THR:OG1	2.48	0.46
3:F:397:VAL:O	3:F:401:HIS:HB2	2.15	0.46
3:I:195:GLY:C	3:I:196:ILE:HD12	2.36	0.46
3:J:135:GLY:HA3	3:J:138:THR:CG2	2.46	0.46
3:J:378:GLU:OE1	3:J:378:GLU:HA	2.16	0.46
3:M:247:TYR:O	3:M:248:PRO:C	2.51	0.46
3:N:267:GLN:HG3	3:N:268:ILE:N	2.31	0.46
1:C:149:G:N2	1:C:150:U:O4'	2.48	0.46
1:C:173:U:O2'	1:C:174:C:OP1	2.23	0.46
1:C:191:U:C5	1:C:192:C:C5	3.03	0.46
1:G:14:U:H4'	1:G:37:A:C2	2.51	0.46
1:G:77:U:H2'	1:G:78:A:C8	2.51	0.46
1:O:227:U:H2'	1:O:228:A:H3'	1.98	0.46
3:A:58:ALA:HA	3:A:63:LYS:HB2	1.97	0.46
3:A:390:HIS:CB	3:A:414:ARG:NH2	2.79	0.46
3:B:261:GLN:O	3:B:262:GLN:HG2	2.16	0.46
3:B:357:VAL:CG2	3:B:388:ALA:HB1	2.46	0.46
3:E:357:VAL:CB	3:E:389:GLN:HE21	2.28	0.46
3:F:158:ASP:CG	3:F:159:ALA:N	2.69	0.46
3:F:253:TRP:O	3:F:254:ASP:C	2.54	0.46
3:I:72:GLU:OE1	3:I:72:GLU:HA	2.16	0.46
3:J:163:MET:O	3:J:164:THR:C	2.53	0.46
3:M:333:ILE:O	3:M:334:TRP:O	2.34	0.46
3:M:404:GLN:H	3:M:404:GLN:CD	2.19	0.46
1:C:34:G:H21	1:C:36:A:N6	2.14	0.46
1:C:103:G:N2	1:C:104:A:OP2	2.49	0.46
1:C:148:A:N6	1:C:232:A:C5'	2.72	0.46
1:C:160:U:H1'	1:C:184:G:C5	2.51	0.46
1:O:173:U:O2'	1:O:174:C:OP1	2.23	0.46
3:A:168:TYR:C	3:A:168:TYR:CD2	2.88	0.46
3:B:355:GLN:NE2	3:B:355:GLN:C	2.69	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:E:135:GLY:O	3:E:137:SER:N	2.48	0.46
3:F:245:PHE:O	3:F:248:PRO:HD2	2.15	0.46
3:F:382:ASP:OD1	3:F:385:LYS:HB2	2.16	0.46
3:I:55:ARG:HG2	3:I:55:ARG:HH11	1.81	0.46
3:J:405:GLU:OE2	3:J:405:GLU:HA	2.15	0.46
3:M:73:GLU:CG	3:M:369:ILE:HG13	2.45	0.46
3:N:397:VAL:O	3:N:401:HIS:HB2	2.15	0.46
1:C:246:A:C1'	1:C:247:U:C5	2.99	0.46
1:G:96:C:H2'	1:G:97:U:C6	2.50	0.46
1:G:126:A:N1	1:G:159:A:C8	2.84	0.46
1:G:134:A:C2'	1:G:135:G:H5'	2.45	0.46
1:G:139:G:H8	1:G:139:G:O5'	1.99	0.46
1:K:54:G:N1	1:K:85:C:C5	2.84	0.46
1:K:105:C:H2'	1:K:106:G:O5'	2.16	0.46
1:K:216:A:H4'	1:K:217:A:OP2	2.16	0.46
3:A:174:TRP:CD1	3:A:196:ILE:HD11	2.50	0.46
3:A:293:ASP:OD1	3:A:296:GLU:HB2	2.15	0.46
3:B:94:ARG:O	3:B:96:ILE:HG23	2.16	0.46
3:B:96:ILE:HD12	3:B:97:GLY:CA	2.46	0.46
3:B:386:ARG:HB2	3:B:386:ARG:HH11	1.79	0.46
3:E:111:VAL:CA	3:E:114:LEU:HD12	2.45	0.46
3:F:319:ASP:HB2	3:F:352:ARG:NH1	2.31	0.46
3:I:63:LYS:HB3	3:I:63:LYS:HZ3	1.80	0.46
3:I:316:LEU:HD11	3:I:324:LYS:HD3	1.98	0.46
3:J:115:LEU:N	3:J:116:PRO:HD2	2.31	0.46
3:J:353:SER:HB3	3:J:355:GLN:HG3	1.98	0.46
3:J:382:ASP:OD1	3:J:385:LYS:HB2	2.16	0.46
3:M:238:ASP:CG	3:M:239:GLY:N	2.69	0.46
1:C:15:U:H5'	1:C:35:A:N1	2.30	0.46
1:C:63:A:C2	1:C:64:A:H1'	2.51	0.46
1:G:183:U:H3'	1:G:184:G:C8	2.51	0.46
1:K:126:A:N1	1:K:159:A:C8	2.84	0.46
1:O:108:A:H2'	1:O:109:G:C8	2.51	0.46
1:O:149:G:N2	1:O:150:U:O4'	2.48	0.46
3:A:354:ASP:OD2	3:A:354:ASP:N	2.48	0.46
3:B:163:MET:O	3:B:164:THR:C	2.53	0.46
3:B:220:ARG:HH11	3:B:220:ARG:HG3	1.81	0.46
3:E:220:ARG:C	3:E:222:GLY:H	2.18	0.46
3:F:135:GLY:CA	3:F:138:THR:CG2	2.94	0.46
3:F:140:LYS:O	3:F:141:ILE:CD1	2.55	0.46
3:J:331:ASN:HD21	3:J:334:TRP:HZ2	1.64	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:M:94:ARG:HH22	3:M:304:THR:CG2	2.27	0.46
3:M:397:VAL:HG12	3:M:406:ALA:CB	2.46	0.46
1:G:177:G:O2'	1:G:178:G:H5'	2.16	0.45
1:K:46:A:H2'	1:K:47:A:O4'	2.15	0.45
1:O:14:U:H2'	1:O:35:A:H61	1.80	0.45
1:O:161:G:N3	1:O:162:G:C8	2.84	0.45
3:A:247:TYR:O	3:A:248:PRO:C	2.51	0.45
3:B:200:ASN:O	3:B:202:TRP:N	2.49	0.45
3:E:66:ASN:O	3:E:69:ASP:N	2.49	0.45
3:E:414:ARG:HG3	3:E:414:ARG:NH1	2.31	0.45
3:I:71:PHE:HZ	3:I:123:MET:HG3	1.81	0.45
3:I:366:PHE:HE2	3:I:399:LEU:HD11	1.81	0.45
3:I:371:GLU:O	3:I:374:LYS:HB3	2.16	0.45
3:J:294:PRO:O	3:J:295:GLN:C	2.54	0.45
3:M:206:GLN:OE1	3:M:207:PRO:HD2	2.17	0.45
3:N:68:TRP:O	3:N:71:PHE:HB2	2.16	0.45
3:N:135:GLY:HA3	3:N:138:THR:CG2	2.46	0.45
3:N:173:LEU:O	3:N:174:TRP:C	2.54	0.45
3:N:357:VAL:CG1	3:N:358:GLU:N	2.80	0.45
1:K:159:A:C2	1:K:161:G:C8	3.05	0.45
1:K:188:U:H2'	1:K:189:A:C8	2.46	0.45
1:O:103(A):A:C2	1:O:103(B):A:C4	3.05	0.45
2:P:1:G:OP1	2:P:1:G:C8	2.67	0.45
3:A:60:LYS:HE3	3:A:92:ARG:HH12	1.81	0.45
3:A:94:ARG:HH22	3:A:304:THR:CG2	2.27	0.45
3:B:198:ASN:OD1	3:B:200:ASN:ND2	2.48	0.45
3:E:221:ILE:HD11	3:F:234:MET:CE	2.46	0.45
3:F:41:TYR:O	3:F:44:LYS:HB2	2.16	0.45
3:I:61:LYS:HZ3	3:I:63:LYS:CD	2.29	0.45
3:I:174:TRP:CD1	3:I:196:ILE:HD11	2.51	0.45
3:J:220:ARG:HH11	3:J:220:ARG:HG3	1.81	0.45
3:J:299:TYR:N	3:J:299:TYR:CD1	2.84	0.45
3:J:400:VAL:O	3:J:400:VAL:CG1	2.64	0.45
3:M:55:ARG:NH1	3:M:55:ARG:HG2	2.30	0.45
3:M:60:LYS:HB2	3:M:92:ARG:NH1	2.31	0.45
3:M:285:LYS:HA	3:M:288:ARG:HD3	1.98	0.45
3:M:354:ASP:O	3:M:357:VAL:HG12	2.16	0.45
1:C:108:A:H2'	1:C:109:G:C8	2.52	0.45
1:G:121:C:H5	1:G:195:A:H1'	1.82	0.45
1:G:216:A:H4'	1:G:217:A:OP2	2.16	0.45
1:K:24:A:H1'	1:K:172:U:C5'	2.47	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:40:U:H2'	1:K:41:C:H6	1.81	0.45
1:K:115:G:H2'	1:K:116:U:H6	1.80	0.45
1:O:159:A:C2	1:O:161:G:C8	3.05	0.45
3:A:58:ALA:CA	3:A:63:LYS:HB2	2.45	0.45
3:A:66:ASN:O	3:A:69:ASP:N	2.49	0.45
3:E:71:PHE:HZ	3:E:123:MET:HG3	1.81	0.45
3:E:390:HIS:CB	3:E:414:ARG:NH2	2.80	0.45
3:I:40:LYS:HG2	3:I:41:TYR:N	2.32	0.45
3:I:206:GLN:OE1	3:I:207:PRO:HD2	2.16	0.45
3:I:238:ASP:CG	3:I:239:GLY:N	2.68	0.45
3:I:320:SER:HB2	3:I:356:GLU:CD	2.36	0.45
1:C:126:A:C1'	1:C:158:A:N1	2.63	0.45
1:C:183:U:H2'	1:C:184:G:H5'	1.97	0.45
1:G:103:G:N2	1:G:104:A:OP2	2.50	0.45
1:K:131:G:N2	1:K:134:A:OP2	2.43	0.45
1:K:188:U:P	1:K:188:U:H3'	2.56	0.45
1:O:96:C:H2'	1:O:97:U:C6	2.51	0.45
3:B:73:GLU:C	3:B:75:GLY:H	2.20	0.45
3:B:158:ASP:O	3:B:160:THR:N	2.49	0.45
3:B:267:GLN:HG3	3:B:268:ILE:N	2.32	0.45
3:B:294:PRO:O	3:B:297:ARG:HB2	2.16	0.45
3:B:380:ILE:C	3:B:380:ILE:HD12	2.37	0.45
3:E:60:LYS:HE3	3:E:92:ARG:HH12	1.82	0.45
3:F:357:VAL:HG21	3:F:388:ALA:HB3	1.98	0.45
3:I:70:LEU:HD23	3:I:70:LEU:O	2.16	0.45
3:I:392:LEU:C	3:I:392:LEU:CD2	2.85	0.45
3:J:188:ALA:CA	3:J:192:ARG:HH11	2.20	0.45
3:M:58:ALA:HA	3:M:63:LYS:HB2	1.98	0.45
3:M:265:GLN:HE22	3:M:307:ASP:HA	1.81	0.45
3:N:297:ARG:CA	3:N:300:VAL:HG22	2.47	0.45
1:C:177:G:O2'	1:C:178:G:H5'	2.17	0.45
1:G:40:U:H2'	1:G:41:C:H6	1.81	0.45
1:K:139:G:H8	1:K:139:G:O5'	2.00	0.45
3:B:253:TRP:O	3:B:256:PHE:HB3	2.16	0.45
3:B:397:VAL:O	3:B:401:HIS:HB2	2.16	0.45
3:E:94:ARG:NH2	3:E:304:THR:CG2	2.79	0.45
3:E:240:VAL:CG1	3:F:221:ILE:HG12	2.47	0.45
3:E:356:GLU:HB2	3:E:360:LEU:HD12	1.99	0.45
3:E:377:GLU:O	3:E:377:GLU:HG2	2.17	0.45
3:F:193:LYS:HB2	3:F:193:LYS:NZ	2.31	0.45
3:F:355:GLN:NE2	3:F:355:GLN:C	2.70	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:378:GLU:OE1	3:F:378:GLU:HA	2.16	0.45
3:J:53:GLN:HA	3:J:53:GLN:NE2	2.32	0.45
3:J:253:TRP:O	3:J:254:ASP:C	2.53	0.45
3:M:40:LYS:HG2	3:M:41:TYR:N	2.32	0.45
3:M:63:LYS:HB3	3:M:63:LYS:HZ3	1.81	0.45
3:N:109:LEU:HG	3:N:169:GLN:NE2	2.30	0.45
1:C:207:A:O2'	1:C:208:A:H5'	2.17	0.45
1:K:229:A:N3	1:K:230:C:C5	2.84	0.45
1:O:192:C:O2	1:O:192:C:H2'	2.16	0.45
3:A:247:TYR:HA	3:A:250:MET:HE3	1.97	0.45
3:A:281:LEU:O	3:A:282:GLU:C	2.55	0.45
3:A:345:PHE:O	3:A:346:TYR:C	2.55	0.45
3:A:382:ASP:CG	3:A:385:LYS:HG2	2.36	0.45
3:A:404:GLN:H	3:A:404:GLN:CD	2.20	0.45
3:B:167:HIS:O	3:B:168:TYR:C	2.55	0.45
3:B:234:MET:HG2	3:B:240:VAL:CG1	2.41	0.45
3:E:109:LEU:HD12	3:E:109:LEU:N	2.32	0.45
3:E:220:ARG:C	3:E:222:GLY:N	2.70	0.45
3:E:230:VAL:O	3:E:233:LYS:N	2.49	0.45
3:E:239:GLY:HA3	3:F:220:ARG:HE	1.82	0.45
3:F:53:GLN:NE2	3:F:53:GLN:HA	2.31	0.45
3:F:68:TRP:O	3:F:71:PHE:HB2	2.17	0.45
3:F:173:LEU:O	3:F:174:TRP:C	2.54	0.45
3:F:331:ASN:HD21	3:F:334:TRP:HZ2	1.65	0.45
3:I:60:LYS:HB2	3:I:92:ARG:NH1	2.32	0.45
3:I:345:PHE:O	3:I:346:TYR:C	2.55	0.45
3:I:404:GLN:H	3:I:404:GLN:CD	2.19	0.45
3:M:72:GLU:OE1	3:M:72:GLU:HA	2.16	0.45
3:M:247:TYR:HA	3:M:250:MET:HE3	1.97	0.45
3:M:345:PHE:O	3:M:347:GLY:N	2.49	0.45
3:M:357:VAL:CB	3:M:389:GLN:HE21	2.29	0.45
3:M:357:VAL:CG2	3:M:389:GLN:HE21	2.30	0.45
3:N:353:SER:HB3	3:N:355:GLN:HG3	1.99	0.45
1:G:105:C:H2'	1:G:106:G:O5'	2.16	0.45
1:G:108:A:H2'	1:G:109:G:C8	2.51	0.45
1:G:191:U:C5	1:G:192:C:C5	3.04	0.45
1:G:207:A:O2'	1:G:208:A:H5'	2.17	0.45
2:H:2:C:O2'	2:H:3:U:H5'	2.16	0.45
1:K:139:G:H2'	1:K:140:U:OP2	2.17	0.45
1:K:183:U:H3'	1:K:184:G:C8	2.52	0.45
1:O:103:G:N2	1:O:104:A:OP2	2.50	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:O:160:U:H1'	1:O:184:G:C5	2.52	0.45
3:B:347:GLY:C	3:B:349:PHE:N	2.70	0.45
3:E:416:MET:HA	3:E:416:MET:CE	2.47	0.45
3:F:167:HIS:O	3:F:168:TYR:C	2.55	0.45
3:I:342:VAL:HG23	3:I:343:PHE:N	2.32	0.45
3:N:220:ARG:HG3	3:N:220:ARG:HH11	1.82	0.45
3:N:228:ASP:O	3:N:230:VAL:N	2.49	0.45
1:C:118:C:O2'	1:C:119:A:P	2.75	0.45
1:C:200:A:O4'	1:C:243:A:C6	2.69	0.45
1:K:96:C:H2'	1:K:97:U:C6	2.52	0.45
1:O:115:G:H2'	1:O:116:U:H6	1.80	0.45
1:O:119:A:O2'	1:O:120:A:P	2.75	0.45
1:O:152:A:H2'	1:O:153:C:O4'	2.17	0.45
3:A:238:ASP:CG	3:A:239:GLY:N	2.69	0.45
3:B:353:SER:HB3	3:B:355:GLN:HG3	1.99	0.45
3:B:369:ILE:HD13	3:B:369:ILE:N	2.31	0.45
3:E:74:ARG:HB3	3:E:362:LYS:O	2.16	0.45
3:E:247:TYR:O	3:E:248:PRO:C	2.52	0.45
3:E:316:LEU:HD11	3:E:324:LYS:HD3	1.98	0.45
3:F:228:ASP:O	3:F:230:VAL:N	2.49	0.45
3:F:234:MET:HG2	3:F:240:VAL:CG1	2.41	0.45
3:F:253:TRP:O	3:F:256:PHE:HB3	2.17	0.45
3:J:158:ASP:O	3:J:160:THR:N	2.50	0.45
3:J:253:TRP:O	3:J:256:PHE:HB3	2.17	0.45
3:J:340:THR:O	3:J:340:THR:HG22	2.16	0.45
3:J:347:GLY:C	3:J:349:PHE:N	2.70	0.45
3:M:85:GLU:O	3:M:88:ALA:HB3	2.16	0.45
3:N:276:ASN:N	3:N:276:ASN:HD22	2.15	0.45
1:G:229:A:N3	1:G:230:C:C5	2.85	0.45
2:P:2:C:O2'	2:P:3:U:H5'	2.16	0.45
3:A:195:GLY:C	3:A:196:ILE:HD12	2.37	0.45
3:A:397:VAL:HG12	3:A:406:ALA:CB	2.46	0.45
3:B:135:GLY:HA3	3:B:138:THR:CG2	2.47	0.45
3:E:115:LEU:HD13	3:E:364:PHE:CZ	2.52	0.45
3:E:221:ILE:HG23	3:F:240:VAL:O	2.16	0.45
3:F:369:ILE:HG12	3:F:370:SER:N	2.31	0.45
3:I:104:PRO:CA	3:I:166:ILE:HD13	2.47	0.45
3:I:109:LEU:N	3:I:109:LEU:HD12	2.32	0.45
3:J:173:LEU:O	3:J:174:TRP:C	2.56	0.45
3:M:203:TRP:CH2	3:M:250:MET:HG2	2.51	0.45
3:M:382:ASP:CG	3:M:385:LYS:HG2	2.37	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:N:131:PHE:CE2	3:N:262:GLN:HG3	2.52	0.45
1:C:51:A:H4'	3:B:261:GLN:OE1	2.16	0.45
1:G:24:A:H1'	1:G:172:U:C5'	2.47	0.45
1:G:110:A:H2'	1:G:111:G:O4'	2.17	0.45
1:K:14:U:H4'	1:K:37:A:C2	2.51	0.45
1:O:183:U:H2'	1:O:184:G:H5'	1.98	0.45
1:O:216:A:H4'	1:O:217:A:OP2	2.16	0.45
3:A:102:ILE:HD11	3:A:170:LEU:HD21	1.99	0.45
3:A:357:VAL:CB	3:A:389:GLN:HE21	2.29	0.45
3:B:109:LEU:HG	3:B:169:GLN:NE2	2.31	0.45
3:E:57:GLU:O	3:E:60:LYS:N	2.50	0.45
3:E:195:GLY:C	3:E:196:ILE:HD12	2.37	0.45
3:E:240:VAL:HG13	3:F:221:ILE:HG23	1.97	0.45
3:I:356:GLU:HB2	3:I:360:LEU:HD12	1.99	0.45
3:I:390:HIS:CB	3:I:414:ARG:NH2	2.80	0.45
3:J:357:VAL:CG1	3:J:358:GLU:N	2.80	0.45
3:M:354:ASP:OD2	3:M:354:ASP:N	2.49	0.45
3:M:356:GLU:HB2	3:M:360:LEU:HD12	1.99	0.45
3:N:163:MET:O	3:N:164:THR:C	2.54	0.45
3:N:234:MET:HG2	3:N:240:VAL:CG1	2.41	0.45
3:N:347:GLY:C	3:N:349:PHE:N	2.70	0.45
3:N:355:GLN:NE2	3:N:355:GLN:C	2.70	0.45
1:C:64:A:C2'	1:C:65:C:H5'	2.47	0.44
1:C:200:A:H5'	1:C:243:A:C2	2.52	0.44
1:G:148:A:N6	1:G:232:A:C5'	2.74	0.44
1:G:205:G:H8	1:G:205:G:O5'	2.00	0.44
1:G:227:U:H2'	1:G:228:A:H3'	1.98	0.44
1:K:207:A:O2'	1:K:208:A:H5'	2.17	0.44
3:A:371:GLU:OE2	3:A:374:LYS:HB3	2.18	0.44
3:E:55:ARG:NH1	3:E:55:ARG:HG2	2.33	0.44
3:E:57:GLU:O	3:E:58:ALA:C	2.55	0.44
3:F:131:PHE:CE2	3:F:262:GLN:HG3	2.52	0.44
3:I:57:GLU:O	3:I:58:ALA:C	2.55	0.44
3:I:221:ILE:HG12	3:J:240:VAL:HG13	1.98	0.44
3:J:134:ILE:HG22	3:J:136:GLY:H	1.82	0.44
3:J:298:LYS:HB3	3:J:299:TYR:CE1	2.53	0.44
3:M:58:ALA:CA	3:M:63:LYS:HB2	2.46	0.44
3:M:59:ILE:HD12	3:M:92:ARG:HG3	2.00	0.44
3:M:61:LYS:NZ	3:M:63:LYS:HG3	2.33	0.44
3:M:174:TRP:CD1	3:M:196:ILE:HD11	2.51	0.44
1:C:239:C:C2	1:C:240:C:C5	3.05	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:2:C:O2'	2:D:3:U:H5'	2.17	0.44
1:K:63:A:C2	1:K:64:A:H1'	2.53	0.44
1:K:83:A:C2'	1:K:84:U:H5'	2.45	0.44
1:K:161:G:N3	1:K:162:G:C8	2.86	0.44
1:K:172:U:H1'	1:K:177:G:H1	1.82	0.44
1:K:177:G:O2'	1:K:178:G:H5'	2.18	0.44
1:O:14:U:O2	1:O:34:G:C2	2.70	0.44
1:O:34:G:H21	1:O:36:A:N6	2.15	0.44
1:O:228:A:C5	1:O:229:A:N7	2.85	0.44
3:A:63:LYS:HB3	3:A:63:LYS:HZ3	1.82	0.44
3:E:354:ASP:OD2	3:E:354:ASP:N	2.47	0.44
3:F:117:LEU:O	3:F:120:LEU:HB3	2.16	0.44
3:J:397:VAL:O	3:J:401:HIS:N	2.50	0.44
3:M:111:VAL:CA	3:M:114:LEU:HD12	2.45	0.44
3:N:53:GLN:NE2	3:N:53:GLN:HA	2.32	0.44
3:N:73:GLU:C	3:N:75:GLY:H	2.21	0.44
3:N:167:HIS:O	3:N:168:TYR:C	2.55	0.44
1:G:132:A:C2	1:G:133:U:C2	3.06	0.44
1:G:227:U:H1'	1:G:229:A:H2	1.82	0.44
2:H:1:G:OP1	2:H:1:G:C8	2.69	0.44
2:L:2:C:O2'	2:L:3:U:H5'	2.18	0.44
1:O:139:G:H8	1:O:139:G:O5'	2.01	0.44
1:O:218:G:C4	1:O:241:G:N2	2.86	0.44
3:A:71:PHE:HZ	3:A:123:MET:HG3	1.82	0.44
3:A:197:VAL:CG1	3:A:198:ASN:H	2.28	0.44
3:A:220:ARG:C	3:A:222:GLY:H	2.21	0.44
3:B:121:PHE:CZ	3:B:173:LEU:HD21	2.53	0.44
3:B:382:ASP:OD1	3:B:385:LYS:HB2	2.16	0.44
3:E:220:ARG:HA	3:F:241:SER:HA	1.99	0.44
3:F:353:SER:HB2	3:F:356:GLU:CB	2.44	0.44
3:M:195:GLY:C	3:M:196:ILE:HD12	2.38	0.44
3:N:228:ASP:HA	3:N:231:LYS:HD3	1.98	0.44
3:N:294:PRO:O	3:N:295:GLN:C	2.55	0.44
1:C:139:G:H8	1:C:139:G:O5'	2.01	0.44
1:K:15:U:H5'	1:K:35:A:N1	2.32	0.44
1:K:34:G:H21	1:K:36:A:N6	2.14	0.44
3:A:72:GLU:OE1	3:A:72:GLU:HA	2.17	0.44
3:A:73:GLU:CG	3:A:369:ILE:HG13	2.47	0.44
3:A:377:GLU:HG2	3:A:377:GLU:O	2.18	0.44
3:B:276:ASN:N	3:B:276:ASN:HD22	2.15	0.44
3:B:331:ASN:HD21	3:B:334:TRP:HZ2	1.65	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:E:60:LYS:HB2	3:E:92:ARG:NH1	2.33	0.44
3:E:72:GLU:OE1	3:E:72:GLU:HA	2.17	0.44
3:E:333:ILE:O	3:E:334:TRP:O	2.34	0.44
3:F:73:GLU:C	3:F:75:GLY:H	2.18	0.44
3:I:61:LYS:NZ	3:I:63:LYS:HG3	2.30	0.44
3:I:333:ILE:O	3:I:334:TRP:O	2.35	0.44
3:J:294:PRO:O	3:J:297:ARG:HB2	2.17	0.44
3:J:319:ASP:HB2	3:J:352:ARG:NH1	2.32	0.44
3:M:281:LEU:O	3:M:282:GLU:C	2.56	0.44
3:M:371:GLU:O	3:M:374:LYS:HB3	2.18	0.44
3:M:390:HIS:CB	3:M:414:ARG:NH2	2.81	0.44
3:M:405:GLU:O	3:M:407:SER:N	2.50	0.44
3:N:340:THR:O	3:N:340:THR:HG22	2.16	0.44
1:C:14:U:O2	1:C:34:G:C2	2.70	0.44
1:C:103(A):A:C2	1:C:103(B):A:C4	3.06	0.44
1:C:115:G:H2'	1:C:116:U:H6	1.81	0.44
1:G:159:A:C2	1:G:161:G:C8	3.05	0.44
1:G:218:G:C4	1:G:241:G:N2	2.86	0.44
1:K:239:C:C2	1:K:240:C:C5	3.05	0.44
3:A:405:GLU:O	3:A:407:SER:N	2.49	0.44
3:B:135:GLY:O	3:B:138:THR:HG23	2.17	0.44
3:B:297:ARG:CA	3:B:300:VAL:HG22	2.48	0.44
3:B:299:TYR:N	3:B:299:TYR:CD1	2.85	0.44
3:B:369:ILE:HG12	3:B:370:SER:N	2.31	0.44
3:E:174:TRP:CD1	3:E:196:ILE:HD11	2.53	0.44
3:E:206:GLN:OE1	3:E:207:PRO:HD2	2.17	0.44
3:E:382:ASP:CG	3:E:385:LYS:HG2	2.38	0.44
3:F:210:GLU:O	3:F:211:VAL:C	2.54	0.44
3:I:233:LYS:HG3	3:I:239:GLY:O	2.18	0.44
3:I:261:GLN:O	3:I:262:GLN:HG2	2.18	0.44
3:J:110:HIS:O	3:J:112:GLY:N	2.50	0.44
3:J:228:ASP:O	3:J:229:THR:C	2.56	0.44
3:M:392:LEU:C	3:M:392:LEU:CD2	2.83	0.44
3:N:232:ASN:C	3:N:234:MET:N	2.69	0.44
1:C:229:A:N3	1:C:230:C:C5	2.85	0.44
1:G:183:U:H2'	1:G:184:G:H5'	1.99	0.44
1:K:77:U:O2'	1:K:78:A:H5'	2.17	0.44
1:K:227:U:H2'	1:K:228:A:H3'	2.00	0.44
1:O:24:A:H1'	1:O:172:U:C5'	2.47	0.44
1:O:64:A:C2'	1:O:65:C:H5'	2.47	0.44
1:O:139:G:H2'	1:O:140:U:OP2	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:40:LYS:HG2	3:A:41:TYR:N	2.33	0.44
3:A:354:ASP:O	3:A:357:VAL:HG12	2.17	0.44
3:A:392:LEU:C	3:A:392:LEU:CD2	2.84	0.44
3:E:203:TRP:CH2	3:E:250:MET:HG2	2.53	0.44
3:E:342:VAL:HG23	3:E:343:PHE:N	2.32	0.44
3:F:158:ASP:O	3:F:160:THR:N	2.51	0.44
3:F:163:MET:O	3:F:164:THR:C	2.54	0.44
3:F:299:TYR:N	3:F:299:TYR:CD1	2.85	0.44
3:F:324:LYS:C	3:F:326:GLY:H	2.20	0.44
3:I:125:LEU:C	3:I:192:ARG:HH22	2.20	0.44
3:I:412:GLN:O	3:I:415:MET:HB3	2.18	0.44
3:M:118:MET:O	3:M:121:PHE:HB2	2.18	0.44
3:M:240:VAL:HG13	3:N:221:ILE:HG12	1.99	0.44
3:N:243:ALA:O	3:N:246:THR:N	2.43	0.44
3:N:253:TRP:O	3:N:256:PHE:HB3	2.17	0.44
3:N:331:ASN:HD21	3:N:334:TRP:HZ2	1.65	0.44
1:C:76:G:H2'	1:C:77:U:O4'	2.18	0.44
1:C:139:G:HO2'	1:C:140:U:H6	1.59	0.44
1:G:83:A:C2'	1:G:84:U:H5'	2.44	0.44
1:K:51:A:H4'	3:J:261:GLN:OE1	2.18	0.44
1:K:121:C:H5	1:K:195:A:H1'	1.82	0.44
1:K:218:G:C4	1:K:241:G:N2	2.85	0.44
3:B:159:ALA:HA	3:B:162:ASN:ND2	2.23	0.44
3:B:228:ASP:O	3:B:230:VAL:N	2.50	0.44
3:F:135:GLY:HA3	3:F:138:THR:CG2	2.48	0.44
3:I:57:GLU:O	3:I:60:LYS:N	2.50	0.44
3:I:94:ARG:NH2	3:I:304:THR:CG2	2.81	0.44
3:I:203:TRP:CH2	3:I:250:MET:HG2	2.52	0.44
3:J:68:TRP:O	3:J:71:PHE:HB2	2.18	0.44
3:J:84:LYS:H	3:J:84:LYS:HG2	1.33	0.44
3:N:87:ILE:HG12	3:N:310:VAL:HG21	2.00	0.44
3:N:121:PHE:CZ	3:N:173:LEU:HD21	2.53	0.44
3:N:141:ILE:HD12	3:N:243:ALA:HB1	2.00	0.44
3:N:159:ALA:HA	3:N:162:ASN:ND2	2.23	0.44
1:C:24:A:H1'	1:C:172:U:C5'	2.48	0.44
1:C:216:A:H4'	1:C:217:A:OP2	2.17	0.44
1:C:225:A:C5'	1:C:226:G:OP2	2.65	0.44
2:D:1:G:OP1	2:D:1:G:C8	2.69	0.44
1:G:121:C:H2'	1:G:122:G:O4'	2.18	0.44
1:K:64:A:C2'	1:K:65:C:H5'	2.48	0.44
3:A:206:GLN:OE1	3:A:207:PRO:HD2	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:371:GLU:O	3:A:374:LYS:HB3	2.18	0.44
3:B:357:VAL:CG1	3:B:358:GLU:N	2.81	0.44
3:E:85:GLU:CD	3:E:85:GLU:H	2.20	0.44
3:E:197:VAL:CG1	3:E:198:ASN:N	2.79	0.44
3:F:59:ILE:CD1	3:F:66:ASN:HA	2.48	0.44
3:F:220:ARG:HG3	3:F:220:ARG:HH11	1.83	0.44
3:F:232:ASN:C	3:F:234:MET:N	2.69	0.44
3:F:336:ASP:HB3	3:F:339:GLN:HB3	2.00	0.44
3:F:357:VAL:CG1	3:F:358:GLU:N	2.79	0.44
3:F:369:ILE:CG1	3:F:370:SER:N	2.81	0.44
3:I:115:LEU:HD13	3:I:364:PHE:CZ	2.52	0.44
3:I:350:VAL:O	3:I:386:ARG:NH2	2.50	0.44
3:J:210:GLU:O	3:J:211:VAL:C	2.55	0.44
3:M:221:ILE:HD11	3:N:234:MET:HE3	1.99	0.44
3:M:383:PRO:O	3:M:386:ARG:HG2	2.18	0.44
1:C:139:G:H2'	1:C:140:U:OP2	2.18	0.44
1:C:162:G:H2'	1:C:163:G:H8	1.83	0.44
1:K:110:A:H2'	1:K:111:G:O4'	2.18	0.44
1:K:204:G:H1	1:K:209:C:N4	2.15	0.44
1:K:228:A:C5	1:K:229:A:N7	2.86	0.44
1:O:126:A:C1'	1:O:158:A:N1	2.64	0.44
3:A:335:LEU:HD22	3:A:400:VAL:CG1	2.37	0.44
3:B:75:GLY:O	3:B:363:LEU:HD21	2.18	0.44
3:B:131:PHE:CE2	3:B:262:GLN:HG3	2.53	0.44
3:E:40:LYS:HG2	3:E:41:TYR:N	2.33	0.44
3:E:85:GLU:O	3:E:88:ALA:HB3	2.17	0.44
3:E:261:GLN:O	3:E:262:GLN:HG2	2.18	0.44
3:E:345:PHE:O	3:E:346:TYR:C	2.54	0.44
3:I:247:TYR:O	3:I:248:PRO:C	2.53	0.44
3:I:331:ASN:HB3	3:I:332:ALA:H	1.61	0.44
3:J:167:HIS:O	3:J:168:TYR:C	2.56	0.44
1:C:119:A:O2'	1:C:120:A:P	2.76	0.43
1:C:160:U:C4	1:C:188:U:H1'	2.53	0.43
1:C:218:G:C4	1:C:241:G:N2	2.86	0.43
1:G:54:G:N1	1:G:85:C:C5	2.86	0.43
1:G:237:A:H2'	1:G:238:U:O4'	2.18	0.43
1:O:228:A:C4	1:O:229:A:N7	2.86	0.43
3:A:203:TRP:CH2	3:A:250:MET:HG2	2.52	0.43
3:A:357:VAL:CG2	3:A:389:GLN:HE21	2.31	0.43
3:B:243:ALA:O	3:B:246:THR:N	2.43	0.43
3:E:104:PRO:CA	3:E:166:ILE:HD13	2.47	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:E:357:VAL:CG2	3:E:389:GLN:HE21	2.31	0.43
3:E:404:GLN:H	3:E:404:GLN:CD	2.20	0.43
3:F:272:ASP:C	3:F:274:TYR:N	2.71	0.43
3:F:298:LYS:HB3	3:F:299:TYR:CE1	2.53	0.43
3:I:85:GLU:CD	3:I:85:GLU:H	2.20	0.43
3:J:340:THR:O	3:J:341:SER:C	2.57	0.43
3:M:57:GLU:O	3:M:60:LYS:N	2.50	0.43
3:M:335:LEU:HD22	3:M:400:VAL:CG1	2.37	0.43
3:N:135:GLY:O	3:N:138:THR:HG23	2.18	0.43
3:N:299:TYR:N	3:N:299:TYR:CD1	2.85	0.43
1:G:77:U:O2'	1:G:78:A:H5'	2.18	0.43
1:K:205:G:H8	1:K:205:G:O5'	2.00	0.43
1:O:25:A:H2	1:O:178:G:H21	1.65	0.43
1:O:200:A:O4'	1:O:243:A:C6	2.71	0.43
3:A:59:ILE:HD12	3:A:92:ARG:HG3	2.01	0.43
3:A:85:GLU:CD	3:A:85:GLU:H	2.19	0.43
3:A:118:MET:O	3:A:121:PHE:HB2	2.18	0.43
3:B:340:THR:O	3:B:340:THR:HG22	2.17	0.43
3:E:248:PRO:O	3:E:251:GLN:N	2.51	0.43
3:F:200:ASN:OD1	3:F:201:HIS:N	2.51	0.43
3:F:294:PRO:O	3:F:297:ARG:HB2	2.18	0.43
3:M:63:LYS:HB3	3:M:63:LYS:HZ2	1.83	0.43
3:M:102:ILE:HD11	3:M:170:LEU:HD21	2.01	0.43
3:M:377:GLU:O	3:M:377:GLU:HG2	2.18	0.43
1:C:25:A:H2	1:C:178:G:H21	1.65	0.43
1:C:121:C:H5	1:C:195:A:H1'	1.82	0.43
1:C:228:A:C5	1:C:229:A:N7	2.86	0.43
1:G:103(A):A:C2	1:G:103(B):A:C4	3.07	0.43
1:G:161:G:N3	1:G:162:G:C8	2.86	0.43
1:G:207:A:N6	1:G:208:A:N1	2.66	0.43
1:O:13:C:O2	2:P:1:G:C2	2.71	0.43
1:O:77:U:H2'	1:O:78:A:C8	2.52	0.43
1:O:200:A:H5'	1:O:243:A:C2	2.53	0.43
1:O:206:A:N1	1:O:207:A:C2	2.87	0.43
3:A:57:GLU:O	3:A:60:LYS:N	2.50	0.43
3:A:301:THR:HA	3:A:302:PRO:HD3	1.90	0.43
3:B:272:ASP:C	3:B:274:TYR:N	2.71	0.43
3:E:325:PHE:HD2	3:E:348:TYR:HH	1.61	0.43
3:I:59:ILE:HD12	3:I:92:ARG:HG3	2.00	0.43
3:I:83:THR:O	3:I:84:LYS:C	2.56	0.43
3:I:168:TYR:HD2	3:I:168:TYR:O	2.02	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:I:270:GLY:N	3:I:273:GLN:HG3	2.32	0.43
3:I:291:GLU:C	3:I:293:ASP:H	2.22	0.43
3:J:369:ILE:HG12	3:J:370:SER:N	2.33	0.43
3:M:55:ARG:HG2	3:M:55:ARG:HH11	1.82	0.43
3:M:366:PHE:HE2	3:M:399:LEU:HD11	1.84	0.43
3:N:318:THR:HA	3:N:325:PHE:N	2.33	0.43
1:C:40:U:O2'	1:C:41:C:H5'	2.17	0.43
1:C:46:A:H2'	1:C:47:A:O4'	2.19	0.43
1:C:205:G:H8	1:C:205:G:O5'	2.01	0.43
1:C:227:U:H2'	1:C:228:A:H3'	2.00	0.43
1:C:237:A:H2'	1:C:238:U:O4'	2.18	0.43
1:G:160:U:H1'	1:G:184:G:C5	2.54	0.43
1:K:144:G:H8	1:K:144:G:O5'	2.01	0.43
1:O:46:A:H2'	1:O:47:A:O4'	2.19	0.43
3:A:55:ARG:HG2	3:A:55:ARG:NH1	2.32	0.43
3:A:60:LYS:HB2	3:A:92:ARG:NH1	2.33	0.43
3:A:85:GLU:O	3:A:88:ALA:HB3	2.18	0.43
3:B:318:THR:HA	3:B:325:PHE:N	2.33	0.43
3:F:228:ASP:HA	3:F:231:LYS:HD3	2.00	0.43
3:F:293:ASP:OD2	3:F:294:PRO:HD2	2.19	0.43
3:F:361:LEU:HD21	3:F:392:LEU:HB2	2.00	0.43
3:I:220:ARG:C	3:I:222:GLY:N	2.72	0.43
3:M:197:VAL:CG1	3:M:198:ASN:H	2.29	0.43
3:N:137:SER:OG	3:N:200:ASN:HB3	2.19	0.43
3:N:158:ASP:O	3:N:160:THR:N	2.51	0.43
1:C:110:A:H2'	1:C:111:G:O4'	2.18	0.43
1:C:172:U:H1'	1:C:177:G:H1	1.82	0.43
1:G:109:G:OP1	3:F:182:ARG:NH1	2.51	0.43
1:G:126:A:C5'	1:G:127:U:OP1	2.55	0.43
1:O:121:C:H2'	1:O:122:G:O4'	2.19	0.43
3:E:61:LYS:NZ	3:E:63:LYS:HG3	2.30	0.43
3:E:281:LEU:O	3:E:284:VAL:N	2.51	0.43
3:F:340:THR:O	3:F:341:SER:C	2.56	0.43
3:I:102:ILE:O	3:I:104:PRO:HD3	2.18	0.43
3:I:221:ILE:HG23	3:J:240:VAL:O	2.18	0.43
3:I:230:VAL:O	3:I:233:LYS:N	2.49	0.43
3:I:281:LEU:O	3:I:282:GLU:C	2.56	0.43
3:M:85:GLU:H	3:M:85:GLU:CD	2.20	0.43
3:M:220:ARG:C	3:M:222:GLY:H	2.22	0.43
3:M:342:VAL:HG23	3:M:343:PHE:N	2.32	0.43
3:M:414:ARG:HG3	3:M:414:ARG:NH1	2.33	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:N:200:ASN:OD1	3:N:201:HIS:N	2.51	0.43
3:N:253:TRP:O	3:N:254:ASP:C	2.56	0.43
1:C:131:G:HO2'	1:C:133:U:H5	1.66	0.43
1:C:152:A:H2'	1:C:153:C:O4'	2.18	0.43
1:C:161:G:N3	1:C:162:G:C8	2.86	0.43
1:C:239:C:H2'	1:C:240:C:C6	2.53	0.43
1:G:34:G:H21	1:G:36:A:N6	2.16	0.43
1:G:118:C:O2'	1:G:119:A:P	2.76	0.43
1:G:119:A:O2'	1:G:120:A:P	2.77	0.43
1:G:128:U:H2'	1:G:129:C:C6	2.54	0.43
1:G:128:U:C4	1:G:138:A:C2	3.07	0.43
1:G:228:A:C5	1:G:229:A:N7	2.87	0.43
1:O:121:C:H5	1:O:195:A:H1'	1.82	0.43
1:O:160:U:C4	1:O:188:U:H1'	2.54	0.43
1:O:237:A:H2'	1:O:238:U:O4'	2.18	0.43
3:A:94:ARG:NH2	3:A:304:THR:HG23	2.27	0.43
3:A:239:GLY:HA3	3:B:220:ARG:HE	1.84	0.43
3:A:240:VAL:HG13	3:B:221:ILE:HG12	2.00	0.43
3:B:141:ILE:HD12	3:B:243:ALA:HB1	2.01	0.43
3:B:200:ASN:OD1	3:B:201:HIS:N	2.51	0.43
3:E:102:ILE:HD11	3:E:170:LEU:HD21	2.01	0.43
3:E:233:LYS:HG3	3:E:239:GLY:O	2.18	0.43
3:F:357:VAL:CG2	3:F:388:ALA:HB1	2.47	0.43
3:I:74:ARG:HB3	3:I:362:LYS:O	2.19	0.43
3:I:345:PHE:C	3:I:347:GLY:N	2.72	0.43
3:I:414:ARG:HG3	3:I:414:ARG:NH1	2.33	0.43
3:J:59:ILE:HD13	3:J:66:ASN:CB	2.49	0.43
3:J:131:PHE:CE2	3:J:262:GLN:HG3	2.54	0.43
3:J:228:ASP:HA	3:J:231:LYS:HD3	2.01	0.43
3:J:234:MET:HG2	3:J:240:VAL:CG1	2.41	0.43
3:M:65:GLN:HG2	3:M:66:ASN:N	2.33	0.43
1:C:206:A:N1	1:C:207:A:C2	2.87	0.43
1:G:64:A:C2'	1:G:65:C:H5'	2.49	0.43
1:K:206:A:N1	1:K:207:A:C2	2.86	0.43
1:K:237:A:H2'	1:K:238:U:O4'	2.19	0.43
1:O:25:A:H1'	1:O:171:C:O4'	2.19	0.43
1:O:215:G:H2'	1:O:245:C:N4	2.33	0.43
3:A:345:PHE:C	3:A:347:GLY:N	2.71	0.43
3:B:110:HIS:O	3:B:112:GLY:N	2.51	0.43
3:B:117:LEU:O	3:B:120:LEU:HB3	2.17	0.43
3:E:83:THR:O	3:E:84:LYS:C	2.57	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:E:118:MET:O	3:E:121:PHE:HB2	2.18	0.43
3:E:366:PHE:HE2	3:E:399:LEU:HD11	1.82	0.43
3:E:412:GLN:O	3:E:415:MET:HB3	2.19	0.43
3:F:96:ILE:C	3:F:96:ILE:CD1	2.86	0.43
3:F:276:ASN:N	3:F:276:ASN:HD22	2.15	0.43
3:F:297:ARG:CA	3:F:300:VAL:HG22	2.49	0.43
3:I:246:THR:O	3:I:247:TYR:C	2.56	0.43
3:I:247:TYR:HA	3:I:250:MET:HE3	2.00	0.43
3:M:233:LYS:HG3	3:M:239:GLY:O	2.19	0.43
3:M:368:PRO:O	3:M:370:SER:N	2.51	0.43
3:N:369:ILE:HD13	3:N:369:ILE:N	2.33	0.43
3:N:369:ILE:HG12	3:N:370:SER:N	2.33	0.43
1:G:76:G:H2'	1:G:77:U:O4'	2.18	0.43
1:G:172:U:H1'	1:G:177:G:H1	1.82	0.43
1:K:128:U:H2'	1:K:129:C:C6	2.53	0.43
1:K:160:U:C4	1:K:188:U:H1'	2.53	0.43
1:K:162:G:H2'	1:K:163:G:H8	1.83	0.43
1:K:192:C:O2	1:K:192:C:H2'	2.18	0.43
1:O:229:A:N3	1:O:230:C:C5	2.86	0.43
3:B:253:TRP:O	3:B:254:ASP:C	2.57	0.43
3:E:55:ARG:HG2	3:E:55:ARG:HH11	1.83	0.43
3:F:267:GLN:HG3	3:F:268:ILE:N	2.33	0.43
3:F:397:VAL:O	3:F:401:HIS:N	2.52	0.43
3:I:220:ARG:C	3:I:222:GLY:H	2.20	0.43
3:I:357:VAL:CG2	3:I:389:GLN:HE21	2.31	0.43
3:I:377:GLU:HG2	3:I:377:GLU:O	2.18	0.43
3:J:59:ILE:CD1	3:J:66:ASN:HA	2.48	0.43
3:J:135:GLY:O	3:J:138:THR:HG23	2.19	0.43
3:J:272:ASP:C	3:J:274:TYR:N	2.71	0.43
3:M:71:PHE:HZ	3:M:123:MET:HG3	1.83	0.43
3:M:102:ILE:HG21	3:M:109:LEU:HD21	1.99	0.43
3:M:137:SER:HB2	3:M:199:ASN:ND2	2.33	0.43
3:N:59:ILE:CD1	3:N:66:ASN:HA	2.49	0.43
3:N:210:GLU:O	3:N:211:VAL:C	2.57	0.43
3:N:397:VAL:O	3:N:401:HIS:N	2.51	0.43
1:C:43:U:H2'	1:C:44:C:H6	1.84	0.43
1:C:194:G:H2'	1:C:195:A:C5'	2.49	0.43
1:G:102:G:C2	1:G:105:C:N3	2.86	0.43
1:G:187:A:O2'	1:G:188:U:P	2.76	0.43
1:K:25:A:H2	1:K:178:G:H21	1.66	0.43
1:K:77:U:H2'	1:K:78:A:C8	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:132:A:C2	1:K:133:U:C2	3.07	0.43
1:K:159:A:O2'	1:K:160:U:H3'	2.19	0.43
1:O:109:G:OP1	3:N:182:ARG:NH1	2.52	0.43
1:O:183:U:H3'	1:O:184:G:C8	2.53	0.43
1:O:207:A:O2'	1:O:208:A:H5'	2.19	0.43
3:A:63:LYS:HB3	3:A:63:LYS:HZ2	1.84	0.43
3:A:281:LEU:O	3:A:284:VAL:N	2.52	0.43
3:B:59:ILE:CD1	3:B:66:ASN:HA	2.49	0.43
3:E:104:PRO:HA	3:E:166:ILE:HD13	2.01	0.43
3:E:347:GLY:O	3:E:350:VAL:HG12	2.19	0.43
3:F:340:THR:O	3:F:340:THR:HG22	2.18	0.43
3:I:368:PRO:O	3:I:370:SER:N	2.52	0.43
3:J:140:LYS:O	3:J:141:ILE:CD1	2.56	0.43
3:J:267:GLN:HG3	3:J:268:ILE:N	2.34	0.43
3:M:44:LYS:HB3	3:M:44:LYS:HZ2	1.79	0.43
3:M:189:ASP:HB3	3:M:192:ARG:HB2	2.01	0.43
3:M:291:GLU:C	3:M:293:ASP:H	2.22	0.43
3:N:293:ASP:OD2	3:N:294:PRO:HD2	2.19	0.43
3:N:380:ILE:C	3:N:380:ILE:HD12	2.39	0.43
1:C:121:C:H2'	1:C:122:G:O4'	2.19	0.43
1:C:134:A:N6	1:G:132:A:N6	2.67	0.43
1:G:126:A:C1'	1:G:158:A:N1	2.65	0.43
1:O:194:G:H2'	1:O:195:A:C5'	2.49	0.43
1:O:239:C:H2'	1:O:240:C:C6	2.53	0.43
1:O:239:C:C2	1:O:240:C:C5	3.06	0.43
3:A:368:PRO:O	3:A:370:SER:N	2.52	0.43
3:B:161:MET:O	3:B:162:ASN:C	2.57	0.43
3:B:369:ILE:CG1	3:B:370:SER:N	2.81	0.43
3:B:373:THR:O	3:B:376:MET:HB2	2.18	0.43
3:F:134:ILE:HG22	3:F:136:GLY:H	1.84	0.43
3:I:61:LYS:HZ3	3:I:63:LYS:HD2	1.83	0.43
3:I:102:ILE:HD11	3:I:170:LEU:HD21	2.01	0.43
3:I:248:PRO:O	3:I:251:GLN:N	2.52	0.43
3:M:115:LEU:HD13	3:M:364:PHE:CZ	2.54	0.43
3:N:336:ASP:HB3	3:N:339:GLN:HB3	2.01	0.43
3:N:340:THR:O	3:N:341:SER:C	2.57	0.43
1:C:229:A:C4	1:C:230:C:C5	3.07	0.42
1:G:188:U:P	1:G:188:U:H3'	2.59	0.42
1:G:204:G:N2	1:G:209:C:N3	2.50	0.42
1:G:239:C:H2'	1:G:240:C:C6	2.54	0.42
1:K:14:U:C2'	1:K:35:A:H61	2.32	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:183:U:H2'	1:K:184:G:H5'	2.00	0.42
1:O:37:A:N6	2:P:1:G:N3	2.66	0.42
1:O:83:A:C2'	1:O:84:U:H5'	2.45	0.42
3:A:356:GLU:HB2	3:A:360:LEU:HD12	2.00	0.42
3:B:52:TRP:HE1	3:B:94:ARG:N	2.17	0.42
3:B:66:ASN:O	3:B:69:ASP:N	2.51	0.42
3:B:340:THR:O	3:B:341:SER:C	2.57	0.42
3:B:397:VAL:O	3:B:401:HIS:N	2.51	0.42
3:E:129:LYS:HA	3:E:193:LYS:O	2.19	0.42
3:E:137:SER:HB2	3:E:199:ASN:ND2	2.34	0.42
3:E:281:LEU:O	3:E:282:GLU:C	2.57	0.42
3:E:291:GLU:C	3:E:293:ASP:H	2.23	0.42
3:E:319:ASP:HB2	3:E:352:ARG:HH11	1.76	0.42
3:F:113:HIS:O	3:F:116:PRO:HG2	2.19	0.42
3:F:336:ASP:HA	3:F:337:PRO:HD2	1.89	0.42
3:I:221:ILE:HD11	3:J:234:MET:CE	2.48	0.42
3:I:245:PHE:HB2	3:J:221:ILE:HG21	2.00	0.42
3:J:109:LEU:HG	3:J:169:GLN:NE2	2.34	0.42
3:J:373:THR:O	3:J:376:MET:HB2	2.19	0.42
3:M:104:PRO:CA	3:M:166:ILE:HD13	2.49	0.42
3:M:301:THR:HA	3:M:302:PRO:HD3	1.89	0.42
3:N:108:SER:HB3	3:N:334:TRP:CE3	2.54	0.42
3:N:161:MET:O	3:N:162:ASN:C	2.57	0.42
1:O:54:G:N1	1:O:85:C:C5	2.87	0.42
3:A:104:PRO:CA	3:A:166:ILE:HD13	2.49	0.42
3:A:115:LEU:HD13	3:A:364:PHE:CZ	2.54	0.42
3:B:228:ASP:HA	3:B:231:LYS:HD3	2.00	0.42
3:B:337:PRO:C	3:B:339:GLN:H	2.23	0.42
3:E:44:LYS:HB3	3:E:44:LYS:HZ3	1.81	0.42
3:E:59:ILE:HD12	3:E:92:ARG:HG3	2.01	0.42
3:E:102:ILE:O	3:E:104:PRO:HD3	2.19	0.42
3:F:369:ILE:HD13	3:F:369:ILE:N	2.34	0.42
3:I:118:MET:O	3:I:121:PHE:HB2	2.19	0.42
3:I:221:ILE:HD12	3:I:225:LEU:HB3	2.01	0.42
3:I:382:ASP:CG	3:I:385:LYS:HG2	2.39	0.42
3:I:383:PRO:O	3:I:386:ARG:HG2	2.19	0.42
3:J:200:ASN:OD1	3:J:201:HIS:N	2.52	0.42
3:J:369:ILE:HD13	3:J:369:ILE:N	2.35	0.42
3:M:94:ARG:NH2	3:M:304:THR:HG23	2.27	0.42
3:M:333:ILE:HD11	3:M:348:TYR:CZ	2.54	0.42
3:N:52:TRP:HE1	3:N:94:ARG:N	2.17	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:77:U:H2'	1:C:78:A:C8	2.54	0.42
1:C:251:U:C3'	1:C:251:U:C6	3.02	0.42
1:G:83:A:H2'	1:G:84:U:C5'	2.47	0.42
1:G:239:C:C2	1:G:240:C:C5	3.07	0.42
1:O:40:U:H2'	1:O:41:C:C6	2.54	0.42
1:O:128:U:H2'	1:O:129:C:C6	2.54	0.42
1:O:205:G:H8	1:O:205:G:O5'	2.02	0.42
1:O:207:A:N6	1:O:208:A:N1	2.66	0.42
3:E:125:LEU:C	3:E:192:ARG:HH22	2.21	0.42
3:E:142:GLY:O	3:E:144:PRO:CD	2.66	0.42
3:F:66:ASN:O	3:F:69:ASP:N	2.51	0.42
3:J:117:LEU:O	3:J:120:LEU:HB3	2.18	0.42
3:J:357:VAL:CG2	3:J:388:ALA:HB1	2.47	0.42
3:M:290:SER:O	3:M:292:PRO:CD	2.66	0.42
3:M:351:ARG:NH2	3:M:352:ARG:HH22	2.18	0.42
3:N:272:ASP:C	3:N:274:TYR:N	2.72	0.42
1:C:54:G:N1	1:C:85:C:C5	2.87	0.42
1:C:220:A:H2	1:C:238:U:O2	2.02	0.42
1:K:12:C:H2'	1:K:13:C:O4'	2.19	0.42
3:A:83:THR:O	3:A:84:LYS:C	2.58	0.42
3:A:94:ARG:NH2	3:A:304:THR:CG2	2.83	0.42
3:A:246:THR:O	3:A:247:TYR:C	2.58	0.42
3:A:248:PRO:O	3:A:251:GLN:N	2.53	0.42
3:A:290:SER:O	3:A:292:PRO:CD	2.66	0.42
3:E:368:PRO:O	3:E:370:SER:N	2.52	0.42
3:F:135:GLY:O	3:F:138:THR:HG23	2.20	0.42
3:F:368:PRO:O	3:F:369:ILE:C	2.57	0.42
3:M:102:ILE:O	3:M:104:PRO:HD3	2.20	0.42
3:M:258:LEU:HB3	3:M:264:VAL:CG2	2.49	0.42
1:K:26:U:H2'	1:K:27:G:H8	1.84	0.42
1:K:160:U:H1'	1:K:184:G:C5	2.54	0.42
1:O:43:U:H2'	1:O:44:C:H6	1.85	0.42
3:A:57:GLU:O	3:A:58:ALA:C	2.58	0.42
3:A:125:LEU:C	3:A:192:ARG:HH22	2.23	0.42
3:A:291:GLU:C	3:A:293:ASP:H	2.22	0.42
3:A:342:VAL:HG23	3:A:343:PHE:N	2.34	0.42
3:B:298:LYS:HB3	3:B:299:TYR:CE1	2.55	0.42
3:F:110:HIS:O	3:F:112:GLY:N	2.52	0.42
3:F:373:THR:O	3:F:376:MET:HB2	2.19	0.42
3:I:58:ALA:CB	3:I:63:LYS:HB2	2.49	0.42
3:J:357:VAL:HG21	3:J:388:ALA:HB3	1.97	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:J:380:ILE:C	3:J:380:ILE:HD12	2.40	0.42
3:M:301:THR:O	3:M:303:LYS:N	2.52	0.42
1:C:13:C:O2	2:D:1:G:C2	2.72	0.42
1:G:13:C:O2	2:H:1:G:C2	2.72	0.42
1:G:194:G:H2'	1:G:195:A:C5'	2.49	0.42
1:G:229:A:C4	1:G:230:C:C5	3.07	0.42
1:K:76:G:H2'	1:K:77:U:O4'	2.19	0.42
1:K:152:A:H2'	1:K:153:C:O4'	2.20	0.42
1:K:215:G:H2'	1:K:245:C:N4	2.35	0.42
1:K:251:U:O2'	1:K:252:G:C5'	2.67	0.42
1:O:40:U:O2'	1:O:41:C:H5'	2.18	0.42
3:A:366:PHE:HE2	3:A:399:LEU:HD11	1.85	0.42
3:E:130:ALA:O	3:E:194:ARG:HA	2.19	0.42
3:E:280:GLY:O	3:E:284:VAL:HG23	2.19	0.42
3:E:301:THR:O	3:E:303:LYS:N	2.53	0.42
3:I:104:PRO:HA	3:I:166:ILE:HD13	2.02	0.42
3:J:293:ASP:OD2	3:J:294:PRO:HD2	2.19	0.42
3:N:39:PRO:HG2	3:N:42:THR:HG1	1.83	0.42
3:N:115:LEU:O	3:N:119:PRO:HD2	2.18	0.42
3:N:319:ASP:HB2	3:N:352:ARG:NH1	2.32	0.42
1:G:14:U:C2'	1:G:35:A:H61	2.32	0.42
1:G:43:U:H2'	1:G:44:C:H6	1.85	0.42
1:K:225:A:C5'	1:K:226:G:OP2	2.68	0.42
1:O:83:A:H2'	1:O:84:U:C5'	2.47	0.42
1:O:172:U:H1'	1:O:177:G:H1	1.83	0.42
1:O:251:U:C3'	1:O:251:U:C6	3.03	0.42
3:A:102:ILE:HG21	3:A:109:LEU:HD21	2.00	0.42
3:A:258:LEU:HB3	3:A:264:VAL:CG2	2.49	0.42
3:A:351:ARG:NH2	3:A:352:ARG:HH22	2.18	0.42
3:A:414:ARG:HG3	3:A:414:ARG:NH1	2.34	0.42
3:B:108:SER:HB3	3:B:334:TRP:CE3	2.55	0.42
3:E:61:LYS:HB2	3:E:63:LYS:HG3	2.02	0.42
3:I:189:ASP:HB3	3:I:192:ARG:HB2	2.02	0.42
3:J:365:THR:OG1	3:J:367:MET:HB2	2.19	0.42
3:M:94:ARG:NH2	3:M:304:THR:CG2	2.83	0.42
3:M:101:GLY:HA2	3:M:133:LEU:O	2.19	0.42
3:M:357:VAL:HG21	3:M:389:GLN:HE21	1.84	0.42
3:N:124:TYR:O	3:N:192:ARG:NH2	2.51	0.42
3:N:324:LYS:C	3:N:326:GLY:H	2.22	0.42
3:N:369:ILE:CG1	3:N:370:SER:N	2.83	0.42
1:C:77:U:O2'	1:C:78:A:H5'	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:192:C:O2	1:G:192:C:H2'	2.18	0.42
1:K:34:G:N1	2:L:1:G:C5	2.88	0.42
1:K:251:U:C3'	1:K:251:U:C6	3.02	0.42
3:A:383:PRO:O	3:A:386:ARG:HG2	2.20	0.42
3:B:368:PRO:O	3:B:369:ILE:C	2.58	0.42
3:F:365:THR:OG1	3:F:367:MET:HB2	2.20	0.42
3:I:130:ALA:O	3:I:194:ARG:HA	2.19	0.42
3:M:241:SER:O	3:M:242:PHE:C	2.58	0.42
3:N:140:LYS:O	3:N:141:ILE:CD1	2.55	0.42
1:C:105:C:H2'	1:C:106:G:O5'	2.20	0.42
1:C:183:U:H3'	1:C:184:G:C8	2.54	0.42
1:G:152:A:H2'	1:G:153:C:O4'	2.19	0.42
2:L:1:G:H2'	2:L:2:C:O4'	2.19	0.42
1:O:188:U:P	1:O:188:U:H3'	2.59	0.42
1:O:200:A:O2'	1:O:201:U:H5'	2.20	0.42
1:O:225:A:C5'	1:O:226:G:OP2	2.67	0.42
3:A:102:ILE:O	3:A:104:PRO:HD3	2.20	0.42
3:A:129:LYS:HA	3:A:193:LYS:O	2.19	0.42
3:E:144:PRO:HB3	3:E:244:GLU:HB3	2.01	0.42
3:E:258:LEU:HB3	3:E:264:VAL:CG2	2.46	0.42
3:E:333:ILE:HD11	3:E:348:TYR:CZ	2.54	0.42
3:F:223:PRO:O	3:F:227:ARG:NH1	2.53	0.42
3:F:349:PHE:C	3:F:351:ARG:N	2.73	0.42
3:I:162:ASN:C	3:I:166:ILE:HD12	2.40	0.42
3:I:225:LEU:HD12	3:J:225:LEU:HD13	2.02	0.42
3:J:349:PHE:C	3:J:351:ARG:N	2.72	0.42
3:J:361:LEU:HD21	3:J:392:LEU:HB2	2.01	0.42
3:M:125:LEU:C	3:M:192:ARG:HH22	2.23	0.42
3:M:168:TYR:HD2	3:M:168:TYR:O	2.03	0.42
3:M:221:ILE:HD12	3:M:225:LEU:HB3	2.02	0.42
3:M:230:VAL:O	3:M:233:LYS:N	2.50	0.42
3:N:134:ILE:HG22	3:N:136:GLY:H	1.85	0.42
3:N:373:THR:O	3:N:376:MET:HB2	2.19	0.42
1:C:25:A:H1'	1:C:171:C:O4'	2.20	0.42
1:C:87:U:O5'	1:C:87:U:H6	2.03	0.42
1:G:10:A:H2'	1:G:11:G:H8	1.85	0.42
1:G:34:G:N1	2:H:1:G:C5	2.87	0.42
1:G:251:U:C3'	1:G:251:U:C6	3.03	0.42
1:K:43:U:H2'	1:K:44:C:H6	1.84	0.42
1:K:194:G:H2'	1:K:195:A:C5'	2.50	0.42
1:K:251:U:H3'	1:K:251:U:C6	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:O:87:U:O5'	1:O:87:U:H6	2.03	0.42
3:A:109:LEU:N	3:A:109:LEU:HD12	2.34	0.42
3:A:319:ASP:HB2	3:A:352:ARG:HH11	1.75	0.42
3:A:382:ASP:N	3:A:383:PRO:HD3	2.34	0.42
3:A:412:GLN:O	3:A:415:MET:HB3	2.20	0.42
3:B:137:SER:OG	3:B:200:ASN:HB3	2.20	0.42
3:B:232:ASN:N	3:B:232:ASN:HD22	2.18	0.42
3:E:383:PRO:O	3:E:386:ARG:HG2	2.20	0.42
3:F:109:LEU:HG	3:F:169:GLN:NE2	2.34	0.42
3:F:318:THR:HA	3:F:325:PHE:N	2.35	0.42
3:I:101:GLY:HA2	3:I:133:LEU:O	2.20	0.42
3:I:129:LYS:HA	3:I:193:LYS:O	2.19	0.42
3:I:197:VAL:CG1	3:I:198:ASN:H	2.31	0.42
3:I:327:LYS:HA	3:I:332:ALA:HA	2.02	0.42
3:J:115:LEU:HD21	3:J:314:VAL:HB	2.02	0.42
3:J:255:TRP:O	3:J:256:PHE:C	2.58	0.42
3:M:83:THR:O	3:M:84:LYS:C	2.58	0.42
3:M:347:GLY:O	3:M:350:VAL:HG12	2.20	0.42
3:N:240:VAL:HG13	3:N:240:VAL:O	2.19	0.42
1:C:80:G:O2'	1:C:81:C:H5'	2.19	0.41
1:C:95:G:C2'	1:C:96:C:H5'	2.50	0.41
1:K:119:A:O2'	1:K:120:A:P	2.77	0.41
1:K:126:A:C5'	1:K:127:U:OP1	2.53	0.41
1:O:95:G:C2'	1:O:96:C:H5'	2.50	0.41
1:O:194:G:C8	1:O:194:G:C3'	3.02	0.41
3:A:142:GLY:O	3:A:144:PRO:CD	2.65	0.41
3:A:333:ILE:HD11	3:A:348:TYR:CZ	2.55	0.41
3:B:115:LEU:N	3:B:116:PRO:HD2	2.35	0.41
3:B:319:ASP:HB2	3:B:352:ARG:NH1	2.33	0.41
3:B:324:LYS:C	3:B:326:GLY:H	2.22	0.41
3:E:85:GLU:O	3:E:86:HIS:C	2.59	0.41
3:E:111:VAL:CG2	3:E:326:GLY:HA2	2.50	0.41
3:E:225:LEU:HD12	3:F:225:LEU:HD13	2.02	0.41
3:I:301:THR:O	3:I:303:LYS:N	2.53	0.41
3:I:333:ILE:HD11	3:I:348:TYR:CZ	2.55	0.41
3:M:90:LEU:HD13	3:M:306:LEU:O	2.19	0.41
3:M:108:SER:O	3:M:334:TRP:HZ3	2.03	0.41
3:M:248:PRO:O	3:M:251:GLN:N	2.53	0.41
3:M:412:GLN:O	3:M:415:MET:HB3	2.20	0.41
3:N:110:HIS:O	3:N:112:GLY:N	2.53	0.41
1:C:63:A:C8	1:C:206:A:N1	2.88	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:160:U:C4	1:G:188:U:H1'	2.55	0.41
1:K:103(B):A:C8	1:K:104:A:C8	3.08	0.41
1:K:200:A:O2'	1:K:201:U:H5'	2.20	0.41
1:O:63:A:C8	1:O:206:A:N1	2.88	0.41
1:O:102:G:C2	1:O:105:C:N3	2.85	0.41
1:O:132:A:C2	1:O:133:U:C2	3.08	0.41
1:O:140:U:O4	1:O:157:A:N7	2.53	0.41
3:A:55:ARG:HG2	3:A:55:ARG:HH11	1.84	0.41
3:E:119:PRO:O	3:E:123:MET:HG3	2.20	0.41
3:E:270:GLY:N	3:E:273:GLN:HG3	2.34	0.41
3:F:337:PRO:C	3:F:339:GLN:H	2.23	0.41
3:I:326:GLY:O	3:I:332:ALA:CB	2.67	0.41
3:J:52:TRP:HE1	3:J:94:ARG:N	2.19	0.41
3:J:223:PRO:O	3:J:227:ARG:NH1	2.52	0.41
3:M:82:GLY:O	3:M:87:ILE:CD1	2.67	0.41
3:M:345:PHE:O	3:M:346:TYR:C	2.59	0.41
3:N:66:ASN:O	3:N:69:ASP:N	2.52	0.41
3:N:349:PHE:C	3:N:351:ARG:N	2.72	0.41
1:C:139:G:H2'	1:C:156:G:H1	1.84	0.41
1:C:188:U:P	1:C:188:U:H3'	2.59	0.41
1:G:166:U:O2'	1:G:167:U:H5'	2.20	0.41
1:G:230:C:H2'	1:G:231:G:O4'	2.20	0.41
1:G:251:U:O2'	1:G:252:G:C5'	2.67	0.41
1:K:42:C:H2'	1:K:43:U:C6	2.56	0.41
1:K:121:C:H2'	1:K:122:G:O4'	2.20	0.41
1:K:140:U:O4	1:K:157:A:N7	2.54	0.41
1:K:204:G:N2	1:K:209:C:N3	2.51	0.41
1:O:77:U:O2'	1:O:78:A:H5'	2.21	0.41
1:O:185:A:C2	1:O:188:U:O4	2.73	0.41
2:P:1:G:H2'	2:P:2:C:O4'	2.21	0.41
3:E:216:GLY:O	3:F:241:SER:OG	2.35	0.41
3:E:317:LEU:HB3	3:E:325:PHE:CD1	2.55	0.41
3:F:241:SER:HB3	3:F:244:GLU:HG2	2.02	0.41
3:I:216:GLY:O	3:J:241:SER:OG	2.35	0.41
3:I:241:SER:O	3:I:242:PHE:C	2.58	0.41
3:M:225:LEU:HD12	3:N:225:LEU:HD13	2.02	0.41
3:M:319:ASP:HB2	3:M:352:ARG:HH11	1.74	0.41
3:M:345:PHE:C	3:M:347:GLY:N	2.72	0.41
3:M:350:VAL:O	3:M:386:ARG:NH2	2.51	0.41
3:N:59:ILE:HD13	3:N:66:ASN:CB	2.51	0.41
3:N:337:PRO:C	3:N:339:GLN:H	2.24	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:228:A:C4	1:C:229:A:N7	2.88	0.41
1:G:206:A:N1	1:G:207:A:C2	2.88	0.41
1:K:47:A:OP1	3:J:44:LYS:NZ	2.42	0.41
1:K:220:A:H2	1:K:238:U:O2	2.04	0.41
1:K:229:A:C4	1:K:230:C:C5	3.08	0.41
1:O:229:A:C4	1:O:230:C:C5	3.08	0.41
3:A:185:GLY:O	3:A:186:TYR:CD1	2.73	0.41
3:A:189:ASP:HB3	3:A:192:ARG:HB2	2.03	0.41
3:A:317:LEU:HB3	3:A:325:PHE:CD1	2.54	0.41
3:B:59:ILE:HD13	3:B:66:ASN:CB	2.51	0.41
3:E:58:ALA:CB	3:E:63:LYS:HB2	2.50	0.41
3:E:221:ILE:HD12	3:E:225:LEU:HB3	2.03	0.41
3:I:281:LEU:O	3:I:284:VAL:N	2.53	0.41
3:I:386:ARG:HH11	3:I:389:GLN:HG2	1.84	0.41
3:J:40:LYS:O	3:J:41:TYR:C	2.58	0.41
3:M:246:THR:O	3:M:247:TYR:C	2.59	0.41
1:C:194:G:C8	1:C:194:G:C3'	3.03	0.41
1:G:40:U:H2'	1:G:41:C:C6	2.56	0.41
1:G:80:G:O2'	1:G:81:C:H5'	2.20	0.41
1:G:194:G:C8	1:G:194:G:C3'	3.02	0.41
1:G:225:A:C5'	1:G:226:G:OP2	2.69	0.41
1:O:51:A:H4'	3:N:261:GLN:OE1	2.20	0.41
1:O:62:A:H4'	1:O:206:A:H2	1.86	0.41
3:A:221:ILE:HD11	3:B:234:MET:HE3	2.02	0.41
3:A:230:VAL:O	3:A:233:LYS:N	2.50	0.41
3:A:301:THR:O	3:A:303:LYS:N	2.54	0.41
3:A:350:VAL:O	3:A:386:ARG:NH1	2.53	0.41
3:B:359:ASN:N	3:B:359:ASN:OD1	2.53	0.41
3:E:345:PHE:C	3:E:347:GLY:N	2.73	0.41
3:F:161:MET:O	3:F:162:ASN:C	2.59	0.41
3:F:179:THR:O	3:F:180:GLN:C	2.59	0.41
3:F:347:GLY:CA	3:F:351:ARG:HH12	2.33	0.41
3:F:359:ASN:N	3:F:359:ASN:OD1	2.54	0.41
3:I:61:LYS:HB2	3:I:63:LYS:HG3	2.03	0.41
3:I:270:GLY:O	3:I:273:GLN:HB2	2.21	0.41
3:J:198:ASN:HD21	3:J:200:ASN:HD21	1.69	0.41
3:J:337:PRO:C	3:J:339:GLN:H	2.24	0.41
3:M:118:MET:N	3:M:119:PRO:HD2	2.35	0.41
3:N:115:LEU:HD21	3:N:314:VAL:HB	2.02	0.41
3:N:296:GLU:O	3:N:300:VAL:HG22	2.20	0.41
1:C:251:U:H3'	1:C:251:U:C6	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:25:A:H2	1:G:178:G:H21	1.67	0.41
1:G:171:C:N3	1:G:178:G:C2	2.89	0.41
1:K:13:C:O2	2:L:1:G:C2	2.73	0.41
1:K:185:A:C2	1:K:188:U:O4	2.74	0.41
1:K:207:A:N6	1:K:208:A:N1	2.69	0.41
1:K:228:A:C4	1:K:229:A:N7	2.88	0.41
1:K:230:C:H2'	1:K:231:G:O4'	2.20	0.41
1:O:110:A:H2'	1:O:111:G:O4'	2.20	0.41
3:A:368:PRO:O	3:A:369:ILE:C	2.59	0.41
3:B:293:ASP:OD2	3:B:294:PRO:HD2	2.20	0.41
3:E:101:GLY:HA2	3:E:133:LEU:O	2.19	0.41
3:I:137:SER:HB2	3:I:199:ASN:ND2	2.35	0.41
3:J:288:ARG:HB2	3:J:302:PRO:HD3	2.03	0.41
3:M:108:SER:O	3:M:334:TRP:CZ3	2.74	0.41
3:M:129:LYS:HA	3:M:193:LYS:O	2.19	0.41
3:M:185:GLY:O	3:M:186:TYR:CD1	2.74	0.41
3:M:328:SER:O	3:M:329:ALA:HB3	2.20	0.41
3:N:115:LEU:N	3:N:116:PRO:HD2	2.36	0.41
3:N:400:VAL:O	3:N:400:VAL:CG1	2.64	0.41
1:C:10:A:H2'	1:C:11:G:H8	1.84	0.41
1:C:128:U:O2'	1:C:129:C:H5'	2.21	0.41
1:C:170:C:O2	1:C:179:G:N2	2.54	0.41
1:G:170:C:O2	1:G:179:G:N2	2.54	0.41
1:G:218:G:OP1	1:G:218:G:C4'	2.58	0.41
1:K:194:G:C8	1:K:194:G:C3'	3.03	0.41
1:K:239:C:H2'	1:K:240:C:C6	2.54	0.41
3:A:108:SER:O	3:A:334:TRP:HZ3	2.04	0.41
3:A:225:LEU:HD12	3:B:225:LEU:HD13	2.02	0.41
3:A:233:LYS:HG3	3:A:239:GLY:O	2.21	0.41
3:A:241:SER:O	3:A:242:PHE:C	2.59	0.41
3:B:188:ALA:CA	3:B:192:ARG:HH11	2.23	0.41
3:B:274:TYR:O	3:B:277:ILE:N	2.53	0.41
3:B:336:ASP:HB3	3:B:339:GLN:HB3	2.03	0.41
3:E:168:TYR:HD2	3:E:168:TYR:O	2.03	0.41
3:E:172:LYS:O	3:E:175:GLU:HB2	2.20	0.41
3:E:241:SER:O	3:E:242:PHE:C	2.59	0.41
3:E:301:THR:HA	3:E:302:PRO:HD3	1.91	0.41
3:F:115:LEU:N	3:F:116:PRO:HD2	2.36	0.41
3:F:298:LYS:HB3	3:F:299:TYR:CD1	2.56	0.41
3:J:137:SER:OG	3:J:200:ASN:HB3	2.20	0.41
3:J:206:GLN:HA	3:J:207:PRO:HD3	1.92	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:M:58:ALA:CB	3:M:63:LYS:HB2	2.50	0.41
3:M:87:ILE:HG23	3:M:310:VAL:CG2	2.49	0.41
3:M:261:GLN:O	3:M:262:GLN:HG2	2.20	0.41
3:N:76:TYR:CD1	3:N:119:PRO:HD3	2.55	0.41
1:C:12:C:H2'	1:C:13:C:O4'	2.21	0.41
1:C:83:A:C2'	1:C:84:U:H5'	2.46	0.41
1:C:102:G:C2	1:C:105:C:N3	2.86	0.41
1:G:12:C:H2'	1:G:13:C:O4'	2.20	0.41
1:G:26:U:H2'	1:G:27:G:H8	1.85	0.41
1:G:139:G:H2'	1:G:156:G:H1	1.84	0.41
1:K:128:U:C4	1:K:138:A:C2	3.08	0.41
1:K:170:C:O2	1:K:179:G:N2	2.53	0.41
1:O:26:U:H2'	1:O:27:G:H8	1.86	0.41
1:O:105:C:H2'	1:O:106:G:O5'	2.20	0.41
1:O:218:G:OP1	1:O:218:G:C4'	2.59	0.41
1:O:230:C:H2'	1:O:231:G:O4'	2.20	0.41
3:A:65:GLN:HG2	3:A:66:ASN:N	2.35	0.41
3:A:137:SER:HB2	3:A:199:ASN:ND2	2.35	0.41
3:A:168:TYR:O	3:A:168:TYR:HD2	2.04	0.41
3:A:212:LEU:HD22	3:B:243:ALA:HA	2.02	0.41
3:A:221:ILE:HD12	3:A:225:LEU:HB3	2.03	0.41
3:E:56:ALA:O	3:E:92:ARG:NH1	2.54	0.41
3:E:181:MET:HG2	3:E:186:TYR:CB	2.50	0.41
3:E:245:PHE:HB2	3:F:221:ILE:HG21	2.00	0.41
3:F:108:SER:HB3	3:F:334:TRP:CE3	2.56	0.41
3:F:172:LYS:O	3:F:175:GLU:HB3	2.21	0.41
3:I:172:LYS:O	3:I:175:GLU:HB2	2.21	0.41
3:I:280:GLY:O	3:I:284:VAL:HG23	2.20	0.41
3:I:347:GLY:O	3:I:350:VAL:HG12	2.21	0.41
3:J:353:SER:HB2	3:J:356:GLU:CB	2.44	0.41
3:N:274:TYR:HA	3:N:277:ILE:HD12	2.02	0.41
3:N:288:ARG:HB2	3:N:302:PRO:HD3	2.02	0.41
1:C:9:G:O2'	1:C:57:C:H5'	2.21	0.41
1:C:26:U:H2'	1:C:27:G:H8	1.86	0.41
1:C:95:G:H2'	1:C:96:C:C5'	2.51	0.41
1:C:128:U:H2'	1:C:129:C:C6	2.56	0.41
1:G:105:C:C2'	1:G:106:G:C5'	2.98	0.41
1:G:131:G:HO2'	1:G:133:U:H5	1.68	0.41
1:G:144:G:H8	1:G:144:G:O5'	2.03	0.41
1:G:145:U:H2'	1:G:146:C:H6	1.85	0.41
1:G:220:A:H2	1:G:238:U:O2	2.04	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:228:A:C4	1:G:229:A:N7	2.89	0.41
2:H:1:G:H2'	2:H:2:C:O4'	2.20	0.41
1:K:95:G:C2'	1:K:96:C:H5'	2.51	0.41
1:K:103:G:O2'	1:K:103(B):A:C8	2.73	0.41
1:O:14:U:C2'	1:O:35:A:H61	2.34	0.41
1:O:80:G:O2'	1:O:81:C:H5'	2.20	0.41
1:O:251:U:H3'	1:O:251:U:C6	2.56	0.41
3:A:58:ALA:CB	3:A:63:LYS:HB2	2.51	0.41
3:A:82:GLY:O	3:A:87:ILE:CD1	2.67	0.41
3:A:90:LEU:HD13	3:A:306:LEU:O	2.20	0.41
3:A:101:GLY:HA2	3:A:133:LEU:O	2.20	0.41
3:A:220:ARG:C	3:A:222:GLY:N	2.73	0.41
3:A:280:GLY:O	3:A:281:LEU:C	2.59	0.41
3:A:331:ASN:HB3	3:A:332:ALA:H	1.56	0.41
3:A:347:GLY:O	3:A:350:VAL:HG12	2.21	0.41
3:B:134:ILE:HG22	3:B:136:GLY:H	1.86	0.41
3:E:108:SER:O	3:E:334:TRP:CZ3	2.74	0.41
3:E:108:SER:O	3:E:334:TRP:HZ3	2.04	0.41
3:E:164:THR:O	3:E:165:LYS:C	2.59	0.41
3:E:255:TRP:HZ3	3:E:277:ILE:HG23	1.86	0.41
3:F:52:TRP:HE1	3:F:94:ARG:N	2.18	0.41
3:F:121:PHE:CZ	3:F:173:LEU:HD21	2.56	0.41
3:F:137:SER:OG	3:F:200:ASN:HB3	2.20	0.41
3:F:139:ALA:C	3:F:141:ILE:N	2.74	0.41
3:F:304:THR:OG1	3:F:305:ALA:N	2.54	0.41
3:F:372:ILE:CG2	3:F:373:THR:N	2.84	0.41
3:F:380:ILE:C	3:F:380:ILE:HD12	2.41	0.41
3:F:386:ARG:HB2	3:F:386:ARG:HH11	1.79	0.41
3:I:66:ASN:O	3:I:67:THR:C	2.60	0.41
3:I:85:GLU:O	3:I:86:HIS:C	2.59	0.41
3:I:111:VAL:CG2	3:I:326:GLY:HA2	2.51	0.41
3:I:119:PRO:O	3:I:123:MET:HG3	2.20	0.41
3:J:66:ASN:O	3:J:69:ASP:N	2.50	0.41
3:J:141:ILE:HD12	3:J:243:ALA:HB1	2.02	0.41
3:J:336:ASP:HB3	3:J:339:GLN:HB3	2.02	0.41
3:J:347:GLY:CA	3:J:351:ARG:HH12	2.33	0.41
3:M:109:LEU:HD12	3:M:109:LEU:N	2.35	0.41
3:M:142:GLY:O	3:M:144:PRO:CD	2.66	0.41
3:M:221:ILE:HD12	3:M:221:ILE:C	2.42	0.41
3:M:225:LEU:HD23	3:M:226:SER:N	2.36	0.41
3:M:317:LEU:HB3	3:M:325:PHE:CD1	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:M:368:PRO:O	3:M:369:ILE:C	2.59	0.41
3:N:117:LEU:O	3:N:120:LEU:HB3	2.20	0.41
3:N:200:ASN:O	3:N:201:HIS:C	2.58	0.41
3:N:232:ASN:N	3:N:232:ASN:HD22	2.19	0.41
3:N:298:LYS:HB3	3:N:299:TYR:CE1	2.56	0.41
3:N:359:ASN:N	3:N:359:ASN:OD1	2.54	0.41
3:N:368:PRO:O	3:N:369:ILE:C	2.59	0.41
1:C:200:A:O2'	1:C:201:U:H5'	2.21	0.41
1:K:40:U:H2'	1:K:41:C:C6	2.56	0.41
1:K:128:U:O2'	1:K:129:C:H5'	2.21	0.41
1:O:12:C:H2'	1:O:13:C:O4'	2.21	0.41
3:B:139:ALA:C	3:B:141:ILE:N	2.75	0.41
3:B:228:ASP:O	3:B:229:THR:C	2.59	0.41
3:B:240:VAL:O	3:B:240:VAL:HG13	2.21	0.41
3:E:65:GLN:HG2	3:E:66:ASN:N	2.36	0.41
3:E:90:LEU:HD13	3:E:306:LEU:O	2.21	0.41
3:E:358:GLU:HB2	3:E:376:MET:HE1	2.03	0.41
3:I:56:ALA:O	3:I:92:ARG:NH1	2.52	0.41
3:I:90:LEU:HD13	3:I:306:LEU:O	2.21	0.41
3:I:102:ILE:HG21	3:I:109:LEU:HD21	2.02	0.41
3:I:241:SER:O	3:I:243:ALA:N	2.54	0.41
3:I:317:LEU:HB3	3:I:325:PHE:CD1	2.56	0.41
3:I:333:ILE:HG12	3:I:348:TYR:CG	2.56	0.41
3:I:385:LYS:HA	3:I:385:LYS:HD3	1.92	0.41
3:M:285:LYS:O	3:M:286:ALA:C	2.59	0.41
3:M:295:GLN:H	3:M:295:GLN:HG2	1.68	0.41
3:N:343:PHE:HE1	3:N:413:HIS:N	2.18	0.41
3:N:385:LYS:HA	3:N:385:LYS:HZ2	1.85	0.41
1:C:159:A:C6	1:C:161:G:C4	3.09	0.40
1:C:215:G:H2'	1:C:245:C:N4	2.36	0.40
1:C:230:C:H2'	1:C:231:G:O4'	2.21	0.40
1:G:118:C:O2'	1:G:119:A:OP2	2.37	0.40
1:K:80:G:O2'	1:K:81:C:H5'	2.20	0.40
1:K:95:G:H2'	1:K:96:C:C5'	2.51	0.40
1:K:166:U:O2'	1:K:167:U:H5'	2.21	0.40
1:O:128:U:C4	1:O:138:A:C2	3.09	0.40
3:A:89:GLU:O	3:A:93:THR:HG23	2.21	0.40
3:A:162:ASN:C	3:A:166:ILE:HD12	2.41	0.40
3:A:261:GLN:O	3:A:262:GLN:HG2	2.20	0.40
3:A:295:GLN:H	3:A:295:GLN:HG2	1.68	0.40
3:A:350:VAL:O	3:A:386:ARG:NH2	2.52	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:386:ARG:HH11	3:A:389:GLN:HG2	1.86	0.40
3:B:255:TRP:O	3:B:256:PHE:C	2.59	0.40
3:E:327:LYS:HA	3:E:332:ALA:HA	2.02	0.40
3:F:228:ASP:O	3:F:229:THR:C	2.59	0.40
3:J:113:HIS:O	3:J:116:PRO:HG2	2.20	0.40
3:J:161:MET:O	3:J:162:ASN:C	2.58	0.40
3:J:349:PHE:O	3:J:350:VAL:C	2.59	0.40
3:M:73:GLU:CD	3:M:369:ILE:HG13	2.41	0.40
3:N:111:VAL:O	3:N:114:LEU:HD12	2.21	0.40
3:N:139:ALA:C	3:N:141:ILE:N	2.75	0.40
3:N:294:PRO:HG2	3:N:295:GLN:N	2.33	0.40
1:C:40:U:H2'	1:C:41:C:C6	2.56	0.40
1:C:140:U:O4	1:C:157:A:N7	2.54	0.40
1:G:198:A:H8	1:G:198:A:H5"	1.86	0.40
1:K:139:G:H2'	1:K:156:G:H1	1.86	0.40
1:K:198:A:H5"	1:K:198:A:H8	1.85	0.40
1:O:95:G:H2'	1:O:96:C:C5'	2.51	0.40
1:O:170:C:O2	1:O:179:G:N2	2.54	0.40
3:A:205:LYS:O	3:A:207:PRO:HD3	2.21	0.40
3:A:357:VAL:HG21	3:A:389:GLN:HE21	1.86	0.40
3:B:40:LYS:O	3:B:41:TYR:C	2.59	0.40
3:B:111:VAL:O	3:B:114:LEU:HD12	2.21	0.40
3:B:241:SER:HB3	3:B:244:GLU:HG2	2.03	0.40
3:B:347:GLY:O	3:B:348:TYR:C	2.59	0.40
3:B:372:ILE:CG2	3:B:373:THR:N	2.85	0.40
3:F:40:LYS:HE2	3:F:40:LYS:HB2	1.96	0.40
3:F:59:ILE:HD13	3:F:66:ASN:CB	2.50	0.40
3:F:230:VAL:O	3:F:231:LYS:C	2.60	0.40
3:F:347:GLY:C	3:F:349:PHE:N	2.72	0.40
3:I:65:GLN:HG2	3:I:66:ASN:N	2.36	0.40
3:I:293:ASP:CB	3:I:296:GLU:HB2	2.51	0.40
3:J:297:ARG:CA	3:J:300:VAL:HG22	2.50	0.40
3:J:369:ILE:CG1	3:J:370:SER:N	2.83	0.40
1:C:37:A:N6	2:D:1:G:N3	2.68	0.40
1:C:159:A:O2'	1:C:160:U:P	2.79	0.40
1:C:251:U:O2'	1:C:252:G:C5'	2.67	0.40
1:G:140:U:O4	1:G:157:A:N7	2.54	0.40
1:G:159:A:O2'	1:G:160:U:H3'	2.21	0.40
1:K:20:C:C6	1:K:20:C:H3'	2.57	0.40
1:K:145:U:H2'	1:K:146:C:H6	1.86	0.40
1:O:9:G:O2'	1:O:57:C:H5'	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:O:128:U:O2'	1:O:129:C:H5'	2.21	0.40
1:O:139:G:H2'	1:O:156:G:H1	1.85	0.40
3:A:85:GLU:O	3:A:86:HIS:C	2.59	0.40
3:A:108:SER:O	3:A:334:TRP:CZ3	2.74	0.40
3:A:164:THR:O	3:A:165:LYS:C	2.59	0.40
3:B:171:LYS:O	3:B:172:LYS:C	2.59	0.40
3:B:200:ASN:O	3:B:201:HIS:C	2.59	0.40
3:B:349:PHE:C	3:B:351:ARG:N	2.74	0.40
3:E:109:LEU:HB2	3:E:335:LEU:HD12	2.03	0.40
3:E:247:TYR:HA	3:E:250:MET:HE3	2.03	0.40
3:F:200:ASN:O	3:F:201:HIS:C	2.59	0.40
3:F:366:PHE:CZ	3:F:399:LEU:HD22	2.57	0.40
3:F:385:LYS:HA	3:F:385:LYS:HZ3	1.85	0.40
3:I:72:GLU:OE1	3:I:77:VAL:HG21	2.22	0.40
3:I:108:SER:O	3:I:334:TRP:HZ3	2.05	0.40
3:I:125:LEU:CA	3:I:192:ARG:HH22	2.34	0.40
3:I:254:ASP:O	3:I:255:TRP:C	2.60	0.40
3:I:351:ARG:NH2	3:I:352:ARG:HH22	2.19	0.40
3:J:76:TYR:CD1	3:J:119:PRO:HD3	2.56	0.40
3:J:317:LEU:HD12	3:J:317:LEU:HA	1.92	0.40
3:M:61:LYS:HB2	3:M:63:LYS:HG3	2.02	0.40
3:M:84:LYS:HD2	3:M:85:GLU:OE2	2.21	0.40
3:M:225:LEU:HD12	3:N:225:LEU:CD1	2.52	0.40
3:M:255:TRP:HB3	3:M:284:VAL:HG22	2.04	0.40
3:M:331:ASN:HB3	3:M:332:ALA:H	1.57	0.40
3:M:382:ASP:N	3:M:383:PRO:HD3	2.36	0.40
3:N:40:LYS:O	3:N:41:TYR:C	2.59	0.40
3:N:75:GLY:O	3:N:363:LEU:HD21	2.21	0.40
3:N:122:TRP:O	3:N:123:MET:C	2.59	0.40
3:N:274:TYR:O	3:N:277:ILE:N	2.54	0.40
1:C:18:U:H2'	1:C:19:A:H8	1.86	0.40
1:C:42:C:H2'	1:C:43:U:C6	2.55	0.40
1:C:103(B):A:C8	1:C:104:A:C8	3.10	0.40
1:C:159:A:C4	1:C:161:G:N7	2.90	0.40
1:O:95:G:H2'	1:O:96:C:H5'	2.02	0.40
1:O:161:G:C2	1:O:162:G:C5	3.09	0.40
3:B:115:LEU:O	3:B:119:PRO:HD2	2.20	0.40
3:E:82:GLY:O	3:E:87:ILE:CD1	2.64	0.40
3:I:367:MET:HA	3:I:368:PRO:HD3	1.97	0.40
3:J:121:PHE:CZ	3:J:173:LEU:HD21	2.56	0.40
3:J:124:TYR:O	3:J:192:ARG:NH2	2.54	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:J:304:THR:OG1	3:J:305:ALA:N	2.55	0.40
3:J:366:PHE:CZ	3:J:399:LEU:HD22	2.57	0.40
3:J:368:PRO:O	3:J:369:ILE:C	2.59	0.40
3:M:85:GLU:O	3:M:86:HIS:C	2.59	0.40
3:M:104:PRO:HA	3:M:166:ILE:HD13	2.02	0.40
3:M:117:LEU:HD23	3:M:117:LEU:HA	1.90	0.40
3:M:350:VAL:O	3:M:386:ARG:NH1	2.54	0.40
3:N:136:GLY:N	3:N:199:ASN:OD1	2.54	0.40
1:C:62:A:H4'	1:C:206:A:H2	1.87	0.40
1:C:132:A:C2	1:C:133:U:C2	3.09	0.40
2:D:1:G:H2'	2:D:2:C:O4'	2.22	0.40
1:G:63:A:C8	1:G:206:A:N1	2.89	0.40
1:K:10:A:H2'	1:K:11:G:H8	1.85	0.40
1:K:87:U:O5'	1:K:87:U:H6	2.04	0.40
1:O:42:C:H2'	1:O:43:U:C6	2.56	0.40
3:A:221:ILE:HD12	3:A:221:ILE:C	2.42	0.40
3:B:140:LYS:O	3:B:141:ILE:CD1	2.57	0.40
3:B:213:ARG:C	3:B:215:VAL:N	2.75	0.40
3:B:257:GLU:O	3:B:260:TYR:N	2.54	0.40
3:E:100:VAL:HG22	3:E:268:ILE:O	2.21	0.40
3:E:189:ASP:HB3	3:E:192:ARG:HB2	2.02	0.40
3:E:269:GLY:O	3:E:314:VAL:HG22	2.21	0.40
3:E:386:ARG:HH11	3:E:389:GLN:HG2	1.86	0.40
3:F:141:ILE:HD12	3:F:243:ALA:HB1	2.03	0.40
3:F:167:HIS:O	3:F:169:GLN:N	2.55	0.40
3:F:288:ARG:H	3:F:288:ARG:HG3	1.75	0.40
3:F:294:PRO:HG2	3:F:295:GLN:N	2.32	0.40
3:F:317:LEU:HD12	3:F:317:LEU:HA	1.91	0.40
3:I:142:GLY:O	3:I:144:PRO:CD	2.67	0.40
3:I:197:VAL:CG1	3:I:198:ASN:N	2.79	0.40
3:J:139:ALA:C	3:J:141:ILE:N	2.73	0.40
3:N:347:GLY:O	3:N:348:TYR:C	2.59	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	A	363/392 (93%)	257 (71%)	81 (22%)	25 (7%)	1	17
3	B	363/392 (93%)	256 (70%)	80 (22%)	27 (7%)	1	16
3	E	363/392 (93%)	257 (71%)	81 (22%)	25 (7%)	1	17
3	F	363/392 (93%)	256 (70%)	80 (22%)	27 (7%)	1	16
3	I	363/392 (93%)	258 (71%)	79 (22%)	26 (7%)	1	16
3	J	363/392 (93%)	256 (70%)	79 (22%)	28 (8%)	1	15
3	M	363/392 (93%)	258 (71%)	81 (22%)	24 (7%)	1	18
3	N	363/392 (93%)	257 (71%)	79 (22%)	27 (7%)	1	16
All	All	2904/3136 (93%)	2055 (71%)	640 (22%)	209 (7%)	1	16

All (209) Ramachandran outliers are listed below:

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

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

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Mol	Chain	Res	Type
3	I	221	ILE
3	I	303	LYS
3	I	331	ASN
3	I	406	ALA
3	J	62	GLY
3	J	136	GLY
3	J	167	HIS
3	J	170	LEU
3	J	171	LYS
3	J	214	ARG
3	J	215	VAL
3	J	233	LYS
3	J	243	ALA
3	J	273	GLN
3	J	348	TYR
3	M	93	THR
3	M	128	TYR
3	M	136	GLY
3	M	184	ARG
3	M	221	ILE
3	M	303	LYS
3	M	331	ASN
3	M	406	ALA
3	N	136	GLY
3	N	167	HIS
3	N	171	LYS
3	N	214	ARG
3	N	215	VAL
3	N	233	LYS
3	N	243	ALA
3	N	273	GLN
3	N	348	TYR
3	A	201	HIS
3	A	222	GLY
3	A	302	PRO
3	B	111	VAL
3	B	170	LEU
3	B	181	MET
3	B	201	HIS
3	B	222	GLY
3	B	229	THR
3	B	329	ALA

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Mol	Chain	Res	Type
3	B	359	ASN
3	E	201	HIS
3	E	222	GLY
3	E	302	PRO
3	F	111	VAL
3	F	181	MET
3	F	201	HIS
3	F	211	VAL
3	F	222	GLY
3	F	229	THR
3	F	329	ALA
3	F	359	ASN
3	I	201	HIS
3	I	222	GLY
3	I	302	PRO
3	I	322	GLY
3	J	111	VAL
3	J	181	MET
3	J	201	HIS
3	J	211	VAL
3	J	222	GLY
3	J	229	THR
3	J	359	ASN
3	M	201	HIS
3	M	222	GLY
3	M	302	PRO
3	N	62	GLY
3	N	111	VAL
3	N	170	LEU
3	N	181	MET
3	N	201	HIS
3	N	222	GLY
3	N	229	THR
3	N	329	ALA
3	N	359	ASN
3	A	83	THR
3	A	167	HIS
3	A	223	PRO
3	A	290	SER
3	A	322	GLY
3	B	211	VAL
3	B	350	VAL

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Mol	Chain	Res	Type
3	E	83	THR
3	E	167	HIS
3	E	290	SER
3	E	307	ASP
3	E	322	GLY
3	F	350	VAL
3	I	83	THR
3	I	167	HIS
3	I	290	SER
3	I	307	ASP
3	J	329	ALA
3	J	350	VAL
3	M	83	THR
3	M	167	HIS
3	M	322	GLY
3	N	211	VAL
3	N	350	VAL
3	A	307	ASP
3	A	330	GLY
3	A	346	TYR
3	B	292	PRO
3	E	223	PRO
3	E	330	GLY
3	F	292	PRO
3	I	223	PRO
3	I	330	GLY
3	I	340	THR
3	I	346	TYR
3	J	179	THR
3	J	292	PRO
3	M	223	PRO
3	M	290	SER
3	M	307	ASP
3	M	330	GLY
3	N	292	PRO
3	A	324	LYS
3	B	179	THR
3	B	320	SER
3	E	346	TYR
3	F	168	TYR
3	F	179	THR
3	J	168	TYR

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Mol	Chain	Res	Type
3	J	320	SER
3	N	179	THR
3	N	320	SER
3	A	96	ILE
3	A	292	PRO
3	E	96	ILE
3	E	292	PRO
3	I	292	PRO
3	I	402	GLY
3	M	96	ILE
3	M	292	PRO
3	A	211	VAL
3	E	402	GLY
3	I	96	ILE
3	I	211	VAL
3	M	211	VAL
3	M	402	GLY
3	E	211	VAL

5.3.2 Protein sidechains (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	A	310/333 (93%)	278 (90%)	32 (10%)	7 27
3	B	310/333 (93%)	276 (89%)	34 (11%)	6 25
3	E	310/333 (93%)	278 (90%)	32 (10%)	7 27
3	F	310/333 (93%)	277 (89%)	33 (11%)	6 26
3	I	310/333 (93%)	278 (90%)	32 (10%)	7 27
3	J	310/333 (93%)	277 (89%)	33 (11%)	6 26
3	M	310/333 (93%)	278 (90%)	32 (10%)	7 27
3	N	310/333 (93%)	275 (89%)	35 (11%)	6 24
All	All	2480/2664 (93%)	2217 (89%)	263 (11%)	6 26

All (263) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	A	40	LYS
3	A	44	LYS
3	A	49	GLU
3	A	61	LYS
3	A	66	ASN
3	A	69	ASP
3	A	79	ASP
3	A	83	THR
3	A	138	THR
3	A	158	ASP
3	A	168	TYR
3	A	209	LEU
3	A	221	ILE
3	A	225	LEU
3	A	227	ARG
3	A	241	SER
3	A	271	SER
3	A	304	THR
3	A	317	LEU
3	A	324	LYS
3	A	325	PHE
3	A	327	LYS
3	A	331	ASN
3	A	336	ASP
3	A	354	ASP
3	A	356	GLU
3	A	370	SER
3	A	372	ILE
3	A	374	LYS
3	A	387	VAL
3	A	404	GLN
3	A	411	ASP
3	B	46	ASN
3	B	73	GLU
3	B	83	THR
3	B	84	LYS
3	B	96	ILE
3	B	103	ASP
3	B	126	GLU
3	B	138	THR
3	B	169	GLN
3	B	182	ARG
3	B	201	HIS

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Mol	Chain	Res	Type
3	B	212	LEU
3	B	215	VAL
3	B	224	MET
3	B	236	GLN
3	B	251	GLN
3	B	265	GLN
3	B	309	CYS
3	B	313	THR
3	B	328	SER
3	B	334	TRP
3	B	352	ARG
3	B	355	GLN
3	B	369	ILE
3	B	377	GLU
3	B	385	LYS
3	B	389	GLN
3	B	390	HIS
3	B	404	GLN
3	B	407	SER
3	B	413	HIS
3	B	414	ARG
3	B	415	MET
3	B	416	MET
3	E	40	LYS
3	E	44	LYS
3	E	49	GLU
3	E	61	LYS
3	E	66	ASN
3	E	69	ASP
3	E	79	ASP
3	E	83	THR
3	E	138	THR
3	E	158	ASP
3	E	168	TYR
3	E	209	LEU
3	E	221	ILE
3	E	225	LEU
3	E	227	ARG
3	E	241	SER
3	E	271	SER
3	E	304	THR
3	E	317	LEU

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Mol	Chain	Res	Type
3	E	324	LYS
3	E	325	PHE
3	E	327	LYS
3	E	331	ASN
3	E	336	ASP
3	E	354	ASP
3	E	356	GLU
3	E	370	SER
3	E	372	ILE
3	E	374	LYS
3	E	387	VAL
3	E	404	GLN
3	E	411	ASP
3	F	46	ASN
3	F	73	GLU
3	F	83	THR
3	F	84	LYS
3	F	96	ILE
3	F	103	ASP
3	F	126	GLU
3	F	138	THR
3	F	169	GLN
3	F	182	ARG
3	F	201	HIS
3	F	212	LEU
3	F	215	VAL
3	F	224	MET
3	F	236	GLN
3	F	251	GLN
3	F	265	GLN
3	F	309	CYS
3	F	313	THR
3	F	328	SER
3	F	334	TRP
3	F	352	ARG
3	F	355	GLN
3	F	369	ILE
3	F	377	GLU
3	F	385	LYS
3	F	389	GLN
3	F	390	HIS
3	F	404	GLN

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Mol	Chain	Res	Type
3	F	407	SER
3	F	413	HIS
3	F	414	ARG
3	F	416	MET
3	I	40	LYS
3	I	44	LYS
3	I	49	GLU
3	I	61	LYS
3	I	66	ASN
3	I	69	ASP
3	I	79	ASP
3	I	83	THR
3	I	138	THR
3	I	158	ASP
3	I	168	TYR
3	I	209	LEU
3	I	221	ILE
3	I	225	LEU
3	I	227	ARG
3	I	241	SER
3	I	271	SER
3	I	304	THR
3	I	317	LEU
3	I	324	LYS
3	I	325	PHE
3	I	327	LYS
3	I	331	ASN
3	I	336	ASP
3	I	354	ASP
3	I	356	GLU
3	I	370	SER
3	I	372	ILE
3	I	374	LYS
3	I	387	VAL
3	I	404	GLN
3	I	411	ASP
3	J	46	ASN
3	J	73	GLU
3	J	83	THR
3	J	84	LYS
3	J	96	ILE
3	J	103	ASP

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Mol	Chain	Res	Type
3	J	126	GLU
3	J	138	THR
3	J	169	GLN
3	J	182	ARG
3	J	201	HIS
3	J	212	LEU
3	J	215	VAL
3	J	224	MET
3	J	236	GLN
3	J	251	GLN
3	J	265	GLN
3	J	309	CYS
3	J	313	THR
3	J	328	SER
3	J	334	TRP
3	J	352	ARG
3	J	355	GLN
3	J	369	ILE
3	J	377	GLU
3	J	385	LYS
3	J	390	HIS
3	J	404	GLN
3	J	407	SER
3	J	413	HIS
3	J	414	ARG
3	J	415	MET
3	J	416	MET
3	M	40	LYS
3	M	44	LYS
3	M	49	GLU
3	M	61	LYS
3	M	66	ASN
3	M	69	ASP
3	M	79	ASP
3	M	83	THR
3	M	138	THR
3	M	158	ASP
3	M	168	TYR
3	M	209	LEU
3	M	221	ILE
3	M	225	LEU
3	M	227	ARG

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Mol	Chain	Res	Type
3	M	241	SER
3	M	271	SER
3	M	304	THR
3	M	317	LEU
3	M	324	LYS
3	M	325	PHE
3	M	327	LYS
3	M	331	ASN
3	M	336	ASP
3	M	354	ASP
3	M	356	GLU
3	M	370	SER
3	M	372	ILE
3	M	374	LYS
3	M	387	VAL
3	M	404	GLN
3	M	411	ASP
3	N	46	ASN
3	N	66	ASN
3	N	73	GLU
3	N	83	THR
3	N	84	LYS
3	N	96	ILE
3	N	103	ASP
3	N	126	GLU
3	N	138	THR
3	N	169	GLN
3	N	182	ARG
3	N	201	HIS
3	N	212	LEU
3	N	215	VAL
3	N	224	MET
3	N	236	GLN
3	N	251	GLN
3	N	265	GLN
3	N	309	CYS
3	N	313	THR
3	N	328	SER
3	N	334	TRP
3	N	352	ARG
3	N	355	GLN
3	N	369	ILE

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Mol	Chain	Res	Type
3	N	377	GLU
3	N	385	LYS
3	N	389	GLN
3	N	390	HIS
3	N	404	GLN
3	N	407	SER
3	N	413	HIS
3	N	414	ARG
3	N	415	MET
3	N	416	MET

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (123) such sidechains are listed below:

Mol	Chain	Res	Type
3	A	46	ASN
3	A	51	ASN
3	A	53	GLN
3	A	66	ASN
3	A	169	GLN
3	A	176	ASN
3	A	201	HIS
3	A	204	ASN
3	A	232	ASN
3	A	236	GLN
3	A	262	GLN
3	A	331	ASN
3	A	379	HIS
3	A	389	GLN
3	A	404	GLN
3	B	53	GLN
3	B	66	ASN
3	B	110	HIS
3	B	162	ASN
3	B	169	GLN
3	B	200	ASN
3	B	206	GLN
3	B	232	ASN
3	B	251	GLN
3	B	276	ASN
3	B	295	GLN
3	B	331	ASN
3	B	339	GLN

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Mol	Chain	Res	Type
3	B	379	HIS
3	B	389	GLN
3	B	413	HIS
3	E	46	ASN
3	E	51	ASN
3	E	53	GLN
3	E	66	ASN
3	E	86	HIS
3	E	169	GLN
3	E	176	ASN
3	E	201	HIS
3	E	204	ASN
3	E	232	ASN
3	E	236	GLN
3	E	262	GLN
3	E	331	ASN
3	E	379	HIS
3	E	389	GLN
3	E	404	GLN
3	F	53	GLN
3	F	66	ASN
3	F	162	ASN
3	F	169	GLN
3	F	200	ASN
3	F	217	HIS
3	F	232	ASN
3	F	251	GLN
3	F	273	GLN
3	F	295	GLN
3	F	331	ASN
3	F	339	GLN
3	F	379	HIS
3	F	389	GLN
3	F	413	HIS
3	I	46	ASN
3	I	51	ASN
3	I	53	GLN
3	I	66	ASN
3	I	169	GLN
3	I	176	ASN
3	I	201	HIS
3	I	204	ASN

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Mol	Chain	Res	Type
3	I	232	ASN
3	I	236	GLN
3	I	262	GLN
3	I	331	ASN
3	I	379	HIS
3	I	389	GLN
3	I	404	GLN
3	J	53	GLN
3	J	66	ASN
3	J	110	HIS
3	J	169	GLN
3	J	200	ASN
3	J	217	HIS
3	J	232	ASN
3	J	251	GLN
3	J	276	ASN
3	J	295	GLN
3	J	331	ASN
3	J	339	GLN
3	J	379	HIS
3	J	389	GLN
3	J	413	HIS
3	M	46	ASN
3	M	51	ASN
3	M	53	GLN
3	M	66	ASN
3	M	169	GLN
3	M	176	ASN
3	M	201	HIS
3	M	204	ASN
3	M	232	ASN
3	M	236	GLN
3	M	262	GLN
3	M	331	ASN
3	M	379	HIS
3	M	389	GLN
3	M	404	GLN
3	N	53	GLN
3	N	66	ASN
3	N	110	HIS
3	N	162	ASN
3	N	169	GLN

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Mol	Chain	Res	Type
3	N	200	ASN
3	N	206	GLN
3	N	232	ASN
3	N	251	GLN
3	N	276	ASN
3	N	295	GLN
3	N	331	ASN
3	N	339	GLN
3	N	379	HIS
3	N	389	GLN
3	N	413	HIS

5.3.3 RNA (i)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	C	236/246 (95%)	48 (20%)	14 (5%)
1	G	236/246 (95%)	48 (20%)	14 (5%)
1	K	236/246 (95%)	48 (20%)	14 (5%)
1	O	236/246 (95%)	48 (20%)	14 (5%)
2	D	3/4 (75%)	0	0
2	H	3/4 (75%)	0	0
2	L	3/4 (75%)	0	0
2	P	3/4 (75%)	0	0
All	All	956/1000 (95%)	192 (20%)	56 (5%)

All (192) RNA backbone outliers are listed below:

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

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Mol	Chain	Res	Type
1	C	118	C
1	C	119	A
1	C	120	A
1	C	121	C
1	C	126	A
1	C	127	U
1	C	140	U
1	C	148	A
1	C	150	U
1	C	151	G
1	C	160	U
1	C	161	G
1	C	173	U
1	C	174	C
1	C	175	U
1	C	176	A
1	C	177	G
1	C	185	A
1	C	186	U
1	C	187	A
1	C	188	U
1	C	194	G
1	C	195	A
1	C	196	A
1	C	197	C
1	C	198	A
1	C	199	U
1	C	217	A
1	C	218	G
1	C	228	A
1	C	243	A
1	C	245	C
1	C	246	A
1	C	247	U
1	C	249	A
1	G	36	A
1	G	37	A
1	G	46	A
1	G	58	A
1	G	59	C
1	G	60	C
1	G	77	U

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Mol	Chain	Res	Type
1	G	78	A
1	G	86	C
1	G	103(A)	A
1	G	105	C
1	G	111	G
1	G	113	A
1	G	118	C
1	G	119	A
1	G	120	A
1	G	121	C
1	G	126	A
1	G	127	U
1	G	140	U
1	G	148	A
1	G	150	U
1	G	151	G
1	G	160	U
1	G	161	G
1	G	173	U
1	G	174	C
1	G	175	U
1	G	176	A
1	G	177	G
1	G	185	A
1	G	186	U
1	G	187	A
1	G	188	U
1	G	194	G
1	G	195	A
1	G	196	A
1	G	197	C
1	G	198	A
1	G	199	U
1	G	217	A
1	G	218	G
1	G	228	A
1	G	243	A
1	G	245	C
1	G	246	A
1	G	247	U
1	G	249	A
1	K	36	A

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Mol	Chain	Res	Type
1	K	37	A
1	K	46	A
1	K	58	A
1	K	59	C
1	K	60	C
1	K	77	U
1	K	78	A
1	K	86	C
1	K	103(A)	A
1	K	105	C
1	K	111	G
1	K	113	A
1	K	118	C
1	K	119	A
1	K	120	A
1	K	121	C
1	K	126	A
1	K	127	U
1	K	140	U
1	K	148	A
1	K	150	U
1	K	151	G
1	K	160	U
1	K	161	G
1	K	173	U
1	K	174	C
1	K	175	U
1	K	176	A
1	K	177	G
1	K	185	A
1	K	186	U
1	K	187	A
1	K	188	U
1	K	194	G
1	K	195	A
1	K	196	A
1	K	197	C
1	K	198	A
1	K	199	U
1	K	217	A
1	K	218	G
1	K	228	A

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Mol	Chain	Res	Type
1	K	243	A
1	K	245	C
1	K	246	A
1	K	247	U
1	K	249	A
1	O	36	A
1	O	37	A
1	O	46	A
1	O	58	A
1	O	59	C
1	O	60	C
1	O	77	U
1	O	78	A
1	O	86	C
1	O	103(A)	A
1	O	105	C
1	O	111	G
1	O	113	A
1	O	118	C
1	O	119	A
1	O	120	A
1	O	121	C
1	O	126	A
1	O	127	U
1	O	140	U
1	O	148	A
1	O	150	U
1	O	151	G
1	O	160	U
1	O	161	G
1	O	173	U
1	O	174	C
1	O	175	U
1	O	176	A
1	O	177	G
1	O	185	A
1	O	186	U
1	O	187	A
1	O	188	U
1	O	194	G
1	O	195	A
1	O	196	A

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

All (56) RNA pucker outliers are listed below:

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

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

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

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

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

There are no ligands in this entry.

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

6 Fit of model and data (i)

6.1 Protein, DNA and RNA chains (i)

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2			OWAB(Å^2)	Q<0.9
1	C	238/246 (96%)	-0.22	2 (0%)	86	79	185, 211, 244, 250	0
1	G	238/246 (96%)	-0.24	1 (0%)	92	87	185, 211, 244, 250	0
1	K	238/246 (96%)	-0.25	1 (0%)	92	87	185, 211, 244, 250	0
1	O	238/246 (96%)	-0.20	2 (0%)	86	79	185, 211, 244, 250	0
2	D	4/4 (100%)	0.17	0	100	100	198, 208, 211, 236	0
2	H	4/4 (100%)	-0.00	0	100	100	198, 208, 211, 236	0
2	L	4/4 (100%)	-0.15	0	100	100	198, 208, 211, 236	0
2	P	4/4 (100%)	-0.24	0	100	100	198, 208, 211, 236	0
3	A	367/392 (93%)	-0.08	3 (0%)	86	79	191, 213, 229, 240	0
3	B	367/392 (93%)	-0.14	4 (1%)	80	72	187, 209, 225, 233	0
3	E	367/392 (93%)	-0.04	8 (2%)	62	52	191, 213, 229, 240	0
3	F	367/392 (93%)	-0.15	7 (1%)	66	58	187, 209, 225, 233	0
3	I	367/392 (93%)	0.04	11 (2%)	50	39	191, 213, 229, 240	0
3	J	367/392 (93%)	-0.11	3 (0%)	86	79	187, 209, 225, 233	0
3	M	367/392 (93%)	-0.04	2 (0%)	91	85	191, 213, 229, 240	0
3	N	367/392 (93%)	-0.16	4 (1%)	80	72	187, 209, 225, 233	0
All	All	3904/4136 (94%)	-0.12	48 (1%)	79	70	185, 211, 232, 250	0

All (48) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
3	I	413	HIS	5.1
1	O	194	G	4.1
3	N	364	PHE	3.6
3	F	364	PHE	3.4
1	C	194	G	3.4

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Mol	Chain	Res	Type	RSRZ
3	A	104	PRO	3.2
1	K	194	G	3.1
3	A	268	ILE	3.1
3	E	268	ILE	3.0
3	B	364	PHE	3.0
3	E	132	THR	2.9
3	M	312	PHE	2.9
3	B	325	PHE	2.7
3	F	325	PHE	2.7
3	E	196	ILE	2.7
3	J	364	PHE	2.6
3	B	107	PRO	2.6
3	N	366	PHE	2.6
3	M	196	ILE	2.5
3	I	196	ILE	2.5
3	N	325	PHE	2.5
3	E	416	MET	2.4
3	J	366	PHE	2.4
3	F	312	PHE	2.4
3	I	302	PRO	2.4
3	E	349	PHE	2.3
3	I	253	TRP	2.3
3	I	212	LEU	2.3
3	N	107	PRO	2.2
3	E	131	PHE	2.2
3	I	303	LYS	2.2
3	J	325	PHE	2.2
3	F	317	LEU	2.2
3	B	366	PHE	2.2
3	F	68	TRP	2.2
3	E	104	PRO	2.2
3	F	366	PHE	2.2
1	C	36	A	2.2
3	A	102	ILE	2.1
3	I	409	ALA	2.1
1	G	194	G	2.1
3	F	242	PHE	2.1
3	I	364	PHE	2.1
1	O	175	U	2.1
3	I	396	VAL	2.0
3	I	321	SER	2.0
3	I	412	GLN	2.0

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Mol	Chain	Res	Type	RSRZ
3	E	312	PHE	2.0

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

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

6.3 Carbohydrates (i)

There are no monosaccharides in this entry.

6.4 Ligands (i)

There are no ligands in this entry.

6.5 Other polymers (i)

There are no such residues in this entry.