



# Full wwPDB X-ray Structure Validation Report ⓘ

May 29, 2020 – 01:22 am BST

PDB ID : 2TAA  
Title : STRUCTURE AND POSSIBLE CATALYTIC RESIDUES OF TAKA-AMYLASE A  
Authors : Kusunoki, M.; Matsuura, Y.; Tanaka, N.; Kakudo, M.  
Deposited on : 1982-10-18  
Resolution : 3.00 Å(reported)

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

We welcome your comments at [validation@mail.wwpdb.org](mailto:validation@mail.wwpdb.org)

A user guide is available at

<https://www.wwpdb.org/validation/2017/XrayValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

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

MolProbity : 4.02b-467  
Xtrriage (Phenix) : **NOT EXECUTED**  
EDS : **NOT EXECUTED**  
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.11

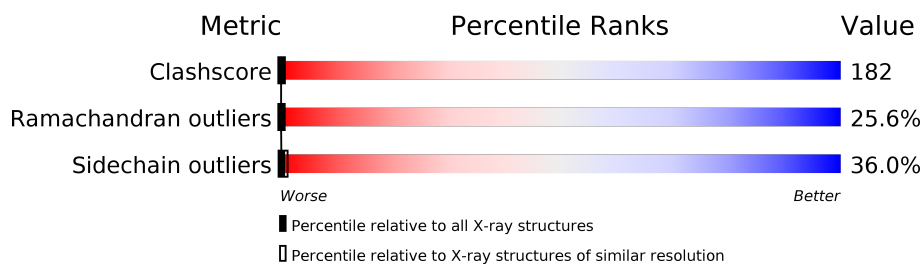
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 3.00 Å.

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



| Metric                | Whole archive<br>(#Entries) | Similar resolution<br>(#Entries, resolution range(Å)) |
|-----------------------|-----------------------------|---|
| Clashscore            | 141614                      | 2416 (3.00-3.00)                                      |
| Ramachandran outliers | 138981                      | 2333 (3.00-3.00)                                      |
| Sidechain outliers    | 138945                      | 2336 (3.00-3.00)                                      |

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

Note EDS was not executed.

| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|------------------|
| 1   | A     | 478    |                  |
| 1   | B     | 478    |                  |
| 1   | C     | 478    |                  |

## 2 Entry composition

There are 2 unique types of molecules in this entry. The entry contains 11073 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 protein called TAKA-AMYLASE A.

| Mol | Chain | Residues | Atoms |      |     |     |    | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|----|---------|---------|-------|
|     |       |          | Total | C    | N   | O   | S  |         |         |       |
| 1   | A     | 478      | 3690  | 2332 | 593 | 746 | 19 | 0       | 0       | 0     |
| 1   | B     | 478      | 3690  | 2332 | 593 | 746 | 19 | 0       | 0       | 0     |
| 1   | C     | 478      | 3690  | 2332 | 593 | 746 | 19 | 0       | 0       | 0     |

- Molecule 2 is CALCIUM ION (three-letter code: CA) (formula: Ca).

| Mol | Chain | Residues | Atoms |    | ZeroOcc | AltConf |
|-----|-------|----------|-------|----|---------|---------|
| 2   | B     | 1        | Total | Ca | 0       | 0       |
|     |       |          | 1     | 1  |         |         |
| 2   | A     | 1        | Total | Ca | 0       | 0       |
|     |       |          | 1     | 1  |         |         |
| 2   | C     | 1        | Total | Ca | 0       | 0       |
|     |       |          | 1     | 1  |         |         |

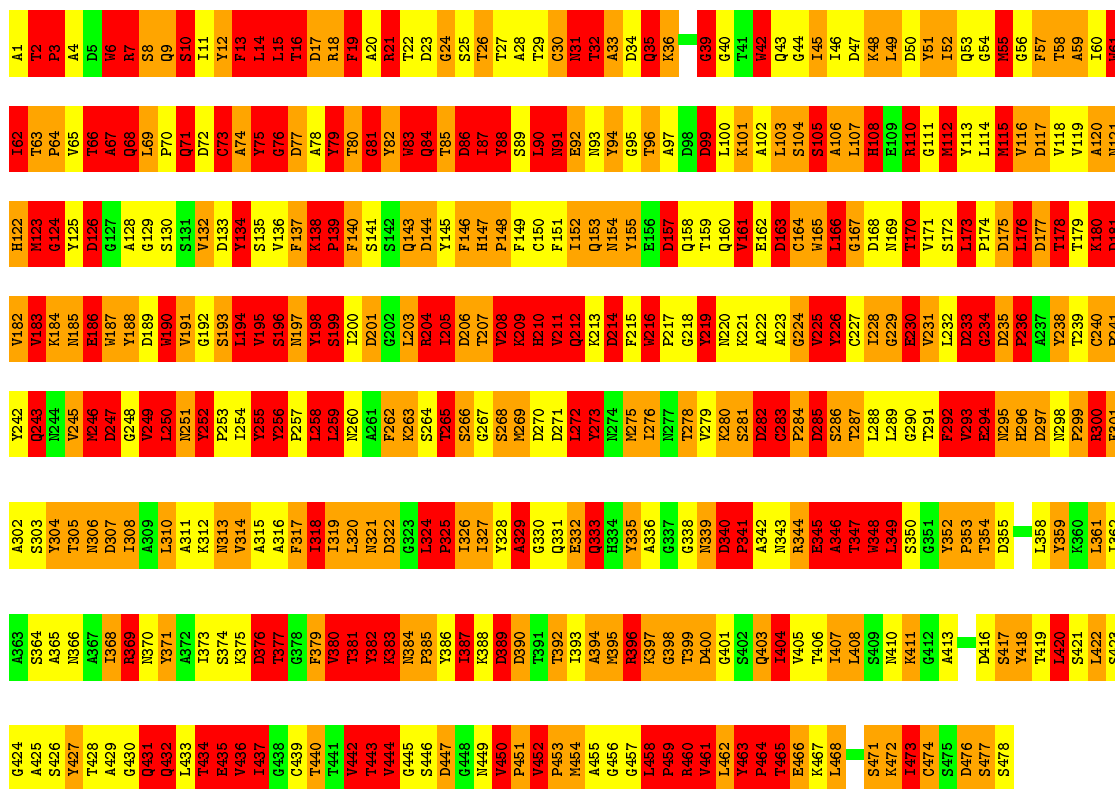
### 3 Residue-property plots

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

Note EDS was not executed.

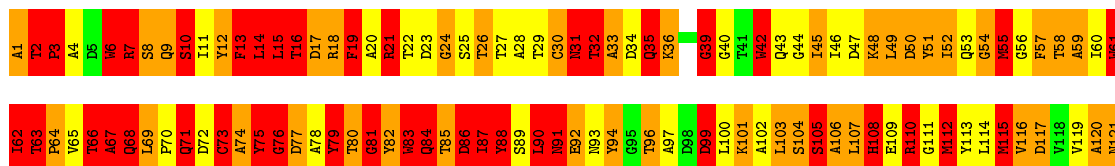
- Molecule 1: TAKA-AMYLASE A

Chain A: 



- Molecule 1: TAKA-AMYLASE A

Chain B: 



|      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| H122 | K184 | M246 | M247 | M248 | M249 | M250 | M251 | M252 | M253 | M254 | M255 | M256 | M257 | M258 | M259 | M260 | M261 | M262 | M263 | M264 | M265 | M266 | M267 | M268 | M269 | M270 | M271 | M272 | M273 | M274 | M275 | M276 | M277 | M278 | M279 | M280 | M281 | M282 | M283 | M284 | M285 | M286 | M287 | M288 | M289 | M290 | M291 | M292 | M293 | M294 | M295 | M296 | M297 | M298 | M299 | M300 | M301 | M302 | M303 | M304 | M305 |
| M185 | M186 | M187 | M188 | M189 | M190 | M191 | M192 | M193 | M194 | M195 | M196 | M197 | M198 | M199 | M200 | M201 | M202 | M203 | M204 | M205 | M206 | M207 | M208 | M209 | M210 | M211 | M212 | M213 | M214 | M215 | M216 | M217 | M218 | M219 | M220 | M221 | M222 | M223 | M224 | M225 | M226 | M227 | M228 | M229 | M230 | M231 | M232 | M233 | M234 | M235 | M236 | M237 | M238 | M239 | M240 | M241 | M242 | M243 | M244 | M245 |      |
| D247 | G248 | Y249 | Y250 | Y251 | Y252 | Y253 | Y254 | Y255 | Y256 | Y257 | Y258 | Y259 | Y260 | Y261 | Y262 | Y263 | Y264 | Y265 | Y266 | Y267 | Y268 | Y269 | Y270 | Y271 | Y272 | Y273 | Y274 | Y275 | Y276 | Y277 | Y278 | Y279 | Y280 | Y281 | Y282 | Y283 | Y284 | Y285 | Y286 | Y287 | Y288 | Y289 | Y290 | Y291 | Y292 | Y293 | Y294 | Y295 | Y296 | Y297 | Y298 | Y299 | Y300 | Y301 | Y302 | Y303 | Y304 | Y305 |      |      |      |
| N306 | N307 | N308 | N309 | N310 | N311 | N312 | N313 | N314 | N315 | N316 | N317 | N318 | N319 | N320 | N321 | N322 | N323 | N324 | N325 | N326 | N327 | N328 | N329 | N330 | N331 | N332 | N333 | N334 | N335 | N336 | N337 | N338 | N339 | N340 | N341 | N342 | N343 | N344 | N345 | N346 | N347 | N348 | N349 | N350 | N351 | N352 | N353 | N354 | N355 | N356 | N357 | N358 | N359 | N360 | N361 | N362 | N363 | N364 | N365 | N366 |      |
| A367 | A368 | A369 | A370 | A371 | A372 | A373 | A374 | A375 | A376 | A377 | A378 | A379 | A380 | A381 | A382 | A383 | A384 | A385 | A386 | A387 | A388 | A389 | A390 | A391 | A392 | A393 | A394 | A395 | A396 | A397 | A398 | A399 | A400 | A401 | A402 | A403 | A404 | A405 | A406 | A407 | A408 | A409 | A410 | A411 | A412 | A413 | A414 | A415 | A416 | A417 | A418 | A419 | A420 | A421 | A422 | A423 | A424 | A425 | A426 | A427 |      |
| T428 | A429 | G430 | G431 | G432 | G433 | G434 | G435 | G436 | G437 | G438 | G439 | G440 | G441 | G442 | G443 | G444 | G445 | G446 | G447 | G448 | G449 | G450 | G451 | G452 | G453 | G454 | G455 | G456 | G457 | G458 | G459 | G460 | G461 | G462 | G463 | G464 | G465 | G466 | G467 | G468 | G469 | G470 | G471 | G472 | G473 | G474 | G475 | G476 | G477 | G478 | G479 | G480 | G481 | G482 | G483 | G484 | G485 | G486 | G487 |      |      |

• Molecule 1: TAKA-AMYLASE A



|      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| A1   | A2   | A3   | A4   | A5   | A6   | A7   | A8   | A9   | A10  | A11  | A12  | A13  | A14  | A15  | A16  | A17  | A18  | A19  | A20  | A21  | A22  | A23  | A24  | A25  | A26  | A27  | A28  | A29  | A30  | A31  | A32  | A33  | A34  | A35  | A36  | A37  | A38  | A39  | A40  | A41  | A42  | A43  | A44  | A45  | A46  | A47  | A48  | A49  | A50  | A51  | A52  | A53  | A54  | A55  | A56  | A57  | A58  | A59  | A60  | A61  |
| I62  | I63  | I64  | I65  | I66  | I67  | I68  | I69  | I70  | I71  | I72  | I73  | I74  | I75  | I76  | I77  | I78  | I79  | I80  | I81  | I82  | I83  | I84  | I85  | I86  | I87  | I88  | I89  | I90  | I91  | I92  | I93  | I94  | I95  | I96  | I97  | I98  | I99  | I100 | I101 | I102 | I103 | I104 | I105 | I106 | I107 | I108 | I109 | I110 | I111 | I112 | I113 | I114 | I115 | I116 | I117 | I118 | I119 | I120 | I121 |      |
| H122 | M123 | G124 | Y125 | D126 | G129 | V132 | D133 | Y134 | Y135 | Y136 | Y137 | Y138 | Y139 | Y140 | Y141 | Y142 | Y143 | Y144 | Y145 | Y146 | Y147 | Y148 | Y149 | Y150 | Y151 | Y152 | Y153 | Y154 | Y155 | Y156 | Y157 | Y158 | Y159 | Y160 | Y161 | Y162 | Y163 | Y164 | Y165 | Y166 | Y167 | Y168 | Y169 | Y170 | Y171 | Y172 | Y173 | Y174 | Y175 | Y176 | Y177 | Y178 | Y179 | Y180 | Y181 | Y182 | Y183 |      |      |      |
| K184 | M185 | E186 | Y187 | Y188 | Y189 | Y190 | Y191 | Y192 | Y193 | Y194 | Y195 | Y196 | Y197 | Y198 | Y199 | Y200 | Y201 | Y202 | Y203 | Y204 | Y205 | Y206 | Y207 | Y208 | Y209 | Y210 | Y211 | Y212 | Y213 | Y214 | Y215 | Y216 | Y217 | Y218 | Y219 | Y220 | Y221 | Y222 | Y223 | Y224 | Y225 | Y226 | Y227 | Y228 | Y229 | Y230 | Y231 | Y232 | Y233 | Y234 | Y235 | Y236 | Y237 | Y238 | Y239 | Y240 | Y241 | Y242 | Y243 |      |
| N244 | V245 | M246 | D247 | G248 | Y249 | L250 | M251 | Y252 | P253 | L254 | Y255 | Y256 | P257 | L258 | L259 | M260 | A261 | F262 | K263 | S264 | S265 | S266 | G267 | S268 | M269 | D270 | R271 | L272 | Y273 | L274 | Y275 | Y276 | Y277 | Y278 | Y279 | Y280 | Y281 | Y282 | Y283 | Y284 | Y285 | Y286 | Y287 | Y288 | Y289 | Y290 | Y291 | Y292 | Y293 | Y294 | Y295 | Y296 | Y297 | Y298 | Y299 | Y300 | Y301 | Y302 | Y303 |      |
| Y304 | T305 | N306 | D307 | A308 | A309 | L310 | A311 | K312 | V314 | N315 | Y316 | A317 | Y318 | Y319 | Y320 | Y321 | Y322 | Y323 | Y324 | Y325 | Y326 | Y327 | Y328 | Y329 | Y330 | Y331 | Y332 | Y333 | Y334 | Y335 | Y336 | Y337 | Y338 | Y339 | Y340 | Y341 | Y342 | Y343 | Y344 | Y345 | Y346 | Y347 | Y348 | Y349 | Y350 | Y351 | Y352 | Y353 | Y354 | Y355 | Y356 | Y357 | Y358 | Y359 | Y360 | Y361 | Y362 | Y363 | Y364 |      |
| A365 | M366 | A367 | A368 | A369 | N370 | Y371 | A372 | Y373 | S374 | Y375 | Y376 | Y377 | Y378 | Y379 | Y380 | Y381 | Y382 | Y383 | Y384 | Y385 | Y386 | Y387 | Y388 | Y389 | Y390 | Y391 | Y392 | Y393 | Y394 | Y395 | Y396 | Y397 | Y398 | Y399 | Y400 | Y401 | Y402 | Y403 | Y404 | Y405 | Y406 | Y407 | Y408 | Y409 | Y410 | Y411 | Y412 | Y413 | Y414 | Y415 | Y416 | Y417 | Y418 | Y419 | Y420 | Y421 | Y422 | Y423 | Y424 | Y425 |
| S426 | Y427 | T428 | A429 | G430 | G431 | L433 | T434 | E435 | Y436 | G437 | G438 | G439 | T440 | Y441 | Y442 | Y443 | Y444 | G445 | S446 | D447 | G448 | N449 | Y450 | P451 | Y452 | Y453 | Y454 | Y455 | Y456 | Y457 | Y458 | Y459 | Y460 | Y461 | Y462 | Y463 | Y464 | Y465 | Y466 | Y467 | Y468 | Y469 | Y470 | Y471 | Y472 | Y473 | Y474 | Y475 | Y476 | Y477 | Y478 | Y479 | Y480 | Y481 | Y482 | Y483 | Y484 | Y485 | Y486 | Y487 |

## 4 Data and refinement statistics

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

| Property   | Value  | Source    |
|--|--|-----------|
| Space group  | P 1 21 1                                       | Depositor |
| Cell constants<br>a, b, c, $\alpha$ , $\beta$ , $\gamma$ | 91.90Å 133.30Å 94.30Å<br>90.00° 102.70° 90.00° | Depositor |
| Resolution (Å)   | (Not available) – 3.00                         | Depositor |
| % Data completeness<br>(in resolution range)             | (Not available) ((Not available)-3.00)         | Depositor |
| $R_{merge}$  | (Not available)                                | Depositor |
| $R_{sym}$  | (Not available)                                | Depositor |
| Refinement program                                       | unknown  | Depositor |
| R, $R_{free}$  | (Not available) , (Not available)              | Depositor |
| Estimated twinning fraction                              | No twinning to report.                         | Xtrriage  |
| Total number of atoms                                    | 11073  | wwPDB-VP  |
| Average B, all atoms (Å <sup>2</sup> )                   | 0.0  | wwPDB-VP  |

## 5 Model quality i

### 5.1 Standard geometry i

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

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

| Mol | Chain | Bond lengths |                  | Bond angles |                   |
|-----|-------|--------------|------------------|-------------|-------------------|
|     |       | RMSZ         | # Z  >5          | RMSZ        | # Z  >5           |
| 1   | A     | 1.93         | 77/3782 (2.0%)   | 3.42        | 363/5163 (7.0%)   |
| 1   | B     | 1.93         | 77/3782 (2.0%)   | 3.42        | 364/5163 (7.1%)   |
| 1   | C     | 1.93         | 77/3782 (2.0%)   | 3.42        | 362/5163 (7.0%)   |
| All | All   | 1.93         | 231/11346 (2.0%) | 3.42        | 1089/15489 (7.0%) |

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

| Mol | Chain | #Chirality outliers | #Planarity outliers |
|-----|-------|---------------------|---------------------|
| 1   | A     | 2                   | 87                  |
| 1   | B     | 2                   | 87                  |
| 1   | C     | 2                   | 87                  |
| All | All   | 6                   | 261                 |

All (231) bond length outliers are listed below:

| Mol | Chain | Res | Type | Atoms   | Z      | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|--------|-------------|----------|
| 1   | B     | 463 | TYR  | CD1-CE1 | -20.38 | 1.08        | 1.39     |
| 1   | A     | 463 | TYR  | CD1-CE1 | -20.38 | 1.08        | 1.39     |
| 1   | C     | 463 | TYR  | CD1-CE1 | -20.36 | 1.08        | 1.39     |
| 1   | C     | 463 | TYR  | CZ-OH   | 19.61  | 1.71        | 1.37     |
| 1   | A     | 463 | TYR  | CZ-OH   | 19.60  | 1.71        | 1.37     |
| 1   | B     | 463 | TYR  | CZ-OH   | 19.59  | 1.71        | 1.37     |
| 1   | C     | 404 | ILE  | N-CA    | 19.31  | 1.84        | 1.46     |
| 1   | B     | 404 | ILE  | N-CA    | 19.30  | 1.84        | 1.46     |
| 1   | A     | 404 | ILE  | N-CA    | 19.29  | 1.84        | 1.46     |
| 1   | C     | 463 | TYR  | CD2-CE2 | 14.81  | 1.61        | 1.39     |
| 1   | A     | 463 | TYR  | CD2-CE2 | 14.81  | 1.61        | 1.39     |
| 1   | B     | 463 | TYR  | CD2-CE2 | 14.74  | 1.61        | 1.39     |

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| Mol | Chain | Res | Type | Atoms   | Z      | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|--------|-------------|----------|
| 1   | B     | 464 | PRO  | N-CD    | -12.14 | 1.30        | 1.47     |
| 1   | A     | 464 | PRO  | N-CD    | -12.12 | 1.30        | 1.47     |
| 1   | C     | 464 | PRO  | N-CD    | -12.06 | 1.30        | 1.47     |
| 1   | B     | 341 | PRO  | N-CD    | -11.32 | 1.31        | 1.47     |
| 1   | A     | 341 | PRO  | N-CD    | -11.31 | 1.32        | 1.47     |
| 1   | C     | 341 | PRO  | N-CD    | -11.30 | 1.32        | 1.47     |
| 1   | B     | 385 | PRO  | N-CD    | -11.21 | 1.32        | 1.47     |
| 1   | A     | 385 | PRO  | N-CD    | -11.19 | 1.32        | 1.47     |
| 1   | C     | 385 | PRO  | N-CD    | -11.14 | 1.32        | 1.47     |
| 1   | C     | 42  | TRP  | NE1-CE2 | -10.97 | 1.23        | 1.37     |
| 1   | B     | 42  | TRP  | NE1-CE2 | -10.95 | 1.23        | 1.37     |
| 1   | B     | 104 | SER  | CB-OG   | -10.93 | 1.28        | 1.42     |
| 1   | A     | 104 | SER  | CB-OG   | -10.92 | 1.28        | 1.42     |
| 1   | A     | 42  | TRP  | NE1-CE2 | -10.90 | 1.23        | 1.37     |
| 1   | C     | 104 | SER  | CB-OG   | -10.86 | 1.28        | 1.42     |
| 1   | C     | 139 | PRO  | N-CD    | -10.41 | 1.33        | 1.47     |
| 1   | B     | 139 | PRO  | N-CD    | -10.37 | 1.33        | 1.47     |
| 1   | A     | 139 | PRO  | N-CD    | -10.35 | 1.33        | 1.47     |
| 1   | A     | 404 | ILE  | C-O     | 10.22  | 1.42        | 1.23     |
| 1   | B     | 404 | ILE  | C-O     | 10.21  | 1.42        | 1.23     |
| 1   | C     | 404 | ILE  | C-O     | 10.19  | 1.42        | 1.23     |
| 1   | A     | 83  | TRP  | NE1-CE2 | -10.05 | 1.24        | 1.37     |
| 1   | C     | 83  | TRP  | NE1-CE2 | -10.04 | 1.24        | 1.37     |
| 1   | B     | 83  | TRP  | NE1-CE2 | -10.01 | 1.24        | 1.37     |
| 1   | C     | 396 | ARG  | N-CA    | 9.69   | 1.65        | 1.46     |
| 1   | B     | 396 | ARG  | N-CA    | 9.68   | 1.65        | 1.46     |
| 1   | A     | 396 | ARG  | N-CA    | 9.66   | 1.65        | 1.46     |
| 1   | B     | 460 | ARG  | CD-NE   | 9.58   | 1.62        | 1.46     |
| 1   | A     | 460 | ARG  | CD-NE   | 9.57   | 1.62        | 1.46     |
| 1   | C     | 460 | ARG  | CD-NE   | 9.51   | 1.62        | 1.46     |
| 1   | C     | 463 | TYR  | CB-CG   | 9.18   | 1.65        | 1.51     |
| 1   | A     | 463 | TYR  | CB-CG   | 9.18   | 1.65        | 1.51     |
| 1   | B     | 463 | TYR  | CB-CG   | 9.16   | 1.65        | 1.51     |
| 1   | B     | 212 | GLN  | N-CA    | 8.96   | 1.64        | 1.46     |
| 1   | C     | 212 | GLN  | N-CA    | 8.95   | 1.64        | 1.46     |
| 1   | A     | 212 | GLN  | N-CA    | 8.92   | 1.64        | 1.46     |
| 1   | C     | 458 | LEU  | C-N     | -8.82  | 1.17        | 1.34     |
| 1   | A     | 458 | LEU  | C-N     | -8.81  | 1.17        | 1.34     |
| 1   | B     | 458 | LEU  | C-N     | -8.80  | 1.17        | 1.34     |
| 1   | B     | 464 | PRO  | CA-CB   | 8.29   | 1.70        | 1.53     |
| 1   | A     | 464 | PRO  | CA-CB   | 8.28   | 1.70        | 1.53     |
| 1   | C     | 464 | PRO  | CA-CB   | 8.26   | 1.70        | 1.53     |

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| Mol | Chain | Res | Type | Atoms   | Z     | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|-------|-------------|----------|
| 1   | C     | 459 | PRO  | N-CD    | 8.09  | 1.59        | 1.47     |
| 1   | A     | 459 | PRO  | N-CD    | 8.08  | 1.59        | 1.47     |
| 1   | A     | 341 | PRO  | N-CA    | 8.07  | 1.60        | 1.47     |
| 1   | B     | 459 | PRO  | N-CD    | 8.05  | 1.59        | 1.47     |
| 1   | B     | 341 | PRO  | N-CA    | 8.03  | 1.60        | 1.47     |
| 1   | C     | 341 | PRO  | N-CA    | 8.02  | 1.60        | 1.47     |
| 1   | C     | 300 | ARG  | NE-CZ   | -7.92 | 1.22        | 1.33     |
| 1   | A     | 300 | ARG  | NE-CZ   | -7.85 | 1.22        | 1.33     |
| 1   | B     | 211 | VAL  | CA-CB   | -7.81 | 1.38        | 1.54     |
| 1   | C     | 165 | TRP  | NE1-CE2 | -7.79 | 1.27        | 1.37     |
| 1   | B     | 300 | ARG  | NE-CZ   | -7.79 | 1.23        | 1.33     |
| 1   | A     | 211 | VAL  | CA-CB   | -7.79 | 1.38        | 1.54     |
| 1   | C     | 304 | TYR  | CZ-OH   | -7.77 | 1.24        | 1.37     |
| 1   | C     | 211 | VAL  | CA-CB   | -7.75 | 1.38        | 1.54     |
| 1   | B     | 165 | TRP  | NE1-CE2 | -7.75 | 1.27        | 1.37     |
| 1   | A     | 165 | TRP  | NE1-CE2 | -7.75 | 1.27        | 1.37     |
| 1   | B     | 304 | TYR  | CZ-OH   | -7.72 | 1.24        | 1.37     |
| 1   | C     | 348 | TRP  | NE1-CE2 | -7.71 | 1.27        | 1.37     |
| 1   | B     | 61  | TRP  | NE1-CE2 | -7.70 | 1.27        | 1.37     |
| 1   | C     | 61  | TRP  | NE1-CE2 | -7.70 | 1.27        | 1.37     |
| 1   | A     | 304 | TYR  | CZ-OH   | -7.69 | 1.24        | 1.37     |
| 1   | A     | 61  | TRP  | NE1-CE2 | -7.69 | 1.27        | 1.37     |
| 1   | A     | 348 | TRP  | NE1-CE2 | -7.68 | 1.27        | 1.37     |
| 1   | B     | 348 | TRP  | NE1-CE2 | -7.66 | 1.27        | 1.37     |
| 1   | B     | 404 | ILE  | CB-CG1  | -7.58 | 1.32        | 1.54     |
| 1   | A     | 404 | ILE  | CB-CG1  | -7.57 | 1.32        | 1.54     |
| 1   | C     | 404 | ILE  | CB-CG1  | -7.57 | 1.32        | 1.54     |
| 1   | C     | 82  | TYR  | CE2-CZ  | -7.55 | 1.28        | 1.38     |
| 1   | B     | 64  | PRO  | N-CD    | -7.53 | 1.37        | 1.47     |
| 1   | A     | 82  | TYR  | CE2-CZ  | -7.52 | 1.28        | 1.38     |
| 1   | C     | 64  | PRO  | N-CD    | -7.51 | 1.37        | 1.47     |
| 1   | A     | 64  | PRO  | N-CD    | -7.50 | 1.37        | 1.47     |
| 1   | B     | 82  | TYR  | CE2-CZ  | -7.46 | 1.28        | 1.38     |
| 1   | C     | 463 | TYR  | C-N     | 7.35  | 1.48        | 1.34     |
| 1   | A     | 463 | TYR  | C-N     | 7.35  | 1.48        | 1.34     |
| 1   | B     | 463 | TYR  | C-N     | 7.34  | 1.48        | 1.34     |
| 1   | C     | 63  | THR  | CB-OG1  | -7.25 | 1.28        | 1.43     |
| 1   | B     | 63  | THR  | CB-OG1  | -7.24 | 1.28        | 1.43     |
| 1   | A     | 63  | THR  | CB-OG1  | -7.23 | 1.28        | 1.43     |
| 1   | C     | 64  | PRO  | N-CA    | 7.14  | 1.59        | 1.47     |
| 1   | B     | 208 | VAL  | C-N     | -7.14 | 1.17        | 1.34     |
| 1   | B     | 404 | ILE  | CA-CB   | 7.13  | 1.71        | 1.54     |

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| Mol | Chain | Res | Type | Atoms   | Z     | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|-------|-------------|----------|
| 1   | A     | 404 | ILE  | CA-CB   | 7.12  | 1.71        | 1.54     |
| 1   | A     | 208 | VAL  | C-N     | -7.12 | 1.17        | 1.34     |
| 1   | C     | 208 | VAL  | C-N     | -7.11 | 1.17        | 1.34     |
| 1   | C     | 404 | ILE  | CA-CB   | 7.11  | 1.71        | 1.54     |
| 1   | A     | 64  | PRO  | N-CA    | 7.10  | 1.59        | 1.47     |
| 1   | B     | 64  | PRO  | N-CA    | 7.08  | 1.59        | 1.47     |
| 1   | C     | 166 | LEU  | C-N     | 6.97  | 1.45        | 1.33     |
| 1   | A     | 166 | LEU  | C-N     | 6.94  | 1.45        | 1.33     |
| 1   | B     | 166 | LEU  | C-N     | 6.89  | 1.45        | 1.33     |
| 1   | C     | 397 | LYS  | N-CA    | 6.89  | 1.60        | 1.46     |
| 1   | A     | 397 | LYS  | N-CA    | 6.87  | 1.60        | 1.46     |
| 1   | B     | 397 | LYS  | N-CA    | 6.84  | 1.60        | 1.46     |
| 1   | C     | 460 | ARG  | CZ-NH2  | -6.78 | 1.24        | 1.33     |
| 1   | B     | 6   | TRP  | NE1-CE2 | -6.76 | 1.28        | 1.37     |
| 1   | C     | 6   | TRP  | NE1-CE2 | -6.75 | 1.28        | 1.37     |
| 1   | A     | 6   | TRP  | NE1-CE2 | -6.74 | 1.28        | 1.37     |
| 1   | A     | 460 | ARG  | CZ-NH2  | -6.73 | 1.24        | 1.33     |
| 1   | A     | 139 | PRO  | N-CA    | 6.73  | 1.58        | 1.47     |
| 1   | B     | 139 | PRO  | N-CA    | 6.72  | 1.58        | 1.47     |
| 1   | B     | 460 | ARG  | CZ-NH2  | -6.70 | 1.24        | 1.33     |
| 1   | C     | 139 | PRO  | N-CA    | 6.67  | 1.58        | 1.47     |
| 1   | A     | 187 | TRP  | NE1-CE2 | -6.66 | 1.28        | 1.37     |
| 1   | C     | 187 | TRP  | NE1-CE2 | -6.66 | 1.28        | 1.37     |
| 1   | B     | 187 | TRP  | NE1-CE2 | -6.66 | 1.28        | 1.37     |
| 1   | B     | 190 | TRP  | NE1-CE2 | -6.64 | 1.28        | 1.37     |
| 1   | C     | 190 | TRP  | NE1-CE2 | -6.63 | 1.28        | 1.37     |
| 1   | A     | 190 | TRP  | NE1-CE2 | -6.62 | 1.28        | 1.37     |
| 1   | B     | 216 | TRP  | CD2-CE2 | -6.50 | 1.33        | 1.41     |
| 1   | C     | 216 | TRP  | CD2-CE2 | -6.48 | 1.33        | 1.41     |
| 1   | A     | 216 | TRP  | CD2-CE2 | -6.46 | 1.33        | 1.41     |
| 1   | A     | 139 | PRO  | CA-C    | 6.36  | 1.65        | 1.52     |
| 1   | B     | 139 | PRO  | CA-C    | 6.35  | 1.65        | 1.52     |
| 1   | C     | 139 | PRO  | CA-C    | 6.35  | 1.65        | 1.52     |
| 1   | A     | 83  | TRP  | CD1-NE1 | -6.33 | 1.27        | 1.38     |
| 1   | B     | 83  | TRP  | CD1-NE1 | -6.33 | 1.27        | 1.38     |
| 1   | A     | 398 | GLY  | N-CA    | 6.32  | 1.55        | 1.46     |
| 1   | B     | 398 | GLY  | N-CA    | 6.31  | 1.55        | 1.46     |
| 1   | C     | 83  | TRP  | CD1-NE1 | -6.30 | 1.27        | 1.38     |
| 1   | C     | 398 | GLY  | N-CA    | 6.29  | 1.55        | 1.46     |
| 1   | B     | 463 | TYR  | CA-CB   | 6.25  | 1.67        | 1.53     |
| 1   | C     | 435 | GLU  | N-CA    | 6.23  | 1.58        | 1.46     |
| 1   | B     | 382 | TYR  | CZ-OH   | -6.23 | 1.27        | 1.37     |

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| Mol | Chain | Res | Type | Atoms   | Z     | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|-------|-------------|----------|
| 1   | A     | 463 | TYR  | CA-CB   | 6.22  | 1.67        | 1.53     |
| 1   | A     | 435 | GLU  | N-CA    | 6.22  | 1.58        | 1.46     |
| 1   | B     | 435 | GLU  | N-CA    | 6.22  | 1.58        | 1.46     |
| 1   | C     | 463 | TYR  | CA-CB   | 6.21  | 1.67        | 1.53     |
| 1   | C     | 382 | TYR  | CZ-OH   | -6.20 | 1.27        | 1.37     |
| 1   | A     | 382 | TYR  | CZ-OH   | -6.19 | 1.27        | 1.37     |
| 1   | B     | 341 | PRO  | CA-C    | 6.09  | 1.65        | 1.52     |
| 1   | A     | 341 | PRO  | CA-C    | 6.09  | 1.65        | 1.52     |
| 1   | C     | 341 | PRO  | CA-C    | 6.09  | 1.65        | 1.52     |
| 1   | B     | 447 | ASP  | N-CA    | 6.03  | 1.58        | 1.46     |
| 1   | A     | 447 | ASP  | N-CA    | 6.00  | 1.58        | 1.46     |
| 1   | C     | 463 | TYR  | CA-C    | 5.99  | 1.68        | 1.52     |
| 1   | B     | 463 | TYR  | CA-C    | 5.98  | 1.68        | 1.52     |
| 1   | A     | 463 | TYR  | CA-C    | 5.98  | 1.68        | 1.52     |
| 1   | C     | 447 | ASP  | N-CA    | 5.97  | 1.58        | 1.46     |
| 1   | B     | 348 | TRP  | CD1-NE1 | -5.85 | 1.28        | 1.38     |
| 1   | A     | 21  | ARG  | CZ-NH2  | -5.85 | 1.25        | 1.33     |
| 1   | B     | 21  | ARG  | CZ-NH2  | -5.84 | 1.25        | 1.33     |
| 1   | C     | 21  | ARG  | CZ-NH2  | -5.84 | 1.25        | 1.33     |
| 1   | A     | 348 | TRP  | CD1-NE1 | -5.82 | 1.28        | 1.38     |
| 1   | C     | 348 | TRP  | CD1-NE1 | -5.80 | 1.28        | 1.38     |
| 1   | C     | 167 | GLY  | N-CA    | 5.79  | 1.54        | 1.46     |
| 1   | C     | 434 | THR  | C-N     | 5.78  | 1.47        | 1.34     |
| 1   | A     | 434 | THR  | C-N     | 5.77  | 1.47        | 1.34     |
| 1   | B     | 167 | GLY  | N-CA    | 5.76  | 1.54        | 1.46     |
| 1   | A     | 167 | GLY  | N-CA    | 5.75  | 1.54        | 1.46     |
| 1   | B     | 434 | THR  | C-N     | 5.74  | 1.47        | 1.34     |
| 1   | C     | 68  | GLN  | C-N     | -5.70 | 1.21        | 1.34     |
| 1   | A     | 397 | LYS  | CD-CE   | 5.70  | 1.65        | 1.51     |
| 1   | A     | 68  | GLN  | C-N     | -5.70 | 1.21        | 1.34     |
| 1   | B     | 397 | LYS  | CD-CE   | 5.69  | 1.65        | 1.51     |
| 1   | B     | 68  | GLN  | C-N     | -5.68 | 1.21        | 1.34     |
| 1   | C     | 397 | LYS  | CD-CE   | 5.68  | 1.65        | 1.51     |
| 1   | B     | 42  | TRP  | CD1-NE1 | -5.62 | 1.28        | 1.38     |
| 1   | C     | 42  | TRP  | CD1-NE1 | -5.62 | 1.28        | 1.38     |
| 1   | A     | 42  | TRP  | CD1-NE1 | -5.61 | 1.28        | 1.38     |
| 1   | B     | 453 | PRO  | N-CD    | -5.48 | 1.40        | 1.47     |
| 1   | B     | 204 | ARG  | CZ-NH1  | -5.45 | 1.25        | 1.33     |
| 1   | A     | 453 | PRO  | N-CD    | -5.42 | 1.40        | 1.47     |
| 1   | C     | 103 | LEU  | CB-CG   | 5.41  | 1.68        | 1.52     |
| 1   | A     | 103 | LEU  | CB-CG   | 5.41  | 1.68        | 1.52     |
| 1   | B     | 459 | PRO  | N-CA    | 5.41  | 1.56        | 1.47     |

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| Mol | Chain | Res | Type | Atoms   | Z     | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|---------|-------|-------------|----------|
| 1   | A     | 459 | PRO  | N-CA    | 5.41  | 1.56        | 1.47     |
| 1   | C     | 204 | ARG  | CZ-NH1  | -5.40 | 1.26        | 1.33     |
| 1   | C     | 453 | PRO  | N-CD    | -5.40 | 1.40        | 1.47     |
| 1   | B     | 103 | LEU  | CB-CG   | 5.40  | 1.68        | 1.52     |
| 1   | A     | 204 | ARG  | CZ-NH1  | -5.37 | 1.26        | 1.33     |
| 1   | C     | 459 | PRO  | N-CA    | 5.33  | 1.56        | 1.47     |
| 1   | A     | 247 | ASP  | N-CA    | 5.33  | 1.57        | 1.46     |
| 1   | B     | 247 | ASP  | N-CA    | 5.32  | 1.56        | 1.46     |
| 1   | C     | 247 | ASP  | N-CA    | 5.31  | 1.56        | 1.46     |
| 1   | C     | 132 | VAL  | CA-CB   | -5.29 | 1.43        | 1.54     |
| 1   | A     | 132 | VAL  | CA-CB   | -5.29 | 1.43        | 1.54     |
| 1   | B     | 132 | VAL  | CA-CB   | -5.29 | 1.43        | 1.54     |
| 1   | B     | 464 | PRO  | CA-C    | 5.28  | 1.63        | 1.52     |
| 1   | A     | 427 | TYR  | CZ-OH   | -5.27 | 1.28        | 1.37     |
| 1   | C     | 168 | ASP  | N-CA    | 5.27  | 1.56        | 1.46     |
| 1   | C     | 463 | TYR  | N-CA    | 5.27  | 1.56        | 1.46     |
| 1   | A     | 463 | TYR  | N-CA    | 5.26  | 1.56        | 1.46     |
| 1   | B     | 427 | TYR  | CZ-OH   | -5.26 | 1.28        | 1.37     |
| 1   | C     | 427 | TYR  | CZ-OH   | -5.26 | 1.28        | 1.37     |
| 1   | A     | 464 | PRO  | CA-C    | 5.24  | 1.63        | 1.52     |
| 1   | A     | 166 | LEU  | N-CA    | 5.24  | 1.56        | 1.46     |
| 1   | A     | 168 | ASP  | N-CA    | 5.23  | 1.56        | 1.46     |
| 1   | B     | 463 | TYR  | N-CA    | 5.23  | 1.56        | 1.46     |
| 1   | C     | 166 | LEU  | N-CA    | 5.22  | 1.56        | 1.46     |
| 1   | B     | 168 | ASP  | N-CA    | 5.21  | 1.56        | 1.46     |
| 1   | A     | 75  | TYR  | CE2-CZ  | 5.21  | 1.45        | 1.38     |
| 1   | B     | 75  | TYR  | CE2-CZ  | 5.20  | 1.45        | 1.38     |
| 1   | A     | 62  | ILE  | C-N     | -5.20 | 1.22        | 1.34     |
| 1   | C     | 216 | TRP  | NE1-CE2 | -5.20 | 1.30        | 1.37     |
| 1   | B     | 216 | TRP  | NE1-CE2 | -5.19 | 1.30        | 1.37     |
| 1   | C     | 464 | PRO  | CA-C    | 5.19  | 1.63        | 1.52     |
| 1   | B     | 166 | LEU  | N-CA    | 5.19  | 1.56        | 1.46     |
| 1   | B     | 62  | ILE  | C-N     | -5.18 | 1.22        | 1.34     |
| 1   | A     | 216 | TRP  | NE1-CE2 | -5.17 | 1.30        | 1.37     |
| 1   | C     | 62  | ILE  | C-N     | -5.17 | 1.22        | 1.34     |
| 1   | C     | 75  | TYR  | CE2-CZ  | 5.14  | 1.45        | 1.38     |
| 1   | C     | 463 | TYR  | CE1-CZ  | -5.13 | 1.31        | 1.38     |
| 1   | A     | 341 | PRO  | C-N     | 5.10  | 1.45        | 1.34     |
| 1   | C     | 293 | VAL  | N-CA    | 5.09  | 1.56        | 1.46     |
| 1   | C     | 341 | PRO  | C-N     | 5.09  | 1.45        | 1.34     |
| 1   | A     | 463 | TYR  | CE1-CZ  | -5.08 | 1.31        | 1.38     |
| 1   | B     | 341 | PRO  | C-N     | 5.07  | 1.45        | 1.34     |

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| Mol | Chain | Res | Type | Atoms  | Z     | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|--------|-------|-------------|----------|
| 1   | A     | 293 | VAL  | N-CA   | 5.07  | 1.56        | 1.46     |
| 1   | B     | 463 | TYR  | CE1-CZ | -5.07 | 1.31        | 1.38     |
| 1   | C     | 139 | PRO  | C-N    | 5.05  | 1.45        | 1.34     |
| 1   | A     | 81  | GLY  | C-N    | 5.05  | 1.45        | 1.34     |
| 1   | A     | 139 | PRO  | C-N    | 5.04  | 1.45        | 1.34     |
| 1   | C     | 81  | GLY  | C-N    | 5.04  | 1.45        | 1.34     |
| 1   | B     | 81  | GLY  | C-N    | 5.04  | 1.45        | 1.34     |
| 1   | B     | 293 | VAL  | N-CA   | 5.03  | 1.56        | 1.46     |
| 1   | B     | 139 | PRO  | C-N    | 5.02  | 1.45        | 1.34     |

All (1089) bond angle outliers are listed below:

| Mol | Chain | Res | Type | Atoms      | Z      | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|--------|-------------|----------|
| 1   | B     | 300 | ARG  | NE-CZ-NH1  | -56.15 | 92.22       | 120.30   |
| 1   | A     | 300 | ARG  | NE-CZ-NH1  | -56.10 | 92.25       | 120.30   |
| 1   | C     | 300 | ARG  | NE-CZ-NH1  | -56.05 | 92.27       | 120.30   |
| 1   | C     | 19  | PHE  | CD1-CE1-CZ | -44.96 | 66.15       | 120.10   |
| 1   | A     | 19  | PHE  | CD1-CE1-CZ | -44.94 | 66.17       | 120.10   |
| 1   | B     | 19  | PHE  | CD1-CE1-CZ | -44.94 | 66.17       | 120.10   |
| 1   | C     | 19  | PHE  | CZ-CE2-CD2 | -44.54 | 66.65       | 120.10   |
| 1   | A     | 19  | PHE  | CZ-CE2-CD2 | -44.53 | 66.66       | 120.10   |
| 1   | B     | 19  | PHE  | CZ-CE2-CD2 | -44.53 | 66.66       | 120.10   |
| 1   | B     | 464 | PRO  | CA-N-CD    | -43.27 | 50.93       | 111.50   |
| 1   | A     | 464 | PRO  | CA-N-CD    | -43.26 | 50.94       | 111.50   |
| 1   | C     | 464 | PRO  | CA-N-CD    | -43.26 | 50.94       | 111.50   |
| 1   | A     | 204 | ARG  | NE-CZ-NH1  | -36.19 | 102.20      | 120.30   |
| 1   | B     | 204 | ARG  | NE-CZ-NH1  | -36.17 | 102.21      | 120.30   |
| 1   | C     | 204 | ARG  | NE-CZ-NH1  | -36.12 | 102.24      | 120.30   |
| 1   | C     | 460 | ARG  | NE-CZ-NH2  | -34.78 | 102.91      | 120.30   |
| 1   | A     | 460 | ARG  | NE-CZ-NH2  | -34.76 | 102.92      | 120.30   |
| 1   | B     | 460 | ARG  | NE-CZ-NH2  | -34.63 | 102.99      | 120.30   |
| 1   | B     | 460 | ARG  | NE-CZ-NH1  | 34.40  | 137.50      | 120.30   |
| 1   | C     | 460 | ARG  | NE-CZ-NH1  | 34.39  | 137.50      | 120.30   |
| 1   | A     | 460 | ARG  | NE-CZ-NH1  | 34.38  | 137.49      | 120.30   |
| 1   | C     | 138 | LYS  | C-N-CD     | -29.46 | 55.78       | 120.60   |
| 1   | A     | 138 | LYS  | C-N-CD     | -29.46 | 55.80       | 120.60   |
| 1   | B     | 138 | LYS  | C-N-CD     | -29.43 | 55.85       | 120.60   |
| 1   | B     | 139 | PRO  | CA-N-CD    | -27.73 | 72.67       | 111.50   |
| 1   | A     | 139 | PRO  | CA-N-CD    | -27.70 | 72.72       | 111.50   |
| 1   | C     | 139 | PRO  | CA-N-CD    | -27.64 | 72.80       | 111.50   |
| 1   | C     | 340 | ASP  | C-N-CD     | -27.11 | 60.96       | 120.60   |
| 1   | A     | 340 | ASP  | C-N-CD     | -27.09 | 61.00       | 120.60   |

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| Mol | Chain | Res | Type | Atoms      | Z      | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|--------|-------------|----------|
| 1   | B     | 340 | ASP  | C-N-CD     | -27.08 | 61.02       | 120.60   |
| 1   | A     | 341 | PRO  | CA-N-CD    | -24.62 | 77.03       | 111.50   |
| 1   | C     | 341 | PRO  | CA-N-CD    | -24.61 | 77.05       | 111.50   |
| 1   | B     | 341 | PRO  | CA-N-CD    | -24.60 | 77.06       | 111.50   |
| 1   | C     | 459 | PRO  | N-CD-CG    | -23.86 | 67.42       | 103.20   |
| 1   | A     | 459 | PRO  | N-CD-CG    | -23.84 | 67.44       | 103.20   |
| 1   | B     | 459 | PRO  | N-CD-CG    | -23.83 | 67.45       | 103.20   |
| 1   | B     | 63  | THR  | CA-CB-CG2  | -23.83 | 79.04       | 112.40   |
| 1   | A     | 63  | THR  | CA-CB-CG2  | -23.81 | 79.07       | 112.40   |
| 1   | C     | 63  | THR  | CA-CB-CG2  | -23.80 | 79.08       | 112.40   |
| 1   | A     | 463 | TYR  | CZ-CE2-CD2 | -23.26 | 98.86       | 119.80   |
| 1   | B     | 463 | TYR  | CZ-CE2-CD2 | -23.26 | 98.87       | 119.80   |
| 1   | C     | 463 | TYR  | CZ-CE2-CD2 | -23.21 | 98.92       | 119.80   |
| 1   | B     | 21  | ARG  | NE-CZ-NH1  | 21.51  | 131.06      | 120.30   |
| 1   | A     | 21  | ARG  | NE-CZ-NH1  | 21.41  | 131.01      | 120.30   |
| 1   | C     | 21  | ARG  | NE-CZ-NH1  | 21.36  | 130.98      | 120.30   |
| 1   | B     | 463 | TYR  | CG-CD1-CE1 | -21.13 | 104.40      | 121.30   |
| 1   | A     | 463 | TYR  | CG-CD1-CE1 | -21.12 | 104.41      | 121.30   |
| 1   | C     | 463 | TYR  | CG-CD1-CE1 | -21.07 | 104.44      | 121.30   |
| 1   | A     | 459 | PRO  | N-CA-CB    | -20.49 | 78.71       | 103.30   |
| 1   | B     | 459 | PRO  | N-CA-CB    | -20.49 | 78.71       | 103.30   |
| 1   | C     | 459 | PRO  | N-CA-CB    | -20.46 | 78.75       | 103.30   |
| 1   | B     | 300 | ARG  | NE-CZ-NH2  | -20.12 | 110.24      | 120.30   |
| 1   | A     | 300 | ARG  | NE-CZ-NH2  | -20.11 | 110.25      | 120.30   |
| 1   | C     | 300 | ARG  | NE-CZ-NH2  | -20.08 | 110.26      | 120.30   |
| 1   | C     | 396 | ARG  | NE-CZ-NH2  | 20.05  | 130.32      | 120.30   |
| 1   | A     | 396 | ARG  | NE-CZ-NH2  | 20.03  | 130.31      | 120.30   |
| 1   | B     | 396 | ARG  | NE-CZ-NH2  | 20.01  | 130.30      | 120.30   |
| 1   | C     | 76  | GLY  | CA-C-O     | -19.60 | 85.32       | 120.60   |
| 1   | A     | 76  | GLY  | CA-C-O     | -19.59 | 85.34       | 120.60   |
| 1   | B     | 76  | GLY  | CA-C-O     | -19.56 | 85.39       | 120.60   |
| 1   | A     | 464 | PRO  | N-CA-CB    | -19.46 | 79.94       | 103.30   |
| 1   | A     | 204 | ARG  | NE-CZ-NH2  | 19.45  | 130.03      | 120.30   |
| 1   | C     | 464 | PRO  | N-CA-CB    | -19.45 | 79.96       | 103.30   |
| 1   | B     | 464 | PRO  | N-CA-CB    | -19.44 | 79.97       | 103.30   |
| 1   | C     | 204 | ARG  | NE-CZ-NH2  | 19.42  | 130.01      | 120.30   |
| 1   | B     | 204 | ARG  | NE-CZ-NH2  | 19.41  | 130.01      | 120.30   |
| 1   | B     | 404 | ILE  | CA-CB-CG1  | 18.95  | 147.01      | 111.00   |
| 1   | A     | 404 | ILE  | CA-CB-CG1  | 18.94  | 146.99      | 111.00   |
| 1   | C     | 404 | ILE  | CA-CB-CG1  | 18.94  | 146.98      | 111.00   |
| 1   | C     | 461 | VAL  | CA-C-O     | -17.35 | 83.66       | 120.10   |
| 1   | B     | 461 | VAL  | CA-C-O     | -17.34 | 83.68       | 120.10   |

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| Mol | Chain | Res | Type | Atoms      | Z      | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|--------|-------------|----------|
| 1   | A     | 461 | VAL  | CA-C-O     | -17.34 | 83.69       | 120.10   |
| 1   | A     | 139 | PRO  | N-CA-CB    | -16.90 | 83.02       | 103.30   |
| 1   | C     | 139 | PRO  | N-CA-CB    | -16.89 | 83.03       | 103.30   |
| 1   | B     | 139 | PRO  | N-CA-CB    | -16.89 | 83.04       | 103.30   |
| 1   | A     | 396 | ARG  | O-C-N      | -16.74 | 95.92       | 122.70   |
| 1   | C     | 396 | ARG  | O-C-N      | -16.73 | 95.93       | 122.70   |
| 1   | B     | 396 | ARG  | O-C-N      | -16.68 | 96.01       | 122.70   |
| 1   | C     | 458 | LEU  | C-N-CD     | -16.62 | 84.04       | 120.60   |
| 1   | B     | 458 | LEU  | C-N-CD     | -16.61 | 84.06       | 120.60   |
| 1   | A     | 458 | LEU  | C-N-CD     | -16.60 | 84.08       | 120.60   |
| 1   | B     | 435 | GLU  | CA-C-O     | -15.79 | 86.94       | 120.10   |
| 1   | C     | 435 | GLU  | CA-C-O     | -15.77 | 86.99       | 120.10   |
| 1   | A     | 435 | GLU  | CA-C-O     | -15.76 | 87.00       | 120.10   |
| 1   | C     | 435 | GLU  | O-C-N      | -15.66 | 97.64       | 122.70   |
| 1   | A     | 435 | GLU  | O-C-N      | -15.61 | 97.72       | 122.70   |
| 1   | B     | 435 | GLU  | O-C-N      | -15.57 | 97.79       | 122.70   |
| 1   | B     | 81  | GLY  | CA-C-O     | -15.45 | 92.79       | 120.60   |
| 1   | A     | 81  | GLY  | CA-C-O     | -15.44 | 92.81       | 120.60   |
| 1   | C     | 81  | GLY  | CA-C-O     | -15.43 | 92.83       | 120.60   |
| 1   | C     | 464 | PRO  | CB-CG-CD   | -15.16 | 47.38       | 106.50   |
| 1   | A     | 464 | PRO  | CB-CG-CD   | -15.15 | 47.40       | 106.50   |
| 1   | B     | 464 | PRO  | CB-CG-CD   | -15.15 | 47.40       | 106.50   |
| 1   | A     | 341 | PRO  | N-CA-CB    | -14.96 | 85.34       | 103.30   |
| 1   | C     | 341 | PRO  | N-CA-CB    | -14.96 | 85.34       | 103.30   |
| 1   | B     | 341 | PRO  | N-CA-CB    | -14.90 | 85.42       | 103.30   |
| 1   | C     | 404 | ILE  | CB-CG1-CD1 | -14.64 | 72.91       | 113.90   |
| 1   | A     | 404 | ILE  | CB-CG1-CD1 | -14.63 | 72.93       | 113.90   |
| 1   | B     | 404 | ILE  | CB-CG1-CD1 | -14.62 | 72.97       | 113.90   |
| 1   | A     | 80  | THR  | C-N-CA     | 13.87  | 151.43      | 122.30   |
| 1   | C     | 80  | THR  | C-N-CA     | 13.86  | 151.40      | 122.30   |
| 1   | B     | 80  | THR  | C-N-CA     | 13.84  | 151.36      | 122.30   |
| 1   | B     | 211 | VAL  | CA-CB-CG1  | -13.81 | 90.19       | 110.90   |
| 1   | C     | 211 | VAL  | CA-CB-CG1  | -13.80 | 90.20       | 110.90   |
| 1   | A     | 211 | VAL  | CA-CB-CG1  | -13.80 | 90.20       | 110.90   |
| 1   | C     | 195 | VAL  | CG1-CB-CG2 | -13.76 | 88.89       | 110.90   |
| 1   | B     | 134 | TYR  | CB-CG-CD1  | -13.76 | 112.75      | 121.00   |
| 1   | B     | 195 | VAL  | CG1-CB-CG2 | -13.76 | 88.89       | 110.90   |
| 1   | A     | 195 | VAL  | CG1-CB-CG2 | -13.75 | 88.89       | 110.90   |
| 1   | A     | 134 | TYR  | CB-CG-CD1  | -13.73 | 112.76      | 121.00   |
| 1   | C     | 134 | TYR  | CB-CG-CD1  | -13.73 | 112.76      | 121.00   |
| 1   | B     | 208 | VAL  | CG1-CB-CG2 | -13.64 | 89.08       | 110.90   |
| 1   | A     | 208 | VAL  | CG1-CB-CG2 | -13.62 | 89.12       | 110.90   |

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| Mol | Chain | Res | Type | Atoms      | Z      | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|--------|-------------|----------|
| 1   | C     | 85  | THR  | CA-CB-CG2  | -13.62 | 93.34       | 112.40   |
| 1   | C     | 208 | VAL  | CG1-CB-CG2 | -13.62 | 89.12       | 110.90   |
| 1   | A     | 85  | THR  | CA-CB-CG2  | -13.60 | 93.36       | 112.40   |
| 1   | B     | 191 | VAL  | CA-CB-CG1  | -13.59 | 90.52       | 110.90   |
| 1   | A     | 191 | VAL  | CA-CB-CG1  | -13.58 | 90.53       | 110.90   |
| 1   | C     | 191 | VAL  | CA-CB-CG1  | -13.57 | 90.55       | 110.90   |
| 1   | B     | 85  | THR  | CA-CB-CG2  | -13.55 | 93.42       | 112.40   |
| 1   | C     | 76  | GLY  | O-C-N      | 12.93  | 143.38      | 122.70   |
| 1   | A     | 76  | GLY  | O-C-N      | 12.92  | 143.38      | 122.70   |
| 1   | B     | 76  | GLY  | O-C-N      | 12.90  | 143.35      | 122.70   |
| 1   | B     | 418 | TYR  | CB-CG-CD2  | 12.87  | 128.72      | 121.00   |
| 1   | C     | 463 | TYR  | CD1-CG-CD2 | -12.83 | 103.79      | 117.90   |
| 1   | A     | 418 | TYR  | CB-CG-CD2  | 12.81  | 128.69      | 121.00   |
| 1   | A     | 463 | TYR  | CD1-CG-CD2 | -12.81 | 103.81      | 117.90   |
| 1   | B     | 463 | TYR  | CD1-CG-CD2 | -12.78 | 103.84      | 117.90   |
| 1   | C     | 418 | TYR  | CB-CG-CD2  | 12.71  | 128.62      | 121.00   |
| 1   | A     | 55  | MET  | CA-CB-CG   | 12.68  | 134.86      | 113.30   |
| 1   | B     | 55  | MET  | CA-CB-CG   | 12.67  | 134.84      | 113.30   |
| 1   | C     | 55  | MET  | CA-CB-CG   | 12.66  | 134.83      | 113.30   |
| 1   | A     | 404 | ILE  | O-C-N      | -12.42 | 102.83      | 122.70   |
| 1   | C     | 404 | ILE  | O-C-N      | -12.42 | 102.83      | 122.70   |
| 1   | B     | 404 | ILE  | O-C-N      | -12.41 | 102.84      | 122.70   |
| 1   | B     | 404 | ILE  | CA-CB-CG2  | -12.25 | 86.39       | 110.90   |
| 1   | A     | 404 | ILE  | CA-CB-CG2  | -12.25 | 86.40       | 110.90   |
| 1   | C     | 404 | ILE  | CA-CB-CG2  | -12.25 | 86.41       | 110.90   |
| 1   | B     | 123 | MET  | N-CA-CB    | -12.03 | 88.94       | 110.60   |
| 1   | C     | 463 | TYR  | CB-CG-CD1  | 12.03  | 128.22      | 121.00   |
| 1   | C     | 123 | MET  | N-CA-CB    | -12.01 | 88.98       | 110.60   |
| 1   | A     | 123 | MET  | N-CA-CB    | -12.01 | 88.98       | 110.60   |
| 1   | A     | 463 | TYR  | CB-CG-CD1  | 11.94  | 128.16      | 121.00   |
| 1   | B     | 463 | TYR  | CB-CG-CD1  | 11.90  | 128.14      | 121.00   |
| 1   | B     | 418 | TYR  | CB-CG-CD1  | -11.84 | 113.90      | 121.00   |
| 1   | A     | 418 | TYR  | CB-CG-CD1  | -11.83 | 113.90      | 121.00   |
| 1   | B     | 341 | PRO  | N-CD-CG    | -11.81 | 85.49       | 103.20   |
| 1   | C     | 418 | TYR  | CB-CG-CD1  | -11.81 | 113.92      | 121.00   |
| 1   | C     | 341 | PRO  | N-CD-CG    | -11.80 | 85.50       | 103.20   |
| 1   | A     | 341 | PRO  | N-CD-CG    | -11.79 | 85.52       | 103.20   |
| 1   | B     | 163 | ASP  | CA-CB-CG   | 11.08  | 137.78      | 113.40   |
| 1   | C     | 163 | ASP  | CA-CB-CG   | 11.07  | 137.76      | 113.40   |
| 1   | A     | 163 | ASP  | CA-CB-CG   | 11.06  | 137.74      | 113.40   |
| 1   | A     | 139 | PRO  | O-C-N      | -10.94 | 105.20      | 122.70   |
| 1   | B     | 139 | PRO  | O-C-N      | -10.92 | 105.23      | 122.70   |

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| Mol | Chain | Res | Type | Atoms      | Z      | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|--------|-------------|----------|
| 1   | C     | 139 | PRO  | O-C-N      | -10.91 | 105.24      | 122.70   |
| 1   | C     | 19  | PHE  | CG-CD2-CE2 | -10.84 | 108.88      | 120.80   |
| 1   | A     | 19  | PHE  | CG-CD2-CE2 | -10.82 | 108.89      | 120.80   |
| 1   | B     | 19  | PHE  | CG-CD2-CE2 | -10.79 | 108.93      | 120.80   |
| 1   | A     | 91  | ASN  | CB-CA-C    | -10.72 | 88.96       | 110.40   |
| 1   | B     | 91  | ASN  | CB-CA-C    | -10.72 | 88.97       | 110.40   |
| 1   | C     | 91  | ASN  | CB-CA-C    | -10.71 | 88.97       | 110.40   |
| 1   | C     | 117 | ASP  | CB-CG-OD2  | -10.69 | 108.68      | 118.30   |
| 1   | C     | 96  | THR  | CA-CB-OG1  | -10.67 | 86.60       | 109.00   |
| 1   | A     | 96  | THR  | CA-CB-OG1  | -10.66 | 86.60       | 109.00   |
| 1   | B     | 96  | THR  | CA-CB-OG1  | -10.65 | 86.64       | 109.00   |
| 1   | C     | 463 | TYR  | CA-C-O     | -10.64 | 97.75       | 120.10   |
| 1   | A     | 463 | TYR  | CA-C-O     | -10.62 | 97.79       | 120.10   |
| 1   | B     | 463 | TYR  | CA-C-O     | -10.62 | 97.80       | 120.10   |
| 1   | A     | 117 | ASP  | CB-CG-OD2  | -10.61 | 108.75      | 118.30   |
| 1   | B     | 117 | ASP  | CB-CG-OD2  | -10.61 | 108.75      | 118.30   |
| 1   | B     | 404 | ILE  | CB-CA-C    | 10.50  | 132.61      | 111.60   |
| 1   | C     | 404 | ILE  | CB-CA-C    | 10.50  | 132.60      | 111.60   |
| 1   | A     | 404 | ILE  | CB-CA-C    | 10.49  | 132.58      | 111.60   |
| 1   | A     | 250 | LEU  | CD1-CG-CD2 | -10.46 | 79.13       | 110.50   |
| 1   | B     | 250 | LEU  | CD1-CG-CD2 | -10.46 | 79.14       | 110.50   |
| 1   | C     | 250 | LEU  | CD1-CG-CD2 | -10.45 | 79.16       | 110.50   |
| 1   | A     | 396 | ARG  | NH1-CZ-NH2 | -10.38 | 107.98      | 119.40   |
| 1   | A     | 103 | LEU  | CB-CG-CD2  | -10.38 | 93.35       | 111.00   |
| 1   | C     | 396 | ARG  | NH1-CZ-NH2 | -10.38 | 107.98      | 119.40   |
| 1   | B     | 103 | LEU  | CB-CG-CD2  | -10.38 | 93.36       | 111.00   |
| 1   | B     | 396 | ARG  | NH1-CZ-NH2 | -10.37 | 107.99      | 119.40   |
| 1   | C     | 103 | LEU  | CB-CG-CD2  | -10.36 | 93.39       | 111.00   |
| 1   | C     | 82  | TYR  | CB-CG-CD2  | 10.31  | 127.18      | 121.00   |
| 1   | A     | 82  | TYR  | CB-CG-CD2  | 10.28  | 127.17      | 121.00   |
| 1   | B     | 82  | TYR  | CB-CG-CD2  | 10.24  | 127.15      | 121.00   |
| 1   | A     | 461 | VAL  | O-C-N      | -10.12 | 106.51      | 122.70   |
| 1   | C     | 461 | VAL  | O-C-N      | -10.10 | 106.54      | 122.70   |
| 1   | A     | 452 | VAL  | CA-CB-CG2  | -10.10 | 95.76       | 110.90   |
| 1   | C     | 452 | VAL  | CA-CB-CG2  | -10.09 | 95.77       | 110.90   |
| 1   | B     | 461 | VAL  | O-C-N      | -10.09 | 106.56      | 122.70   |
| 1   | B     | 452 | VAL  | CA-CB-CG2  | -10.06 | 95.81       | 110.90   |
| 1   | C     | 110 | ARG  | NE-CZ-NH2  | 10.01  | 125.31      | 120.30   |
| 1   | B     | 341 | PRO  | O-C-N      | -10.00 | 106.69      | 122.70   |
| 1   | B     | 110 | ARG  | NE-CZ-NH2  | 10.00  | 125.30      | 120.30   |
| 1   | A     | 341 | PRO  | O-C-N      | -9.99  | 106.72      | 122.70   |
| 1   | A     | 110 | ARG  | NE-CZ-NH2  | 9.98   | 125.29      | 120.30   |

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| Mol | Chain | Res | Type | Atoms       | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 1   | C     | 341 | PRO  | O-C-N       | -9.97 | 106.75      | 122.70   |
| 1   | A     | 170 | THR  | CA-CB-CG2   | -9.96 | 98.46       | 112.40   |
| 1   | B     | 170 | THR  | CA-CB-CG2   | -9.95 | 98.47       | 112.40   |
| 1   | C     | 170 | THR  | CA-CB-CG2   | -9.92 | 98.51       | 112.40   |
| 1   | C     | 19  | PHE  | CB-CG-CD1   | -9.79 | 113.94      | 120.80   |
| 1   | C     | 19  | PHE  | CG-CD1-CE1  | -9.77 | 110.05      | 120.80   |
| 1   | A     | 19  | PHE  | CG-CD1-CE1  | -9.77 | 110.06      | 120.80   |
| 1   | B     | 76  | GLY  | CA-C-N      | -9.74 | 95.76       | 117.20   |
| 1   | B     | 19  | PHE  | CG-CD1-CE1  | -9.74 | 110.09      | 120.80   |
| 1   | A     | 76  | GLY  | CA-C-N      | -9.74 | 95.78       | 117.20   |
| 1   | A     | 19  | PHE  | CB-CG-CD1   | -9.73 | 113.98      | 120.80   |
| 1   | C     | 76  | GLY  | CA-C-N      | -9.71 | 95.83       | 117.20   |
| 1   | B     | 88  | TYR  | CB-CG-CD1   | -9.70 | 115.18      | 121.00   |
| 1   | B     | 19  | PHE  | CB-CG-CD1   | -9.69 | 114.02      | 120.80   |
| 1   | B     | 204 | ARG  | CD-NE-CZ    | -9.68 | 110.05      | 123.60   |
| 1   | A     | 88  | TYR  | CB-CG-CD1   | -9.68 | 115.19      | 121.00   |
| 1   | C     | 204 | ARG  | CD-NE-CZ    | -9.68 | 110.05      | 123.60   |
| 1   | A     | 204 | ARG  | CD-NE-CZ    | -9.67 | 110.06      | 123.60   |
| 1   | C     | 442 | VAL  | CA-CB-CG1   | 9.66  | 125.39      | 110.90   |
| 1   | C     | 88  | TYR  | CB-CG-CD1   | -9.65 | 115.21      | 121.00   |
| 1   | A     | 442 | VAL  | CA-CB-CG1   | 9.64  | 125.36      | 110.90   |
| 1   | B     | 442 | VAL  | CA-CB-CG1   | 9.62  | 125.33      | 110.90   |
| 1   | B     | 340 | ASP  | O-C-N       | 9.47  | 139.09      | 121.10   |
| 1   | A     | 340 | ASP  | O-C-N       | 9.46  | 139.06      | 121.10   |
| 1   | C     | 340 | ASP  | O-C-N       | 9.44  | 139.03      | 121.10   |
| 1   | B     | 346 | ALA  | N-CA-CB     | -9.38 | 96.97       | 110.10   |
| 1   | A     | 346 | ALA  | N-CA-CB     | -9.38 | 96.97       | 110.10   |
| 1   | C     | 346 | ALA  | N-CA-CB     | -9.37 | 96.98       | 110.10   |
| 1   | B     | 42  | TRP  | CD1-NE1-CE2 | 9.32  | 117.39      | 109.00   |
| 1   | C     | 42  | TRP  | CD1-NE1-CE2 | 9.32  | 117.38      | 109.00   |
| 1   | A     | 42  | TRP  | CD1-NE1-CE2 | 9.29  | 117.36      | 109.00   |
| 1   | C     | 258 | LEU  | CB-CG-CD1   | -9.27 | 95.24       | 111.00   |
| 1   | A     | 258 | LEU  | CB-CG-CD1   | -9.25 | 95.28       | 111.00   |
| 1   | B     | 258 | LEU  | CB-CG-CD1   | -9.24 | 95.29       | 111.00   |
| 1   | A     | 82  | TYR  | CA-CB-CG    | 9.08  | 130.65      | 113.40   |
| 1   | B     | 82  | TYR  | CA-CB-CG    | 9.08  | 130.65      | 113.40   |
| 1   | A     | 225 | VAL  | CA-CB-CG2   | 9.06  | 124.50      | 110.90   |
| 1   | B     | 225 | VAL  | CA-CB-CG2   | 9.06  | 124.50      | 110.90   |
| 1   | C     | 82  | TYR  | CA-CB-CG    | 9.06  | 130.62      | 113.40   |
| 1   | C     | 225 | VAL  | CA-CB-CG2   | 9.03  | 124.45      | 110.90   |
| 1   | B     | 404 | ILE  | CA-C-O      | 9.03  | 139.06      | 120.10   |
| 1   | C     | 404 | ILE  | CA-C-O      | 9.01  | 139.03      | 120.10   |

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| Mol | Chain | Res | Type | Atoms       | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 1   | A     | 404 | ILE  | CA-C-O      | 9.01  | 139.02      | 120.10   |
| 1   | B     | 233 | ASP  | CB-CG-OD1   | -8.94 | 110.25      | 118.30   |
| 1   | C     | 115 | MET  | CG-SD-CE    | -8.93 | 85.92       | 100.20   |
| 1   | A     | 115 | MET  | CG-SD-CE    | -8.91 | 85.94       | 100.20   |
| 1   | A     | 233 | ASP  | CB-CG-OD1   | -8.90 | 110.29      | 118.30   |
| 1   | B     | 115 | MET  | CG-SD-CE    | -8.89 | 85.98       | 100.20   |
| 1   | C     | 233 | ASP  | CB-CG-OD1   | -8.84 | 110.35      | 118.30   |
| 1   | B     | 371 | TYR  | CB-CG-CD1   | -8.83 | 115.70      | 121.00   |
| 1   | A     | 371 | TYR  | CB-CG-CD1   | -8.82 | 115.71      | 121.00   |
| 1   | B     | 346 | ALA  | CB-CA-C     | -8.80 | 96.90       | 110.10   |
| 1   | A     | 346 | ALA  | CB-CA-C     | -8.79 | 96.91       | 110.10   |
| 1   | C     | 371 | TYR  | CB-CG-CD1   | -8.79 | 115.72      | 121.00   |
| 1   | C     | 346 | ALA  | CB-CA-C     | -8.79 | 96.92       | 110.10   |
| 1   | A     | 188 | TYR  | CG-CD2-CE2  | 8.78  | 128.32      | 121.30   |
| 1   | B     | 188 | TYR  | CG-CD2-CE2  | 8.76  | 128.31      | 121.30   |
| 1   | A     | 420 | LEU  | CD1-CG-CD2  | -8.75 | 84.25       | 110.50   |
| 1   | C     | 420 | LEU  | CD1-CG-CD2  | -8.75 | 84.25       | 110.50   |
| 1   | B     | 420 | LEU  | CD1-CG-CD2  | -8.74 | 84.27       | 110.50   |
| 1   | B     | 188 | TYR  | CA-CB-CG    | 8.74  | 130.01      | 113.40   |
| 1   | C     | 188 | TYR  | CG-CD2-CE2  | 8.73  | 128.29      | 121.30   |
| 1   | C     | 463 | TYR  | C-N-CD      | 8.73  | 146.74      | 128.40   |
| 1   | B     | 463 | TYR  | C-N-CD      | 8.73  | 146.73      | 128.40   |
| 1   | A     | 188 | TYR  | CA-CB-CG    | 8.73  | 129.98      | 113.40   |
| 1   | A     | 463 | TYR  | C-N-CD      | 8.71  | 146.70      | 128.40   |
| 1   | C     | 188 | TYR  | CA-CB-CG    | 8.71  | 129.94      | 113.40   |
| 1   | A     | 175 | ASP  | CB-CG-OD1   | -8.62 | 110.55      | 118.30   |
| 1   | B     | 65  | VAL  | CA-CB-CG1   | 8.61  | 123.82      | 110.90   |
| 1   | A     | 65  | VAL  | CA-CB-CG1   | 8.61  | 123.81      | 110.90   |
| 1   | C     | 65  | VAL  | CA-CB-CG1   | 8.60  | 123.80      | 110.90   |
| 1   | C     | 435 | GLU  | N-CA-CB     | 8.59  | 126.06      | 110.60   |
| 1   | A     | 459 | PRO  | N-CA-C      | -8.59 | 89.78       | 112.10   |
| 1   | B     | 175 | ASP  | CB-CG-OD1   | -8.59 | 110.57      | 118.30   |
| 1   | B     | 459 | PRO  | N-CA-C      | -8.58 | 89.79       | 112.10   |
| 1   | C     | 459 | PRO  | N-CA-C      | -8.58 | 89.79       | 112.10   |
| 1   | B     | 318 | ILE  | CG1-CB-CG2  | -8.58 | 92.53       | 111.40   |
| 1   | A     | 435 | GLU  | N-CA-CB     | 8.57  | 126.03      | 110.60   |
| 1   | B     | 435 | GLU  | N-CA-CB     | 8.57  | 126.03      | 110.60   |
| 1   | C     | 175 | ASP  | CB-CG-OD1   | -8.56 | 110.59      | 118.30   |
| 1   | A     | 318 | ILE  | CG1-CB-CG2  | -8.56 | 92.57       | 111.40   |
| 1   | C     | 318 | ILE  | CG1-CB-CG2  | -8.55 | 92.59       | 111.40   |
| 1   | B     | 216 | TRP  | CH2-CZ2-CE2 | 8.51  | 125.91      | 117.40   |
| 1   | A     | 225 | VAL  | N-CA-CB     | -8.51 | 92.78       | 111.50   |

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| Mol | Chain | Res | Type | Atoms       | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 1   | B     | 225 | VAL  | N-CA-CB     | -8.51 | 92.79       | 111.50   |
| 1   | C     | 225 | VAL  | N-CA-CB     | -8.49 | 92.83       | 111.50   |
| 1   | A     | 216 | TRP  | CH2-CZ2-CE2 | 8.46  | 125.86      | 117.40   |
| 1   | A     | 396 | ARG  | CD-NE-CZ    | -8.46 | 111.76      | 123.60   |
| 1   | C     | 396 | ARG  | CD-NE-CZ    | -8.45 | 111.77      | 123.60   |
| 1   | B     | 396 | ARG  | CD-NE-CZ    | -8.45 | 111.78      | 123.60   |
| 1   | A     | 96  | THR  | OG1-CB-CG2  | -8.44 | 90.58       | 110.00   |
| 1   | C     | 216 | TRP  | CH2-CZ2-CE2 | 8.43  | 125.83      | 117.40   |
| 1   | C     | 96  | THR  | OG1-CB-CG2  | -8.43 | 90.61       | 110.00   |
| 1   | B     | 96  | THR  | OG1-CB-CG2  | -8.43 | 90.61       | 110.00   |
| 1   | C     | 225 | VAL  | CA-CB-CG1   | 8.40  | 123.51      | 110.90   |
| 1   | B     | 225 | VAL  | CA-CB-CG1   | 8.39  | 123.49      | 110.90   |
| 1   | A     | 225 | VAL  | CA-CB-CG1   | 8.38  | 123.48      | 110.90   |
| 1   | C     | 208 | VAL  | CB-CA-C     | 8.36  | 127.28      | 111.40   |
| 1   | A     | 208 | VAL  | CB-CA-C     | 8.35  | 127.27      | 111.40   |
| 1   | B     | 208 | VAL  | CB-CA-C     | 8.35  | 127.27      | 111.40   |
| 1   | B     | 235 | ASP  | CB-CG-OD1   | 8.32  | 125.79      | 118.30   |
| 1   | C     | 163 | ASP  | CB-CG-OD2   | -8.31 | 110.82      | 118.30   |
| 1   | B     | 99  | ASP  | CB-CG-OD1   | -8.31 | 110.82      | 118.30   |
| 1   | A     | 99  | ASP  | CB-CG-OD1   | -8.30 | 110.83      | 118.30   |
| 1   | A     | 235 | ASP  | CB-CG-OD1   | 8.30  | 125.77      | 118.30   |
| 1   | B     | 84  | GLN  | CA-CB-CG    | 8.30  | 131.66      | 113.40   |
| 1   | C     | 84  | GLN  | CA-CB-CG    | 8.29  | 131.65      | 113.40   |
| 1   | A     | 163 | ASP  | CB-CG-OD2   | -8.29 | 110.84      | 118.30   |
| 1   | A     | 84  | GLN  | CA-CB-CG    | 8.29  | 131.63      | 113.40   |
| 1   | C     | 235 | ASP  | CB-CG-OD1   | 8.29  | 125.76      | 118.30   |
| 1   | C     | 99  | ASP  | CB-CG-OD1   | -8.29 | 110.84      | 118.30   |
| 1   | B     | 341 | PRO  | CA-CB-CG    | -8.27 | 88.28       | 104.00   |
| 1   | A     | 341 | PRO  | CA-CB-CG    | -8.27 | 88.29       | 104.00   |
| 1   | C     | 341 | PRO  | CA-CB-CG    | -8.26 | 88.31       | 104.00   |
| 1   | A     | 188 | TYR  | CB-CG-CD1   | 8.25  | 125.95      | 121.00   |
| 1   | C     | 188 | TYR  | CB-CG-CD1   | 8.25  | 125.95      | 121.00   |
| 1   | B     | 188 | TYR  | CB-CG-CD1   | 8.24  | 125.94      | 121.00   |
| 1   | C     | 396 | ARG  | CA-C-N      | 8.24  | 135.33      | 117.20   |
| 1   | A     | 396 | ARG  | CA-C-N      | 8.23  | 135.30      | 117.20   |
| 1   | B     | 396 | ARG  | CA-C-N      | 8.21  | 135.27      | 117.20   |
| 1   | B     | 64  | PRO  | CA-N-CD     | -8.21 | 100.00      | 111.50   |
| 1   | C     | 64  | PRO  | CA-N-CD     | -8.21 | 100.01      | 111.50   |
| 1   | B     | 163 | ASP  | CB-CG-OD2   | -8.21 | 110.91      | 118.30   |
| 1   | A     | 64  | PRO  | CA-N-CD     | -8.21 | 100.01      | 111.50   |
| 1   | A     | 163 | ASP  | CB-CG-OD1   | 8.20  | 125.68      | 118.30   |
| 1   | B     | 163 | ASP  | CB-CG-OD1   | 8.18  | 125.66      | 118.30   |

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| Mol | Chain | Res | Type | Atoms      | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|-------|-------------|----------|
| 1   | C     | 163 | ASP  | CB-CG-OD1  | 8.16  | 125.64      | 118.30   |
| 1   | B     | 198 | TYR  | CB-CG-CD1  | -8.16 | 116.11      | 121.00   |
| 1   | A     | 198 | TYR  | CB-CG-CD1  | -8.13 | 116.12      | 121.00   |
| 1   | C     | 112 | MET  | CA-CB-CG   | 8.12  | 127.11      | 113.30   |
| 1   | B     | 112 | MET  | CA-CB-CG   | 8.12  | 127.10      | 113.30   |
| 1   | A     | 112 | MET  | CA-CB-CG   | 8.11  | 127.09      | 113.30   |
| 1   | C     | 198 | TYR  | CB-CG-CD1  | -8.09 | 116.15      | 121.00   |
| 1   | B     | 468 | LEU  | CD1-CG-CD2 | -8.07 | 86.28       | 110.50   |
| 1   | C     | 468 | LEU  | CD1-CG-CD2 | -8.06 | 86.31       | 110.50   |
| 1   | A     | 468 | LEU  | CD1-CG-CD2 | -8.06 | 86.33       | 110.50   |
| 1   | A     | 452 | VAL  | CA-CB-CG1  | -8.03 | 98.85       | 110.90   |
| 1   | B     | 452 | VAL  | CA-CB-CG1  | -8.03 | 98.85       | 110.90   |
| 1   | C     | 452 | VAL  | CA-CB-CG1  | -8.01 | 98.89       | 110.90   |
| 1   | B     | 283 | CYS  | CB-CA-C    | -8.00 | 94.39       | 110.40   |
| 1   | A     | 283 | CYS  | CB-CA-C    | -8.00 | 94.41       | 110.40   |
| 1   | C     | 283 | CYS  | CB-CA-C    | -7.97 | 94.45       | 110.40   |
| 1   | B     | 191 | VAL  | CG1-CB-CG2 | -7.96 | 98.16       | 110.90   |
| 1   | A     | 191 | VAL  | CG1-CB-CG2 | -7.96 | 98.17       | 110.90   |
| 1   | C     | 191 | VAL  | CG1-CB-CG2 | -7.95 | 98.19       | 110.90   |
| 1   | C     | 19  | PHE  | CD1-CG-CD2 | 7.83  | 128.47      | 118.30   |
| 1   | B     | 340 | ASP  | CB-CG-OD2  | -7.82 | 111.26      | 118.30   |
| 1   | A     | 340 | ASP  | CB-CG-OD2  | -7.81 | 111.27      | 118.30   |
| 1   | A     | 19  | PHE  | CD1-CG-CD2 | 7.81  | 128.45      | 118.30   |
| 1   | C     | 230 | GLU  | CA-CB-CG   | 7.81  | 130.57      | 113.40   |
| 1   | C     | 340 | ASP  | CB-CG-OD2  | -7.80 | 111.28      | 118.30   |
| 1   | A     | 230 | GLU  | CA-CB-CG   | 7.79  | 130.53      | 113.40   |
| 1   | B     | 19  | PHE  | CD1-CG-CD2 | 7.79  | 128.42      | 118.30   |
| 1   | B     | 452 | VAL  | CG1-CB-CG2 | 7.78  | 123.35      | 110.90   |
| 1   | C     | 452 | VAL  | CG1-CB-CG2 | 7.77  | 123.34      | 110.90   |
| 1   | A     | 452 | VAL  | CG1-CB-CG2 | 7.77  | 123.33      | 110.90   |
| 1   | B     | 230 | GLU  | CA-CB-CG   | 7.76  | 130.48      | 113.40   |
| 1   | B     | 67  | ALA  | CA-C-O     | -7.71 | 103.91      | 120.10   |
| 1   | C     | 63  | THR  | CA-CB-OG1  | -7.70 | 92.83       | 109.00   |
| 1   | A     | 67  | ALA  | CA-C-O     | -7.68 | 103.96      | 120.10   |
| 1   | C     | 67  | ALA  | CA-C-O     | -7.68 | 103.96      | 120.10   |
| 1   | A     | 10  | SER  | N-CA-CB    | -7.68 | 98.98       | 110.50   |
| 1   | C     | 10  | SER  | N-CA-CB    | -7.68 | 98.98       | 110.50   |
| 1   | A     | 63  | THR  | CA-CB-OG1  | -7.67 | 92.89       | 109.00   |
| 1   | B     | 10  | SER  | N-CA-CB    | -7.66 | 99.00       | 110.50   |
| 1   | B     | 63  | THR  | CA-CB-OG1  | -7.66 | 92.92       | 109.00   |
| 1   | B     | 88  | TYR  | CB-CG-CD2  | 7.65  | 125.59      | 121.00   |
| 1   | C     | 147 | HIS  | CA-CB-CG   | 7.61  | 126.53      | 113.60   |

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| Mol | Chain | Res | Type | Atoms      | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|-------|-------------|----------|
| 1   | B     | 147 | HIS  | CA-CB-CG   | 7.60  | 126.52      | 113.60   |
| 1   | A     | 147 | HIS  | CA-CB-CG   | 7.60  | 126.52      | 113.60   |
| 1   | A     | 47  | ASP  | CA-CB-CG   | 7.58  | 130.07      | 113.40   |
| 1   | C     | 47  | ASP  | CA-CB-CG   | 7.57  | 130.06      | 113.40   |
| 1   | A     | 88  | TYR  | CB-CG-CD2  | 7.57  | 125.54      | 121.00   |
| 1   | B     | 47  | ASP  | CA-CB-CG   | 7.57  | 130.05      | 113.40   |
| 1   | B     | 325 | PRO  | N-CA-CB    | -7.57 | 94.22       | 103.30   |
| 1   | A     | 325 | PRO  | N-CA-CB    | -7.51 | 94.28       | 103.30   |
| 1   | C     | 325 | PRO  | N-CA-CB    | -7.51 | 94.29       | 103.30   |
| 1   | B     | 64  | PRO  | CA-CB-CG   | -7.50 | 89.75       | 104.00   |
| 1   | A     | 64  | PRO  | CA-CB-CG   | -7.50 | 89.75       | 104.00   |
| 1   | B     | 211 | VAL  | CA-C-O     | -7.50 | 104.35      | 120.10   |
| 1   | C     | 88  | TYR  | CB-CG-CD2  | 7.50  | 125.50      | 121.00   |
| 1   | A     | 211 | VAL  | CA-C-O     | -7.48 | 104.39      | 120.10   |
| 1   | B     | 463 | TYR  | N-CA-CB    | -7.47 | 97.14       | 110.60   |
| 1   | C     | 211 | VAL  | CA-C-O     | -7.47 | 104.42      | 120.10   |
| 1   | A     | 463 | TYR  | N-CA-CB    | -7.45 | 97.19       | 110.60   |
| 1   | C     | 64  | PRO  | CA-CB-CG   | -7.45 | 89.84       | 104.00   |
| 1   | C     | 463 | TYR  | N-CA-CB    | -7.44 | 97.20       | 110.60   |
| 1   | B     | 265 | THR  | CA-CB-CG2  | 7.41  | 122.77      | 112.40   |
| 1   | A     | 265 | THR  | CA-CB-CG2  | 7.40  | 122.76      | 112.40   |
| 1   | C     | 265 | THR  | CA-CB-CG2  | 7.38  | 122.74      | 112.40   |
| 1   | A     | 155 | TYR  | CB-CG-CD2  | -7.38 | 116.57      | 121.00   |
| 1   | B     | 155 | TYR  | CB-CG-CD2  | -7.37 | 116.58      | 121.00   |
| 1   | B     | 14  | LEU  | CD1-CG-CD2 | -7.37 | 88.40       | 110.50   |
| 1   | A     | 14  | LEU  | CD1-CG-CD2 | -7.36 | 88.43       | 110.50   |
| 1   | B     | 465 | THR  | CA-CB-OG1  | 7.35  | 124.43      | 109.00   |
| 1   | A     | 465 | THR  | CA-CB-OG1  | 7.35  | 124.43      | 109.00   |
| 1   | C     | 47  | ASP  | CB-CG-OD2  | 7.34  | 124.91      | 118.30   |
| 1   | C     | 14  | LEU  | CD1-CG-CD2 | -7.34 | 88.47       | 110.50   |
| 1   | C     | 465 | THR  | CA-CB-OG1  | 7.34  | 124.41      | 109.00   |
| 1   | A     | 47  | ASP  | CB-CG-OD2  | 7.33  | 124.90      | 118.30   |
| 1   | B     | 427 | TYR  | CA-CB-CG   | 7.33  | 127.33      | 113.40   |
| 1   | C     | 155 | TYR  | CB-CG-CD2  | -7.33 | 116.61      | 121.00   |
| 1   | B     | 47  | ASP  | CB-CG-OD2  | 7.30  | 124.87      | 118.30   |
| 1   | C     | 137 | PHE  | CB-CG-CD1  | -7.30 | 115.69      | 120.80   |
| 1   | A     | 427 | TYR  | CA-CB-CG   | 7.29  | 127.26      | 113.40   |
| 1   | B     | 137 | PHE  | CB-CG-CD1  | -7.29 | 115.70      | 120.80   |
| 1   | B     | 63  | THR  | N-CA-C     | 7.29  | 130.68      | 111.00   |
| 1   | C     | 427 | TYR  | CA-CB-CG   | 7.28  | 127.23      | 113.40   |
| 1   | C     | 434 | THR  | O-C-N      | 7.28  | 134.35      | 122.70   |
| 1   | A     | 434 | THR  | O-C-N      | 7.28  | 134.34      | 122.70   |

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| Mol | Chain | Res | Type | Atoms     | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-----------|-------|-------------|----------|
| 1   | A     | 63  | THR  | N-CA-C    | 7.27  | 130.63      | 111.00   |
| 1   | B     | 434 | THR  | O-C-N     | 7.27  | 134.34      | 122.70   |
| 1   | C     | 63  | THR  | N-CA-C    | 7.27  | 130.64      | 111.00   |
| 1   | A     | 137 | PHE  | CB-CG-CD1 | -7.27 | 115.71      | 120.80   |
| 1   | C     | 67  | ALA  | CB-CA-C   | -7.25 | 99.22       | 110.10   |
| 1   | B     | 247 | ASP  | N-CA-CB   | 7.24  | 123.64      | 110.60   |
| 1   | A     | 67  | ALA  | CB-CA-C   | -7.24 | 99.24       | 110.10   |
| 1   | A     | 247 | ASP  | N-CA-CB   | 7.24  | 123.62      | 110.60   |
| 1   | A     | 139 | PRO  | CA-C-N    | 7.22  | 133.09      | 117.20   |
| 1   | B     | 67  | ALA  | CB-CA-C   | -7.22 | 99.26       | 110.10   |
| 1   | C     | 247 | ASP  | N-CA-CB   | 7.22  | 123.60      | 110.60   |
| 1   | C     | 139 | PRO  | CA-C-N    | 7.22  | 133.08      | 117.20   |
| 1   | C     | 376 | ASP  | O-C-N     | -7.22 | 111.15      | 122.70   |
| 1   | A     | 376 | ASP  | O-C-N     | -7.21 | 111.16      | 122.70   |
| 1   | B     | 376 | ASP  | O-C-N     | -7.21 | 111.17      | 122.70   |
| 1   | B     | 138 | LYS  | CA-C-O    | -7.20 | 104.97      | 120.10   |
| 1   | B     | 139 | PRO  | CA-C-N    | 7.20  | 133.05      | 117.20   |
| 1   | C     | 2   | THR  | CA-CB-CG2 | 7.19  | 122.47      | 112.40   |
| 1   | A     | 138 | LYS  | CA-C-O    | -7.19 | 105.01      | 120.10   |
| 1   | A     | 2   | THR  | CA-CB-CG2 | 7.18  | 122.46      | 112.40   |
| 1   | C     | 138 | LYS  | CA-C-O    | -7.18 | 105.03      | 120.10   |
| 1   | B     | 2   | THR  | CA-CB-CG2 | 7.15  | 122.42      | 112.40   |
| 1   | A     | 173 | LEU  | CB-CG-CD2 | -7.14 | 98.86       | 111.00   |
| 1   | C     | 173 | LEU  | CB-CG-CD2 | -7.14 | 98.86       | 111.00   |
| 1   | B     | 173 | LEU  | CB-CG-CD2 | -7.13 | 98.87       | 111.00   |
| 1   | B     | 245 | VAL  | CA-CB-CG2 | 7.11  | 121.56      | 110.90   |
| 1   | B     | 209 | LYS  | N-CA-CB   | -7.09 | 97.83       | 110.60   |
| 1   | B     | 341 | PRO  | C-N-CA    | 7.09  | 139.42      | 121.70   |
| 1   | C     | 341 | PRO  | C-N-CA    | 7.08  | 139.40      | 121.70   |
| 1   | A     | 341 | PRO  | C-N-CA    | 7.08  | 139.40      | 121.70   |
| 1   | B     | 318 | ILE  | CA-CB-CG2 | 7.07  | 125.05      | 110.90   |
| 1   | A     | 245 | VAL  | CA-CB-CG2 | 7.07  | 121.50      | 110.90   |
| 1   | C     | 245 | VAL  | CA-CB-CG2 | 7.07  | 121.50      | 110.90   |
| 1   | C     | 318 | ILE  | CA-CB-CG2 | 7.07  | 125.03      | 110.90   |
| 1   | A     | 209 | LYS  | N-CA-CB   | -7.06 | 97.89       | 110.60   |
| 1   | C     | 209 | LYS  | N-CA-CB   | -7.05 | 97.90       | 110.60   |
| 1   | A     | 318 | ILE  | CA-CB-CG2 | 7.05  | 125.01      | 110.90   |
| 1   | B     | 341 | PRO  | CA-C-N    | 7.05  | 132.72      | 117.20   |
| 1   | C     | 341 | PRO  | CA-C-N    | 7.05  | 132.71      | 117.20   |
| 1   | A     | 341 | PRO  | CA-C-N    | 7.05  | 132.70      | 117.20   |
| 1   | B     | 63  | THR  | N-CA-CB   | -7.04 | 96.93       | 110.30   |
| 1   | A     | 63  | THR  | N-CA-CB   | -7.03 | 96.94       | 110.30   |

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| Mol | Chain | Res | Type | Atoms      | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|-------|-------------|----------|
| 1   | C     | 63  | THR  | N-CA-CB    | -7.02 | 96.95       | 110.30   |
| 1   | B     | 439 | CYS  | CA-CB-SG   | -7.01 | 101.38      | 114.00   |
| 1   | A     | 439 | CYS  | CA-CB-SG   | -7.00 | 101.40      | 114.00   |
| 1   | C     | 198 | TYR  | O-C-N      | 7.00  | 133.90      | 122.70   |
| 1   | C     | 439 | CYS  | CA-CB-SG   | -7.00 | 101.40      | 114.00   |
| 1   | A     | 198 | TYR  | O-C-N      | 6.99  | 133.89      | 122.70   |
| 1   | B     | 198 | TYR  | O-C-N      | 6.99  | 133.89      | 122.70   |
| 1   | C     | 283 | CYS  | N-CA-CB    | -6.99 | 98.02       | 110.60   |
| 1   | C     | 85  | THR  | OG1-CB-CG2 | -6.97 | 93.97       | 110.00   |
| 1   | B     | 85  | THR  | OG1-CB-CG2 | -6.97 | 93.98       | 110.00   |
| 1   | A     | 283 | CYS  | N-CA-CB    | -6.96 | 98.08       | 110.60   |
| 1   | B     | 283 | CYS  | N-CA-CB    | -6.96 | 98.08       | 110.60   |
| 1   | A     | 85  | THR  | OG1-CB-CG2 | -6.95 | 94.01       | 110.00   |
| 1   | C     | 126 | ASP  | CB-CG-OD1  | -6.93 | 112.06      | 118.30   |
| 1   | B     | 436 | VAL  | CG1-CB-CG2 | -6.93 | 99.82       | 110.90   |
| 1   | B     | 21  | ARG  | NE-CZ-NH2  | -6.92 | 116.84      | 120.30   |
| 1   | A     | 436 | VAL  | CG1-CB-CG2 | -6.92 | 99.83       | 110.90   |
| 1   | C     | 436 | VAL  | CG1-CB-CG2 | -6.92 | 99.83       | 110.90   |
| 1   | A     | 126 | ASP  | CB-CG-OD1  | -6.91 | 112.08      | 118.30   |
| 1   | C     | 196 | SER  | N-CA-CB    | -6.90 | 100.15      | 110.50   |
| 1   | A     | 196 | SER  | N-CA-CB    | -6.90 | 100.15      | 110.50   |
| 1   | B     | 196 | SER  | N-CA-CB    | -6.89 | 100.17      | 110.50   |
| 1   | C     | 466 | GLU  | OE1-CD-OE2 | -6.88 | 115.04      | 123.30   |
| 1   | C     | 211 | VAL  | N-CA-C     | 6.88  | 129.57      | 111.00   |
| 1   | B     | 143 | GLN  | CA-CB-CG   | 6.87  | 128.51      | 113.40   |
| 1   | B     | 466 | GLU  | OE1-CD-OE2 | -6.87 | 115.06      | 123.30   |
| 1   | B     | 126 | ASP  | CB-CG-OD1  | -6.87 | 112.12      | 118.30   |
| 1   | A     | 21  | ARG  | NE-CZ-NH2  | -6.87 | 116.87      | 120.30   |
| 1   | A     | 211 | VAL  | N-CA-C     | 6.87  | 129.54      | 111.00   |
| 1   | C     | 18  | ARG  | NE-CZ-NH2  | -6.86 | 116.87      | 120.30   |
| 1   | B     | 7   | ARG  | NE-CZ-NH1  | 6.86  | 123.73      | 120.30   |
| 1   | A     | 143 | GLN  | CA-CB-CG   | 6.86  | 128.49      | 113.40   |
| 1   | C     | 329 | ALA  | CB-CA-C    | -6.86 | 99.81       | 110.10   |
| 1   | A     | 329 | ALA  | CB-CA-C    | -6.86 | 99.82       | 110.10   |
| 1   | B     | 444 | VAL  | N-CA-CB    | -6.86 | 96.42       | 111.50   |
| 1   | C     | 143 | GLN  | CA-CB-CG   | 6.85  | 128.48      | 113.40   |
| 1   | A     | 466 | GLU  | OE1-CD-OE2 | -6.85 | 115.08      | 123.30   |
| 1   | B     | 329 | ALA  | CB-CA-C    | -6.85 | 99.82       | 110.10   |
| 1   | B     | 211 | VAL  | N-CA-C     | 6.85  | 129.50      | 111.00   |
| 1   | A     | 444 | VAL  | N-CA-CB    | -6.84 | 96.45       | 111.50   |
| 1   | C     | 444 | VAL  | N-CA-CB    | -6.84 | 96.46       | 111.50   |
| 1   | C     | 21  | ARG  | NE-CZ-NH2  | -6.83 | 116.88      | 120.30   |

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| Mol | Chain | Res | Type | Atoms      | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|-------|-------------|----------|
| 1   | B     | 18  | ARG  | NE-CZ-NH2  | -6.83 | 116.89      | 120.30   |
| 1   | B     | 42  | TRP  | CA-CB-CG   | 6.83  | 126.67      | 113.70   |
| 1   | B     | 443 | THR  | O-C-N      | -6.82 | 111.78      | 122.70   |
| 1   | C     | 443 | THR  | O-C-N      | -6.82 | 111.78      | 122.70   |
| 1   | A     | 42  | TRP  | CA-CB-CG   | 6.81  | 126.64      | 113.70   |
| 1   | C     | 471 | SER  | N-CA-CB    | -6.81 | 100.28      | 110.50   |
| 1   | A     | 443 | THR  | O-C-N      | -6.80 | 111.82      | 122.70   |
| 1   | A     | 18  | ARG  | NE-CZ-NH2  | -6.80 | 116.90      | 120.30   |
| 1   | B     | 471 | SER  | N-CA-CB    | -6.80 | 100.31      | 110.50   |
| 1   | C     | 82  | TYR  | CG-CD2-CE2 | 6.79  | 126.74      | 121.30   |
| 1   | A     | 471 | SER  | N-CA-CB    | -6.79 | 100.31      | 110.50   |
| 1   | C     | 42  | TRP  | CA-CB-CG   | 6.79  | 126.61      | 113.70   |
| 1   | C     | 262 | PHE  | CB-CG-CD2  | 6.78  | 125.55      | 120.80   |
| 1   | A     | 82  | TYR  | CG-CD2-CE2 | 6.78  | 126.72      | 121.30   |
| 1   | B     | 82  | TYR  | CG-CD2-CE2 | 6.75  | 126.70      | 121.30   |
| 1   | C     | 463 | TYR  | N-CA-C     | 6.74  | 129.18      | 111.00   |
| 1   | A     | 7   | ARG  | NE-CZ-NH1  | 6.73  | 123.67      | 120.30   |
| 1   | B     | 458 | LEU  | C-N-CA     | 6.73  | 150.26      | 122.00   |
| 1   | C     | 7   | ARG  | NE-CZ-NH1  | 6.73  | 123.66      | 120.30   |
| 1   | A     | 463 | TYR  | N-CA-C     | 6.72  | 129.16      | 111.00   |
| 1   | B     | 63  | THR  | OG1-CB-CG2 | 6.72  | 125.47      | 110.00   |
| 1   | B     | 463 | TYR  | N-CA-C     | 6.72  | 129.16      | 111.00   |
| 1   | B     | 211 | VAL  | CA-CB-CG2  | 6.72  | 120.97      | 110.90   |
| 1   | A     | 458 | LEU  | C-N-CA     | 6.71  | 150.20      | 122.00   |
| 1   | C     | 458 | LEU  | C-N-CA     | 6.71  | 150.19      | 122.00   |
| 1   | A     | 63  | THR  | OG1-CB-CG2 | 6.70  | 125.41      | 110.00   |
| 1   | B     | 124 | GLY  | N-CA-C     | 6.69  | 129.84      | 113.10   |
| 1   | A     | 124 | GLY  | N-CA-C     | 6.69  | 129.83      | 113.10   |
| 1   | C     | 124 | GLY  | N-CA-C     | 6.69  | 129.83      | 113.10   |
| 1   | C     | 63  | THR  | OG1-CB-CG2 | 6.68  | 125.37      | 110.00   |
| 1   | C     | 211 | VAL  | CA-CB-CG2  | 6.68  | 120.92      | 110.90   |
| 1   | A     | 211 | VAL  | CA-CB-CG2  | 6.68  | 120.92      | 110.90   |
| 1   | C     | 101 | LYS  | CD-CE-NZ   | 6.67  | 127.04      | 111.70   |
| 1   | A     | 262 | PHE  | CB-CG-CD2  | 6.67  | 125.47      | 120.80   |
| 1   | B     | 101 | LYS  | CD-CE-NZ   | 6.66  | 127.03      | 111.70   |
| 1   | A     | 101 | LYS  | CD-CE-NZ   | 6.66  | 127.02      | 111.70   |
| 1   | B     | 21  | ARG  | NH1-CZ-NH2 | -6.66 | 112.08      | 119.40   |
| 1   | C     | 140 | PHE  | CB-CG-CD1  | 6.65  | 125.45      | 120.80   |
| 1   | B     | 62  | ILE  | CB-CG1-CD1 | -6.65 | 95.29       | 113.90   |
| 1   | B     | 434 | THR  | C-N-CA     | 6.65  | 138.32      | 121.70   |
| 1   | C     | 62  | ILE  | CB-CG1-CD1 | -6.64 | 95.30       | 113.90   |
| 1   | A     | 21  | ARG  | NH1-CZ-NH2 | -6.64 | 112.10      | 119.40   |

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| Mol | Chain | Res | Type | Atoms      | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|-------|-------------|----------|
| 1   | A     | 140 | PHE  | CB-CG-CD1  | 6.63  | 125.44      | 120.80   |
| 1   | C     | 21  | ARG  | NH1-CZ-NH2 | -6.63 | 112.10      | 119.40   |
| 1   | C     | 434 | THR  | C-N-CA     | 6.63  | 138.28      | 121.70   |
| 1   | A     | 62  | ILE  | CB-CG1-CD1 | -6.63 | 95.33       | 113.90   |
| 1   | A     | 434 | THR  | C-N-CA     | 6.63  | 138.28      | 121.70   |
| 1   | B     | 157 | ASP  | CB-CG-OD1  | -6.63 | 112.33      | 118.30   |
| 1   | A     | 201 | ASP  | CB-CA-C    | -6.62 | 97.16       | 110.40   |
| 1   | B     | 201 | ASP  | CB-CA-C    | -6.62 | 97.16       | 110.40   |
| 1   | C     | 201 | ASP  | CB-CA-C    | -6.62 | 97.16       | 110.40   |
| 1   | B     | 262 | PHE  | CB-CG-CD2  | 6.62  | 125.43      | 120.80   |
| 1   | C     | 282 | ASP  | CB-CG-OD1  | -6.61 | 112.35      | 118.30   |
| 1   | A     | 157 | ASP  | CB-CG-OD1  | -6.60 | 112.36      | 118.30   |
| 1   | A     | 282 | ASP  | CB-CG-OD1  | -6.59 | 112.37      | 118.30   |
| 1   | C     | 157 | ASP  | CB-CG-OD1  | -6.58 | 112.38      | 118.30   |
| 1   | B     | 140 | PHE  | CB-CG-CD1  | 6.58  | 125.40      | 120.80   |
| 1   | B     | 335 | TYR  | CB-CG-CD1  | -6.57 | 117.06      | 121.00   |
| 1   | C     | 219 | TYR  | CG-CD2-CE2 | -6.56 | 116.05      | 121.30   |
| 1   | B     | 282 | ASP  | CB-CG-OD1  | -6.54 | 112.41      | 118.30   |
| 1   | B     | 80  | THR  | CA-C-N     | -6.54 | 103.12      | 116.20   |
| 1   | C     | 138 | LYS  | O-C-N      | 6.54  | 133.52      | 121.10   |
| 1   | A     | 335 | TYR  | CB-CG-CD1  | -6.53 | 117.08      | 121.00   |
| 1   | B     | 138 | LYS  | O-C-N      | 6.53  | 133.50      | 121.10   |
| 1   | A     | 219 | TYR  | CG-CD2-CE2 | -6.52 | 116.08      | 121.30   |
| 1   | B     | 219 | TYR  | CG-CD2-CE2 | -6.52 | 116.09      | 121.30   |
| 1   | A     | 80  | THR  | CA-C-N     | -6.51 | 103.18      | 116.20   |
| 1   | A     | 138 | LYS  | O-C-N      | 6.51  | 133.46      | 121.10   |
| 1   | C     | 80  | THR  | CA-C-N     | -6.51 | 103.19      | 116.20   |
| 1   | C     | 229 | GLY  | C-N-CA     | 6.49  | 137.93      | 121.70   |
| 1   | A     | 229 | GLY  | C-N-CA     | 6.49  | 137.93      | 121.70   |
| 1   | B     | 229 | GLY  | C-N-CA     | 6.48  | 137.91      | 121.70   |
| 1   | C     | 335 | TYR  | CB-CG-CD1  | -6.47 | 117.11      | 121.00   |
| 1   | B     | 458 | LEU  | N-CA-C     | 6.47  | 128.46      | 111.00   |
| 1   | A     | 458 | LEU  | N-CA-C     | 6.46  | 128.45      | 111.00   |
| 1   | B     | 64  | PRO  | N-CA-CB    | 6.46  | 111.05      | 103.30   |
| 1   | C     | 458 | LEU  | N-CA-C     | 6.45  | 128.43      | 111.00   |
| 1   | A     | 64  | PRO  | N-CA-CB    | 6.45  | 111.04      | 103.30   |
| 1   | B     | 463 | TYR  | CB-CG-CD2  | 6.45  | 124.87      | 121.00   |
| 1   | A     | 463 | TYR  | CB-CG-CD2  | 6.43  | 124.86      | 121.00   |
| 1   | A     | 459 | PRO  | CA-N-CD    | -6.43 | 102.50      | 111.50   |
| 1   | C     | 64  | PRO  | N-CA-CB    | 6.42  | 111.01      | 103.30   |
| 1   | C     | 459 | PRO  | CA-N-CD    | -6.42 | 102.51      | 111.50   |
| 1   | B     | 306 | ASN  | N-CA-CB    | 6.41  | 122.14      | 110.60   |

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| Mol | Chain | Res | Type | Atoms      | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|-------|-------------|----------|
| 1   | A     | 306 | ASN  | N-CA-CB    | 6.41  | 122.13      | 110.60   |
| 1   | B     | 459 | PRO  | CA-N-CD    | -6.40 | 102.54      | 111.50   |
| 1   | C     | 55  | MET  | CB-CG-SD   | 6.40  | 131.60      | 112.40   |
| 1   | B     | 75  | TYR  | CB-CG-CD1  | -6.40 | 117.16      | 121.00   |
| 1   | B     | 55  | MET  | CB-CG-SD   | 6.39  | 131.58      | 112.40   |
| 1   | C     | 61  | TRP  | C-N-CA     | -6.39 | 105.72      | 121.70   |
| 1   | C     | 463 | TYR  | CB-CG-CD2  | 6.39  | 124.83      | 121.00   |
| 1   | A     | 55  | MET  | CB-CG-SD   | 6.39  | 131.56      | 112.40   |
| 1   | B     | 61  | TRP  | C-N-CA     | -6.39 | 105.73      | 121.70   |
| 1   | C     | 256 | TYR  | CB-CG-CD2  | -6.38 | 117.17      | 121.00   |
| 1   | A     | 61  | TRP  | C-N-CA     | -6.37 | 105.77      | 121.70   |
| 1   | A     | 256 | TYR  | CB-CG-CD2  | -6.37 | 117.18      | 121.00   |
| 1   | B     | 403 | GLN  | C-N-CA     | 6.37  | 137.62      | 121.70   |
| 1   | A     | 75  | TYR  | CB-CG-CD1  | -6.37 | 117.18      | 121.00   |
| 1   | C     | 306 | ASN  | N-CA-CB    | 6.37  | 122.06      | 110.60   |
| 1   | C     | 403 | GLN  | C-N-CA     | 6.37  | 137.62      | 121.70   |
| 1   | A     | 403 | GLN  | C-N-CA     | 6.36  | 137.60      | 121.70   |
| 1   | C     | 390 | ASP  | CA-CB-CG   | 6.36  | 127.39      | 113.40   |
| 1   | A     | 390 | ASP  | CA-CB-CG   | 6.34  | 127.35      | 113.40   |
| 1   | B     | 190 | TRP  | CE2-CD2-CG | 6.33  | 112.37      | 107.30   |
| 1   | C     | 75  | TYR  | CB-CG-CD1  | -6.33 | 117.20      | 121.00   |
| 1   | B     | 390 | ASP  | CA-CB-CG   | 6.32  | 127.30      | 113.40   |
| 1   | B     | 256 | TYR  | CB-CG-CD2  | -6.31 | 117.21      | 121.00   |
| 1   | C     | 262 | PHE  | CB-CG-CD1  | -6.30 | 116.39      | 120.80   |
| 1   | A     | 333 | GLN  | CA-CB-CG   | 6.29  | 127.25      | 113.40   |
| 1   | B     | 233 | ASP  | OD1-CG-OD2 | 6.29  | 135.25      | 123.30   |
| 1   | C     | 190 | TRP  | CE2-CD2-CG | 6.29  | 112.33      | 107.30   |
| 1   | B     | 191 | VAL  | CA-CB-CG2  | 6.29  | 120.33      | 110.90   |
| 1   | A     | 191 | VAL  | CA-CB-CG2  | 6.29  | 120.33      | 110.90   |
| 1   | B     | 333 | GLN  | CA-CB-CG   | 6.28  | 127.22      | 113.40   |
| 1   | B     | 42  | TRP  | CD1-CG-CD2 | -6.28 | 101.28      | 106.30   |
| 1   | C     | 333 | GLN  | CA-CB-CG   | 6.27  | 127.20      | 113.40   |
| 1   | A     | 190 | TRP  | CE2-CD2-CG | 6.27  | 112.32      | 107.30   |
| 1   | A     | 233 | ASP  | OD1-CG-OD2 | 6.27  | 135.22      | 123.30   |
| 1   | C     | 233 | ASP  | OD1-CG-OD2 | 6.27  | 135.21      | 123.30   |
| 1   | B     | 262 | PHE  | CB-CG-CD1  | -6.27 | 116.41      | 120.80   |
| 1   | C     | 191 | VAL  | CA-CB-CG2  | 6.26  | 120.30      | 110.90   |
| 1   | C     | 42  | TRP  | CD1-CG-CD2 | -6.24 | 101.31      | 106.30   |
| 1   | C     | 345 | GLU  | N-CA-CB    | 6.23  | 121.82      | 110.60   |
| 1   | B     | 345 | GLU  | N-CA-CB    | 6.23  | 121.81      | 110.60   |
| 1   | B     | 369 | ARG  | NE-CZ-NH1  | 6.22  | 123.41      | 120.30   |
| 1   | A     | 42  | TRP  | CD1-CG-CD2 | -6.22 | 101.32      | 106.30   |

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| Mol | Chain | Res | Type | Atoms      | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|-------|-------------|----------|
| 1   | A     | 262 | PHE  | CB-CG-CD1  | -6.22 | 116.45      | 120.80   |
| 1   | A     | 345 | GLU  | N-CA-CB    | 6.22  | 121.79      | 110.60   |
| 1   | A     | 369 | ARG  | NE-CZ-NH1  | 6.21  | 123.41      | 120.30   |
| 1   | B     | 66  | THR  | CA-CB-OG1  | 6.21  | 122.04      | 109.00   |
| 1   | C     | 49  | LEU  | O-C-N      | -6.20 | 112.78      | 122.70   |
| 1   | A     | 49  | LEU  | O-C-N      | -6.20 | 112.78      | 122.70   |
| 1   | A     | 66  | THR  | CA-CB-OG1  | 6.20  | 122.01      | 109.00   |
| 1   | C     | 104 | SER  | CB-CA-C    | -6.20 | 98.33       | 110.10   |
| 1   | C     | 369 | ARG  | NE-CZ-NH1  | 6.19  | 123.39      | 120.30   |
| 1   | C     | 187 | TRP  | CE2-CD2-CG | 6.18  | 112.25      | 107.30   |
| 1   | A     | 104 | SER  | CB-CA-C    | -6.18 | 98.36       | 110.10   |
| 1   | B     | 104 | SER  | CB-CA-C    | -6.18 | 98.36       | 110.10   |
| 1   | B     | 49  | LEU  | O-C-N      | -6.18 | 112.82      | 122.70   |
| 1   | C     | 66  | THR  | CA-CB-OG1  | 6.16  | 121.94      | 109.00   |
| 1   | A     | 103 | LEU  | CB-CG-CD1  | 6.16  | 121.47      | 111.00   |
| 1   | C     | 103 | LEU  | CB-CG-CD1  | 6.16  | 121.47      | 111.00   |
| 1   | B     | 411 | LYS  | CB-CG-CD   | -6.16 | 95.59       | 111.60   |
| 1   | B     | 103 | LEU  | CB-CG-CD1  | 6.15  | 121.46      | 111.00   |
| 1   | A     | 411 | LYS  | CB-CG-CD   | -6.15 | 95.61       | 111.60   |
| 1   | B     | 464 | PRO  | CB-CA-C    | 6.15  | 127.37      | 112.00   |
| 1   | A     | 300 | ARG  | CB-CG-CD   | 6.14  | 127.57      | 111.60   |
| 1   | C     | 411 | LYS  | CB-CG-CD   | -6.14 | 95.63       | 111.60   |
| 1   | C     | 300 | ARG  | CB-CG-CD   | 6.14  | 127.56      | 111.60   |
| 1   | A     | 464 | PRO  | CB-CA-C    | 6.13  | 127.34      | 112.00   |
| 1   | B     | 75  | TYR  | CD1-CE1-CZ | 6.13  | 125.32      | 119.80   |
| 1   | C     | 464 | PRO  | CB-CA-C    | 6.13  | 127.34      | 112.00   |
| 1   | B     | 458 | LEU  | CB-CA-C    | -6.13 | 98.55       | 110.20   |
| 1   | B     | 300 | ARG  | CB-CG-CD   | 6.13  | 127.53      | 111.60   |
| 1   | C     | 75  | TYR  | CD1-CE1-CZ | 6.13  | 125.31      | 119.80   |
| 1   | B     | 187 | TRP  | CE2-CD2-CG | 6.12  | 112.20      | 107.30   |
| 1   | A     | 187 | TRP  | CE2-CD2-CG | 6.12  | 112.20      | 107.30   |
| 1   | A     | 398 | GLY  | N-CA-C     | 6.12  | 128.40      | 113.10   |
| 1   | B     | 398 | GLY  | N-CA-C     | 6.12  | 128.41      | 113.10   |
| 1   | A     | 458 | LEU  | CB-CA-C    | -6.12 | 98.57       | 110.20   |
| 1   | B     | 265 | THR  | O-C-N      | -6.12 | 112.91      | 122.70   |
| 1   | B     | 273 | TYR  | CB-CA-C    | -6.12 | 98.17       | 110.40   |
| 1   | C     | 285 | ASP  | O-C-N      | 6.11  | 132.48      | 122.70   |
| 1   | C     | 398 | GLY  | N-CA-C     | 6.11  | 128.38      | 113.10   |
| 1   | A     | 335 | TYR  | CA-CB-CG   | 6.11  | 125.01      | 113.40   |
| 1   | B     | 285 | ASP  | O-C-N      | 6.11  | 132.47      | 122.70   |
| 1   | B     | 473 | ILE  | CA-CB-CG1  | 6.11  | 122.61      | 111.00   |
| 1   | C     | 335 | TYR  | CA-CB-CG   | 6.11  | 125.00      | 113.40   |

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| Mol | Chain | Res | Type | Atoms      | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|-------|-------------|----------|
| 1   | A     | 265 | THR  | O-C-N      | -6.10 | 112.93      | 122.70   |
| 1   | A     | 75  | TYR  | CD1-CE1-CZ | 6.10  | 125.29      | 119.80   |
| 1   | A     | 273 | TYR  | CB-CA-C    | -6.10 | 98.20       | 110.40   |
| 1   | B     | 15  | LEU  | C-N-CA     | 6.10  | 136.95      | 121.70   |
| 1   | B     | 335 | TYR  | CA-CB-CG   | 6.10  | 124.99      | 113.40   |
| 1   | C     | 458 | LEU  | CB-CA-C    | -6.10 | 98.61       | 110.20   |
| 1   | C     | 473 | ILE  | CA-CB-CG1  | 6.09  | 122.58      | 111.00   |
| 1   | A     | 285 | ASP  | O-C-N      | 6.09  | 132.45      | 122.70   |
| 1   | A     | 15  | LEU  | C-N-CA     | 6.09  | 136.93      | 121.70   |
| 1   | A     | 473 | ILE  | CA-CB-CG1  | 6.09  | 122.57      | 111.00   |
| 1   | C     | 273 | TYR  | CB-CA-C    | -6.09 | 98.22       | 110.40   |
| 1   | C     | 265 | THR  | O-C-N      | -6.08 | 112.98      | 122.70   |
| 1   | C     | 15  | LEU  | C-N-CA     | 6.07  | 136.88      | 121.70   |
| 1   | A     | 404 | ILE  | CG1-CB-CG2 | 6.04  | 124.69      | 111.40   |
| 1   | C     | 404 | ILE  | CG1-CB-CG2 | 6.04  | 124.69      | 111.40   |
| 1   | B     | 404 | ILE  | CG1-CB-CG2 | 6.03  | 124.67      | 111.40   |
| 1   | B     | 132 | VAL  | CG1-CB-CG2 | 6.01  | 120.52      | 110.90   |
| 1   | A     | 225 | VAL  | O-C-N      | -6.00 | 113.10      | 122.70   |
| 1   | B     | 229 | GLY  | CA-C-N     | -6.00 | 104.00      | 117.20   |
| 1   | C     | 132 | VAL  | CG1-CB-CG2 | 6.00  | 120.50      | 110.90   |
| 1   | C     | 225 | VAL  | O-C-N      | -6.00 | 113.11      | 122.70   |
| 1   | A     | 132 | VAL  | CG1-CB-CG2 | 5.99  | 120.48      | 110.90   |
| 1   | A     | 229 | GLY  | N-CA-C     | -5.99 | 98.14       | 113.10   |
| 1   | B     | 225 | VAL  | O-C-N      | -5.99 | 113.12      | 122.70   |
| 1   | A     | 432 | GLN  | CB-CA-C    | 5.98  | 122.37      | 110.40   |
| 1   | B     | 229 | GLY  | N-CA-C     | -5.98 | 98.14       | 113.10   |
| 1   | C     | 432 | GLN  | CB-CA-C    | 5.98  | 122.37      | 110.40   |
| 1   | A     | 154 | ASN  | N-CA-C     | -5.98 | 94.85       | 111.00   |
| 1   | C     | 45  | ILE  | CA-CB-CG2  | 5.98  | 122.85      | 110.90   |
| 1   | A     | 229 | GLY  | CA-C-N     | -5.97 | 104.06      | 117.20   |
| 1   | B     | 154 | ASN  | N-CA-C     | -5.97 | 94.89       | 111.00   |
| 1   | B     | 432 | GLN  | CB-CA-C    | 5.97  | 122.33      | 110.40   |
| 1   | B     | 51  | TYR  | CG-CD2-CE2 | -5.96 | 116.53      | 121.30   |
| 1   | C     | 154 | ASN  | N-CA-C     | -5.96 | 94.89       | 111.00   |
| 1   | C     | 229 | GLY  | N-CA-C     | -5.96 | 98.19       | 113.10   |
| 1   | B     | 45  | ILE  | CA-CB-CG2  | 5.96  | 122.82      | 110.90   |
| 1   | B     | 210 | HIS  | CA-CB-CG   | 5.96  | 123.73      | 113.60   |
| 1   | C     | 210 | HIS  | CA-CB-CG   | 5.96  | 123.73      | 113.60   |
| 1   | A     | 45  | ILE  | CA-CB-CG2  | 5.96  | 122.82      | 110.90   |
| 1   | A     | 210 | HIS  | CA-CB-CG   | 5.96  | 123.73      | 113.60   |
| 1   | C     | 434 | THR  | CA-C-O     | -5.96 | 107.59      | 120.10   |
| 1   | B     | 434 | THR  | CA-C-O     | -5.96 | 107.59      | 120.10   |

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| Mol | Chain | Res | Type | Atoms      | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|-------|-------------|----------|
| 1   | C     | 229 | GLY  | CA-C-N     | -5.95 | 104.10      | 117.20   |
| 1   | C     | 392 | THR  | CA-CB-CG2  | 5.95  | 120.73      | 112.40   |
| 1   | A     | 434 | THR  | CA-C-O     | -5.95 | 107.61      | 120.10   |
| 1   | C     | 51  | TYR  | CG-CD2-CE2 | -5.95 | 116.54      | 121.30   |
| 1   | A     | 51  | TYR  | CG-CD2-CE2 | -5.93 | 116.55      | 121.30   |
| 1   | A     | 392 | THR  | CA-CB-CG2  | 5.93  | 120.70      | 112.40   |
| 1   | B     | 16  | THR  | CA-CB-CG2  | -5.91 | 104.13      | 112.40   |
| 1   | B     | 392 | THR  | CA-CB-CG2  | 5.91  | 120.67      | 112.40   |
| 1   | C     | 432 | GLN  | N-CA-CB    | -5.90 | 99.98       | 110.60   |
| 1   | C     | 226 | TYR  | O-C-N      | -5.89 | 113.27      | 122.70   |
| 1   | A     | 16  | THR  | CA-CB-CG2  | -5.88 | 104.17      | 112.40   |
| 1   | A     | 432 | GLN  | N-CA-CB    | -5.88 | 100.02      | 110.60   |
| 1   | B     | 387 | ILE  | CB-CG1-CD1 | -5.87 | 97.46       | 113.90   |
| 1   | B     | 208 | VAL  | CA-C-N     | -5.87 | 104.29      | 117.20   |
| 1   | A     | 226 | TYR  | O-C-N      | -5.86 | 113.32      | 122.70   |
| 1   | B     | 432 | GLN  | N-CA-CB    | -5.86 | 100.05      | 110.60   |
| 1   | A     | 387 | ILE  | CB-CG1-CD1 | -5.86 | 97.49       | 113.90   |
| 1   | B     | 252 | TYR  | CG-CD2-CE2 | -5.86 | 116.61      | 121.30   |
| 1   | C     | 208 | VAL  | CA-C-N     | -5.86 | 104.32      | 117.20   |
| 1   | C     | 387 | ILE  | CB-CG1-CD1 | -5.85 | 97.51       | 113.90   |
| 1   | A     | 208 | VAL  | CA-C-N     | -5.85 | 104.33      | 117.20   |
| 1   | B     | 219 | TYR  | CB-CG-CD1  | -5.85 | 117.49      | 121.00   |
| 1   | A     | 252 | TYR  | CG-CD2-CE2 | -5.85 | 116.62      | 121.30   |
| 1   | C     | 270 | ASP  | CB-CG-OD2  | 5.85  | 123.56      | 118.30   |
| 1   | C     | 16  | THR  | CA-CB-CG2  | -5.84 | 104.22      | 112.40   |
| 1   | B     | 226 | TYR  | O-C-N      | -5.84 | 113.36      | 122.70   |
| 1   | C     | 252 | TYR  | CG-CD2-CE2 | -5.83 | 116.63      | 121.30   |
| 1   | A     | 226 | TYR  | N-CA-C     | 5.82  | 126.72      | 111.00   |
| 1   | A     | 341 | PRO  | N-CA-C     | 5.82  | 127.24      | 112.10   |
| 1   | B     | 341 | PRO  | N-CA-C     | 5.82  | 127.23      | 112.10   |
| 1   | C     | 397 | LYS  | CA-C-N     | 5.82  | 127.84      | 116.20   |
| 1   | C     | 341 | PRO  | N-CA-C     | 5.82  | 127.22      | 112.10   |
| 1   | A     | 270 | ASP  | CB-CG-OD2  | 5.82  | 123.53      | 118.30   |
| 1   | C     | 226 | TYR  | N-CA-C     | 5.82  | 126.70      | 111.00   |
| 1   | B     | 226 | TYR  | N-CA-C     | 5.81  | 126.70      | 111.00   |
| 1   | A     | 219 | TYR  | CB-CG-CD1  | -5.80 | 117.52      | 121.00   |
| 1   | B     | 397 | LYS  | CA-C-N     | 5.80  | 127.81      | 116.20   |
| 1   | A     | 397 | LYS  | CA-C-N     | 5.80  | 127.81      | 116.20   |
| 1   | B     | 270 | ASP  | CB-CG-OD2  | 5.80  | 123.52      | 118.30   |
| 1   | C     | 65  | VAL  | CB-CA-C    | -5.80 | 100.39      | 111.40   |
| 1   | B     | 347 | THR  | O-C-N      | -5.79 | 113.43      | 122.70   |
| 1   | A     | 205 | ILE  | CB-CG1-CD1 | -5.79 | 97.69       | 113.90   |

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| Mol | Chain | Res | Type | Atoms      | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|-------|-------------|----------|
| 1   | C     | 1   | ALA  | CA-C-O     | -5.79 | 107.95      | 120.10   |
| 1   | C     | 219 | TYR  | CB-CG-CD1  | -5.79 | 117.53      | 121.00   |
| 1   | B     | 205 | ILE  | CB-CG1-CD1 | -5.78 | 97.70       | 113.90   |
| 1   | C     | 205 | ILE  | CB-CG1-CD1 | -5.78 | 97.71       | 113.90   |
| 1   | A     | 1   | ALA  | CA-C-O     | -5.78 | 107.97      | 120.10   |
| 1   | A     | 347 | THR  | O-C-N      | -5.78 | 113.46      | 122.70   |
| 1   | B     | 473 | ILE  | CA-CB-CG2  | 5.78  | 122.45      | 110.90   |
| 1   | A     | 65  | VAL  | CB-CA-C    | -5.77 | 100.44      | 111.40   |
| 1   | B     | 1   | ALA  | CA-C-O     | -5.77 | 107.98      | 120.10   |
| 1   | A     | 473 | ILE  | CA-CB-CG2  | 5.77  | 122.43      | 110.90   |
| 1   | B     | 73  | CYS  | CA-CB-SG   | 5.77  | 124.38      | 114.00   |
| 1   | C     | 473 | ILE  | CA-CB-CG2  | 5.76  | 122.43      | 110.90   |
| 1   | A     | 73  | CYS  | CA-CB-SG   | 5.76  | 124.37      | 114.00   |
| 1   | C     | 59  | ALA  | N-CA-CB    | -5.76 | 102.03      | 110.10   |
| 1   | C     | 73  | CYS  | CA-CB-SG   | 5.76  | 124.37      | 114.00   |
| 1   | B     | 65  | VAL  | CB-CA-C    | -5.76 | 100.46      | 111.40   |
| 1   | C     | 137 | PHE  | CB-CG-CD2  | 5.76  | 124.83      | 120.80   |
| 1   | A     | 134 | TYR  | CB-CG-CD2  | 5.75  | 124.45      | 121.00   |
| 1   | A     | 59  | ALA  | N-CA-CB    | -5.75 | 102.05      | 110.10   |
| 1   | B     | 21  | ARG  | CD-NE-CZ   | 5.75  | 131.65      | 123.60   |
| 1   | B     | 380 | VAL  | CA-CB-CG1  | 5.75  | 119.52      | 110.90   |
| 1   | A     | 19  | PHE  | CB-CG-CD2  | -5.75 | 116.78      | 120.80   |
| 1   | B     | 59  | ALA  | N-CA-CB    | -5.74 | 102.06      | 110.10   |
| 1   | A     | 21  | ARG  | CD-NE-CZ   | 5.74  | 131.64      | 123.60   |
| 1   | B     | 137 | PHE  | CB-CG-CD2  | 5.74  | 124.82      | 120.80   |
| 1   | C     | 347 | THR  | O-C-N      | -5.74 | 113.52      | 122.70   |
| 1   | C     | 380 | VAL  | CA-CB-CG1  | 5.74  | 119.51      | 110.90   |
| 1   | A     | 137 | PHE  | CB-CG-CD2  | 5.74  | 124.82      | 120.80   |
| 1   | A     | 380 | VAL  | CA-CB-CG1  | 5.74  | 119.50      | 110.90   |
| 1   | C     | 21  | ARG  | CD-NE-CZ   | 5.74  | 131.63      | 123.60   |
| 1   | B     | 146 | PHE  | CB-CG-CD1  | -5.73 | 116.79      | 120.80   |
| 1   | B     | 19  | PHE  | CB-CG-CD2  | -5.73 | 116.79      | 120.80   |
| 1   | C     | 19  | PHE  | CB-CG-CD2  | -5.73 | 116.79      | 120.80   |
| 1   | C     | 134 | TYR  | CB-CG-CD2  | 5.72  | 124.43      | 121.00   |
| 1   | C     | 230 | GLU  | CB-CA-C    | -5.72 | 98.96       | 110.40   |
| 1   | C     | 343 | ASN  | CA-CB-CG   | -5.72 | 100.82      | 113.40   |
| 1   | A     | 381 | THR  | O-C-N      | 5.72  | 131.85      | 122.70   |
| 1   | C     | 55  | MET  | O-C-N      | -5.72 | 113.48      | 123.20   |
| 1   | B     | 207 | THR  | C-N-CA     | 5.71  | 135.99      | 121.70   |
| 1   | A     | 55  | MET  | O-C-N      | -5.71 | 113.49      | 123.20   |
| 1   | B     | 96  | THR  | O-C-N      | -5.71 | 113.56      | 122.70   |
| 1   | B     | 134 | TYR  | CB-CG-CD2  | 5.71  | 124.43      | 121.00   |

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| Mol | Chain | Res | Type | Atoms     | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-----------|-------|-------------|----------|
| 1   | B     | 55  | MET  | O-C-N     | -5.71 | 113.49      | 123.20   |
| 1   | A     | 343 | ASN  | CA-CB-CG  | -5.71 | 100.85      | 113.40   |
| 1   | C     | 207 | THR  | C-N-CA    | 5.71  | 135.97      | 121.70   |
| 1   | A     | 146 | PHE  | CB-CG-CD1 | -5.70 | 116.81      | 120.80   |
| 1   | C     | 185 | ASN  | CA-C-N    | -5.70 | 104.67      | 117.20   |
| 1   | C     | 381 | THR  | O-C-N     | 5.70  | 131.81      | 122.70   |
| 1   | A     | 230 | GLU  | CB-CA-C   | -5.69 | 99.01       | 110.40   |
| 1   | A     | 185 | ASN  | CA-C-N    | -5.69 | 104.68      | 117.20   |
| 1   | A     | 207 | THR  | C-N-CA    | 5.69  | 135.93      | 121.70   |
| 1   | B     | 185 | ASN  | CA-C-N    | -5.69 | 104.67      | 117.20   |
| 1   | A     | 96  | THR  | O-C-N     | -5.69 | 113.60      | 122.70   |
| 1   | B     | 343 | ASN  | CA-CB-CG  | -5.69 | 100.88      | 113.40   |
| 1   | C     | 146 | PHE  | CB-CG-CD1 | -5.69 | 116.82      | 120.80   |
| 1   | B     | 234 | GLY  | N-CA-C    | 5.68  | 127.31      | 113.10   |
| 1   | C     | 234 | GLY  | N-CA-C    | 5.68  | 127.31      | 113.10   |
| 1   | B     | 381 | THR  | O-C-N     | 5.68  | 131.79      | 122.70   |
| 1   | A     | 234 | GLY  | N-CA-C    | 5.67  | 127.28      | 113.10   |
| 1   | B     | 230 | GLU  | CB-CA-C   | -5.66 | 99.07       | 110.40   |
| 1   | C     | 96  | THR  | O-C-N     | -5.66 | 113.64      | 122.70   |
| 1   | C     | 140 | PHE  | CB-CG-CD2 | -5.66 | 116.83      | 120.80   |
| 1   | B     | 383 | LYS  | N-CA-CB   | -5.65 | 100.43      | 110.60   |
| 1   | B     | 297 | ASP  | CB-CG-OD1 | 5.64  | 123.38      | 118.30   |
| 1   | B     | 229 | GLY  | O-C-N     | 5.64  | 131.73      | 122.70   |
| 1   | A     | 383 | LYS  | N-CA-CB   | -5.64 | 100.45      | 110.60   |
| 1   | B     | 18  | ARG  | NE-CZ-NH1 | 5.64  | 123.12      | 120.30   |
| 1   | C     | 181 | ASP  | N-CA-C    | 5.64  | 126.23      | 111.00   |
| 1   | A     | 297 | ASP  | CB-CG-OD1 | 5.64  | 123.38      | 118.30   |
| 1   | C     | 297 | ASP  | CB-CG-OD1 | 5.64  | 123.37      | 118.30   |
| 1   | A     | 181 | ASP  | N-CA-C    | 5.63  | 126.21      | 111.00   |
| 1   | C     | 383 | LYS  | N-CA-CB   | -5.63 | 100.46      | 110.60   |
| 1   | B     | 181 | ASP  | N-CA-C    | 5.63  | 126.19      | 111.00   |
| 1   | C     | 167 | GLY  | N-CA-C    | 5.62  | 127.16      | 113.10   |
| 1   | B     | 465 | THR  | N-CA-CB   | -5.62 | 99.62       | 110.30   |
| 1   | A     | 229 | GLY  | O-C-N     | 5.62  | 131.68      | 122.70   |
| 1   | B     | 167 | GLY  | N-CA-C    | 5.61  | 127.14      | 113.10   |
| 1   | B     | 463 | TYR  | O-C-N     | 5.61  | 131.76      | 121.10   |
| 1   | A     | 465 | THR  | N-CA-CB   | -5.61 | 99.64       | 110.30   |
| 1   | C     | 465 | THR  | N-CA-CB   | -5.61 | 99.65       | 110.30   |
| 1   | A     | 167 | GLY  | N-CA-C    | 5.61  | 127.12      | 113.10   |
| 1   | C     | 198 | TYR  | N-CA-CB   | 5.60  | 120.69      | 110.60   |
| 1   | A     | 52  | ILE  | CA-CB-CG2 | 5.60  | 122.10      | 110.90   |
| 1   | A     | 140 | PHE  | CB-CG-CD2 | -5.60 | 116.88      | 120.80   |

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| Mol | Chain | Res | Type | Atoms      | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|-------|-------------|----------|
| 1   | A     | 463 | TYR  | O-C-N      | 5.60  | 131.74      | 121.10   |
| 1   | B     | 52  | ILE  | CA-CB-CG2  | 5.60  | 122.10      | 110.90   |
| 1   | C     | 198 | TYR  | CA-C-O     | -5.60 | 108.34      | 120.10   |
| 1   | B     | 368 | ILE  | CG1-CB-CG2 | -5.60 | 99.08       | 111.40   |
| 1   | A     | 82  | TYR  | C-N-CA     | 5.60  | 135.69      | 121.70   |
| 1   | A     | 198 | TYR  | N-CA-CB    | 5.59  | 120.67      | 110.60   |
| 1   | C     | 247 | ASP  | CA-CB-CG   | 5.59  | 125.70      | 113.40   |
| 1   | C     | 463 | TYR  | O-C-N      | 5.59  | 131.73      | 121.10   |
| 1   | A     | 368 | ILE  | CG1-CB-CG2 | -5.59 | 99.10       | 111.40   |
| 1   | C     | 229 | GLY  | O-C-N      | 5.59  | 131.64      | 122.70   |
| 1   | B     | 198 | TYR  | CA-C-O     | -5.59 | 108.36      | 120.10   |
| 1   | B     | 198 | TYR  | N-CA-CB    | 5.59  | 120.66      | 110.60   |
| 1   | A     | 49  | LEU  | CB-CG-CD1  | -5.58 | 101.51      | 111.00   |
| 1   | C     | 82  | TYR  | C-N-CA     | 5.58  | 135.66      | 121.70   |
| 1   | C     | 49  | LEU  | CB-CG-CD1  | -5.58 | 101.51      | 111.00   |
| 1   | C     | 52  | ILE  | CA-CB-CG2  | 5.58  | 122.06      | 110.90   |
| 1   | A     | 198 | TYR  | CA-C-O     | -5.58 | 108.39      | 120.10   |
| 1   | C     | 99  | ASP  | CB-CA-C    | -5.58 | 99.25       | 110.40   |
| 1   | A     | 99  | ASP  | CB-CA-C    | -5.58 | 99.25       | 110.40   |
| 1   | A     | 247 | ASP  | CA-CB-CG   | 5.58  | 125.67      | 113.40   |
| 1   | B     | 82  | TYR  | C-N-CA     | 5.58  | 135.64      | 121.70   |
| 1   | B     | 99  | ASP  | CB-CA-C    | -5.58 | 99.25       | 110.40   |
| 1   | B     | 396 | ARG  | CG-CD-NE   | 5.57  | 123.50      | 111.80   |
| 1   | C     | 368 | ILE  | CG1-CB-CG2 | -5.57 | 99.14       | 111.40   |
| 1   | C     | 376 | ASP  | CB-CG-OD2  | -5.57 | 113.29      | 118.30   |
| 1   | B     | 247 | ASP  | CA-CB-CG   | 5.57  | 125.65      | 113.40   |
| 1   | B     | 49  | LEU  | CB-CG-CD1  | -5.57 | 101.54      | 111.00   |
| 1   | C     | 396 | ARG  | CG-CD-NE   | 5.57  | 123.49      | 111.80   |
| 1   | C     | 199 | SER  | CB-CA-C    | -5.56 | 99.53       | 110.10   |
| 1   | A     | 396 | ARG  | CG-CD-NE   | 5.56  | 123.48      | 111.80   |
| 1   | C     | 83  | TRP  | CE2-CD2-CG | -5.56 | 102.85      | 107.30   |
| 1   | A     | 83  | TRP  | CE2-CD2-CG | -5.56 | 102.86      | 107.30   |
| 1   | A     | 199 | SER  | CB-CA-C    | -5.55 | 99.56       | 110.10   |
| 1   | B     | 140 | PHE  | CB-CG-CD2  | -5.55 | 116.92      | 120.80   |
| 1   | A     | 376 | ASP  | CB-CG-OD2  | -5.54 | 113.31      | 118.30   |
| 1   | B     | 199 | SER  | CB-CA-C    | -5.54 | 99.57       | 110.10   |
| 1   | B     | 376 | ASP  | CB-CG-OD2  | -5.53 | 113.32      | 118.30   |
| 1   | B     | 82  | TYR  | CB-CG-CD1  | -5.52 | 117.69      | 121.00   |
| 1   | B     | 83  | TRP  | CE2-CD2-CG | -5.52 | 102.88      | 107.30   |
| 1   | C     | 82  | TYR  | CB-CG-CD1  | -5.52 | 117.69      | 121.00   |
| 1   | A     | 300 | ARG  | NH1-CZ-NH2 | 5.52  | 125.47      | 119.40   |
| 1   | C     | 300 | ARG  | NH1-CZ-NH2 | 5.52  | 125.47      | 119.40   |

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| Mol | Chain | Res | Type | Atoms      | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|-------|-------------|----------|
| 1   | B     | 300 | ARG  | NH1-CZ-NH2 | 5.51  | 125.47      | 119.40   |
| 1   | C     | 18  | ARG  | NE-CZ-NH1  | 5.51  | 123.06      | 120.30   |
| 1   | C     | 154 | ASN  | CA-CB-CG   | 5.50  | 125.51      | 113.40   |
| 1   | C     | 166 | LEU  | CB-CA-C    | 5.50  | 120.65      | 110.20   |
| 1   | A     | 82  | TYR  | CB-CG-CD1  | -5.50 | 117.70      | 121.00   |
| 1   | A     | 166 | LEU  | CB-CA-C    | 5.49  | 120.64      | 110.20   |
| 1   | A     | 154 | ASN  | CA-CB-CG   | 5.49  | 125.48      | 113.40   |
| 1   | B     | 255 | TYR  | CA-CB-CG   | 5.48  | 123.82      | 113.40   |
| 1   | B     | 166 | LEU  | CB-CA-C    | 5.48  | 120.61      | 110.20   |
| 1   | B     | 326 | ILE  | CB-CG1-CD1 | 5.48  | 129.24      | 113.90   |
| 1   | A     | 18  | ARG  | NE-CZ-NH1  | 5.48  | 123.04      | 120.30   |
| 1   | A     | 181 | ASP  | N-CA-CB    | -5.47 | 100.76      | 110.60   |
| 1   | A     | 326 | ILE  | CB-CG1-CD1 | 5.47  | 129.21      | 113.90   |
| 1   | B     | 154 | ASN  | CA-CB-CG   | 5.47  | 125.43      | 113.40   |
| 1   | C     | 326 | ILE  | CB-CG1-CD1 | 5.46  | 129.20      | 113.90   |
| 1   | B     | 181 | ASP  | N-CA-CB    | -5.46 | 100.77      | 110.60   |
| 1   | A     | 255 | TYR  | CA-CB-CG   | 5.45  | 123.76      | 113.40   |
| 1   | C     | 255 | TYR  | CA-CB-CG   | 5.45  | 123.76      | 113.40   |
| 1   | C     | 377 | THR  | CA-CB-CG2  | 5.45  | 120.03      | 112.40   |
| 1   | B     | 411 | LYS  | N-CA-CB    | -5.45 | 100.79      | 110.60   |
| 1   | B     | 8   | SER  | C-N-CA     | 5.44  | 135.30      | 121.70   |
| 1   | C     | 181 | ASP  | N-CA-CB    | -5.44 | 100.81      | 110.60   |
| 1   | C     | 186 | GLU  | CA-CB-CG   | 5.44  | 125.37      | 113.40   |
| 1   | A     | 377 | THR  | CA-CB-CG2  | 5.44  | 120.01      | 112.40   |
| 1   | B     | 377 | THR  | CA-CB-CG2  | 5.44  | 120.01      | 112.40   |
| 1   | B     | 404 | ILE  | C-N-CA     | -5.43 | 108.12      | 121.70   |
| 1   | C     | 8   | SER  | C-N-CA     | 5.43  | 135.28      | 121.70   |
| 1   | A     | 8   | SER  | C-N-CA     | 5.43  | 135.28      | 121.70   |
| 1   | A     | 411 | LYS  | N-CA-CB    | -5.43 | 100.83      | 110.60   |
| 1   | C     | 292 | PHE  | C-N-CA     | 5.43  | 135.27      | 121.70   |
| 1   | C     | 252 | TYR  | N-CA-C     | 5.43  | 125.66      | 111.00   |
| 1   | B     | 186 | GLU  | CA-CB-CG   | 5.43  | 125.34      | 113.40   |
| 1   | A     | 252 | TYR  | N-CA-C     | 5.42  | 125.64      | 111.00   |
| 1   | A     | 186 | GLU  | CA-CB-CG   | 5.42  | 125.33      | 113.40   |
| 1   | B     | 389 | ASP  | CB-CG-OD2  | 5.42  | 123.17      | 118.30   |
| 1   | A     | 404 | ILE  | C-N-CA     | -5.41 | 108.17      | 121.70   |
| 1   | C     | 411 | LYS  | N-CA-CB    | -5.41 | 100.86      | 110.60   |
| 1   | B     | 252 | TYR  | N-CA-C     | 5.41  | 125.61      | 111.00   |
| 1   | A     | 292 | PHE  | C-N-CA     | 5.41  | 135.22      | 121.70   |
| 1   | C     | 404 | ILE  | C-N-CA     | -5.41 | 108.18      | 121.70   |
| 1   | A     | 246 | MET  | N-CA-C     | 5.40  | 125.59      | 111.00   |
| 1   | B     | 292 | PHE  | C-N-CA     | 5.40  | 135.21      | 121.70   |

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| Mol | Chain | Res | Type | Atoms      | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|-------|-------------|----------|
| 1   | C     | 3   | PRO  | N-CA-C     | 5.40  | 126.15      | 112.10   |
| 1   | A     | 3   | PRO  | N-CA-C     | 5.40  | 126.14      | 112.10   |
| 1   | B     | 246 | MET  | N-CA-C     | 5.40  | 125.58      | 111.00   |
| 1   | A     | 389 | ASP  | CB-CG-OD2  | 5.39  | 123.16      | 118.30   |
| 1   | A     | 435 | GLU  | CA-C-N     | 5.39  | 129.07      | 117.20   |
| 1   | B     | 3   | PRO  | N-CA-C     | 5.39  | 126.12      | 112.10   |
| 1   | C     | 198 | TYR  | C-N-CA     | 5.39  | 135.18      | 121.70   |
| 1   | C     | 369 | ARG  | NH1-CZ-NH2 | -5.39 | 113.47      | 119.40   |
| 1   | B     | 435 | GLU  | CA-C-N     | 5.39  | 129.06      | 117.20   |
| 1   | C     | 435 | GLU  | CA-C-N     | 5.39  | 129.06      | 117.20   |
| 1   | B     | 198 | TYR  | C-N-CA     | 5.38  | 135.16      | 121.70   |
| 1   | A     | 198 | TYR  | C-N-CA     | 5.38  | 135.16      | 121.70   |
| 1   | C     | 246 | MET  | N-CA-C     | 5.38  | 125.53      | 111.00   |
| 1   | B     | 245 | VAL  | CG1-CB-CG2 | -5.37 | 102.30      | 110.90   |
| 1   | C     | 135 | SER  | N-CA-CB    | -5.37 | 102.44      | 110.50   |
| 1   | A     | 369 | ARG  | NH1-CZ-NH2 | -5.37 | 113.50      | 119.40   |
| 1   | C     | 245 | VAL  | CG1-CB-CG2 | -5.37 | 102.31      | 110.90   |
| 1   | C     | 327 | ILE  | CA-CB-CG2  | -5.37 | 100.17      | 110.90   |
| 1   | A     | 245 | VAL  | CG1-CB-CG2 | -5.36 | 102.33      | 110.90   |
| 1   | B     | 327 | ILE  | CA-CB-CG2  | -5.35 | 100.19      | 110.90   |
| 1   | A     | 327 | ILE  | CA-CB-CG2  | -5.35 | 100.20      | 110.90   |
| 1   | B     | 116 | VAL  | CA-CB-CG2  | 5.35  | 118.92      | 110.90   |
| 1   | A     | 135 | SER  | N-CA-CB    | -5.34 | 102.48      | 110.50   |
| 1   | A     | 178 | THR  | CA-CB-CG2  | 5.34  | 119.88      | 112.40   |
| 1   | A     | 161 | VAL  | C-N-CA     | 5.34  | 135.05      | 121.70   |
| 1   | C     | 161 | VAL  | C-N-CA     | 5.34  | 135.05      | 121.70   |
| 1   | C     | 178 | THR  | CA-CB-CG2  | 5.33  | 119.87      | 112.40   |
| 1   | C     | 209 | LYS  | CA-CB-CG   | 5.33  | 125.14      | 113.40   |
| 1   | B     | 369 | ARG  | NH1-CZ-NH2 | -5.33 | 113.53      | 119.40   |
| 1   | B     | 135 | SER  | N-CA-CB    | -5.33 | 102.51      | 110.50   |
| 1   | B     | 161 | VAL  | C-N-CA     | 5.33  | 135.01      | 121.70   |
| 1   | B     | 83  | TRP  | CA-C-O     | -5.32 | 108.92      | 120.10   |
| 1   | B     | 450 | VAL  | N-CA-C     | 5.32  | 125.37      | 111.00   |
| 1   | C     | 116 | VAL  | CA-CB-CG2  | 5.32  | 118.88      | 110.90   |
| 1   | B     | 209 | LYS  | CA-CB-CG   | 5.32  | 125.10      | 113.40   |
| 1   | A     | 450 | VAL  | N-CA-C     | 5.32  | 125.35      | 111.00   |
| 1   | B     | 178 | THR  | CA-CB-CG2  | 5.32  | 119.84      | 112.40   |
| 1   | C     | 83  | TRP  | CA-C-O     | -5.32 | 108.94      | 120.10   |
| 1   | A     | 209 | LYS  | CA-CB-CG   | 5.31  | 125.09      | 113.40   |
| 1   | A     | 83  | TRP  | CA-C-O     | -5.31 | 108.94      | 120.10   |
| 1   | A     | 116 | VAL  | CA-CB-CG2  | 5.31  | 118.87      | 110.90   |
| 1   | C     | 389 | ASP  | CB-CG-OD2  | 5.31  | 123.08      | 118.30   |

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| Mol | Chain | Res | Type | Atoms      | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|-------|-------------|----------|
| 1   | C     | 243 | GLN  | OE1-CD-NE2 | -5.31 | 109.69      | 121.90   |
| 1   | C     | 15  | LEU  | CA-CB-CG   | -5.31 | 103.09      | 115.30   |
| 1   | C     | 450 | VAL  | N-CA-C     | 5.30  | 125.31      | 111.00   |
| 1   | A     | 243 | GLN  | OE1-CD-NE2 | -5.30 | 109.71      | 121.90   |
| 1   | B     | 15  | LEU  | CA-CB-CG   | -5.30 | 103.11      | 115.30   |
| 1   | C     | 411 | LYS  | CA-C-N     | 5.30  | 126.79      | 116.20   |
| 1   | A     | 15  | LEU  | CA-CB-CG   | -5.29 | 103.12      | 115.30   |
| 1   | A     | 13  | PHE  | CA-C-O     | -5.28 | 109.00      | 120.10   |
| 1   | B     | 148 | PRO  | CA-N-CD    | -5.28 | 104.11      | 111.50   |
| 1   | B     | 319 | ILE  | CA-CB-CG2  | 5.28  | 121.46      | 110.90   |
| 1   | A     | 411 | LYS  | CA-C-N     | 5.28  | 126.76      | 116.20   |
| 1   | B     | 243 | GLN  | OE1-CD-NE2 | -5.28 | 109.76      | 121.90   |
| 1   | C     | 13  | PHE  | CA-C-O     | -5.28 | 109.02      | 120.10   |
| 1   | A     | 319 | ILE  | CA-CB-CG2  | 5.27  | 121.44      | 110.90   |
| 1   | B     | 411 | LYS  | CA-C-N     | 5.27  | 126.74      | 116.20   |
| 1   | C     | 319 | ILE  | CA-CB-CG2  | 5.26  | 121.42      | 110.90   |
| 1   | B     | 13  | PHE  | CA-C-O     | -5.26 | 109.06      | 120.10   |
| 1   | C     | 466 | GLU  | CG-CD-OE2  | 5.25  | 128.81      | 118.30   |
| 1   | A     | 148 | PRO  | CA-N-CD    | -5.25 | 104.15      | 111.50   |
| 1   | C     | 266 | SER  | CB-CA-C    | -5.25 | 100.13      | 110.10   |
| 1   | B     | 81  | GLY  | N-CA-C     | -5.24 | 100.00      | 113.10   |
| 1   | A     | 71  | GLN  | CB-CG-CD   | 5.24  | 125.22      | 111.60   |
| 1   | A     | 81  | GLY  | N-CA-C     | -5.24 | 100.00      | 113.10   |
| 1   | A     | 266 | SER  | CB-CA-C    | -5.24 | 100.14      | 110.10   |
| 1   | C     | 71  | GLN  | CB-CG-CD   | 5.24  | 125.22      | 111.60   |
| 1   | A     | 259 | LEU  | CB-CG-CD2  | -5.24 | 102.09      | 111.00   |
| 1   | B     | 96  | THR  | CA-CB-CG2  | 5.24  | 119.73      | 112.40   |
| 1   | B     | 259 | LEU  | CB-CG-CD2  | -5.24 | 102.09      | 111.00   |
| 1   | A     | 466 | GLU  | CG-CD-OE2  | 5.23  | 128.77      | 118.30   |
| 1   | C     | 81  | GLY  | N-CA-C     | -5.23 | 100.02      | 113.10   |
| 1   | B     | 71  | GLN  | CB-CG-CD   | 5.23  | 125.20      | 111.60   |
| 1   | A     | 266 | SER  | CA-CB-OG   | -5.23 | 97.09       | 111.20   |
| 1   | B     | 266 | SER  | CB-CA-C    | -5.23 | 100.17      | 110.10   |
| 1   | B     | 466 | GLU  | CG-CD-OE2  | 5.22  | 128.75      | 118.30   |
| 1   | B     | 266 | SER  | CA-CB-OG   | -5.22 | 97.11       | 111.20   |
| 1   | B     | 347 | THR  | CA-CB-OG1  | 5.22  | 119.96      | 109.00   |
| 1   | C     | 153 | GLN  | CB-CG-CD   | 5.22  | 125.17      | 111.60   |
| 1   | B     | 87  | ILE  | CA-CB-CG2  | 5.22  | 121.33      | 110.90   |
| 1   | C     | 110 | ARG  | NH1-CZ-NH2 | -5.22 | 113.66      | 119.40   |
| 1   | C     | 266 | SER  | CA-CB-OG   | -5.21 | 97.13       | 111.20   |
| 1   | B     | 236 | PRO  | CB-CA-C    | -5.21 | 98.97       | 112.00   |
| 1   | C     | 148 | PRO  | CA-N-CD    | -5.21 | 104.21      | 111.50   |

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| Mol | Chain | Res | Type | Atoms       | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-------------|-------|-------------|----------|
| 1   | C     | 347 | THR  | CA-CB-OG1   | 5.21  | 119.94      | 109.00   |
| 1   | A     | 347 | THR  | CA-CB-OG1   | 5.21  | 119.94      | 109.00   |
| 1   | A     | 87  | ILE  | CA-CB-CG2   | 5.20  | 121.31      | 110.90   |
| 1   | A     | 96  | THR  | CA-CB-CG2   | 5.20  | 119.68      | 112.40   |
| 1   | A     | 153 | GLN  | CB-CG-CD    | 5.20  | 125.12      | 111.60   |
| 1   | C     | 87  | ILE  | CA-CB-CG2   | 5.20  | 121.30      | 110.90   |
| 1   | C     | 259 | LEU  | CB-CG-CD2   | -5.20 | 102.16      | 111.00   |
| 1   | C     | 211 | VAL  | CB-CA-C     | -5.20 | 101.53      | 111.40   |
| 1   | C     | 236 | PRO  | CB-CA-C     | -5.20 | 99.01       | 112.00   |
| 1   | B     | 153 | GLN  | CB-CG-CD    | 5.19  | 125.10      | 111.60   |
| 1   | B     | 216 | TRP  | CE3-CZ3-CH2 | -5.19 | 115.49      | 121.20   |
| 1   | B     | 203 | LEU  | CB-CA-C     | -5.19 | 100.34      | 110.20   |
| 1   | A     | 203 | LEU  | CB-CA-C     | -5.19 | 100.34      | 110.20   |
| 1   | A     | 110 | ARG  | NH1-CZ-NH2  | -5.18 | 113.70      | 119.40   |
| 1   | A     | 236 | PRO  | CB-CA-C     | -5.18 | 99.04       | 112.00   |
| 1   | B     | 7   | ARG  | NE-CZ-NH2   | -5.18 | 117.71      | 120.30   |
| 1   | C     | 203 | LEU  | CB-CA-C     | -5.18 | 100.35      | 110.20   |
| 1   | C     | 435 | GLU  | C-N-CA      | 5.18  | 134.66      | 121.70   |
| 1   | C     | 442 | VAL  | N-CA-CB     | -5.18 | 100.09      | 111.50   |
| 1   | A     | 211 | VAL  | CB-CA-C     | -5.18 | 101.55      | 111.40   |
| 1   | B     | 211 | VAL  | CB-CA-C     | -5.18 | 101.55      | 111.40   |
| 1   | C     | 96  | THR  | CA-CB-CG2   | 5.18  | 119.66      | 112.40   |
| 1   | B     | 442 | VAL  | N-CA-CB     | -5.18 | 100.10      | 111.50   |
| 1   | A     | 216 | TRP  | CE3-CZ3-CH2 | -5.18 | 115.50      | 121.20   |
| 1   | A     | 442 | VAL  | N-CA-CB     | -5.18 | 100.11      | 111.50   |
| 1   | A     | 4   | ALA  | N-CA-CB     | -5.17 | 102.86      | 110.10   |
| 1   | A     | 435 | GLU  | C-N-CA      | 5.17  | 134.63      | 121.70   |
| 1   | B     | 58  | THR  | O-C-N       | -5.17 | 114.43      | 122.70   |
| 1   | B     | 4   | ALA  | N-CA-CB     | -5.17 | 102.86      | 110.10   |
| 1   | B     | 110 | ARG  | NH1-CZ-NH2  | -5.17 | 113.71      | 119.40   |
| 1   | B     | 435 | GLU  | C-N-CA      | 5.17  | 134.61      | 121.70   |
| 1   | A     | 58  | THR  | O-C-N       | -5.16 | 114.44      | 122.70   |
| 1   | B     | 134 | TYR  | CG-CD2-CE2  | -5.15 | 117.18      | 121.30   |
| 1   | B     | 7   | ARG  | C-N-CA      | 5.15  | 134.58      | 121.70   |
| 1   | C     | 58  | THR  | O-C-N       | -5.15 | 114.46      | 122.70   |
| 1   | A     | 243 | GLN  | CG-CD-NE2   | 5.14  | 129.05      | 116.70   |
| 1   | C     | 4   | ALA  | N-CA-CB     | -5.14 | 102.90      | 110.10   |
| 1   | C     | 216 | TRP  | CE3-CZ3-CH2 | -5.14 | 115.54      | 121.20   |
| 1   | B     | 75  | TYR  | CG-CD1-CE1  | -5.14 | 117.19      | 121.30   |
| 1   | A     | 7   | ARG  | C-N-CA      | 5.14  | 134.55      | 121.70   |
| 1   | B     | 139 | PRO  | CA-CB-CG    | -5.14 | 94.24       | 104.00   |
| 1   | C     | 126 | ASP  | CB-CG-OD2   | 5.14  | 122.93      | 118.30   |

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| Mol | Chain | Res | Type | Atoms      | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|-------|-------------|----------|
| 1   | C     | 243 | GLN  | CG-CD-NE2  | 5.14  | 129.03      | 116.70   |
| 1   | C     | 139 | PRO  | CA-CB-CG   | -5.13 | 94.25       | 104.00   |
| 1   | B     | 243 | GLN  | CG-CD-NE2  | 5.13  | 129.02      | 116.70   |
| 1   | C     | 134 | TYR  | CG-CD2-CE2 | -5.13 | 117.20      | 121.30   |
| 1   | B     | 126 | ASP  | CB-CG-OD2  | 5.12  | 122.91      | 118.30   |
| 1   | B     | 294 | GLU  | OE1-CD-OE2 | -5.12 | 117.16      | 123.30   |
| 1   | A     | 139 | PRO  | CA-CB-CG   | -5.12 | 94.28       | 104.00   |
| 1   | A     | 18  | ARG  | CA-CB-CG   | 5.12  | 124.66      | 113.40   |
| 1   | C     | 176 | LEU  | CB-CA-C    | -5.12 | 100.48      | 110.20   |
| 1   | C     | 18  | ARG  | CA-CB-CG   | 5.11  | 124.64      | 113.40   |
| 1   | A     | 126 | ASP  | CB-CG-OD2  | 5.11  | 122.90      | 118.30   |
| 1   | C     | 7   | ARG  | C-N-CA     | 5.11  | 134.47      | 121.70   |
| 1   | C     | 294 | GLU  | OE1-CD-OE2 | -5.11 | 117.17      | 123.30   |
| 1   | A     | 176 | LEU  | CB-CA-C    | -5.11 | 100.50      | 110.20   |
| 1   | B     | 18  | ARG  | CA-CB-CG   | 5.10  | 124.62      | 113.40   |
| 1   | A     | 75  | TYR  | CG-CD1-CE1 | -5.10 | 117.22      | 121.30   |
| 1   | C     | 252 | TYR  | CB-CG-CD1  | -5.10 | 117.94      | 121.00   |
| 1   | A     | 134 | TYR  | CG-CD2-CE2 | -5.09 | 117.22      | 121.30   |
| 1   | B     | 176 | LEU  | CB-CA-C    | -5.09 | 100.52      | 110.20   |
| 1   | A     | 294 | GLU  | OE1-CD-OE2 | -5.09 | 117.19      | 123.30   |
| 1   | B     | 80  | THR  | O-C-N      | 5.09  | 131.85      | 123.20   |
| 1   | C     | 75  | TYR  | CG-CD1-CE1 | -5.09 | 117.23      | 121.30   |
| 1   | A     | 7   | ARG  | NE-CZ-NH2  | -5.08 | 117.76      | 120.30   |
| 1   | A     | 32  | THR  | N-CA-C     | 5.07  | 124.70      | 111.00   |
| 1   | B     | 32  | THR  | N-CA-C     | 5.07  | 124.69      | 111.00   |
| 1   | C     | 32  | THR  | N-CA-C     | 5.06  | 124.67      | 111.00   |
| 1   | C     | 66  | THR  | CB-CA-C    | -5.06 | 97.94       | 111.60   |
| 1   | C     | 96  | THR  | N-CA-C     | 5.06  | 124.65      | 111.00   |
| 1   | B     | 66  | THR  | CB-CA-C    | -5.06 | 97.95       | 111.60   |
| 1   | C     | 7   | ARG  | NE-CZ-NH2  | -5.06 | 117.77      | 120.30   |
| 1   | A     | 66  | THR  | CB-CA-C    | -5.05 | 97.95       | 111.60   |
| 1   | C     | 382 | TYR  | CG-CD2-CE2 | -5.05 | 117.26      | 121.30   |
| 1   | A     | 80  | THR  | O-C-N      | 5.05  | 131.79      | 123.20   |
| 1   | A     | 96  | THR  | N-CA-C     | 5.04  | 124.62      | 111.00   |
| 1   | A     | 252 | TYR  | CB-CG-CD1  | -5.04 | 117.98      | 121.00   |
| 1   | B     | 252 | TYR  | CB-CG-CD1  | -5.04 | 117.97      | 121.00   |
| 1   | B     | 96  | THR  | N-CA-C     | 5.04  | 124.60      | 111.00   |
| 1   | C     | 80  | THR  | O-C-N      | 5.03  | 131.76      | 123.20   |
| 1   | A     | 249 | VAL  | N-CA-C     | 5.02  | 124.56      | 111.00   |
| 1   | B     | 241 | PRO  | CA-N-CD    | -5.02 | 104.47      | 111.50   |
| 1   | C     | 249 | VAL  | N-CA-C     | 5.02  | 124.55      | 111.00   |
| 1   | A     | 382 | TYR  | CG-CD2-CE2 | -5.02 | 117.28      | 121.30   |

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| Mol | Chain | Res | Type | Atoms      | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|------------|-------|-------------|----------|
| 1   | C     | 19  | PHE  | CA-CB-CG   | 5.02  | 125.94      | 113.90   |
| 1   | B     | 249 | VAL  | N-CA-C     | 5.02  | 124.54      | 111.00   |
| 1   | C     | 95  | GLY  | C-N-CA     | 5.01  | 134.24      | 121.70   |
| 1   | A     | 19  | PHE  | CA-CB-CG   | 5.01  | 125.92      | 113.90   |
| 1   | B     | 73  | CYS  | CA-C-O     | -5.01 | 109.58      | 120.10   |
| 1   | B     | 85  | THR  | CA-C-O     | 5.00  | 130.61      | 120.10   |
| 1   | A     | 73  | CYS  | CA-C-O     | -5.00 | 109.59      | 120.10   |
| 1   | A     | 95  | GLY  | C-N-CA     | 5.00  | 134.21      | 121.70   |
| 1   | B     | 19  | PHE  | CA-CB-CG   | 5.00  | 125.91      | 113.90   |
| 1   | B     | 382 | TYR  | CG-CD2-CE2 | -5.00 | 117.30      | 121.30   |

All (6) chirality outliers are listed below:

| Mol | Chain | Res | Type | Atom |
|-----|-------|-----|------|------|
| 1   | A     | 208 | VAL  | CA   |
| 1   | A     | 404 | ILE  | CB   |
| 1   | B     | 208 | VAL  | CA   |
| 1   | B     | 404 | ILE  | CB   |
| 1   | C     | 208 | VAL  | CA   |
| 1   | C     | 404 | ILE  | CB   |

All (261) planarity outliers are listed below:

| Mol | Chain | Res | Type | Group             |
|-----|-------|-----|------|-------------------|
| 1   | A     | 105 | SER  | Mainchain         |
| 1   | A     | 108 | HIS  | Mainchain         |
| 1   | A     | 123 | MET  | Mainchain         |
| 1   | A     | 13  | PHE  | Mainchain         |
| 1   | A     | 134 | TYR  | Sidechain         |
| 1   | A     | 138 | LYS  | Mainchain,Peptide |
| 1   | A     | 15  | LEU  | Mainchain         |
| 1   | A     | 157 | ASP  | Sidechain         |
| 1   | A     | 17  | ASP  | Mainchain         |
| 1   | A     | 194 | LEU  | Mainchain         |
| 1   | A     | 195 | VAL  | Mainchain         |
| 1   | A     | 2   | THR  | Mainchain         |
| 1   | A     | 204 | ARG  | Sidechain         |
| 1   | A     | 205 | ILE  | Mainchain         |
| 1   | A     | 208 | VAL  | Mainchain         |
| 1   | A     | 209 | LYS  | Mainchain         |
| 1   | A     | 211 | VAL  | Mainchain         |
| 1   | A     | 212 | GLN  | Mainchain         |

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| <b>Mol</b> | <b>Chain</b> | <b>Res</b> | <b>Type</b> | <b>Group</b>        |
|------------|--------------|------------|-------------|---------------------|
| 1          | A            | 219        | TYR         | Sidechain           |
| 1          | A            | 24         | GLY         | Mainchain           |
| 1          | A            | 243        | GLN         | Sidechain           |
| 1          | A            | 246        | MET         | Mainchain           |
| 1          | A            | 249        | VAL         | Mainchain           |
| 1          | A            | 250        | LEU         | Mainchain           |
| 1          | A            | 252        | TYR         | Mainchain           |
| 1          | A            | 255        | TYR         | Sidechain           |
| 1          | A            | 256        | TYR         | Mainchain           |
| 1          | A            | 258        | LEU         | Mainchain           |
| 1          | A            | 259        | LEU         | Mainchain           |
| 1          | A            | 26         | THR         | Mainchain           |
| 1          | A            | 265        | THR         | Mainchain           |
| 1          | A            | 272        | LEU         | Mainchain           |
| 1          | A            | 273        | TYR         | Mainchain           |
| 1          | A            | 278        | THR         | Mainchain           |
| 1          | A            | 282        | ASP         | Mainchain           |
| 1          | A            | 284        | PRO         | Mainchain           |
| 1          | A            | 292        | PHE         | Mainchain           |
| 1          | A            | 294        | GLU         | Sidechain           |
| 1          | A            | 300        | ARG         | Sidechain,Mainchain |
| 1          | A            | 31         | ASN         | Mainchain           |
| 1          | A            | 310        | LEU         | Mainchain           |
| 1          | A            | 313        | ASN         | Sidechain           |
| 1          | A            | 324        | LEU         | Mainchain           |
| 1          | A            | 325        | PRO         | Mainchain           |
| 1          | A            | 329        | ALA         | Mainchain           |
| 1          | A            | 340        | ASP         | Mainchain,Peptide   |
| 1          | A            | 346        | ALA         | Mainchain           |
| 1          | A            | 347        | THR         | Mainchain           |
| 1          | A            | 35         | GLN         | Mainchain           |
| 1          | A            | 353        | PRO         | Mainchain           |
| 1          | A            | 376        | ASP         | Mainchain           |
| 1          | A            | 39         | GLY         | Mainchain           |
| 1          | A            | 394        | ALA         | Mainchain           |
| 1          | A            | 396        | ARG         | Sidechain,Mainchain |
| 1          | A            | 404        | ILE         | Mainchain           |
| 1          | A            | 431        | GLN         | Sidechain           |
| 1          | A            | 432        | GLN         | Sidechain           |
| 1          | A            | 435        | GLU         | Sidechain,Mainchain |
| 1          | A            | 452        | VAL         | Mainchain           |
| 1          | A            | 458        | LEU         | Peptide             |

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| <b>Mol</b> | <b>Chain</b> | <b>Res</b> | <b>Type</b> | <b>Group</b>        |
|------------|--------------|------------|-------------|---------------------|
| 1          | A            | 460        | ARG         | Sidechain           |
| 1          | A            | 461        | VAL         | Mainchain           |
| 1          | A            | 463        | TYR         | Sidechain           |
| 1          | A            | 54         | GLY         | Mainchain           |
| 1          | A            | 61         | TRP         | Mainchain           |
| 1          | A            | 66         | THR         | Mainchain           |
| 1          | A            | 68         | GLN         | Sidechain           |
| 1          | A            | 7          | ARG         | Sidechain           |
| 1          | A            | 73         | CYS         | Mainchain           |
| 1          | A            | 74         | ALA         | Mainchain           |
| 1          | A            | 75         | TYR         | Sidechain           |
| 1          | A            | 76         | GLY         | Mainchain           |
| 1          | A            | 79         | TYR         | Sidechain           |
| 1          | A            | 81         | GLY         | Mainchain           |
| 1          | A            | 86         | ASP         | Mainchain           |
| 1          | A            | 87         | ILE         | Mainchain           |
| 1          | A            | 91         | ASN         | Sidechain,Mainchain |
| 1          | A            | 93         | ASN         | Mainchain           |
| 1          | A            | 94         | TYR         | Sidechain,Mainchain |
| 1          | A            | 99         | ASP         | Sidechain           |
| 1          | B            | 105        | SER         | Mainchain           |
| 1          | B            | 108        | HIS         | Mainchain           |
| 1          | B            | 123        | MET         | Mainchain           |
| 1          | B            | 13         | PHE         | Mainchain           |
| 1          | B            | 134        | TYR         | Sidechain           |
| 1          | B            | 138        | LYS         | Mainchain,Peptide   |
| 1          | B            | 15         | LEU         | Mainchain           |
| 1          | B            | 157        | ASP         | Sidechain           |
| 1          | B            | 17         | ASP         | Mainchain           |
| 1          | B            | 194        | LEU         | Mainchain           |
| 1          | B            | 195        | VAL         | Mainchain           |
| 1          | B            | 2          | THR         | Mainchain           |
| 1          | B            | 204        | ARG         | Sidechain           |
| 1          | B            | 205        | ILE         | Mainchain           |
| 1          | B            | 208        | VAL         | Mainchain           |
| 1          | B            | 209        | LYS         | Mainchain           |
| 1          | B            | 211        | VAL         | Mainchain           |
| 1          | B            | 212        | GLN         | Mainchain           |
| 1          | B            | 219        | TYR         | Sidechain           |
| 1          | B            | 24         | GLY         | Mainchain           |
| 1          | B            | 243        | GLN         | Sidechain           |
| 1          | B            | 246        | MET         | Mainchain           |

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| <b>Mol</b> | <b>Chain</b> | <b>Res</b> | <b>Type</b> | <b>Group</b>        |
|------------|--------------|------------|-------------|---------------------|
| 1          | B            | 249        | VAL         | Mainchain           |
| 1          | B            | 250        | LEU         | Mainchain           |
| 1          | B            | 252        | TYR         | Mainchain           |
| 1          | B            | 255        | TYR         | Sidechain           |
| 1          | B            | 256        | TYR         | Mainchain           |
| 1          | B            | 258        | LEU         | Mainchain           |
| 1          | B            | 259        | LEU         | Mainchain           |
| 1          | B            | 26         | THR         | Mainchain           |
| 1          | B            | 265        | THR         | Mainchain           |
| 1          | B            | 272        | LEU         | Mainchain           |
| 1          | B            | 273        | TYR         | Mainchain           |
| 1          | B            | 278        | THR         | Mainchain           |
| 1          | B            | 282        | ASP         | Mainchain           |
| 1          | B            | 284        | PRO         | Mainchain           |
| 1          | B            | 292        | PHE         | Mainchain           |
| 1          | B            | 294        | GLU         | Sidechain           |
| 1          | B            | 300        | ARG         | Sidechain,Mainchain |
| 1          | B            | 31         | ASN         | Mainchain           |
| 1          | B            | 310        | LEU         | Mainchain           |
| 1          | B            | 313        | ASN         | Sidechain           |
| 1          | B            | 324        | LEU         | Mainchain           |
| 1          | B            | 325        | PRO         | Mainchain           |
| 1          | B            | 329        | ALA         | Mainchain           |
| 1          | B            | 340        | ASP         | Mainchain,Peptide   |
| 1          | B            | 346        | ALA         | Mainchain           |
| 1          | B            | 347        | THR         | Mainchain           |
| 1          | B            | 35         | GLN         | Mainchain           |
| 1          | B            | 353        | PRO         | Mainchain           |
| 1          | B            | 376        | ASP         | Mainchain           |
| 1          | B            | 39         | GLY         | Mainchain           |
| 1          | B            | 394        | ALA         | Mainchain           |
| 1          | B            | 396        | ARG         | Sidechain,Mainchain |
| 1          | B            | 404        | ILE         | Mainchain           |
| 1          | B            | 431        | GLN         | Sidechain           |
| 1          | B            | 432        | GLN         | Sidechain           |
| 1          | B            | 435        | GLU         | Sidechain,Mainchain |
| 1          | B            | 452        | VAL         | Mainchain           |
| 1          | B            | 458        | LEU         | Peptide             |
| 1          | B            | 460        | ARG         | Sidechain           |
| 1          | B            | 461        | VAL         | Mainchain           |
| 1          | B            | 463        | TYR         | Sidechain           |
| 1          | B            | 54         | GLY         | Mainchain           |

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| <b>Mol</b> | <b>Chain</b> | <b>Res</b> | <b>Type</b> | <b>Group</b>        |
|------------|--------------|------------|-------------|---------------------|
| 1          | B            | 61         | TRP         | Mainchain           |
| 1          | B            | 66         | THR         | Mainchain           |
| 1          | B            | 68         | GLN         | Sidechain           |
| 1          | B            | 7          | ARG         | Sidechain           |
| 1          | B            | 73         | CYS         | Mainchain           |
| 1          | B            | 74         | ALA         | Mainchain           |
| 1          | B            | 75         | TYR         | Sidechain           |
| 1          | B            | 76         | GLY         | Mainchain           |
| 1          | B            | 79         | TYR         | Sidechain           |
| 1          | B            | 81         | GLY         | Mainchain           |
| 1          | B            | 86         | ASP         | Mainchain           |
| 1          | B            | 87         | ILE         | Mainchain           |
| 1          | B            | 91         | ASN         | Sidechain,Mainchain |
| 1          | B            | 93         | ASN         | Mainchain           |
| 1          | B            | 94         | TYR         | Sidechain,Mainchain |
| 1          | B            | 99         | ASP         | Sidechain           |
| 1          | C            | 105        | SER         | Mainchain           |
| 1          | C            | 108        | HIS         | Mainchain           |
| 1          | C            | 123        | MET         | Mainchain           |
| 1          | C            | 13         | PHE         | Mainchain           |
| 1          | C            | 134        | TYR         | Sidechain           |
| 1          | C            | 138        | LYS         | Mainchain,Peptide   |
| 1          | C            | 15         | LEU         | Mainchain           |
| 1          | C            | 157        | ASP         | Sidechain           |
| 1          | C            | 17         | ASP         | Mainchain           |
| 1          | C            | 194        | LEU         | Mainchain           |
| 1          | C            | 195        | VAL         | Mainchain           |
| 1          | C            | 2          | THR         | Mainchain           |
| 1          | C            | 204        | ARG         | Sidechain           |
| 1          | C            | 205        | ILE         | Mainchain           |
| 1          | C            | 208        | VAL         | Mainchain           |
| 1          | C            | 209        | LYS         | Mainchain           |
| 1          | C            | 211        | VAL         | Mainchain           |
| 1          | C            | 212        | GLN         | Mainchain           |
| 1          | C            | 219        | TYR         | Sidechain           |
| 1          | C            | 24         | GLY         | Mainchain           |
| 1          | C            | 243        | GLN         | Sidechain           |
| 1          | C            | 246        | MET         | Mainchain           |
| 1          | C            | 249        | VAL         | Mainchain           |
| 1          | C            | 250        | LEU         | Mainchain           |
| 1          | C            | 252        | TYR         | Mainchain           |
| 1          | C            | 255        | TYR         | Sidechain           |

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| Mol | Chain | Res | Type | Group               |
|-----|-------|-----|------|---------------------|
| 1   | C     | 256 | TYR  | Mainchain           |
| 1   | C     | 258 | LEU  | Mainchain           |
| 1   | C     | 259 | LEU  | Mainchain           |
| 1   | C     | 26  | THR  | Mainchain           |
| 1   | C     | 265 | THR  | Mainchain           |
| 1   | C     | 272 | LEU  | Mainchain           |
| 1   | C     | 273 | TYR  | Mainchain           |
| 1   | C     | 278 | THR  | Mainchain           |
| 1   | C     | 282 | ASP  | Mainchain           |
| 1   | C     | 284 | PRO  | Mainchain           |
| 1   | C     | 292 | PHE  | Mainchain           |
| 1   | C     | 294 | GLU  | Sidechain           |
| 1   | C     | 300 | ARG  | Sidechain,Mainchain |
| 1   | C     | 31  | ASN  | Mainchain           |
| 1   | C     | 310 | LEU  | Mainchain           |
| 1   | C     | 313 | ASN  | Sidechain           |
| 1   | C     | 324 | LEU  | Mainchain           |
| 1   | C     | 325 | PRO  | Mainchain           |
| 1   | C     | 329 | ALA  | Mainchain           |
| 1   | C     | 340 | ASP  | Mainchain,Peptide   |
| 1   | C     | 346 | ALA  | Mainchain           |
| 1   | C     | 347 | THR  | Mainchain           |
| 1   | C     | 35  | GLN  | Mainchain           |
| 1   | C     | 353 | PRO  | Mainchain           |
| 1   | C     | 376 | ASP  | Mainchain           |
| 1   | C     | 39  | GLY  | Mainchain           |
| 1   | C     | 394 | ALA  | Mainchain           |
| 1   | C     | 396 | ARG  | Sidechain,Mainchain |
| 1   | C     | 404 | ILE  | Mainchain           |
| 1   | C     | 431 | GLN  | Sidechain           |
| 1   | C     | 432 | GLN  | Sidechain           |
| 1   | C     | 435 | GLU  | Sidechain,Mainchain |
| 1   | C     | 452 | VAL  | Mainchain           |
| 1   | C     | 458 | LEU  | Peptide             |
| 1   | C     | 460 | ARG  | Sidechain           |
| 1   | C     | 461 | VAL  | Mainchain           |
| 1   | C     | 463 | TYR  | Sidechain           |
| 1   | C     | 54  | GLY  | Mainchain           |
| 1   | C     | 61  | TRP  | Mainchain           |
| 1   | C     | 66  | THR  | Mainchain           |
| 1   | C     | 68  | GLN  | Sidechain           |
| 1   | C     | 7   | ARG  | Sidechain           |

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| Mol | Chain | Res | Type | Group               |
|-----|-------|-----|------|---------------------|
| 1   | C     | 73  | CYS  | Mainchain           |
| 1   | C     | 74  | ALA  | Mainchain           |
| 1   | C     | 75  | TYR  | Sidechain           |
| 1   | C     | 76  | GLY  | Mainchain           |
| 1   | C     | 79  | TYR  | Sidechain           |
| 1   | C     | 81  | GLY  | Mainchain           |
| 1   | C     | 86  | ASP  | Mainchain           |
| 1   | C     | 87  | ILE  | Mainchain           |
| 1   | C     | 91  | ASN  | Sidechain,Mainchain |
| 1   | C     | 93  | ASN  | Mainchain           |
| 1   | C     | 94  | TYR  | Sidechain,Mainchain |
| 1   | C     | 99  | ASP  | Sidechain           |

## 5.2 Too-close contacts [i](#)

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

| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|-----|-------|-------|----------|----------|---------|--------------|
| 1   | A     | 3690  | 0        | 3448     | 1687    | 135          |
| 1   | B     | 3690  | 0        | 3414     | 2177    | 0            |
| 1   | C     | 3690  | 0        | 3447     | 1369    | 135          |
| 2   | A     | 1     | 0        | 0        | 0       | 0            |
| 2   | B     | 1     | 0        | 0        | 0       | 0            |
| 2   | C     | 1     | 0        | 0        | 0       | 0            |
| All | All   | 11073 | 0        | 10309    | 3895    | 135          |

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 182.

All (3895) 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) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:87:ILE:CD1   | 1:B:374:SER:HB3  | 1.16                     | 1.63              |
| 1:B:445:GLY:CA   | 1:C:185:ASN:HD22 | 0.99                     | 1.62              |
| 1:A:205:ILE:CG2  | 1:B:472:LYS:HG3  | 1.17                     | 1.60              |
| 1:A:205:ILE:HG21 | 1:B:472:LYS:CG   | 1.31                     | 1.59              |
| 1:B:278:THR:HA   | 1:C:380:VAL:CG2  | 1.28                     | 1.59              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:190:TRP:CZ2  | 1:B:375:LYS:HD2  | 1.17                     | 1.59              |
| 1:A:219:TYR:HE2  | 1:B:371:TYR:CB   | 1.08                     | 1.58              |
| 1:A:219:TYR:CE1  | 1:B:473:ILE:HD12 | 1.36                     | 1.58              |
| 1:A:148:PRO:CA   | 1:B:107:LEU:HA   | 1.33                     | 1.57              |
| 1:A:221:LYS:HA   | 1:B:434:THR:CG2  | 1.25                     | 1.56              |
| 1:A:165:TRP:HE1  | 1:B:110:ARG:CA   | 0.92                     | 1.56              |
| 1:A:190:TRP:CH2  | 1:B:375:LYS:HD2  | 1.38                     | 1.56              |
| 1:A:222:ALA:CB   | 1:B:368:ILE:CG1  | 1.82                     | 1.55              |
| 1:A:148:PRO:HA   | 1:B:107:LEU:CA   | 1.35                     | 1.55              |
| 1:A:186:GLU:HG3  | 1:B:370:ASN:CB   | 1.21                     | 1.53              |
| 1:A:180:LYS:HD3  | 1:B:57:PHE:CB    | 1.39                     | 1.52              |
| 1:A:227:CYS:CB   | 1:B:476:ASP:HB2  | 1.30                     | 1.52              |
| 1:A:222:ALA:CB   | 1:B:368:ILE:HG13 | 1.03                     | 1.51              |
| 1:A:143:GLN:HG2  | 1:B:108:HIS:CD2  | 1.00                     | 1.50              |
| 1:A:180:LYS:CA   | 1:B:55:MET:HB3   | 1.40                     | 1.49              |
| 1:B:422:LEU:HD11 | 1:C:221:LYS:CG   | 1.39                     | 1.49              |
| 1:B:430:GLY:H    | 1:C:185:ASN:CG   | 1.05                     | 1.48              |
| 1:A:225:VAL:H    | 1:B:465:THR:CG2  | 1.20                     | 1.48              |
| 1:B:238:TYR:CA   | 1:C:376:ASP:C    | 1.81                     | 1.47              |
| 1:B:274:ASN:HA   | 1:C:286:SER:CB   | 1.44                     | 1.47              |
| 1:A:145:TYR:CG   | 1:B:9:GLN:OE1    | 1.65                     | 1.47              |
| 1:A:143:GLN:CG   | 1:B:108:HIS:CD2  | 1.95                     | 1.46              |
| 1:A:87:ILE:HD11  | 1:B:374:SER:CB   | 1.03                     | 1.46              |
| 1:A:194:LEU:CD2  | 1:B:375:LYS:HG2  | 1.44                     | 1.46              |
| 1:B:238:TYR:HA   | 1:C:376:ASP:C    | 1.16                     | 1.46              |
| 1:A:165:TRP:CZ2  | 1:B:109:GLU:O    | 1.66                     | 1.45              |
| 1:A:221:LYS:CA   | 1:B:434:THR:HG21 | 1.43                     | 1.45              |
| 1:A:180:LYS:N    | 1:B:55:MET:CB    | 1.80                     | 1.45              |
| 1:A:190:TRP:CH2  | 1:B:375:LYS:CD   | 1.95                     | 1.45              |
| 1:B:281:SER:CB   | 1:C:8:SER:H      | 1.25                     | 1.45              |
| 1:A:463:TYR:CZ   | 1:A:463:TYR:OH   | 1.71                     | 1.43              |
| 1:A:227:CYS:HB3  | 1:B:476:ASP:CB   | 1.48                     | 1.43              |
| 1:A:222:ALA:HA   | 1:B:368:ILE:CD1  | 1.45                     | 1.43              |
| 1:A:87:ILE:CG1   | 1:B:374:SER:O    | 1.65                     | 1.43              |
| 1:A:180:LYS:HA   | 1:B:55:MET:CB    | 1.45                     | 1.42              |
| 1:C:463:TYR:OH   | 1:C:463:TYR:CZ   | 1.71                     | 1.42              |
| 1:B:385:PRO:CA   | 1:C:3:PRO:HD3    | 1.46                     | 1.42              |
| 1:A:221:LYS:CB   | 1:B:436:VAL:HA   | 1.29                     | 1.42              |
| 1:A:227:CYS:CB   | 1:B:476:ASP:CB   | 1.98                     | 1.42              |
| 1:A:180:LYS:N    | 1:B:55:MET:HB2   | 1.12                     | 1.42              |
| 1:A:180:LYS:HE3  | 1:B:11:ILE:C     | 1.40                     | 1.42              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:229:GLY:CA   | 1:B:478:SER:CB   | 1.96                     | 1.41              |
| 1:A:194:LEU:HD22 | 1:B:375:LYS:CG   | 1.51                     | 1.41              |
| 1:B:386:TYR:CE2  | 1:C:288:LEU:HD13 | 1.56                     | 1.41              |
| 1:B:404:ILE:N    | 1:B:404:ILE:CA   | 1.85                     | 1.40              |
| 1:B:445:GLY:N    | 1:C:185:ASN:ND2  | 1.67                     | 1.40              |
| 1:B:400:ASP:CB   | 1:C:193:SER:O    | 1.68                     | 1.40              |
| 1:A:221:LYS:HB3  | 1:B:436:VAL:CA   | 1.11                     | 1.40              |
| 1:B:400:ASP:C    | 1:C:193:SER:HA   | 1.37                     | 1.39              |
| 1:B:383:LYS:HG3  | 1:C:6:TRP:CD1    | 1.57                     | 1.39              |
| 1:A:185:ASN:CB   | 1:B:366:ASN:HA   | 1.26                     | 1.39              |
| 1:A:219:TYR:CE2  | 1:B:371:TYR:CB   | 1.99                     | 1.38              |
| 1:A:193:SER:CA   | 1:B:403:GLN:HA   | 1.47                     | 1.38              |
| 1:B:445:GLY:CA   | 1:C:185:ASN:ND2  | 1.82                     | 1.38              |
| 1:B:237:ALA:CB   | 1:C:379:PHE:N    | 1.84                     | 1.38              |
| 1:A:246:MET:CB   | 1:B:477:SER:N    | 1.72                     | 1.37              |
| 1:A:87:ILE:CG1   | 1:B:374:SER:C    | 1.92                     | 1.37              |
| 1:B:238:TYR:HA   | 1:C:376:ASP:CA   | 1.54                     | 1.37              |
| 1:C:404:ILE:N    | 1:C:404:ILE:CA   | 1.85                     | 1.37              |
| 1:A:404:ILE:CA   | 1:A:404:ILE:N    | 1.84                     | 1.37              |
| 1:B:235:ASP:OD2  | 1:C:399:THR:CG2  | 1.70                     | 1.36              |
| 1:B:387:ILE:HG21 | 1:C:221:LYS:CE   | 1.51                     | 1.36              |
| 1:A:225:VAL:H    | 1:B:465:THR:CB   | 1.34                     | 1.36              |
| 1:B:387:ILE:CG2  | 1:C:221:LYS:HE3  | 1.52                     | 1.36              |
| 1:A:87:ILE:CD1   | 1:B:374:SER:CB   | 1.76                     | 1.36              |
| 1:B:463:TYR:CZ   | 1:B:463:TYR:OH   | 1.71                     | 1.36              |
| 1:B:278:THR:HG21 | 1:C:381:THR:OG1  | 1.23                     | 1.35              |
| 1:A:219:TYR:CD1  | 1:B:473:ILE:HD12 | 1.62                     | 1.35              |
| 1:B:429:ALA:CB   | 1:C:182:VAL:O    | 1.72                     | 1.35              |
| 1:B:422:LEU:CD1  | 1:C:221:LYS:HG2  | 1.57                     | 1.35              |
| 1:A:87:ILE:HG12  | 1:B:374:SER:C    | 1.42                     | 1.34              |
| 1:B:235:ASP:OD1  | 1:C:399:THR:CG2  | 1.75                     | 1.34              |
| 1:A:145:TYR:CD1  | 1:B:9:GLN:OE1    | 1.80                     | 1.34              |
| 1:B:241:PRO:O    | 1:C:374:SER:CA   | 1.65                     | 1.34              |
| 1:B:383:LYS:NZ   | 1:C:5:ASP:HB2    | 1.43                     | 1.33              |
| 1:A:222:ALA:CA   | 1:B:368:ILE:CD1  | 2.05                     | 1.33              |
| 1:A:189:ASP:H    | 1:B:369:ARG:CA   | 1.32                     | 1.33              |
| 1:A:248:GLY:O    | 1:B:477:SER:HB3  | 1.26                     | 1.33              |
| 1:B:430:GLY:H    | 1:C:185:ASN:ND2  | 1.23                     | 1.33              |
| 1:A:229:GLY:CA   | 1:B:478:SER:HB2  | 1.53                     | 1.33              |
| 1:A:180:LYS:CD   | 1:B:57:PHE:HB2   | 1.55                     | 1.32              |
| 1:A:190:TRP:CZ3  | 1:B:371:TYR:CD1  | 2.14                     | 1.32              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:88:TYR:CE2   | 1:B:373:ILE:C    | 2.03                     | 1.32              |
| 1:B:237:ALA:HB2  | 1:C:379:PHE:N    | 0.99                     | 1.31              |
| 1:B:235:ASP:CG   | 1:C:399:THR:HG21 | 1.47                     | 1.31              |
| 1:B:430:GLY:N    | 1:C:185:ASN:CG   | 1.84                     | 1.31              |
| 1:A:180:LYS:CA   | 1:B:55:MET:CB    | 2.00                     | 1.31              |
| 1:B:401:GLY:N    | 1:C:196:SER:HB2  | 1.46                     | 1.31              |
| 1:A:184:LYS:CG   | 1:B:56:GLY:HA3   | 1.59                     | 1.31              |
| 1:A:205:ILE:HG12 | 1:B:471:SER:C    | 1.49                     | 1.30              |
| 1:A:249:VAL:HG12 | 1:B:477:SER:CB   | 1.60                     | 1.30              |
| 1:B:235:ASP:CG   | 1:C:399:THR:CG2  | 1.99                     | 1.30              |
| 1:B:384:ASN:HA   | 1:C:2:THR:CG2    | 1.60                     | 1.30              |
| 1:A:219:TYR:CE2  | 1:B:371:TYR:HB2  | 1.64                     | 1.30              |
| 1:B:238:TYR:HB2  | 1:C:376:ASP:OD2  | 1.25                     | 1.30              |
| 1:A:190:TRP:HZ3  | 1:B:371:TYR:CD1  | 1.46                     | 1.30              |
| 1:A:224:GLY:HA2  | 1:B:434:THR:OG1  | 1.27                     | 1.29              |
| 1:A:88:TYR:CE2   | 1:B:373:ILE:O    | 1.83                     | 1.29              |
| 1:B:402:SER:H    | 1:C:193:SER:CB   | 1.44                     | 1.29              |
| 1:B:279:VAL:CG1  | 1:C:4:ALA:HB1    | 1.62                     | 1.29              |
| 1:B:278:THR:CA   | 1:C:380:VAL:CG2  | 2.10                     | 1.28              |
| 1:B:385:PRO:CD   | 1:C:2:THR:HG22   | 1.61                     | 1.28              |
| 1:A:221:LYS:CG   | 1:B:436:VAL:N    | 1.96                     | 1.28              |
| 1:B:274:ASN:HA   | 1:C:286:SER:CA   | 1.63                     | 1.28              |
| 1:B:278:THR:HG23 | 1:C:381:THR:N    | 1.46                     | 1.28              |
| 1:B:449:ASN:HB2  | 1:C:184:LYS:NZ   | 1.46                     | 1.27              |
| 1:B:278:THR:CA   | 1:C:380:VAL:HG21 | 1.61                     | 1.27              |
| 1:A:84:GLN:HE22  | 1:B:375:LYS:NZ   | 1.32                     | 1.26              |
| 1:B:385:PRO:N    | 1:C:3:PRO:CD     | 1.89                     | 1.26              |
| 1:A:186:GLU:OE1  | 1:B:373:ILE:HD12 | 1.15                     | 1.26              |
| 1:A:190:TRP:CZ3  | 1:B:371:TYR:CE1  | 2.24                     | 1.25              |
| 1:A:217:PRO:HG2  | 1:B:364:SER:OG   | 1.31                     | 1.25              |
| 1:A:188:TYR:N    | 1:B:367:ALA:O    | 1.65                     | 1.25              |
| 1:A:190:TRP:CZ2  | 1:B:375:LYS:CD   | 2.11                     | 1.25              |
| 1:A:180:LYS:CD   | 1:B:57:PHE:CB    | 2.12                     | 1.25              |
| 1:A:190:TRP:CD2  | 1:B:374:SER:HB2  | 1.72                     | 1.25              |
| 1:B:278:THR:C    | 1:C:380:VAL:HG21 | 1.52                     | 1.25              |
| 1:B:278:THR:O    | 1:C:380:VAL:HG21 | 1.32                     | 1.25              |
| 1:A:87:ILE:HG12  | 1:B:374:SER:CA   | 1.66                     | 1.25              |
| 1:A:180:LYS:HA   | 1:B:55:MET:CG    | 1.65                     | 1.24              |
| 1:A:165:TRP:HZ2  | 1:B:109:GLU:C    | 1.38                     | 1.24              |
| 1:A:225:VAL:N    | 1:B:465:THR:CG2  | 2.01                     | 1.24              |
| 1:A:184:LYS:HG2  | 1:B:56:GLY:CA    | 1.67                     | 1.24              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:220:ASN:CA   | 1:B:473:ILE:HG23 | 1.60                     | 1.23              |
| 1:A:116:VAL:O    | 1:B:469:ALA:HB1  | 1.37                     | 1.23              |
| 1:A:227:CYS:CA   | 1:B:476:ASP:HB2  | 1.67                     | 1.23              |
| 1:B:447:ASP:OD2  | 1:C:214:ASP:OD2  | 1.53                     | 1.23              |
| 1:B:382:TYR:CD1  | 1:C:2:THR:HG23   | 1.72                     | 1.23              |
| 1:A:219:TYR:CE2  | 1:B:371:TYR:CG   | 1.83                     | 1.23              |
| 1:A:165:TRP:NE1  | 1:B:110:ARG:HA   | 0.91                     | 1.22              |
| 1:A:143:GLN:CD   | 1:B:108:HIS:HA   | 1.60                     | 1.22              |
| 1:A:229:GLY:HA2  | 1:B:478:SER:CB   | 1.59                     | 1.22              |
| 1:A:87:ILE:HG12  | 1:B:374:SER:O    | 1.25                     | 1.22              |
| 1:B:385:PRO:HA   | 1:C:3:PRO:CD     | 1.68                     | 1.22              |
| 1:B:400:ASP:HB2  | 1:C:193:SER:O    | 1.09                     | 1.22              |
| 1:B:277:ASN:CB   | 1:C:286:SER:O    | 1.85                     | 1.22              |
| 1:B:281:SER:HB3  | 1:C:8:SER:N      | 1.26                     | 1.22              |
| 1:B:274:ASN:CA   | 1:C:286:SER:CB   | 2.17                     | 1.22              |
| 1:A:192:GLY:O    | 1:B:464:PRO:HG2  | 1.39                     | 1.22              |
| 1:A:180:LYS:NZ   | 1:B:57:PHE:HB3   | 1.55                     | 1.21              |
| 1:B:449:ASN:N    | 1:C:184:LYS:HZ1  | 1.36                     | 1.21              |
| 1:B:404:ILE:CG1  | 1:C:223:ALA:HA   | 1.68                     | 1.21              |
| 1:A:222:ALA:CA   | 1:B:368:ILE:HD11 | 1.67                     | 1.20              |
| 1:B:385:PRO:CA   | 1:C:3:PRO:CD     | 2.19                     | 1.20              |
| 1:B:386:TYR:CE2  | 1:C:247:ASP:HB3  | 1.44                     | 1.20              |
| 1:B:384:ASN:CA   | 1:C:2:THR:CG2    | 2.02                     | 1.19              |
| 1:B:382:TYR:HA   | 1:C:1:ALA:HB3    | 1.21                     | 1.19              |
| 1:A:184:LYS:HE2  | 1:B:362:ILE:HG22 | 1.25                     | 1.19              |
| 1:A:185:ASN:HB2  | 1:B:366:ASN:CA   | 1.72                     | 1.19              |
| 1:A:229:GLY:CA   | 1:B:477:SER:O    | 1.91                     | 1.18              |
| 1:B:237:ALA:HB2  | 1:C:378:GLY:C    | 1.61                     | 1.18              |
| 1:B:422:LEU:CD2  | 1:C:221:LYS:NZ   | 2.05                     | 1.18              |
| 1:B:237:ALA:HB2  | 1:C:379:PHE:CA   | 1.73                     | 1.18              |
| 1:B:424:GLY:CA   | 1:C:220:ASN:HB3  | 1.73                     | 1.18              |
| 1:A:225:VAL:N    | 1:B:465:THR:HG23 | 1.56                     | 1.18              |
| 1:B:277:ASN:HB3  | 1:C:286:SER:O    | 1.05                     | 1.17              |
| 1:B:449:ASN:N    | 1:C:184:LYS:NZ   | 1.91                     | 1.17              |
| 1:B:383:LYS:NZ   | 1:C:5:ASP:CB     | 2.07                     | 1.17              |
| 1:A:200:ILE:HD12 | 1:B:467:LYS:CD   | 1.74                     | 1.17              |
| 1:B:383:LYS:CG   | 1:C:6:TRP:CD1    | 2.27                     | 1.17              |
| 1:A:186:GLU:CG   | 1:B:370:ASN:CB   | 2.10                     | 1.17              |
| 1:A:197:ASN:O    | 1:B:467:LYS:NZ   | 1.77                     | 1.17              |
| 1:A:186:GLU:OE1  | 1:B:370:ASN:HA   | 1.42                     | 1.17              |
| 1:A:180:LYS:CD   | 1:B:12:TYR:HB2   | 1.75                     | 1.17              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:B:281:SER:CB   | 1:C:8:SER:N      | 1.83                     | 1.17              |
| 1:A:143:GLN:HG2  | 1:B:108:HIS:NE2  | 1.58                     | 1.16              |
| 1:A:145:TYR:CD2  | 1:B:9:GLN:OE1    | 1.98                     | 1.16              |
| 1:B:278:THR:CG2  | 1:C:381:THR:H    | 1.58                     | 1.16              |
| 1:B:386:TYR:CD2  | 1:C:288:LEU:HD13 | 1.81                     | 1.16              |
| 1:B:400:ASP:C    | 1:C:196:SER:HB2  | 1.51                     | 1.16              |
| 1:A:221:LYS:CA   | 1:B:434:THR:CG2  | 2.08                     | 1.16              |
| 1:B:238:TYR:CD2  | 1:C:376:ASP:HB2  | 1.80                     | 1.16              |
| 1:A:218:GLY:HA3  | 1:B:364:SER:O    | 1.43                     | 1.16              |
| 1:A:101:LYS:HG2  | 1:A:198:TYR:HA   | 1.27                     | 1.16              |
| 1:A:165:TRP:CZ2  | 1:B:109:GLU:C    | 2.14                     | 1.16              |
| 1:B:9:GLN:HG3    | 1:B:58:THR:HB    | 1.28                     | 1.16              |
| 1:A:407:ILE:HG23 | 1:A:461:VAL:HG22 | 1.19                     | 1.15              |
| 1:A:196:SER:OG   | 1:B:400:ASP:O    | 1.63                     | 1.15              |
| 1:A:229:GLY:HA3  | 1:B:478:SER:N    | 1.61                     | 1.15              |
| 1:C:230:GLU:HA   | 1:C:250:LEU:HD23 | 1.25                     | 1.15              |
| 1:B:399:THR:CG2  | 1:C:196:SER:O    | 1.95                     | 1.15              |
| 1:A:189:ASP:HB2  | 1:B:369:ARG:HA   | 1.17                     | 1.14              |
| 1:A:223:ALA:N    | 1:B:468:LEU:HD21 | 1.37                     | 1.14              |
| 1:A:180:LYS:CE   | 1:B:11:ILE:C     | 2.15                     | 1.14              |
| 1:B:383:LYS:HZ3  | 1:C:5:ASP:CB     | 1.58                     | 1.14              |
| 1:A:222:ALA:HB2  | 1:B:368:ILE:CG1  | 1.57                     | 1.14              |
| 1:B:400:ASP:C    | 1:C:193:SER:CA   | 2.15                     | 1.14              |
| 1:A:116:VAL:O    | 1:B:469:ALA:CB   | 1.94                     | 1.14              |
| 1:A:229:GLY:HA3  | 1:B:477:SER:C    | 1.65                     | 1.14              |
| 1:A:225:VAL:H    | 1:B:465:THR:HG23 | 1.06                     | 1.14              |
| 1:B:401:GLY:N    | 1:C:193:SER:O    | 1.79                     | 1.14              |
| 1:A:204:ARG:CB   | 1:B:470:GLY:HA3  | 1.65                     | 1.14              |
| 1:A:230:GLU:HA   | 1:A:250:LEU:HD23 | 1.25                     | 1.14              |
| 1:B:107:LEU:HA   | 1:B:110:ARG:HG2  | 1.26                     | 1.14              |
| 1:A:227:CYS:O    | 1:B:476:ASP:HA   | 1.44                     | 1.14              |
| 1:A:193:SER:CA   | 1:B:403:GLN:CA   | 2.19                     | 1.14              |
| 1:A:222:ALA:HB1  | 1:B:368:ILE:CG1  | 1.56                     | 1.14              |
| 1:B:236:PRO:CG   | 1:C:378:GLY:CA   | 2.25                     | 1.13              |
| 1:A:218:GLY:HA3  | 1:B:364:SER:C    | 1.69                     | 1.13              |
| 1:B:399:THR:HG21 | 1:C:196:SER:O    | 1.47                     | 1.13              |
| 1:C:407:ILE:HG23 | 1:C:461:VAL:HG22 | 1.18                     | 1.13              |
| 1:A:220:ASN:HA   | 1:B:473:ILE:HG23 | 1.17                     | 1.13              |
| 1:A:229:GLY:HA3  | 1:B:478:SER:CA   | 1.79                     | 1.13              |
| 1:A:205:ILE:HD13 | 1:B:472:LYS:CG   | 1.78                     | 1.13              |
| 1:A:219:TYR:CD1  | 1:B:473:ILE:CD1  | 2.32                     | 1.13              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:C:10:SER:HB3   | 1:C:57:PHE:HA    | 1.18                     | 1.13              |
| 1:A:188:TYR:CD2  | 1:B:366:ASN:C    | 2.15                     | 1.13              |
| 1:A:146:PHE:N    | 1:B:112:MET:H    | 1.24                     | 1.13              |
| 1:A:180:LYS:HE3  | 1:B:11:ILE:O     | 1.45                     | 1.13              |
| 1:A:219:TYR:CD1  | 1:B:473:ILE:HB   | 1.50                     | 1.13              |
| 1:A:185:ASN:HA   | 1:A:188:TYR:HD2  | 1.08                     | 1.13              |
| 1:B:400:ASP:CA   | 1:C:193:SER:O    | 1.96                     | 1.13              |
| 1:A:219:TYR:N    | 1:B:473:ILE:O    | 1.71                     | 1.12              |
| 1:A:184:LYS:HD2  | 1:B:363:ALA:CA   | 1.76                     | 1.12              |
| 1:A:225:VAL:CA   | 1:B:465:THR:HG23 | 1.78                     | 1.12              |
| 1:B:385:PRO:HD3  | 1:C:2:THR:HG22   | 1.12                     | 1.12              |
| 1:A:219:TYR:CE1  | 1:B:473:ILE:CD1  | 2.32                     | 1.12              |
| 1:B:386:TYR:CD2  | 1:C:288:LEU:CD1  | 2.31                     | 1.12              |
| 1:A:9:GLN:HG3    | 1:A:58:THR:HB    | 1.28                     | 1.12              |
| 1:B:319:ILE:HA   | 1:B:325:PRO:CB   | 1.79                     | 1.12              |
| 1:B:424:GLY:HA3  | 1:C:220:ASN:CB   | 1.79                     | 1.11              |
| 1:A:87:ILE:HG13  | 1:B:374:SER:O    | 1.43                     | 1.11              |
| 1:B:420:LEU:HD23 | 1:B:452:VAL:HG13 | 1.21                     | 1.11              |
| 1:A:205:ILE:CD1  | 1:B:478:SER:HB3  | 1.79                     | 1.11              |
| 1:A:189:ASP:N    | 1:B:369:ARG:HA   | 1.65                     | 1.11              |
| 1:B:387:ILE:N    | 1:C:247:ASP:OD2  | 1.83                     | 1.11              |
| 1:C:165:TRP:HZ3  | 1:C:172:SER:HB2  | 1.14                     | 1.11              |
| 1:A:184:LYS:HD2  | 1:B:363:ALA:HA   | 1.25                     | 1.11              |
| 1:A:144:ASP:O    | 1:B:58:THR:O     | 1.66                     | 1.11              |
| 1:A:196:SER:CB   | 1:B:401:GLY:O    | 1.77                     | 1.11              |
| 1:C:9:GLN:HG3    | 1:C:58:THR:HB    | 1.28                     | 1.11              |
| 1:B:230:GLU:HA   | 1:B:250:LEU:HD23 | 1.25                     | 1.11              |
| 1:A:186:GLU:OE1  | 1:B:373:ILE:CD1  | 1.98                     | 1.11              |
| 1:A:145:TYR:CD2  | 1:B:9:GLN:CD     | 2.11                     | 1.11              |
| 1:A:319:ILE:HA   | 1:A:325:PRO:CB   | 1.79                     | 1.11              |
| 1:B:274:ASN:C    | 1:C:286:SER:OG   | 1.89                     | 1.11              |
| 1:A:165:TRP:HZ2  | 1:B:109:GLU:O    | 0.76                     | 1.11              |
| 1:A:10:SER:HB3   | 1:A:57:PHE:HA    | 1.18                     | 1.11              |
| 1:B:384:ASN:HA   | 1:C:2:THR:HG21   | 1.13                     | 1.11              |
| 1:A:217:PRO:HB2  | 1:B:437:ILE:O    | 1.50                     | 1.11              |
| 1:A:205:ILE:HD12 | 1:B:478:SER:CB   | 1.81                     | 1.10              |
| 1:C:185:ASN:HA   | 1:C:188:TYR:HD2  | 1.08                     | 1.10              |
| 1:C:319:ILE:HA   | 1:C:325:PRO:CB   | 1.79                     | 1.10              |
| 1:A:147:HIS:HA   | 1:B:112:MET:HE3  | 1.26                     | 1.10              |
| 1:B:45:ILE:HG23  | 1:B:49:LEU:HD11  | 1.11                     | 1.10              |
| 1:A:191:VAL:HG21 | 1:B:473:ILE:CD1  | 1.80                     | 1.10              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:205:ILE:HG13 | 1:B:476:ASP:OD1  | 1.49                     | 1.10              |
| 1:A:249:VAL:HG12 | 1:B:477:SER:HB2  | 1.23                     | 1.10              |
| 1:A:205:ILE:HB   | 1:B:478:SER:OG   | 1.50                     | 1.10              |
| 1:B:429:ALA:HB1  | 1:C:182:VAL:O    | 1.50                     | 1.10              |
| 1:C:195:VAL:HG23 | 1:C:200:ILE:HB   | 1.27                     | 1.10              |
| 1:B:445:GLY:HA2  | 1:C:185:ASN:CB   | 1.80                     | 1.10              |
| 1:A:107:LEU:HA   | 1:A:110:ARG:HG2  | 1.26                     | 1.10              |
| 1:A:180:LYS:HG2  | 1:B:327:ILE:CG2  | 1.81                     | 1.10              |
| 1:B:444:VAL:C    | 1:C:185:ASN:ND2  | 2.04                     | 1.10              |
| 1:C:420:LEU:HD23 | 1:C:452:VAL:HG13 | 1.21                     | 1.10              |
| 1:C:45:ILE:HG23  | 1:C:49:LEU:HD11  | 1.11                     | 1.10              |
| 1:A:221:LYS:HG3  | 1:B:436:VAL:N    | 1.67                     | 1.10              |
| 1:A:191:VAL:CG2  | 1:B:473:ILE:HD11 | 1.81                     | 1.09              |
| 1:A:45:ILE:HG23  | 1:A:49:LEU:HD11  | 1.11                     | 1.09              |
| 1:B:422:LEU:CD2  | 1:C:221:LYS:HZ3  | 1.62                     | 1.09              |
| 1:A:87:ILE:CD1   | 1:B:374:SER:CA   | 2.29                     | 1.09              |
| 1:B:101:LYS:HG2  | 1:B:198:TYR:HA   | 1.27                     | 1.09              |
| 1:B:383:LYS:CE   | 1:C:5:ASP:HB2    | 1.82                     | 1.09              |
| 1:B:422:LEU:HD21 | 1:C:221:LYS:HZ3  | 1.02                     | 1.09              |
| 1:C:101:LYS:HG2  | 1:C:198:TYR:HA   | 1.27                     | 1.09              |
| 1:A:196:SER:HB3  | 1:B:401:GLY:O    | 1.27                     | 1.09              |
| 1:B:195:VAL:HG23 | 1:B:200:ILE:HB   | 1.27                     | 1.09              |
| 1:C:107:LEU:HA   | 1:C:110:ARG:HG2  | 1.26                     | 1.09              |
| 1:C:123:MET:HG3  | 1:C:146:PHE:HE1  | 1.16                     | 1.09              |
| 1:A:227:CYS:C    | 1:B:476:ASP:CB   | 2.20                     | 1.09              |
| 1:A:229:GLY:HA2  | 1:B:478:SER:HB3  | 1.34                     | 1.09              |
| 1:B:123:MET:HB3  | 1:B:137:PHE:CE1  | 1.87                     | 1.09              |
| 1:A:180:LYS:HE3  | 1:B:12:TYR:N     | 1.68                     | 1.09              |
| 1:A:87:ILE:CG1   | 1:B:374:SER:CA   | 2.27                     | 1.09              |
| 1:A:189:ASP:N    | 1:B:369:ARG:CA   | 2.13                     | 1.09              |
| 1:A:227:CYS:C    | 1:B:476:ASP:HB2  | 1.72                     | 1.08              |
| 1:A:205:ILE:CG1  | 1:B:478:SER:HB3  | 1.83                     | 1.08              |
| 1:A:145:TYR:CE1  | 1:B:113:TYR:CE2  | 2.42                     | 1.08              |
| 1:B:123:MET:HB3  | 1:B:137:PHE:HE1  | 1.15                     | 1.08              |
| 1:B:236:PRO:HG2  | 1:C:378:GLY:CA   | 1.83                     | 1.08              |
| 1:B:407:ILE:HG23 | 1:B:461:VAL:HG22 | 1.19                     | 1.08              |
| 1:B:444:VAL:O    | 1:C:185:ASN:CB   | 2.01                     | 1.08              |
| 1:A:219:TYR:CD1  | 1:B:473:ILE:CB   | 2.27                     | 1.08              |
| 1:B:319:ILE:HA   | 1:B:325:PRO:HB3  | 1.32                     | 1.08              |
| 1:A:123:MET:HB3  | 1:A:137:PHE:CE1  | 1.87                     | 1.08              |
| 1:B:123:MET:HG3  | 1:B:146:PHE:HE1  | 1.17                     | 1.08              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:B:430:GLY:N    | 1:C:185:ASN:ND2  | 1.97                     | 1.08              |
| 1:C:319:ILE:HG22 | 1:C:325:PRO:HB2  | 1.35                     | 1.08              |
| 1:B:185:ASN:HA   | 1:B:188:TYR:HD2  | 1.08                     | 1.08              |
| 1:A:123:MET:HG3  | 1:A:146:PHE:HE1  | 1.17                     | 1.08              |
| 1:B:444:VAL:O    | 1:C:185:ASN:CG   | 1.91                     | 1.08              |
| 1:A:319:ILE:HA   | 1:A:325:PRO:HB3  | 1.32                     | 1.08              |
| 1:C:123:MET:HB3  | 1:C:137:PHE:HE1  | 1.15                     | 1.08              |
| 1:A:186:GLU:CD   | 1:B:370:ASN:HA   | 1.74                     | 1.07              |
| 1:A:2:THR:HB     | 1:A:3:PRO:HD2    | 1.34                     | 1.07              |
| 1:A:116:VAL:O    | 1:B:470:GLY:N    | 1.87                     | 1.07              |
| 1:A:143:GLN:HG2  | 1:B:108:HIS:CG   | 1.88                     | 1.07              |
| 1:B:383:LYS:O    | 1:C:3:PRO:CD     | 2.01                     | 1.07              |
| 1:A:193:SER:C    | 1:B:403:GLN:HA   | 1.53                     | 1.07              |
| 1:C:123:MET:HB3  | 1:C:137:PHE:CE1  | 1.87                     | 1.07              |
| 1:B:446:SER:CB   | 1:C:181:ASP:OD1  | 1.99                     | 1.07              |
| 1:B:429:ALA:HB3  | 1:C:182:VAL:O    | 1.53                     | 1.07              |
| 1:B:279:VAL:HG13 | 1:C:4:ALA:CB     | 1.84                     | 1.07              |
| 1:A:205:ILE:CG1  | 1:B:476:ASP:OD1  | 2.02                     | 1.07              |
| 1:B:2:THR:HB     | 1:B:3:PRO:HD2    | 1.34                     | 1.07              |
| 1:B:383:LYS:CB   | 1:C:6:TRP:CD1    | 2.38                     | 1.07              |
| 1:A:319:ILE:HG22 | 1:A:325:PRO:HB2  | 1.35                     | 1.07              |
| 1:A:180:LYS:CE   | 1:B:11:ILE:O     | 2.03                     | 1.07              |
| 1:B:445:GLY:HA2  | 1:C:185:ASN:HD22 | 0.97                     | 1.07              |
| 1:B:236:PRO:CG   | 1:C:378:GLY:HA2  | 1.46                     | 1.07              |
| 1:B:274:ASN:CA   | 1:C:286:SER:CA   | 2.33                     | 1.06              |
| 1:A:420:LEU:HD23 | 1:A:452:VAL:HG13 | 1.21                     | 1.06              |
| 1:B:319:ILE:HG22 | 1:B:325:PRO:HB2  | 1.35                     | 1.06              |
| 1:A:193:SER:HA   | 1:B:403:GLN:HA   | 1.16                     | 1.06              |
| 1:B:235:ASP:OD1  | 1:C:399:THR:HG21 | 1.37                     | 1.06              |
| 1:C:45:ILE:HB    | 1:C:103:LEU:HD21 | 1.11                     | 1.06              |
| 1:A:190:TRP:CE2  | 1:B:374:SER:CB   | 2.35                     | 1.06              |
| 1:C:319:ILE:HA   | 1:C:325:PRO:HB3  | 1.32                     | 1.06              |
| 1:B:387:ILE:HG23 | 1:C:221:LYS:HE3  | 1.31                     | 1.06              |
| 1:B:422:LEU:HD21 | 1:C:221:LYS:NZ   | 1.65                     | 1.06              |
| 1:B:45:ILE:HB    | 1:B:103:LEU:HD21 | 1.11                     | 1.06              |
| 1:B:238:TYR:O    | 1:C:376:ASP:HA   | 1.55                     | 1.06              |
| 1:A:84:GLN:NE2   | 1:B:375:LYS:NZ   | 2.04                     | 1.06              |
| 1:A:220:ASN:HA   | 1:B:473:ILE:CG2  | 1.84                     | 1.06              |
| 1:A:165:TRP:HZ3  | 1:A:172:SER:HB2  | 1.14                     | 1.06              |
| 1:B:401:GLY:N    | 1:C:193:SER:CA   | 2.19                     | 1.06              |
| 1:A:219:TYR:CG   | 1:B:473:ILE:HG13 | 1.89                     | 1.05              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:B:384:ASN:CA   | 1:C:2:THR:HG21   | 1.75                     | 1.05              |
| 1:A:190:TRP:CH2  | 1:B:375:LYS:HD3  | 1.80                     | 1.05              |
| 1:A:187:TRP:CE3  | 1:B:371:TYR:HA   | 1.91                     | 1.05              |
| 1:B:445:GLY:HA2  | 1:C:185:ASN:ND2  | 1.54                     | 1.05              |
| 1:B:165:TRP:HZ3  | 1:B:172:SER:HB2  | 1.14                     | 1.05              |
| 1:A:229:GLY:C    | 1:B:477:SER:O    | 1.95                     | 1.05              |
| 1:B:278:THR:CG2  | 1:C:381:THR:OG1  | 2.04                     | 1.05              |
| 1:B:278:THR:HA   | 1:C:380:VAL:HG21 | 1.21                     | 1.05              |
| 1:A:190:TRP:HZ3  | 1:B:371:TYR:CE1  | 1.65                     | 1.05              |
| 1:A:45:ILE:HB    | 1:A:103:LEU:HD21 | 1.11                     | 1.05              |
| 1:B:274:ASN:CA   | 1:C:286:SER:OG   | 2.01                     | 1.05              |
| 1:A:147:HIS:O    | 1:B:107:LEU:O    | 1.73                     | 1.05              |
| 1:B:278:THR:HG23 | 1:C:381:THR:H    | 0.89                     | 1.05              |
| 1:A:190:TRP:CE2  | 1:B:374:SER:HB2  | 1.91                     | 1.05              |
| 1:A:219:TYR:CG   | 1:B:473:ILE:CG1  | 2.37                     | 1.05              |
| 1:A:224:GLY:HA2  | 1:B:434:THR:CB   | 1.87                     | 1.05              |
| 1:B:383:LYS:O    | 1:C:3:PRO:HD2    | 1.56                     | 1.04              |
| 1:A:197:ASN:N    | 1:B:467:LYS:HE3  | 1.72                     | 1.04              |
| 1:A:204:ARG:HB2  | 1:B:470:GLY:HA3  | 1.08                     | 1.04              |
| 1:B:404:ILE:CD1  | 1:C:223:ALA:HA   | 1.78                     | 1.04              |
| 1:A:116:VAL:C    | 1:B:469:ALA:HB1  | 1.57                     | 1.04              |
| 1:A:205:ILE:HD13 | 1:B:472:LYS:HG2  | 1.32                     | 1.04              |
| 1:B:445:GLY:N    | 1:C:185:ASN:HD22 | 1.39                     | 1.04              |
| 1:A:115:MET:HE1  | 1:A:204:ARG:HB2  | 1.33                     | 1.04              |
| 1:A:83:TRP:HE1   | 1:A:173:LEU:HD21 | 1.19                     | 1.04              |
| 1:A:187:TRP:HE3  | 1:B:371:TYR:HA   | 1.16                     | 1.04              |
| 1:B:446:SER:OG   | 1:C:181:ASP:CG   | 1.95                     | 1.04              |
| 1:B:401:GLY:N    | 1:C:193:SER:HA   | 1.73                     | 1.04              |
| 1:A:222:ALA:CB   | 1:B:368:ILE:CD1  | 2.32                     | 1.04              |
| 1:B:235:ASP:OD1  | 1:C:399:THR:HG23 | 1.57                     | 1.04              |
| 1:A:229:GLY:HA3  | 1:B:478:SER:CB   | 1.75                     | 1.04              |
| 1:A:180:LYS:HG3  | 1:B:12:TYR:CD2   | 1.93                     | 1.04              |
| 1:B:402:SER:H    | 1:C:193:SER:CA   | 1.71                     | 1.04              |
| 1:C:432:GLN:HG2  | 1:C:465:THR:HG21 | 1.40                     | 1.04              |
| 1:B:402:SER:N    | 1:C:193:SER:CB   | 2.20                     | 1.03              |
| 1:A:221:LYS:CB   | 1:B:436:VAL:CA   | 1.79                     | 1.03              |
| 1:A:225:VAL:CG2  | 1:B:465:THR:HG23 | 1.86                     | 1.03              |
| 1:C:2:THR:HB     | 1:C:3:PRO:HD2    | 1.34                     | 1.03              |
| 1:A:180:LYS:HD2  | 1:B:12:TYR:HB2   | 1.06                     | 1.03              |
| 1:A:205:ILE:HD12 | 1:B:478:SER:OXT  | 1.57                     | 1.03              |
| 1:A:118:VAL:HB   | 1:B:471:SER:HB2  | 1.37                     | 1.03              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:B:382:TYR:CA   | 1:C:1:ALA:HB3    | 1.82                     | 1.03              |
| 1:A:180:LYS:CE   | 1:B:57:PHE:CB    | 2.36                     | 1.03              |
| 1:B:387:ILE:CG2  | 1:C:221:LYS:CE   | 2.21                     | 1.03              |
| 1:A:204:ARG:HG3  | 1:A:228:ILE:HB   | 1.37                     | 1.03              |
| 1:A:146:PHE:N    | 1:B:112:MET:N    | 2.07                     | 1.03              |
| 1:A:180:LYS:HA   | 1:B:55:MET:HG3   | 1.38                     | 1.03              |
| 1:C:234:GLY:HA2  | 1:C:253:PRO:HD3  | 1.41                     | 1.02              |
| 1:A:432:GLN:HG2  | 1:A:465:THR:HG21 | 1.40                     | 1.02              |
| 1:A:180:LYS:HZ3  | 1:B:57:PHE:HB3   | 1.04                     | 1.02              |
| 1:A:208:VAL:HG21 | 1:B:478:SER:N    | 1.44                     | 1.02              |
| 1:A:177:ASP:HB3  | 1:B:53:GLN:CB    | 1.90                     | 1.02              |
| 1:A:123:MET:HB3  | 1:A:137:PHE:HE1  | 1.15                     | 1.02              |
| 1:A:204:ARG:O    | 1:B:471:SER:CA   | 1.98                     | 1.02              |
| 1:A:180:LYS:NZ   | 1:B:10:SER:O     | 1.92                     | 1.02              |
| 1:B:234:GLY:HA2  | 1:B:253:PRO:HD3  | 1.41                     | 1.02              |
| 1:A:180:LYS:NZ   | 1:B:57:PHE:CB    | 2.22                     | 1.02              |
| 1:C:204:ARG:HG3  | 1:C:228:ILE:HB   | 1.37                     | 1.02              |
| 1:A:246:MET:HB2  | 1:B:477:SER:N    | 1.39                     | 1.02              |
| 1:A:234:GLY:HA2  | 1:A:253:PRO:HD3  | 1.42                     | 1.02              |
| 1:B:204:ARG:HG3  | 1:B:228:ILE:HB   | 1.37                     | 1.02              |
| 1:B:432:GLN:HG2  | 1:B:465:THR:HG21 | 1.40                     | 1.02              |
| 1:A:249:VAL:CB   | 1:B:477:SER:OG   | 2.07                     | 1.02              |
| 1:A:87:ILE:HD13  | 1:B:374:SER:CB   | 1.89                     | 1.02              |
| 1:B:387:ILE:HG21 | 1:C:221:LYS:HE2  | 1.36                     | 1.02              |
| 1:A:42:TRP:HE1   | 1:A:62:ILE:HD11  | 1.24                     | 1.02              |
| 1:B:83:TRP:HE1   | 1:B:173:LEU:HD21 | 1.19                     | 1.02              |
| 1:B:208:VAL:HG12 | 1:B:231:VAL:HG12 | 1.42                     | 1.02              |
| 1:A:225:VAL:CB   | 1:B:465:THR:HG23 | 1.89                     | 1.02              |
| 1:C:208:VAL:HG12 | 1:C:231:VAL:HG12 | 1.42                     | 1.02              |
| 1:A:143:GLN:NE2  | 1:B:108:HIS:CG   | 2.27                     | 1.01              |
| 1:B:32:THR:HG21  | 1:B:342:ALA:HA   | 1.42                     | 1.01              |
| 1:C:83:TRP:HE1   | 1:C:173:LEU:HD21 | 1.19                     | 1.01              |
| 1:A:190:TRP:CE3  | 1:B:374:SER:HB2  | 1.94                     | 1.01              |
| 1:B:383:LYS:HZ3  | 1:C:5:ASP:HB2    | 0.88                     | 1.01              |
| 1:B:401:GLY:N    | 1:C:196:SER:CB   | 2.22                     | 1.01              |
| 1:A:219:TYR:HE1  | 1:B:471:SER:OG   | 1.42                     | 1.01              |
| 1:C:305:THR:HG21 | 1:C:310:LEU:HD22 | 1.01                     | 1.01              |
| 1:A:188:TYR:CE2  | 1:B:367:ALA:N    | 2.27                     | 1.01              |
| 1:B:305:THR:HG21 | 1:B:310:LEU:HD22 | 1.01                     | 1.01              |
| 1:B:449:ASN:CB   | 1:C:184:LYS:NZ   | 2.22                     | 1.01              |
| 1:C:42:TRP:HE1   | 1:C:62:ILE:HD11  | 1.24                     | 1.01              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:183:VAL:CA   | 1:B:370:ASN:ND2  | 1.78                     | 1.01              |
| 1:B:280:LYS:NZ   | 1:C:226:TYR:HB2  | 1.74                     | 1.01              |
| 1:B:277:ASN:ND2  | 1:C:286:SER:HB3  | 1.76                     | 1.01              |
| 1:A:248:GLY:C    | 1:B:477:SER:HB3  | 1.79                     | 1.01              |
| 1:A:230:GLU:N    | 1:B:478:SER:HB2  | 1.75                     | 1.01              |
| 1:B:42:TRP:HE1   | 1:B:62:ILE:HD11  | 1.24                     | 1.01              |
| 1:A:189:ASP:H    | 1:B:369:ARG:HA   | 0.94                     | 1.00              |
| 1:B:402:SER:N    | 1:C:193:SER:OG   | 1.93                     | 1.00              |
| 1:A:165:TRP:CE2  | 1:B:110:ARG:HA   | 1.96                     | 1.00              |
| 1:A:194:LEU:CA   | 1:B:403:GLN:HG2  | 1.91                     | 1.00              |
| 1:C:11:ILE:HG12  | 1:C:324:LEU:HD23 | 1.42                     | 1.00              |
| 1:A:143:GLN:HG2  | 1:B:108:HIS:HD2  | 1.23                     | 1.00              |
| 1:A:219:TYR:CD1  | 1:B:473:ILE:CG1  | 2.43                     | 1.00              |
| 1:B:274:ASN:O    | 1:C:286:SER:HA   | 1.61                     | 1.00              |
| 1:C:32:THR:HG21  | 1:C:342:ALA:HA   | 1.42                     | 1.00              |
| 1:A:305:THR:HG21 | 1:A:310:LEU:HD22 | 1.01                     | 1.00              |
| 1:B:119:VAL:HG23 | 1:B:206:ASP:HB2  | 1.44                     | 1.00              |
| 1:A:229:GLY:O    | 1:B:477:SER:O    | 1.80                     | 1.00              |
| 1:B:422:LEU:HD22 | 1:C:221:LYS:NZ   | 1.74                     | 1.00              |
| 1:A:32:THR:HG21  | 1:A:342:ALA:HA   | 1.42                     | 1.00              |
| 1:A:87:ILE:HG12  | 1:B:374:SER:HA   | 1.42                     | 1.00              |
| 1:A:227:CYS:C    | 1:B:476:ASP:HA   | 1.80                     | 1.00              |
| 1:A:180:LYS:CE   | 1:B:57:PHE:HB3   | 1.92                     | 1.00              |
| 1:B:274:ASN:HA   | 1:C:286:SER:HB2  | 1.41                     | 1.00              |
| 1:A:189:ASP:CB   | 1:B:369:ARG:HA   | 1.92                     | 1.00              |
| 1:A:227:CYS:HB2  | 1:B:476:ASP:CB   | 1.91                     | 1.00              |
| 1:B:64:PRO:HG3   | 1:B:82:TYR:HA    | 1.44                     | 1.00              |
| 1:B:11:ILE:HG12  | 1:B:324:LEU:HD23 | 1.42                     | 0.99              |
| 1:C:433:LEU:HD23 | 1:C:444:VAL:HG11 | 1.44                     | 0.99              |
| 1:A:433:LEU:HD23 | 1:A:444:VAL:HG11 | 1.44                     | 0.99              |
| 1:A:165:TRP:CD1  | 1:B:110:ARG:HA   | 1.98                     | 0.99              |
| 1:B:258:LEU:HD21 | 1:B:314:VAL:HG23 | 1.44                     | 0.99              |
| 1:C:230:GLU:CA   | 1:C:250:LEU:HD23 | 1.92                     | 0.99              |
| 1:B:385:PRO:HG3  | 1:C:224:GLY:O    | 1.63                     | 0.99              |
| 1:A:208:VAL:HG12 | 1:A:231:VAL:HG12 | 1.42                     | 0.99              |
| 1:B:383:LYS:CB   | 1:C:6:TRP:HD1    | 1.73                     | 0.99              |
| 1:B:444:VAL:O    | 1:C:185:ASN:HB2  | 1.61                     | 0.99              |
| 1:A:11:ILE:HG12  | 1:A:324:LEU:HD23 | 1.42                     | 0.99              |
| 1:A:191:VAL:HG21 | 1:B:473:ILE:HD11 | 0.99                     | 0.99              |
| 1:B:237:ALA:CB   | 1:C:378:GLY:C    | 2.17                     | 0.99              |
| 1:A:152:ILE:HD11 | 1:A:166:LEU:HA   | 1.45                     | 0.98              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:246:MET:HB3  | 1:B:477:SER:N    | 1.44                     | 0.98              |
| 1:B:429:ALA:HB3  | 1:C:186:GLU:HB3  | 1.42                     | 0.98              |
| 1:B:230:GLU:CA   | 1:B:250:LEU:HD23 | 1.92                     | 0.98              |
| 1:A:145:TYR:HE1  | 1:B:113:TYR:CE2  | 1.79                     | 0.98              |
| 1:C:64:PRO:HG3   | 1:C:82:TYR:HA    | 1.44                     | 0.98              |
| 1:A:180:LYS:HD3  | 1:B:57:PHE:CG    | 1.72                     | 0.98              |
| 1:A:219:TYR:HE2  | 1:B:371:TYR:HB2  | 0.82                     | 0.98              |
| 1:B:383:LYS:CD   | 1:C:5:ASP:HB2    | 1.94                     | 0.98              |
| 1:A:230:GLU:CA   | 1:A:250:LEU:HD23 | 1.92                     | 0.98              |
| 1:C:152:ILE:HD11 | 1:C:166:LEU:HA   | 1.45                     | 0.98              |
| 1:B:387:ILE:CA   | 1:C:247:ASP:OD2  | 2.12                     | 0.98              |
| 1:A:184:LYS:HE2  | 1:B:362:ILE:CG2  | 1.84                     | 0.98              |
| 1:A:219:TYR:CE1  | 1:B:471:SER:OG   | 2.17                     | 0.98              |
| 1:A:225:VAL:N    | 1:B:465:THR:CB   | 2.04                     | 0.98              |
| 1:A:45:ILE:HG23  | 1:A:49:LEU:CD1   | 1.93                     | 0.98              |
| 1:A:184:LYS:CD   | 1:B:363:ALA:HA   | 1.93                     | 0.98              |
| 1:B:185:ASN:HA   | 1:B:188:TYR:CD2  | 1.99                     | 0.98              |
| 1:A:227:CYS:HB3  | 1:B:476:ASP:HB3  | 1.45                     | 0.97              |
| 1:A:208:VAL:HB   | 1:B:478:SER:OG   | 1.11                     | 0.97              |
| 1:B:45:ILE:HG23  | 1:B:49:LEU:CD1   | 1.93                     | 0.97              |
| 1:A:64:PRO:HG3   | 1:A:82:TYR:HA    | 1.44                     | 0.97              |
| 1:A:180:LYS:HZ3  | 1:B:10:SER:C     | 1.68                     | 0.97              |
| 1:B:385:PRO:HA   | 1:C:3:PRO:HD3    | 0.99                     | 0.97              |
| 1:A:249:VAL:HB   | 1:B:477:SER:OG   | 1.64                     | 0.97              |
| 1:B:386:TYR:CE2  | 1:C:247:ASP:CB   | 2.37                     | 0.97              |
| 1:C:258:LEU:HD21 | 1:C:314:VAL:HG23 | 1.43                     | 0.97              |
| 1:B:188:TYR:HE1  | 1:B:218:GLY:HA3  | 1.29                     | 0.97              |
| 1:C:45:ILE:HG23  | 1:C:49:LEU:CD1   | 1.93                     | 0.97              |
| 1:A:119:VAL:HG23 | 1:A:206:ASP:HB2  | 1.44                     | 0.97              |
| 1:A:186:GLU:HG3  | 1:B:370:ASN:HB3  | 0.97                     | 0.97              |
| 1:A:225:VAL:CG2  | 1:B:465:THR:CG2  | 2.38                     | 0.97              |
| 1:B:216:TRP:HB2  | 1:B:245:VAL:HG22 | 1.47                     | 0.97              |
| 1:C:119:VAL:HG23 | 1:C:206:ASP:HB2  | 1.44                     | 0.97              |
| 1:A:194:LEU:HD13 | 1:B:375:LYS:CB   | 1.94                     | 0.97              |
| 1:A:188:TYR:HE1  | 1:A:218:GLY:HA3  | 1.29                     | 0.97              |
| 1:A:218:GLY:H    | 1:B:364:SER:HB3  | 1.30                     | 0.97              |
| 1:A:190:TRP:HZ2  | 1:B:375:LYS:HD2  | 1.22                     | 0.97              |
| 1:B:433:LEU:HD23 | 1:B:444:VAL:HG11 | 1.44                     | 0.97              |
| 1:A:194:LEU:HD13 | 1:B:375:LYS:HB3  | 1.47                     | 0.96              |
| 1:C:216:TRP:HB2  | 1:C:245:VAL:HG22 | 1.47                     | 0.96              |
| 1:B:383:LYS:HB3  | 1:C:6:TRP:HD1    | 1.26                     | 0.96              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:B:386:TYR:CG   | 1:C:288:LEU:CD1  | 2.47                     | 0.96              |
| 1:A:185:ASN:HA   | 1:A:188:TYR:CD2  | 1.99                     | 0.96              |
| 1:B:152:ILE:HD11 | 1:B:166:LEU:HA   | 1.45                     | 0.96              |
| 1:B:400:ASP:O    | 1:C:193:SER:HA   | 1.62                     | 0.96              |
| 1:A:193:SER:HA   | 1:B:403:GLN:CA   | 1.80                     | 0.96              |
| 1:A:180:LYS:O    | 1:B:57:PHE:N     | 1.84                     | 0.96              |
| 1:B:445:GLY:HA3  | 1:C:185:ASN:HD22 | 1.30                     | 0.96              |
| 1:C:185:ASN:HA   | 1:C:188:TYR:CD2  | 1.99                     | 0.96              |
| 1:A:186:GLU:CG   | 1:B:370:ASN:CA   | 2.43                     | 0.96              |
| 1:A:190:TRP:CE3  | 1:B:371:TYR:CD1  | 2.53                     | 0.96              |
| 1:A:220:ASN:CA   | 1:B:473:ILE:CG2  | 2.43                     | 0.96              |
| 1:A:10:SER:HB3   | 1:A:57:PHE:CA    | 1.96                     | 0.96              |
| 1:B:277:ASN:HB2  | 1:C:286:SER:CB   | 1.96                     | 0.96              |
| 1:A:221:LYS:CA   | 1:B:474:CYS:SG   | 2.53                     | 0.96              |
| 1:C:10:SER:HB3   | 1:C:57:PHE:CA    | 1.96                     | 0.96              |
| 1:A:258:LEU:HD21 | 1:A:314:VAL:HG23 | 1.44                     | 0.96              |
| 1:A:143:GLN:NE2  | 1:B:108:HIS:ND1  | 2.12                     | 0.96              |
| 1:A:196:SER:HB3  | 1:B:403:GLN:HG3  | 1.48                     | 0.96              |
| 1:C:208:VAL:HG21 | 1:C:246:MET:SD   | 2.06                     | 0.96              |
| 1:B:208:VAL:HG21 | 1:B:246:MET:SD   | 2.06                     | 0.96              |
| 1:B:388:LYS:HA   | 1:C:244:ASN:O    | 1.64                     | 0.96              |
| 1:A:208:VAL:HG21 | 1:A:246:MET:SD   | 2.06                     | 0.96              |
| 1:B:238:TYR:HA   | 1:C:376:ASP:CB   | 1.94                     | 0.96              |
| 1:C:146:PHE:HA   | 1:C:176:LEU:HA   | 1.48                     | 0.95              |
| 1:C:305:THR:HG21 | 1:C:310:LEU:CD2  | 1.96                     | 0.95              |
| 1:B:279:VAL:HG13 | 1:C:4:ALA:HB1    | 0.98                     | 0.95              |
| 1:A:229:GLY:HA2  | 1:B:478:SER:HB2  | 1.22                     | 0.95              |
| 1:C:45:ILE:CB    | 1:C:103:LEU:HD21 | 1.95                     | 0.95              |
| 1:A:146:PHE:HA   | 1:A:176:LEU:HA   | 1.48                     | 0.95              |
| 1:A:436:VAL:HG13 | 1:A:437:ILE:HG13 | 1.47                     | 0.95              |
| 1:A:45:ILE:CB    | 1:A:103:LEU:HD21 | 1.95                     | 0.95              |
| 1:B:276:ILE:O    | 1:C:4:ALA:CB     | 2.13                     | 0.95              |
| 1:B:278:THR:HA   | 1:C:380:VAL:HG22 | 0.97                     | 0.95              |
| 1:B:449:ASN:H    | 1:C:184:LYS:HZ1  | 1.07                     | 0.95              |
| 1:B:386:TYR:CZ   | 1:C:288:LEU:HD13 | 2.01                     | 0.95              |
| 1:A:305:THR:HG21 | 1:A:310:LEU:CD2  | 1.96                     | 0.95              |
| 1:A:189:ASP:HB2  | 1:B:369:ARG:CA   | 1.96                     | 0.95              |
| 1:A:186:GLU:HG3  | 1:B:370:ASN:CA   | 1.97                     | 0.95              |
| 1:B:45:ILE:CB    | 1:B:103:LEU:HD21 | 1.95                     | 0.95              |
| 1:A:179:THR:C    | 1:B:55:MET:HB2   | 1.87                     | 0.95              |
| 1:B:382:TYR:O    | 1:C:2:THR:CG2    | 2.15                     | 0.94              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:B:235:ASP:OD2  | 1:C:399:THR:HG22 | 1.63                     | 0.94              |
| 1:B:305:THR:HG21 | 1:B:310:LEU:CD2  | 1.96                     | 0.94              |
| 1:B:446:SER:OG   | 1:C:181:ASP:OD1  | 1.84                     | 0.94              |
| 1:A:227:CYS:C    | 1:B:476:ASP:CA   | 2.35                     | 0.94              |
| 1:C:436:VAL:HG13 | 1:C:437:ILE:HG13 | 1.47                     | 0.94              |
| 1:A:200:ILE:CD1  | 1:B:467:LYS:NZ   | 2.30                     | 0.94              |
| 1:A:218:GLY:N    | 1:B:364:SER:HB3  | 1.80                     | 0.94              |
| 1:A:227:CYS:HB3  | 1:B:476:ASP:HB2  | 0.94                     | 0.94              |
| 1:A:143:GLN:HE21 | 1:B:108:HIS:CG   | 1.84                     | 0.94              |
| 1:A:2:THR:CA     | 1:B:432:GLN:NE2  | 2.19                     | 0.94              |
| 1:C:188:TYR:HE1  | 1:C:218:GLY:HA3  | 1.29                     | 0.94              |
| 1:B:436:VAL:HG13 | 1:B:437:ILE:HG13 | 1.47                     | 0.94              |
| 1:A:165:TRP:CZ3  | 1:A:172:SER:HB2  | 2.02                     | 0.94              |
| 1:A:216:TRP:HB2  | 1:A:245:VAL:HG22 | 1.47                     | 0.94              |
| 1:A:88:TYR:HE2   | 1:B:373:ILE:C    | 1.66                     | 0.94              |
| 1:A:188:TYR:CD2  | 1:B:367:ALA:N    | 2.35                     | 0.94              |
| 1:B:146:PHE:HA   | 1:B:176:LEU:HA   | 1.48                     | 0.94              |
| 1:B:406:THR:CG2  | 1:C:221:LYS:O    | 2.16                     | 0.94              |
| 1:A:229:GLY:CA   | 1:B:478:SER:HB3  | 1.88                     | 0.94              |
| 1:B:165:TRP:CZ3  | 1:B:172:SER:HB2  | 2.02                     | 0.94              |
| 1:A:217:PRO:CB   | 1:B:437:ILE:O    | 2.16                     | 0.94              |
| 1:A:198:TYR:HB2  | 1:B:467:LYS:NZ   | 1.81                     | 0.94              |
| 1:B:11:ILE:HD13  | 1:B:326:ILE:HG12 | 1.49                     | 0.94              |
| 1:A:200:ILE:HD11 | 1:B:467:LYS:HZ3  | 1.33                     | 0.94              |
| 1:B:238:TYR:CA   | 1:C:377:THR:N    | 2.30                     | 0.93              |
| 1:A:190:TRP:CD1  | 1:B:372:ALA:O    | 1.92                     | 0.93              |
| 1:A:11:ILE:HD13  | 1:A:326:ILE:HG12 | 1.49                     | 0.93              |
| 1:A:200:ILE:HD12 | 1:B:467:LYS:CE   | 1.97                     | 0.93              |
| 1:C:11:ILE:HD13  | 1:C:326:ILE:HG12 | 1.49                     | 0.93              |
| 1:B:404:ILE:HD11 | 1:C:223:ALA:CA   | 1.81                     | 0.93              |
| 1:A:228:ILE:N    | 1:B:476:ASP:CB   | 2.31                     | 0.93              |
| 1:A:194:LEU:CD2  | 1:B:375:LYS:CG   | 2.24                     | 0.93              |
| 1:B:427:TYR:N    | 1:C:188:TYR:CD1  | 2.36                     | 0.93              |
| 1:B:382:TYR:O    | 1:C:2:THR:HG23   | 1.67                     | 0.93              |
| 1:A:208:VAL:HG23 | 1:A:216:TRP:CE2  | 2.04                     | 0.93              |
| 1:C:16:THR:HG1   | 1:C:94:TYR:HE1   | 0.95                     | 0.93              |
| 1:A:205:ILE:HG23 | 1:B:472:LYS:N    | 1.84                     | 0.93              |
| 1:A:183:VAL:HA   | 1:B:370:ASN:ND2  | 1.82                     | 0.93              |
| 1:A:205:ILE:HG12 | 1:B:471:SER:O    | 1.66                     | 0.93              |
| 1:A:180:LYS:CD   | 1:B:57:PHE:CG    | 2.25                     | 0.93              |
| 1:A:69:LEU:HB2   | 1:A:71:GLN:HE21  | 1.34                     | 0.93              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:C:69:LEU:HB2   | 1:C:71:GLN:HE21  | 1.34                     | 0.93              |
| 1:A:148:PRO:HD3  | 1:B:49:LEU:HD23  | 1.49                     | 0.93              |
| 1:A:225:VAL:HG23 | 1:B:465:THR:CG2  | 1.80                     | 0.93              |
| 1:C:165:TRP:CZ3  | 1:C:172:SER:HB2  | 2.02                     | 0.93              |
| 1:C:208:VAL:HG23 | 1:C:216:TRP:CE2  | 2.04                     | 0.93              |
| 1:A:248:GLY:O    | 1:B:477:SER:CB   | 2.16                     | 0.93              |
| 1:B:424:GLY:O    | 1:C:221:LYS:HB2  | 1.65                     | 0.93              |
| 1:B:386:TYR:CE2  | 1:C:288:LEU:CD1  | 2.47                     | 0.92              |
| 1:A:216:TRP:O    | 1:B:473:ILE:O    | 1.87                     | 0.92              |
| 1:B:238:TYR:CA   | 1:C:376:ASP:CA   | 2.33                     | 0.92              |
| 1:A:180:LYS:NZ   | 1:B:10:SER:C     | 2.23                     | 0.92              |
| 1:A:143:GLN:OE1  | 1:B:108:HIS:HA   | 1.68                     | 0.92              |
| 1:A:229:GLY:CA   | 1:B:477:SER:C    | 2.34                     | 0.92              |
| 1:C:308:ILE:HG22 | 1:C:312:LYS:HE3  | 1.50                     | 0.92              |
| 1:B:208:VAL:HG23 | 1:B:216:TRP:CE2  | 2.04                     | 0.92              |
| 1:B:69:LEU:HB2   | 1:B:71:GLN:HE21  | 1.34                     | 0.92              |
| 1:B:278:THR:O    | 1:C:380:VAL:CG2  | 2.18                     | 0.92              |
| 1:A:186:GLU:CG   | 1:B:370:ASN:HB3  | 1.89                     | 0.92              |
| 1:A:230:GLU:H    | 1:B:478:SER:HB2  | 1.29                     | 0.92              |
| 1:B:383:LYS:HD2  | 1:C:5:ASP:HB2    | 1.48                     | 0.92              |
| 1:A:197:ASN:O    | 1:B:467:LYS:CE   | 2.18                     | 0.92              |
| 1:B:277:ASN:CB   | 1:C:286:SER:HB3  | 1.99                     | 0.92              |
| 1:A:182:VAL:HB   | 1:B:10:SER:C     | 1.90                     | 0.91              |
| 1:A:147:HIS:HA   | 1:B:112:MET:CE   | 2.00                     | 0.91              |
| 1:B:444:VAL:C    | 1:C:185:ASN:CG   | 2.25                     | 0.91              |
| 1:A:205:ILE:HG23 | 1:B:472:LYS:HG3  | 1.50                     | 0.91              |
| 1:A:182:VAL:H    | 1:B:57:PHE:CB    | 1.82                     | 0.91              |
| 1:B:400:ASP:C    | 1:C:193:SER:O    | 2.08                     | 0.91              |
| 1:B:274:ASN:CA   | 1:C:286:SER:HA   | 2.01                     | 0.91              |
| 1:A:194:LEU:HB2  | 1:B:375:LYS:HB3  | 1.53                     | 0.91              |
| 1:A:229:GLY:N    | 1:A:246:MET:HE1  | 1.85                     | 0.91              |
| 1:A:178:THR:HB   | 1:B:57:PHE:O     | 1.71                     | 0.91              |
| 1:A:145:TYR:CE2  | 1:B:9:GLN:HB2    | 2.06                     | 0.91              |
| 1:A:185:ASN:CB   | 1:B:366:ASN:CA   | 2.21                     | 0.91              |
| 1:B:308:ILE:HG22 | 1:B:312:LYS:HE3  | 1.50                     | 0.91              |
| 1:B:209:LYS:HB3  | 1:B:231:VAL:HG21 | 1.52                     | 0.91              |
| 1:B:273:TYR:CD1  | 1:B:389:ASP:HB3  | 2.05                     | 0.91              |
| 1:C:273:TYR:CD1  | 1:C:389:ASP:HB3  | 2.06                     | 0.91              |
| 1:A:180:LYS:H    | 1:B:55:MET:CB    | 1.76                     | 0.91              |
| 1:A:208:VAL:HA   | 1:A:216:TRP:CZ2  | 2.06                     | 0.91              |
| 1:A:180:LYS:HG2  | 1:B:327:ILE:HG21 | 1.49                     | 0.91              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:222:ALA:CA   | 1:B:368:ILE:HD12 | 1.99                     | 0.91              |
| 1:C:208:VAL:HA   | 1:C:216:TRP:CZ2  | 2.06                     | 0.91              |
| 1:B:383:LYS:HG3  | 1:C:6:TRP:NE1    | 1.84                     | 0.91              |
| 1:B:432:GLN:CG   | 1:B:465:THR:HG21 | 2.01                     | 0.91              |
| 1:B:274:ASN:O    | 1:C:286:SER:CA   | 2.19                     | 0.91              |
| 1:A:191:VAL:O    | 1:B:467:LYS:O    | 1.88                     | 0.91              |
| 1:A:308:ILE:HG22 | 1:A:312:LYS:HE3  | 1.50                     | 0.90              |
| 1:B:305:THR:CG2  | 1:B:310:LEU:HD22 | 1.97                     | 0.90              |
| 1:A:273:TYR:CD1  | 1:A:389:ASP:HB3  | 2.05                     | 0.90              |
| 1:B:278:THR:C    | 1:C:380:VAL:HG11 | 1.90                     | 0.90              |
| 1:A:249:VAL:CG1  | 1:B:477:SER:CB   | 2.48                     | 0.90              |
| 1:A:180:LYS:CG   | 1:B:12:TYR:CD2   | 2.54                     | 0.90              |
| 1:B:241:PRO:O    | 1:C:374:SER:HA   | 1.11                     | 0.90              |
| 1:A:209:LYS:HB3  | 1:A:231:VAL:HG21 | 1.52                     | 0.90              |
| 1:B:208:VAL:HA   | 1:B:216:TRP:CZ2  | 2.06                     | 0.90              |
| 1:A:222:ALA:HB2  | 1:B:368:ILE:HG13 | 1.19                     | 0.90              |
| 1:C:209:LYS:HB3  | 1:C:231:VAL:HG21 | 1.52                     | 0.90              |
| 1:B:281:SER:HB2  | 1:C:6:TRP:C      | 1.92                     | 0.90              |
| 1:A:217:PRO:O    | 1:B:474:CYS:HA   | 1.72                     | 0.90              |
| 1:A:185:ASN:HB2  | 1:B:366:ASN:HA   | 0.91                     | 0.90              |
| 1:A:145:TYR:CE2  | 1:B:9:GLN:CB     | 2.55                     | 0.90              |
| 1:C:319:ILE:CG2  | 1:C:325:PRO:HB2  | 2.01                     | 0.90              |
| 1:A:145:TYR:CE1  | 1:B:113:TYR:HE2  | 1.85                     | 0.90              |
| 1:A:205:ILE:HD12 | 1:B:478:SER:HB3  | 1.42                     | 0.90              |
| 1:B:429:ALA:HB3  | 1:C:186:GLU:CB   | 2.02                     | 0.90              |
| 1:C:191:VAL:HG11 | 1:C:219:TYR:CZ   | 2.07                     | 0.90              |
| 1:C:432:GLN:CG   | 1:C:465:THR:HG21 | 2.01                     | 0.90              |
| 1:B:182:VAL:HG13 | 1:B:183:VAL:H    | 1.37                     | 0.90              |
| 1:B:383:LYS:CE   | 1:C:5:ASP:CB     | 2.48                     | 0.90              |
| 1:B:382:TYR:CD1  | 1:C:2:THR:CG2    | 2.55                     | 0.90              |
| 1:C:365:ALA:O    | 1:C:368:ILE:HG22 | 1.72                     | 0.90              |
| 1:A:190:TRP:HH2  | 1:B:375:LYS:CD   | 1.77                     | 0.89              |
| 1:B:191:VAL:HG11 | 1:B:219:TYR:CZ   | 2.07                     | 0.89              |
| 1:B:382:TYR:HD1  | 1:C:2:THR:HG23   | 1.15                     | 0.89              |
| 1:A:184:LYS:H    | 1:B:56:GLY:HA2   | 1.34                     | 0.89              |
| 1:B:235:ASP:CG   | 1:C:399:THR:HG23 | 1.86                     | 0.89              |
| 1:C:433:LEU:HB2  | 1:C:442:VAL:HG12 | 1.54                     | 0.89              |
| 1:A:190:TRP:CD2  | 1:B:374:SER:CB   | 2.55                     | 0.89              |
| 1:B:280:LYS:O    | 1:C:7:ARG:N      | 2.05                     | 0.89              |
| 1:A:229:GLY:C    | 1:B:478:SER:HB2  | 1.91                     | 0.89              |
| 1:C:257:PRO:HA   | 1:C:260:ASN:HB2  | 1.53                     | 0.89              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:319:ILE:CG2  | 1:A:325:PRO:HB2  | 2.01                     | 0.89              |
| 1:B:293:VAL:HG13 | 1:B:294:GLU:H    | 1.36                     | 0.89              |
| 1:B:319:ILE:CG2  | 1:B:325:PRO:HB2  | 2.01                     | 0.89              |
| 1:A:432:GLN:CG   | 1:A:465:THR:HG21 | 2.01                     | 0.89              |
| 1:C:35:GLN:HB3   | 1:C:79:TYR:CE1   | 2.07                     | 0.89              |
| 1:B:274:ASN:C    | 1:C:286:SER:HA   | 1.93                     | 0.89              |
| 1:B:404:ILE:CD1  | 1:C:223:ALA:CA   | 2.43                     | 0.89              |
| 1:B:404:ILE:HG12 | 1:C:223:ALA:HA   | 1.51                     | 0.89              |
| 1:B:277:ASN:CG   | 1:C:286:SER:HB3  | 1.93                     | 0.89              |
| 1:A:192:GLY:O    | 1:B:464:PRO:CG   | 2.20                     | 0.89              |
| 1:A:257:PRO:HA   | 1:A:260:ASN:HB2  | 1.53                     | 0.89              |
| 1:A:433:LEU:HB2  | 1:A:442:VAL:HG12 | 1.54                     | 0.89              |
| 1:A:10:SER:CB    | 1:A:57:PHE:HA    | 2.03                     | 0.89              |
| 1:B:408:LEU:HD11 | 1:B:462:LEU:HD21 | 1.54                     | 0.89              |
| 1:A:180:LYS:H    | 1:B:55:MET:HB2   | 1.20                     | 0.89              |
| 1:B:236:PRO:HB2  | 1:C:380:VAL:HG12 | 1.55                     | 0.89              |
| 1:C:408:LEU:HD11 | 1:C:462:LEU:HD21 | 1.53                     | 0.89              |
| 1:C:10:SER:CB    | 1:C:57:PHE:HA    | 2.03                     | 0.89              |
| 1:A:180:LYS:CA   | 1:B:55:MET:CG    | 2.42                     | 0.89              |
| 1:A:186:GLU:CG   | 1:B:370:ASN:HA   | 2.02                     | 0.89              |
| 1:B:449:ASN:ND2  | 1:C:214:ASP:C    | 2.25                     | 0.89              |
| 1:A:184:LYS:H    | 1:B:56:GLY:CA    | 1.85                     | 0.89              |
| 1:A:180:LYS:HB3  | 1:B:12:TYR:CD2   | 2.08                     | 0.89              |
| 1:A:293:VAL:HG13 | 1:A:294:GLU:H    | 1.36                     | 0.89              |
| 1:A:365:ALA:O    | 1:A:368:ILE:HG22 | 1.72                     | 0.89              |
| 1:B:396:ARG:C    | 1:C:224:GLY:HA2  | 1.91                     | 0.89              |
| 1:A:35:GLN:HB3   | 1:A:79:TYR:CE1   | 2.07                     | 0.88              |
| 1:B:277:ASN:HB2  | 1:C:286:SER:HB3  | 1.55                     | 0.88              |
| 1:B:445:GLY:HA2  | 1:C:185:ASN:CG   | 1.93                     | 0.88              |
| 1:C:11:ILE:CD1   | 1:C:324:LEU:HB3  | 2.04                     | 0.88              |
| 1:B:445:GLY:HA2  | 1:C:185:ASN:HB3  | 1.54                     | 0.88              |
| 1:B:208:VAL:HG12 | 1:B:231:VAL:CG1  | 2.04                     | 0.88              |
| 1:A:205:ILE:HG13 | 1:B:478:SER:HB3  | 1.54                     | 0.88              |
| 1:B:257:PRO:HA   | 1:B:260:ASN:HB2  | 1.53                     | 0.88              |
| 1:A:200:ILE:HG21 | 1:B:467:LYS:HA   | 1.55                     | 0.88              |
| 1:C:208:VAL:HG12 | 1:C:231:VAL:CG1  | 2.04                     | 0.88              |
| 1:B:427:TYR:H    | 1:C:188:TYR:HD1  | 1.13                     | 0.88              |
| 1:B:387:ILE:HA   | 1:C:247:ASP:OD2  | 1.72                     | 0.88              |
| 1:A:208:VAL:HG12 | 1:A:231:VAL:CG1  | 2.04                     | 0.88              |
| 1:B:11:ILE:CD1   | 1:B:324:LEU:HB3  | 2.04                     | 0.88              |
| 1:A:222:ALA:HB2  | 1:B:368:ILE:CB   | 2.02                     | 0.88              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:C:182:VAL:HG13 | 1:C:183:VAL:H    | 1.36                     | 0.88              |
| 1:B:275:MET:CA   | 1:C:7:ARG:NH1    | 2.35                     | 0.88              |
| 1:A:165:TRP:HE1  | 1:B:110:ARG:N    | 1.72                     | 0.88              |
| 1:A:42:TRP:HE1   | 1:A:62:ILE:CD1   | 1.86                     | 0.88              |
| 1:B:35:GLN:HB3   | 1:B:79:TYR:CE1   | 2.07                     | 0.88              |
| 1:B:383:LYS:HD3  | 1:C:5:ASP:OD2    | 1.73                     | 0.88              |
| 1:B:388:LYS:HE2  | 1:B:390:ASP:HB2  | 1.55                     | 0.88              |
| 1:A:11:ILE:CD1   | 1:A:324:LEU:HB3  | 2.04                     | 0.88              |
| 1:B:433:LEU:HB2  | 1:B:442:VAL:HG12 | 1.54                     | 0.88              |
| 1:A:123:MET:HG3  | 1:A:146:PHE:CE1  | 2.07                     | 0.88              |
| 1:A:408:LEU:HD11 | 1:A:462:LEU:HD21 | 1.53                     | 0.88              |
| 1:B:276:ILE:O    | 1:C:4:ALA:CA     | 2.22                     | 0.88              |
| 1:B:422:LEU:CD2  | 1:C:221:LYS:HZ2  | 1.83                     | 0.88              |
| 1:A:16:THR:HG1   | 1:A:94:TYR:HE1   | 0.93                     | 0.88              |
| 1:A:57:PHE:CE2   | 1:A:327:ILE:HG21 | 2.09                     | 0.88              |
| 1:C:293:VAL:HG13 | 1:C:294:GLU:H    | 1.36                     | 0.88              |
| 1:B:238:TYR:C    | 1:C:377:THR:N    | 2.28                     | 0.88              |
| 1:A:180:LYS:HE3  | 1:B:12:TYR:CA    | 2.04                     | 0.87              |
| 1:B:400:ASP:HA   | 1:C:192:GLY:O    | 1.74                     | 0.87              |
| 1:B:42:TRP:HE1   | 1:B:62:ILE:CD1   | 1.86                     | 0.87              |
| 1:C:123:MET:HG3  | 1:C:146:PHE:CE1  | 2.07                     | 0.87              |
| 1:B:383:LYS:NZ   | 1:C:6:TRP:N      | 2.23                     | 0.87              |
| 1:A:197:ASN:OD1  | 1:C:193:SER:O    | 1.92                     | 0.87              |
| 1:A:205:ILE:HG21 | 1:B:472:LYS:HG2  | 1.56                     | 0.87              |
| 1:C:57:PHE:CE2   | 1:C:327:ILE:HG21 | 2.09                     | 0.87              |
| 1:A:200:ILE:CG2  | 1:B:467:LYS:HA   | 2.05                     | 0.87              |
| 1:A:249:VAL:CG1  | 1:B:477:SER:OG   | 2.22                     | 0.87              |
| 1:C:422:LEU:HB3  | 1:C:450:VAL:HG22 | 1.55                     | 0.87              |
| 1:C:42:TRP:HE1   | 1:C:62:ILE:CD1   | 1.86                     | 0.87              |
| 1:C:280:LYS:CE   | 1:C:383:LYS:HB3  | 2.04                     | 0.87              |
| 1:C:305:THR:CG2  | 1:C:310:LEU:HD22 | 1.97                     | 0.87              |
| 1:C:45:ILE:HB    | 1:C:103:LEU:CD2  | 2.03                     | 0.87              |
| 1:A:143:GLN:HE21 | 1:B:108:HIS:CE1  | 1.92                     | 0.87              |
| 1:B:236:PRO:HG2  | 1:C:378:GLY:C    | 1.95                     | 0.87              |
| 1:B:237:ALA:CA   | 1:C:379:PHE:N    | 2.37                     | 0.87              |
| 1:B:57:PHE:CE2   | 1:B:327:ILE:HG21 | 2.09                     | 0.87              |
| 1:B:422:LEU:HB3  | 1:B:450:VAL:HG22 | 1.55                     | 0.87              |
| 1:A:180:LYS:HZ3  | 1:A:182:VAL:HB   | 1.38                     | 0.87              |
| 1:A:295:ASN:HB3  | 1:A:298:ASN:HB2  | 1.56                     | 0.87              |
| 1:A:305:THR:CG2  | 1:A:310:LEU:HD22 | 1.97                     | 0.87              |
| 1:A:143:GLN:CG   | 1:B:108:HIS:NE2  | 2.24                     | 0.87              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:B:381:THR:HG22 | 1:C:1:ALA:HB2    | 1.54                     | 0.87              |
| 1:A:215:PHE:HD1  | 1:A:216:TRP:CE3  | 1.93                     | 0.87              |
| 1:A:422:LEU:HB3  | 1:A:450:VAL:HG22 | 1.56                     | 0.87              |
| 1:A:87:ILE:HD11  | 1:B:374:SER:CA   | 2.00                     | 0.87              |
| 1:C:215:PHE:HD1  | 1:C:216:TRP:CE3  | 1.93                     | 0.87              |
| 1:C:295:ASN:HB3  | 1:C:298:ASN:HB2  | 1.56                     | 0.87              |
| 1:A:144:ASP:C    | 1:B:58:THR:O     | 2.13                     | 0.87              |
| 1:A:205:ILE:CG1  | 1:B:471:SER:C    | 2.42                     | 0.87              |
| 1:B:385:PRO:HD2  | 1:C:2:THR:HG22   | 1.56                     | 0.87              |
| 1:A:182:VAL:N    | 1:B:57:PHE:CA    | 2.31                     | 0.86              |
| 1:A:208:VAL:HA   | 1:A:216:TRP:HZ2  | 1.40                     | 0.86              |
| 1:B:238:TYR:CG   | 1:C:376:ASP:HB2  | 2.10                     | 0.86              |
| 1:A:180:LYS:HB3  | 1:B:12:TYR:HD2   | 1.36                     | 0.86              |
| 1:A:223:ALA:H    | 1:B:468:LEU:CD2  | 1.87                     | 0.86              |
| 1:A:145:TYR:CD2  | 1:B:9:GLN:CG     | 2.58                     | 0.86              |
| 1:B:295:ASN:HB3  | 1:B:298:ASN:HB2  | 1.56                     | 0.86              |
| 1:A:280:LYS:CE   | 1:A:383:LYS:HB3  | 2.04                     | 0.86              |
| 1:B:215:PHE:HD1  | 1:B:216:TRP:CE3  | 1.93                     | 0.86              |
| 1:A:431:GLN:HE21 | 1:A:431:GLN:HA   | 1.41                     | 0.86              |
| 1:B:383:LYS:HZ3  | 1:C:6:TRP:N      | 1.72                     | 0.86              |
| 1:C:431:GLN:HE21 | 1:C:431:GLN:HA   | 1.41                     | 0.86              |
| 1:B:276:ILE:O    | 1:C:4:ALA:HA     | 1.74                     | 0.86              |
| 1:A:45:ILE:HB    | 1:A:103:LEU:CD2  | 2.03                     | 0.86              |
| 1:B:12:TYR:CE1   | 1:B:14:LEU:HD23  | 2.11                     | 0.86              |
| 1:B:431:GLN:HA   | 1:B:431:GLN:HE21 | 1.41                     | 0.86              |
| 1:C:388:LYS:HE2  | 1:C:390:ASP:HB2  | 1.56                     | 0.86              |
| 1:B:400:ASP:CB   | 1:C:194:LEU:O    | 2.23                     | 0.86              |
| 1:B:449:ASN:ND2  | 1:C:214:ASP:O    | 2.09                     | 0.86              |
| 1:B:396:ARG:C    | 1:C:224:GLY:CA   | 2.44                     | 0.86              |
| 1:B:408:LEU:CD2  | 1:B:452:VAL:HG21 | 2.06                     | 0.86              |
| 1:B:399:THR:HG22 | 1:C:196:SER:O    | 1.74                     | 0.86              |
| 1:A:205:ILE:HG23 | 1:B:472:LYS:H    | 1.40                     | 0.86              |
| 1:A:219:TYR:HE1  | 1:B:471:SER:HG   | 0.88                     | 0.86              |
| 1:B:115:MET:HE1  | 1:B:204:ARG:HB2  | 1.54                     | 0.86              |
| 1:B:83:TRP:HE1   | 1:B:173:LEU:CD2  | 1.89                     | 0.86              |
| 1:B:11:ILE:HD13  | 1:B:326:ILE:CG1  | 2.06                     | 0.86              |
| 1:B:400:ASP:CA   | 1:C:193:SER:C    | 2.44                     | 0.86              |
| 1:A:408:LEU:CD2  | 1:A:452:VAL:HG21 | 2.06                     | 0.86              |
| 1:B:386:TYR:CD2  | 1:C:247:ASP:HB3  | 2.11                     | 0.86              |
| 1:C:83:TRP:HE1   | 1:C:173:LEU:CD2  | 1.89                     | 0.86              |
| 1:A:223:ALA:H    | 1:B:468:LEU:HD21 | 1.03                     | 0.85              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:87:ILE:HG13  | 1:B:374:SER:C    | 1.85                     | 0.85              |
| 1:A:180:LYS:HA   | 1:B:55:MET:HB3   | 0.93                     | 0.85              |
| 1:A:205:ILE:CG2  | 1:B:472:LYS:CG   | 2.13                     | 0.85              |
| 1:A:230:GLU:HA   | 1:A:250:LEU:CD2  | 2.06                     | 0.85              |
| 1:B:139:PRO:HG2  | 1:B:140:PHE:CD1  | 2.11                     | 0.85              |
| 1:B:16:THR:HG1   | 1:B:94:TYR:HE1   | 1.23                     | 0.85              |
| 1:B:401:GLY:N    | 1:C:193:SER:C    | 2.29                     | 0.85              |
| 1:A:11:ILE:HD13  | 1:A:326:ILE:CG1  | 2.06                     | 0.85              |
| 1:A:83:TRP:HE1   | 1:A:173:LEU:CD2  | 1.89                     | 0.85              |
| 1:A:219:TYR:CZ   | 1:B:473:ILE:HD12 | 2.10                     | 0.85              |
| 1:A:147:HIS:CG   | 1:A:148:PRO:HD2  | 2.11                     | 0.85              |
| 1:A:200:ILE:HD11 | 1:B:467:LYS:NZ   | 1.91                     | 0.85              |
| 1:B:238:TYR:HB2  | 1:C:376:ASP:CG   | 1.96                     | 0.85              |
| 1:B:406:THR:HG21 | 1:C:221:LYS:O    | 1.75                     | 0.85              |
| 1:C:408:LEU:CD2  | 1:C:452:VAL:HG21 | 2.06                     | 0.85              |
| 1:C:147:HIS:CG   | 1:C:148:PRO:HD2  | 2.11                     | 0.85              |
| 1:C:208:VAL:HA   | 1:C:216:TRP:HZ2  | 1.40                     | 0.85              |
| 1:C:230:GLU:HA   | 1:C:250:LEU:CD2  | 2.06                     | 0.85              |
| 1:A:221:LYS:CA   | 1:B:434:THR:HG22 | 2.04                     | 0.85              |
| 1:A:88:TYR:CD2   | 1:B:373:ILE:O    | 2.29                     | 0.85              |
| 1:A:220:ASN:OD1  | 1:B:439:CYS:SG   | 2.35                     | 0.85              |
| 1:B:241:PRO:HB2  | 1:C:374:SER:C    | 1.97                     | 0.85              |
| 1:B:123:MET:HG3  | 1:B:146:PHE:CE1  | 2.07                     | 0.85              |
| 1:B:230:GLU:HA   | 1:B:250:LEU:CD2  | 2.06                     | 0.85              |
| 1:A:194:LEU:O    | 1:B:467:LYS:NZ   | 2.08                     | 0.85              |
| 1:B:235:ASP:OD2  | 1:C:399:THR:HG21 | 1.47                     | 0.85              |
| 1:A:139:PRO:HG2  | 1:A:140:PHE:CD1  | 2.11                     | 0.85              |
| 1:A:388:LYS:HE2  | 1:A:390:ASP:HB2  | 1.56                     | 0.85              |
| 1:B:147:HIS:CG   | 1:B:148:PRO:HD2  | 2.11                     | 0.85              |
| 1:A:180:LYS:C    | 1:B:55:MET:HB3   | 1.96                     | 0.85              |
| 1:A:455:ALA:HB3  | 1:A:458:LEU:HD11 | 1.58                     | 0.85              |
| 1:C:200:ILE:HG22 | 1:C:203:LEU:HD11 | 1.59                     | 0.84              |
| 1:B:237:ALA:HB2  | 1:C:379:PHE:H    | 1.39                     | 0.84              |
| 1:B:383:LYS:CD   | 1:C:5:ASP:OD2    | 2.24                     | 0.84              |
| 1:A:163:ASP:CA   | 1:B:53:GLN:OE1   | 2.24                     | 0.84              |
| 1:A:12:TYR:CE1   | 1:A:14:LEU:HD23  | 2.11                     | 0.84              |
| 1:A:204:ARG:O    | 1:B:471:SER:HA   | 1.58                     | 0.84              |
| 1:C:11:ILE:HD13  | 1:C:326:ILE:CG1  | 2.06                     | 0.84              |
| 1:A:420:LEU:HD23 | 1:A:452:VAL:CG1  | 2.07                     | 0.84              |
| 1:A:186:GLU:HA   | 1:B:369:ARG:NH1  | 1.92                     | 0.84              |
| 1:C:12:TYR:CE1   | 1:C:14:LEU:HD23  | 2.11                     | 0.84              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:C:139:PRO:HG2  | 1:C:140:PHE:CD1  | 2.11                     | 0.84              |
| 1:B:236:PRO:HG2  | 1:C:378:GLY:O    | 1.77                     | 0.84              |
| 1:B:281:SER:HB2  | 1:C:6:TRP:O      | 1.78                     | 0.84              |
| 1:A:187:TRP:C    | 1:B:367:ALA:O    | 2.15                     | 0.84              |
| 1:A:200:ILE:HG22 | 1:A:203:LEU:HD11 | 1.59                     | 0.84              |
| 1:B:420:LEU:HD23 | 1:B:452:VAL:CG1  | 2.07                     | 0.84              |
| 1:B:455:ALA:HB3  | 1:B:458:LEU:HD11 | 1.58                     | 0.84              |
| 1:B:396:ARG:HB2  | 1:C:221:LYS:HA   | 1.57                     | 0.84              |
| 1:B:213:LYS:HE2  | 1:C:375:LYS:HG3  | 1.57                     | 0.84              |
| 1:A:184:LYS:HD2  | 1:B:363:ALA:C    | 1.97                     | 0.84              |
| 1:A:219:TYR:CE2  | 1:B:371:TYR:CD2  | 2.64                     | 0.84              |
| 1:A:145:TYR:HE1  | 1:B:113:TYR:HE2  | 1.14                     | 0.84              |
| 1:B:386:TYR:CD1  | 1:C:288:LEU:HD12 | 2.11                     | 0.84              |
| 1:B:449:ASN:HB2  | 1:C:184:LYS:HZ3  | 1.05                     | 0.84              |
| 1:A:195:VAL:HG22 | 1:B:466:GLU:CG   | 2.07                     | 0.84              |
| 1:B:208:VAL:HA   | 1:B:216:TRP:HZ2  | 1.40                     | 0.84              |
| 1:B:387:ILE:HG22 | 1:B:395:MET:HA   | 1.60                     | 0.84              |
| 1:A:148:PRO:CD   | 1:B:49:LEU:HD23  | 2.07                     | 0.83              |
| 1:A:227:CYS:O    | 1:B:476:ASP:CA   | 2.26                     | 0.83              |
| 1:B:211:VAL:HB   | 1:B:216:TRP:CZ2  | 2.13                     | 0.83              |
| 1:A:180:LYS:HG2  | 1:B:327:ILE:HG22 | 1.58                     | 0.83              |
| 1:B:385:PRO:HA   | 1:C:3:PRO:CG     | 2.07                     | 0.83              |
| 1:C:420:LEU:HD23 | 1:C:452:VAL:CG1  | 2.07                     | 0.83              |
| 1:A:236:PRO:O    | 1:A:240:CYS:HB2  | 1.78                     | 0.83              |
| 1:A:211:VAL:HB   | 1:A:216:TRP:CZ2  | 2.13                     | 0.83              |
| 1:A:229:GLY:CA   | 1:A:246:MET:HE1  | 2.08                     | 0.83              |
| 1:B:281:SER:HB2  | 1:C:8:SER:H      | 1.41                     | 0.83              |
| 1:A:222:ALA:CA   | 1:B:368:ILE:CG1  | 2.50                     | 0.83              |
| 1:B:385:PRO:HD3  | 1:C:2:THR:CG2    | 2.03                     | 0.83              |
| 1:B:385:PRO:N    | 1:C:3:PRO:HD3    | 1.72                     | 0.83              |
| 1:C:455:ALA:HB3  | 1:C:458:LEU:HD11 | 1.58                     | 0.83              |
| 1:C:14:LEU:HD12  | 1:C:62:ILE:HG22  | 1.61                     | 0.83              |
| 1:C:211:VAL:HB   | 1:C:216:TRP:CZ2  | 2.13                     | 0.83              |
| 1:A:200:ILE:HD12 | 1:B:467:LYS:HD2  | 1.60                     | 0.83              |
| 1:A:221:LYS:HB3  | 1:B:436:VAL:N    | 1.93                     | 0.83              |
| 1:A:249:VAL:HG12 | 1:B:477:SER:OG   | 1.79                     | 0.83              |
| 1:C:236:PRO:O    | 1:C:240:CYS:HB2  | 1.78                     | 0.82              |
| 1:A:195:VAL:HG22 | 1:B:466:GLU:HG3  | 1.59                     | 0.82              |
| 1:A:195:VAL:HA   | 1:A:200:ILE:HD12 | 1.60                     | 0.82              |
| 1:A:214:ASP:OD1  | 1:B:360:LYS:O    | 1.95                     | 0.82              |
| 1:A:432:GLN:HG2  | 1:A:465:THR:CG2  | 2.09                     | 0.82              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:B:237:ALA:CB   | 1:C:379:PHE:H    | 1.92                     | 0.82              |
| 1:C:387:ILE:HG22 | 1:C:395:MET:HA   | 1.60                     | 0.82              |
| 1:B:200:ILE:HG22 | 1:B:203:LEU:HD11 | 1.59                     | 0.82              |
| 1:C:7:ARG:HG2    | 1:C:287:THR:OG1  | 1.79                     | 0.82              |
| 1:A:180:LYS:CB   | 1:B:12:TYR:HD2   | 1.92                     | 0.82              |
| 1:A:225:VAL:HG23 | 1:B:465:THR:HG22 | 1.62                     | 0.82              |
| 1:A:14:LEU:HD12  | 1:A:62:ILE:HG22  | 1.61                     | 0.82              |
| 1:B:275:MET:C    | 1:C:7:ARG:NH1    | 2.19                     | 0.82              |
| 1:A:208:VAL:CA   | 1:B:472:LYS:HE2  | 2.09                     | 0.82              |
| 1:A:280:LYS:HE3  | 1:A:383:LYS:HB3  | 1.62                     | 0.82              |
| 1:A:229:GLY:N    | 1:B:477:SER:O    | 2.13                     | 0.82              |
| 1:C:35:GLN:HB3   | 1:C:79:TYR:HE1   | 1.44                     | 0.82              |
| 1:B:365:ALA:O    | 1:B:368:ILE:HG22 | 1.72                     | 0.82              |
| 1:B:422:LEU:HB3  | 1:B:450:VAL:CG2  | 2.09                     | 0.82              |
| 1:A:200:ILE:HD12 | 1:B:467:LYS:NZ   | 1.93                     | 0.82              |
| 1:C:195:VAL:HA   | 1:C:200:ILE:HD12 | 1.60                     | 0.82              |
| 1:A:115:MET:CE   | 1:A:204:ARG:HB2  | 2.09                     | 0.82              |
| 1:A:223:ALA:N    | 1:B:468:LEU:CD2  | 2.32                     | 0.82              |
| 1:B:7:ARG:HG2    | 1:B:287:THR:OG1  | 1.79                     | 0.82              |
| 1:C:280:LYS:HE3  | 1:C:383:LYS:HB3  | 1.62                     | 0.82              |
| 1:A:315:ALA:HA   | 1:A:318:ILE:HG23 | 1.62                     | 0.82              |
| 1:B:195:VAL:HA   | 1:B:200:ILE:HD12 | 1.60                     | 0.82              |
| 1:B:35:GLN:HB3   | 1:B:79:TYR:HE1   | 1.44                     | 0.82              |
| 1:B:14:LEU:HD12  | 1:B:62:ILE:HG22  | 1.61                     | 0.82              |
| 1:B:115:MET:CE   | 1:B:204:ARG:HB2  | 2.09                     | 0.81              |
| 1:A:198:TYR:HB2  | 1:B:467:LYS:HZ3  | 1.42                     | 0.81              |
| 1:B:385:PRO:CA   | 1:C:3:PRO:CG     | 2.57                     | 0.81              |
| 1:A:243:GLN:HB3  | 1:A:284:PRO:HG2  | 1.62                     | 0.81              |
| 1:A:194:LEU:CD1  | 1:B:375:LYS:HB3  | 2.10                     | 0.81              |
| 1:B:213:LYS:HE2  | 1:C:375:LYS:CG   | 2.11                     | 0.81              |
| 1:C:115:MET:CE   | 1:C:204:ARG:HB2  | 2.09                     | 0.81              |
| 1:B:238:TYR:CB   | 1:C:376:ASP:OD2  | 2.19                     | 0.81              |
| 1:C:422:LEU:HB3  | 1:C:450:VAL:CG2  | 2.09                     | 0.81              |
| 1:C:432:GLN:HG2  | 1:C:465:THR:CG2  | 2.09                     | 0.81              |
| 1:B:379:PHE:CE1  | 1:B:397:LYS:HE3  | 2.16                     | 0.81              |
| 1:C:468:LEU:HD23 | 1:C:473:ILE:HG12 | 1.60                     | 0.81              |
| 1:A:200:ILE:HD12 | 1:B:467:LYS:CG   | 2.10                     | 0.81              |
| 1:A:7:ARG:HG2    | 1:A:287:THR:OG1  | 1.80                     | 0.81              |
| 1:A:180:LYS:CG   | 1:B:12:TYR:HD2   | 1.92                     | 0.81              |
| 1:B:341:PRO:HD2  | 1:B:342:ALA:N    | 1.88                     | 0.81              |
| 1:C:379:PHE:CE1  | 1:C:397:LYS:HE3  | 2.16                     | 0.81              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:217:PRO:HD3  | 1:A:245:VAL:HG23 | 1.62                     | 0.81              |
| 1:A:379:PHE:CE1  | 1:A:397:LYS:HE3  | 2.16                     | 0.81              |
| 1:A:422:LEU:HB3  | 1:A:450:VAL:CG2  | 2.09                     | 0.81              |
| 1:A:200:ILE:CB   | 1:B:467:LYS:HA   | 2.10                     | 0.81              |
| 1:C:217:PRO:HD3  | 1:C:245:VAL:CG2  | 2.10                     | 0.81              |
| 1:A:137:PHE:HB3  | 1:A:140:PHE:HB2  | 1.63                     | 0.81              |
| 1:A:35:GLN:HB3   | 1:A:79:TYR:HE1   | 1.44                     | 0.81              |
| 1:B:468:LEU:HD23 | 1:B:473:ILE:HG12 | 1.60                     | 0.81              |
| 1:A:217:PRO:HD3  | 1:A:245:VAL:CG2  | 2.10                     | 0.81              |
| 1:B:217:PRO:HD3  | 1:B:245:VAL:CG2  | 2.10                     | 0.81              |
| 1:B:278:THR:C    | 1:C:380:VAL:CG2  | 2.41                     | 0.81              |
| 1:B:426:SER:HA   | 1:C:188:TYR:HD1  | 1.46                     | 0.81              |
| 1:A:2:THR:CA     | 1:B:432:GLN:HE22 | 1.34                     | 0.81              |
| 1:C:263:LYS:HD2  | 1:C:304:TYR:CD2  | 2.16                     | 0.81              |
| 1:A:180:LYS:HZ1  | 1:B:11:ILE:CA    | 1.94                     | 0.81              |
| 1:B:45:ILE:HB    | 1:B:103:LEU:CD2  | 2.03                     | 0.81              |
| 1:A:468:LEU:HD23 | 1:A:473:ILE:HG12 | 1.60                     | 0.81              |
| 1:A:87:ILE:CD1   | 1:B:374:SER:OG   | 2.29                     | 0.81              |
| 1:B:188:TYR:CE1  | 1:B:218:GLY:HA3  | 2.15                     | 0.81              |
| 1:B:402:SER:H    | 1:C:193:SER:HB2  | 1.46                     | 0.81              |
| 1:B:432:GLN:HG2  | 1:B:465:THR:CG2  | 2.09                     | 0.81              |
| 1:C:137:PHE:HB3  | 1:C:140:PHE:HB2  | 1.63                     | 0.81              |
| 1:B:428:THR:HA   | 1:C:186:GLU:C    | 2.01                     | 0.81              |
| 1:C:188:TYR:CE1  | 1:C:218:GLY:HA3  | 2.15                     | 0.81              |
| 1:C:315:ALA:HA   | 1:C:318:ILE:HG23 | 1.62                     | 0.81              |
| 1:B:263:LYS:HD2  | 1:B:304:TYR:CD2  | 2.16                     | 0.80              |
| 1:A:194:LEU:CB   | 1:B:375:LYS:HB3  | 2.12                     | 0.80              |
| 1:C:217:PRO:HD3  | 1:C:245:VAL:HG23 | 1.62                     | 0.80              |
| 1:A:185:ASN:CG   | 1:B:369:ARG:HD3  | 2.02                     | 0.80              |
| 1:B:382:TYR:CA   | 1:C:1:ALA:CB     | 2.52                     | 0.80              |
| 1:A:180:LYS:HD3  | 1:B:57:PHE:HB2   | 0.81                     | 0.80              |
| 1:B:137:PHE:HB3  | 1:B:140:PHE:HB2  | 1.63                     | 0.80              |
| 1:B:185:ASN:CA   | 1:B:188:TYR:HD2  | 1.91                     | 0.80              |
| 1:B:400:ASP:C    | 1:C:193:SER:C    | 2.40                     | 0.80              |
| 1:B:424:GLY:O    | 1:C:218:GLY:CA   | 2.30                     | 0.80              |
| 1:B:243:GLN:HB3  | 1:B:284:PRO:HG2  | 1.62                     | 0.80              |
| 1:A:88:TYR:CZ    | 1:B:373:ILE:C    | 2.55                     | 0.80              |
| 1:C:115:MET:HE1  | 1:C:204:ARG:HB2  | 1.61                     | 0.80              |
| 1:A:387:ILE:HG22 | 1:A:395:MET:HA   | 1.60                     | 0.80              |
| 1:A:177:ASP:HB3  | 1:B:53:GLN:HB3   | 1.61                     | 0.80              |
| 1:A:206:ASP:HA   | 1:A:230:GLU:HG3  | 1.64                     | 0.80              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:84:GLN:HE22  | 1:B:375:LYS:HZ2  | 1.28                     | 0.80              |
| 1:B:192:GLY:O    | 1:B:195:VAL:HG12 | 1.82                     | 0.80              |
| 1:A:410:ASN:HB3  | 1:A:454:MET:HE1  | 1.61                     | 0.80              |
| 1:B:206:ASP:HA   | 1:B:230:GLU:HG3  | 1.64                     | 0.80              |
| 1:A:197:ASN:C    | 1:B:467:LYS:CE   | 2.50                     | 0.80              |
| 1:A:205:ILE:CD1  | 1:B:478:SER:OXT  | 2.30                     | 0.80              |
| 1:A:143:GLN:CD   | 1:B:108:HIS:CA   | 2.46                     | 0.80              |
| 1:A:148:PRO:CG   | 1:B:49:LEU:HD23  | 2.11                     | 0.80              |
| 1:A:200:ILE:HB   | 1:B:467:LYS:HA   | 1.64                     | 0.80              |
| 1:B:428:THR:CB   | 1:C:186:GLU:O    | 2.29                     | 0.80              |
| 1:A:204:ARG:HB2  | 1:B:470:GLY:CA   | 1.90                     | 0.80              |
| 1:A:263:LYS:HD2  | 1:A:304:TYR:CD2  | 2.16                     | 0.80              |
| 1:C:192:GLY:O    | 1:C:195:VAL:HG12 | 1.82                     | 0.80              |
| 1:A:219:TYR:HD1  | 1:B:473:ILE:HB   | 1.00                     | 0.80              |
| 1:B:204:ARG:HG3  | 1:B:228:ILE:CB   | 2.12                     | 0.80              |
| 1:B:408:LEU:HD21 | 1:B:452:VAL:HG21 | 1.64                     | 0.80              |
| 1:B:278:THR:CA   | 1:C:380:VAL:HG22 | 1.94                     | 0.80              |
| 1:A:185:ASN:CA   | 1:A:188:TYR:HD2  | 1.92                     | 0.79              |
| 1:A:204:ARG:HG3  | 1:A:228:ILE:CB   | 2.12                     | 0.79              |
| 1:A:214:ASP:HB2  | 1:B:360:LYS:HA   | 1.63                     | 0.79              |
| 1:C:152:ILE:HD11 | 1:C:166:LEU:CA   | 2.12                     | 0.79              |
| 1:C:206:ASP:HA   | 1:C:230:GLU:HG3  | 1.64                     | 0.79              |
| 1:A:205:ILE:HG13 | 1:A:229:GLY:HA2  | 1.65                     | 0.79              |
| 1:B:208:VAL:CA   | 1:B:216:TRP:CZ2  | 2.65                     | 0.79              |
| 1:A:224:GLY:N    | 1:B:465:THR:HA   | 1.98                     | 0.79              |
| 1:B:465:THR:HA   | 1:B:468:LEU:HD12 | 1.65                     | 0.79              |
| 1:B:424:GLY:HA2  | 1:C:216:TRP:O    | 1.81                     | 0.79              |
| 1:C:243:GLN:HB3  | 1:C:284:PRO:HG2  | 1.62                     | 0.79              |
| 1:B:236:PRO:CB   | 1:C:380:VAL:HG12 | 2.11                     | 0.79              |
| 1:A:192:GLY:O    | 1:A:195:VAL:HG12 | 1.82                     | 0.79              |
| 1:C:205:ILE:HG13 | 1:C:229:GLY:HA2  | 1.65                     | 0.79              |
| 1:C:465:THR:HA   | 1:C:468:LEU:HD12 | 1.65                     | 0.79              |
| 1:B:420:LEU:CD2  | 1:B:452:VAL:HG13 | 2.11                     | 0.79              |
| 1:C:204:ARG:HG3  | 1:C:228:ILE:CB   | 2.12                     | 0.79              |
| 1:C:208:VAL:CA   | 1:C:216:TRP:CZ2  | 2.65                     | 0.79              |
| 1:A:208:VAL:CA   | 1:A:216:TRP:CZ2  | 2.65                     | 0.79              |
| 1:A:205:ILE:CD1  | 1:B:472:LYS:HG2  | 2.11                     | 0.79              |
| 1:A:465:THR:HA   | 1:A:468:LEU:HD12 | 1.65                     | 0.79              |
| 1:A:84:GLN:HE22  | 1:B:375:LYS:HZ1  | 1.30                     | 0.79              |
| 1:C:408:LEU:HD21 | 1:C:452:VAL:HG21 | 1.64                     | 0.79              |
| 1:A:175:ASP:O    | 1:B:110:ARG:O    | 2.01                     | 0.79              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:B:147:HIS:HD2  | 1:B:177:ASP:O    | 1.66                     | 0.79              |
| 1:B:205:ILE:HG13 | 1:B:229:GLY:HA2  | 1.65                     | 0.79              |
| 1:A:139:PRO:HG2  | 1:A:140:PHE:CE1  | 2.18                     | 0.79              |
| 1:B:400:ASP:HB3  | 1:C:194:LEU:O    | 1.83                     | 0.79              |
| 1:B:428:THR:HA   | 1:C:186:GLU:O    | 1.83                     | 0.79              |
| 1:B:11:ILE:HD11  | 1:B:324:LEU:HB3  | 1.65                     | 0.79              |
| 1:A:217:PRO:CG   | 1:B:364:SER:OG   | 2.25                     | 0.79              |
| 1:C:139:PRO:HG2  | 1:C:140:PHE:CE1  | 2.18                     | 0.79              |
| 1:A:152:ILE:HD11 | 1:A:166:LEU:CA   | 2.12                     | 0.78              |
| 1:A:420:LEU:CD2  | 1:A:452:VAL:HG22 | 2.13                     | 0.78              |
| 1:B:217:PRO:HD3  | 1:B:245:VAL:HG23 | 1.62                     | 0.78              |
| 1:A:227:CYS:HB2  | 1:B:476:ASP:CA   | 2.13                     | 0.78              |
| 1:A:224:GLY:N    | 1:B:465:THR:CA   | 2.43                     | 0.78              |
| 1:A:408:LEU:HD21 | 1:A:452:VAL:HG21 | 1.64                     | 0.78              |
| 1:B:315:ALA:HA   | 1:B:318:ILE:HG23 | 1.62                     | 0.78              |
| 1:A:211:VAL:HB   | 1:B:472:LYS:NZ   | 1.98                     | 0.78              |
| 1:A:216:TRP:O    | 1:B:473:ILE:C    | 2.22                     | 0.78              |
| 1:B:446:SER:O    | 1:C:182:VAL:N    | 2.12                     | 0.78              |
| 1:C:185:ASN:CA   | 1:C:188:TYR:HD2  | 1.92                     | 0.78              |
| 1:C:420:LEU:CD2  | 1:C:452:VAL:HG22 | 2.13                     | 0.78              |
| 1:A:205:ILE:HD13 | 1:B:472:LYS:HA   | 1.64                     | 0.78              |
| 1:A:455:ALA:HB3  | 1:A:458:LEU:CD1  | 2.13                     | 0.78              |
| 1:C:55:MET:HG3   | 1:C:57:PHE:HE2   | 1.48                     | 0.78              |
| 1:A:205:ILE:HB   | 1:B:478:SER:HG   | 1.44                     | 0.78              |
| 1:A:186:GLU:HA   | 1:B:369:ARG:HH11 | 1.47                     | 0.78              |
| 1:B:152:ILE:HD11 | 1:B:166:LEU:CA   | 2.12                     | 0.78              |
| 1:A:218:GLY:CA   | 1:B:364:SER:O    | 2.30                     | 0.78              |
| 1:C:341:PRO:HD2  | 1:C:342:ALA:N    | 1.87                     | 0.78              |
| 1:A:143:GLN:CG   | 1:B:108:HIS:CG   | 2.56                     | 0.78              |
| 1:C:11:ILE:HD11  | 1:C:324:LEU:HB3  | 1.65                     | 0.78              |
| 1:C:455:ALA:HB3  | 1:C:458:LEU:CD1  | 2.13                     | 0.78              |
| 1:A:16:THR:HG21  | 1:A:42:TRP:CD1   | 2.19                     | 0.78              |
| 1:A:191:VAL:HG13 | 1:B:371:TYR:C    | 2.03                     | 0.78              |
| 1:B:455:ALA:HB3  | 1:B:458:LEU:CD1  | 2.13                     | 0.78              |
| 1:C:16:THR:HG21  | 1:C:42:TRP:CD1   | 2.19                     | 0.78              |
| 1:B:449:ASN:CA   | 1:C:184:LYS:HZ1  | 1.96                     | 0.78              |
| 1:B:402:SER:N    | 1:C:193:SER:CA   | 2.44                     | 0.78              |
| 1:A:180:LYS:CB   | 1:B:12:TYR:CD2   | 2.67                     | 0.78              |
| 1:A:182:VAL:N    | 1:B:57:PHE:CB    | 2.46                     | 0.78              |
| 1:A:61:TRP:CZ3   | 1:A:326:ILE:HG21 | 2.19                     | 0.78              |
| 1:B:122:HIS:ND1  | 1:B:173:LEU:HD22 | 1.99                     | 0.78              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:B:61:TRP:CZ3   | 1:B:326:ILE:HG21 | 2.19                     | 0.78              |
| 1:B:139:PRO:HG2  | 1:B:140:PHE:CE1  | 2.18                     | 0.78              |
| 1:B:427:TYR:N    | 1:C:188:TYR:HD1  | 1.75                     | 0.78              |
| 1:B:16:THR:HG21  | 1:B:42:TRP:NE1   | 1.99                     | 0.78              |
| 1:B:420:LEU:CD2  | 1:B:452:VAL:HG22 | 2.13                     | 0.77              |
| 1:B:445:GLY:CA   | 1:C:185:ASN:CB   | 2.61                     | 0.77              |
| 1:C:61:TRP:CZ3   | 1:C:326:ILE:HG21 | 2.19                     | 0.77              |
| 1:C:407:ILE:CG2  | 1:C:461:VAL:HG22 | 2.10                     | 0.77              |
| 1:A:185:ASN:OD1  | 1:B:369:ARG:HD3  | 1.83                     | 0.77              |
| 1:C:147:HIS:HD2  | 1:C:177:ASP:O    | 1.66                     | 0.77              |
| 1:B:385:PRO:HG3  | 1:C:224:GLY:C    | 2.04                     | 0.77              |
| 1:A:64:PRO:HD2   | 1:A:81:GLY:O     | 1.84                     | 0.77              |
| 1:B:16:THR:HG21  | 1:B:42:TRP:CD1   | 2.19                     | 0.77              |
| 1:A:189:ASP:O    | 1:B:463:TYR:CE2  | 2.37                     | 0.77              |
| 1:C:122:HIS:ND1  | 1:C:173:LEU:HD22 | 1.99                     | 0.77              |
| 1:C:16:THR:HG21  | 1:C:42:TRP:NE1   | 2.00                     | 0.77              |
| 1:A:227:CYS:CB   | 1:B:476:ASP:HB3  | 2.04                     | 0.77              |
| 1:B:68:GLN:HA    | 1:B:85:THR:HG22  | 1.67                     | 0.77              |
| 1:C:64:PRO:HD2   | 1:C:81:GLY:O     | 1.84                     | 0.77              |
| 1:A:180:LYS:CG   | 1:B:327:ILE:CG2  | 2.61                     | 0.77              |
| 1:B:64:PRO:HD2   | 1:B:81:GLY:O     | 1.84                     | 0.77              |
| 1:C:147:HIS:CE1  | 1:C:163:ASP:HB3  | 2.19                     | 0.77              |
| 1:A:177:ASP:HB3  | 1:B:53:GLN:CA    | 2.14                     | 0.77              |
| 1:A:420:LEU:CD2  | 1:A:452:VAL:HG13 | 2.11                     | 0.77              |
| 1:A:52:ILE:HD12  | 1:A:112:MET:SD   | 2.25                     | 0.77              |
| 1:B:52:ILE:HD12  | 1:B:112:MET:SD   | 2.25                     | 0.77              |
| 1:C:420:LEU:HD21 | 1:C:452:VAL:HG22 | 1.66                     | 0.77              |
| 1:A:129:GLY:O    | 1:B:109:GLU:HG2  | 1.85                     | 0.77              |
| 1:A:55:MET:HG3   | 1:A:57:PHE:HE2   | 1.48                     | 0.77              |
| 1:A:11:ILE:HD11  | 1:A:324:LEU:HB3  | 1.65                     | 0.77              |
| 1:A:88:TYR:CZ    | 1:B:373:ILE:O    | 2.38                     | 0.77              |
| 1:B:11:ILE:HD11  | 1:B:324:LEU:CB   | 2.15                     | 0.77              |
| 1:A:145:TYR:CE2  | 1:B:9:GLN:CG     | 2.53                     | 0.77              |
| 1:A:147:HIS:CE1  | 1:A:163:ASP:HB3  | 2.19                     | 0.77              |
| 1:A:243:GLN:HA   | 1:A:249:VAL:HG11 | 1.67                     | 0.77              |
| 1:A:420:LEU:HD21 | 1:A:452:VAL:HG22 | 1.66                     | 0.77              |
| 1:B:147:HIS:CE1  | 1:B:163:ASP:HB3  | 2.19                     | 0.77              |
| 1:A:11:ILE:HD11  | 1:A:324:LEU:CB   | 2.15                     | 0.77              |
| 1:B:243:GLN:HA   | 1:B:249:VAL:HG11 | 1.67                     | 0.77              |
| 1:B:249:VAL:HG22 | 1:B:289:LEU:HD12 | 1.67                     | 0.77              |
| 1:A:194:LEU:HA   | 1:B:403:GLN:HG2  | 1.67                     | 0.77              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:C:68:GLN:HA    | 1:C:85:THR:HG22  | 1.67                     | 0.77              |
| 1:A:122:HIS:ND1  | 1:A:173:LEU:HD22 | 1.99                     | 0.76              |
| 1:A:380:VAL:HG13 | 1:A:381:THR:H    | 1.50                     | 0.76              |
| 1:B:42:TRP:NE1   | 1:B:62:ILE:HD11  | 2.00                     | 0.76              |
| 1:C:11:ILE:HD11  | 1:C:324:LEU:CB   | 2.14                     | 0.76              |
| 1:A:85:THR:O     | 1:A:85:THR:HG23  | 1.84                     | 0.76              |
| 1:A:84:GLN:NE2   | 1:B:375:LYS:HZ1  | 1.81                     | 0.76              |
| 1:A:219:TYR:CD2  | 1:B:473:ILE:HG13 | 2.20                     | 0.76              |
| 1:B:400:ASP:HB2  | 1:C:194:LEU:O    | 1.84                     | 0.76              |
| 1:A:68:GLN:HA    | 1:A:85:THR:HG22  | 1.67                     | 0.76              |
| 1:B:422:LEU:HD11 | 1:C:221:LYS:CD   | 2.14                     | 0.76              |
| 1:C:243:GLN:HA   | 1:C:249:VAL:HG11 | 1.68                     | 0.76              |
| 1:C:85:THR:HG23  | 1:C:85:THR:O     | 1.84                     | 0.76              |
| 1:C:129:GLY:O    | 1:C:132:VAL:HB   | 1.86                     | 0.76              |
| 1:B:129:GLY:O    | 1:B:132:VAL:HB   | 1.86                     | 0.76              |
| 1:B:51:TYR:OH    | 1:B:332:GLU:HG3  | 1.86                     | 0.76              |
| 1:B:85:THR:HG23  | 1:B:85:THR:O     | 1.84                     | 0.76              |
| 1:C:188:TYR:HE1  | 1:C:218:GLY:CA   | 1.98                     | 0.76              |
| 1:C:249:VAL:HG22 | 1:C:289:LEU:HD12 | 1.67                     | 0.76              |
| 1:A:16:THR:HG21  | 1:A:42:TRP:NE1   | 2.00                     | 0.76              |
| 1:A:436:VAL:HG13 | 1:A:437:ILE:CG1  | 2.16                     | 0.76              |
| 1:A:87:ILE:HD13  | 1:B:374:SER:OG   | 1.84                     | 0.76              |
| 1:B:188:TYR:HE1  | 1:B:218:GLY:CA   | 1.98                     | 0.76              |
| 1:B:55:MET:HG3   | 1:B:57:PHE:HE2   | 1.48                     | 0.76              |
| 1:A:60:ILE:HD12  | 1:A:107:LEU:HD13 | 1.68                     | 0.76              |
| 1:A:341:PRO:HD2  | 1:A:342:ALA:N    | 1.88                     | 0.76              |
| 1:A:196:SER:O    | 1:B:466:GLU:OE1  | 2.02                     | 0.76              |
| 1:C:52:ILE:HD12  | 1:C:112:MET:SD   | 2.25                     | 0.76              |
| 1:B:389:ASP:N    | 1:C:244:ASN:OD1  | 2.18                     | 0.76              |
| 1:A:219:TYR:CD1  | 1:B:473:ILE:N    | 2.40                     | 0.76              |
| 1:B:383:LYS:HG2  | 1:C:113:TYR:CE1  | 2.21                     | 0.76              |
| 1:B:399:THR:HG22 | 1:C:196:SER:CA   | 2.16                     | 0.76              |
| 1:B:449:ASN:N    | 1:C:184:LYS:HZ2  | 1.82                     | 0.76              |
| 1:B:277:ASN:CB   | 1:C:7:ARG:CZ     | 2.46                     | 0.76              |
| 1:B:380:VAL:HG13 | 1:B:381:THR:H    | 1.50                     | 0.76              |
| 1:A:197:ASN:C    | 1:B:467:LYS:HE3  | 2.06                     | 0.76              |
| 1:C:60:ILE:HD12  | 1:C:107:LEU:HD13 | 1.68                     | 0.76              |
| 1:C:436:VAL:HG13 | 1:C:437:ILE:CG1  | 2.16                     | 0.76              |
| 1:C:465:THR:HA   | 1:C:468:LEU:CD1  | 2.16                     | 0.76              |
| 1:A:129:GLY:O    | 1:A:132:VAL:HB   | 1.86                     | 0.75              |
| 1:A:205:ILE:CA   | 1:B:471:SER:HA   | 2.16                     | 0.75              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:C:320:LEU:HD22 | 1:C:407:ILE:CD1  | 2.16                     | 0.75              |
| 1:C:42:TRP:NE1   | 1:C:62:ILE:HD11  | 2.00                     | 0.75              |
| 1:A:190:TRP:CZ2  | 1:B:375:LYS:CB   | 2.58                     | 0.75              |
| 1:A:435:GLU:HB2  | 1:A:440:THR:HB   | 1.67                     | 0.75              |
| 1:B:161:VAL:HG23 | 1:B:210:HIS:CD2  | 2.22                     | 0.75              |
| 1:A:182:VAL:HB   | 1:B:10:SER:O     | 1.86                     | 0.75              |
| 1:A:188:TYR:HE1  | 1:A:218:GLY:CA   | 1.98                     | 0.75              |
| 1:A:188:TYR:CE1  | 1:A:218:GLY:HA3  | 2.15                     | 0.75              |
| 1:A:249:VAL:HG22 | 1:A:289:LEU:HD12 | 1.67                     | 0.75              |
| 1:C:51:TYR:OH    | 1:C:332:GLU:HG3  | 1.86                     | 0.75              |
| 1:A:215:PHE:HE1  | 1:B:472:LYS:HB2  | 1.51                     | 0.75              |
| 1:A:222:ALA:HB2  | 1:B:368:ILE:CD1  | 2.06                     | 0.75              |
| 1:A:42:TRP:NE1   | 1:A:62:ILE:HD11  | 2.00                     | 0.75              |
| 1:B:410:ASN:HB3  | 1:B:454:MET:HE1  | 1.66                     | 0.75              |
| 1:B:420:LEU:HD21 | 1:B:452:VAL:HG22 | 1.66                     | 0.75              |
| 1:C:307:ASP:HB2  | 1:C:413:ALA:HB2  | 1.67                     | 0.75              |
| 1:C:68:GLN:HA    | 1:C:85:THR:CG2   | 2.16                     | 0.75              |
| 1:A:51:TYR:OH    | 1:A:332:GLU:HG3  | 1.86                     | 0.75              |
| 1:B:399:THR:HB   | 1:C:196:SER:HA   | 1.67                     | 0.75              |
| 1:B:436:VAL:HG13 | 1:B:437:ILE:CG1  | 2.16                     | 0.75              |
| 1:A:179:THR:OG1  | 1:B:52:ILE:HG13  | 1.87                     | 0.75              |
| 1:A:319:ILE:HA   | 1:A:325:PRO:HB2  | 1.66                     | 0.75              |
| 1:A:396:ARG:NH1  | 1:A:404:ILE:HD11 | 2.01                     | 0.75              |
| 1:A:465:THR:HA   | 1:A:468:LEU:CD1  | 2.16                     | 0.75              |
| 1:B:382:TYR:O    | 1:C:2:THR:CB     | 2.34                     | 0.75              |
| 1:B:307:ASP:HB2  | 1:B:413:ALA:HB2  | 1.67                     | 0.75              |
| 1:B:320:LEU:HD22 | 1:B:407:ILE:CD1  | 2.17                     | 0.75              |
| 1:C:123:MET:HE3  | 1:C:140:PHE:HE1  | 1.50                     | 0.75              |
| 1:C:161:VAL:HG23 | 1:C:210:HIS:CD2  | 2.21                     | 0.75              |
| 1:B:449:ASN:CA   | 1:C:184:LYS:NZ   | 2.49                     | 0.75              |
| 1:C:435:GLU:HB2  | 1:C:440:THR:HB   | 1.67                     | 0.75              |
| 1:A:180:LYS:CE   | 1:B:57:PHE:CG    | 2.68                     | 0.75              |
| 1:A:194:LEU:HD22 | 1:B:375:LYS:CB   | 2.17                     | 0.75              |
| 1:A:212:GLN:HE22 | 1:B:53:GLN:C     | 1.61                     | 0.75              |
| 1:B:195:VAL:CG2  | 1:B:200:ILE:HB   | 2.13                     | 0.75              |
| 1:B:68:GLN:HA    | 1:B:85:THR:CG2   | 2.16                     | 0.75              |
| 1:A:190:TRP:CZ2  | 1:B:374:SER:CB   | 2.70                     | 0.74              |
| 1:A:307:ASP:HB2  | 1:A:413:ALA:HB2  | 1.67                     | 0.74              |
| 1:A:320:LEU:HD22 | 1:A:407:ILE:CD1  | 2.16                     | 0.74              |
| 1:B:206:ASP:HA   | 1:B:230:GLU:CG   | 2.17                     | 0.74              |
| 1:A:84:GLN:NE2   | 1:B:375:LYS:HZ2  | 1.77                     | 0.74              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:B:465:THR:HA   | 1:B:468:LEU:CD1  | 2.16                     | 0.74              |
| 1:B:60:ILE:HD12  | 1:B:107:LEU:HD13 | 1.68                     | 0.74              |
| 1:A:145:TYR:HE2  | 1:B:9:GLN:HB2    | 1.47                     | 0.74              |
| 1:A:68:GLN:HA    | 1:A:85:THR:CG2   | 2.16                     | 0.74              |
| 1:B:191:VAL:HG11 | 1:B:219:TYR:OH   | 1.86                     | 0.74              |
| 1:C:396:ARG:NH1  | 1:C:404:ILE:HD11 | 2.01                     | 0.74              |
| 1:A:188:TYR:N    | 1:B:367:ALA:C    | 2.32                     | 0.74              |
| 1:B:310:LEU:O    | 1:B:314:VAL:HG12 | 1.87                     | 0.74              |
| 1:A:196:SER:HB3  | 1:B:403:GLN:CG   | 2.13                     | 0.74              |
| 1:A:205:ILE:HD13 | 1:B:472:LYS:CA   | 2.18                     | 0.74              |
| 1:B:56:GLY:HA3   | 1:B:366:ASN:HB3  | 1.69                     | 0.74              |
| 1:C:410:ASN:HB3  | 1:C:454:MET:HE1  | 1.68                     | 0.74              |
| 1:B:383:LYS:CG   | 1:C:6:TRP:NE1    | 2.45                     | 0.74              |
| 1:A:373:ILE:CG2  | 1:A:377:THR:HG22 | 2.18                     | 0.74              |
| 1:C:14:LEU:HD12  | 1:C:62:ILE:CG2   | 2.17                     | 0.74              |
| 1:B:238:TYR:CA   | 1:C:376:ASP:CB   | 2.65                     | 0.74              |
| 1:B:277:ASN:HB2  | 1:C:7:ARG:CZ     | 2.15                     | 0.74              |
| 1:A:161:VAL:HG23 | 1:A:210:HIS:CD2  | 2.22                     | 0.74              |
| 1:B:435:GLU:HB2  | 1:B:440:THR:HB   | 1.67                     | 0.74              |
| 1:C:373:ILE:CG2  | 1:C:377:THR:HG22 | 2.18                     | 0.74              |
| 1:B:14:LEU:HD12  | 1:B:62:ILE:CG2   | 2.17                     | 0.74              |
| 1:A:310:LEU:O    | 1:A:314:VAL:HG12 | 1.88                     | 0.74              |
| 1:C:152:ILE:CD1  | 1:C:166:LEU:HG   | 2.18                     | 0.74              |
| 1:A:180:LYS:HZ1  | 1:B:11:ILE:HA    | 1.51                     | 0.74              |
| 1:A:190:TRP:HH2  | 1:B:375:LYS:HZ2  | 1.35                     | 0.74              |
| 1:A:200:ILE:CD1  | 1:B:467:LYS:HZ3  | 1.96                     | 0.74              |
| 1:B:55:MET:HG3   | 1:B:57:PHE:CE2   | 2.23                     | 0.74              |
| 1:B:276:ILE:O    | 1:C:4:ALA:HB2    | 1.88                     | 0.74              |
| 1:A:206:ASP:HA   | 1:A:230:GLU:CG   | 2.17                     | 0.74              |
| 1:A:194:LEU:CG   | 1:B:375:LYS:HB3  | 2.18                     | 0.74              |
| 1:B:386:TYR:CD2  | 1:C:288:LEU:HD11 | 2.21                     | 0.74              |
| 1:A:197:ASN:O    | 1:B:467:LYS:HE3  | 1.86                     | 0.74              |
| 1:A:163:ASP:HA   | 1:B:53:GLN:OE1   | 1.87                     | 0.74              |
| 1:C:191:VAL:HG11 | 1:C:219:TYR:OH   | 1.87                     | 0.74              |
| 1:C:55:MET:HG3   | 1:C:57:PHE:CE2   | 2.22                     | 0.74              |
| 1:C:56:GLY:HA3   | 1:C:366:ASN:HB3  | 1.68                     | 0.74              |
| 1:A:163:ASP:HB3  | 1:B:53:GLN:OE1   | 1.87                     | 0.74              |
| 1:A:216:TRP:CZ2  | 1:B:478:SER:OXT  | 2.41                     | 0.74              |
| 1:A:218:GLY:H    | 1:B:364:SER:CB   | 2.00                     | 0.74              |
| 1:B:274:ASN:HA   | 1:C:286:SER:N    | 2.02                     | 0.73              |
| 1:A:205:ILE:CD1  | 1:B:472:LYS:HA   | 2.16                     | 0.73              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:B:428:THR:CA   | 1:C:186:GLU:O    | 2.36                     | 0.73              |
| 1:A:200:ILE:HG21 | 1:B:467:LYS:C    | 2.09                     | 0.73              |
| 1:B:468:LEU:HD23 | 1:B:473:ILE:CG1  | 2.18                     | 0.73              |
| 1:C:206:ASP:HA   | 1:C:230:GLU:CG   | 2.17                     | 0.73              |
| 1:C:468:LEU:HD23 | 1:C:473:ILE:CG1  | 2.18                     | 0.73              |
| 1:A:11:ILE:HB    | 1:A:326:ILE:HA   | 1.70                     | 0.73              |
| 1:B:152:ILE:CD1  | 1:B:166:LEU:HG   | 2.18                     | 0.73              |
| 1:B:277:ASN:HD22 | 1:C:286:SER:HB3  | 1.52                     | 0.73              |
| 1:B:319:ILE:HA   | 1:B:325:PRO:HB2  | 1.66                     | 0.73              |
| 1:B:383:LYS:HZ3  | 1:C:6:TRP:H      | 1.33                     | 0.73              |
| 1:C:12:TYR:HE1   | 1:C:14:LEU:HD23  | 1.54                     | 0.73              |
| 1:B:422:LEU:CD1  | 1:C:221:LYS:CG   | 2.35                     | 0.73              |
| 1:B:11:ILE:HB    | 1:B:326:ILE:HA   | 1.70                     | 0.73              |
| 1:A:14:LEU:HD12  | 1:A:62:ILE:CG2   | 2.17                     | 0.73              |
| 1:A:204:ARG:CG   | 1:A:228:ILE:HB   | 2.18                     | 0.73              |
| 1:A:55:MET:HG3   | 1:A:57:PHE:CE2   | 2.23                     | 0.73              |
| 1:B:83:TRP:CH2   | 1:B:171:VAL:HG21 | 2.24                     | 0.73              |
| 1:C:204:ARG:CG   | 1:C:228:ILE:HB   | 2.18                     | 0.73              |
| 1:C:310:LEU:O    | 1:C:314:VAL:HG12 | 1.88                     | 0.73              |
| 1:C:382:TYR:CD1  | 1:C:397:LYS:HA   | 2.24                     | 0.73              |
| 1:B:213:LYS:CE   | 1:C:375:LYS:CG   | 2.66                     | 0.73              |
| 1:A:222:ALA:HA   | 1:B:368:ILE:HD11 | 0.76                     | 0.73              |
| 1:B:381:THR:HG21 | 1:C:201:ASP:OD1  | 1.88                     | 0.73              |
| 1:B:407:ILE:CG2  | 1:B:461:VAL:HG22 | 2.10                     | 0.73              |
| 1:A:115:MET:CE   | 1:B:470:GLY:HA3  | 2.17                     | 0.73              |
| 1:A:152:ILE:CD1  | 1:A:166:LEU:HG   | 2.18                     | 0.73              |
| 1:A:56:GLY:HA3   | 1:A:366:ASN:HB3  | 1.69                     | 0.73              |
| 1:C:123:MET:CB   | 1:C:174:PRO:HG2  | 2.19                     | 0.73              |
| 1:C:234:GLY:HA2  | 1:C:253:PRO:CD   | 2.18                     | 0.73              |
| 1:B:383:LYS:NZ   | 1:C:5:ASP:HB3    | 2.00                     | 0.73              |
| 1:A:123:MET:CB   | 1:A:174:PRO:HG2  | 2.19                     | 0.73              |
| 1:A:143:GLN:CD   | 1:B:108:HIS:CG   | 2.61                     | 0.73              |
| 1:A:316:ALA:O    | 1:A:320:LEU:HB2  | 1.89                     | 0.73              |
| 1:B:238:TYR:C    | 1:C:376:ASP:HA   | 2.08                     | 0.73              |
| 1:B:382:TYR:CD1  | 1:B:397:LYS:HA   | 2.24                     | 0.73              |
| 1:C:319:ILE:HA   | 1:C:325:PRO:HB2  | 1.66                     | 0.73              |
| 1:C:11:ILE:HB    | 1:C:326:ILE:HA   | 1.70                     | 0.73              |
| 1:C:57:PHE:CZ    | 1:C:327:ILE:HG21 | 2.24                     | 0.73              |
| 1:A:420:LEU:HD21 | 1:A:452:VAL:CG2  | 2.19                     | 0.73              |
| 1:B:201:ASP:C    | 1:B:225:VAL:HG13 | 2.09                     | 0.73              |
| 1:B:238:TYR:C    | 1:C:376:ASP:C    | 2.47                     | 0.73              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:229:GLY:CA   | 1:B:478:SER:CA   | 2.52                     | 0.73              |
| 1:A:468:LEU:HD23 | 1:A:473:ILE:CG1  | 2.18                     | 0.73              |
| 1:A:57:PHE:CZ    | 1:A:327:ILE:HG21 | 2.24                     | 0.73              |
| 1:B:123:MET:HE1  | 1:B:140:PHE:HE1  | 1.54                     | 0.73              |
| 1:C:316:ALA:O    | 1:C:320:LEU:HB2  | 1.89                     | 0.73              |
| 1:B:316:ALA:O    | 1:B:320:LEU:HB2  | 1.89                     | 0.72              |
| 1:B:422:LEU:HD22 | 1:C:221:LYS:HZ2  | 1.46                     | 0.72              |
| 1:A:83:TRP:CH2   | 1:A:171:VAL:HG21 | 2.24                     | 0.72              |
| 1:A:219:TYR:HD1  | 1:B:472:LYS:C    | 1.91                     | 0.72              |
| 1:A:201:ASP:C    | 1:A:225:VAL:HG13 | 2.09                     | 0.72              |
| 1:A:234:GLY:HA2  | 1:A:253:PRO:CD   | 2.18                     | 0.72              |
| 1:B:123:MET:CB   | 1:B:174:PRO:HG2  | 2.19                     | 0.72              |
| 1:B:382:TYR:HD1  | 1:C:2:THR:CG2    | 1.93                     | 0.72              |
| 1:C:49:LEU:HD23  | 1:C:110:ARG:HD2  | 1.70                     | 0.72              |
| 1:A:189:ASP:O    | 1:B:463:TYR:HE2  | 1.72                     | 0.72              |
| 1:A:211:VAL:HG13 | 1:A:212:GLN:N    | 2.04                     | 0.72              |
| 1:A:382:TYR:CD1  | 1:A:397:LYS:HA   | 2.24                     | 0.72              |
| 1:B:400:ASP:CA   | 1:C:192:GLY:O    | 2.37                     | 0.72              |
| 1:C:201:ASP:C    | 1:C:225:VAL:HG13 | 2.09                     | 0.72              |
| 1:C:83:TRP:CH2   | 1:C:171:VAL:HG21 | 2.24                     | 0.72              |
| 1:B:422:LEU:CD1  | 1:C:221:LYS:HZ2  | 2.02                     | 0.72              |
| 1:A:187:TRP:CZ3  | 1:B:374:SER:OG   | 2.43                     | 0.72              |
| 1:A:188:TYR:OH   | 1:B:363:ALA:C    | 2.28                     | 0.72              |
| 1:A:247:ASP:HA   | 1:B:475:SER:OG   | 1.89                     | 0.72              |
| 1:B:57:PHE:CZ    | 1:B:327:ILE:HG21 | 2.24                     | 0.72              |
| 1:A:373:ILE:HG23 | 1:A:377:THR:HG22 | 1.72                     | 0.72              |
| 1:B:195:VAL:HG23 | 1:B:200:ILE:CB   | 2.15                     | 0.72              |
| 1:B:280:LYS:O    | 1:C:7:ARG:HB2    | 1.89                     | 0.72              |
| 1:B:371:TYR:CE2  | 1:B:473:ILE:HD11 | 2.25                     | 0.72              |
| 1:A:143:GLN:O    | 1:B:112:MET:N    | 2.23                     | 0.72              |
| 1:B:234:GLY:HA2  | 1:B:253:PRO:CD   | 2.18                     | 0.72              |
| 1:B:408:LEU:O    | 1:B:408:LEU:HD22 | 1.90                     | 0.72              |
| 1:C:195:VAL:HG23 | 1:C:200:ILE:CB   | 2.15                     | 0.72              |
| 1:A:406:THR:HG21 | 1:A:425:ALA:CB   | 2.20                     | 0.72              |
| 1:A:408:LEU:HD22 | 1:A:408:LEU:O    | 1.90                     | 0.72              |
| 1:A:371:TYR:CE2  | 1:A:473:ILE:HD11 | 2.25                     | 0.72              |
| 1:C:211:VAL:HG13 | 1:C:212:GLN:N    | 2.04                     | 0.72              |
| 1:C:406:THR:HG21 | 1:C:425:ALA:CB   | 2.20                     | 0.72              |
| 1:A:407:ILE:CG2  | 1:A:461:VAL:HG22 | 2.10                     | 0.72              |
| 1:C:420:LEU:HD21 | 1:C:452:VAL:CG2  | 2.19                     | 0.72              |
| 1:A:49:LEU:HD23  | 1:A:110:ARG:HD2  | 1.70                     | 0.71              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:180:LYS:HD2  | 1:B:12:TYR:CB    | 2.02                     | 0.71              |
| 1:B:21:ARG:HG3   | 1:B:40:GLY:HA2   | 1.72                     | 0.71              |
| 1:B:241:PRO:HB2  | 1:C:375:LYS:N    | 2.04                     | 0.71              |
| 1:A:194:LEU:HD21 | 1:B:375:LYS:HG2  | 1.67                     | 0.71              |
| 1:A:194:LEU:CA   | 1:B:403:GLN:CG   | 2.67                     | 0.71              |
| 1:C:371:TYR:CE2  | 1:C:473:ILE:HD11 | 2.25                     | 0.71              |
| 1:A:190:TRP:HZ3  | 1:B:371:TYR:HD1  | 1.33                     | 0.71              |
| 1:B:12:TYR:HE1   | 1:B:14:LEU:HD23  | 1.53                     | 0.71              |
| 1:B:208:VAL:CA   | 1:B:216:TRP:HZ2  | 2.03                     | 0.71              |
| 1:A:205:ILE:HD12 | 1:B:478:SER:CA   | 2.21                     | 0.71              |
| 1:C:373:ILE:HG23 | 1:C:377:THR:HG22 | 1.72                     | 0.71              |
| 1:C:408:LEU:O    | 1:C:408:LEU:HD22 | 1.90                     | 0.71              |
| 1:C:21:ARG:HG3   | 1:C:40:GLY:HA2   | 1.72                     | 0.71              |
| 1:B:211:VAL:HG13 | 1:B:212:GLN:N    | 2.04                     | 0.71              |
| 1:A:187:TRP:O    | 1:B:368:ILE:O    | 2.07                     | 0.71              |
| 1:B:446:SER:HB2  | 1:C:181:ASP:OD1  | 1.90                     | 0.71              |
| 1:A:294:GLU:OE2  | 1:A:300:ARG:HG3  | 1.90                     | 0.71              |
| 1:B:229:GLY:CA   | 1:B:246:MET:HE1  | 2.19                     | 0.71              |
| 1:B:382:TYR:HA   | 1:C:1:ALA:CB     | 2.10                     | 0.71              |
| 1:B:406:THR:HG21 | 1:B:425:ALA:CB   | 2.20                     | 0.71              |
| 1:B:45:ILE:CG2   | 1:B:103:LEU:HD21 | 2.21                     | 0.71              |
| 1:B:49:LEU:HD23  | 1:B:110:ARG:HD2  | 1.70                     | 0.71              |
| 1:A:468:LEU:HD23 | 1:A:473:ILE:CD1  | 2.21                     | 0.71              |
| 1:A:180:LYS:HE2  | 1:B:11:ILE:O     | 1.86                     | 0.71              |
| 1:B:294:GLU:OE2  | 1:B:300:ARG:HG3  | 1.90                     | 0.71              |
| 1:B:420:LEU:HD21 | 1:B:452:VAL:CG2  | 2.19                     | 0.71              |
| 1:A:178:THR:HA   | 1:B:52:ILE:HD12  | 1.73                     | 0.71              |
| 1:C:468:LEU:HD23 | 1:C:473:ILE:CD1  | 2.21                     | 0.71              |
| 1:C:61:TRP:HZ3   | 1:C:326:ILE:HG21 | 1.54                     | 0.71              |
| 1:A:12:TYR:HE1   | 1:A:14:LEU:HD23  | 1.54                     | 0.71              |
| 1:A:101:LYS:CG   | 1:A:198:TYR:HA   | 2.16                     | 0.71              |
| 1:A:205:ILE:CG1  | 1:B:478:SER:CB   | 2.66                     | 0.71              |
| 1:B:16:THR:OG1   | 1:B:94:TYR:HE1   | 1.73                     | 0.71              |
| 1:B:399:THR:HG22 | 1:C:196:SER:C    | 2.11                     | 0.71              |
| 1:A:224:GLY:CA   | 1:B:434:THR:OG1  | 2.23                     | 0.71              |
| 1:B:381:THR:CG2  | 1:C:1:ALA:HB2    | 2.21                     | 0.71              |
| 1:A:209:LYS:HB3  | 1:A:231:VAL:CG2  | 2.21                     | 0.71              |
| 1:A:215:PHE:CD1  | 1:A:216:TRP:CE3  | 2.79                     | 0.71              |
| 1:A:473:ILE:HG23 | 1:A:474:CYS:H    | 1.56                     | 0.71              |
| 1:B:215:PHE:CD1  | 1:B:216:TRP:CE3  | 2.79                     | 0.71              |
| 1:B:382:TYR:C    | 1:C:2:THR:HG23   | 2.11                     | 0.71              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:252:TYR:HA   | 1:A:292:PHE:HZ   | 1.56                     | 0.70              |
| 1:A:61:TRP:HZ3   | 1:A:326:ILE:HG21 | 1.54                     | 0.70              |
| 1:C:294:GLU:OE2  | 1:C:300:ARG:HG3  | 1.90                     | 0.70              |
| 1:A:200:ILE:HG21 | 1:B:467:LYS:CA   | 2.21                     | 0.70              |
| 1:A:21:ARG:HG3   | 1:A:40:GLY:HA2   | 1.72                     | 0.70              |
| 1:B:14:LEU:CD1   | 1:B:62:ILE:HG22  | 2.21                     | 0.70              |
| 1:C:45:ILE:CG2   | 1:C:103:LEU:HD21 | 2.21                     | 0.70              |
| 1:A:195:VAL:HA   | 1:A:200:ILE:CD1  | 2.20                     | 0.70              |
| 1:A:211:VAL:HG11 | 1:A:216:TRP:NE1  | 2.06                     | 0.70              |
| 1:B:209:LYS:HB3  | 1:B:231:VAL:CG2  | 2.21                     | 0.70              |
| 1:B:274:ASN:C    | 1:C:286:SER:CB   | 2.57                     | 0.70              |
| 1:C:215:PHE:CD1  | 1:C:216:TRP:CE3  | 2.79                     | 0.70              |
| 1:C:473:ILE:HG23 | 1:C:474:CYS:H    | 1.56                     | 0.70              |
| 1:A:14:LEU:CD1   | 1:A:62:ILE:HG22  | 2.22                     | 0.70              |
| 1:A:227:CYS:CB   | 1:B:476:ASP:CA   | 2.69                     | 0.70              |
| 1:B:116:VAL:HG11 | 1:B:200:ILE:HG23 | 1.73                     | 0.70              |
| 1:A:180:LYS:C    | 1:B:57:PHE:H     | 1.93                     | 0.70              |
| 1:C:179:THR:O    | 1:C:180:LYS:HB3  | 1.91                     | 0.70              |
| 1:C:195:VAL:HA   | 1:C:200:ILE:CD1  | 2.20                     | 0.70              |
| 1:B:386:TYR:CG   | 1:C:288:LEU:HD12 | 2.26                     | 0.70              |
| 1:B:204:ARG:CG   | 1:B:228:ILE:HB   | 2.18                     | 0.70              |
| 1:C:209:LYS:HB3  | 1:C:231:VAL:CG2  | 2.21                     | 0.70              |
| 1:C:252:TYR:HA   | 1:C:292:PHE:HZ   | 1.56                     | 0.70              |
| 1:C:341:PRO:CD   | 1:C:342:ALA:N    | 2.54                     | 0.70              |
| 1:A:179:THR:O    | 1:A:180:LYS:HB3  | 1.91                     | 0.70              |
| 1:A:45:ILE:CG2   | 1:A:103:LEU:HD21 | 2.21                     | 0.70              |
| 1:A:64:PRO:HG3   | 1:A:82:TYR:CA    | 2.21                     | 0.70              |
| 1:B:195:VAL:HA   | 1:B:200:ILE:CD1  | 2.20                     | 0.70              |
| 1:B:209:LYS:HD2  | 1:B:232:LEU:O    | 1.92                     | 0.70              |
| 1:B:11:ILE:HD13  | 1:B:324:LEU:HB3  | 1.73                     | 0.70              |
| 1:C:258:LEU:HD21 | 1:C:314:VAL:CG2  | 2.21                     | 0.70              |
| 1:C:11:ILE:HD13  | 1:C:324:LEU:HB3  | 1.73                     | 0.70              |
| 1:A:165:TRP:HE1  | 1:B:110:ARG:CB   | 1.99                     | 0.70              |
| 1:B:382:TYR:HE1  | 1:B:385:PRO:CD   | 2.04                     | 0.70              |
| 1:C:211:VAL:HG11 | 1:C:216:TRP:NE1  | 2.07                     | 0.70              |
| 1:A:116:VAL:HG11 | 1:A:200:ILE:HG23 | 1.73                     | 0.70              |
| 1:A:209:LYS:HD2  | 1:A:232:LEU:O    | 1.92                     | 0.70              |
| 1:A:11:ILE:HD13  | 1:A:324:LEU:HB3  | 1.73                     | 0.70              |
| 1:A:189:ASP:CA   | 1:B:369:ARG:HA   | 2.21                     | 0.70              |
| 1:A:221:LYS:HB2  | 1:B:436:VAL:CA   | 2.10                     | 0.70              |
| 1:A:205:ILE:HB   | 1:B:478:SER:CB   | 2.22                     | 0.69              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:208:VAL:CA   | 1:A:216:TRP:HZ2  | 2.03                     | 0.69              |
| 1:B:468:LEU:HD23 | 1:B:473:ILE:CD1  | 2.21                     | 0.69              |
| 1:B:381:THR:HG22 | 1:C:1:ALA:CB     | 2.22                     | 0.69              |
| 1:C:116:VAL:HG11 | 1:C:200:ILE:HG23 | 1.74                     | 0.69              |
| 1:B:238:TYR:CA   | 1:C:376:ASP:HA   | 2.22                     | 0.69              |
| 1:A:185:ASN:HB3  | 1:B:366:ASN:OD1  | 1.92                     | 0.69              |
| 1:A:188:TYR:H    | 1:B:367:ALA:C    | 1.92                     | 0.69              |
| 1:B:149:PHE:HA   | 1:B:165:TRP:CD1  | 2.27                     | 0.69              |
| 1:C:12:TYR:CD2   | 1:C:52:ILE:HG22  | 2.27                     | 0.69              |
| 1:B:447:ASP:CG   | 1:C:214:ASP:OD2  | 2.31                     | 0.69              |
| 1:C:420:LEU:CD2  | 1:C:452:VAL:HG13 | 2.11                     | 0.69              |
| 1:A:12:TYR:CD2   | 1:A:52:ILE:HG22  | 2.28                     | 0.69              |
| 1:A:190:TRP:CZ2  | 1:B:374:SER:HB3  | 2.26                     | 0.69              |
| 1:A:205:ILE:HD12 | 1:B:478:SER:C    | 2.11                     | 0.69              |
| 1:A:221:LYS:CB   | 1:B:436:VAL:N    | 2.36                     | 0.69              |
| 1:A:88:TYR:HE2   | 1:B:374:SER:N    | 1.90                     | 0.69              |
| 1:B:152:ILE:HD13 | 1:B:166:LEU:HG   | 1.74                     | 0.69              |
| 1:B:277:ASN:ND2  | 1:C:285:ASP:O    | 2.25                     | 0.69              |
| 1:B:399:THR:O    | 1:C:192:GLY:O    | 2.09                     | 0.69              |
| 1:B:422:LEU:HD11 | 1:C:221:LYS:CB   | 2.21                     | 0.69              |
| 1:C:14:LEU:CD1   | 1:C:62:ILE:HG22  | 2.21                     | 0.69              |
| 1:C:101:LYS:CG   | 1:C:198:TYR:HA   | 2.16                     | 0.69              |
| 1:C:209:LYS:HD2  | 1:C:232:LEU:O    | 1.92                     | 0.69              |
| 1:A:341:PRO:CD   | 1:A:342:ALA:N    | 2.54                     | 0.69              |
| 1:A:87:ILE:O     | 1:A:88:TYR:HD2   | 1.75                     | 0.69              |
| 1:A:215:PHE:HE1  | 1:B:472:LYS:CB   | 2.05                     | 0.69              |
| 1:C:382:TYR:HE1  | 1:C:385:PRO:CD   | 2.04                     | 0.69              |
| 1:A:146:PHE:H    | 1:B:112:MET:H    | 1.33                     | 0.69              |
| 1:C:311:ALA:O    | 1:C:314:VAL:HG13 | 1.93                     | 0.69              |
| 1:C:16:THR:OG1   | 1:C:94:TYR:HE1   | 1.73                     | 0.69              |
| 1:B:216:TRP:HA   | 1:B:216:TRP:HE3  | 1.57                     | 0.69              |
| 1:B:252:TYR:HA   | 1:B:292:PHE:HZ   | 1.56                     | 0.69              |
| 1:B:341:PRO:CD   | 1:B:342:ALA:N    | 2.54                     | 0.69              |
| 1:B:408:LEU:HD13 | 1:B:408:LEU:H    | 1.58                     | 0.69              |
| 1:B:12:TYR:CD2   | 1:B:52:ILE:HG22  | 2.27                     | 0.69              |
| 1:B:179:THR:O    | 1:B:180:LYS:HB3  | 1.91                     | 0.69              |
| 1:B:386:TYR:CD1  | 1:C:288:LEU:CD1  | 2.74                     | 0.69              |
| 1:C:229:GLY:CA   | 1:C:246:MET:HE1  | 2.22                     | 0.69              |
| 1:A:216:TRP:HE3  | 1:A:216:TRP:HA   | 1.57                     | 0.69              |
| 1:B:87:ILE:O     | 1:B:88:TYR:HD2   | 1.74                     | 0.69              |
| 1:B:9:GLN:HG3    | 1:B:58:THR:CB    | 2.18                     | 0.69              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:C:45:ILE:HG21  | 1:C:103:LEU:HD11 | 1.75                     | 0.69              |
| 1:A:382:TYR:HE1  | 1:A:385:PRO:CD   | 2.04                     | 0.69              |
| 1:B:45:ILE:HG21  | 1:B:103:LEU:HD11 | 1.75                     | 0.69              |
| 1:C:52:ILE:HG13  | 1:C:53:GLN:H     | 1.56                     | 0.69              |
| 1:C:87:ILE:O     | 1:C:88:TYR:HD2   | 1.75                     | 0.69              |
| 1:A:149:PHE:HA   | 1:A:165:TRP:CD1  | 2.27                     | 0.69              |
| 1:A:182:VAL:CG2  | 1:B:10:SER:O     | 2.41                     | 0.69              |
| 1:A:184:LYS:HD2  | 1:B:363:ALA:O    | 1.91                     | 0.69              |
| 1:A:221:LYS:HG2  | 1:B:436:VAL:N    | 1.81                     | 0.69              |
| 1:A:258:LEU:HD21 | 1:A:314:VAL:CG2  | 2.21                     | 0.69              |
| 1:A:269:MET:HG3  | 1:A:393:ILE:HD11 | 1.75                     | 0.69              |
| 1:A:52:ILE:HG13  | 1:A:53:GLN:N     | 2.08                     | 0.69              |
| 1:A:52:ILE:HG13  | 1:A:53:GLN:H     | 1.56                     | 0.69              |
| 1:B:123:MET:SD   | 1:B:137:PHE:HD1  | 2.16                     | 0.69              |
| 1:B:294:GLU:CD   | 1:B:300:ARG:HG3  | 2.13                     | 0.69              |
| 1:B:400:ASP:CB   | 1:C:194:LEU:C    | 2.62                     | 0.69              |
| 1:C:216:TRP:CB   | 1:C:245:VAL:HG22 | 2.23                     | 0.69              |
| 1:C:69:LEU:HB2   | 1:C:71:GLN:NE2   | 2.06                     | 0.69              |
| 1:A:406:THR:HG21 | 1:A:425:ALA:HB1  | 1.75                     | 0.69              |
| 1:B:311:ALA:O    | 1:B:314:VAL:HG13 | 1.93                     | 0.69              |
| 1:A:198:TYR:HB2  | 1:B:467:LYS:HZ1  | 1.56                     | 0.69              |
| 1:C:152:ILE:HD13 | 1:C:166:LEU:HG   | 1.74                     | 0.69              |
| 1:C:294:GLU:CD   | 1:C:300:ARG:HG3  | 2.13                     | 0.69              |
| 1:C:269:MET:HG3  | 1:C:393:ILE:HD11 | 1.75                     | 0.69              |
| 1:C:406:THR:HG21 | 1:C:425:ALA:HB1  | 1.75                     | 0.69              |
| 1:A:200:ILE:HD12 | 1:B:467:LYS:HG3  | 1.75                     | 0.68              |
| 1:A:215:PHE:CD1  | 1:A:216:TRP:CZ3  | 2.82                     | 0.68              |
| 1:B:273:TYR:CE1  | 1:B:386:TYR:HB2  | 2.28                     | 0.68              |
| 1:B:269:MET:HG3  | 1:B:393:ILE:HD11 | 1.75                     | 0.68              |
| 1:A:107:LEU:CA   | 1:A:110:ARG:HG2  | 2.14                     | 0.68              |
| 1:A:179:THR:OG1  | 1:B:49:LEU:O     | 2.12                     | 0.68              |
| 1:A:246:MET:CE   | 1:B:476:ASP:CG   | 2.62                     | 0.68              |
| 1:A:311:ALA:O    | 1:A:314:VAL:HG13 | 1.93                     | 0.68              |
| 1:A:69:LEU:HB2   | 1:A:71:GLN:NE2   | 2.06                     | 0.68              |
| 1:B:161:VAL:HG23 | 1:B:210:HIS:HD2  | 1.58                     | 0.68              |
| 1:B:215:PHE:CD1  | 1:B:216:TRP:CZ3  | 2.82                     | 0.68              |
| 1:B:61:TRP:HZ3   | 1:B:326:ILE:HG21 | 1.54                     | 0.68              |
| 1:B:426:SER:HA   | 1:C:188:TYR:CD1  | 2.28                     | 0.68              |
| 1:C:215:PHE:CD1  | 1:C:216:TRP:CZ3  | 2.82                     | 0.68              |
| 1:A:151:PHE:O    | 1:A:153:GLN:HG2  | 1.93                     | 0.68              |
| 1:A:294:GLU:CD   | 1:A:300:ARG:HG3  | 2.13                     | 0.68              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:16:THR:OG1   | 1:A:94:TYR:HE1   | 1.73                     | 0.68              |
| 1:B:211:VAL:HG11 | 1:B:216:TRP:NE1  | 2.06                     | 0.68              |
| 1:B:386:TYR:CZ   | 1:C:288:LEU:CD1  | 2.76                     | 0.68              |
| 1:C:149:PHE:HA   | 1:C:165:TRP:CD1  | 2.27                     | 0.68              |
| 1:C:216:TRP:HA   | 1:C:216:TRP:HE3  | 1.57                     | 0.68              |
| 1:C:408:LEU:H    | 1:C:408:LEU:HD13 | 1.58                     | 0.68              |
| 1:C:52:ILE:HG13  | 1:C:53:GLN:N     | 2.08                     | 0.68              |
| 1:A:116:VAL:O    | 1:B:469:ALA:HB3  | 1.91                     | 0.68              |
| 1:A:152:ILE:HD13 | 1:A:166:LEU:HG   | 1.74                     | 0.68              |
| 1:A:315:ALA:O    | 1:A:319:ILE:HG12 | 1.93                     | 0.68              |
| 1:C:195:VAL:CG2  | 1:C:200:ILE:HB   | 2.13                     | 0.68              |
| 1:C:273:TYR:CE1  | 1:C:386:TYR:HB2  | 2.29                     | 0.68              |
| 1:A:382:TYR:OH   | 1:A:396:ARG:HG2  | 1.93                     | 0.68              |
| 1:B:400:ASP:HA   | 1:C:193:SER:C    | 2.14                     | 0.68              |
| 1:B:400:ASP:HB2  | 1:C:194:LEU:C    | 2.14                     | 0.68              |
| 1:B:406:THR:HG21 | 1:B:425:ALA:HB1  | 1.75                     | 0.68              |
| 1:A:208:VAL:N    | 1:B:472:LYS:CE   | 2.50                     | 0.68              |
| 1:C:87:ILE:HG23  | 1:C:139:PRO:HG3  | 1.75                     | 0.68              |
| 1:A:118:VAL:HB   | 1:B:471:SER:CB   | 2.18                     | 0.68              |
| 1:A:178:THR:CA   | 1:B:52:ILE:HD12  | 2.22                     | 0.68              |
| 1:A:205:ILE:N    | 1:B:471:SER:HA   | 1.81                     | 0.68              |
| 1:A:216:TRP:CB   | 1:A:245:VAL:HG22 | 2.23                     | 0.68              |
| 1:A:219:TYR:CD1  | 1:B:472:LYS:C    | 2.66                     | 0.68              |
| 1:A:225:VAL:CG2  | 1:B:465:THR:HG22 | 2.22                     | 0.68              |
| 1:A:321:ASN:CG   | 1:A:322:ASP:H    | 1.97                     | 0.68              |
| 1:A:45:ILE:HG21  | 1:A:103:LEU:HD11 | 1.75                     | 0.68              |
| 1:A:87:ILE:HG23  | 1:A:139:PRO:HG3  | 1.75                     | 0.68              |
| 1:A:89:SER:O     | 1:A:90:LEU:HB2   | 1.92                     | 0.68              |
| 1:A:180:LYS:HG3  | 1:B:12:TYR:CG    | 2.28                     | 0.68              |
| 1:B:315:ALA:O    | 1:B:319:ILE:HG12 | 1.93                     | 0.68              |
| 1:C:107:LEU:CA   | 1:C:110:ARG:HG2  | 2.14                     | 0.68              |
| 1:B:446:SER:HB3  | 1:C:181:ASP:N    | 2.08                     | 0.68              |
| 1:C:382:TYR:OH   | 1:C:396:ARG:HG2  | 1.93                     | 0.68              |
| 1:A:227:CYS:HB2  | 1:B:476:ASP:N    | 2.08                     | 0.68              |
| 1:B:151:PHE:O    | 1:B:153:GLN:HG2  | 1.93                     | 0.68              |
| 1:B:28:ALA:HB3   | 1:B:348:TRP:HZ2  | 1.58                     | 0.68              |
| 1:B:369:ARG:HB3  | 1:B:369:ARG:HH11 | 1.57                     | 0.68              |
| 1:A:228:ILE:N    | 1:B:476:ASP:HB2  | 1.99                     | 0.68              |
| 1:C:123:MET:SD   | 1:C:137:PHE:HD1  | 2.16                     | 0.68              |
| 1:C:208:VAL:CG2  | 1:C:216:TRP:CE2  | 2.76                     | 0.68              |
| 1:A:177:ASP:C    | 1:B:53:GLN:HA    | 2.14                     | 0.68              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:196:SER:C    | 1:B:467:LYS:HE3  | 2.14                     | 0.68              |
| 1:A:408:LEU:H    | 1:A:408:LEU:HD13 | 1.58                     | 0.68              |
| 1:A:408:LEU:HD21 | 1:A:452:VAL:CG2  | 2.23                     | 0.68              |
| 1:A:88:TYR:CZ    | 1:B:373:ILE:CA   | 2.65                     | 0.68              |
| 1:B:216:TRP:CB   | 1:B:245:VAL:HG22 | 2.23                     | 0.68              |
| 1:B:69:LEU:HB2   | 1:B:71:GLN:NE2   | 2.06                     | 0.68              |
| 1:C:151:PHE:O    | 1:C:153:GLN:HG2  | 1.93                     | 0.68              |
| 1:B:385:PRO:HB3  | 1:C:226:TYR:N    | 2.09                     | 0.68              |
| 1:B:180:LYS:HZ1  | 1:B:182:VAL:HB   | 1.58                     | 0.68              |
| 1:A:200:ILE:CG2  | 1:B:467:LYS:CA   | 2.72                     | 0.68              |
| 1:A:208:VAL:CG2  | 1:A:216:TRP:CE2  | 2.76                     | 0.68              |
| 1:A:273:TYR:CE1  | 1:A:386:TYR:HB2  | 2.28                     | 0.68              |
| 1:A:165:TRP:NE1  | 1:B:110:ARG:N    | 2.34                     | 0.68              |
| 1:B:251:ASN:O    | 1:B:254:ILE:HG22 | 1.94                     | 0.68              |
| 1:B:89:SER:O     | 1:B:90:LEU:HB2   | 1.92                     | 0.68              |
| 1:C:251:ASN:O    | 1:C:254:ILE:HG22 | 1.94                     | 0.68              |
| 1:C:321:ASN:CG   | 1:C:322:ASP:H    | 1.97                     | 0.68              |
| 1:A:123:MET:SD   | 1:A:137:PHE:HD1  | 2.16                     | 0.67              |
| 1:B:408:LEU:HD21 | 1:B:452:VAL:CG2  | 2.23                     | 0.67              |
| 1:B:52:ILE:HG13  | 1:B:53:GLN:N     | 2.08                     | 0.67              |
| 1:B:402:SER:N    | 1:C:193:SER:HA   | 2.08                     | 0.67              |
| 1:C:408:LEU:HD21 | 1:C:452:VAL:CG2  | 2.23                     | 0.67              |
| 1:A:385:PRO:HD2  | 1:A:396:ARG:O    | 1.94                     | 0.67              |
| 1:C:161:VAL:HG23 | 1:C:210:HIS:HD2  | 1.58                     | 0.67              |
| 1:A:251:ASN:O    | 1:A:254:ILE:HG22 | 1.94                     | 0.67              |
| 1:B:205:ILE:HD12 | 1:B:208:VAL:CG2  | 2.25                     | 0.67              |
| 1:A:215:PHE:CE2  | 1:B:367:ALA:HB1  | 2.29                     | 0.67              |
| 1:B:87:ILE:HG23  | 1:B:139:PRO:HG3  | 1.75                     | 0.67              |
| 1:C:111:GLY:O    | 1:C:112:MET:HB2  | 1.94                     | 0.67              |
| 1:A:221:LYS:O    | 1:B:434:THR:HG22 | 1.93                     | 0.67              |
| 1:B:424:GLY:HA3  | 1:C:220:ASN:HB3  | 0.83                     | 0.67              |
| 1:C:385:PRO:HD2  | 1:C:396:ARG:O    | 1.94                     | 0.67              |
| 1:C:64:PRO:HG3   | 1:C:82:TYR:CA    | 2.21                     | 0.67              |
| 1:B:101:LYS:CG   | 1:B:198:TYR:HA   | 2.16                     | 0.67              |
| 1:B:396:ARG:C    | 1:C:224:GLY:HA3  | 2.15                     | 0.67              |
| 1:C:315:ALA:O    | 1:C:319:ILE:HG12 | 1.93                     | 0.67              |
| 1:C:369:ARG:HB3  | 1:C:369:ARG:HH11 | 1.57                     | 0.67              |
| 1:A:177:ASP:OD1  | 1:B:53:GLN:O     | 2.12                     | 0.67              |
| 1:A:145:TYR:CE1  | 1:B:9:GLN:OE1    | 2.23                     | 0.67              |
| 1:B:280:LYS:O    | 1:C:6:TRP:C      | 2.32                     | 0.67              |
| 1:A:239:THR:HG21 | 1:A:253:PRO:HD3  | 1.76                     | 0.67              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:369:ARG:HB3  | 1:A:369:ARG:HH11 | 1.57                     | 0.67              |
| 1:C:205:ILE:HD12 | 1:C:208:VAL:CG2  | 2.24                     | 0.67              |
| 1:B:274:ASN:C    | 1:C:286:SER:CA   | 2.59                     | 0.67              |
| 1:B:64:PRO:HG3   | 1:B:82:TYR:CA    | 2.21                     | 0.67              |
| 1:C:28:ALA:HB3   | 1:C:348:TRP:HZ2  | 1.58                     | 0.67              |
| 1:A:190:TRP:CE3  | 1:A:191:VAL:CG1  | 2.78                     | 0.67              |
| 1:A:251:ASN:OD1  | 1:A:254:ILE:HD12 | 1.95                     | 0.67              |
| 1:B:208:VAL:CG2  | 1:B:216:TRP:CE2  | 2.76                     | 0.67              |
| 1:B:321:ASN:CG   | 1:B:322:ASP:H    | 1.97                     | 0.67              |
| 1:B:449:ASN:HB2  | 1:C:184:LYS:HZ2  | 1.57                     | 0.67              |
| 1:C:89:SER:O     | 1:C:90:LEU:HB2   | 1.92                     | 0.67              |
| 1:A:165:TRP:NE1  | 1:B:110:ARG:CB   | 2.58                     | 0.66              |
| 1:A:184:LYS:HB2  | 1:B:363:ALA:O    | 1.94                     | 0.66              |
| 1:B:176:LEU:HD22 | 1:B:187:TRP:HE1  | 1.59                     | 0.66              |
| 1:B:182:VAL:O    | 1:B:186:GLU:HB3  | 1.95                     | 0.66              |
| 1:A:180:LYS:CG   | 1:B:327:ILE:HG21 | 2.23                     | 0.66              |
| 1:C:211:VAL:CB   | 1:C:216:TRP:CZ2  | 2.78                     | 0.66              |
| 1:B:238:TYR:HA   | 1:C:376:ASP:CG   | 2.14                     | 0.66              |
| 1:A:147:HIS:ND1  | 1:A:148:PRO:HD2  | 2.10                     | 0.66              |
| 1:A:153:GLN:O    | 1:A:154:ASN:HB3  | 1.95                     | 0.66              |
| 1:A:200:ILE:HG22 | 1:A:203:LEU:CD1  | 2.25                     | 0.66              |
| 1:C:382:TYR:CE1  | 1:C:397:LYS:HA   | 2.30                     | 0.66              |
| 1:B:385:PRO:CD   | 1:C:3:PRO:HD2    | 2.25                     | 0.66              |
| 1:B:200:ILE:HG22 | 1:B:203:LEU:CD1  | 2.25                     | 0.66              |
| 1:C:236:PRO:HG3  | 1:C:278:THR:HG21 | 1.77                     | 0.66              |
| 1:C:399:THR:HG22 | 1:C:400:ASP:H    | 1.60                     | 0.66              |
| 1:A:140:PHE:CE2  | 1:A:176:LEU:HD21 | 2.31                     | 0.66              |
| 1:A:194:LEU:HD13 | 1:B:375:LYS:CG   | 2.25                     | 0.66              |
| 1:A:28:ALA:HB3   | 1:A:348:TRP:HZ2  | 1.58                     | 0.66              |
| 1:C:147:HIS:ND1  | 1:C:148:PRO:HD2  | 2.10                     | 0.66              |
| 1:C:182:VAL:O    | 1:C:186:GLU:HB3  | 1.95                     | 0.66              |
| 1:A:176:LEU:HD22 | 1:A:187:TRP:HE1  | 1.59                     | 0.66              |
| 1:A:205:ILE:HD12 | 1:A:208:VAL:CG2  | 2.25                     | 0.66              |
| 1:A:211:VAL:CB   | 1:A:216:TRP:CZ2  | 2.78                     | 0.66              |
| 1:B:385:PRO:HD2  | 1:B:396:ARG:O    | 1.94                     | 0.66              |
| 1:C:200:ILE:HG22 | 1:C:203:LEU:CD1  | 2.25                     | 0.66              |
| 1:C:362:ILE:O    | 1:C:366:ASN:HB2  | 1.96                     | 0.66              |
| 1:A:111:GLY:O    | 1:A:112:MET:HB2  | 1.94                     | 0.66              |
| 1:A:346:ALA:HB1  | 1:A:348:TRP:CE3  | 2.31                     | 0.66              |
| 1:A:399:THR:HG22 | 1:A:400:ASP:H    | 1.60                     | 0.66              |
| 1:B:111:GLY:O    | 1:B:112:MET:HB2  | 1.94                     | 0.66              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:B:140:PHE:CE2  | 1:B:176:LEU:HD21 | 2.31                     | 0.66              |
| 1:B:194:LEU:HG   | 1:B:200:ILE:HD13 | 1.78                     | 0.66              |
| 1:B:258:LEU:O    | 1:B:262:PHE:HB2  | 1.95                     | 0.66              |
| 1:C:140:PHE:CE2  | 1:C:176:LEU:HD21 | 2.31                     | 0.66              |
| 1:C:239:THR:HG21 | 1:C:253:PRO:HD3  | 1.77                     | 0.66              |
| 1:C:346:ALA:HB1  | 1:C:348:TRP:CE3  | 2.31                     | 0.66              |
| 1:B:236:PRO:CB   | 1:C:380:VAL:CG1  | 2.74                     | 0.66              |
| 1:A:258:LEU:O    | 1:A:262:PHE:HB2  | 1.95                     | 0.66              |
| 1:B:190:TRP:CE3  | 1:B:191:VAL:CG1  | 2.78                     | 0.66              |
| 1:B:211:VAL:CG2  | 1:B:215:PHE:HB3  | 2.26                     | 0.66              |
| 1:C:83:TRP:NE1   | 1:C:173:LEU:HD21 | 2.03                     | 0.66              |
| 1:C:251:ASN:OD1  | 1:C:254:ILE:HD12 | 1.95                     | 0.66              |
| 1:A:185:ASN:OD1  | 1:B:369:ARG:CD   | 2.44                     | 0.66              |
| 1:A:236:PRO:HG3  | 1:A:278:THR:HG21 | 1.77                     | 0.66              |
| 1:A:379:PHE:CZ   | 1:A:397:LYS:HE3  | 2.31                     | 0.66              |
| 1:B:187:TRP:CZ3  | 1:B:190:TRP:CZ3  | 2.84                     | 0.66              |
| 1:B:382:TYR:CE1  | 1:B:397:LYS:HA   | 2.31                     | 0.66              |
| 1:C:11:ILE:CG1   | 1:C:324:LEU:HD23 | 2.24                     | 0.66              |
| 1:C:55:MET:O     | 1:C:362:ILE:HG22 | 1.96                     | 0.66              |
| 1:A:182:VAL:O    | 1:A:186:GLU:HB3  | 1.95                     | 0.66              |
| 1:B:379:PHE:CZ   | 1:B:397:LYS:HE3  | 2.31                     | 0.66              |
| 1:A:208:VAL:CB   | 1:B:478:SER:OG   | 2.05                     | 0.66              |
| 1:B:55:MET:O     | 1:B:362:ILE:HG22 | 1.96                     | 0.66              |
| 1:A:180:LYS:CD   | 1:B:12:TYR:CB    | 2.65                     | 0.66              |
| 1:A:211:VAL:CG2  | 1:A:215:PHE:HB3  | 2.26                     | 0.66              |
| 1:C:153:GLN:O    | 1:C:154:ASN:HB3  | 1.95                     | 0.66              |
| 1:C:211:VAL:CG2  | 1:C:215:PHE:HB3  | 2.26                     | 0.66              |
| 1:A:55:MET:O     | 1:A:362:ILE:HG22 | 1.96                     | 0.65              |
| 1:A:362:ILE:O    | 1:A:366:ASN:HB2  | 1.96                     | 0.65              |
| 1:B:211:VAL:CB   | 1:B:216:TRP:CZ2  | 2.78                     | 0.65              |
| 1:B:239:THR:HG21 | 1:B:253:PRO:HD3  | 1.76                     | 0.65              |
| 1:B:243:GLN:HB3  | 1:B:284:PRO:CG   | 2.25                     | 0.65              |
| 1:B:346:ALA:HB1  | 1:B:348:TRP:CE3  | 2.31                     | 0.65              |
| 1:C:176:LEU:HD22 | 1:C:187:TRP:HE1  | 1.59                     | 0.65              |
| 1:C:190:TRP:CE3  | 1:C:191:VAL:CG1  | 2.78                     | 0.65              |
| 1:C:243:GLN:HB3  | 1:C:284:PRO:CG   | 2.25                     | 0.65              |
| 1:B:251:ASN:OD1  | 1:B:254:ILE:HD12 | 1.95                     | 0.65              |
| 1:A:222:ALA:HB1  | 1:B:368:ILE:HG13 | 0.65                     | 0.65              |
| 1:A:195:VAL:HG11 | 1:B:464:PRO:O    | 1.96                     | 0.65              |
| 1:A:147:HIS:CA   | 1:B:110:ARG:C    | 2.48                     | 0.65              |
| 1:B:410:ASN:HB3  | 1:B:454:MET:CE   | 2.26                     | 0.65              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:C:11:ILE:HG21  | 1:C:326:ILE:HG12 | 1.78                     | 0.65              |
| 1:A:115:MET:HE1  | 1:B:470:GLY:HA3  | 1.78                     | 0.65              |
| 1:A:243:GLN:HB3  | 1:A:284:PRO:CG   | 2.25                     | 0.65              |
| 1:A:305:THR:HG23 | 1:A:307:ASP:OD2  | 1.97                     | 0.65              |
| 1:B:236:PRO:HG3  | 1:B:278:THR:HG21 | 1.77                     | 0.65              |
| 1:B:305:THR:HG23 | 1:B:307:ASP:OD2  | 1.97                     | 0.65              |
| 1:B:385:PRO:HA   | 1:C:3:PRO:CB     | 2.27                     | 0.65              |
| 1:B:472:LYS:O    | 1:B:473:ILE:HG22 | 1.97                     | 0.65              |
| 1:A:332:GLU:HG2  | 1:A:333:GLN:H    | 1.62                     | 0.65              |
| 1:B:124:GLY:N    | 1:B:174:PRO:HD2  | 2.12                     | 0.65              |
| 1:B:147:HIS:ND1  | 1:B:148:PRO:HD2  | 2.10                     | 0.65              |
| 1:B:153:GLN:O    | 1:B:154:ASN:HB3  | 1.95                     | 0.65              |
| 1:A:87:ILE:CG1   | 1:B:374:SER:HA   | 2.11                     | 0.65              |
| 1:A:191:VAL:O    | 1:B:467:LYS:HB3  | 1.97                     | 0.65              |
| 1:A:186:GLU:CA   | 1:B:369:ARG:HH11 | 2.10                     | 0.65              |
| 1:A:194:LEU:HG   | 1:A:200:ILE:HD13 | 1.78                     | 0.65              |
| 1:A:213:LYS:O    | 1:A:214:ASP:HB3  | 1.97                     | 0.65              |
| 1:A:341:PRO:HD2  | 1:A:342:ALA:H    | 1.59                     | 0.65              |
| 1:C:194:LEU:HG   | 1:C:200:ILE:HD13 | 1.78                     | 0.65              |
| 1:A:148:PRO:HA   | 1:B:107:LEU:N    | 2.09                     | 0.65              |
| 1:A:218:GLY:CA   | 1:B:364:SER:HB3  | 2.27                     | 0.65              |
| 1:A:11:ILE:HG21  | 1:A:326:ILE:HG12 | 1.78                     | 0.65              |
| 1:C:379:PHE:CZ   | 1:C:397:LYS:HE3  | 2.31                     | 0.65              |
| 1:A:187:TRP:CZ3  | 1:A:190:TRP:CZ3  | 2.84                     | 0.65              |
| 1:B:385:PRO:HB3  | 1:C:226:TYR:HA   | 1.79                     | 0.65              |
| 1:B:238:TYR:CD2  | 1:C:403:GLN:NE2  | 2.64                     | 0.65              |
| 1:A:352:TYR:C    | 1:A:354:THR:H    | 1.99                     | 0.65              |
| 1:A:410:ASN:HB3  | 1:A:454:MET:CE   | 2.26                     | 0.65              |
| 1:C:187:TRP:CZ3  | 1:C:190:TRP:CZ3  | 2.84                     | 0.65              |
| 1:C:258:LEU:O    | 1:C:262:PHE:HB2  | 1.95                     | 0.65              |
| 1:A:382:TYR:CE1  | 1:A:397:LYS:HA   | 2.30                     | 0.65              |
| 1:B:11:ILE:HD12  | 1:B:325:PRO:C    | 2.17                     | 0.65              |
| 1:A:205:ILE:CG2  | 1:B:472:LYS:N    | 2.59                     | 0.65              |
| 1:C:124:GLY:N    | 1:C:174:PRO:HD2  | 2.12                     | 0.65              |
| 1:A:11:ILE:CG1   | 1:A:324:LEU:HD23 | 2.24                     | 0.64              |
| 1:B:258:LEU:HD21 | 1:B:314:VAL:CG2  | 2.21                     | 0.64              |
| 1:C:332:GLU:HG2  | 1:C:333:GLN:H    | 1.62                     | 0.64              |
| 1:C:410:ASN:HB3  | 1:C:454:MET:CE   | 2.26                     | 0.64              |
| 1:A:145:TYR:CE1  | 1:B:113:TYR:CD2  | 2.84                     | 0.64              |
| 1:A:161:VAL:HG23 | 1:A:210:HIS:HD2  | 1.58                     | 0.64              |
| 1:A:226:TYR:HA   | 1:A:247:ASP:OD1  | 1.97                     | 0.64              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:C:88:TYR:CE2   | 1:C:139:PRO:HB3  | 2.32                     | 0.64              |
| 1:C:341:PRO:HD2  | 1:C:342:ALA:H    | 1.59                     | 0.64              |
| 1:C:78:ALA:O     | 1:C:81:GLY:HA2   | 1.97                     | 0.64              |
| 1:A:11:ILE:HD11  | 1:A:324:LEU:CA   | 2.28                     | 0.64              |
| 1:A:88:TYR:CE2   | 1:A:139:PRO:HB3  | 2.32                     | 0.64              |
| 1:B:385:PRO:CA   | 1:C:3:PRO:HG3    | 2.27                     | 0.64              |
| 1:A:124:GLY:N    | 1:A:174:PRO:HD2  | 2.12                     | 0.64              |
| 1:A:229:GLY:HA3  | 1:A:246:MET:HE1  | 1.73                     | 0.64              |
| 1:B:88:TYR:CE2   | 1:B:139:PRO:HB3  | 2.32                     | 0.64              |
| 1:C:87:ILE:O     | 1:C:88:TYR:CD2   | 2.51                     | 0.64              |
| 1:A:216:TRP:CE3  | 1:A:216:TRP:HA   | 2.33                     | 0.64              |
| 1:B:213:LYS:O    | 1:B:214:ASP:HB3  | 1.97                     | 0.64              |
| 1:A:220:ASN:C    | 1:B:473:ILE:HG23 | 2.18                     | 0.64              |
| 1:B:87:ILE:O     | 1:B:88:TYR:CD2   | 2.51                     | 0.64              |
| 1:A:197:ASN:ND2  | 1:C:196:SER:OG   | 2.19                     | 0.64              |
| 1:B:213:LYS:CE   | 1:C:375:LYS:HG3  | 2.27                     | 0.64              |
| 1:A:83:TRP:NE1   | 1:A:173:LEU:HD21 | 2.03                     | 0.64              |
| 1:A:196:SER:OG   | 1:C:193:SER:HA   | 1.97                     | 0.64              |
| 1:B:226:TYR:HA   | 1:B:247:ASP:OD1  | 1.98                     | 0.64              |
| 1:B:11:ILE:HG21  | 1:B:326:ILE:HG12 | 1.78                     | 0.64              |
| 1:C:11:ILE:HD11  | 1:C:324:LEU:CA   | 2.27                     | 0.64              |
| 1:C:11:ILE:HD12  | 1:C:325:PRO:C    | 2.17                     | 0.64              |
| 1:B:237:ALA:CA   | 1:C:379:PHE:H    | 2.06                     | 0.64              |
| 1:B:332:GLU:HG2  | 1:B:333:GLN:H    | 1.62                     | 0.64              |
| 1:C:216:TRP:HA   | 1:C:216:TRP:CE3  | 2.33                     | 0.64              |
| 1:B:422:LEU:HD13 | 1:C:221:LYS:HZ2  | 1.62                     | 0.64              |
| 1:B:388:LYS:CA   | 1:C:244:ASN:O    | 2.42                     | 0.64              |
| 1:B:11:ILE:HD11  | 1:B:324:LEU:CA   | 2.28                     | 0.64              |
| 1:B:216:TRP:HA   | 1:B:216:TRP:CE3  | 2.33                     | 0.64              |
| 1:B:385:PRO:N    | 1:C:3:PRO:HD2    | 1.65                     | 0.64              |
| 1:B:78:ALA:O     | 1:B:81:GLY:HA2   | 1.97                     | 0.64              |
| 1:C:115:MET:HE1  | 1:C:228:ILE:HG13 | 1.80                     | 0.64              |
| 1:C:226:TYR:HA   | 1:C:247:ASP:OD1  | 1.97                     | 0.64              |
| 1:C:383:LYS:O    | 1:C:385:PRO:HD3  | 1.97                     | 0.64              |
| 1:A:252:TYR:HA   | 1:A:292:PHE:CZ   | 2.33                     | 0.64              |
| 1:A:11:ILE:CD1   | 1:A:326:ILE:HG12 | 2.26                     | 0.64              |
| 1:A:55:MET:SD    | 1:A:362:ILE:HD13 | 2.38                     | 0.64              |
| 1:A:458:LEU:HD13 | 1:A:460:ARG:HH22 | 1.62                     | 0.64              |
| 1:A:11:ILE:HB    | 1:A:326:ILE:HG12 | 1.79                     | 0.64              |
| 1:A:190:TRP:CE3  | 1:B:371:TYR:CG   | 2.86                     | 0.64              |
| 1:A:292:PHE:O    | 1:A:293:VAL:HG12 | 1.98                     | 0.64              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:78:ALA:O     | 1:A:81:GLY:HA2   | 1.96                     | 0.64              |
| 1:A:87:ILE:O     | 1:A:88:TYR:CD2   | 2.51                     | 0.64              |
| 1:B:83:TRP:NE1   | 1:B:173:LEU:HD21 | 2.03                     | 0.64              |
| 1:B:11:ILE:CD1   | 1:B:326:ILE:HG12 | 2.26                     | 0.64              |
| 1:B:430:GLY:CA   | 1:C:185:ASN:ND2  | 2.61                     | 0.64              |
| 1:C:208:VAL:CA   | 1:C:216:TRP:HZ2  | 2.03                     | 0.64              |
| 1:C:213:LYS:O    | 1:C:214:ASP:HB3  | 1.97                     | 0.64              |
| 1:C:305:THR:HG23 | 1:C:307:ASP:OD2  | 1.97                     | 0.64              |
| 1:B:383:LYS:CD   | 1:C:5:ASP:CB     | 2.73                     | 0.64              |
| 1:A:383:LYS:O    | 1:A:385:PRO:HD3  | 1.97                     | 0.63              |
| 1:B:172:SER:O    | 1:B:174:PRO:HD3  | 1.97                     | 0.63              |
| 1:B:251:ASN:HB3  | 1:B:254:ILE:CG2  | 2.28                     | 0.63              |
| 1:B:274:ASN:O    | 1:C:286:SER:OG   | 2.15                     | 0.63              |
| 1:A:221:LYS:C    | 1:B:434:THR:CG2  | 2.66                     | 0.63              |
| 1:C:11:ILE:HB    | 1:C:326:ILE:HG12 | 1.79                     | 0.63              |
| 1:C:292:PHE:O    | 1:C:293:VAL:HG12 | 1.98                     | 0.63              |
| 1:B:280:LYS:HB2  | 1:C:3:PRO:O      | 1.95                     | 0.63              |
| 1:C:472:LYS:O    | 1:C:473:ILE:HG22 | 1.97                     | 0.63              |
| 1:A:11:ILE:HD12  | 1:A:325:PRO:C    | 2.17                     | 0.63              |
| 1:A:225:VAL:O    | 1:A:225:VAL:HG12 | 1.98                     | 0.63              |
| 1:B:292:PHE:O    | 1:B:293:VAL:HG12 | 1.98                     | 0.63              |
| 1:B:11:ILE:HB    | 1:B:326:ILE:HG12 | 1.79                     | 0.63              |
| 1:A:182:VAL:N    | 1:B:57:PHE:CG    | 2.58                     | 0.63              |
| 1:C:252:TYR:HA   | 1:C:292:PHE:CZ   | 2.33                     | 0.63              |
| 1:C:473:ILE:CG2  | 1:C:474:CYS:H    | 2.10                     | 0.63              |
| 1:C:45:ILE:CG2   | 1:C:49:LEU:HD11  | 2.06                     | 0.63              |
| 1:B:252:TYR:HA   | 1:B:292:PHE:CZ   | 2.33                     | 0.63              |
| 1:C:55:MET:SD    | 1:C:362:ILE:HD13 | 2.38                     | 0.63              |
| 1:A:473:ILE:CG2  | 1:A:474:CYS:H    | 2.10                     | 0.63              |
| 1:A:68:GLN:HE22  | 1:A:81:GLY:HA2   | 1.62                     | 0.63              |
| 1:A:165:TRP:NE1  | 1:B:110:ARG:CA   | 1.78                     | 0.63              |
| 1:B:383:LYS:O    | 1:B:385:PRO:HD3  | 1.97                     | 0.63              |
| 1:B:458:LEU:HD13 | 1:B:460:ARG:HH22 | 1.62                     | 0.63              |
| 1:C:75:TYR:HE1   | 1:C:170:THR:CG2  | 2.12                     | 0.63              |
| 1:A:75:TYR:HE1   | 1:A:170:THR:CG2  | 2.12                     | 0.63              |
| 1:A:472:LYS:O    | 1:A:473:ILE:HG22 | 1.97                     | 0.63              |
| 1:A:68:GLN:O     | 1:A:85:THR:HG21  | 1.99                     | 0.63              |
| 1:B:371:TYR:CD2  | 1:B:473:ILE:HD11 | 2.34                     | 0.63              |
| 1:C:11:ILE:CD1   | 1:C:326:ILE:HG12 | 2.26                     | 0.63              |
| 1:B:238:TYR:N    | 1:C:376:ASP:C    | 2.34                     | 0.63              |
| 1:B:75:TYR:CE1   | 1:B:170:THR:HG21 | 2.34                     | 0.63              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:B:387:ILE:HG23 | 1:B:388:LYS:H    | 1.63                     | 0.63              |
| 1:A:200:ILE:HG22 | 1:B:468:LEU:N    | 2.14                     | 0.63              |
| 1:C:387:ILE:HG23 | 1:C:388:LYS:H    | 1.63                     | 0.63              |
| 1:C:458:LEU:HD13 | 1:C:460:ARG:HH22 | 1.62                     | 0.63              |
| 1:A:55:MET:HB3   | 1:A:57:PHE:CE2   | 2.34                     | 0.63              |
| 1:A:187:TRP:CB   | 1:B:367:ALA:O    | 2.47                     | 0.63              |
| 1:A:224:GLY:CA   | 1:B:434:THR:CB   | 2.72                     | 0.63              |
| 1:B:55:MET:SD    | 1:B:362:ILE:HD13 | 2.38                     | 0.63              |
| 1:C:172:SER:O    | 1:C:174:PRO:HD3  | 1.98                     | 0.63              |
| 1:A:287:THR:HG21 | 1:A:380:VAL:C    | 2.20                     | 0.63              |
| 1:A:387:ILE:HG23 | 1:A:388:LYS:H    | 1.63                     | 0.63              |
| 1:B:383:LYS:C    | 1:C:3:PRO:CD     | 2.59                     | 0.63              |
| 1:B:75:TYR:HE1   | 1:B:170:THR:CG2  | 2.12                     | 0.63              |
| 1:C:371:TYR:CD2  | 1:C:473:ILE:HD11 | 2.34                     | 0.63              |
| 1:A:177:ASP:CB   | 1:B:53:GLN:HG2   | 2.27                     | 0.63              |
| 1:A:194:LEU:HD22 | 1:B:375:LYS:HG2  | 0.68                     | 0.63              |
| 1:A:214:ASP:CG   | 1:B:360:LYS:O    | 2.36                     | 0.63              |
| 1:A:143:GLN:NE2  | 1:B:108:HIS:HA   | 2.12                     | 0.63              |
| 1:B:2:THR:HB     | 1:B:3:PRO:CD     | 2.22                     | 0.63              |
| 1:B:341:PRO:HD2  | 1:B:342:ALA:H    | 1.59                     | 0.63              |
| 1:A:197:ASN:CA   | 1:B:467:LYS:HE3  | 2.28                     | 0.63              |
| 1:B:45:ILE:CG2   | 1:B:49:LEU:HD11  | 2.06                     | 0.63              |
| 1:C:225:VAL:O    | 1:C:225:VAL:HG12 | 1.98                     | 0.63              |
| 1:C:287:THR:HG21 | 1:C:380:VAL:C    | 2.20                     | 0.63              |
| 1:B:238:TYR:CB   | 1:C:376:ASP:CG   | 2.65                     | 0.63              |
| 1:C:55:MET:HB3   | 1:C:57:PHE:CE2   | 2.34                     | 0.63              |
| 1:C:68:GLN:O     | 1:C:85:THR:HG21  | 1.99                     | 0.63              |
| 1:C:68:GLN:HE22  | 1:C:81:GLY:HA2   | 1.62                     | 0.63              |
| 1:A:45:ILE:CG2   | 1:A:49:LEU:HD11  | 2.06                     | 0.62              |
| 1:A:143:GLN:OE1  | 1:B:112:MET:O    | 2.16                     | 0.62              |
| 1:B:208:VAL:HG23 | 1:B:216:TRP:CZ2  | 2.34                     | 0.62              |
| 1:B:238:TYR:CB   | 1:C:376:ASP:CB   | 2.76                     | 0.62              |
| 1:B:229:GLY:HA3  | 1:B:246:MET:HE1  | 1.80                     | 0.62              |
| 1:B:341:PRO:CD   | 1:B:342:ALA:H    | 2.12                     | 0.62              |
| 1:A:208:VAL:CG2  | 1:B:478:SER:N    | 2.33                     | 0.62              |
| 1:A:144:ASP:OD1  | 1:B:6:TRP:HH2    | 1.81                     | 0.62              |
| 1:C:341:PRO:CD   | 1:C:342:ALA:H    | 2.12                     | 0.62              |
| 1:A:217:PRO:C    | 1:B:473:ILE:O    | 2.37                     | 0.62              |
| 1:A:341:PRO:CD   | 1:A:342:ALA:H    | 2.12                     | 0.62              |
| 1:B:225:VAL:HG12 | 1:B:225:VAL:O    | 1.98                     | 0.62              |
| 1:B:281:SER:CB   | 1:C:6:TRP:O      | 2.47                     | 0.62              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:B:68:GLN:HE22  | 1:B:81:GLY:HA2   | 1.62                     | 0.62              |
| 1:C:352:TYR:C    | 1:C:354:THR:H    | 1.99                     | 0.62              |
| 1:A:418:TYR:CD1  | 1:A:454:MET:HE3  | 2.34                     | 0.62              |
| 1:B:11:ILE:HD12  | 1:B:325:PRO:O    | 1.99                     | 0.62              |
| 1:A:172:SER:O    | 1:A:174:PRO:HD3  | 1.98                     | 0.62              |
| 1:A:177:ASP:HB3  | 1:B:53:GLN:CG    | 2.29                     | 0.62              |
| 1:B:430:GLY:N    | 1:C:185:ASN:CB   | 2.58                     | 0.62              |
| 1:C:208:VAL:HG23 | 1:C:216:TRP:CZ2  | 2.34                     | 0.62              |
| 1:A:208:VAL:HG23 | 1:A:216:TRP:CZ2  | 2.34                     | 0.62              |
| 1:A:217:PRO:HB2  | 1:B:437:ILE:C    | 2.20                     | 0.62              |
| 1:A:371:TYR:CD2  | 1:A:473:ILE:HD11 | 2.34                     | 0.62              |
| 1:A:52:ILE:O     | 1:A:55:MET:HB2   | 2.00                     | 0.62              |
| 1:B:287:THR:HG21 | 1:B:380:VAL:C    | 2.20                     | 0.62              |
| 1:B:383:LYS:HD2  | 1:C:5:ASP:CB     | 2.25                     | 0.62              |
| 1:B:79:TYR:CE2   | 1:B:344:ARG:HG2  | 2.35                     | 0.62              |
| 1:C:180:LYS:HD3  | 1:C:180:LYS:O    | 2.00                     | 0.62              |
| 1:C:75:TYR:CE1   | 1:C:170:THR:HG21 | 2.34                     | 0.62              |
| 1:A:186:GLU:CD   | 1:B:370:ASN:CA   | 2.59                     | 0.62              |
| 1:A:11:ILE:HD12  | 1:A:325:PRO:O    | 1.99                     | 0.62              |
| 1:B:274:ASN:O    | 1:C:286:SER:CB   | 2.46                     | 0.62              |
| 1:B:69:LEU:CB    | 1:B:71:GLN:HE21  | 2.12                     | 0.62              |
| 1:C:251:ASN:HB3  | 1:C:254:ILE:CG2  | 2.29                     | 0.62              |
| 1:A:218:GLY:HA2  | 1:B:437:ILE:H    | 1.65                     | 0.62              |
| 1:A:251:ASN:HB3  | 1:A:254:ILE:CG2  | 2.28                     | 0.62              |
| 1:C:48:LYS:O     | 1:C:49:LEU:HB2   | 2.00                     | 0.62              |
| 1:A:428:THR:HG23 | 1:A:431:GLN:HB2  | 1.82                     | 0.62              |
| 1:B:180:LYS:O    | 1:B:180:LYS:HD3  | 2.00                     | 0.62              |
| 1:B:383:LYS:HB3  | 1:C:6:TRP:CD1    | 2.15                     | 0.62              |
| 1:A:75:TYR:CE1   | 1:A:170:THR:HG21 | 2.34                     | 0.62              |
| 1:A:143:GLN:HG3  | 1:B:108:HIS:NE2  | 2.13                     | 0.62              |
| 1:B:327:ILE:O    | 1:B:327:ILE:HG23 | 2.00                     | 0.62              |
| 1:B:352:TYR:C    | 1:B:354:THR:H    | 1.99                     | 0.62              |
| 1:A:148:PRO:HG3  | 1:B:49:LEU:HD23  | 1.82                     | 0.62              |
| 1:B:238:TYR:N    | 1:C:377:THR:N    | 2.38                     | 0.62              |
| 1:A:187:TRP:CZ3  | 1:B:374:SER:CB   | 2.82                     | 0.62              |
| 1:B:387:ILE:CG2  | 1:B:395:MET:HA   | 2.28                     | 0.62              |
| 1:B:428:THR:HG23 | 1:B:431:GLN:HB2  | 1.82                     | 0.62              |
| 1:A:179:THR:CG2  | 1:B:50:ASP:O     | 2.48                     | 0.62              |
| 1:B:381:THR:CG2  | 1:C:201:ASP:OD1  | 2.48                     | 0.62              |
| 1:C:428:THR:HG23 | 1:C:431:GLN:HB2  | 1.82                     | 0.62              |
| 1:A:180:LYS:NZ   | 1:B:11:ILE:CA    | 2.61                     | 0.61              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:B:448:GLY:C    | 1:C:184:LYS:NZ   | 2.53                     | 0.61              |
| 1:C:472:LYS:HG2  | 1:C:478:SER:OXT  | 2.01                     | 0.61              |
| 1:A:79:TYR:CE2   | 1:A:344:ARG:HG2  | 2.35                     | 0.61              |
| 1:B:332:GLU:HA   | 1:B:358:LEU:HB3  | 1.82                     | 0.61              |
| 1:B:68:GLN:O     | 1:B:85:THR:HG21  | 1.99                     | 0.61              |
| 1:C:258:LEU:HG   | 1:C:262:PHE:CD2  | 2.34                     | 0.61              |
| 1:C:11:ILE:HD12  | 1:C:325:PRO:O    | 1.99                     | 0.61              |
| 1:A:258:LEU:HG   | 1:A:262:PHE:CD2  | 2.34                     | 0.61              |
| 1:A:2:THR:HB     | 1:A:3:PRO:CD     | 2.22                     | 0.61              |
| 1:B:13:PHE:CD2   | 1:B:328:TYR:HD2  | 2.19                     | 0.61              |
| 1:B:316:ALA:HA   | 1:B:319:ILE:HD11 | 1.82                     | 0.61              |
| 1:A:217:PRO:HG2  | 1:B:364:SER:CB   | 2.28                     | 0.61              |
| 1:A:239:THR:HG21 | 1:A:253:PRO:CD   | 2.31                     | 0.61              |
| 1:A:48:LYS:O     | 1:A:49:LEU:HB2   | 2.00                     | 0.61              |
| 1:B:258:LEU:HG   | 1:B:262:PHE:CD2  | 2.34                     | 0.61              |
| 1:A:184:LYS:CE   | 1:B:362:ILE:HG22 | 2.17                     | 0.61              |
| 1:B:472:LYS:HG2  | 1:B:478:SER:OXT  | 2.01                     | 0.61              |
| 1:A:144:ASP:HB3  | 1:B:58:THR:O     | 1.99                     | 0.61              |
| 1:C:52:ILE:CD1   | 1:C:112:MET:SD   | 2.88                     | 0.61              |
| 1:B:385:PRO:HB3  | 1:C:226:TYR:H    | 1.65                     | 0.61              |
| 1:B:382:TYR:CE1  | 1:C:2:THR:HG23   | 2.32                     | 0.61              |
| 1:C:79:TYR:CE2   | 1:C:344:ARG:HG2  | 2.35                     | 0.61              |
| 1:C:79:TYR:HE2   | 1:C:344:ARG:HG2  | 1.64                     | 0.61              |
| 1:B:237:ALA:CB   | 1:C:379:PHE:CA   | 2.62                     | 0.61              |
| 1:C:52:ILE:O     | 1:C:55:MET:HB2   | 2.00                     | 0.61              |
| 1:A:11:ILE:HG22  | 1:A:326:ILE:HG23 | 1.83                     | 0.61              |
| 1:A:200:ILE:HB   | 1:B:467:LYS:CA   | 2.23                     | 0.61              |
| 1:B:52:ILE:CD1   | 1:B:112:MET:SD   | 2.88                     | 0.61              |
| 1:B:6:TRP:CH2    | 1:B:113:TYR:HB3  | 2.36                     | 0.61              |
| 1:B:239:THR:HG21 | 1:B:253:PRO:CD   | 2.31                     | 0.61              |
| 1:B:79:TYR:HE2   | 1:B:344:ARG:HG2  | 1.64                     | 0.61              |
| 1:C:6:TRP:CH2    | 1:C:113:TYR:HB3  | 2.36                     | 0.61              |
| 1:C:9:GLN:HG3    | 1:C:58:THR:CB    | 2.17                     | 0.61              |
| 1:A:104:SER:O    | 1:A:108:HIS:HB2  | 2.00                     | 0.61              |
| 1:A:472:LYS:HG2  | 1:A:478:SER:OXT  | 2.01                     | 0.61              |
| 1:B:104:SER:O    | 1:B:108:HIS:HB2  | 2.00                     | 0.61              |
| 1:C:104:SER:O    | 1:C:108:HIS:HB2  | 2.00                     | 0.61              |
| 1:A:6:TRP:CH2    | 1:A:113:TYR:HB3  | 2.36                     | 0.61              |
| 1:A:387:ILE:CG2  | 1:A:395:MET:HA   | 2.28                     | 0.61              |
| 1:B:11:ILE:HG22  | 1:B:326:ILE:HG23 | 1.83                     | 0.61              |
| 1:B:238:TYR:HD2  | 1:C:403:GLN:CD   | 2.03                     | 0.61              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:186:GLU:CA   | 1:B:369:ARG:NH1  | 2.63                     | 0.61              |
| 1:B:280:LYS:CE   | 1:B:383:LYS:HB3  | 2.04                     | 0.61              |
| 1:C:13:PHE:CD2   | 1:C:328:TYR:HD2  | 2.19                     | 0.61              |
| 1:C:472:LYS:O    | 1:C:473:ILE:HB   | 2.01                     | 0.61              |
| 1:A:13:PHE:CD2   | 1:A:328:TYR:HD2  | 2.19                     | 0.61              |
| 1:A:185:ASN:CB   | 1:B:366:ASN:OD1  | 2.49                     | 0.61              |
| 1:C:332:GLU:HA   | 1:C:358:LEU:HB3  | 1.82                     | 0.61              |
| 1:A:84:GLN:HE22  | 1:B:375:LYS:HZ3  | 1.40                     | 0.61              |
| 1:B:55:MET:HB3   | 1:B:57:PHE:CE2   | 2.34                     | 0.61              |
| 1:C:11:ILE:HG22  | 1:C:326:ILE:HG23 | 1.83                     | 0.61              |
| 1:A:184:LYS:CG   | 1:B:56:GLY:CA    | 2.48                     | 0.61              |
| 1:A:79:TYR:HE2   | 1:A:344:ARG:HG2  | 1.64                     | 0.61              |
| 1:B:422:LEU:HD11 | 1:C:221:LYS:HG2  | 0.65                     | 0.61              |
| 1:B:383:LYS:HZ1  | 1:C:5:ASP:HB3    | 1.66                     | 0.61              |
| 1:A:52:ILE:CD1   | 1:A:112:MET:SD   | 2.88                     | 0.60              |
| 1:A:145:TYR:HE2  | 1:B:9:GLN:CB     | 2.06                     | 0.60              |
| 1:B:444:VAL:HG23 | 1:C:185:ASN:OD1  | 2.01                     | 0.60              |
| 1:A:163:ASP:CB   | 1:B:53:GLN:OE1   | 2.48                     | 0.60              |
| 1:C:327:ILE:O    | 1:C:327:ILE:HG23 | 2.00                     | 0.60              |
| 1:A:147:HIS:CA   | 1:B:111:GLY:O    | 2.50                     | 0.60              |
| 1:A:195:VAL:HG11 | 1:B:464:PRO:C    | 2.22                     | 0.60              |
| 1:A:327:ILE:HG23 | 1:A:327:ILE:O    | 2.00                     | 0.60              |
| 1:A:13:PHE:O     | 1:A:329:ALA:HB2  | 2.01                     | 0.60              |
| 1:A:332:GLU:HA   | 1:A:358:LEU:HB3  | 1.82                     | 0.60              |
| 1:A:194:LEU:CD1  | 1:B:375:LYS:CB   | 2.73                     | 0.60              |
| 1:B:382:TYR:CE1  | 1:C:2:THR:CG2    | 2.83                     | 0.60              |
| 1:B:236:PRO:HB3  | 1:C:380:VAL:CG1  | 2.30                     | 0.60              |
| 1:C:69:LEU:CB    | 1:C:71:GLN:HE21  | 2.12                     | 0.60              |
| 1:C:258:LEU:CD1  | 1:C:317:PHE:CE1  | 2.85                     | 0.60              |
| 1:A:223:ALA:C    | 1:B:465:THR:HA   | 2.21                     | 0.60              |
| 1:A:251:ASN:HB2  | 1:A:290:GLY:O    | 2.01                     | 0.60              |
| 1:A:468:LEU:HD22 | 1:A:473:ILE:HG21 | 1.83                     | 0.60              |
| 1:A:9:GLN:HG3    | 1:A:58:THR:CB    | 2.18                     | 0.60              |
| 1:B:258:LEU:CD1  | 1:B:317:PHE:CE1  | 2.84                     | 0.60              |
| 1:A:194:LEU:CD1  | 1:B:375:LYS:CG   | 2.78                     | 0.60              |
| 1:A:183:VAL:HG13 | 1:A:184:LYS:H    | 1.66                     | 0.60              |
| 1:A:243:GLN:HA   | 1:A:249:VAL:CG1  | 2.31                     | 0.60              |
| 1:A:194:LEU:O    | 1:B:467:LYS:CE   | 2.50                     | 0.60              |
| 1:A:212:GLN:NE2  | 1:B:53:GLN:C     | 2.38                     | 0.60              |
| 1:C:387:ILE:CG2  | 1:C:395:MET:HA   | 2.28                     | 0.60              |
| 1:A:316:ALA:HA   | 1:A:319:ILE:HD11 | 1.82                     | 0.60              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:B:383:LYS:HZ3  | 1:C:5:ASP:C      | 2.05                     | 0.60              |
| 1:B:430:GLY:N    | 1:C:185:ASN:OD1  | 2.29                     | 0.60              |
| 1:B:459:PRO:O    | 1:B:460:ARG:HB2  | 2.01                     | 0.60              |
| 1:C:195:VAL:CA   | 1:C:200:ILE:HD12 | 2.30                     | 0.60              |
| 1:C:239:THR:HG21 | 1:C:253:PRO:CD   | 2.31                     | 0.60              |
| 1:C:255:TYR:CG   | 1:C:292:PHE:HE2  | 2.20                     | 0.60              |
| 1:C:2:THR:HB     | 1:C:3:PRO:CD     | 2.22                     | 0.60              |
| 1:A:243:GLN:CA   | 1:A:249:VAL:HG11 | 2.31                     | 0.60              |
| 1:A:255:TYR:CG   | 1:A:292:PHE:HE2  | 2.20                     | 0.60              |
| 1:B:255:TYR:CG   | 1:B:292:PHE:HE2  | 2.19                     | 0.60              |
| 1:C:28:ALA:HB3   | 1:C:348:TRP:CZ2  | 2.36                     | 0.60              |
| 1:A:221:LYS:HA   | 1:B:474:CYS:SG   | 2.39                     | 0.60              |
| 1:B:243:GLN:CA   | 1:B:249:VAL:HG11 | 2.31                     | 0.60              |
| 1:B:251:ASN:HB2  | 1:B:290:GLY:O    | 2.01                     | 0.60              |
| 1:B:28:ALA:HB3   | 1:B:348:TRP:CZ2  | 2.37                     | 0.60              |
| 1:A:188:TYR:OH   | 1:B:363:ALA:O    | 2.19                     | 0.60              |
| 1:B:399:THR:CG2  | 1:C:196:SER:C    | 2.69                     | 0.60              |
| 1:B:48:LYS:O     | 1:B:49:LEU:HB2   | 2.00                     | 0.60              |
| 1:B:52:ILE:O     | 1:B:55:MET:HB2   | 2.00                     | 0.60              |
| 1:C:183:VAL:HG13 | 1:C:184:LYS:H    | 1.66                     | 0.60              |
| 1:C:468:LEU:HD22 | 1:C:473:ILE:HG21 | 1.83                     | 0.60              |
| 1:A:58:THR:HG22  | 1:A:112:MET:HA   | 1.84                     | 0.60              |
| 1:A:205:ILE:HG12 | 1:B:472:LYS:N    | 2.14                     | 0.60              |
| 1:A:88:TYR:CE2   | 1:B:374:SER:N    | 2.66                     | 0.60              |
| 1:B:115:MET:HE1  | 1:B:228:ILE:HG13 | 1.84                     | 0.60              |
| 1:B:383:LYS:HZ3  | 1:C:5:ASP:CA     | 2.15                     | 0.60              |
| 1:B:472:LYS:O    | 1:B:473:ILE:HB   | 2.01                     | 0.60              |
| 1:C:316:ALA:HA   | 1:C:319:ILE:HD11 | 1.82                     | 0.60              |
| 1:C:11:ILE:CG2   | 1:C:326:ILE:HG12 | 2.32                     | 0.60              |
| 1:A:144:ASP:O    | 1:B:58:THR:C     | 2.41                     | 0.60              |
| 1:B:258:LEU:HD11 | 1:B:317:PHE:CE1  | 2.37                     | 0.60              |
| 1:C:243:GLN:CA   | 1:C:249:VAL:HG11 | 2.31                     | 0.60              |
| 1:C:243:GLN:HA   | 1:C:249:VAL:CG1  | 2.31                     | 0.60              |
| 1:A:200:ILE:CD1  | 1:B:467:LYS:HZ2  | 2.12                     | 0.59              |
| 1:A:180:LYS:HE2  | 1:B:57:PHE:CG    | 2.37                     | 0.59              |
| 1:C:229:GLY:HA3  | 1:C:246:MET:HE1  | 1.82                     | 0.59              |
| 1:C:435:GLU:OE1  | 1:C:436:VAL:HG12 | 2.02                     | 0.59              |
| 1:A:11:ILE:CG2   | 1:A:326:ILE:HG12 | 2.32                     | 0.59              |
| 1:A:258:LEU:HD11 | 1:A:317:PHE:CE1  | 2.37                     | 0.59              |
| 1:A:87:ILE:HD11  | 1:A:190:TRP:CZ2  | 2.37                     | 0.59              |
| 1:B:312:LYS:HG2  | 1:B:361:LEU:HD13 | 1.84                     | 0.59              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:B:11:ILE:CG1   | 1:B:324:LEU:HD23 | 2.24                     | 0.59              |
| 1:A:188:TYR:CE1  | 1:B:367:ALA:HB3  | 2.37                     | 0.59              |
| 1:C:251:ASN:HB2  | 1:C:290:GLY:O    | 2.01                     | 0.59              |
| 1:C:258:LEU:HD11 | 1:C:317:PHE:CE1  | 2.37                     | 0.59              |
| 1:C:87:ILE:HD11  | 1:C:190:TRP:CZ2  | 2.37                     | 0.59              |
| 1:A:258:LEU:CD1  | 1:A:317:PHE:CE1  | 2.85                     | 0.59              |
| 1:A:435:GLU:OE1  | 1:A:436:VAL:HG12 | 2.02                     | 0.59              |
| 1:B:213:LYS:CG   | 1:C:375:LYS:HG3  | 2.31                     | 0.59              |
| 1:B:236:PRO:HB3  | 1:B:278:THR:HG22 | 1.84                     | 0.59              |
| 1:B:11:ILE:CB    | 1:B:326:ILE:HG12 | 2.32                     | 0.59              |
| 1:A:222:ALA:HB2  | 1:B:368:ILE:HB   | 1.83                     | 0.59              |
| 1:A:11:ILE:CB    | 1:A:326:ILE:HG12 | 2.32                     | 0.59              |
| 1:A:182:VAL:HG13 | 1:A:183:VAL:N    | 2.17                     | 0.59              |
| 1:A:262:PHE:O    | 1:A:263:LYS:HG2  | 2.03                     | 0.59              |
| 1:A:312:LYS:HG2  | 1:A:361:LEU:HD13 | 1.85                     | 0.59              |
| 1:A:472:LYS:O    | 1:A:473:ILE:HB   | 2.01                     | 0.59              |
| 1:B:280:LYS:NZ   | 1:C:226:TYR:CB   | 2.58                     | 0.59              |
| 1:B:435:GLU:OE1  | 1:B:436:VAL:HG12 | 2.02                     | 0.59              |
| 1:C:58:THR:HG22  | 1:C:112:MET:HA   | 1.83                     | 0.59              |
| 1:C:258:LEU:HG   | 1:C:262:PHE:CE2  | 2.37                     | 0.59              |
| 1:C:312:LYS:HG2  | 1:C:361:LEU:HD13 | 1.85                     | 0.59              |
| 1:B:383:LYS:HB2  | 1:C:6:TRP:CD1    | 2.34                     | 0.59              |
| 1:A:187:TRP:CG   | 1:B:370:ASN:CB   | 2.81                     | 0.59              |
| 1:B:243:GLN:HA   | 1:B:249:VAL:CG1  | 2.31                     | 0.59              |
| 1:B:243:GLN:HB3  | 1:B:284:PRO:HD2  | 1.85                     | 0.59              |
| 1:B:262:PHE:O    | 1:B:263:LYS:HG2  | 2.03                     | 0.59              |
| 1:B:386:TYR:HD2  | 1:C:3:PRO:HB3    | 1.68                     | 0.59              |
| 1:A:187:TRP:HZ3  | 1:A:190:TRP:CZ3  | 2.21                     | 0.59              |
| 1:A:258:LEU:HG   | 1:A:262:PHE:CE2  | 2.38                     | 0.59              |
| 1:A:205:ILE:CB   | 1:B:478:SER:CB   | 2.81                     | 0.59              |
| 1:C:13:PHE:O     | 1:C:329:ALA:HB2  | 2.01                     | 0.59              |
| 1:A:251:ASN:HB3  | 1:A:254:ILE:HG22 | 1.84                     | 0.59              |
| 1:B:183:VAL:HG13 | 1:B:184:LYS:H    | 1.67                     | 0.59              |
| 1:B:216:TRP:HB2  | 1:B:245:VAL:CG2  | 2.29                     | 0.59              |
| 1:B:208:VAL:CG2  | 1:B:246:MET:SD   | 2.88                     | 0.59              |
| 1:A:228:ILE:HA   | 1:B:476:ASP:O    | 2.02                     | 0.59              |
| 1:C:315:ALA:CA   | 1:C:318:ILE:HG23 | 2.31                     | 0.59              |
| 1:A:211:VAL:HG11 | 1:A:216:TRP:CE2  | 2.38                     | 0.59              |
| 1:A:280:LYS:HE3  | 1:A:383:LYS:CB   | 2.33                     | 0.59              |
| 1:B:152:ILE:CD1  | 1:B:166:LEU:HA   | 2.28                     | 0.59              |
| 1:B:195:VAL:CA   | 1:B:200:ILE:HD12 | 2.30                     | 0.59              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:B:211:VAL:HG11 | 1:B:216:TRP:CE2  | 2.38                     | 0.59              |
| 1:B:300:ARG:NH1  | 1:B:328:TYR:CE1  | 2.69                     | 0.59              |
| 1:A:222:ALA:N    | 1:B:368:ILE:HD12 | 2.18                     | 0.59              |
| 1:B:406:THR:HG21 | 1:C:221:LYS:C    | 2.23                     | 0.59              |
| 1:B:399:THR:HG22 | 1:C:195:VAL:C    | 2.23                     | 0.59              |
| 1:B:422:LEU:CG   | 1:C:221:LYS:HG2  | 2.30                     | 0.59              |
| 1:C:243:GLN:HB3  | 1:C:284:PRO:HD2  | 1.84                     | 0.59              |
| 1:A:28:ALA:HB3   | 1:A:348:TRP:CZ2  | 2.36                     | 0.59              |
| 1:A:459:PRO:O    | 1:A:460:ARG:HB2  | 2.01                     | 0.59              |
| 1:B:11:ILE:CG2   | 1:B:326:ILE:HG12 | 2.32                     | 0.59              |
| 1:A:187:TRP:HB3  | 1:B:371:TYR:CA   | 2.31                     | 0.59              |
| 1:A:221:LYS:O    | 1:B:434:THR:CG2  | 2.51                     | 0.59              |
| 1:A:193:SER:O    | 1:B:467:LYS:HG2  | 2.03                     | 0.59              |
| 1:C:101:LYS:HE2  | 1:C:198:TYR:CD2  | 2.38                     | 0.59              |
| 1:C:11:ILE:CB    | 1:C:326:ILE:HG12 | 2.32                     | 0.59              |
| 1:C:300:ARG:NH1  | 1:C:328:TYR:CE1  | 2.69                     | 0.59              |
| 1:A:229:GLY:HA3  | 1:B:477:SER:O    | 1.71                     | 0.59              |
| 1:A:236:PRO:HB3  | 1:A:278:THR:HG22 | 1.84                     | 0.59              |
| 1:A:48:LYS:HA    | 1:A:48:LYS:HE3   | 1.85                     | 0.59              |
| 1:B:187:TRP:HZ3  | 1:B:190:TRP:CZ3  | 2.21                     | 0.59              |
| 1:B:258:LEU:HG   | 1:B:262:PHE:CE2  | 2.37                     | 0.59              |
| 1:B:315:ALA:CA   | 1:B:318:ILE:HG23 | 2.31                     | 0.59              |
| 1:A:200:ILE:CD1  | 1:B:467:LYS:CE   | 2.74                     | 0.59              |
| 1:B:280:LYS:CB   | 1:C:3:PRO:O      | 2.43                     | 0.59              |
| 1:A:101:LYS:HE2  | 1:A:198:TYR:CD2  | 2.38                     | 0.58              |
| 1:A:179:THR:OG1  | 1:B:52:ILE:CG1   | 2.49                     | 0.58              |
| 1:A:143:GLN:NE2  | 1:B:108:HIS:CA   | 2.66                     | 0.58              |
| 1:B:13:PHE:O     | 1:B:329:ALA:HB2  | 2.01                     | 0.58              |
| 1:C:187:TRP:HZ3  | 1:C:190:TRP:CZ3  | 2.21                     | 0.58              |
| 1:C:28:ALA:CB    | 1:C:348:TRP:HZ2  | 2.16                     | 0.58              |
| 1:A:182:VAL:H    | 1:B:57:PHE:HB3   | 1.65                     | 0.58              |
| 1:A:194:LEU:O    | 1:B:403:GLN:OE1  | 2.21                     | 0.58              |
| 1:A:28:ALA:CB    | 1:A:348:TRP:HZ2  | 2.16                     | 0.58              |
| 1:A:221:LYS:CB   | 1:B:434:THR:CG2  | 2.79                     | 0.58              |
| 1:B:468:LEU:HD22 | 1:B:473:ILE:HG21 | 1.83                     | 0.58              |
| 1:A:145:TYR:CD2  | 1:B:9:GLN:HG3    | 2.38                     | 0.58              |
| 1:C:137:PHE:CB   | 1:C:140:PHE:HB2  | 2.33                     | 0.58              |
| 1:C:262:PHE:O    | 1:C:263:LYS:HG2  | 2.03                     | 0.58              |
| 1:A:188:TYR:CD2  | 1:B:366:ASN:O    | 2.53                     | 0.58              |
| 1:A:60:ILE:CD1   | 1:A:107:LEU:HD13 | 2.32                     | 0.58              |
| 1:B:101:LYS:HE2  | 1:B:198:TYR:CD2  | 2.38                     | 0.58              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:B:103:LEU:O    | 1:B:106:ALA:HB3  | 2.03                     | 0.58              |
| 1:B:60:ILE:CD1   | 1:B:107:LEU:HD13 | 2.32                     | 0.58              |
| 1:B:137:PHE:CB   | 1:B:140:PHE:HB2  | 2.32                     | 0.58              |
| 1:B:308:ILE:CG2  | 1:B:312:LYS:HE3  | 2.30                     | 0.58              |
| 1:B:28:ALA:CB    | 1:B:348:TRP:HZ2  | 2.17                     | 0.58              |
| 1:A:194:LEU:HA   | 1:B:403:GLN:CG   | 2.33                     | 0.58              |
| 1:B:429:ALA:HB1  | 1:C:181:ASP:O    | 2.03                     | 0.58              |
| 1:C:208:VAL:CG2  | 1:C:246:MET:SD   | 2.88                     | 0.58              |
| 1:B:238:TYR:HD2  | 1:C:376:ASP:HB2  | 1.61                     | 0.58              |
| 1:A:15:LEU:O     | 1:A:16:THR:HG23  | 2.03                     | 0.58              |
| 1:A:204:ARG:HG3  | 1:A:228:ILE:CG2  | 2.34                     | 0.58              |
| 1:A:315:ALA:CA   | 1:A:318:ILE:HG23 | 2.31                     | 0.58              |
| 1:B:48:LYS:HE3   | 1:B:48:LYS:HA    | 1.85                     | 0.58              |
| 1:C:431:GLN:O    | 1:C:444:VAL:HG13 | 2.04                     | 0.58              |
| 1:C:91:ASN:C     | 1:C:92:GLU:HG3   | 2.20                     | 0.58              |
| 1:A:182:VAL:CB   | 1:B:10:SER:O     | 2.52                     | 0.58              |
| 1:B:251:ASN:HB3  | 1:B:254:ILE:HG22 | 1.84                     | 0.58              |
| 1:B:278:THR:CG2  | 1:C:381:THR:N    | 2.32                     | 0.58              |
| 1:B:24:GLY:O     | 1:B:348:TRP:CD1  | 2.56                     | 0.58              |
| 1:A:188:TYR:CE1  | 1:B:365:ALA:HA   | 2.39                     | 0.58              |
| 1:C:103:LEU:O    | 1:C:106:ALA:HB3  | 2.03                     | 0.58              |
| 1:C:236:PRO:HB3  | 1:C:278:THR:HG22 | 1.84                     | 0.58              |
| 1:C:459:PRO:O    | 1:C:460:ARG:HB2  | 2.01                     | 0.58              |
| 1:A:58:THR:CG2   | 1:A:112:MET:HA   | 2.33                     | 0.58              |
| 1:A:159:THR:O    | 1:A:160:GLN:HG3  | 2.03                     | 0.58              |
| 1:B:19:PHE:CD1   | 1:B:347:THR:HB   | 2.39                     | 0.58              |
| 1:B:243:GLN:OE1  | 1:B:289:LEU:HD12 | 2.04                     | 0.58              |
| 1:B:401:GLY:C    | 1:C:193:SER:OG   | 1.96                     | 0.58              |
| 1:B:91:ASN:C     | 1:B:92:GLU:HG3   | 2.20                     | 0.58              |
| 1:C:48:LYS:HE3   | 1:C:48:LYS:HA    | 1.85                     | 0.58              |
| 1:A:243:GLN:HB3  | 1:A:284:PRO:HD2  | 1.84                     | 0.58              |
| 1:A:300:ARG:NH1  | 1:A:328:TYR:CE1  | 2.69                     | 0.58              |
| 1:A:24:GLY:O     | 1:A:348:TRP:CD1  | 2.56                     | 0.58              |
| 1:A:364:SER:HB2  | 1:A:437:ILE:CG2  | 2.33                     | 0.58              |
| 1:A:431:GLN:O    | 1:A:444:VAL:HG13 | 2.04                     | 0.58              |
| 1:B:278:THR:C    | 1:C:380:VAL:CG1  | 2.69                     | 0.58              |
| 1:B:293:VAL:HG11 | 1:B:331:GLN:NE2  | 2.19                     | 0.58              |
| 1:B:87:ILE:HD11  | 1:B:190:TRP:CZ2  | 2.37                     | 0.58              |
| 1:C:24:GLY:O     | 1:C:348:TRP:CD1  | 2.56                     | 0.58              |
| 1:A:137:PHE:CB   | 1:A:140:PHE:HB2  | 2.32                     | 0.58              |
| 1:A:19:PHE:CD1   | 1:A:347:THR:HB   | 2.39                     | 0.58              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:200:ILE:HG22 | 1:B:468:LEU:H    | 1.68                     | 0.58              |
| 1:A:293:VAL:HG11 | 1:A:331:GLN:NE2  | 2.19                     | 0.58              |
| 1:B:443:THR:HG22 | 1:B:451:PRO:HG3  | 1.86                     | 0.58              |
| 1:C:319:ILE:CB   | 1:C:325:PRO:HB2  | 2.33                     | 0.58              |
| 1:C:293:VAL:HG11 | 1:C:331:GLN:NE2  | 2.19                     | 0.58              |
| 1:A:249:VAL:CA   | 1:B:477:SER:OG   | 2.51                     | 0.58              |
| 1:C:58:THR:CG2   | 1:C:112:MET:HA   | 2.33                     | 0.58              |
| 1:C:251:ASN:HB3  | 1:C:254:ILE:HG22 | 1.84                     | 0.58              |
| 1:B:385:PRO:CD   | 1:C:3:PRO:CD     | 2.76                     | 0.58              |
| 1:B:319:ILE:CB   | 1:B:325:PRO:HB2  | 2.33                     | 0.58              |
| 1:B:364:SER:HB2  | 1:B:437:ILE:CG2  | 2.33                     | 0.58              |
| 1:B:406:THR:HG23 | 1:C:221:LYS:O    | 2.01                     | 0.58              |
| 1:B:431:GLN:O    | 1:B:444:VAL:HG13 | 2.03                     | 0.58              |
| 1:C:243:GLN:OE1  | 1:C:289:LEU:HD12 | 2.04                     | 0.58              |
| 1:C:364:SER:HB2  | 1:C:437:ILE:CG2  | 2.33                     | 0.58              |
| 1:A:123:MET:SD   | 1:A:137:PHE:CD1  | 2.97                     | 0.57              |
| 1:A:219:TYR:HD1  | 1:B:472:LYS:O    | 1.87                     | 0.57              |
| 1:B:125:TYR:CE1  | 1:B:133:ASP:HB2  | 2.39                     | 0.57              |
| 1:B:159:THR:O    | 1:B:160:GLN:HG3  | 2.03                     | 0.57              |
| 1:B:204:ARG:HG3  | 1:B:228:ILE:CG2  | 2.34                     | 0.57              |
| 1:B:327:ILE:HA   | 1:B:331:GLN:OE1  | 2.04                     | 0.57              |
| 1:C:61:TRP:HZ2   | 1:C:204:ARG:NE   | 2.02                     | 0.57              |
| 1:C:211:VAL:HG11 | 1:C:216:TRP:CE2  | 2.38                     | 0.57              |
| 1:C:443:THR:HG22 | 1:C:451:PRO:HG3  | 1.86                     | 0.57              |
| 1:A:184:LYS:HB2  | 1:B:367:ALA:CB   | 2.32                     | 0.57              |
| 1:A:205:ILE:HD11 | 1:A:246:MET:HE3  | 1.85                     | 0.57              |
| 1:A:379:PHE:CZ   | 1:A:397:LYS:CE   | 2.87                     | 0.57              |
| 1:A:418:TYR:CD1  | 1:A:454:MET:CE   | 2.87                     | 0.57              |
| 1:A:443:THR:HG22 | 1:A:451:PRO:HG3  | 1.86                     | 0.57              |
| 1:A:191:VAL:HG13 | 1:B:372:ALA:N    | 2.16                     | 0.57              |
| 1:B:418:TYR:CD1  | 1:B:454:MET:HE3  | 2.39                     | 0.57              |
| 1:C:308:ILE:CG2  | 1:C:312:LYS:HE3  | 2.30                     | 0.57              |
| 1:C:379:PHE:CZ   | 1:C:397:LYS:CE   | 2.87                     | 0.57              |
| 1:C:60:ILE:CD1   | 1:C:107:LEU:HD13 | 2.32                     | 0.57              |
| 1:A:118:VAL:HG22 | 1:B:375:LYS:HE2  | 1.85                     | 0.57              |
| 1:A:194:LEU:HA   | 1:B:403:GLN:OE1  | 2.04                     | 0.57              |
| 1:A:243:GLN:OE1  | 1:A:289:LEU:HD12 | 2.04                     | 0.57              |
| 1:B:15:LEU:O     | 1:B:16:THR:HG23  | 2.03                     | 0.57              |
| 1:B:187:TRP:CE3  | 1:B:190:TRP:CZ3  | 2.92                     | 0.57              |
| 1:B:444:VAL:CG2  | 1:C:185:ASN:OD1  | 2.52                     | 0.57              |
| 1:C:123:MET:SD   | 1:C:137:PHE:CD1  | 2.97                     | 0.57              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:C:280:LYS:HE3  | 1:C:383:LYS:CB   | 2.33                     | 0.57              |
| 1:C:418:TYR:CD1  | 1:C:454:MET:CE   | 2.87                     | 0.57              |
| 1:A:103:LEU:O    | 1:A:106:ALA:HB3  | 2.03                     | 0.57              |
| 1:A:182:VAL:HG21 | 1:B:58:THR:CB    | 2.34                     | 0.57              |
| 1:A:208:VAL:CG2  | 1:A:246:MET:SD   | 2.88                     | 0.57              |
| 1:A:319:ILE:CB   | 1:A:325:PRO:HB2  | 2.33                     | 0.57              |
| 1:A:147:HIS:CA   | 1:B:112:MET:HE3  | 2.16                     | 0.57              |
| 1:B:190:TRP:CE3  | 1:B:191:VAL:HG12 | 2.40                     | 0.57              |
| 1:B:57:PHE:CZ    | 1:B:327:ILE:HD13 | 2.40                     | 0.57              |
| 1:A:204:ARG:O    | 1:B:471:SER:CB   | 2.53                     | 0.57              |
| 1:A:57:PHE:CZ    | 1:A:327:ILE:HD13 | 2.40                     | 0.57              |
| 1:B:418:TYR:CD1  | 1:B:454:MET:CE   | 2.87                     | 0.57              |
| 1:A:200:ILE:CD1  | 1:B:467:LYS:HG3  | 2.34                     | 0.57              |
| 1:C:15:LEU:O     | 1:C:16:THR:HG23  | 2.03                     | 0.57              |
| 1:C:279:VAL:HG13 | 1:C:280:LYS:H    | 1.69                     | 0.57              |
| 1:B:277:ASN:HB2  | 1:C:286:SER:OG   | 2.05                     | 0.57              |
| 1:C:19:PHE:CD1   | 1:C:347:THR:HB   | 2.39                     | 0.57              |
| 1:A:215:PHE:CE2  | 1:B:367:ALA:CB   | 2.88                     | 0.57              |
| 1:A:252:TYR:N    | 1:A:253:PRO:HD2  | 2.20                     | 0.57              |
| 1:A:116:VAL:C    | 1:B:470:GLY:H    | 1.96                     | 0.57              |
| 1:C:136:VAL:HG12 | 1:C:136:VAL:O    | 2.05                     | 0.57              |
| 1:C:204:ARG:HG3  | 1:C:228:ILE:CG2  | 2.34                     | 0.57              |
| 1:C:252:TYR:N    | 1:C:253:PRO:HD2  | 2.20                     | 0.57              |
| 1:C:57:PHE:CZ    | 1:C:327:ILE:HD13 | 2.40                     | 0.57              |
| 1:A:136:VAL:O    | 1:A:136:VAL:HG12 | 2.05                     | 0.57              |
| 1:A:182:VAL:HG13 | 1:B:56:GLY:O     | 2.04                     | 0.57              |
| 1:A:200:ILE:CG2  | 1:B:468:LEU:N    | 2.68                     | 0.57              |
| 1:A:327:ILE:HA   | 1:A:331:GLN:OE1  | 2.04                     | 0.57              |
| 1:B:60:ILE:HD12  | 1:B:107:LEU:CD1  | 2.35                     | 0.57              |
| 1:B:136:VAL:HG12 | 1:B:136:VAL:O    | 2.05                     | 0.57              |
| 1:B:61:TRP:HZ2   | 1:B:204:ARG:NE   | 2.03                     | 0.57              |
| 1:B:213:LYS:HG2  | 1:C:375:LYS:HE2  | 1.87                     | 0.57              |
| 1:B:211:VAL:HB   | 1:B:216:TRP:CH2  | 2.40                     | 0.57              |
| 1:B:52:ILE:HD11  | 1:B:112:MET:HE1  | 1.87                     | 0.57              |
| 1:C:159:THR:O    | 1:C:160:GLN:HG3  | 2.03                     | 0.57              |
| 1:C:187:TRP:CE3  | 1:C:190:TRP:CZ3  | 2.92                     | 0.57              |
| 1:A:436:VAL:HG22 | 1:A:437:ILE:H    | 1.70                     | 0.57              |
| 1:A:184:LYS:CE   | 1:B:366:ASN:HD22 | 2.18                     | 0.57              |
| 1:A:195:VAL:HG12 | 1:B:464:PRO:HG2  | 1.85                     | 0.57              |
| 1:C:10:SER:HB3   | 1:C:57:PHE:CB    | 2.35                     | 0.57              |
| 1:A:125:TYR:CE1  | 1:A:133:ASP:HB2  | 2.39                     | 0.57              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:187:TRP:CE3  | 1:A:190:TRP:CZ3  | 2.92                     | 0.57              |
| 1:A:187:TRP:CE3  | 1:B:374:SER:OG   | 2.53                     | 0.57              |
| 1:A:190:TRP:CE3  | 1:A:191:VAL:HG12 | 2.40                     | 0.57              |
| 1:A:222:ALA:HB3  | 1:B:473:ILE:HG12 | 1.86                     | 0.57              |
| 1:A:165:TRP:CD1  | 1:B:110:ARG:CB   | 2.88                     | 0.57              |
| 1:B:400:ASP:HB2  | 1:C:193:SER:C    | 2.10                     | 0.57              |
| 1:B:407:ILE:HG12 | 1:B:461:VAL:HG13 | 1.87                     | 0.57              |
| 1:C:123:MET:HE3  | 1:C:140:PHE:CE1  | 2.37                     | 0.57              |
| 1:C:125:TYR:CE1  | 1:C:133:ASP:HB2  | 2.39                     | 0.57              |
| 1:C:216:TRP:HB2  | 1:C:217:PRO:HD3  | 1.86                     | 0.57              |
| 1:B:386:TYR:CE1  | 1:C:288:LEU:HD12 | 2.39                     | 0.57              |
| 1:A:279:VAL:HG13 | 1:A:280:LYS:H    | 1.69                     | 0.57              |
| 1:B:216:TRP:HB2  | 1:B:217:PRO:HD3  | 1.86                     | 0.57              |
| 1:C:190:TRP:CE3  | 1:C:191:VAL:HG12 | 2.40                     | 0.57              |
| 1:C:211:VAL:HB   | 1:C:216:TRP:CH2  | 2.40                     | 0.57              |
| 1:A:123:MET:HE1  | 1:A:140:PHE:HE1  | 1.69                     | 0.56              |
| 1:A:230:GLU:C    | 1:A:250:LEU:HD23 | 2.25                     | 0.56              |
| 1:A:165:TRP:CD1  | 1:B:110:ARG:HB2  | 2.40                     | 0.56              |
| 1:B:238:TYR:CB   | 1:C:376:ASP:HB2  | 2.35                     | 0.56              |
| 1:B:386:TYR:CG   | 1:C:288:LEU:HD11 | 2.35                     | 0.56              |
| 1:B:213:LYS:CE   | 1:C:375:LYS:HG2  | 2.34                     | 0.56              |
| 1:A:187:TRP:CE3  | 1:A:190:TRP:CE3  | 2.94                     | 0.56              |
| 1:A:69:LEU:CB    | 1:A:71:GLN:HE21  | 2.12                     | 0.56              |
| 1:B:401:GLY:N    | 1:C:193:SER:CB   | 2.68                     | 0.56              |
| 1:B:383:LYS:HG2  | 1:C:113:TYR:HE1  | 1.66                     | 0.56              |
| 1:C:263:LYS:HA   | 1:C:310:LEU:HD23 | 1.86                     | 0.56              |
| 1:C:407:ILE:HG12 | 1:C:461:VAL:HG13 | 1.87                     | 0.56              |
| 1:A:190:TRP:CZ2  | 1:B:375:LYS:CG   | 2.88                     | 0.56              |
| 1:A:204:ARG:NH1  | 1:A:230:GLU:HG2  | 2.21                     | 0.56              |
| 1:A:407:ILE:HG12 | 1:A:461:VAL:HG13 | 1.87                     | 0.56              |
| 1:A:61:TRP:HZ2   | 1:A:204:ARG:NE   | 2.03                     | 0.56              |
| 1:A:91:ASN:C     | 1:A:92:GLU:HG3   | 2.20                     | 0.56              |
| 1:B:182:VAL:HG13 | 1:B:183:VAL:HG12 | 1.87                     | 0.56              |
| 1:B:445:GLY:CA   | 1:C:185:ASN:HB2  | 2.35                     | 0.56              |
| 1:C:327:ILE:HA   | 1:C:331:GLN:OE1  | 2.04                     | 0.56              |
| 1:B:230:GLU:C    | 1:B:250:LEU:HD23 | 2.25                     | 0.56              |
| 1:B:263:LYS:HA   | 1:B:310:LEU:HD23 | 1.86                     | 0.56              |
| 1:B:379:PHE:CZ   | 1:B:397:LYS:CE   | 2.87                     | 0.56              |
| 1:B:400:ASP:HA   | 1:C:195:VAL:N    | 2.19                     | 0.56              |
| 1:C:152:ILE:CD1  | 1:C:166:LEU:HA   | 2.28                     | 0.56              |
| 1:B:446:SER:CB   | 1:C:181:ASP:N    | 2.31                     | 0.56              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:C:187:TRP:CE3  | 1:C:190:TRP:CE3  | 2.94                     | 0.56              |
| 1:C:230:GLU:C    | 1:C:250:LEU:HD23 | 2.25                     | 0.56              |
| 1:A:215:PHE:CE1  | 1:B:472:LYS:CB   | 2.88                     | 0.56              |
| 1:A:216:TRP:HB2  | 1:A:217:PRO:HD3  | 1.86                     | 0.56              |
| 1:B:2:THR:CB     | 1:B:3:PRO:HD2    | 2.18                     | 0.56              |
| 1:A:205:ILE:HG12 | 1:B:476:ASP:OD1  | 2.02                     | 0.56              |
| 1:A:205:ILE:CD1  | 1:B:478:SER:CB   | 2.52                     | 0.56              |
| 1:A:60:ILE:HD12  | 1:A:107:LEU:CD1  | 2.35                     | 0.56              |
| 1:A:218:GLY:HA3  | 1:B:364:SER:CA   | 2.33                     | 0.56              |
| 1:A:25:SER:HB3   | 1:A:28:ALA:HB2   | 1.87                     | 0.56              |
| 1:A:379:PHE:CE1  | 1:A:397:LYS:CE   | 2.88                     | 0.56              |
| 1:B:321:ASN:HA   | 1:B:384:ASN:ND2  | 2.21                     | 0.56              |
| 1:C:180:LYS:NZ   | 1:C:182:VAL:HB   | 2.20                     | 0.56              |
| 1:C:295:ASN:O    | 1:C:298:ASN:HB2  | 2.05                     | 0.56              |
| 1:A:295:ASN:O    | 1:A:298:ASN:HB2  | 2.05                     | 0.56              |
| 1:B:123:MET:SD   | 1:B:137:PHE:CD1  | 2.97                     | 0.56              |
| 1:B:187:TRP:CE3  | 1:B:190:TRP:CE3  | 2.93                     | 0.56              |
| 1:B:295:ASN:O    | 1:B:298:ASN:HB2  | 2.05                     | 0.56              |
| 1:A:178:THR:HB   | 1:B:58:THR:HA    | 1.88                     | 0.56              |
| 1:A:382:TYR:HE1  | 1:A:385:PRO:HD3  | 1.70                     | 0.56              |
| 1:A:401:GLY:O    | 1:A:467:LYS:HE3  | 2.06                     | 0.56              |
| 1:A:180:LYS:CE   | 1:B:11:ILE:CA    | 2.84                     | 0.56              |
| 1:B:252:TYR:N    | 1:B:253:PRO:HD2  | 2.20                     | 0.56              |
| 1:C:204:ARG:NH1  | 1:C:230:GLU:HG2  | 2.20                     | 0.56              |
| 1:C:418:TYR:CD1  | 1:C:454:MET:HE3  | 2.41                     | 0.56              |
| 1:C:60:ILE:HD12  | 1:C:107:LEU:CD1  | 2.35                     | 0.56              |
| 1:A:199:SER:C    | 1:A:200:ILE:HG13 | 2.16                     | 0.56              |
| 1:B:185:ASN:O    | 1:B:188:TYR:HB2  | 2.06                     | 0.56              |
| 1:B:216:TRP:CE3  | 1:B:216:TRP:CA   | 2.89                     | 0.56              |
| 1:B:255:TYR:HD2  | 1:B:256:TYR:N    | 2.04                     | 0.56              |
| 1:B:468:LEU:CD2  | 1:B:473:ILE:HG21 | 2.36                     | 0.56              |
| 1:B:99:ASP:O     | 1:B:102:ALA:HB3  | 2.05                     | 0.56              |
| 1:C:115:MET:HE2  | 1:C:204:ARG:HB2  | 1.85                     | 0.56              |
| 1:C:152:ILE:HD11 | 1:C:166:LEU:HG   | 1.87                     | 0.56              |
| 1:C:137:PHE:HZ   | 1:C:174:PRO:HG3  | 1.71                     | 0.56              |
| 1:C:401:GLY:O    | 1:C:467:LYS:HE3  | 2.06                     | 0.56              |
| 1:A:263:LYS:HA   | 1:A:310:LEU:HD23 | 1.86                     | 0.56              |
| 1:A:10:SER:HB3   | 1:A:57:PHE:CB    | 2.35                     | 0.56              |
| 1:B:209:LYS:CB   | 1:B:231:VAL:HG11 | 2.36                     | 0.56              |
| 1:A:187:TRP:CA   | 1:B:367:ALA:O    | 2.53                     | 0.56              |
| 1:B:383:LYS:NZ   | 1:C:6:TRP:H      | 1.93                     | 0.56              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:C:255:TYR:HD2  | 1:C:256:TYR:N    | 2.04                     | 0.56              |
| 1:C:321:ASN:HA   | 1:C:384:ASN:ND2  | 2.21                     | 0.56              |
| 1:C:379:PHE:CE1  | 1:C:397:LYS:CE   | 2.88                     | 0.56              |
| 1:C:468:LEU:CD2  | 1:C:473:ILE:HG21 | 2.36                     | 0.56              |
| 1:C:468:LEU:CD2  | 1:C:473:ILE:HG12 | 2.34                     | 0.56              |
| 1:A:137:PHE:HZ   | 1:A:174:PRO:HG3  | 1.71                     | 0.56              |
| 1:A:180:LYS:NZ   | 1:B:11:ILE:N     | 2.53                     | 0.56              |
| 1:A:209:LYS:N    | 1:A:231:VAL:HG11 | 2.21                     | 0.56              |
| 1:A:216:TRP:CE3  | 1:A:216:TRP:CA   | 2.89                     | 0.56              |
| 1:B:25:SER:HB3   | 1:B:28:ALA:HB2   | 1.87                     | 0.56              |
| 1:A:205:ILE:CB   | 1:B:478:SER:OG   | 2.39                     | 0.56              |
| 1:C:209:LYS:N    | 1:C:231:VAL:HG11 | 2.21                     | 0.56              |
| 1:B:386:TYR:CE1  | 1:C:288:LEU:CD1  | 2.89                     | 0.56              |
| 1:C:436:VAL:HG22 | 1:C:437:ILE:H    | 1.70                     | 0.56              |
| 1:A:211:VAL:HB   | 1:A:216:TRP:CH2  | 2.40                     | 0.55              |
| 1:B:137:PHE:HZ   | 1:B:174:PRO:HG3  | 1.71                     | 0.55              |
| 1:B:193:SER:O    | 1:B:196:SER:HB3  | 2.07                     | 0.55              |
| 1:C:73:CYS:HB3   | 1:C:126:ASP:OD1  | 2.06                     | 0.55              |
| 1:B:424:GLY:O    | 1:C:218:GLY:HA2  | 2.05                     | 0.55              |
| 1:C:209:LYS:CB   | 1:C:231:VAL:HG11 | 2.36                     | 0.55              |
| 1:A:12:TYR:CE1   | 1:A:14:LEU:CD2   | 2.89                     | 0.55              |
| 1:A:152:ILE:HD11 | 1:A:166:LEU:HG   | 1.87                     | 0.55              |
| 1:B:152:ILE:HD11 | 1:B:166:LEU:HG   | 1.87                     | 0.55              |
| 1:B:403:GLN:NE2  | 1:C:196:SER:OG   | 2.39                     | 0.55              |
| 1:B:436:VAL:HG22 | 1:B:437:ILE:H    | 1.70                     | 0.55              |
| 1:A:192:GLY:C    | 1:B:464:PRO:CG   | 2.74                     | 0.55              |
| 1:C:382:TYR:HE1  | 1:C:385:PRO:HD3  | 1.70                     | 0.55              |
| 1:A:147:HIS:NE2  | 1:A:163:ASP:HB3  | 2.20                     | 0.55              |
| 1:A:73:CYS:HB3   | 1:A:126:ASP:OD1  | 2.06                     | 0.55              |
| 1:B:73:CYS:HB3   | 1:B:126:ASP:OD1  | 2.06                     | 0.55              |
| 1:C:216:TRP:CE3  | 1:C:216:TRP:CA   | 2.89                     | 0.55              |
| 1:B:282:ASP:OD1  | 1:C:379:PHE:HD2  | 1.89                     | 0.55              |
| 1:C:418:TYR:CE1  | 1:C:454:MET:HE2  | 2.42                     | 0.55              |
| 1:A:182:VAL:N    | 1:B:57:PHE:N     | 2.54                     | 0.55              |
| 1:B:448:GLY:C    | 1:C:184:LYS:HZ2  | 2.08                     | 0.55              |
| 1:C:25:SER:HB3   | 1:C:28:ALA:HB2   | 1.87                     | 0.55              |
| 1:A:75:TYR:HE1   | 1:A:170:THR:HG21 | 1.71                     | 0.55              |
| 1:A:185:ASN:N    | 1:B:366:ASN:HB3  | 2.16                     | 0.55              |
| 1:A:99:ASP:O     | 1:A:102:ALA:HB3  | 2.06                     | 0.55              |
| 1:B:147:HIS:NE2  | 1:B:163:ASP:HB3  | 2.20                     | 0.55              |
| 1:B:209:LYS:N    | 1:B:231:VAL:HG11 | 2.21                     | 0.55              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:B:382:TYR:HE1  | 1:B:385:PRO:HD3  | 1.70                     | 0.55              |
| 1:A:221:LYS:NZ   | 1:B:436:VAL:O    | 2.35                     | 0.55              |
| 1:A:222:ALA:HB2  | 1:B:368:ILE:HD12 | 1.83                     | 0.55              |
| 1:A:255:TYR:CD2  | 1:A:256:TYR:N    | 2.75                     | 0.55              |
| 1:A:255:TYR:HD2  | 1:A:256:TYR:N    | 2.04                     | 0.55              |
| 1:C:182:VAL:HG13 | 1:C:183:VAL:HG12 | 1.87                     | 0.55              |
| 1:A:212:GLN:OE1  | 1:B:53:GLN:O     | 2.24                     | 0.55              |
| 1:A:184:LYS:CB   | 1:B:363:ALA:O    | 2.54                     | 0.55              |
| 1:A:193:SER:HB3  | 1:B:376:ASP:OD1  | 2.07                     | 0.55              |
| 1:A:254:ILE:HD11 | 1:A:321:ASN:HD21 | 1.72                     | 0.55              |
| 1:A:321:ASN:HA   | 1:A:384:ASN:ND2  | 2.21                     | 0.55              |
| 1:A:468:LEU:CD2  | 1:A:473:ILE:HG21 | 2.36                     | 0.55              |
| 1:B:230:GLU:O    | 1:B:250:LEU:HD23 | 2.07                     | 0.55              |
| 1:B:294:GLU:HB3  | 1:B:300:ARG:HA   | 1.89                     | 0.55              |
| 1:A:225:VAL:N    | 1:B:465:THR:CA   | 2.67                     | 0.55              |
| 1:B:401:GLY:O    | 1:B:467:LYS:HE3  | 2.06                     | 0.55              |
| 1:A:208:VAL:N    | 1:B:472:LYS:HE2  | 2.19                     | 0.55              |
| 1:A:249:VAL:N    | 1:B:477:SER:HB3  | 2.22                     | 0.55              |
| 1:C:254:ILE:HD11 | 1:C:321:ASN:HD21 | 1.72                     | 0.55              |
| 1:A:180:LYS:HZ3  | 1:B:57:PHE:CB    | 1.91                     | 0.55              |
| 1:A:182:VAL:HG13 | 1:A:183:VAL:HG12 | 1.88                     | 0.55              |
| 1:A:185:ASN:ND2  | 1:B:319:ILE:CG1  | 2.70                     | 0.55              |
| 1:A:190:TRP:HH2  | 1:B:375:LYS:NZ   | 2.02                     | 0.55              |
| 1:A:385:PRO:HG2  | 1:A:396:ARG:H    | 1.72                     | 0.55              |
| 1:B:137:PHE:O    | 1:B:139:PRO:HD3  | 2.07                     | 0.55              |
| 1:C:138:LYS:HA   | 1:C:140:PHE:H    | 1.72                     | 0.55              |
| 1:C:199:SER:C    | 1:C:200:ILE:HG13 | 2.16                     | 0.55              |
| 1:A:209:LYS:CB   | 1:A:231:VAL:HG11 | 2.36                     | 0.55              |
| 1:A:308:ILE:CG2  | 1:A:312:LYS:HE3  | 2.30                     | 0.55              |
| 1:B:238:TYR:CA   | 1:C:376:ASP:CG   | 2.75                     | 0.55              |
| 1:B:254:ILE:HD11 | 1:B:321:ASN:HD21 | 1.72                     | 0.55              |
| 1:B:385:PRO:HG2  | 1:B:396:ARG:H    | 1.72                     | 0.55              |
| 1:B:418:TYR:CE1  | 1:B:454:MET:HE2  | 2.42                     | 0.55              |
| 1:B:431:GLN:HA   | 1:B:431:GLN:NE2  | 2.18                     | 0.55              |
| 1:A:221:LYS:C    | 1:B:434:THR:HG22 | 2.27                     | 0.55              |
| 1:B:468:LEU:CD2  | 1:B:473:ILE:HG12 | 2.34                     | 0.55              |
| 1:B:424:GLY:O    | 1:C:218:GLY:C    | 2.44                     | 0.55              |
| 1:B:204:ARG:NH1  | 1:B:230:GLU:HG2  | 2.21                     | 0.54              |
| 1:B:255:TYR:CD1  | 1:B:292:PHE:CD2  | 2.96                     | 0.54              |
| 1:B:428:THR:HB   | 1:C:186:GLU:O    | 2.06                     | 0.54              |
| 1:C:147:HIS:NE2  | 1:C:163:ASP:HB3  | 2.20                     | 0.54              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:138:LYS:HA   | 1:A:140:PHE:H    | 1.72                     | 0.54              |
| 1:A:230:GLU:O    | 1:A:250:LEU:HD23 | 2.07                     | 0.54              |
| 1:A:294:GLU:HB3  | 1:A:300:ARG:HA   | 1.89                     | 0.54              |
| 1:B:236:PRO:HG3  | 1:C:381:THR:OG1  | 2.07                     | 0.54              |
| 1:B:255:TYR:CD2  | 1:B:256:TYR:N    | 2.75                     | 0.54              |
| 1:B:385:PRO:HA   | 1:C:3:PRO:HB3    | 1.88                     | 0.54              |
| 1:B:426:SER:N    | 1:C:219:TYR:O    | 2.23                     | 0.54              |
| 1:B:205:ILE:O    | 1:B:230:GLU:HG3  | 2.07                     | 0.54              |
| 1:A:180:LYS:CA   | 1:B:55:MET:HG3   | 2.21                     | 0.54              |
| 1:A:180:LYS:HZ2  | 1:B:57:PHE:CB    | 2.20                     | 0.54              |
| 1:C:185:ASN:CA   | 1:C:188:TYR:CD2  | 2.79                     | 0.54              |
| 1:C:57:PHE:HZ    | 1:C:327:ILE:HD13 | 1.73                     | 0.54              |
| 1:A:205:ILE:O    | 1:A:230:GLU:HG3  | 2.07                     | 0.54              |
| 1:B:379:PHE:CE1  | 1:B:397:LYS:CE   | 2.89                     | 0.54              |
| 1:C:32:THR:CG2   | 1:C:342:ALA:HA   | 2.28                     | 0.54              |
| 1:C:420:LEU:CD2  | 1:C:452:VAL:CG2  | 2.83                     | 0.54              |
| 1:C:99:ASP:O     | 1:C:102:ALA:HB3  | 2.06                     | 0.54              |
| 1:A:137:PHE:O    | 1:A:139:PRO:HD3  | 2.07                     | 0.54              |
| 1:A:250:LEU:CD1  | 1:A:292:PHE:CE1  | 2.91                     | 0.54              |
| 1:B:137:PHE:CG   | 1:B:146:PHE:CZ   | 2.95                     | 0.54              |
| 1:B:180:LYS:NZ   | 1:B:182:VAL:HB   | 2.21                     | 0.54              |
| 1:B:399:THR:CG2  | 1:C:196:SER:CA   | 2.84                     | 0.54              |
| 1:A:115:MET:CE   | 1:B:470:GLY:CA   | 2.84                     | 0.54              |
| 1:A:205:ILE:HD12 | 1:B:478:SER:OG   | 2.06                     | 0.54              |
| 1:A:144:ASP:OD1  | 1:B:6:TRP:CH2    | 2.59                     | 0.54              |
| 1:B:280:LYS:HZ1  | 1:C:226:TYR:HB2  | 1.67                     | 0.54              |
| 1:C:255:TYR:CD2  | 1:C:256:TYR:N    | 2.75                     | 0.54              |
| 1:C:294:GLU:HB3  | 1:C:300:ARG:HA   | 1.89                     | 0.54              |
| 1:B:238:TYR:O    | 1:C:377:THR:N    | 2.40                     | 0.54              |
| 1:C:313:ASN:ND2  | 1:C:410:ASN:O    | 2.40                     | 0.54              |
| 1:A:255:TYR:CD1  | 1:A:292:PHE:CD2  | 2.96                     | 0.54              |
| 1:B:12:TYR:CE1   | 1:B:14:LEU:CD2   | 2.89                     | 0.54              |
| 1:B:138:LYS:HA   | 1:B:140:PHE:H    | 1.72                     | 0.54              |
| 1:B:313:ASN:ND2  | 1:B:410:ASN:O    | 2.40                     | 0.54              |
| 1:C:216:TRP:HB2  | 1:C:217:PRO:CD   | 2.38                     | 0.54              |
| 1:C:250:LEU:CD1  | 1:C:292:PHE:CE1  | 2.91                     | 0.54              |
| 1:A:313:ASN:ND2  | 1:A:410:ASN:O    | 2.40                     | 0.54              |
| 1:A:182:VAL:HG21 | 1:B:58:THR:CA    | 2.13                     | 0.54              |
| 1:C:214:ASP:O    | 1:C:217:PRO:HG2  | 2.07                     | 0.54              |
| 1:C:230:GLU:O    | 1:C:250:LEU:HD23 | 2.07                     | 0.54              |
| 1:C:255:TYR:CD1  | 1:C:292:PHE:CD2  | 2.96                     | 0.54              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:C:385:PRO:HG2  | 1:C:396:ARG:H    | 1.72                     | 0.54              |
| 1:A:248:GLY:C    | 1:B:477:SER:CB   | 2.68                     | 0.54              |
| 1:B:148:PRO:O    | 1:B:165:TRP:CD1  | 2.61                     | 0.54              |
| 1:B:250:LEU:CD1  | 1:B:292:PHE:CE1  | 2.91                     | 0.54              |
| 1:B:385:PRO:HB3  | 1:C:226:TYR:CA   | 2.37                     | 0.54              |
| 1:B:387:ILE:HG13 | 1:B:424:GLY:HA3  | 1.89                     | 0.54              |
| 1:A:197:ASN:C    | 1:B:467:LYS:NZ   | 2.57                     | 0.54              |
| 1:C:148:PRO:O    | 1:C:165:TRP:CD1  | 2.61                     | 0.54              |
| 1:B:241:PRO:CA   | 1:C:374:SER:CA   | 2.59                     | 0.54              |
| 1:A:221:LYS:HG3  | 1:B:434:THR:HG23 | 1.90                     | 0.54              |
| 1:A:420:LEU:CD2  | 1:A:452:VAL:CG2  | 2.83                     | 0.54              |
| 1:A:165:TRP:CE2  | 1:B:110:ARG:CA   | 2.75                     | 0.54              |
| 1:B:147:HIS:CE1  | 1:B:163:ASP:CB   | 2.90                     | 0.54              |
| 1:B:16:THR:CG2   | 1:B:42:TRP:CD1   | 2.91                     | 0.54              |
| 1:B:229:GLY:N    | 1:B:246:MET:HE1  | 2.22                     | 0.54              |
| 1:A:221:LYS:HB2  | 1:B:436:VAL:HA   | 1.65                     | 0.54              |
| 1:A:200:ILE:CD1  | 1:B:467:LYS:HD2  | 2.36                     | 0.54              |
| 1:C:137:PHE:CG   | 1:C:146:PHE:CZ   | 2.95                     | 0.54              |
| 1:C:205:ILE:O    | 1:C:230:GLU:HG3  | 2.07                     | 0.54              |
| 1:B:213:LYS:NZ   | 1:C:375:LYS:HG2  | 2.23                     | 0.54              |
| 1:A:137:PHE:CG   | 1:A:146:PHE:CZ   | 2.95                     | 0.54              |
| 1:A:148:PRO:O    | 1:A:165:TRP:CD1  | 2.61                     | 0.54              |
| 1:A:216:TRP:HB2  | 1:A:217:PRO:CD   | 2.38                     | 0.54              |
| 1:A:57:PHE:HZ    | 1:A:327:ILE:HD13 | 1.73                     | 0.54              |
| 1:A:428:THR:CG2  | 1:A:431:GLN:HG2  | 2.39                     | 0.54              |
| 1:B:214:ASP:O    | 1:B:217:PRO:HG2  | 2.07                     | 0.54              |
| 1:B:238:TYR:CD2  | 1:C:376:ASP:CB   | 2.73                     | 0.54              |
| 1:A:184:LYS:CB   | 1:B:367:ALA:HB2  | 2.38                     | 0.54              |
| 1:B:45:ILE:O     | 1:B:49:LEU:HD13  | 2.08                     | 0.54              |
| 1:C:75:TYR:HE1   | 1:C:170:THR:HG21 | 1.71                     | 0.54              |
| 1:A:75:TYR:CE1   | 1:A:170:THR:CG2  | 2.91                     | 0.53              |
| 1:A:188:TYR:CE1  | 1:B:365:ALA:CA   | 2.70                     | 0.53              |
| 1:A:180:LYS:CE   | 1:B:12:TYR:HB2   | 2.37                     | 0.53              |
| 1:B:137:PHE:O    | 1:B:140:PHE:CD1  | 2.62                     | 0.53              |
| 1:B:395:MET:SD   | 1:B:407:ILE:HD12 | 2.49                     | 0.53              |
| 1:C:137:PHE:O    | 1:C:140:PHE:CD1  | 2.61                     | 0.53              |
| 1:C:147:HIS:CE1  | 1:C:163:ASP:CB   | 2.90                     | 0.53              |
| 1:A:468:LEU:CD2  | 1:A:473:ILE:HG12 | 2.34                     | 0.53              |
| 1:B:75:TYR:HE1   | 1:B:170:THR:HG21 | 1.71                     | 0.53              |
| 1:B:190:TRP:CZ3  | 1:B:191:VAL:HG12 | 2.43                     | 0.53              |
| 1:B:29:THR:O     | 1:B:30:CYS:HB2   | 2.08                     | 0.53              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:57:PHE:CZ    | 1:A:362:ILE:CG2  | 2.91                     | 0.53              |
| 1:A:395:MET:SD   | 1:A:407:ILE:HD12 | 2.49                     | 0.53              |
| 1:B:32:THR:CG2   | 1:B:342:ALA:HA   | 2.28                     | 0.53              |
| 1:C:137:PHE:O    | 1:C:139:PRO:HD3  | 2.07                     | 0.53              |
| 1:C:215:PHE:CE1  | 1:C:216:TRP:CZ3  | 2.96                     | 0.53              |
| 1:B:213:LYS:HG2  | 1:C:375:LYS:CE   | 2.39                     | 0.53              |
| 1:C:395:MET:SD   | 1:C:407:ILE:HD12 | 2.49                     | 0.53              |
| 1:A:143:GLN:CG   | 1:B:108:HIS:CE1  | 2.91                     | 0.53              |
| 1:A:193:SER:O    | 1:A:196:SER:HB3  | 2.07                     | 0.53              |
| 1:A:215:PHE:CE1  | 1:A:216:TRP:CZ3  | 2.96                     | 0.53              |
| 1:A:243:GLN:HB3  | 1:A:284:PRO:CD   | 2.39                     | 0.53              |
| 1:B:137:PHE:O    | 1:B:140:PHE:HD1  | 1.92                     | 0.53              |
| 1:A:215:PHE:HA   | 1:B:364:SER:HA   | 1.90                     | 0.53              |
| 1:B:382:TYR:CE1  | 1:B:396:ARG:O    | 2.62                     | 0.53              |
| 1:A:184:LYS:HG2  | 1:B:56:GLY:HA3   | 0.70                     | 0.53              |
| 1:C:188:TYR:CE1  | 1:C:218:GLY:CA   | 2.85                     | 0.53              |
| 1:C:254:ILE:HD11 | 1:C:321:ASN:ND2  | 2.23                     | 0.53              |
| 1:C:250:LEU:CD1  | 1:C:292:PHE:HE1  | 2.22                     | 0.53              |
| 1:A:45:ILE:HG21  | 1:A:103:LEU:CD1  | 2.38                     | 0.53              |
| 1:A:254:ILE:HD11 | 1:A:321:ASN:ND2  | 2.23                     | 0.53              |
| 1:A:194:LEU:CD1  | 1:B:375:LYS:HG3  | 2.38                     | 0.53              |
| 1:A:200:ILE:CG2  | 1:B:467:LYS:C    | 2.76                     | 0.53              |
| 1:A:145:TYR:OH   | 1:B:6:TRP:HA     | 2.09                     | 0.53              |
| 1:B:91:ASN:OD1   | 1:B:94:TYR:HD2   | 1.92                     | 0.53              |
| 1:C:348:TRP:CD1  | 1:C:348:TRP:O    | 2.62                     | 0.53              |
| 1:C:66:THR:CG2   | 1:C:86:ASP:HB3   | 2.39                     | 0.53              |
| 1:A:320:LEU:HD22 | 1:A:407:ILE:HD13 | 1.90                     | 0.53              |
| 1:A:91:ASN:OD1   | 1:A:94:TYR:HD2   | 1.92                     | 0.53              |
| 1:B:216:TRP:HB2  | 1:B:217:PRO:CD   | 2.38                     | 0.53              |
| 1:B:21:ARG:CG    | 1:B:21:ARG:HH21  | 2.22                     | 0.53              |
| 1:C:157:ASP:OD2  | 1:C:159:THR:HB   | 2.08                     | 0.53              |
| 1:C:386:TYR:O    | 1:C:388:LYS:N    | 2.42                     | 0.53              |
| 1:C:16:THR:CG2   | 1:C:42:TRP:CD1   | 2.91                     | 0.53              |
| 1:A:191:VAL:HG21 | 1:B:473:ILE:CG1  | 2.37                     | 0.53              |
| 1:A:218:GLY:N    | 1:B:437:ILE:HA   | 2.24                     | 0.53              |
| 1:A:382:TYR:C    | 1:A:382:TYR:CD1  | 2.81                     | 0.53              |
| 1:A:382:TYR:CE1  | 1:A:396:ARG:O    | 2.62                     | 0.53              |
| 1:A:387:ILE:HG13 | 1:A:424:GLY:HA3  | 1.89                     | 0.53              |
| 1:B:332:GLU:HA   | 1:B:358:LEU:CB   | 2.39                     | 0.53              |
| 1:B:57:PHE:HZ    | 1:B:327:ILE:HD13 | 1.73                     | 0.53              |
| 1:B:66:THR:CG2   | 1:B:86:ASP:HB3   | 2.39                     | 0.53              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:C:21:ARG:CG    | 1:C:21:ARG:HH21  | 2.22                     | 0.53              |
| 1:C:243:GLN:HB3  | 1:C:284:PRO:CD   | 2.39                     | 0.53              |
| 1:C:428:THR:CG2  | 1:C:431:GLN:HG2  | 2.39                     | 0.53              |
| 1:B:383:LYS:NZ   | 1:C:5:ASP:C      | 2.61                     | 0.53              |
| 1:A:315:ALA:HA   | 1:A:318:ILE:CG2  | 2.36                     | 0.53              |
| 1:A:332:GLU:HA   | 1:A:358:LEU:CB   | 2.39                     | 0.53              |
| 1:A:386:TYR:O    | 1:A:388:LYS:N    | 2.42                     | 0.53              |
| 1:A:45:ILE:O     | 1:A:49:LEU:HD13  | 2.08                     | 0.53              |
| 1:A:68:GLN:C     | 1:A:85:THR:HG21  | 2.29                     | 0.53              |
| 1:B:11:ILE:HD13  | 1:B:326:ILE:HG13 | 1.89                     | 0.53              |
| 1:B:122:HIS:CB   | 1:B:173:LEU:HB3  | 2.39                     | 0.53              |
| 1:B:237:ALA:HB2  | 1:C:379:PHE:CB   | 2.38                     | 0.53              |
| 1:A:190:TRP:CD2  | 1:B:374:SER:N    | 2.64                     | 0.53              |
| 1:A:29:THR:O     | 1:A:30:CYS:HB2   | 2.08                     | 0.53              |
| 1:A:273:TYR:CE1  | 1:A:389:ASP:HB3  | 2.44                     | 0.53              |
| 1:A:16:THR:CG2   | 1:A:42:TRP:CD1   | 2.91                     | 0.53              |
| 1:A:66:THR:CG2   | 1:A:86:ASP:HB3   | 2.39                     | 0.53              |
| 1:B:157:ASP:OD2  | 1:B:159:THR:HB   | 2.08                     | 0.53              |
| 1:B:191:VAL:HG11 | 1:B:219:TYR:CE2  | 2.44                     | 0.53              |
| 1:B:215:PHE:CE1  | 1:B:216:TRP:CZ3  | 2.96                     | 0.53              |
| 1:A:87:ILE:C     | 1:B:374:SER:O    | 2.47                     | 0.53              |
| 1:B:382:TYR:CD1  | 1:B:382:TYR:C    | 2.81                     | 0.53              |
| 1:B:68:GLN:C     | 1:B:85:THR:HG21  | 2.29                     | 0.53              |
| 1:C:147:HIS:CD2  | 1:C:177:ASP:O    | 2.56                     | 0.53              |
| 1:C:57:PHE:CZ    | 1:C:362:ILE:CG2  | 2.91                     | 0.53              |
| 1:A:6:TRP:CZ2    | 1:A:113:TYR:CD1  | 2.98                     | 0.53              |
| 1:A:250:LEU:CD1  | 1:A:292:PHE:HE1  | 2.22                     | 0.53              |
| 1:B:238:TYR:CD1  | 1:B:238:TYR:C    | 2.83                     | 0.53              |
| 1:B:300:ARG:HH11 | 1:B:328:TYR:HE1  | 1.53                     | 0.53              |
| 1:B:399:THR:CB   | 1:C:196:SER:HA   | 2.38                     | 0.53              |
| 1:C:91:ASN:OD1   | 1:C:94:TYR:HD2   | 1.92                     | 0.53              |
| 1:A:137:PHE:O    | 1:A:140:PHE:CD1  | 2.62                     | 0.52              |
| 1:A:122:HIS:CB   | 1:A:173:LEU:HB3  | 2.39                     | 0.52              |
| 1:A:279:VAL:O    | 1:A:283:CYS:HB2  | 2.09                     | 0.52              |
| 1:A:348:TRP:O    | 1:A:348:TRP:CD1  | 2.62                     | 0.52              |
| 1:B:428:THR:CG2  | 1:B:431:GLN:HG2  | 2.39                     | 0.52              |
| 1:A:163:ASP:C    | 1:B:53:GLN:OE1   | 2.47                     | 0.52              |
| 1:C:122:HIS:CB   | 1:C:173:LEU:HB3  | 2.39                     | 0.52              |
| 1:C:190:TRP:CZ3  | 1:C:191:VAL:HG12 | 2.43                     | 0.52              |
| 1:C:191:VAL:HG11 | 1:C:219:TYR:CE2  | 2.44                     | 0.52              |
| 1:C:279:VAL:O    | 1:C:283:CYS:HB2  | 2.09                     | 0.52              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:B:241:PRO:HA   | 1:C:373:ILE:HG22 | 1.91                     | 0.52              |
| 1:C:382:TYR:C    | 1:C:382:TYR:CD1  | 2.81                     | 0.52              |
| 1:C:387:ILE:HG13 | 1:C:424:GLY:HA3  | 1.89                     | 0.52              |
| 1:C:382:TYR:CE1  | 1:C:396:ARG:O    | 2.62                     | 0.52              |
| 1:A:163:ASP:O    | 1:B:53:GLN:OE1   | 2.27                     | 0.52              |
| 1:A:220:ASN:HA   | 1:B:473:ILE:HG22 | 1.86                     | 0.52              |
| 1:A:382:TYR:CE1  | 1:A:385:PRO:HD3  | 2.45                     | 0.52              |
| 1:B:217:PRO:HD3  | 1:B:245:VAL:HG22 | 1.91                     | 0.52              |
| 1:B:243:GLN:HB3  | 1:B:284:PRO:CD   | 2.39                     | 0.52              |
| 1:B:254:ILE:HD11 | 1:B:321:ASN:ND2  | 2.23                     | 0.52              |
| 1:A:221:LYS:HG3  | 1:B:434:THR:CG2  | 2.39                     | 0.52              |
| 1:B:75:TYR:CE1   | 1:B:170:THR:CG2  | 2.91                     | 0.52              |
| 1:B:91:ASN:OD1   | 1:B:94:TYR:CD2   | 2.63                     | 0.52              |
| 1:C:6:TRP:CZ2    | 1:C:113:TYR:CD1  | 2.98                     | 0.52              |
| 1:C:137:PHE:O    | 1:C:140:PHE:HD1  | 1.92                     | 0.52              |
| 1:C:332:GLU:HA   | 1:C:358:LEU:CB   | 2.39                     | 0.52              |
| 1:C:405:VAL:HB   | 1:C:463:TYR:CD2  | 2.44                     | 0.52              |
| 1:C:45:ILE:O     | 1:C:49:LEU:HD13  | 2.08                     | 0.52              |
| 1:C:68:GLN:C     | 1:C:85:THR:HG21  | 2.29                     | 0.52              |
| 1:A:123:MET:HB2  | 1:A:174:PRO:HG2  | 1.91                     | 0.52              |
| 1:A:137:PHE:O    | 1:A:140:PHE:HD1  | 1.92                     | 0.52              |
| 1:A:157:ASP:OD2  | 1:A:159:THR:HB   | 2.08                     | 0.52              |
| 1:A:197:ASN:HD21 | 1:C:196:SER:CB   | 2.18                     | 0.52              |
| 1:A:21:ARG:CG    | 1:A:21:ARG:HH21  | 2.22                     | 0.52              |
| 1:A:238:TYR:CD1  | 1:A:238:TYR:C    | 2.83                     | 0.52              |
| 1:A:394:ALA:HA   | 1:A:408:LEU:HA   | 1.92                     | 0.52              |
| 1:B:279:VAL:O    | 1:B:283:CYS:HB2  | 2.09                     | 0.52              |
| 1:B:348:TRP:O    | 1:B:348:TRP:CD1  | 2.62                     | 0.52              |
| 1:B:45:ILE:HG21  | 1:B:103:LEU:CD1  | 2.38                     | 0.52              |
| 1:A:192:GLY:C    | 1:B:464:PRO:HG2  | 2.23                     | 0.52              |
| 1:B:57:PHE:CZ    | 1:B:362:ILE:CG2  | 2.91                     | 0.52              |
| 1:A:144:ASP:O    | 1:B:58:THR:CG2   | 2.42                     | 0.52              |
| 1:C:45:ILE:HG21  | 1:C:103:LEU:CD1  | 2.38                     | 0.52              |
| 1:C:18:ARG:CZ    | 1:C:79:TYR:CD2   | 2.92                     | 0.52              |
| 1:A:144:ASP:O    | 1:B:58:THR:HG22  | 1.88                     | 0.52              |
| 1:A:147:HIS:CE1  | 1:A:163:ASP:CB   | 2.90                     | 0.52              |
| 1:A:187:TRP:CH2  | 1:B:374:SER:OG   | 2.61                     | 0.52              |
| 1:A:190:TRP:CZ3  | 1:A:191:VAL:HG12 | 2.43                     | 0.52              |
| 1:A:188:TYR:CE1  | 1:A:218:GLY:CA   | 2.85                     | 0.52              |
| 1:B:274:ASN:HD21 | 1:C:285:ASP:H    | 1.58                     | 0.52              |
| 1:B:405:VAL:HB   | 1:B:463:TYR:CD2  | 2.45                     | 0.52              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:C:238:TYR:C    | 1:C:238:TYR:CD1  | 2.83                     | 0.52              |
| 1:A:468:LEU:HD23 | 1:A:473:ILE:HD13 | 1.91                     | 0.52              |
| 1:A:91:ASN:OD1   | 1:A:94:TYR:CD2   | 2.63                     | 0.52              |
| 1:A:178:THR:HA   | 1:B:112:MET:CE   | 2.40                     | 0.52              |
| 1:B:101:LYS:HE2  | 1:B:198:TYR:CE2  | 2.45                     | 0.52              |
| 1:B:299:PRO:HB2  | 1:B:303:SER:HB2  | 1.92                     | 0.52              |
| 1:B:308:ILE:O    | 1:B:311:ALA:HB3  | 2.10                     | 0.52              |
| 1:B:445:GLY:CA   | 1:C:185:ASN:CG   | 2.60                     | 0.52              |
| 1:C:185:ASN:O    | 1:C:188:TYR:HB2  | 2.06                     | 0.52              |
| 1:C:193:SER:O    | 1:C:196:SER:HB3  | 2.06                     | 0.52              |
| 1:C:458:LEU:CD1  | 1:C:460:ARG:HH22 | 2.23                     | 0.52              |
| 1:A:319:ILE:CA   | 1:A:325:PRO:HB2  | 2.39                     | 0.52              |
| 1:B:250:LEU:CD1  | 1:B:292:PHE:HE1  | 2.21                     | 0.52              |
| 1:B:279:VAL:HG21 | 1:B:289:LEU:HD21 | 1.91                     | 0.52              |
| 1:B:13:PHE:HB3   | 1:B:328:TYR:HA   | 1.92                     | 0.52              |
| 1:B:426:SER:CA   | 1:C:188:TYR:HD1  | 2.20                     | 0.52              |
| 1:C:262:PHE:CZ   | 1:C:314:VAL:HB   | 2.45                     | 0.52              |
| 1:C:394:ALA:HA   | 1:C:408:LEU:HA   | 1.92                     | 0.52              |
| 1:A:246:MET:HE1  | 1:B:476:ASP:CG   | 2.30                     | 0.52              |
| 1:A:279:VAL:HG21 | 1:A:289:LEU:HD21 | 1.91                     | 0.52              |
| 1:A:299:PRO:HB2  | 1:A:303:SER:HB2  | 1.92                     | 0.52              |
| 1:A:205:ILE:HG21 | 1:B:472:LYS:HG3  | 0.54                     | 0.52              |
| 1:C:101:LYS:HE2  | 1:C:198:TYR:CE2  | 2.45                     | 0.52              |
| 1:C:29:THR:O     | 1:C:30:CYS:HB2   | 2.07                     | 0.52              |
| 1:C:404:ILE:CB   | 1:C:404:ILE:N    | 2.73                     | 0.52              |
| 1:C:320:LEU:HD22 | 1:C:407:ILE:HD13 | 1.90                     | 0.52              |
| 1:B:281:SER:HB3  | 1:C:8:SER:H      | 0.69                     | 0.52              |
| 1:C:91:ASN:OD1   | 1:C:94:TYR:CD2   | 2.63                     | 0.52              |
| 1:A:101:LYS:HE2  | 1:A:198:TYR:CE2  | 2.45                     | 0.52              |
| 1:A:123:MET:CA   | 1:A:174:PRO:HG2  | 2.40                     | 0.52              |
| 1:A:185:ASN:HA   | 1:B:365:ALA:O    | 2.04                     | 0.52              |
| 1:A:216:TRP:HB3  | 1:A:246:MET:HG2  | 1.91                     | 0.52              |
| 1:A:32:THR:CG2   | 1:A:342:ALA:HA   | 2.28                     | 0.52              |
| 1:A:465:THR:HA   | 1:A:468:LEU:HD11 | 1.92                     | 0.52              |
| 1:B:123:MET:CA   | 1:B:174:PRO:HG2  | 2.40                     | 0.52              |
| 1:B:286:SER:HB3  | 1:B:288:LEU:HG   | 1.92                     | 0.52              |
| 1:C:299:PRO:HB2  | 1:C:303:SER:HB2  | 1.92                     | 0.52              |
| 1:C:13:PHE:HB3   | 1:C:328:TYR:HA   | 1.92                     | 0.52              |
| 1:A:18:ARG:CZ    | 1:A:79:TYR:CD2   | 2.92                     | 0.52              |
| 1:B:6:TRP:CZ2    | 1:B:113:TYR:CD1  | 2.97                     | 0.52              |
| 1:B:458:LEU:CD1  | 1:B:460:ARG:HH22 | 2.23                     | 0.52              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:B:396:ARG:HD3  | 1:C:221:LYS:C    | 2.31                     | 0.52              |
| 1:C:279:VAL:HG21 | 1:C:289:LEU:HD21 | 1.91                     | 0.52              |
| 1:C:2:THR:CB     | 1:C:3:PRO:HD2    | 2.18                     | 0.52              |
| 1:C:468:LEU:HD23 | 1:C:473:ILE:HD13 | 1.91                     | 0.52              |
| 1:A:182:VAL:HG21 | 1:B:58:THR:HB    | 1.92                     | 0.52              |
| 1:A:431:GLN:NE2  | 1:A:431:GLN:HA   | 2.18                     | 0.52              |
| 1:A:458:LEU:CD1  | 1:A:460:ARG:HH22 | 2.23                     | 0.52              |
| 1:B:83:TRP:NE1   | 1:B:173:LEU:CD2  | 2.68                     | 0.52              |
| 1:B:18:ARG:CZ    | 1:B:79:TYR:CD2   | 2.92                     | 0.52              |
| 1:B:187:TRP:HE3  | 1:B:190:TRP:CE3  | 2.28                     | 0.52              |
| 1:B:382:TYR:CE1  | 1:B:385:PRO:HD3  | 2.44                     | 0.52              |
| 1:C:11:ILE:HD13  | 1:C:326:ILE:HG13 | 1.89                     | 0.52              |
| 1:C:308:ILE:O    | 1:C:311:ALA:HB3  | 2.10                     | 0.52              |
| 1:A:262:PHE:CZ   | 1:A:314:VAL:HB   | 2.45                     | 0.51              |
| 1:A:405:VAL:HB   | 1:A:463:TYR:CD2  | 2.45                     | 0.51              |
| 1:B:87:ILE:CG2   | 1:B:139:PRO:HG3  | 2.40                     | 0.51              |
| 1:B:262:PHE:CZ   | 1:B:314:VAL:HB   | 2.45                     | 0.51              |
| 1:A:185:ASN:HD22 | 1:B:319:ILE:HB   | 1.75                     | 0.51              |
| 1:B:386:TYR:O    | 1:B:388:LYS:N    | 2.42                     | 0.51              |
| 1:B:468:LEU:HD23 | 1:B:473:ILE:HD13 | 1.91                     | 0.51              |
| 1:C:123:MET:CA   | 1:C:174:PRO:HG2  | 2.40                     | 0.51              |
| 1:C:12:TYR:CE1   | 1:C:14:LEU:CD2   | 2.89                     | 0.51              |
| 1:C:200:ILE:O    | 1:C:225:VAL:HG11 | 2.10                     | 0.51              |
| 1:A:152:ILE:CD1  | 1:A:166:LEU:HA   | 2.28                     | 0.51              |
| 1:A:216:TRP:HB2  | 1:A:245:VAL:CG2  | 2.29                     | 0.51              |
| 1:A:301:PHE:CD2  | 1:A:301:PHE:C    | 2.83                     | 0.51              |
| 1:A:308:ILE:O    | 1:A:311:ALA:HB3  | 2.10                     | 0.51              |
| 1:A:13:PHE:HB3   | 1:A:328:TYR:HA   | 1.92                     | 0.51              |
| 1:A:382:TYR:CD2  | 1:A:398:GLY:O    | 2.64                     | 0.51              |
| 1:B:199:SER:C    | 1:B:200:ILE:HG13 | 2.16                     | 0.51              |
| 1:B:68:GLN:HB2   | 1:B:69:LEU:HD23  | 1.92                     | 0.51              |
| 1:C:300:ARG:HH11 | 1:C:328:TYR:HE1  | 1.53                     | 0.51              |
| 1:C:301:PHE:C    | 1:C:301:PHE:CD2  | 2.83                     | 0.51              |
| 1:C:380:VAL:CG1  | 1:C:381:THR:H    | 2.22                     | 0.51              |
| 1:C:382:TYR:CD2  | 1:C:398:GLY:O    | 2.64                     | 0.51              |
| 1:C:427:TYR:CE1  | 1:C:433:LEU:HD11 | 2.45                     | 0.51              |
| 1:A:286:SER:HB3  | 1:A:288:LEU:HG   | 1.92                     | 0.51              |
| 1:A:49:LEU:O     | 1:A:52:ILE:HG12  | 2.11                     | 0.51              |
| 1:A:189:ASP:HB2  | 1:B:369:ARG:CG   | 2.41                     | 0.51              |
| 1:B:394:ALA:HA   | 1:B:408:LEU:HA   | 1.92                     | 0.51              |
| 1:B:418:TYR:HD1  | 1:B:454:MET:CE   | 2.22                     | 0.51              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:C:315:ALA:HA   | 1:C:318:ILE:CG2  | 2.36                     | 0.51              |
| 1:C:382:TYR:CE1  | 1:C:385:PRO:HD3  | 2.44                     | 0.51              |
| 1:C:473:ILE:HG23 | 1:C:474:CYS:N    | 2.25                     | 0.51              |
| 1:A:200:ILE:O    | 1:A:225:VAL:HG11 | 2.10                     | 0.51              |
| 1:A:238:TYR:O    | 1:A:241:PRO:HG2  | 2.11                     | 0.51              |
| 1:A:2:THR:CB     | 1:A:3:PRO:HD2    | 2.18                     | 0.51              |
| 1:B:315:ALA:HA   | 1:B:318:ILE:CG2  | 2.36                     | 0.51              |
| 1:B:427:TYR:CE1  | 1:B:433:LEU:HD11 | 2.46                     | 0.51              |
| 1:B:443:THR:O    | 1:B:451:PRO:HD2  | 2.11                     | 0.51              |
| 1:C:250:LEU:HD12 | 1:C:292:PHE:CE1  | 2.46                     | 0.51              |
| 1:C:280:LYS:O    | 1:C:281:SER:HB2  | 2.11                     | 0.51              |
| 1:A:190:TRP:CD2  | 1:B:374:SER:CA   | 2.83                     | 0.51              |
| 1:A:217:PRO:HA   | 1:B:474:CYS:O    | 2.10                     | 0.51              |
| 1:A:404:ILE:N    | 1:A:404:ILE:CB   | 2.73                     | 0.51              |
| 1:B:201:ASP:O    | 1:B:225:VAL:HG13 | 2.10                     | 0.51              |
| 1:B:250:LEU:HD12 | 1:B:292:PHE:CE1  | 2.45                     | 0.51              |
| 1:B:7:ARG:NE     | 1:B:286:SER:O    | 2.44                     | 0.51              |
| 1:B:428:THR:CA   | 1:C:186:GLU:C    | 2.77                     | 0.51              |
| 1:C:238:TYR:O    | 1:C:241:PRO:HG2  | 2.11                     | 0.51              |
| 1:A:123:MET:CE   | 1:A:140:PHE:HE1  | 2.24                     | 0.51              |
| 1:B:134:TYR:CE1  | 1:B:143:GLN:CB   | 2.94                     | 0.51              |
| 1:B:301:PHE:C    | 1:B:301:PHE:CD2  | 2.83                     | 0.51              |
| 1:B:420:LEU:CD2  | 1:B:452:VAL:CG2  | 2.83                     | 0.51              |
| 1:A:177:ASP:HB3  | 1:B:53:GLN:HG2   | 1.90                     | 0.51              |
| 1:C:243:GLN:HG2  | 1:C:284:PRO:O    | 2.11                     | 0.51              |
| 1:B:238:TYR:HD2  | 1:C:403:GLN:NE2  | 2.07                     | 0.51              |
| 1:A:278:THR:O    | 1:A:282:ASP:HB2  | 2.11                     | 0.51              |
| 1:B:117:ASP:CG   | 1:B:204:ARG:NH1  | 2.65                     | 0.51              |
| 1:B:14:LEU:HD22  | 1:B:19:PHE:CE2   | 2.46                     | 0.51              |
| 1:B:216:TRP:HB3  | 1:B:246:MET:HG2  | 1.91                     | 0.51              |
| 1:B:280:LYS:O    | 1:C:6:TRP:CA     | 2.54                     | 0.51              |
| 1:B:280:LYS:O    | 1:C:7:ARG:CB     | 2.59                     | 0.51              |
| 1:B:320:LEU:HD22 | 1:B:407:ILE:HD13 | 1.90                     | 0.51              |
| 1:B:434:THR:C    | 1:B:435:GLU:O    | 2.47                     | 0.51              |
| 1:A:182:VAL:CG2  | 1:B:58:THR:CB    | 2.89                     | 0.51              |
| 1:C:134:TYR:CE1  | 1:C:143:GLN:CB   | 2.94                     | 0.51              |
| 1:C:217:PRO:HD3  | 1:C:245:VAL:HG22 | 1.91                     | 0.51              |
| 1:C:225:VAL:CG1  | 1:C:225:VAL:O    | 2.59                     | 0.51              |
| 1:C:229:GLY:N    | 1:C:246:MET:HE1  | 2.25                     | 0.51              |
| 1:A:181:ASP:OD1  | 1:B:319:ILE:HD13 | 2.11                     | 0.51              |
| 1:A:380:VAL:CG1  | 1:A:381:THR:H    | 2.22                     | 0.51              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:418:TYR:HD1  | 1:A:454:MET:CE   | 2.23                     | 0.51              |
| 1:A:418:TYR:CE1  | 1:A:454:MET:HE2  | 2.46                     | 0.51              |
| 1:A:68:GLN:HB2   | 1:A:69:LEU:HD23  | 1.92                     | 0.51              |
| 1:B:200:ILE:O    | 1:B:225:VAL:HG11 | 2.10                     | 0.51              |
| 1:B:406:THR:HG21 | 1:C:221:LYS:CB   | 2.41                     | 0.51              |
| 1:B:449:ASN:CB   | 1:C:184:LYS:HZ2  | 2.13                     | 0.51              |
| 1:C:14:LEU:HD22  | 1:C:19:PHE:CE2   | 2.46                     | 0.51              |
| 1:C:101:LYS:HE3  | 1:C:198:TYR:CZ   | 2.46                     | 0.51              |
| 1:C:200:ILE:CG2  | 1:C:203:LEU:HD11 | 2.38                     | 0.51              |
| 1:C:216:TRP:HB3  | 1:C:246:MET:HG2  | 1.91                     | 0.51              |
| 1:C:418:TYR:HD1  | 1:C:454:MET:CE   | 2.23                     | 0.51              |
| 1:C:443:THR:O    | 1:C:451:PRO:HD2  | 2.11                     | 0.51              |
| 1:C:465:THR:HA   | 1:C:468:LEU:HD11 | 1.92                     | 0.51              |
| 1:A:187:TRP:HE3  | 1:A:190:TRP:CE3  | 2.28                     | 0.51              |
| 1:A:250:LEU:HD12 | 1:A:292:PHE:CE1  | 2.46                     | 0.51              |
| 1:B:137:PHE:CZ   | 1:B:174:PRO:HG3  | 2.46                     | 0.51              |
| 1:C:216:TRP:HB2  | 1:C:245:VAL:CG2  | 2.29                     | 0.51              |
| 1:C:431:GLN:NE2  | 1:C:431:GLN:HA   | 2.18                     | 0.51              |
| 1:C:68:GLN:HB2   | 1:C:69:LEU:HD23  | 1.92                     | 0.51              |
| 1:A:101:LYS:HE3  | 1:A:198:TYR:CZ   | 2.46                     | 0.50              |
| 1:A:134:TYR:CE1  | 1:A:143:GLN:CB   | 2.94                     | 0.50              |
| 1:A:229:GLY:H    | 1:A:246:MET:HE1  | 1.71                     | 0.50              |
| 1:A:280:LYS:O    | 1:A:281:SER:HB2  | 2.11                     | 0.50              |
| 1:A:427:TYR:CE1  | 1:A:433:LEU:HD11 | 2.45                     | 0.50              |
| 1:A:7:ARG:NE     | 1:A:286:SER:O    | 2.44                     | 0.50              |
| 1:B:255:TYR:CD1  | 1:B:292:PHE:CE2  | 2.99                     | 0.50              |
| 1:C:187:TRP:HE3  | 1:C:190:TRP:CE3  | 2.29                     | 0.50              |
| 1:C:295:ASN:CB   | 1:C:298:ASN:HB2  | 2.37                     | 0.50              |
| 1:C:434:THR:C    | 1:C:435:GLU:O    | 2.47                     | 0.50              |
| 1:B:192:GLY:HA2  | 1:B:223:ALA:HB2  | 1.94                     | 0.50              |
| 1:B:243:GLN:HG2  | 1:B:284:PRO:O    | 2.11                     | 0.50              |
| 1:B:295:ASN:CB   | 1:B:298:ASN:HB2  | 2.36                     | 0.50              |
| 1:B:359:TYR:HA   | 1:B:362:ILE:HD12 | 1.93                     | 0.50              |
| 1:B:382:TYR:CD2  | 1:B:398:GLY:O    | 2.64                     | 0.50              |
| 1:A:148:PRO:HB3  | 1:B:49:LEU:CD2   | 2.41                     | 0.50              |
| 1:C:208:VAL:HG23 | 1:C:216:TRP:CD2  | 2.46                     | 0.50              |
| 1:C:278:THR:O    | 1:C:282:ASP:HB2  | 2.11                     | 0.50              |
| 1:A:443:THR:O    | 1:A:451:PRO:HD2  | 2.11                     | 0.50              |
| 1:B:188:TYR:CE1  | 1:B:218:GLY:CA   | 2.85                     | 0.50              |
| 1:B:465:THR:HA   | 1:B:468:LEU:HD11 | 1.92                     | 0.50              |
| 1:A:145:TYR:N    | 1:B:9:GLN:OE1    | 2.44                     | 0.50              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:C:119:VAL:HG23 | 1:C:206:ASP:CB   | 2.31                     | 0.50              |
| 1:B:237:ALA:HB3  | 1:C:399:THR:OG1  | 2.11                     | 0.50              |
| 1:C:49:LEU:O     | 1:C:52:ILE:HG12  | 2.11                     | 0.50              |
| 1:A:11:ILE:HD13  | 1:A:326:ILE:HG13 | 1.89                     | 0.50              |
| 1:A:200:ILE:HD12 | 1:B:467:LYS:HZ2  | 1.75                     | 0.50              |
| 1:A:215:PHE:CD1  | 1:A:215:PHE:C    | 2.85                     | 0.50              |
| 1:A:347:THR:CG2  | 1:A:348:TRP:N    | 2.73                     | 0.50              |
| 1:B:278:THR:O    | 1:B:282:ASP:HB2  | 2.10                     | 0.50              |
| 1:B:243:GLN:HE22 | 1:B:289:LEU:HD13 | 1.77                     | 0.50              |
| 1:A:185:ASN:N    | 1:B:366:ASN:CB   | 2.36                     | 0.50              |
| 1:C:201:ASP:O    | 1:C:225:VAL:HG13 | 2.10                     | 0.50              |
| 1:C:243:GLN:HE22 | 1:C:289:LEU:HD13 | 1.77                     | 0.50              |
| 1:A:117:ASP:CG   | 1:A:204:ARG:NH1  | 2.65                     | 0.50              |
| 1:A:87:ILE:HG21  | 1:A:123:MET:HE1  | 1.93                     | 0.50              |
| 1:A:183:VAL:HG22 | 1:A:184:LYS:N    | 2.27                     | 0.50              |
| 1:A:201:ASP:O    | 1:A:225:VAL:HG13 | 2.10                     | 0.50              |
| 1:A:255:TYR:CD1  | 1:A:292:PHE:CE2  | 2.99                     | 0.50              |
| 1:A:57:PHE:CZ    | 1:A:362:ILE:HG23 | 2.47                     | 0.50              |
| 1:A:45:ILE:CG2   | 1:A:49:LEU:CD1   | 2.80                     | 0.50              |
| 1:B:327:ILE:HG13 | 1:B:331:GLN:CD   | 2.32                     | 0.50              |
| 1:A:188:TYR:CZ   | 1:B:367:ALA:N    | 2.78                     | 0.50              |
| 1:B:385:PRO:CD   | 1:B:396:ARG:O    | 2.60                     | 0.50              |
| 1:B:385:PRO:CB   | 1:C:3:PRO:HD3    | 2.34                     | 0.50              |
| 1:C:87:ILE:CG2   | 1:C:139:PRO:HG3  | 2.40                     | 0.50              |
| 1:A:14:LEU:HD22  | 1:A:19:PHE:CE2   | 2.46                     | 0.50              |
| 1:A:262:PHE:CZ   | 1:A:314:VAL:HA   | 2.47                     | 0.50              |
| 1:A:364:SER:HB2  | 1:A:437:ILE:HG22 | 1.93                     | 0.50              |
| 1:A:436:VAL:HG22 | 1:A:437:ILE:N    | 2.26                     | 0.50              |
| 1:A:165:TRP:CE2  | 1:B:109:GLU:C    | 2.80                     | 0.50              |
| 1:B:225:VAL:O    | 1:B:225:VAL:CG1  | 2.59                     | 0.50              |
| 1:B:273:TYR:CE1  | 1:B:389:ASP:HB3  | 2.44                     | 0.50              |
| 1:B:392:THR:CG2  | 1:B:410:ASN:HB2  | 2.42                     | 0.50              |
| 1:B:49:LEU:O     | 1:B:52:ILE:HG12  | 2.11                     | 0.50              |
| 1:B:57:PHE:CZ    | 1:B:362:ILE:HG23 | 2.47                     | 0.50              |
| 1:A:147:HIS:O    | 1:B:110:ARG:N    | 2.30                     | 0.50              |
| 1:A:180:LYS:HE3  | 1:B:12:TYR:HA    | 1.91                     | 0.50              |
| 1:A:194:LEU:O    | 1:B:403:GLN:CG   | 2.59                     | 0.50              |
| 1:A:373:ILE:HG22 | 1:A:377:THR:HG22 | 1.92                     | 0.50              |
| 1:B:242:TYR:CA   | 1:B:245:VAL:HG12 | 2.42                     | 0.50              |
| 1:B:243:GLN:NE2  | 1:B:284:PRO:O    | 2.42                     | 0.50              |
| 1:B:262:PHE:CZ   | 1:B:314:VAL:HA   | 2.47                     | 0.50              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:B:436:VAL:HG22 | 1:B:437:ILE:N    | 2.26                     | 0.50              |
| 1:C:300:ARG:HG2  | 1:C:335:TYR:O    | 2.12                     | 0.50              |
| 1:C:347:THR:CG2  | 1:C:348:TRP:N    | 2.73                     | 0.50              |
| 1:C:57:PHE:CZ    | 1:C:362:ILE:HG23 | 2.47                     | 0.50              |
| 1:C:42:TRP:CD2   | 1:C:94:TYR:CD1   | 3.00                     | 0.50              |
| 1:B:238:TYR:O    | 1:B:241:PRO:HG2  | 2.11                     | 0.50              |
| 1:B:300:ARG:HG2  | 1:B:335:TYR:O    | 2.12                     | 0.50              |
| 1:C:117:ASP:CG   | 1:C:204:ARG:NH1  | 2.65                     | 0.50              |
| 1:C:215:PHE:C    | 1:C:215:PHE:CD1  | 2.85                     | 0.50              |
| 1:B:277:ASN:HB2  | 1:C:286:SER:O    | 2.00                     | 0.50              |
| 1:C:307:ASP:HB2  | 1:C:413:ALA:CB   | 2.40                     | 0.50              |
| 1:C:364:SER:HB2  | 1:C:437:ILE:HG22 | 1.93                     | 0.50              |
| 1:C:369:ARG:HG2  | 1:C:379:PHE:CZ   | 2.47                     | 0.50              |
| 1:C:273:TYR:CE1  | 1:C:389:ASP:HB3  | 2.44                     | 0.50              |
| 1:A:18:ARG:HD3   | 1:A:344:ARG:HB3  | 1.94                     | 0.50              |
| 1:A:194:LEU:O    | 1:B:403:GLN:HG3  | 2.11                     | 0.50              |
| 1:A:243:GLN:HE22 | 1:A:289:LEU:HD13 | 1.76                     | 0.50              |
| 1:A:262:PHE:CE2  | 1:A:314:VAL:HB   | 2.47                     | 0.50              |
| 1:A:280:LYS:HE3  | 1:A:383:LYS:C    | 2.31                     | 0.50              |
| 1:A:300:ARG:HG2  | 1:A:335:TYR:O    | 2.12                     | 0.50              |
| 1:B:158:GLN:HA   | 1:B:161:VAL:CG1  | 2.42                     | 0.50              |
| 1:B:101:LYS:HE3  | 1:B:198:TYR:CZ   | 2.46                     | 0.50              |
| 1:B:208:VAL:HG23 | 1:B:216:TRP:CD2  | 2.46                     | 0.50              |
| 1:B:215:PHE:CD1  | 1:B:215:PHE:C    | 2.85                     | 0.50              |
| 1:C:13:PHE:CD2   | 1:C:328:TYR:CD2  | 2.99                     | 0.50              |
| 1:C:7:ARG:NE     | 1:C:286:SER:O    | 2.44                     | 0.50              |
| 1:C:255:TYR:CD1  | 1:C:292:PHE:CE2  | 2.99                     | 0.50              |
| 1:C:385:PRO:CD   | 1:C:396:ARG:O    | 2.60                     | 0.50              |
| 1:C:392:THR:CG2  | 1:C:410:ASN:HB2  | 2.42                     | 0.50              |
| 1:A:123:MET:N    | 1:A:174:PRO:HG2  | 2.27                     | 0.49              |
| 1:A:177:ASP:HB3  | 1:B:53:GLN:HA    | 1.94                     | 0.49              |
| 1:A:184:LYS:HB2  | 1:B:367:ALA:HB2  | 1.94                     | 0.49              |
| 1:A:189:ASP:CB   | 1:B:369:ARG:O    | 2.60                     | 0.49              |
| 1:A:300:ARG:HH11 | 1:A:328:TYR:HE1  | 1.53                     | 0.49              |
| 1:A:434:THR:C    | 1:A:435:GLU:O    | 2.47                     | 0.49              |
| 1:A:432:GLN:HG3  | 1:A:465:THR:HG21 | 1.90                     | 0.49              |
| 1:B:134:TYR:CE1  | 1:B:143:GLN:HB2  | 2.47                     | 0.49              |
| 1:B:420:LEU:CD2  | 1:B:452:VAL:CG1  | 2.82                     | 0.49              |
| 1:B:42:TRP:CD2   | 1:B:94:TYR:CD1   | 3.00                     | 0.49              |
| 1:C:158:GLN:HA   | 1:C:161:VAL:CG1  | 2.42                     | 0.49              |
| 1:C:183:VAL:HG22 | 1:C:184:LYS:N    | 2.27                     | 0.49              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:C:192:GLY:HA2  | 1:C:223:ALA:HB2  | 1.94                     | 0.49              |
| 1:C:327:ILE:HG13 | 1:C:331:GLN:CD   | 2.32                     | 0.49              |
| 1:A:192:GLY:HA2  | 1:A:223:ALA:HB2  | 1.94                     | 0.49              |
| 1:A:295:ASN:CB   | 1:A:298:ASN:HB2  | 2.36                     | 0.49              |
| 1:A:327:ILE:HG13 | 1:A:331:GLN:OE1  | 2.12                     | 0.49              |
| 1:A:369:ARG:HG2  | 1:A:379:PHE:CZ   | 2.47                     | 0.49              |
| 1:A:34:ASP:O     | 1:A:36:LYS:HG3   | 2.12                     | 0.49              |
| 1:A:392:THR:CG2  | 1:A:410:ASN:HB2  | 2.42                     | 0.49              |
| 1:B:123:MET:N    | 1:B:174:PRO:HG2  | 2.27                     | 0.49              |
| 1:B:229:GLY:HA3  | 1:B:246:MET:CE   | 2.42                     | 0.49              |
| 1:B:347:THR:CG2  | 1:B:348:TRP:N    | 2.73                     | 0.49              |
| 1:B:34:ASP:O     | 1:B:36:LYS:HG3   | 2.12                     | 0.49              |
| 1:C:137:PHE:CZ   | 1:C:174:PRO:HG3  | 2.47                     | 0.49              |
| 1:B:428:THR:HA   | 1:C:188:TYR:N    | 2.28                     | 0.49              |
| 1:C:280:LYS:HE3  | 1:C:383:LYS:C    | 2.31                     | 0.49              |
| 1:C:243:GLN:NE2  | 1:C:284:PRO:O    | 2.42                     | 0.49              |
| 1:C:432:GLN:HG3  | 1:C:465:THR:HG21 | 1.90                     | 0.49              |
| 1:A:158:GLN:HA   | 1:A:161:VAL:CG1  | 2.42                     | 0.49              |
| 1:A:137:PHE:CZ   | 1:A:174:PRO:HG3  | 2.47                     | 0.49              |
| 1:A:263:LYS:CA   | 1:A:310:LEU:HD23 | 2.42                     | 0.49              |
| 1:A:243:GLN:HG2  | 1:A:284:PRO:O    | 2.11                     | 0.49              |
| 1:A:243:GLN:NE2  | 1:A:284:PRO:O    | 2.42                     | 0.49              |
| 1:A:418:TYR:HD1  | 1:A:454:MET:HE3  | 1.73                     | 0.49              |
| 1:A:88:TYR:CZ    | 1:B:373:ILE:HA   | 2.45                     | 0.49              |
| 1:B:369:ARG:HG2  | 1:B:379:PHE:CZ   | 2.47                     | 0.49              |
| 1:C:262:PHE:CZ   | 1:C:314:VAL:HA   | 2.47                     | 0.49              |
| 1:C:436:VAL:HG22 | 1:C:437:ILE:N    | 2.26                     | 0.49              |
| 1:A:186:GLU:HB2  | 1:B:369:ARG:HH12 | 1.77                     | 0.49              |
| 1:A:19:PHE:HD1   | 1:A:347:THR:HB   | 1.77                     | 0.49              |
| 1:A:227:CYS:SG   | 1:B:473:ILE:HG22 | 2.53                     | 0.49              |
| 1:A:240:CYS:CB   | 1:A:241:PRO:CD   | 2.89                     | 0.49              |
| 1:A:42:TRP:CD2   | 1:A:94:TYR:CD1   | 3.00                     | 0.49              |
| 1:A:87:ILE:CG2   | 1:A:139:PRO:HG3  | 2.40                     | 0.49              |
| 1:B:183:VAL:HG22 | 1:B:184:LYS:N    | 2.27                     | 0.49              |
| 1:B:13:PHE:CD2   | 1:B:328:TYR:CD2  | 2.99                     | 0.49              |
| 1:C:463:TYR:OH   | 1:C:463:TYR:CE2  | 2.51                     | 0.49              |
| 1:A:214:ASP:O    | 1:A:217:PRO:HG2  | 2.07                     | 0.49              |
| 1:A:327:ILE:HG13 | 1:A:331:GLN:CD   | 2.32                     | 0.49              |
| 1:B:19:PHE:HD1   | 1:B:347:THR:HB   | 1.77                     | 0.49              |
| 1:C:161:VAL:O    | 1:C:210:HIS:HB3  | 2.12                     | 0.49              |
| 1:C:123:MET:N    | 1:C:174:PRO:HG2  | 2.27                     | 0.49              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:C:229:GLY:HA3  | 1:C:246:MET:CE   | 2.42                     | 0.49              |
| 1:C:263:LYS:CA   | 1:C:310:LEU:HD23 | 2.42                     | 0.49              |
| 1:C:327:ILE:HG13 | 1:C:331:GLN:OE1  | 2.12                     | 0.49              |
| 1:C:359:TYR:HA   | 1:C:362:ILE:HD12 | 1.93                     | 0.49              |
| 1:B:383:LYS:HE2  | 1:C:5:ASP:CB     | 2.39                     | 0.49              |
| 1:A:197:ASN:OD1  | 1:B:400:ASP:OD1  | 2.30                     | 0.49              |
| 1:A:225:VAL:CG1  | 1:A:225:VAL:O    | 2.59                     | 0.49              |
| 1:A:236:PRO:CB   | 1:A:278:THR:HG22 | 2.43                     | 0.49              |
| 1:A:259:LEU:HD21 | 1:A:304:TYR:OH   | 2.12                     | 0.49              |
| 1:A:385:PRO:CD   | 1:A:396:ARG:O    | 2.60                     | 0.49              |
| 1:A:79:TYR:HE2   | 1:A:344:ARG:CD   | 2.25                     | 0.49              |
| 1:A:79:TYR:HE2   | 1:A:344:ARG:CG   | 2.26                     | 0.49              |
| 1:B:119:VAL:HG23 | 1:B:206:ASP:CB   | 2.31                     | 0.49              |
| 1:B:123:MET:HB2  | 1:B:174:PRO:HG2  | 1.91                     | 0.49              |
| 1:B:263:LYS:CA   | 1:B:310:LEU:HD23 | 2.42                     | 0.49              |
| 1:B:364:SER:HB2  | 1:B:437:ILE:HG22 | 1.93                     | 0.49              |
| 1:B:385:PRO:HG2  | 1:B:396:ARG:N    | 2.28                     | 0.49              |
| 1:B:79:TYR:HE2   | 1:B:344:ARG:CD   | 2.25                     | 0.49              |
| 1:C:123:MET:HB2  | 1:C:174:PRO:HG2  | 1.91                     | 0.49              |
| 1:C:180:LYS:O    | 1:C:182:VAL:HG12 | 2.13                     | 0.49              |
| 1:C:262:PHE:CE2  | 1:C:314:VAL:HB   | 2.47                     | 0.49              |
| 1:C:236:PRO:CB   | 1:C:278:THR:HG22 | 2.43                     | 0.49              |
| 1:B:384:ASN:CA   | 1:C:2:THR:HG22   | 2.05                     | 0.49              |
| 1:C:273:TYR:HB2  | 1:C:389:ASP:OD1  | 2.13                     | 0.49              |
| 1:A:434:THR:HG21 | 1:A:474:CYS:SG   | 2.53                     | 0.49              |
| 1:B:262:PHE:CE2  | 1:B:314:VAL:HB   | 2.47                     | 0.49              |
| 1:B:327:ILE:HG13 | 1:B:331:GLN:OE1  | 2.12                     | 0.49              |
| 1:A:219:TYR:CZ   | 1:B:371:TYR:CD2  | 2.71                     | 0.49              |
| 1:B:45:ILE:CG2   | 1:B:49:LEU:CD1   | 2.80                     | 0.49              |
| 1:C:134:TYR:CE1  | 1:C:143:GLN:HB2  | 2.47                     | 0.49              |
| 1:C:13:PHE:CE2   | 1:C:296:HIS:CD2  | 3.01                     | 0.49              |
| 1:C:83:TRP:NE1   | 1:C:173:LEU:CD2  | 2.68                     | 0.49              |
| 1:C:242:TYR:CA   | 1:C:245:VAL:HG12 | 2.42                     | 0.49              |
| 1:A:11:ILE:HB    | 1:A:326:ILE:CA   | 2.41                     | 0.49              |
| 1:A:204:ARG:HG2  | 1:A:228:ILE:O    | 2.12                     | 0.49              |
| 1:A:246:MET:CE   | 1:B:476:ASP:OD1  | 2.61                     | 0.49              |
| 1:A:147:HIS:HA   | 1:B:111:GLY:O    | 2.12                     | 0.49              |
| 1:A:180:LYS:CE   | 1:B:12:TYR:N     | 2.55                     | 0.49              |
| 1:A:221:LYS:CG   | 1:B:434:THR:CG2  | 2.91                     | 0.49              |
| 1:C:204:ARG:NH1  | 1:C:230:GLU:HB3  | 2.28                     | 0.49              |
| 1:A:180:LYS:NZ   | 1:B:57:PHE:HB2   | 2.11                     | 0.49              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:101:LYS:CE   | 1:A:198:TYR:CE2  | 2.96                     | 0.49              |
| 1:A:204:ARG:NH1  | 1:A:230:GLU:HB3  | 2.28                     | 0.49              |
| 1:A:246:MET:N    | 1:B:474:CYS:O    | 2.46                     | 0.49              |
| 1:A:394:ALA:HA   | 1:A:407:ILE:O    | 2.13                     | 0.49              |
| 1:B:147:HIS:CD2  | 1:B:177:ASP:O    | 2.56                     | 0.49              |
| 1:B:307:ASP:HB2  | 1:B:413:ALA:CB   | 2.40                     | 0.49              |
| 1:C:79:TYR:HE2   | 1:C:344:ARG:CG   | 2.25                     | 0.49              |
| 1:A:13:PHE:CD2   | 1:A:328:TYR:CD2  | 2.99                     | 0.49              |
| 1:A:13:PHE:CE2   | 1:A:296:HIS:CD2  | 3.01                     | 0.49              |
| 1:A:205:ILE:HA   | 1:B:471:SER:HA   | 1.94                     | 0.49              |
| 1:A:161:VAL:O    | 1:A:210:HIS:HB3  | 2.12                     | 0.49              |
| 1:A:242:TYR:CA   | 1:A:245:VAL:HG12 | 2.42                     | 0.49              |
| 1:A:273:TYR:HB2  | 1:A:389:ASP:OD1  | 2.13                     | 0.49              |
| 1:A:307:ASP:HB2  | 1:A:413:ALA:CB   | 2.40                     | 0.49              |
| 1:B:154:ASN:O    | 1:B:157:ASP:HB3  | 2.13                     | 0.49              |
| 1:B:161:VAL:O    | 1:B:210:HIS:HB3  | 2.12                     | 0.49              |
| 1:A:187:TRP:CD1  | 1:B:370:ASN:CB   | 2.96                     | 0.49              |
| 1:A:203:LEU:HB3  | 1:B:471:SER:H    | 1.77                     | 0.49              |
| 1:C:434:THR:HG21 | 1:C:474:CYS:SG   | 2.53                     | 0.49              |
| 1:A:177:ASP:CG   | 1:B:53:GLN:O     | 2.52                     | 0.48              |
| 1:A:196:SER:OG   | 1:B:400:ASP:C    | 2.45                     | 0.48              |
| 1:A:216:TRP:N    | 1:A:217:PRO:HD2  | 2.28                     | 0.48              |
| 1:A:359:TYR:HA   | 1:A:362:ILE:HD12 | 1.93                     | 0.48              |
| 1:B:180:LYS:O    | 1:B:182:VAL:HG12 | 2.13                     | 0.48              |
| 1:B:185:ASN:CA   | 1:B:188:TYR:CD2  | 2.79                     | 0.48              |
| 1:B:204:ARG:CZ   | 1:B:230:GLU:HB2  | 2.43                     | 0.48              |
| 1:B:273:TYR:HB2  | 1:B:389:ASP:OD1  | 2.13                     | 0.48              |
| 1:B:436:VAL:HG13 | 1:B:437:ILE:CD1  | 2.43                     | 0.48              |
| 1:A:133:ASP:O    | 1:A:134:TYR:HB2  | 2.13                     | 0.48              |
| 1:A:193:SER:O    | 1:A:196:SER:CB   | 2.61                     | 0.48              |
| 1:A:194:LEU:HD13 | 1:B:375:LYS:HG3  | 1.93                     | 0.48              |
| 1:A:204:ARG:CZ   | 1:A:230:GLU:HB2  | 2.43                     | 0.48              |
| 1:A:382:TYR:OH   | 1:A:385:PRO:HG3  | 2.13                     | 0.48              |
| 1:B:204:ARG:NH1  | 1:B:230:GLU:HB3  | 2.28                     | 0.48              |
| 1:B:321:ASN:OD1  | 1:B:384:ASN:ND2  | 2.47                     | 0.48              |
| 1:B:434:THR:HG21 | 1:B:474:CYS:SG   | 2.53                     | 0.48              |
| 1:C:154:ASN:O    | 1:C:157:ASP:HB3  | 2.13                     | 0.48              |
| 1:C:193:SER:O    | 1:C:196:SER:CB   | 2.61                     | 0.48              |
| 1:C:21:ARG:HH21  | 1:C:21:ARG:HG2   | 1.78                     | 0.48              |
| 1:C:240:CYS:CB   | 1:C:241:PRO:CD   | 2.89                     | 0.48              |
| 1:C:259:LEU:HD21 | 1:C:304:TYR:OH   | 2.12                     | 0.48              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:C:394:ALA:HA   | 1:C:407:ILE:O    | 2.13                     | 0.48              |
| 1:C:75:TYR:CE1   | 1:C:170:THR:CG2  | 2.91                     | 0.48              |
| 1:A:147:HIS:HB2  | 1:A:175:ASP:O    | 2.13                     | 0.48              |
| 1:A:208:VAL:HG23 | 1:A:216:TRP:CD2  | 2.46                     | 0.48              |
| 1:A:21:ARG:HH21  | 1:A:21:ARG:HG2   | 1.78                     | 0.48              |
| 1:A:255:TYR:CG   | 1:A:292:PHE:CE2  | 3.00                     | 0.48              |
| 1:A:436:VAL:HG13 | 1:A:437:ILE:CD1  | 2.43                     | 0.48              |
| 1:B:399:THR:CG2  | 1:C:196:SER:HA   | 2.44                     | 0.48              |
| 1:B:394:ALA:HA   | 1:B:407:ILE:O    | 2.13                     | 0.48              |
| 1:B:392:THR:HG21 | 1:B:410:ASN:HB2  | 1.94                     | 0.48              |
| 1:C:11:ILE:HB    | 1:C:326:ILE:CA   | 2.41                     | 0.48              |
| 1:C:147:HIS:HB2  | 1:C:175:ASP:O    | 2.12                     | 0.48              |
| 1:C:346:ALA:O    | 1:C:349:LEU:HB2  | 2.14                     | 0.48              |
| 1:A:119:VAL:HG23 | 1:A:206:ASP:CB   | 2.31                     | 0.48              |
| 1:A:165:TRP:CE2  | 1:B:110:ARG:N    | 2.80                     | 0.48              |
| 1:A:221:LYS:O    | 1:B:463:TYR:HB3  | 2.13                     | 0.48              |
| 1:A:473:ILE:HG23 | 1:A:474:CYS:N    | 2.25                     | 0.48              |
| 1:B:134:TYR:CD1  | 1:B:143:GLN:HB3  | 2.49                     | 0.48              |
| 1:B:147:HIS:HB2  | 1:B:175:ASP:O    | 2.13                     | 0.48              |
| 1:C:134:TYR:CD1  | 1:C:143:GLN:HB3  | 2.49                     | 0.48              |
| 1:C:101:LYS:CE   | 1:C:198:TYR:CE2  | 2.96                     | 0.48              |
| 1:C:455:ALA:HB3  | 1:C:458:LEU:HD12 | 1.95                     | 0.48              |
| 1:C:79:TYR:HE2   | 1:C:344:ARG:CD   | 2.25                     | 0.48              |
| 1:A:189:ASP:HB3  | 1:B:369:ARG:O    | 2.13                     | 0.48              |
| 1:A:225:VAL:HG11 | 1:B:466:GLU:HA   | 1.95                     | 0.48              |
| 1:A:246:MET:HE3  | 1:B:476:ASP:OD1  | 2.13                     | 0.48              |
| 1:A:256:TYR:N    | 1:A:257:PRO:HD2  | 2.28                     | 0.48              |
| 1:B:256:TYR:N    | 1:B:257:PRO:HD2  | 2.28                     | 0.48              |
| 1:B:404:ILE:CB   | 1:B:404:ILE:N    | 2.73                     | 0.48              |
| 1:B:455:ALA:HB3  | 1:B:458:LEU:HD12 | 1.95                     | 0.48              |
| 1:B:428:THR:OG1  | 1:C:186:GLU:O    | 2.31                     | 0.48              |
| 1:C:18:ARG:HD3   | 1:C:344:ARG:HB3  | 1.95                     | 0.48              |
| 1:C:204:ARG:HH11 | 1:C:204:ARG:CG   | 2.20                     | 0.48              |
| 1:B:241:PRO:HB2  | 1:C:376:ASP:H    | 1.79                     | 0.48              |
| 1:C:385:PRO:HG2  | 1:C:396:ARG:N    | 2.28                     | 0.48              |
| 1:A:392:THR:HG21 | 1:A:410:ASN:HB2  | 1.94                     | 0.48              |
| 1:A:385:PRO:HG2  | 1:A:396:ARG:N    | 2.28                     | 0.48              |
| 1:B:18:ARG:HD3   | 1:B:344:ARG:HB3  | 1.94                     | 0.48              |
| 1:B:193:SER:O    | 1:B:196:SER:CB   | 2.61                     | 0.48              |
| 1:B:101:LYS:CE   | 1:B:198:TYR:CE2  | 2.96                     | 0.48              |
| 1:B:259:LEU:HD21 | 1:B:304:TYR:OH   | 2.12                     | 0.48              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:B:319:ILE:CA   | 1:B:325:PRO:HB2  | 2.39                     | 0.48              |
| 1:B:346:ALA:O    | 1:B:349:LEU:HB2  | 2.14                     | 0.48              |
| 1:B:237:ALA:O    | 1:C:376:ASP:OD1  | 2.30                     | 0.48              |
| 1:A:134:TYR:CE1  | 1:A:143:GLN:HB2  | 2.47                     | 0.48              |
| 1:A:122:HIS:HB2  | 1:A:173:LEU:HB3  | 1.96                     | 0.48              |
| 1:A:204:ARG:CB   | 1:B:470:GLY:CA   | 2.23                     | 0.48              |
| 1:A:346:ALA:O    | 1:A:349:LEU:HB2  | 2.14                     | 0.48              |
| 1:B:123:MET:HE1  | 1:B:140:PHE:CE1  | 2.41                     | 0.48              |
| 1:B:216:TRP:N    | 1:B:217:PRO:HD2  | 2.28                     | 0.48              |
| 1:A:180:LYS:CB   | 1:B:55:MET:CG    | 2.92                     | 0.48              |
| 1:B:428:THR:HB   | 1:C:190:TRP:H    | 1.78                     | 0.48              |
| 1:C:204:ARG:CZ   | 1:C:230:GLU:HB2  | 2.43                     | 0.48              |
| 1:C:216:TRP:N    | 1:C:217:PRO:HD2  | 2.28                     | 0.48              |
| 1:C:255:TYR:CG   | 1:C:292:PHE:CE2  | 3.00                     | 0.48              |
| 1:C:321:ASN:OD1  | 1:C:384:ASN:ND2  | 2.46                     | 0.48              |
| 1:C:436:VAL:HG13 | 1:C:437:ILE:CD1  | 2.43                     | 0.48              |
| 1:A:190:TRP:CE3  | 1:A:191:VAL:HG13 | 2.49                     | 0.48              |
| 1:A:294:GLU:OE1  | 1:A:331:GLN:HA   | 2.14                     | 0.48              |
| 1:A:35:GLN:HG3   | 1:A:76:GLY:HA3   | 1.95                     | 0.48              |
| 1:A:42:TRP:CE3   | 1:A:94:TYR:CG    | 3.01                     | 0.48              |
| 1:B:133:ASP:O    | 1:B:134:TYR:HB2  | 2.13                     | 0.48              |
| 1:B:190:TRP:CE3  | 1:B:191:VAL:HG13 | 2.49                     | 0.48              |
| 1:A:180:LYS:HZ2  | 1:B:57:PHE:HB2   | 1.77                     | 0.48              |
| 1:C:286:SER:C    | 1:C:287:THR:HG23 | 2.33                     | 0.48              |
| 1:C:392:THR:HG21 | 1:C:410:ASN:HB2  | 1.94                     | 0.48              |
| 1:C:42:TRP:CE3   | 1:C:94:TYR:CG    | 3.01                     | 0.48              |
| 1:A:180:LYS:HG3  | 1:B:12:TYR:CB    | 2.43                     | 0.48              |
| 1:B:122:HIS:CE1  | 1:B:173:LEU:HD22 | 2.48                     | 0.48              |
| 1:B:182:VAL:HG13 | 1:B:183:VAL:N    | 2.18                     | 0.48              |
| 1:B:205:ILE:HD13 | 1:B:205:ILE:HG21 | 1.47                     | 0.48              |
| 1:B:238:TYR:CD2  | 1:C:403:GLN:OE1  | 2.67                     | 0.48              |
| 1:B:13:PHE:CE2   | 1:B:296:HIS:CD2  | 3.01                     | 0.48              |
| 1:B:364:SER:HB2  | 1:B:437:ILE:HG23 | 1.96                     | 0.48              |
| 1:A:194:LEU:CG   | 1:B:375:LYS:CG   | 2.90                     | 0.48              |
| 1:A:196:SER:CB   | 1:B:403:GLN:HG3  | 2.33                     | 0.48              |
| 1:A:180:LYS:HE2  | 1:B:57:PHE:HB3   | 1.91                     | 0.48              |
| 1:B:79:TYR:HE2   | 1:B:344:ARG:CG   | 2.26                     | 0.48              |
| 1:C:122:HIS:HB2  | 1:C:173:LEU:HB3  | 1.96                     | 0.48              |
| 1:C:34:ASP:O     | 1:C:36:LYS:HG3   | 2.13                     | 0.48              |
| 1:C:433:LEU:O    | 1:C:442:VAL:HB   | 2.14                     | 0.48              |
| 1:A:134:TYR:CD1  | 1:A:143:GLN:HB3  | 2.49                     | 0.48              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:385:PRO:HG2  | 1:A:396:ARG:CA   | 2.44                     | 0.48              |
| 1:A:91:ASN:C     | 1:A:92:GLU:CG    | 2.82                     | 0.48              |
| 1:B:286:SER:C    | 1:B:287:THR:HG23 | 2.33                     | 0.48              |
| 1:B:383:LYS:CG   | 1:C:113:TYR:CE1  | 2.95                     | 0.48              |
| 1:B:463:TYR:CE2  | 1:B:463:TYR:OH   | 2.51                     | 0.48              |
| 1:A:227:CYS:CA   | 1:B:476:ASP:HA   | 2.43                     | 0.48              |
| 1:B:13:PHE:CD2   | 1:B:61:TRP:CZ3   | 3.02                     | 0.48              |
| 1:C:133:ASP:O    | 1:C:134:TYR:HB2  | 2.13                     | 0.48              |
| 1:C:272:LEU:O    | 1:C:275:MET:HB3  | 2.14                     | 0.48              |
| 1:B:382:TYR:C    | 1:C:2:THR:CG2    | 2.77                     | 0.48              |
| 1:C:308:ILE:H    | 1:C:308:ILE:HG13 | 1.19                     | 0.48              |
| 1:C:385:PRO:HG2  | 1:C:396:ARG:CA   | 2.44                     | 0.48              |
| 1:A:88:TYR:CD2   | 1:A:139:PRO:HB3  | 2.49                     | 0.47              |
| 1:A:215:PHE:CE1  | 1:B:472:LYS:HB3  | 2.49                     | 0.47              |
| 1:A:286:SER:C    | 1:A:287:THR:HG23 | 2.33                     | 0.47              |
| 1:A:321:ASN:OD1  | 1:A:384:ASN:ND2  | 2.47                     | 0.47              |
| 1:A:420:LEU:CD1  | 1:A:454:MET:HE2  | 2.44                     | 0.47              |
| 1:B:204:ARG:HG2  | 1:B:228:ILE:O    | 2.12                     | 0.47              |
| 1:B:250:LEU:HD12 | 1:B:292:PHE:HE1  | 1.79                     | 0.47              |
| 1:B:42:TRP:CE3   | 1:B:94:TYR:CG    | 3.01                     | 0.47              |
| 1:C:180:LYS:HZ3  | 1:C:182:VAL:HB   | 1.77                     | 0.47              |
| 1:C:35:GLN:HG3   | 1:C:76:GLY:HA3   | 1.95                     | 0.47              |
| 1:C:382:TYR:OH   | 1:C:385:PRO:HG3  | 2.13                     | 0.47              |
| 1:C:45:ILE:CG2   | 1:C:49:LEU:CD1   | 2.80                     | 0.47              |
| 1:A:208:VAL:C    | 1:A:216:TRP:HZ2  | 2.17                     | 0.47              |
| 1:A:249:VAL:CA   | 1:B:477:SER:CB   | 2.92                     | 0.47              |
| 1:A:272:LEU:O    | 1:A:275:MET:HB3  | 2.14                     | 0.47              |
| 1:A:433:LEU:O    | 1:A:442:VAL:HB   | 2.14                     | 0.47              |
| 1:B:122:HIS:HB2  | 1:B:173:LEU:HB3  | 1.96                     | 0.47              |
| 1:B:447:ASP:OD1  | 1:C:184:LYS:HD2  | 2.15                     | 0.47              |
| 1:C:122:HIS:CE1  | 1:C:173:LEU:HD22 | 2.48                     | 0.47              |
| 1:C:208:VAL:C    | 1:C:216:TRP:HZ2  | 2.17                     | 0.47              |
| 1:C:373:ILE:HG22 | 1:C:377:THR:HG22 | 1.92                     | 0.47              |
| 1:B:237:ALA:HA   | 1:C:379:PHE:H    | 1.77                     | 0.47              |
| 1:C:418:TYR:CD1  | 1:C:454:MET:HE2  | 2.49                     | 0.47              |
| 1:C:88:TYR:CD2   | 1:C:139:PRO:HB3  | 2.49                     | 0.47              |
| 1:A:122:HIS:CE1  | 1:A:173:LEU:HD22 | 2.48                     | 0.47              |
| 1:A:250:LEU:HD12 | 1:A:292:PHE:HE1  | 1.80                     | 0.47              |
| 1:A:455:ALA:HB3  | 1:A:458:LEU:HD12 | 1.95                     | 0.47              |
| 1:B:123:MET:CE   | 1:B:140:PHE:HE1  | 2.24                     | 0.47              |
| 1:B:195:VAL:HG23 | 1:B:200:ILE:O    | 2.14                     | 0.47              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:B:35:GLN:HG3   | 1:B:76:GLY:HA3   | 1.95                     | 0.47              |
| 1:C:13:PHE:CD2   | 1:C:61:TRP:CZ3   | 3.02                     | 0.47              |
| 1:A:120:ALA:HA   | 1:A:187:TRP:CH2  | 2.49                     | 0.47              |
| 1:A:232:LEU:HD23 | 1:A:232:LEU:H    | 1.78                     | 0.47              |
| 1:A:43:GLN:NE2   | 1:A:99:ASP:OD1   | 2.46                     | 0.47              |
| 1:B:120:ALA:HA   | 1:B:187:TRP:CH2  | 2.49                     | 0.47              |
| 1:B:205:ILE:HD12 | 1:B:208:VAL:HG21 | 1.96                     | 0.47              |
| 1:A:188:TYR:N    | 1:B:369:ARG:C    | 2.68                     | 0.47              |
| 1:C:184:LYS:C    | 1:C:188:TYR:CD2  | 2.88                     | 0.47              |
| 1:C:190:TRP:CE3  | 1:C:191:VAL:HG13 | 2.49                     | 0.47              |
| 1:C:204:ARG:HG2  | 1:C:228:ILE:O    | 2.12                     | 0.47              |
| 1:A:154:ASN:O    | 1:A:157:ASP:HB3  | 2.13                     | 0.47              |
| 1:A:13:PHE:CD2   | 1:A:61:TRP:CZ3   | 3.02                     | 0.47              |
| 1:B:232:LEU:N    | 1:B:232:LEU:HD23 | 2.30                     | 0.47              |
| 1:A:180:LYS:CE   | 1:B:57:PHE:HB2   | 2.22                     | 0.47              |
| 1:C:250:LEU:HD12 | 1:C:292:PHE:HE1  | 1.80                     | 0.47              |
| 1:C:294:GLU:OE1  | 1:C:331:GLN:HA   | 2.14                     | 0.47              |
| 1:C:49:LEU:HD23  | 1:C:110:ARG:CD   | 2.41                     | 0.47              |
| 1:A:364:SER:HB2  | 1:A:437:ILE:HG23 | 1.96                     | 0.47              |
| 1:B:11:ILE:HB    | 1:B:326:ILE:CA   | 2.40                     | 0.47              |
| 1:B:12:TYR:C     | 1:B:12:TYR:CD1   | 2.88                     | 0.47              |
| 1:B:185:ASN:N    | 1:B:188:TYR:CD2  | 2.83                     | 0.47              |
| 1:B:187:TRP:HZ3  | 1:B:190:TRP:CH2  | 2.33                     | 0.47              |
| 1:B:241:PRO:HB2  | 1:C:376:ASP:N    | 2.29                     | 0.47              |
| 1:B:255:TYR:CG   | 1:B:292:PHE:CE2  | 3.00                     | 0.47              |
| 1:A:190:TRP:CZ3  | 1:B:374:SER:HB2  | 2.43                     | 0.47              |
| 1:B:433:LEU:O    | 1:B:442:VAL:HB   | 2.14                     | 0.47              |
| 1:C:12:TYR:C     | 1:C:12:TYR:CD1   | 2.88                     | 0.47              |
| 1:C:120:ALA:HA   | 1:C:187:TRP:CH2  | 2.49                     | 0.47              |
| 1:C:187:TRP:HZ3  | 1:C:190:TRP:CH2  | 2.33                     | 0.47              |
| 1:C:232:LEU:N    | 1:C:232:LEU:HD23 | 2.30                     | 0.47              |
| 1:C:256:TYR:N    | 1:C:257:PRO:HD2  | 2.28                     | 0.47              |
| 1:B:213:LYS:HZ3  | 1:C:375:LYS:HG2  | 1.80                     | 0.47              |
| 1:B:238:TYR:CD2  | 1:C:403:GLN:CD   | 2.84                     | 0.47              |
| 1:A:12:TYR:CD1   | 1:A:12:TYR:C     | 2.88                     | 0.47              |
| 1:A:83:TRP:NE1   | 1:A:173:LEU:CD2  | 2.68                     | 0.47              |
| 1:A:180:LYS:H    | 1:B:55:MET:CA    | 2.25                     | 0.47              |
| 1:A:249:VAL:CA   | 1:B:477:SER:HB3  | 2.45                     | 0.47              |
| 1:A:129:GLY:C    | 1:B:109:GLU:OE2  | 2.52                     | 0.47              |
| 1:B:88:TYR:CD2   | 1:B:139:PRO:HB3  | 2.49                     | 0.47              |
| 1:B:184:LYS:C    | 1:B:188:TYR:CD2  | 2.88                     | 0.47              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:B:21:ARG:HH21  | 1:B:21:ARG:HG2   | 1.79                     | 0.47              |
| 1:B:232:LEU:H    | 1:B:232:LEU:HD23 | 1.78                     | 0.47              |
| 1:B:385:PRO:HG2  | 1:B:396:ARG:CA   | 2.44                     | 0.47              |
| 1:B:420:LEU:CD1  | 1:B:454:MET:HE2  | 2.44                     | 0.47              |
| 1:A:178:THR:CB   | 1:B:57:PHE:O     | 2.54                     | 0.47              |
| 1:C:319:ILE:CA   | 1:C:325:PRO:HB2  | 2.39                     | 0.47              |
| 1:C:364:SER:HB2  | 1:C:437:ILE:HG23 | 1.96                     | 0.47              |
| 1:C:43:GLN:NE2   | 1:C:99:ASP:OD1   | 2.46                     | 0.47              |
| 1:A:404:ILE:N    | 1:A:404:ILE:HG22 | 2.30                     | 0.47              |
| 1:A:56:GLY:HA3   | 1:A:366:ASN:CB   | 2.42                     | 0.47              |
| 1:B:115:MET:HE2  | 1:B:204:ARG:HB2  | 1.93                     | 0.47              |
| 1:B:237:ALA:CB   | 1:C:379:PHE:CB   | 2.93                     | 0.47              |
| 1:A:181:ASP:N    | 1:B:362:ILE:CG2  | 2.77                     | 0.47              |
| 1:A:187:TRP:HB3  | 1:B:371:TYR:HB2  | 1.96                     | 0.47              |
| 1:B:399:THR:HG22 | 1:C:196:SER:N    | 2.29                     | 0.47              |
| 1:C:83:TRP:HH2   | 1:C:171:VAL:HG21 | 1.74                     | 0.47              |
| 1:C:195:VAL:HG23 | 1:C:200:ILE:O    | 2.14                     | 0.47              |
| 1:B:397:LYS:N    | 1:C:224:GLY:HA3  | 2.30                     | 0.47              |
| 1:C:404:ILE:N    | 1:C:404:ILE:HG22 | 2.30                     | 0.47              |
| 1:A:123:MET:CB   | 1:A:137:PHE:CE1  | 2.79                     | 0.47              |
| 1:A:229:GLY:HA3  | 1:A:246:MET:CE   | 2.42                     | 0.47              |
| 1:A:232:LEU:HD23 | 1:A:232:LEU:N    | 2.30                     | 0.47              |
| 1:A:146:PHE:HB2  | 1:B:111:GLY:HA2  | 1.03                     | 0.47              |
| 1:B:432:GLN:HG3  | 1:B:465:THR:HG21 | 1.90                     | 0.47              |
| 1:C:123:MET:CG   | 1:C:146:PHE:HE1  | 2.07                     | 0.47              |
| 1:C:55:MET:HG3   | 1:C:362:ILE:HG21 | 1.97                     | 0.47              |
| 1:C:420:LEU:CD1  | 1:C:454:MET:HE2  | 2.45                     | 0.47              |
| 1:A:147:HIS:CE1  | 1:B:110:ARG:NH1  | 2.83                     | 0.47              |
| 1:A:387:ILE:HD11 | 1:A:424:GLY:C    | 2.35                     | 0.47              |
| 1:A:387:ILE:HD13 | 1:A:387:ILE:HG21 | 1.37                     | 0.47              |
| 1:A:62:ILE:HD13  | 1:A:62:ILE:HG21  | 1.43                     | 0.47              |
| 1:B:204:ARG:CZ   | 1:B:230:GLU:CB   | 2.93                     | 0.47              |
| 1:B:243:GLN:NE2  | 1:B:285:ASP:HA   | 2.30                     | 0.47              |
| 1:B:252:TYR:CA   | 1:B:292:PHE:HZ   | 2.27                     | 0.47              |
| 1:A:187:TRP:CD1  | 1:B:370:ASN:HB3  | 2.49                     | 0.47              |
| 1:B:387:ILE:HD11 | 1:B:424:GLY:C    | 2.36                     | 0.47              |
| 1:C:408:LEU:HD13 | 1:C:460:ARG:O    | 2.15                     | 0.47              |
| 1:A:143:GLN:NE2  | 1:B:108:HIS:CB   | 2.77                     | 0.47              |
| 1:A:148:PRO:HG3  | 1:B:49:LEU:CD2   | 2.45                     | 0.47              |
| 1:A:205:ILE:CG1  | 1:B:472:LYS:N    | 2.75                     | 0.47              |
| 1:A:49:LEU:HD23  | 1:A:110:ARG:CD   | 2.41                     | 0.47              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:B:294:GLU:OE1  | 1:B:331:GLN:HA   | 2.14                     | 0.47              |
| 1:C:185:ASN:N    | 1:C:188:TYR:CD2  | 2.83                     | 0.47              |
| 1:A:147:HIS:HB3  | 1:B:110:ARG:O    | 2.14                     | 0.46              |
| 1:A:187:TRP:HZ3  | 1:A:190:TRP:CH2  | 2.33                     | 0.46              |
| 1:A:217:PRO:HD3  | 1:A:245:VAL:HG22 | 1.91                     | 0.46              |
| 1:A:221:LYS:CB   | 1:B:434:THR:HG22 | 2.44                     | 0.46              |
| 1:A:243:GLN:NE2  | 1:A:285:ASP:HA   | 2.30                     | 0.46              |
| 1:A:422:LEU:HD11 | 1:A:425:ALA:HB2  | 1.97                     | 0.46              |
| 1:A:418:TYR:CE1  | 1:A:454:MET:CE   | 2.98                     | 0.46              |
| 1:B:147:HIS:N    | 1:B:175:ASP:O    | 2.48                     | 0.46              |
| 1:C:232:LEU:HD23 | 1:C:232:LEU:H    | 1.78                     | 0.46              |
| 1:B:282:ASP:HA   | 1:C:373:ILE:HD13 | 1.97                     | 0.46              |
| 1:C:387:ILE:HD11 | 1:C:424:GLY:C    | 2.35                     | 0.46              |
| 1:C:78:ALA:O     | 1:C:81:GLY:CA    | 2.61                     | 0.46              |
| 1:A:292:PHE:C    | 1:A:293:VAL:HG12 | 2.36                     | 0.46              |
| 1:A:463:TYR:CE2  | 1:A:463:TYR:OH   | 2.51                     | 0.46              |
| 1:A:147:HIS:N    | 1:B:110:ARG:O    | 2.39                     | 0.46              |
| 1:B:272:LEU:O    | 1:B:275:MET:HB3  | 2.14                     | 0.46              |
| 1:B:317:PHE:C    | 1:B:317:PHE:CD1  | 2.89                     | 0.46              |
| 1:B:458:LEU:CD1  | 1:B:460:ARG:NH2  | 2.79                     | 0.46              |
| 1:C:19:PHE:HD1   | 1:C:347:THR:HB   | 1.77                     | 0.46              |
| 1:C:205:ILE:HD12 | 1:C:208:VAL:HG21 | 1.96                     | 0.46              |
| 1:C:204:ARG:CZ   | 1:C:230:GLU:CB   | 2.93                     | 0.46              |
| 1:C:243:GLN:NE2  | 1:C:285:ASP:HA   | 2.30                     | 0.46              |
| 1:A:192:GLY:N    | 1:B:463:TYR:OH   | 2.41                     | 0.46              |
| 1:A:215:PHE:CD2  | 1:B:367:ALA:HB2  | 2.51                     | 0.46              |
| 1:A:458:LEU:CD1  | 1:A:460:ARG:NH2  | 2.79                     | 0.46              |
| 1:B:208:VAL:C    | 1:B:216:TRP:HZ2  | 2.17                     | 0.46              |
| 1:B:292:PHE:C    | 1:B:293:VAL:HG12 | 2.36                     | 0.46              |
| 1:C:476:ASP:O    | 1:C:477:SER:HB3  | 2.15                     | 0.46              |
| 1:A:242:TYR:HA   | 1:A:245:VAL:HG12 | 1.97                     | 0.46              |
| 1:A:243:GLN:CB   | 1:A:249:VAL:HG11 | 2.45                     | 0.46              |
| 1:A:368:ILE:HG21 | 1:A:368:ILE:HD13 | 1.44                     | 0.46              |
| 1:B:107:LEU:HG   | 1:B:108:HIS:N    | 2.30                     | 0.46              |
| 1:B:19:PHE:CE1   | 1:B:347:THR:HG21 | 2.50                     | 0.46              |
| 1:B:400:ASP:CB   | 1:C:195:VAL:N    | 2.78                     | 0.46              |
| 1:B:446:SER:HG   | 1:C:181:ASP:CG   | 1.96                     | 0.46              |
| 1:C:148:PRO:O    | 1:C:165:TRP:NE1  | 2.48                     | 0.46              |
| 1:B:394:ALA:HB1  | 1:C:221:LYS:NZ   | 2.30                     | 0.46              |
| 1:C:240:CYS:N    | 1:C:241:PRO:HD2  | 2.30                     | 0.46              |
| 1:C:422:LEU:HD11 | 1:C:425:ALA:HB2  | 1.98                     | 0.46              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:83:TRP:HH2   | 1:A:171:VAL:HG21 | 1.74                     | 0.46              |
| 1:A:300:ARG:NH1  | 1:A:329:ALA:O    | 2.49                     | 0.46              |
| 1:A:280:LYS:NZ   | 1:A:383:LYS:HB3  | 2.31                     | 0.46              |
| 1:A:75:TYR:HE1   | 1:A:170:THR:CB   | 2.29                     | 0.46              |
| 1:B:148:PRO:O    | 1:B:165:TRP:NE1  | 2.49                     | 0.46              |
| 1:B:408:LEU:HD13 | 1:B:460:ARG:O    | 2.15                     | 0.46              |
| 1:A:218:GLY:HA2  | 1:B:437:ILE:N    | 2.30                     | 0.46              |
| 1:B:75:TYR:HE1   | 1:B:170:THR:CB   | 2.29                     | 0.46              |
| 1:C:292:PHE:C    | 1:C:293:VAL:HG12 | 2.36                     | 0.46              |
| 1:C:451:PRO:O    | 1:C:453:PRO:HD3  | 2.16                     | 0.46              |
| 1:A:185:ASN:ND2  | 1:B:319:ILE:HD12 | 2.30                     | 0.46              |
| 1:A:204:ARG:CZ   | 1:A:230:GLU:CB   | 2.93                     | 0.46              |
| 1:A:216:TRP:O    | 1:B:474:CYS:N    | 2.49                     | 0.46              |
| 1:A:19:PHE:CE1   | 1:A:347:THR:HG21 | 2.50                     | 0.46              |
| 1:B:242:TYR:HA   | 1:B:245:VAL:HG12 | 1.97                     | 0.46              |
| 1:B:340:ASP:OD1  | 1:B:341:PRO:N    | 2.48                     | 0.46              |
| 1:B:55:MET:HG3   | 1:B:362:ILE:HG21 | 1.97                     | 0.46              |
| 1:B:62:ILE:HG21  | 1:B:62:ILE:HD13  | 1.42                     | 0.46              |
| 1:B:68:GLN:NE2   | 1:B:81:GLY:HA2   | 2.29                     | 0.46              |
| 1:B:78:ALA:O     | 1:B:81:GLY:CA    | 2.61                     | 0.46              |
| 1:C:75:TYR:HE1   | 1:C:170:THR:CB   | 2.29                     | 0.46              |
| 1:C:61:TRP:HZ2   | 1:C:204:ARG:CZ   | 2.29                     | 0.46              |
| 1:C:418:TYR:CE1  | 1:C:454:MET:CE   | 2.98                     | 0.46              |
| 1:C:68:GLN:NE2   | 1:C:81:GLY:HA2   | 2.29                     | 0.46              |
| 1:A:123:MET:CE   | 1:A:140:PHE:CE1  | 2.98                     | 0.46              |
| 1:A:211:VAL:HG12 | 1:A:211:VAL:H    | 1.05                     | 0.46              |
| 1:A:340:ASP:OD1  | 1:A:341:PRO:N    | 2.48                     | 0.46              |
| 1:A:408:LEU:HD13 | 1:A:460:ARG:O    | 2.15                     | 0.46              |
| 1:B:188:TYR:HE1  | 1:B:218:GLY:C    | 2.18                     | 0.46              |
| 1:B:332:GLU:O    | 1:B:358:LEU:HB2  | 2.15                     | 0.46              |
| 1:B:451:PRO:O    | 1:B:453:PRO:HD3  | 2.16                     | 0.46              |
| 1:C:188:TYR:HE1  | 1:C:218:GLY:C    | 2.18                     | 0.46              |
| 1:C:56:GLY:HA3   | 1:C:366:ASN:CB   | 2.42                     | 0.46              |
| 1:A:332:GLU:O    | 1:A:358:LEU:HB2  | 2.15                     | 0.46              |
| 1:A:451:PRO:O    | 1:A:453:PRO:HD3  | 2.16                     | 0.46              |
| 1:A:78:ALA:O     | 1:A:81:GLY:CA    | 2.61                     | 0.46              |
| 1:B:404:ILE:HG22 | 1:B:404:ILE:N    | 2.30                     | 0.46              |
| 1:B:83:TRP:HH2   | 1:B:171:VAL:HG21 | 1.74                     | 0.46              |
| 1:C:18:ARG:CD    | 1:C:344:ARG:HB3  | 2.46                     | 0.46              |
| 1:C:263:LYS:H    | 1:C:310:LEU:HD23 | 1.81                     | 0.46              |
| 1:C:317:PHE:CD1  | 1:C:317:PHE:C    | 2.89                     | 0.46              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:C:332:GLU:O    | 1:C:358:LEU:HB2  | 2.15                     | 0.46              |
| 1:A:188:TYR:HE1  | 1:A:218:GLY:C    | 2.18                     | 0.46              |
| 1:A:55:MET:HG3   | 1:A:362:ILE:HG21 | 1.97                     | 0.46              |
| 1:C:147:HIS:N    | 1:C:175:ASP:O    | 2.48                     | 0.46              |
| 1:B:422:LEU:HD21 | 1:C:221:LYS:HG2  | 1.98                     | 0.46              |
| 1:C:243:GLN:CB   | 1:C:249:VAL:HG11 | 2.45                     | 0.46              |
| 1:C:300:ARG:NH1  | 1:C:329:ALA:O    | 2.49                     | 0.46              |
| 1:C:25:SER:C     | 1:C:348:TRP:HE1  | 2.20                     | 0.46              |
| 1:C:388:LYS:CE   | 1:C:390:ASP:HB2  | 2.39                     | 0.46              |
| 1:A:143:GLN:N    | 1:B:113:TYR:CD2  | 2.84                     | 0.46              |
| 1:A:123:MET:CG   | 1:A:146:PHE:HE1  | 2.07                     | 0.46              |
| 1:A:165:TRP:CZ2  | 1:B:110:ARG:N    | 2.77                     | 0.46              |
| 1:A:194:LEU:CG   | 1:B:375:LYS:CB   | 2.91                     | 0.46              |
| 1:A:246:MET:HB2  | 1:B:476:ASP:C    | 2.26                     | 0.46              |
| 1:A:55:MET:HE3   | 1:A:332:GLU:HB3  | 1.97                     | 0.46              |
| 1:A:61:TRP:HZ2   | 1:A:204:ARG:CZ   | 2.29                     | 0.46              |
| 1:A:180:LYS:CG   | 1:B:12:TYR:HB2   | 2.42                     | 0.46              |
| 1:B:243:GLN:CB   | 1:B:249:VAL:HG11 | 2.45                     | 0.46              |
| 1:C:188:TYR:CE1  | 1:C:218:GLY:C    | 2.89                     | 0.46              |
| 1:B:381:THR:HG22 | 1:C:1:ALA:CA     | 2.46                     | 0.46              |
| 1:C:42:TRP:NE1   | 1:C:62:ILE:CD1   | 2.68                     | 0.46              |
| 1:A:147:HIS:N    | 1:A:175:ASP:O    | 2.48                     | 0.45              |
| 1:A:21:ARG:NH2   | 1:A:21:ARG:HG2   | 2.32                     | 0.45              |
| 1:A:263:LYS:H    | 1:A:310:LEU:HD23 | 1.81                     | 0.45              |
| 1:A:317:PHE:CD1  | 1:A:317:PHE:C    | 2.89                     | 0.45              |
| 1:A:476:ASP:O    | 1:A:477:SER:HB3  | 2.15                     | 0.45              |
| 1:A:88:TYR:CE2   | 1:B:373:ILE:CA   | 2.88                     | 0.45              |
| 1:B:176:LEU:O    | 1:B:177:ASP:HB2  | 2.16                     | 0.45              |
| 1:B:400:ASP:C    | 1:C:192:GLY:O    | 2.55                     | 0.45              |
| 1:B:404:ILE:HG21 | 1:B:404:ILE:HD12 | 1.03                     | 0.45              |
| 1:B:418:TYR:CD1  | 1:B:454:MET:HE2  | 2.51                     | 0.45              |
| 1:C:100:LEU:O    | 1:C:103:LEU:HB3  | 2.16                     | 0.45              |
| 1:C:205:ILE:HG21 | 1:C:205:ILE:HD13 | 1.47                     | 0.45              |
| 1:C:19:PHE:CE1   | 1:C:347:THR:HG21 | 2.50                     | 0.45              |
| 1:C:62:ILE:HD13  | 1:C:62:ILE:HG21  | 1.42                     | 0.45              |
| 1:A:18:ARG:CD    | 1:A:344:ARG:HB3  | 2.46                     | 0.45              |
| 1:A:205:ILE:HD12 | 1:A:208:VAL:HG21 | 1.96                     | 0.45              |
| 1:A:31:ASN:ND2   | 1:A:33:ALA:HB3   | 2.31                     | 0.45              |
| 1:B:18:ARG:CD    | 1:B:344:ARG:HB3  | 2.46                     | 0.45              |
| 1:A:185:ASN:HD22 | 1:B:319:ILE:CB   | 2.29                     | 0.45              |
| 1:C:21:ARG:NH2   | 1:C:21:ARG:HG2   | 2.32                     | 0.45              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:C:242:TYR:HA   | 1:C:245:VAL:HG12 | 1.97                     | 0.45              |
| 1:A:68:GLN:NE2   | 1:A:81:GLY:HA2   | 2.29                     | 0.45              |
| 1:B:408:LEU:HD11 | 1:B:462:LEU:CD2  | 2.36                     | 0.45              |
| 1:B:426:SER:C    | 1:C:188:TYR:HA   | 2.37                     | 0.45              |
| 1:B:445:GLY:N    | 1:C:185:ASN:HD21 | 1.96                     | 0.45              |
| 1:A:246:MET:HE3  | 1:B:476:ASP:CG   | 2.34                     | 0.45              |
| 1:C:177:ASP:OD1  | 1:C:183:VAL:HG21 | 2.16                     | 0.45              |
| 1:C:19:PHE:CD1   | 1:C:347:THR:CB   | 3.00                     | 0.45              |
| 1:C:354:THR:O    | 1:C:359:TYR:CD1  | 2.70                     | 0.45              |
| 1:C:280:LYS:NZ   | 1:C:383:LYS:HB3  | 2.31                     | 0.45              |
| 1:B:281:SER:HB2  | 1:C:8:SER:N      | 2.08                     | 0.45              |
| 1:A:185:ASN:ND2  | 1:B:319:ILE:HB   | 2.31                     | 0.45              |
| 1:A:191:VAL:HG11 | 1:A:219:TYR:CZ   | 2.07                     | 0.45              |
| 1:A:144:ASP:N    | 1:B:113:TYR:CG   | 2.84                     | 0.45              |
| 1:B:123:MET:CE   | 1:B:140:PHE:CE1  | 2.98                     | 0.45              |
| 1:B:132:VAL:HG11 | 1:B:134:TYR:HE2  | 1.81                     | 0.45              |
| 1:B:19:PHE:CD1   | 1:B:347:THR:CB   | 3.00                     | 0.45              |
| 1:B:21:ARG:HG2   | 1:B:21:ARG:NH2   | 2.32                     | 0.45              |
| 1:B:31:ASN:ND2   | 1:B:33:ALA:HB3   | 2.31                     | 0.45              |
| 1:B:43:GLN:NE2   | 1:B:99:ASP:OD1   | 2.46                     | 0.45              |
| 1:C:123:MET:CE   | 1:C:140:PHE:CE1  | 2.98                     | 0.45              |
| 1:C:31:ASN:ND2   | 1:C:33:ALA:HB3   | 2.31                     | 0.45              |
| 1:C:64:PRO:CG    | 1:C:82:TYR:HA    | 2.31                     | 0.45              |
| 1:A:194:LEU:HD13 | 1:B:375:LYS:CA   | 2.44                     | 0.45              |
| 1:A:25:SER:C     | 1:A:348:TRP:HE1  | 2.20                     | 0.45              |
| 1:A:320:LEU:HD22 | 1:A:407:ILE:HD11 | 1.98                     | 0.45              |
| 1:B:100:LEU:O    | 1:B:103:LEU:HB3  | 2.16                     | 0.45              |
| 1:A:145:TYR:CD1  | 1:B:113:TYR:CE2  | 3.01                     | 0.45              |
| 1:B:61:TRP:HZ2   | 1:B:204:ARG:CZ   | 2.29                     | 0.45              |
| 1:B:188:TYR:CE1  | 1:B:218:GLY:C    | 2.89                     | 0.45              |
| 1:B:255:TYR:CB   | 1:B:292:PHE:CE2  | 3.00                     | 0.45              |
| 1:B:300:ARG:NH1  | 1:B:329:ALA:O    | 2.49                     | 0.45              |
| 1:B:418:TYR:CE1  | 1:B:454:MET:CE   | 2.98                     | 0.45              |
| 1:B:66:THR:HB    | 1:B:67:ALA:H     | 1.23                     | 0.45              |
| 1:A:176:LEU:O    | 1:A:177:ASP:HB2  | 2.16                     | 0.45              |
| 1:A:188:TYR:CE1  | 1:A:218:GLY:C    | 2.89                     | 0.45              |
| 1:B:238:TYR:HD2  | 1:C:403:GLN:OE1  | 1.99                     | 0.45              |
| 1:B:251:ASN:HA   | 1:B:251:ASN:HD22 | 1.53                     | 0.45              |
| 1:B:82:TYR:OH    | 1:B:296:HIS:CE1  | 2.70                     | 0.45              |
| 1:A:185:ASN:ND2  | 1:B:319:ILE:CB   | 2.79                     | 0.45              |
| 1:C:176:LEU:O    | 1:C:177:ASP:HB2  | 2.16                     | 0.45              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:B:285:ASP:OD2  | 1:C:5:ASP:OD2    | 2.30                     | 0.45              |
| 1:C:87:ILE:HG23  | 1:C:87:ILE:O     | 2.16                     | 0.45              |
| 1:A:177:ASP:OD1  | 1:A:183:VAL:HG21 | 2.17                     | 0.45              |
| 1:A:240:CYS:N    | 1:A:241:PRO:HD2  | 2.30                     | 0.45              |
| 1:A:87:ILE:O     | 1:A:87:ILE:HG23  | 2.16                     | 0.45              |
| 1:B:177:ASP:OD1  | 1:B:183:VAL:HG11 | 2.17                     | 0.45              |
| 1:B:205:ILE:HD12 | 1:B:208:VAL:CB   | 2.46                     | 0.45              |
| 1:B:204:ARG:HH12 | 1:B:230:GLU:HG2  | 1.82                     | 0.45              |
| 1:B:232:LEU:O    | 1:B:233:ASP:HB2  | 2.17                     | 0.45              |
| 1:B:241:PRO:CB   | 1:C:376:ASP:N    | 2.77                     | 0.45              |
| 1:B:263:LYS:H    | 1:B:310:LEU:HD23 | 1.81                     | 0.45              |
| 1:A:188:TYR:CZ   | 1:B:367:ALA:HB3  | 2.52                     | 0.45              |
| 1:A:188:TYR:C    | 1:B:368:ILE:HG12 | 2.37                     | 0.45              |
| 1:B:396:ARG:O    | 1:C:224:GLY:CA   | 2.65                     | 0.45              |
| 1:C:229:GLY:N    | 1:C:246:MET:CE   | 2.80                     | 0.45              |
| 1:C:317:PHE:CD1  | 1:C:318:ILE:N    | 2.85                     | 0.45              |
| 1:C:340:ASP:OD1  | 1:C:341:PRO:N    | 2.48                     | 0.45              |
| 1:B:386:TYR:H    | 1:C:3:PRO:HB3    | 1.82                     | 0.45              |
| 1:A:180:LYS:CA   | 1:B:55:MET:HG2   | 2.42                     | 0.45              |
| 1:A:184:LYS:CE   | 1:B:366:ASN:ND2  | 2.80                     | 0.45              |
| 1:A:242:TYR:O    | 1:A:245:VAL:HG12 | 2.17                     | 0.45              |
| 1:A:332:GLU:CG   | 1:A:333:GLN:H    | 2.30                     | 0.45              |
| 1:A:19:PHE:CD1   | 1:A:347:THR:CB   | 3.00                     | 0.45              |
| 1:B:229:GLY:N    | 1:B:246:MET:CE   | 2.80                     | 0.45              |
| 1:B:380:VAL:CG1  | 1:B:381:THR:H    | 2.22                     | 0.45              |
| 1:B:418:TYR:HD1  | 1:B:454:MET:HE3  | 1.79                     | 0.45              |
| 1:A:227:CYS:SG   | 1:B:473:ILE:CG2  | 3.05                     | 0.45              |
| 1:B:401:GLY:CA   | 1:C:196:SER:HB2  | 2.39                     | 0.45              |
| 1:B:424:GLY:C    | 1:C:218:GLY:C    | 2.76                     | 0.45              |
| 1:C:424:GLY:O    | 1:C:425:ALA:HB3  | 2.17                     | 0.45              |
| 1:A:148:PRO:CA   | 1:B:107:LEU:CB   | 2.94                     | 0.45              |
| 1:A:317:PHE:CD1  | 1:A:318:ILE:N    | 2.85                     | 0.45              |
| 1:A:424:GLY:O    | 1:A:425:ALA:HB3  | 2.17                     | 0.45              |
| 1:A:66:THR:O     | 1:A:67:ALA:HB2   | 2.17                     | 0.45              |
| 1:B:25:SER:C     | 1:B:348:TRP:HE1  | 2.20                     | 0.45              |
| 1:A:182:VAL:CG2  | 1:B:58:THR:HB    | 2.47                     | 0.45              |
| 1:C:123:MET:HG3  | 1:C:176:LEU:HD11 | 1.99                     | 0.45              |
| 1:C:177:ASP:OD1  | 1:C:183:VAL:HG11 | 2.17                     | 0.45              |
| 1:C:400:ASP:OD1  | 1:C:401:GLY:N    | 2.50                     | 0.45              |
| 1:A:107:LEU:HG   | 1:A:108:HIS:N    | 2.30                     | 0.45              |
| 1:A:246:MET:CB   | 1:B:476:ASP:C    | 2.69                     | 0.45              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:258:LEU:HD12 | 1:A:317:PHE:CE1  | 2.52                     | 0.45              |
| 1:A:82:TYR:OH    | 1:A:296:HIS:CE1  | 2.70                     | 0.45              |
| 1:A:354:THR:O    | 1:A:359:TYR:CD1  | 2.70                     | 0.45              |
| 1:A:55:MET:CG    | 1:A:57:PHE:HE2   | 2.26                     | 0.45              |
| 1:B:107:LEU:HD12 | 1:B:111:GLY:O    | 2.17                     | 0.45              |
| 1:B:277:ASN:CB   | 1:C:286:SER:CB   | 2.69                     | 0.45              |
| 1:B:424:GLY:O    | 1:B:425:ALA:HB3  | 2.17                     | 0.45              |
| 1:C:158:GLN:HA   | 1:C:161:VAL:HG11 | 1.99                     | 0.45              |
| 1:C:242:TYR:O    | 1:C:245:VAL:HG12 | 2.17                     | 0.45              |
| 1:C:373:ILE:HA   | 1:C:377:THR:HA   | 1.99                     | 0.45              |
| 1:C:458:LEU:CD1  | 1:C:460:ARG:NH2  | 2.79                     | 0.45              |
| 1:A:373:ILE:HA   | 1:A:377:THR:HA   | 1.99                     | 0.44              |
| 1:B:123:MET:HG3  | 1:B:176:LEU:HD11 | 1.99                     | 0.44              |
| 1:B:236:PRO:CB   | 1:B:278:THR:HG22 | 2.43                     | 0.44              |
| 1:B:241:PRO:CA   | 1:C:374:SER:HA   | 2.28                     | 0.44              |
| 1:B:373:ILE:HA   | 1:B:377:THR:HA   | 1.99                     | 0.44              |
| 1:B:387:ILE:HG23 | 1:B:388:LYS:N    | 2.32                     | 0.44              |
| 1:B:428:THR:O    | 1:C:185:ASN:OD1  | 2.35                     | 0.44              |
| 1:B:453:PRO:O    | 1:B:460:ARG:NE   | 2.50                     | 0.44              |
| 1:C:182:VAL:HG13 | 1:C:183:VAL:N    | 2.17                     | 0.44              |
| 1:C:472:LYS:O    | 1:C:473:ILE:CB   | 2.65                     | 0.44              |
| 1:C:66:THR:O     | 1:C:67:ALA:HB2   | 2.17                     | 0.44              |
| 1:C:91:ASN:C     | 1:C:92:GLU:CG    | 2.82                     | 0.44              |
| 1:A:158:GLN:HA   | 1:A:161:VAL:HG11 | 1.99                     | 0.44              |
| 1:A:400:ASP:OD1  | 1:A:401:GLY:N    | 2.50                     | 0.44              |
| 1:B:277:ASN:ND2  | 1:C:286:SER:CB   | 2.66                     | 0.44              |
| 1:B:368:ILE:HD13 | 1:B:368:ILE:HG21 | 1.44                     | 0.44              |
| 1:A:188:TYR:N    | 1:B:370:ASN:N    | 2.62                     | 0.44              |
| 1:A:179:THR:HG23 | 1:B:50:ASP:O     | 2.16                     | 0.44              |
| 1:C:258:LEU:HD12 | 1:C:317:PHE:CE1  | 2.52                     | 0.44              |
| 1:C:252:TYR:CA   | 1:C:292:PHE:HZ   | 2.27                     | 0.44              |
| 1:C:318:ILE:HG12 | 1:C:319:ILE:N    | 2.33                     | 0.44              |
| 1:A:177:ASP:OD1  | 1:A:183:VAL:HG11 | 2.17                     | 0.44              |
| 1:A:191:VAL:HG23 | 1:A:192:GLY:N    | 2.33                     | 0.44              |
| 1:A:422:LEU:HD12 | 1:A:424:GLY:O    | 2.18                     | 0.44              |
| 1:B:66:THR:O     | 1:B:67:ALA:HB2   | 2.17                     | 0.44              |
| 1:B:64:PRO:CG    | 1:B:82:TYR:HA    | 2.31                     | 0.44              |
| 1:C:107:LEU:HD12 | 1:C:111:GLY:O    | 2.17                     | 0.44              |
| 1:C:159:THR:O    | 1:C:159:THR:HG22 | 2.17                     | 0.44              |
| 1:C:152:ILE:HD11 | 1:C:166:LEU:CG   | 2.48                     | 0.44              |
| 1:C:205:ILE:HD12 | 1:C:208:VAL:CB   | 2.46                     | 0.44              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:C:204:ARG:HH12 | 1:C:230:GLU:HG2  | 1.82                     | 0.44              |
| 1:C:232:LEU:O    | 1:C:233:ASP:HB2  | 2.16                     | 0.44              |
| 1:B:213:LYS:HG2  | 1:C:375:LYS:HG3  | 1.99                     | 0.44              |
| 1:A:100:LEU:O    | 1:A:103:LEU:HB3  | 2.17                     | 0.44              |
| 1:A:188:TYR:C    | 1:B:368:ILE:CG1  | 2.86                     | 0.44              |
| 1:B:123:MET:H    | 1:B:174:PRO:HG2  | 1.82                     | 0.44              |
| 1:B:123:MET:CG   | 1:B:146:PHE:HE1  | 2.07                     | 0.44              |
| 1:B:354:THR:O    | 1:B:359:TYR:CD1  | 2.70                     | 0.44              |
| 1:A:187:TRP:HB2  | 1:B:370:ASN:HB2  | 1.14                     | 0.44              |
| 1:A:179:THR:HA   | 1:B:54:GLY:N     | 2.30                     | 0.44              |
| 1:B:87:ILE:O     | 1:B:87:ILE:HG23  | 2.16                     | 0.44              |
| 1:B:91:ASN:C     | 1:B:92:GLU:CG    | 2.82                     | 0.44              |
| 1:C:107:LEU:HG   | 1:C:108:HIS:N    | 2.31                     | 0.44              |
| 1:A:107:LEU:HD12 | 1:A:111:GLY:O    | 2.17                     | 0.44              |
| 1:A:152:ILE:HD11 | 1:A:166:LEU:CG   | 2.48                     | 0.44              |
| 1:A:255:TYR:CB   | 1:A:292:PHE:CE2  | 3.00                     | 0.44              |
| 1:A:453:PRO:O    | 1:A:460:ARG:NE   | 2.50                     | 0.44              |
| 1:B:177:ASP:OD1  | 1:B:183:VAL:HG21 | 2.16                     | 0.44              |
| 1:C:123:MET:H    | 1:C:174:PRO:HG2  | 1.82                     | 0.44              |
| 1:C:21:ARG:NH2   | 1:C:39:GLY:O     | 2.51                     | 0.44              |
| 1:C:255:TYR:CB   | 1:C:292:PHE:CE2  | 3.00                     | 0.44              |
| 1:C:320:LEU:HD22 | 1:C:407:ILE:HD11 | 1.98                     | 0.44              |
| 1:C:82:TYR:OH    | 1:C:296:HIS:CE1  | 2.70                     | 0.44              |
| 1:A:21:ARG:NH2   | 1:A:39:GLY:O     | 2.51                     | 0.44              |
| 1:A:232:LEU:O    | 1:A:233:ASP:HB2  | 2.16                     | 0.44              |
| 1:A:318:ILE:HG12 | 1:A:319:ILE:N    | 2.33                     | 0.44              |
| 1:B:242:TYR:O    | 1:B:245:VAL:HG12 | 2.17                     | 0.44              |
| 1:B:472:LYS:HE2  | 1:B:478:SER:OXT  | 2.18                     | 0.44              |
| 1:A:184:LYS:N    | 1:B:56:GLY:CA    | 2.67                     | 0.44              |
| 1:C:132:VAL:HG11 | 1:C:134:TYR:HE2  | 1.82                     | 0.44              |
| 1:C:420:LEU:CD2  | 1:C:452:VAL:CG1  | 2.83                     | 0.44              |
| 1:C:49:LEU:O     | 1:C:52:ILE:CG1   | 2.66                     | 0.44              |
| 1:A:123:MET:H    | 1:A:174:PRO:HG2  | 1.82                     | 0.44              |
| 1:A:73:CYS:CB    | 1:A:126:ASP:OD1  | 2.65                     | 0.44              |
| 1:A:472:LYS:HE2  | 1:A:478:SER:OXT  | 2.18                     | 0.44              |
| 1:B:317:PHE:CD1  | 1:B:318:ILE:N    | 2.85                     | 0.44              |
| 1:B:258:LEU:HD12 | 1:B:317:PHE:CE1  | 2.52                     | 0.44              |
| 1:B:318:ILE:HG12 | 1:B:319:ILE:N    | 2.33                     | 0.44              |
| 1:A:246:MET:HB3  | 1:B:476:ASP:CA   | 2.46                     | 0.44              |
| 1:B:55:MET:CE    | 1:B:332:GLU:HB3  | 2.48                     | 0.44              |
| 1:A:123:MET:HG3  | 1:A:176:LEU:HD11 | 1.99                     | 0.44              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:132:VAL:HG21 | 1:B:109:GLU:HA   | 2.00                     | 0.44              |
| 1:A:143:GLN:O    | 1:B:112:MET:CA   | 2.64                     | 0.44              |
| 1:A:144:ASP:N    | 1:B:113:TYR:CD2  | 2.85                     | 0.44              |
| 1:A:238:TYR:CD1  | 1:A:239:THR:N    | 2.86                     | 0.44              |
| 1:A:49:LEU:O     | 1:A:52:ILE:CG1   | 2.66                     | 0.44              |
| 1:B:158:GLN:HA   | 1:B:161:VAL:HG11 | 1.99                     | 0.44              |
| 1:B:20:ALA:O     | 1:B:21:ARG:HB2   | 2.18                     | 0.44              |
| 1:B:246:MET:HE3  | 1:B:246:MET:HB3  | 0.97                     | 0.44              |
| 1:B:251:ASN:HB3  | 1:B:254:ILE:HG21 | 2.00                     | 0.44              |
| 1:C:191:VAL:HG23 | 1:C:192:GLY:N    | 2.33                     | 0.44              |
| 1:C:117:ASP:HA   | 1:C:204:ARG:HB3  | 2.00                     | 0.44              |
| 1:C:353:PRO:O    | 1:C:355:ASP:N    | 2.51                     | 0.44              |
| 1:C:453:PRO:O    | 1:C:460:ARG:NE   | 2.50                     | 0.44              |
| 1:B:383:LYS:HZ2  | 1:C:6:TRP:N      | 2.10                     | 0.44              |
| 1:A:132:VAL:HG11 | 1:A:134:TYR:HE2  | 1.82                     | 0.44              |
| 1:A:137:PHE:CD1  | 1:A:146:PHE:CZ   | 3.06                     | 0.44              |
| 1:A:197:ASN:OD1  | 1:C:193:SER:C    | 2.50                     | 0.44              |
| 1:A:353:PRO:O    | 1:A:355:ASP:N    | 2.51                     | 0.44              |
| 1:A:369:ARG:HH11 | 1:A:369:ARG:CB   | 2.29                     | 0.44              |
| 1:B:162:GLU:HA   | 1:B:210:HIS:O    | 2.18                     | 0.44              |
| 1:B:353:PRO:O    | 1:B:355:ASP:N    | 2.51                     | 0.44              |
| 1:B:21:ARG:NH2   | 1:B:39:GLY:O     | 2.51                     | 0.44              |
| 1:B:48:LYS:CE    | 1:B:48:LYS:HA    | 2.46                     | 0.44              |
| 1:A:145:TYR:OH   | 1:B:6:TRP:N      | 2.51                     | 0.44              |
| 1:C:238:TYR:CD1  | 1:C:239:THR:N    | 2.86                     | 0.44              |
| 1:C:55:MET:SD    | 1:C:362:ILE:CD1  | 3.06                     | 0.44              |
| 1:C:46:ILE:HD13  | 1:C:46:ILE:HG21  | 1.78                     | 0.44              |
| 1:C:472:LYS:HE2  | 1:C:478:SER:OXT  | 2.18                     | 0.44              |
| 1:A:159:THR:O    | 1:A:159:THR:HG22 | 2.17                     | 0.43              |
| 1:A:117:ASP:HA   | 1:A:204:ARG:HB3  | 2.00                     | 0.43              |
| 1:A:223:ALA:CA   | 1:B:463:TYR:CD1  | 2.97                     | 0.43              |
| 1:A:420:LEU:CD2  | 1:A:452:VAL:CG1  | 2.82                     | 0.43              |
| 1:A:57:PHE:CZ    | 1:A:327:ILE:CG2  | 2.99                     | 0.43              |
| 1:B:73:CYS:CB    | 1:B:126:ASP:OD1  | 2.65                     | 0.43              |
| 1:B:255:TYR:CD1  | 1:B:292:PHE:HD2  | 2.36                     | 0.43              |
| 1:B:253:PRO:HB2  | 1:B:275:MET:CE   | 2.48                     | 0.43              |
| 1:B:293:VAL:HG13 | 1:B:294:GLU:N    | 2.19                     | 0.43              |
| 1:B:348:TRP:C    | 1:B:350:SER:N    | 2.72                     | 0.43              |
| 1:A:187:TRP:HB2  | 1:B:367:ALA:O    | 2.17                     | 0.43              |
| 1:B:429:ALA:HB1  | 1:C:182:VAL:C    | 2.32                     | 0.43              |
| 1:C:162:GLU:HA   | 1:C:210:HIS:O    | 2.18                     | 0.43              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:137:PHE:O    | 1:A:139:PRO:CD   | 2.66                     | 0.43              |
| 1:A:178:THR:HA   | 1:B:52:ILE:CD1   | 2.45                     | 0.43              |
| 1:A:253:PRO:HB2  | 1:A:275:MET:CE   | 2.49                     | 0.43              |
| 1:B:7:ARG:HG3    | 1:B:288:LEU:HD23 | 2.00                     | 0.43              |
| 1:A:187:TRP:CD1  | 1:B:370:ASN:HB2  | 2.53                     | 0.43              |
| 1:B:403:GLN:HG3  | 1:B:467:LYS:HG2  | 2.00                     | 0.43              |
| 1:B:49:LEU:O     | 1:B:52:ILE:CG1   | 2.66                     | 0.43              |
| 1:A:182:VAL:HB   | 1:B:57:PHE:HB3   | 1.54                     | 0.43              |
| 1:B:62:ILE:HG13  | 1:B:63:THR:N     | 2.32                     | 0.43              |
| 1:C:73:CYS:CB    | 1:C:126:ASP:OD1  | 2.65                     | 0.43              |
| 1:C:205:ILE:HG21 | 1:C:216:TRP:CZ3  | 2.53                     | 0.43              |
| 1:C:369:ARG:HH11 | 1:C:369:ARG:CB   | 2.29                     | 0.43              |
| 1:C:422:LEU:HD12 | 1:C:424:GLY:O    | 2.18                     | 0.43              |
| 1:A:185:ASN:HD21 | 1:B:319:ILE:HG13 | 1.83                     | 0.43              |
| 1:A:162:GLU:HA   | 1:A:210:HIS:O    | 2.18                     | 0.43              |
| 1:A:55:MET:CG    | 1:A:362:ILE:HG21 | 2.49                     | 0.43              |
| 1:A:403:GLN:HG3  | 1:A:467:LYS:HG2  | 2.00                     | 0.43              |
| 1:B:137:PHE:O    | 1:B:139:PRO:CD   | 2.66                     | 0.43              |
| 1:B:278:THR:HG23 | 1:C:380:VAL:C    | 2.22                     | 0.43              |
| 1:B:319:ILE:CA   | 1:B:325:PRO:CB   | 2.73                     | 0.43              |
| 1:B:382:TYR:CE1  | 1:C:2:THR:HG22   | 2.51                     | 0.43              |
| 1:A:218:GLY:C    | 1:B:473:ILE:O    | 2.47                     | 0.43              |
| 1:B:55:MET:HE3   | 1:B:332:GLU:HB3  | 2.00                     | 0.43              |
| 1:C:137:PHE:CD1  | 1:C:146:PHE:CZ   | 3.06                     | 0.43              |
| 1:C:149:PHE:CD1  | 1:C:165:TRP:CD2  | 3.07                     | 0.43              |
| 1:C:209:LYS:HB2  | 1:C:231:VAL:HG11 | 2.01                     | 0.43              |
| 1:C:55:MET:CE    | 1:C:332:GLU:HB3  | 2.48                     | 0.43              |
| 1:A:130:SER:N    | 1:B:109:GLU:OE2  | 2.51                     | 0.43              |
| 1:A:180:LYS:HZ1  | 1:B:11:ILE:N     | 2.16                     | 0.43              |
| 1:A:220:ASN:OD1  | 1:B:474:CYS:SG   | 2.73                     | 0.43              |
| 1:A:307:ASP:N    | 1:A:307:ASP:OD2  | 2.51                     | 0.43              |
| 1:A:388:LYS:HE2  | 1:A:390:ASP:CB   | 2.39                     | 0.43              |
| 1:B:205:ILE:HG21 | 1:B:216:TRP:CZ3  | 2.53                     | 0.43              |
| 1:B:209:LYS:HB2  | 1:B:231:VAL:HG11 | 2.01                     | 0.43              |
| 1:B:353:PRO:C    | 1:B:355:ASP:N    | 2.71                     | 0.43              |
| 1:C:101:LYS:O    | 1:C:105:SER:HB2  | 2.19                     | 0.43              |
| 1:C:388:LYS:HE2  | 1:C:390:ASP:CB   | 2.40                     | 0.43              |
| 1:C:66:THR:O     | 1:C:91:ASN:N     | 2.52                     | 0.43              |
| 1:A:149:PHE:CD1  | 1:A:165:TRP:CD2  | 3.07                     | 0.43              |
| 1:A:201:ASP:HA   | 1:B:466:GLU:HA   | 1.99                     | 0.43              |
| 1:A:222:ALA:HB3  | 1:B:473:ILE:CG1  | 2.48                     | 0.43              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:B:101:LYS:O    | 1:B:105:SER:HB2  | 2.19                     | 0.43              |
| 1:B:149:PHE:CD1  | 1:B:165:TRP:CD2  | 3.07                     | 0.43              |
| 1:B:339:ASN:O    | 1:B:340:ASP:HB2  | 2.19                     | 0.43              |
| 1:A:227:CYS:CA   | 1:B:476:ASP:CA   | 2.92                     | 0.43              |
| 1:A:249:VAL:HA   | 1:B:477:SER:HB3  | 1.99                     | 0.43              |
| 1:C:132:VAL:HG11 | 1:C:134:TYR:CE2  | 2.54                     | 0.43              |
| 1:C:61:TRP:CZ2   | 1:C:204:ARG:NE   | 2.85                     | 0.43              |
| 1:C:204:ARG:NH1  | 1:C:230:GLU:CB   | 2.82                     | 0.43              |
| 1:C:387:ILE:HG23 | 1:C:388:LYS:N    | 2.32                     | 0.43              |
| 1:C:385:PRO:CG   | 1:C:396:ARG:O    | 2.67                     | 0.43              |
| 1:A:101:LYS:O    | 1:A:105:SER:HB2  | 2.19                     | 0.43              |
| 1:A:121:ASN:C    | 1:A:121:ASN:HD22 | 2.22                     | 0.43              |
| 1:A:187:TRP:HB3  | 1:B:371:TYR:CB   | 2.49                     | 0.43              |
| 1:A:252:TYR:CA   | 1:A:292:PHE:HZ   | 2.27                     | 0.43              |
| 1:A:7:ARG:HG3    | 1:A:288:LEU:HD23 | 2.00                     | 0.43              |
| 1:B:11:ILE:HD11  | 1:B:324:LEU:C    | 2.39                     | 0.43              |
| 1:A:180:LYS:CE   | 1:B:12:TYR:CA    | 2.88                     | 0.43              |
| 1:B:132:VAL:HG11 | 1:B:134:TYR:CE2  | 2.54                     | 0.43              |
| 1:B:159:THR:O    | 1:B:159:THR:HG22 | 2.18                     | 0.43              |
| 1:B:307:ASP:N    | 1:B:307:ASP:OD2  | 2.51                     | 0.43              |
| 1:B:450:VAL:HA   | 1:B:451:PRO:HD2  | 1.82                     | 0.43              |
| 1:B:46:ILE:HG21  | 1:B:46:ILE:HD13  | 1.78                     | 0.43              |
| 1:C:430:GLY:N    | 1:C:445:GLY:HA2  | 2.34                     | 0.43              |
| 1:A:211:VAL:HG21 | 1:A:215:PHE:HB3  | 2.00                     | 0.43              |
| 1:A:55:MET:CE    | 1:A:332:GLU:HB3  | 2.48                     | 0.43              |
| 1:A:348:TRP:C    | 1:A:350:SER:N    | 2.72                     | 0.43              |
| 1:B:137:PHE:CD1  | 1:B:146:PHE:CZ   | 3.06                     | 0.43              |
| 1:B:191:VAL:HG23 | 1:B:192:GLY:N    | 2.33                     | 0.43              |
| 1:B:255:TYR:CD2  | 1:B:255:TYR:C    | 2.92                     | 0.43              |
| 1:B:315:ALA:O    | 1:B:318:ILE:HG23 | 2.19                     | 0.43              |
| 1:B:320:LEU:HD22 | 1:B:407:ILE:HD11 | 1.98                     | 0.43              |
| 1:A:177:ASP:CB   | 1:B:53:GLN:CG    | 2.92                     | 0.43              |
| 1:C:137:PHE:O    | 1:C:139:PRO:CD   | 2.66                     | 0.43              |
| 1:A:132:VAL:HG11 | 1:A:134:TYR:CE2  | 2.54                     | 0.43              |
| 1:A:204:ARG:HH12 | 1:A:230:GLU:HG2  | 1.82                     | 0.43              |
| 1:B:204:ARG:HH11 | 1:B:204:ARG:HG2  | 1.84                     | 0.43              |
| 1:B:211:VAL:HG12 | 1:B:211:VAL:H    | 1.06                     | 0.43              |
| 1:B:236:PRO:CG   | 1:C:378:GLY:C    | 2.71                     | 0.43              |
| 1:B:332:GLU:CG   | 1:B:333:GLN:H    | 2.30                     | 0.43              |
| 1:B:388:LYS:CE   | 1:B:390:ASP:HB2  | 2.39                     | 0.43              |
| 1:B:472:LYS:O    | 1:B:473:ILE:CG2  | 2.66                     | 0.43              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:C:251:ASN:HA   | 1:C:251:ASN:HD22 | 1.53                     | 0.43              |
| 1:B:274:ASN:CG   | 1:C:286:SER:H    | 2.21                     | 0.43              |
| 1:C:315:ALA:O    | 1:C:318:ILE:HG23 | 2.19                     | 0.43              |
| 1:A:20:ALA:O     | 1:A:21:ARG:HB2   | 2.18                     | 0.43              |
| 1:A:251:ASN:HB3  | 1:A:254:ILE:HG21 | 2.00                     | 0.43              |
| 1:A:280:LYS:HE3  | 1:A:383:LYS:CA   | 2.48                     | 0.43              |
| 1:A:315:ALA:O    | 1:A:318:ILE:HG23 | 2.19                     | 0.43              |
| 1:A:430:GLY:N    | 1:A:445:GLY:HA2  | 2.33                     | 0.43              |
| 1:A:64:PRO:CG    | 1:A:82:TYR:HA    | 2.31                     | 0.43              |
| 1:B:190:TRP:CZ3  | 1:B:191:VAL:CG1  | 3.01                     | 0.43              |
| 1:B:200:ILE:CG2  | 1:B:203:LEU:HD11 | 2.38                     | 0.43              |
| 1:B:204:ARG:HH11 | 1:B:204:ARG:CG   | 2.20                     | 0.43              |
| 1:B:238:TYR:CD1  | 1:B:239:THR:N    | 2.86                     | 0.43              |
| 1:B:317:PHE:O    | 1:B:321:ASN:CB   | 2.67                     | 0.43              |
| 1:B:382:TYR:HD2  | 1:B:398:GLY:O    | 2.02                     | 0.43              |
| 1:C:11:ILE:HD11  | 1:C:324:LEU:C    | 2.39                     | 0.43              |
| 1:C:307:ASP:OD2  | 1:C:307:ASP:N    | 2.51                     | 0.43              |
| 1:A:137:PHE:O    | 1:A:140:PHE:HB2  | 2.19                     | 0.43              |
| 1:A:145:TYR:CD1  | 1:B:113:TYR:CD2  | 3.06                     | 0.43              |
| 1:A:204:ARG:NH1  | 1:A:230:GLU:CB   | 2.82                     | 0.43              |
| 1:A:251:ASN:HA   | 1:A:251:ASN:HD22 | 1.53                     | 0.43              |
| 1:A:317:PHE:O    | 1:A:321:ASN:CB   | 2.67                     | 0.43              |
| 1:A:387:ILE:HG23 | 1:A:388:LYS:N    | 2.32                     | 0.43              |
| 1:A:444:VAL:H    | 1:A:444:VAL:HG13 | 1.30                     | 0.43              |
| 1:A:55:MET:CG    | 1:A:57:PHE:CE2   | 2.98                     | 0.43              |
| 1:A:87:ILE:O     | 1:A:88:TYR:CB    | 2.67                     | 0.43              |
| 1:A:180:LYS:NZ   | 1:B:11:ILE:C     | 2.66                     | 0.43              |
| 1:B:140:PHE:CZ   | 1:B:176:LEU:HD21 | 2.54                     | 0.43              |
| 1:A:218:GLY:CA   | 1:B:364:SER:C    | 2.62                     | 0.43              |
| 1:B:408:LEU:N    | 1:B:408:LEU:HD13 | 2.30                     | 0.43              |
| 1:B:422:LEU:HD12 | 1:B:424:GLY:O    | 2.18                     | 0.43              |
| 1:B:435:GLU:CB   | 1:B:440:THR:HB   | 2.46                     | 0.43              |
| 1:B:87:ILE:HD11  | 1:B:190:TRP:CE2  | 2.54                     | 0.43              |
| 1:C:253:PRO:HB2  | 1:C:275:MET:CE   | 2.49                     | 0.43              |
| 1:C:346:ALA:C    | 1:C:348:TRP:N    | 2.71                     | 0.43              |
| 1:C:353:PRO:C    | 1:C:355:ASP:N    | 2.71                     | 0.43              |
| 1:C:280:LYS:HE3  | 1:C:383:LYS:CA   | 2.48                     | 0.43              |
| 1:C:12:TYR:CG    | 1:C:52:ILE:HG22  | 2.54                     | 0.43              |
| 1:A:279:VAL:HG23 | 1:A:283:CYS:SG   | 2.59                     | 0.42              |
| 1:A:300:ARG:HB2  | 1:A:336:ALA:O    | 2.19                     | 0.42              |
| 1:A:353:PRO:C    | 1:A:355:ASP:N    | 2.71                     | 0.42              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:66:THR:O     | 1:A:91:ASN:N     | 2.52                     | 0.42              |
| 1:B:117:ASP:HA   | 1:B:204:ARG:HB3  | 2.00                     | 0.42              |
| 1:B:137:PHE:O    | 1:B:140:PHE:HB2  | 2.19                     | 0.42              |
| 1:B:204:ARG:NH1  | 1:B:230:GLU:CB   | 2.82                     | 0.42              |
| 1:B:385:PRO:HD2  | 1:C:2:THR:CG2    | 2.39                     | 0.42              |
| 1:B:385:PRO:CG   | 1:B:396:ARG:O    | 2.67                     | 0.42              |
| 1:B:422:LEU:CD1  | 1:C:221:LYS:CB   | 2.91                     | 0.42              |
| 1:B:443:THR:O    | 1:B:451:PRO:CD   | 2.67                     | 0.42              |
| 1:B:433:LEU:HD13 | 1:B:464:PRO:HA   | 2.01                     | 0.42              |
| 1:A:148:PRO:CB   | 1:B:49:LEU:HD23  | 2.46                     | 0.42              |
| 1:C:18:ARG:HG2   | 1:C:345:GLU:H    | 1.84                     | 0.42              |
| 1:C:190:TRP:CZ3  | 1:C:191:VAL:CG1  | 3.01                     | 0.42              |
| 1:C:208:VAL:HG12 | 1:C:231:VAL:HG11 | 1.97                     | 0.42              |
| 1:C:7:ARG:HG3    | 1:C:288:LEU:HD23 | 2.00                     | 0.42              |
| 1:C:55:MET:CG    | 1:C:362:ILE:HG21 | 2.49                     | 0.42              |
| 1:C:57:PHE:CZ    | 1:C:327:ILE:CG2  | 2.99                     | 0.42              |
| 1:A:190:TRP:CZ3  | 1:B:371:TYR:HD1  | 2.09                     | 0.42              |
| 1:A:255:TYR:HB3  | 1:A:292:PHE:CE2  | 2.54                     | 0.42              |
| 1:A:321:ASN:CG   | 1:A:322:ASP:N    | 2.69                     | 0.42              |
| 1:A:12:TYR:CG    | 1:A:52:ILE:HG22  | 2.54                     | 0.42              |
| 1:B:11:ILE:HA    | 1:B:59:ALA:HB3   | 2.01                     | 0.42              |
| 1:B:213:LYS:CD   | 1:C:375:LYS:HG2  | 2.49                     | 0.42              |
| 1:A:190:TRP:N    | 1:B:369:ARG:O    | 2.52                     | 0.42              |
| 1:C:137:PHE:O    | 1:C:140:PHE:HB2  | 2.19                     | 0.42              |
| 1:C:20:ALA:O     | 1:C:21:ARG:HB2   | 2.18                     | 0.42              |
| 1:C:55:MET:HE3   | 1:C:332:GLU:HB3  | 2.00                     | 0.42              |
| 1:C:400:ASP:O    | 1:C:403:GLN:HB2  | 2.19                     | 0.42              |
| 1:A:13:PHE:HD1   | 1:A:14:LEU:N     | 2.18                     | 0.42              |
| 1:A:190:TRP:CZ3  | 1:A:191:VAL:CG1  | 3.01                     | 0.42              |
| 1:A:400:ASP:O    | 1:A:403:GLN:HB2  | 2.19                     | 0.42              |
| 1:A:443:THR:O    | 1:A:451:PRO:CD   | 2.67                     | 0.42              |
| 1:B:116:VAL:O    | 1:B:116:VAL:HG13 | 2.20                     | 0.42              |
| 1:B:121:ASN:C    | 1:B:121:ASN:HD22 | 2.22                     | 0.42              |
| 1:B:142:SER:HB2  | 1:B:145:TYR:CE1  | 2.55                     | 0.42              |
| 1:B:300:ARG:HB2  | 1:B:336:ALA:O    | 2.19                     | 0.42              |
| 1:B:400:ASP:O    | 1:B:403:GLN:HB2  | 2.19                     | 0.42              |
| 1:B:401:GLY:O    | 1:B:403:GLN:HG3  | 2.20                     | 0.42              |
| 1:B:57:PHE:CZ    | 1:B:362:ILE:HG21 | 2.54                     | 0.42              |
| 1:C:13:PHE:HD1   | 1:C:14:LEU:N     | 2.17                     | 0.42              |
| 1:C:251:ASN:HB3  | 1:C:254:ILE:HG21 | 2.00                     | 0.42              |
| 1:C:255:TYR:HB3  | 1:C:292:PHE:CE2  | 2.54                     | 0.42              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:C:52:ILE:HD13  | 1:C:52:ILE:HG21  | 1.75                     | 0.42              |
| 1:A:190:TRP:NE1  | 1:B:376:ASP:N    | 2.65                     | 0.42              |
| 1:A:193:SER:CB   | 1:B:403:GLN:HB3  | 2.50                     | 0.42              |
| 1:A:200:ILE:CG2  | 1:A:203:LEU:HD11 | 2.38                     | 0.42              |
| 1:A:346:ALA:C    | 1:A:348:TRP:N    | 2.71                     | 0.42              |
| 1:B:236:PRO:HB3  | 1:B:278:THR:CG2  | 2.49                     | 0.42              |
| 1:B:279:VAL:HG13 | 1:B:280:LYS:N    | 2.35                     | 0.42              |
| 1:B:346:ALA:C    | 1:B:348:TRP:N    | 2.71                     | 0.42              |
| 1:B:348:TRP:O    | 1:B:350:SER:N    | 2.53                     | 0.42              |
| 1:B:66:THR:O     | 1:B:91:ASN:N     | 2.52                     | 0.42              |
| 1:C:121:ASN:HD22 | 1:C:121:ASN:C    | 2.22                     | 0.42              |
| 1:C:450:VAL:HA   | 1:C:451:PRO:HD2  | 1.82                     | 0.42              |
| 1:C:403:GLN:HG3  | 1:C:467:LYS:HG2  | 2.00                     | 0.42              |
| 1:C:48:LYS:CE    | 1:C:48:LYS:HA    | 2.46                     | 0.42              |
| 1:B:383:LYS:HZ1  | 1:C:5:ASP:CB     | 2.12                     | 0.42              |
| 1:C:87:ILE:HD11  | 1:C:190:TRP:CE2  | 2.54                     | 0.42              |
| 1:A:209:LYS:HB2  | 1:A:231:VAL:HG11 | 2.01                     | 0.42              |
| 1:A:255:TYR:CD2  | 1:A:255:TYR:C    | 2.92                     | 0.42              |
| 1:A:312:LYS:CG   | 1:A:361:LEU:HD13 | 2.49                     | 0.42              |
| 1:A:42:TRP:CZ3   | 1:A:94:TYR:CD2   | 3.07                     | 0.42              |
| 1:B:369:ARG:HH11 | 1:B:369:ARG:CB   | 2.29                     | 0.42              |
| 1:B:382:TYR:CG   | 1:B:398:GLY:N    | 2.85                     | 0.42              |
| 1:B:446:SER:OG   | 1:C:181:ASP:CB   | 2.38                     | 0.42              |
| 1:C:140:PHE:CZ   | 1:C:176:LEU:HD21 | 2.54                     | 0.42              |
| 1:C:211:VAL:HG21 | 1:C:215:PHE:HB3  | 2.00                     | 0.42              |
| 1:C:401:GLY:O    | 1:C:403:GLN:HG3  | 2.20                     | 0.42              |
| 1:C:433:LEU:HD13 | 1:C:464:PRO:HA   | 2.02                     | 0.42              |
| 1:A:140:PHE:CZ   | 1:A:176:LEU:HD21 | 2.54                     | 0.42              |
| 1:A:190:TRP:HH2  | 1:B:375:LYS:CE   | 2.31                     | 0.42              |
| 1:A:61:TRP:CZ2   | 1:A:204:ARG:NE   | 2.85                     | 0.42              |
| 1:A:385:PRO:CG   | 1:A:396:ARG:O    | 2.67                     | 0.42              |
| 1:B:55:MET:CG    | 1:B:362:ILE:HG21 | 2.49                     | 0.42              |
| 1:A:190:TRP:CZ2  | 1:B:374:SER:HB2  | 2.44                     | 0.42              |
| 1:B:428:THR:HB   | 1:C:190:TRP:N    | 2.34                     | 0.42              |
| 1:C:279:VAL:HG23 | 1:C:283:CYS:SG   | 2.59                     | 0.42              |
| 1:C:348:TRP:C    | 1:C:350:SER:N    | 2.72                     | 0.42              |
| 1:C:87:ILE:O     | 1:C:88:TYR:CB    | 2.67                     | 0.42              |
| 1:C:16:THR:OG1   | 1:C:94:TYR:CE1   | 2.58                     | 0.42              |
| 1:A:185:ASN:HD22 | 1:B:319:ILE:HD12 | 1.85                     | 0.42              |
| 1:A:348:TRP:O    | 1:A:350:SER:N    | 2.53                     | 0.42              |
| 1:A:382:TYR:HD2  | 1:A:398:GLY:O    | 2.02                     | 0.42              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:401:GLY:O    | 1:A:403:GLN:HG3  | 2.20                     | 0.42              |
| 1:A:433:LEU:HD13 | 1:A:464:PRO:HA   | 2.02                     | 0.42              |
| 1:B:107:LEU:O    | 1:B:111:GLY:N    | 2.51                     | 0.42              |
| 1:B:280:LYS:O    | 1:B:281:SER:HB2  | 2.11                     | 0.42              |
| 1:B:255:TYR:HB3  | 1:B:292:PHE:CE2  | 2.54                     | 0.42              |
| 1:B:308:ILE:H    | 1:B:308:ILE:HG13 | 1.20                     | 0.42              |
| 1:B:400:ASP:OD1  | 1:B:401:GLY:N    | 2.50                     | 0.42              |
| 1:B:87:ILE:HG21  | 1:B:123:MET:HE1  | 2.02                     | 0.42              |
| 1:C:300:ARG:HB2  | 1:C:336:ALA:O    | 2.19                     | 0.42              |
| 1:A:339:ASN:O    | 1:A:340:ASP:HB2  | 2.19                     | 0.42              |
| 1:A:427:TYR:CZ   | 1:A:433:LEU:HD11 | 2.55                     | 0.42              |
| 1:B:12:TYR:OH    | 1:B:19:PHE:HE1   | 2.03                     | 0.42              |
| 1:B:132:VAL:CG1  | 1:B:134:TYR:CE2  | 3.02                     | 0.42              |
| 1:B:18:ARG:HG2   | 1:B:345:GLU:H    | 1.84                     | 0.42              |
| 1:B:256:TYR:CB   | 1:B:257:PRO:CD   | 2.98                     | 0.42              |
| 1:B:277:ASN:HD22 | 1:C:286:SER:CB   | 2.28                     | 0.42              |
| 1:A:194:LEU:HA   | 1:B:376:ASP:HB3  | 2.00                     | 0.42              |
| 1:A:194:LEU:C    | 1:B:403:GLN:CG   | 2.88                     | 0.42              |
| 1:B:430:GLY:N    | 1:B:445:GLY:HA2  | 2.33                     | 0.42              |
| 1:B:447:ASP:HB3  | 1:C:184:LYS:HE2  | 1.67                     | 0.42              |
| 1:A:229:GLY:CA   | 1:B:476:ASP:OD1  | 2.68                     | 0.42              |
| 1:B:55:MET:SD    | 1:B:362:ILE:CD1  | 3.06                     | 0.42              |
| 1:B:422:LEU:CD2  | 1:C:221:LYS:HG2  | 2.49                     | 0.42              |
| 1:C:348:TRP:O    | 1:C:350:SER:N    | 2.53                     | 0.42              |
| 1:B:213:LYS:CD   | 1:C:375:LYS:CG   | 2.98                     | 0.42              |
| 1:C:408:LEU:HD11 | 1:C:462:LEU:CD2  | 2.35                     | 0.42              |
| 1:C:444:VAL:HG13 | 1:C:444:VAL:H    | 1.30                     | 0.42              |
| 1:C:7:ARG:HG2    | 1:C:287:THR:HG1  | 1.81                     | 0.42              |
| 1:C:42:TRP:CZ3   | 1:C:94:TYR:CD2   | 3.07                     | 0.42              |
| 1:A:11:ILE:HA    | 1:A:59:ALA:HB3   | 2.01                     | 0.42              |
| 1:A:180:LYS:NZ   | 1:A:182:VAL:HB   | 2.21                     | 0.42              |
| 1:A:11:ILE:HD11  | 1:A:324:LEU:C    | 2.39                     | 0.42              |
| 1:A:407:ILE:HA   | 1:A:461:VAL:HA   | 2.02                     | 0.42              |
| 1:A:57:PHE:CZ    | 1:A:362:ILE:HG21 | 2.54                     | 0.42              |
| 1:B:152:ILE:HD11 | 1:B:166:LEU:CG   | 2.48                     | 0.42              |
| 1:B:279:VAL:HG23 | 1:B:283:CYS:SG   | 2.59                     | 0.42              |
| 1:B:295:ASN:O    | 1:B:298:ASN:N    | 2.53                     | 0.42              |
| 1:B:13:PHE:CB    | 1:B:328:TYR:HA   | 2.50                     | 0.42              |
| 1:A:193:SER:CB   | 1:B:403:GLN:CB   | 2.94                     | 0.42              |
| 1:B:42:TRP:CZ3   | 1:B:94:TYR:CD2   | 3.07                     | 0.42              |
| 1:B:458:LEU:HA   | 1:B:459:PRO:HD2  | 1.65                     | 0.42              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:246:MET:CE   | 1:B:476:ASP:CB   | 2.97                     | 0.42              |
| 1:C:317:PHE:O    | 1:C:321:ASN:CB   | 2.67                     | 0.42              |
| 1:C:407:ILE:HA   | 1:C:461:VAL:HA   | 2.02                     | 0.42              |
| 1:C:418:TYR:HD1  | 1:C:454:MET:HE3  | 1.81                     | 0.42              |
| 1:C:432:GLN:O    | 1:C:465:THR:HB   | 2.20                     | 0.42              |
| 1:C:79:TYR:C     | 1:C:81:GLY:N     | 2.73                     | 0.42              |
| 1:A:132:VAL:CG1  | 1:A:134:TYR:CE2  | 3.02                     | 0.42              |
| 1:A:293:VAL:HG11 | 1:A:331:GLN:CD   | 2.40                     | 0.42              |
| 1:A:380:VAL:HG13 | 1:A:381:THR:N    | 2.28                     | 0.42              |
| 1:B:136:VAL:CG1  | 1:B:136:VAL:O    | 2.68                     | 0.42              |
| 1:B:241:PRO:CB   | 1:C:376:ASP:H    | 2.33                     | 0.42              |
| 1:B:293:VAL:HG11 | 1:B:331:GLN:CD   | 2.41                     | 0.42              |
| 1:B:380:VAL:HG13 | 1:B:381:THR:N    | 2.28                     | 0.42              |
| 1:A:199:SER:O    | 1:B:466:GLU:HG3  | 2.20                     | 0.42              |
| 1:C:136:VAL:CG1  | 1:C:136:VAL:O    | 2.68                     | 0.42              |
| 1:C:12:TYR:CD1   | 1:C:14:LEU:HD23  | 2.53                     | 0.42              |
| 1:C:255:TYR:C    | 1:C:255:TYR:CD2  | 2.92                     | 0.42              |
| 1:C:330:GLY:HA3  | 1:C:335:TYR:HD1  | 1.85                     | 0.42              |
| 1:C:368:ILE:HD13 | 1:C:368:ILE:HG21 | 1.44                     | 0.42              |
| 1:C:265:THR:O    | 1:C:411:LYS:HD2  | 2.20                     | 0.42              |
| 1:B:173:LEU:HA   | 1:B:174:PRO:HD2  | 1.82                     | 0.41              |
| 1:B:255:TYR:HD1  | 1:B:292:PHE:HD2  | 1.68                     | 0.41              |
| 1:B:287:THR:HG21 | 1:B:380:VAL:O    | 2.19                     | 0.41              |
| 1:B:11:ILE:CD1   | 1:B:324:LEU:C    | 2.89                     | 0.41              |
| 1:B:383:LYS:CD   | 1:C:5:ASP:CG     | 2.86                     | 0.41              |
| 1:C:12:TYR:OH    | 1:C:19:PHE:HE1   | 2.03                     | 0.41              |
| 1:C:427:TYR:CZ   | 1:C:433:LEU:HD11 | 2.55                     | 0.41              |
| 1:C:57:PHE:CZ    | 1:C:362:ILE:HG21 | 2.54                     | 0.41              |
| 1:A:221:LYS:HB3  | 1:B:436:VAL:HA   | 0.43                     | 0.41              |
| 1:A:330:GLY:HA3  | 1:A:335:TYR:HD1  | 1.85                     | 0.41              |
| 1:A:408:LEU:HD11 | 1:A:462:LEU:CD2  | 2.36                     | 0.41              |
| 1:B:87:ILE:O     | 1:B:88:TYR:CB    | 2.67                     | 0.41              |
| 1:C:255:TYR:CD1  | 1:C:292:PHE:HD2  | 2.36                     | 0.41              |
| 1:C:293:VAL:HG11 | 1:C:331:GLN:CD   | 2.40                     | 0.41              |
| 1:C:339:ASN:O    | 1:C:340:ASP:HB2  | 2.19                     | 0.41              |
| 1:C:382:TYR:HD2  | 1:C:398:GLY:O    | 2.02                     | 0.41              |
| 1:C:434:THR:CG2  | 1:C:474:CYS:SG   | 3.08                     | 0.41              |
| 1:C:443:THR:O    | 1:C:451:PRO:CD   | 2.67                     | 0.41              |
| 1:A:189:ASP:O    | 1:B:463:TYR:OH   | 2.30                     | 0.41              |
| 1:A:205:ILE:CD1  | 1:B:472:LYS:CA   | 2.86                     | 0.41              |
| 1:A:224:GLY:CA   | 1:B:434:THR:HB   | 2.50                     | 0.41              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:255:TYR:CD1  | 1:A:292:PHE:HD2  | 2.36                     | 0.41              |
| 1:A:400:ASP:CG   | 1:A:401:GLY:N    | 2.74                     | 0.41              |
| 1:A:265:THR:O    | 1:A:411:LYS:HD2  | 2.20                     | 0.41              |
| 1:B:228:ILE:HG21 | 1:B:228:ILE:HD12 | 1.72                     | 0.41              |
| 1:B:238:TYR:O    | 1:C:376:ASP:CA   | 2.46                     | 0.41              |
| 1:C:11:ILE:CD1   | 1:C:324:LEU:C    | 2.89                     | 0.41              |
| 1:C:400:ASP:CG   | 1:C:401:GLY:N    | 2.74                     | 0.41              |
| 1:C:66:THR:HG22  | 1:C:86:ASP:HB3   | 2.03                     | 0.41              |
| 1:C:87:ILE:HG21  | 1:C:87:ILE:HD13  | 1.82                     | 0.41              |
| 1:A:11:ILE:CD1   | 1:A:324:LEU:C    | 2.89                     | 0.41              |
| 1:A:12:TYR:OH    | 1:A:19:PHE:HE1   | 2.03                     | 0.41              |
| 1:A:18:ARG:HG2   | 1:A:345:GLU:H    | 1.84                     | 0.41              |
| 1:A:287:THR:HG21 | 1:A:380:VAL:O    | 2.19                     | 0.41              |
| 1:A:262:PHE:CZ   | 1:A:314:VAL:CA   | 3.03                     | 0.41              |
| 1:A:432:GLN:O    | 1:A:465:THR:HB   | 2.20                     | 0.41              |
| 1:A:55:MET:SD    | 1:A:362:ILE:CD1  | 3.06                     | 0.41              |
| 1:A:185:ASN:ND2  | 1:B:319:ILE:HG13 | 2.34                     | 0.41              |
| 1:B:319:ILE:HG22 | 1:B:325:PRO:CB   | 2.27                     | 0.41              |
| 1:B:330:GLY:CA   | 1:B:335:TYR:HD1  | 2.34                     | 0.41              |
| 1:B:344:ARG:N    | 1:B:344:ARG:HD2  | 2.36                     | 0.41              |
| 1:B:381:THR:CB   | 1:C:1:ALA:HB2    | 2.50                     | 0.41              |
| 1:B:385:PRO:O    | 1:B:395:MET:CB   | 2.68                     | 0.41              |
| 1:B:427:TYR:CZ   | 1:B:433:LEU:HD11 | 2.55                     | 0.41              |
| 1:B:432:GLN:O    | 1:B:465:THR:HB   | 2.20                     | 0.41              |
| 1:C:262:PHE:CZ   | 1:C:314:VAL:CA   | 3.03                     | 0.41              |
| 1:B:384:ASN:HA   | 1:C:2:THR:HG22   | 1.59                     | 0.41              |
| 1:C:346:ALA:HB3  | 1:C:349:LEU:HB2  | 2.03                     | 0.41              |
| 1:A:136:VAL:CG1  | 1:A:136:VAL:O    | 2.68                     | 0.41              |
| 1:A:379:PHE:CZ   | 1:A:397:LYS:HE2  | 2.56                     | 0.41              |
| 1:A:434:THR:CG2  | 1:A:474:CYS:SG   | 3.08                     | 0.41              |
| 1:B:243:GLN:HE21 | 1:B:285:ASP:HA   | 1.85                     | 0.41              |
| 1:B:42:TRP:NE1   | 1:B:62:ILE:CD1   | 2.68                     | 0.41              |
| 1:B:79:TYR:C     | 1:B:81:GLY:N     | 2.73                     | 0.41              |
| 1:C:142:SER:HB2  | 1:C:145:TYR:CE1  | 2.55                     | 0.41              |
| 1:B:429:ALA:CB   | 1:C:186:GLU:HB3  | 2.30                     | 0.41              |
| 1:C:236:PRO:HB3  | 1:C:278:THR:CG2  | 2.49                     | 0.41              |
| 1:C:379:PHE:CZ   | 1:C:397:LYS:HE2  | 2.56                     | 0.41              |
| 1:A:194:LEU:HA   | 1:B:403:GLN:CD   | 2.41                     | 0.41              |
| 1:A:216:TRP:HE3  | 1:B:472:LYS:HB3  | 1.38                     | 0.41              |
| 1:A:208:VAL:HG22 | 1:A:216:TRP:NE1  | 2.36                     | 0.41              |
| 1:A:295:ASN:O    | 1:A:298:ASN:N    | 2.53                     | 0.41              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:401:GLY:HA3  | 1:A:403:GLN:NE2  | 2.36                     | 0.41              |
| 1:A:408:LEU:N    | 1:A:408:LEU:HD13 | 2.30                     | 0.41              |
| 1:A:48:LYS:CE    | 1:A:48:LYS:HA    | 2.46                     | 0.41              |
| 1:B:134:TYR:CZ   | 1:B:143:GLN:HB2  | 2.55                     | 0.41              |
| 1:B:12:TYR:CD1   | 1:B:14:LEU:HD23  | 2.54                     | 0.41              |
| 1:B:191:VAL:HG23 | 1:B:192:GLY:H    | 1.85                     | 0.41              |
| 1:B:19:PHE:CD1   | 1:B:347:THR:CG2  | 3.04                     | 0.41              |
| 1:B:199:SER:HB2  | 1:B:200:ILE:H    | 1.27                     | 0.41              |
| 1:B:399:THR:HG22 | 1:B:400:ASP:N    | 2.36                     | 0.41              |
| 1:B:66:THR:HG22  | 1:B:86:ASP:HB3   | 2.03                     | 0.41              |
| 1:C:117:ASP:OD2  | 1:C:204:ARG:NH1  | 2.54                     | 0.41              |
| 1:C:11:ILE:HA    | 1:C:59:ALA:HB3   | 2.02                     | 0.41              |
| 1:C:122:HIS:ND1  | 1:C:173:LEU:CD2  | 2.78                     | 0.41              |
| 1:C:132:VAL:CG1  | 1:C:134:TYR:CE2  | 3.03                     | 0.41              |
| 1:C:137:PHE:CG   | 1:C:146:PHE:HZ   | 2.39                     | 0.41              |
| 1:C:134:TYR:CZ   | 1:C:143:GLN:HB2  | 2.55                     | 0.41              |
| 1:C:191:VAL:HG13 | 1:C:191:VAL:H    | 1.24                     | 0.41              |
| 1:B:399:THR:HG22 | 1:C:195:VAL:O    | 2.20                     | 0.41              |
| 1:C:330:GLY:CA   | 1:C:335:TYR:HD1  | 2.34                     | 0.41              |
| 1:C:338:GLY:O    | 1:C:340:ASP:N    | 2.53                     | 0.41              |
| 1:C:408:LEU:N    | 1:C:408:LEU:HD13 | 2.31                     | 0.41              |
| 1:A:190:TRP:CZ2  | 1:B:375:LYS:HB2  | 2.35                     | 0.41              |
| 1:A:344:ARG:N    | 1:A:344:ARG:HD2  | 2.36                     | 0.41              |
| 1:A:66:THR:HG22  | 1:A:86:ASP:HB3   | 2.03                     | 0.41              |
| 1:B:253:PRO:HB2  | 1:B:275:MET:HE3  | 2.02                     | 0.41              |
| 1:B:301:PHE:O    | 1:B:304:TYR:HD1  | 2.04                     | 0.41              |
| 1:B:407:ILE:HA   | 1:B:461:VAL:HA   | 2.02                     | 0.41              |
| 1:B:434:THR:CG2  | 1:B:474:CYS:SG   | 3.09                     | 0.41              |
| 1:C:116:VAL:HG13 | 1:C:116:VAL:O    | 2.20                     | 0.41              |
| 1:C:208:VAL:HG22 | 1:C:216:TRP:NE1  | 2.36                     | 0.41              |
| 1:C:66:THR:HG21  | 1:C:87:ILE:N     | 2.35                     | 0.41              |
| 1:A:228:ILE:HG21 | 1:A:228:ILE:HD12 | 1.72                     | 0.41              |
| 1:A:52:ILE:HG12  | 1:A:52:ILE:H     | 1.59                     | 0.41              |
| 1:B:13:PHE:HD1   | 1:B:14:LEU:N     | 2.18                     | 0.41              |
| 1:B:472:LYS:O    | 1:B:473:ILE:CB   | 2.66                     | 0.41              |
| 1:B:400:ASP:HB3  | 1:C:194:LEU:C    | 2.34                     | 0.41              |
| 1:C:256:TYR:CB   | 1:C:257:PRO:CD   | 2.98                     | 0.41              |
| 1:C:13:PHE:CB    | 1:C:328:TYR:HA   | 2.50                     | 0.41              |
| 1:C:344:ARG:N    | 1:C:344:ARG:HD2  | 2.36                     | 0.41              |
| 1:B:279:VAL:HG11 | 1:C:4:ALA:HB1    | 1.83                     | 0.41              |
| 1:C:68:GLN:O     | 1:C:85:THR:CG2   | 2.69                     | 0.41              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:B:275:MET:HA   | 1:C:7:ARG:NH1    | 2.29                     | 0.41              |
| 1:A:117:ASP:OD2  | 1:A:204:ARG:NH1  | 2.53                     | 0.41              |
| 1:A:194:LEU:O    | 1:B:403:GLN:CD   | 2.59                     | 0.41              |
| 1:A:246:MET:HB3  | 1:B:476:ASP:C    | 2.27                     | 0.41              |
| 1:A:293:VAL:HG13 | 1:A:294:GLU:N    | 2.19                     | 0.41              |
| 1:A:301:PHE:O    | 1:A:304:TYR:HD1  | 2.04                     | 0.41              |
| 1:A:318:ILE:HG21 | 1:A:318:ILE:HD13 | 1.14                     | 0.41              |
| 1:A:13:PHE:CB    | 1:A:328:TYR:HA   | 2.50                     | 0.41              |
| 1:A:346:ALA:HB3  | 1:A:349:LEU:HB2  | 2.03                     | 0.41              |
| 1:A:371:TYR:O    | 1:A:374:SER:HB2  | 2.21                     | 0.41              |
| 1:A:87:ILE:HD11  | 1:B:374:SER:C    | 2.36                     | 0.41              |
| 1:A:66:THR:HG21  | 1:A:87:ILE:N     | 2.35                     | 0.41              |
| 1:B:117:ASP:OD2  | 1:B:204:ARG:NH1  | 2.53                     | 0.41              |
| 1:B:330:GLY:HA3  | 1:B:335:TYR:HD1  | 1.85                     | 0.41              |
| 1:B:353:PRO:C    | 1:B:355:ASP:H    | 2.24                     | 0.41              |
| 1:B:452:VAL:O    | 1:B:452:VAL:HG22 | 2.16                     | 0.41              |
| 1:A:219:TYR:CG   | 1:B:473:ILE:CD1  | 2.87                     | 0.41              |
| 1:C:10:SER:HB3   | 1:C:57:PHE:HB3   | 2.03                     | 0.41              |
| 1:C:287:THR:HG21 | 1:C:380:VAL:O    | 2.19                     | 0.41              |
| 1:C:385:PRO:O    | 1:C:395:MET:CB   | 2.68                     | 0.41              |
| 1:C:401:GLY:HA3  | 1:C:403:GLN:NE2  | 2.35                     | 0.41              |
| 1:C:465:THR:O    | 1:C:465:THR:HG23 | 2.21                     | 0.41              |
| 1:A:191:VAL:HG23 | 1:A:192:GLY:H    | 1.85                     | 0.41              |
| 1:A:208:VAL:CG2  | 1:A:216:TRP:NE1  | 2.84                     | 0.41              |
| 1:A:272:LEU:HA   | 1:A:275:MET:HB3  | 2.02                     | 0.41              |
| 1:A:283:CYS:SG   | 1:A:289:LEU:HD11 | 2.61                     | 0.41              |
| 1:A:19:PHE:CD1   | 1:A:347:THR:CG2  | 3.04                     | 0.41              |
| 1:A:381:THR:O    | 1:A:382:TYR:C    | 2.59                     | 0.41              |
| 1:A:385:PRO:O    | 1:A:395:MET:CB   | 2.68                     | 0.41              |
| 1:A:465:THR:O    | 1:A:465:THR:HG23 | 2.21                     | 0.41              |
| 1:B:123:MET:CB   | 1:B:137:PHE:CE1  | 2.80                     | 0.41              |
| 1:B:255:TYR:CE1  | 1:B:293:VAL:O    | 2.74                     | 0.41              |
| 1:B:262:PHE:CZ   | 1:B:314:VAL:CA   | 3.04                     | 0.41              |
| 1:B:265:THR:O    | 1:B:411:LYS:HD2  | 2.20                     | 0.41              |
| 1:B:66:THR:HG21  | 1:B:87:ILE:N     | 2.35                     | 0.41              |
| 1:C:19:PHE:CD1   | 1:C:347:THR:CG2  | 3.04                     | 0.41              |
| 1:C:301:PHE:O    | 1:C:304:TYR:HD1  | 2.04                     | 0.41              |
| 1:C:381:THR:O    | 1:C:382:TYR:C    | 2.59                     | 0.41              |
| 1:A:137:PHE:CG   | 1:A:146:PHE:HZ   | 2.39                     | 0.41              |
| 1:A:134:TYR:CZ   | 1:A:143:GLN:HB2  | 2.55                     | 0.41              |
| 1:A:256:TYR:CB   | 1:A:257:PRO:CD   | 2.98                     | 0.41              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:255:TYR:HD1  | 1:A:292:PHE:HD2  | 1.68                     | 0.41              |
| 1:A:330:GLY:CA   | 1:A:335:TYR:HD1  | 2.34                     | 0.41              |
| 1:A:338:GLY:O    | 1:A:340:ASP:N    | 2.53                     | 0.41              |
| 1:A:79:TYR:C     | 1:A:81:GLY:N     | 2.73                     | 0.41              |
| 1:B:134:TYR:CG   | 1:B:143:GLN:HB3  | 2.56                     | 0.41              |
| 1:B:61:TRP:CZ2   | 1:B:204:ARG:NE   | 2.85                     | 0.41              |
| 1:B:208:VAL:CG2  | 1:B:216:TRP:NE1  | 2.84                     | 0.41              |
| 1:B:338:GLY:O    | 1:B:340:ASP:N    | 2.53                     | 0.41              |
| 1:B:346:ALA:HB3  | 1:B:349:LEU:HB2  | 2.03                     | 0.41              |
| 1:B:382:TYR:CE1  | 1:B:385:PRO:CD   | 2.94                     | 0.41              |
| 1:C:295:ASN:O    | 1:C:298:ASN:N    | 2.53                     | 0.41              |
| 1:C:371:TYR:O    | 1:C:374:SER:HB2  | 2.21                     | 0.41              |
| 1:C:385:PRO:O    | 1:C:395:MET:HB3  | 2.20                     | 0.41              |
| 1:C:55:MET:CG    | 1:C:57:PHE:CE2   | 2.97                     | 0.41              |
| 1:A:188:TYR:CD1  | 1:B:368:ILE:CG2  | 2.52                     | 0.40              |
| 1:A:450:VAL:HA   | 1:A:451:PRO:HD2  | 1.82                     | 0.40              |
| 1:B:191:VAL:HG13 | 1:B:191:VAL:H    | 1.25                     | 0.40              |
| 1:B:208:VAL:HG22 | 1:B:216:TRP:NE1  | 2.36                     | 0.40              |
| 1:B:211:VAL:HG21 | 1:B:215:PHE:HB3  | 2.00                     | 0.40              |
| 1:B:279:VAL:HG13 | 1:C:4:ALA:CA     | 2.44                     | 0.40              |
| 1:B:273:TYR:OH   | 1:C:244:ASN:HA   | 2.21                     | 0.40              |
| 1:C:283:CYS:SG   | 1:C:289:LEU:HD11 | 2.61                     | 0.40              |
| 1:A:245:VAL:C    | 1:A:246:MET:CG   | 2.90                     | 0.40              |
| 1:A:353:PRO:C    | 1:A:355:ASP:H    | 2.24                     | 0.40              |
| 1:A:46:ILE:HD13  | 1:A:46:ILE:HG21  | 1.78                     | 0.40              |
| 1:B:106:ALA:O    | 1:B:109:GLU:HB2  | 2.21                     | 0.40              |
| 1:A:197:ASN:ND2  | 1:B:400:ASP:OD1  | 2.50                     | 0.40              |
| 1:A:193:SER:HA   | 1:B:404:ILE:N    | 2.22                     | 0.40              |
| 1:B:12:TYR:CG    | 1:B:52:ILE:HG22  | 2.54                     | 0.40              |
| 1:C:134:TYR:CG   | 1:C:143:GLN:HB3  | 2.56                     | 0.40              |
| 1:C:184:LYS:HG3  | 1:C:185:ASN:H    | 1.86                     | 0.40              |
| 1:C:238:TYR:HA   | 1:C:241:PRO:HG3  | 2.04                     | 0.40              |
| 1:C:319:ILE:CA   | 1:C:325:PRO:CB   | 2.72                     | 0.40              |
| 1:C:312:LYS:CG   | 1:C:361:LEU:HD13 | 2.49                     | 0.40              |
| 1:A:180:LYS:HB3  | 1:B:12:TYR:CE2   | 2.52                     | 0.40              |
| 1:A:190:TRP:CH2  | 1:B:375:LYS:NZ   | 2.84                     | 0.40              |
| 1:A:221:LYS:HA   | 1:B:434:THR:HG21 | 0.47                     | 0.40              |
| 1:A:204:ARG:CG   | 1:A:228:ILE:O    | 2.70                     | 0.40              |
| 1:A:249:VAL:CB   | 1:B:477:SER:CB   | 2.94                     | 0.40              |
| 1:A:249:VAL:HA   | 1:B:477:SER:CB   | 2.51                     | 0.40              |
| 1:A:255:TYR:CE1  | 1:A:293:VAL:O    | 2.74                     | 0.40              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:385:PRO:O    | 1:A:395:MET:HB3  | 2.20                     | 0.40              |
| 1:A:472:LYS:O    | 1:A:473:ILE:CB   | 2.66                     | 0.40              |
| 1:B:272:LEU:HA   | 1:B:275:MET:HB3  | 2.02                     | 0.40              |
| 1:B:448:GLY:HA3  | 1:C:184:LYS:HB2  | 0.96                     | 0.40              |
| 1:C:123:MET:CE   | 1:C:140:PHE:HE1  | 2.24                     | 0.40              |
| 1:C:186:GLU:HG3  | 1:C:187:TRP:N    | 2.36                     | 0.40              |
| 1:C:208:VAL:CG2  | 1:C:216:TRP:NE1  | 2.84                     | 0.40              |
| 1:C:262:PHE:CE1  | 1:C:314:VAL:HB   | 2.57                     | 0.40              |
| 1:C:458:LEU:HD13 | 1:C:460:ARG:NH2  | 2.33                     | 0.40              |
| 1:A:134:TYR:CG   | 1:A:143:GLN:HB3  | 2.56                     | 0.40              |
| 1:A:205:ILE:HG13 | 1:A:229:GLY:CA   | 2.44                     | 0.40              |
| 1:A:458:LEU:HA   | 1:A:459:PRO:HD2  | 1.65                     | 0.40              |
| 1:A:190:TRP:HH2  | 1:B:375:LYS:HD3  | 1.57                     | 0.40              |
| 1:B:401:GLY:HA3  | 1:B:403:GLN:NE2  | 2.36                     | 0.40              |
| 1:B:458:LEU:HD13 | 1:B:460:ARG:NH2  | 2.33                     | 0.40              |
| 1:C:106:ALA:O    | 1:C:109:GLU:HB2  | 2.21                     | 0.40              |
| 1:C:190:TRP:HZ3  | 1:C:219:TYR:OH   | 2.05                     | 0.40              |
| 1:C:204:ARG:HH11 | 1:C:204:ARG:HG2  | 1.84                     | 0.40              |
| 1:C:255:TYR:HD1  | 1:C:292:PHE:HD2  | 1.68                     | 0.40              |
| 1:C:255:TYR:CE1  | 1:C:293:VAL:O    | 2.74                     | 0.40              |
| 1:C:321:ASN:CG   | 1:C:322:ASP:N    | 2.69                     | 0.40              |
| 1:C:332:GLU:CG   | 1:C:333:GLN:H    | 2.30                     | 0.40              |
| 1:C:387:ILE:HD13 | 1:C:387:ILE:HG21 | 1.37                     | 0.40              |
| 1:A:10:SER:HB3   | 1:A:57:PHE:HB3   | 2.03                     | 0.40              |
| 1:A:224:GLY:N    | 1:B:434:THR:HB   | 2.36                     | 0.40              |
| 1:A:452:VAL:O    | 1:A:452:VAL:HG22 | 2.17                     | 0.40              |
| 1:B:1:ALA:HB1    | 1:B:113:TYR:HE1  | 1.86                     | 0.40              |
| 1:B:122:HIS:ND1  | 1:B:173:LEU:CD2  | 2.77                     | 0.40              |
| 1:B:262:PHE:CE1  | 1:B:314:VAL:HB   | 2.57                     | 0.40              |
| 1:B:283:CYS:SG   | 1:B:289:LEU:HD11 | 2.61                     | 0.40              |
| 1:B:385:PRO:O    | 1:B:395:MET:HB3  | 2.20                     | 0.40              |
| 1:C:152:ILE:HD11 | 1:C:166:LEU:CB   | 2.52                     | 0.40              |
| 1:C:205:ILE:HG13 | 1:C:229:GLY:CA   | 2.44                     | 0.40              |
| 1:C:245:VAL:C    | 1:C:246:MET:CG   | 2.90                     | 0.40              |
| 1:C:353:PRO:C    | 1:C:355:ASP:H    | 2.24                     | 0.40              |
| 1:C:472:LYS:O    | 1:C:473:ILE:CG2  | 2.66                     | 0.40              |

All (135) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

| Atom-1          | Atom-2                 | Interatomic distance (Å) | Clash overlap (Å) |
|-----------------|------------------------|--------------------------|-------------------|
| 1:A:151:PHE:C   | 1:C:25:SER:O[2_646]    | 0.53                     | 1.67              |
| 1:A:149:PHE:CB  | 1:C:29:THR:OG1[2_646]  | 0.66                     | 1.54              |
| 1:A:149:PHE:CD2 | 1:C:29:THR:CA[2_646]   | 0.70                     | 1.50              |
| 1:A:165:TRP:O   | 1:C:27:THR:CA[2_646]   | 0.72                     | 1.48              |
| 1:A:152:ILE:CA  | 1:C:26:THR:N[2_646]    | 0.76                     | 1.44              |
| 1:A:152:ILE:CB  | 1:C:26:THR:OG1[2_646]  | 0.76                     | 1.44              |
| 1:A:153:GLN:CG  | 1:C:24:GLY:O[2_646]    | 0.82                     | 1.38              |
| 1:A:151:PHE:C   | 1:C:25:SER:C[2_646]    | 0.95                     | 1.25              |
| 1:A:152:ILE:CB  | 1:C:26:THR:CB[2_646]   | 0.95                     | 1.25              |
| 1:A:153:GLN:C   | 1:C:24:GLY:CA[2_646]   | 0.97                     | 1.23              |
| 1:A:153:GLN:CB  | 1:C:24:GLY:O[2_646]    | 0.99                     | 1.21              |
| 1:A:165:TRP:CB  | 1:C:27:THR:O[2_646]    | 0.99                     | 1.21              |
| 1:A:165:TRP:CA  | 1:C:27:THR:CG2[2_646]  | 1.00                     | 1.20              |
| 1:A:152:ILE:N   | 1:C:26:THR:N[2_646]    | 1.04                     | 1.16              |
| 1:A:152:ILE:CG1 | 1:C:26:THR:OG1[2_646]  | 1.06                     | 1.14              |
| 1:A:165:TRP:CA  | 1:C:27:THR:CB[2_646]   | 1.07                     | 1.13              |
| 1:A:151:PHE:N   | 1:C:28:ALA:CB[2_646]   | 1.09                     | 1.11              |
| 1:A:151:PHE:CZ  | 1:C:349:LEU:CG[2_646]  | 1.09                     | 1.11              |
| 1:A:165:TRP:C   | 1:C:27:THR:CB[2_646]   | 1.10                     | 1.10              |
| 1:A:149:PHE:CG  | 1:C:29:THR:CA[2_646]   | 1.11                     | 1.09              |
| 1:A:152:ILE:N   | 1:C:25:SER:C[2_646]    | 1.13                     | 1.07              |
| 1:A:153:GLN:CA  | 1:C:24:GLY:CA[2_646]   | 1.18                     | 1.02              |
| 1:A:150:CYS:C   | 1:C:28:ALA:CA[2_646]   | 1.19                     | 1.01              |
| 1:A:151:PHE:O   | 1:C:25:SER:C[2_646]    | 1.19                     | 1.01              |
| 1:A:151:PHE:CE1 | 1:C:349:LEU:CG[2_646]  | 1.22                     | 0.98              |
| 1:A:149:PHE:CD2 | 1:C:29:THR:C[2_646]    | 1.23                     | 0.97              |
| 1:A:149:PHE:CB  | 1:C:29:THR:CB[2_646]   | 1.25                     | 0.95              |
| 1:A:153:GLN:CA  | 1:C:24:GLY:C[2_646]    | 1.29                     | 0.91              |
| 1:A:151:PHE:CA  | 1:C:25:SER:O[2_646]    | 1.30                     | 0.90              |
| 1:A:165:TRP:C   | 1:C:27:THR:CA[2_646]   | 1.30                     | 0.90              |
| 1:A:149:PHE:CA  | 1:C:29:THR:OG1[2_646]  | 1.32                     | 0.88              |
| 1:A:165:TRP:O   | 1:C:27:THR:N[2_646]    | 1.32                     | 0.88              |
| 1:A:150:CYS:O   | 1:C:28:ALA:N[2_646]    | 1.33                     | 0.87              |
| 1:A:153:GLN:CB  | 1:C:24:GLY:C[2_646]    | 1.37                     | 0.83              |
| 1:A:150:CYS:C   | 1:C:28:ALA:N[2_646]    | 1.42                     | 0.78              |
| 1:A:150:CYS:CA  | 1:C:28:ALA:CA[2_646]   | 1.42                     | 0.78              |
| 1:A:152:ILE:CG2 | 1:C:26:THR:OG1[2_646]  | 1.46                     | 0.74              |
| 1:A:151:PHE:CE1 | 1:C:349:LEU:CB[2_646]  | 1.47                     | 0.73              |
| 1:A:149:PHE:CE2 | 1:C:30:CYS:N[2_646]    | 1.48                     | 0.72              |
| 1:A:151:PHE:O   | 1:C:25:SER:CA[2_646]   | 1.48                     | 0.72              |
| 1:A:151:PHE:CZ  | 1:C:349:LEU:CD1[2_646] | 1.48                     | 0.72              |
| 1:A:152:ILE:N   | 1:C:25:SER:O[2_646]    | 1.49                     | 0.71              |

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| Atom-1          | Atom-2                 | Interatomic distance (Å) | Clash overlap (Å) |
|-----------------|------------------------|--------------------------|-------------------|
| 1:A:150:CYS:C   | 1:C:28:ALA:CB[2_646]   | 1.50                     | 0.70              |
| 1:A:151:PHE:O   | 1:C:25:SER:O[2_646]    | 1.50                     | 0.70              |
| 1:A:153:GLN:O   | 1:C:23:ASP:O[2_646]    | 1.53                     | 0.67              |
| 1:A:160:GLN:OE1 | 1:C:23:ASP:O[2_646]    | 1.54                     | 0.66              |
| 1:A:153:GLN:N   | 1:C:25:SER:N[2_646]    | 1.55                     | 0.65              |
| 1:A:152:ILE:CG1 | 1:C:26:THR:CB[2_646]   | 1.55                     | 0.65              |
| 1:A:152:ILE:N   | 1:C:26:THR:CA[2_646]   | 1.58                     | 0.62              |
| 1:A:128:ALA:CB  | 1:C:31:ASN:CB[2_646]   | 1.59                     | 0.61              |
| 1:A:165:TRP:N   | 1:C:27:THR:CB[2_646]   | 1.61                     | 0.59              |
| 1:A:152:ILE:C   | 1:C:26:THR:N[2_646]    | 1.62                     | 0.58              |
| 1:A:153:GLN:O   | 1:C:24:GLY:CA[2_646]   | 1.63                     | 0.57              |
| 1:A:165:TRP:C   | 1:C:27:THR:CG2[2_646]  | 1.64                     | 0.56              |
| 1:A:153:GLN:O   | 1:C:24:GLY:N[2_646]    | 1.65                     | 0.55              |
| 1:A:151:PHE:CD1 | 1:C:349:LEU:CA[2_646]  | 1.66                     | 0.54              |
| 1:A:153:GLN:O   | 1:C:23:ASP:C[2_646]    | 1.66                     | 0.54              |
| 1:A:130:SER:CB  | 1:C:31:ASN:OD1[2_646]  | 1.67                     | 0.53              |
| 1:A:153:GLN:N   | 1:C:24:GLY:C[2_646]    | 1.67                     | 0.53              |
| 1:A:165:TRP:C   | 1:C:27:THR:OG1[2_646]  | 1.69                     | 0.51              |
| 1:A:152:ILE:CD1 | 1:C:26:THR:CB[2_646]   | 1.71                     | 0.49              |
| 1:A:152:ILE:CA  | 1:C:25:SER:C[2_646]    | 1.72                     | 0.48              |
| 1:A:151:PHE:O   | 1:C:25:SER:CB[2_646]   | 1.72                     | 0.48              |
| 1:A:153:GLN:NE2 | 1:C:21:ARG:CD[2_646]   | 1.72                     | 0.48              |
| 1:A:153:GLN:CG  | 1:C:24:GLY:C[2_646]    | 1.74                     | 0.46              |
| 1:A:153:GLN:CB  | 1:C:24:GLY:CA[2_646]   | 1.75                     | 0.45              |
| 1:A:152:ILE:CB  | 1:C:26:THR:CA[2_646]   | 1.76                     | 0.44              |
| 1:A:149:PHE:CD2 | 1:C:29:THR:N[2_646]    | 1.76                     | 0.44              |
| 1:A:165:TRP:CB  | 1:C:27:THR:C[2_646]    | 1.77                     | 0.43              |
| 1:A:149:PHE:CE2 | 1:C:29:THR:C[2_646]    | 1.78                     | 0.42              |
| 1:A:153:GLN:OE1 | 1:C:348:TRP:CD2[2_646] | 1.80                     | 0.40              |
| 1:A:152:ILE:CB  | 1:C:26:THR:CG2[2_646]  | 1.81                     | 0.39              |
| 1:A:151:PHE:CE1 | 1:C:349:LEU:CA[2_646]  | 1.81                     | 0.39              |
| 1:A:165:TRP:O   | 1:C:27:THR:CB[2_646]   | 1.81                     | 0.39              |
| 1:A:151:PHE:N   | 1:C:28:ALA:CA[2_646]   | 1.82                     | 0.38              |
| 1:A:149:PHE:C   | 1:C:29:THR:N[2_646]    | 1.83                     | 0.37              |
| 1:A:149:PHE:CG  | 1:C:29:THR:CB[2_646]   | 1.84                     | 0.36              |
| 1:A:152:ILE:CA  | 1:C:26:THR:CA[2_646]   | 1.84                     | 0.36              |
| 1:A:130:SER:O   | 1:C:34:ASP:OD1[2_646]  | 1.85                     | 0.35              |
| 1:A:150:CYS:CA  | 1:C:28:ALA:CB[2_646]   | 1.86                     | 0.34              |
| 1:A:153:GLN:C   | 1:C:24:GLY:N[2_646]    | 1.86                     | 0.34              |
| 1:A:152:ILE:CA  | 1:C:26:THR:OG1[2_646]  | 1.87                     | 0.33              |
| 1:A:151:PHE:C   | 1:C:26:THR:N[2_646]    | 1.88                     | 0.32              |

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| Atom-1          | Atom-2                 | Interatomic distance (Å) | Clash overlap (Å) |
|-----------------|------------------------|--------------------------|-------------------|
| 1:A:165:TRP:CA  | 1:C:27:THR:CA[2_646]   | 1.88                     | 0.32              |
| 1:A:149:PHE:CB  | 1:C:29:THR:CA[2_646]   | 1.88                     | 0.32              |
| 1:A:154:ASN:N   | 1:C:24:GLY:CA[2_646]   | 1.89                     | 0.31              |
| 1:A:149:PHE:CD2 | 1:C:30:CYS:N[2_646]    | 1.90                     | 0.30              |
| 1:A:152:ILE:CB  | 1:C:26:THR:N[2_646]    | 1.91                     | 0.29              |
| 1:A:128:ALA:O   | 1:C:31:ASN:ND2[2_646]  | 1.91                     | 0.29              |
| 1:A:151:PHE:CB  | 1:C:348:TRP:CE2[2_646] | 1.91                     | 0.29              |
| 1:A:152:ILE:N   | 1:C:26:THR:C[2_646]    | 1.93                     | 0.27              |
| 1:A:166:LEU:N   | 1:C:27:THR:CG2[2_646]  | 1.93                     | 0.27              |
| 1:A:150:CYS:O   | 1:C:27:THR:C[2_646]    | 1.93                     | 0.27              |
| 1:A:151:PHE:N   | 1:C:28:ALA:N[2_646]    | 1.93                     | 0.27              |
| 1:A:167:GLY:O   | 1:C:349:LEU:O[2_646]   | 1.94                     | 0.26              |
| 1:A:153:GLN:OE1 | 1:C:348:TRP:CG[2_646]  | 1.94                     | 0.26              |
| 1:A:154:ASN:CB  | 1:C:22:THR:O[2_646]    | 1.96                     | 0.24              |
| 1:A:151:PHE:CB  | 1:C:348:TRP:CZ2[2_646] | 1.96                     | 0.24              |
| 1:A:130:SER:CA  | 1:C:31:ASN:OD1[2_646]  | 1.97                     | 0.23              |
| 1:A:149:PHE:CG  | 1:C:29:THR:N[2_646]    | 1.97                     | 0.23              |
| 1:A:149:PHE:N   | 1:C:29:THR:OG1[2_646]  | 1.97                     | 0.23              |
| 1:A:150:CYS:N   | 1:C:28:ALA:CA[2_646]   | 2.01                     | 0.19              |
| 1:A:149:PHE:O   | 1:C:29:THR:N[2_646]    | 2.03                     | 0.17              |
| 1:A:166:LEU:N   | 1:C:27:THR:OG1[2_646]  | 2.04                     | 0.16              |
| 1:A:165:TRP:CG  | 1:C:27:THR:O[2_646]    | 2.04                     | 0.16              |
| 1:A:153:GLN:CA  | 1:C:24:GLY:O[2_646]    | 2.07                     | 0.13              |
| 1:A:165:TRP:CA  | 1:C:27:THR:O[2_646]    | 2.07                     | 0.13              |
| 1:A:150:CYS:O   | 1:C:28:ALA:CA[2_646]   | 2.07                     | 0.13              |
| 1:A:165:TRP:CB  | 1:C:27:THR:CG2[2_646]  | 2.09                     | 0.11              |
| 1:A:151:PHE:O   | 1:C:348:TRP:NE1[2_646] | 2.09                     | 0.11              |
| 1:A:165:TRP:O   | 1:C:26:THR:C[2_646]    | 2.09                     | 0.11              |
| 1:A:152:ILE:CG2 | 1:C:26:THR:CG2[2_646]  | 2.09                     | 0.11              |
| 1:A:152:ILE:N   | 1:C:27:THR:N[2_646]    | 2.10                     | 0.10              |
| 1:A:151:PHE:CB  | 1:C:348:TRP:NE1[2_646] | 2.10                     | 0.10              |
| 1:A:149:PHE:CE2 | 1:C:29:THR:CA[2_646]   | 2.11                     | 0.09              |
| 1:A:152:ILE:CG1 | 1:C:27:THR:N[2_646]    | 2.11                     | 0.09              |
| 1:A:130:SER:N   | 1:C:31:ASN:OD1[2_646]  | 2.11                     | 0.09              |
| 1:A:153:GLN:CD  | 1:C:348:TRP:NE1[2_646] | 2.12                     | 0.08              |
| 1:A:149:PHE:CD2 | 1:C:29:THR:CB[2_646]   | 2.13                     | 0.07              |
| 1:A:153:GLN:CD  | 1:C:348:TRP:CE2[2_646] | 2.14                     | 0.06              |
| 1:A:166:LEU:N   | 1:C:27:THR:CB[2_646]   | 2.14                     | 0.06              |
| 1:A:153:GLN:NE2 | 1:C:348:TRP:CE2[2_646] | 2.15                     | 0.05              |
| 1:A:152:ILE:CG2 | 1:C:26:THR:CB[2_646]   | 2.15                     | 0.05              |
| 1:A:152:ILE:CG1 | 1:C:26:THR:CA[2_646]   | 2.16                     | 0.04              |

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| Atom-1         | Atom-2                | Interatomic distance (Å) | Clash overlap (Å) |
|----------------|-----------------------|--------------------------|-------------------|
| 1:A:149:PHE:CG | 1:C:29:THR:OG1[2_646] | 2.16                     | 0.04              |
| 1:A:151:PHE:N  | 1:C:25:SER:O[2_646]   | 2.17                     | 0.03              |
| 1:A:130:SER:O  | 1:C:34:ASP:CG[2_646]  | 2.17                     | 0.03              |
| 1:A:152:ILE:CA | 1:C:26:THR:CB[2_646]  | 2.17                     | 0.03              |
| 1:A:151:PHE:CZ | 1:C:349:LEU:CB[2_646] | 2.18                     | 0.02              |
| 1:A:153:GLN:CD | 1:C:24:GLY:O[2_646]   | 2.18                     | 0.02              |
| 1:A:165:TRP:O  | 1:C:27:THR:C[2_646]   | 2.19                     | 0.01              |
| 1:A:128:ALA:C  | 1:C:31:ASN:CB[2_646]  | 2.19                     | 0.01              |
| 1:A:165:TRP:CA | 1:C:27:THR:C[2_646]   | 2.19                     | 0.01              |
| 1:A:150:CYS:N  | 1:C:29:THR:N[2_646]   | 2.19                     | 0.01              |
| 1:A:152:ILE:O  | 1:C:26:THR:N[2_646]   | 2.19                     | 0.01              |

## 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 |
|-----|-------|------------------|-----------|-----------|-----------|-------------|
| 1   | A     | 476/478 (100%)   | 237 (50%) | 117 (25%) | 122 (26%) | 0   0       |
| 1   | B     | 476/478 (100%)   | 237 (50%) | 117 (25%) | 122 (26%) | 0   0       |
| 1   | C     | 476/478 (100%)   | 237 (50%) | 117 (25%) | 122 (26%) | 0   0       |
| All | All   | 1428/1434 (100%) | 711 (50%) | 351 (25%) | 366 (26%) | 0   0       |

All (366) Ramachandran outliers are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1   | A     | 2   | THR  |
| 1   | A     | 7   | ARG  |
| 1   | A     | 16  | THR  |
| 1   | A     | 19  | PHE  |
| 1   | A     | 21  | ARG  |
| 1   | A     | 30  | CYS  |
| 1   | A     | 32  | THR  |
| 1   | A     | 33  | ALA  |

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| <b>Mol</b> | <b>Chain</b> | <b>Res</b> | <b>Type</b> |
|------------|--------------|------------|-------------|
| 1          | A            | 63         | THR         |
| 1          | A            | 66         | THR         |
| 1          | A            | 67         | ALA         |
| 1          | A            | 68         | GLN         |
| 1          | A            | 72         | ASP         |
| 1          | A            | 74         | ALA         |
| 1          | A            | 83         | TRP         |
| 1          | A            | 84         | GLN         |
| 1          | A            | 87         | ILE         |
| 1          | A            | 88         | TYR         |
| 1          | A            | 90         | LEU         |
| 1          | A            | 91         | ASN         |
| 1          | A            | 120        | ALA         |
| 1          | A            | 139        | PRO         |
| 1          | A            | 144        | ASP         |
| 1          | A            | 155        | TYR         |
| 1          | A            | 161        | VAL         |
| 1          | A            | 164        | CYS         |
| 1          | A            | 169        | ASN         |
| 1          | A            | 173        | LEU         |
| 1          | A            | 177        | ASP         |
| 1          | A            | 180        | LYS         |
| 1          | A            | 181        | ASP         |
| 1          | A            | 182        | VAL         |
| 1          | A            | 199        | SER         |
| 1          | A            | 214        | ASP         |
| 1          | A            | 225        | VAL         |
| 1          | A            | 226        | TYR         |
| 1          | A            | 231        | VAL         |
| 1          | A            | 233        | ASP         |
| 1          | A            | 247        | ASP         |
| 1          | A            | 263        | LYS         |
| 1          | A            | 268        | SER         |
| 1          | A            | 280        | LYS         |
| 1          | A            | 281        | SER         |
| 1          | A            | 293        | VAL         |
| 1          | A            | 295        | ASN         |
| 1          | A            | 296        | HIS         |
| 1          | A            | 301        | PHE         |
| 1          | A            | 341        | PRO         |
| 1          | A            | 344        | ARG         |
| 1          | A            | 345        | GLU         |

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| <b>Mol</b> | <b>Chain</b> | <b>Res</b> | <b>Type</b> |
|------------|--------------|------------|-------------|
| 1          | A            | 346        | ALA         |
| 1          | A            | 354        | THR         |
| 1          | A            | 382        | TYR         |
| 1          | A            | 387        | ILE         |
| 1          | A            | 426        | SER         |
| 1          | A            | 436        | VAL         |
| 1          | A            | 437        | ILE         |
| 1          | A            | 440        | THR         |
| 1          | A            | 460        | ARG         |
| 1          | A            | 472        | LYS         |
| 1          | A            | 473        | ILE         |
| 1          | B            | 2          | THR         |
| 1          | B            | 7          | ARG         |
| 1          | B            | 16         | THR         |
| 1          | B            | 19         | PHE         |
| 1          | B            | 21         | ARG         |
| 1          | B            | 30         | CYS         |
| 1          | B            | 32         | THR         |
| 1          | B            | 33         | ALA         |
| 1          | B            | 63         | THR         |
| 1          | B            | 66         | THR         |
| 1          | B            | 67         | ALA         |
| 1          | B            | 68         | GLN         |
| 1          | B            | 72         | ASP         |
| 1          | B            | 74         | ALA         |
| 1          | B            | 83         | TRP         |
| 1          | B            | 84         | GLN         |
| 1          | B            | 87         | ILE         |
| 1          | B            | 88         | TYR         |
| 1          | B            | 90         | LEU         |
| 1          | B            | 91         | ASN         |
| 1          | B            | 120        | ALA         |
| 1          | B            | 139        | PRO         |
| 1          | B            | 144        | ASP         |
| 1          | B            | 155        | TYR         |
| 1          | B            | 161        | VAL         |
| 1          | B            | 164        | CYS         |
| 1          | B            | 169        | ASN         |
| 1          | B            | 173        | LEU         |
| 1          | B            | 177        | ASP         |
| 1          | B            | 180        | LYS         |
| 1          | B            | 181        | ASP         |

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| <b>Mol</b> | <b>Chain</b> | <b>Res</b> | <b>Type</b> |
|------------|--------------|------------|-------------|
| 1          | B            | 182        | VAL         |
| 1          | B            | 199        | SER         |
| 1          | B            | 214        | ASP         |
| 1          | B            | 225        | VAL         |
| 1          | B            | 226        | TYR         |
| 1          | B            | 231        | VAL         |
| 1          | B            | 233        | ASP         |
| 1          | B            | 247        | ASP         |
| 1          | B            | 263        | LYS         |
| 1          | B            | 268        | SER         |
| 1          | B            | 280        | LYS         |
| 1          | B            | 281        | SER         |
| 1          | B            | 293        | VAL         |
| 1          | B            | 295        | ASN         |
| 1          | B            | 296        | HIS         |
| 1          | B            | 301        | PHE         |
| 1          | B            | 341        | PRO         |
| 1          | B            | 344        | ARG         |
| 1          | B            | 345        | GLU         |
| 1          | B            | 346        | ALA         |
| 1          | B            | 354        | THR         |
| 1          | B            | 382        | TYR         |
| 1          | B            | 387        | ILE         |
| 1          | B            | 426        | SER         |
| 1          | B            | 436        | VAL         |
| 1          | B            | 437        | ILE         |
| 1          | B            | 440        | THR         |
| 1          | B            | 460        | ARG         |
| 1          | B            | 472        | LYS         |
| 1          | B            | 473        | ILE         |
| 1          | C            | 2          | THR         |
| 1          | C            | 7          | ARG         |
| 1          | C            | 16         | THR         |
| 1          | C            | 19         | PHE         |
| 1          | C            | 21         | ARG         |
| 1          | C            | 30         | CYS         |
| 1          | C            | 32         | THR         |
| 1          | C            | 33         | ALA         |
| 1          | C            | 63         | THR         |
| 1          | C            | 66         | THR         |
| 1          | C            | 67         | ALA         |
| 1          | C            | 68         | GLN         |

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| <b>Mol</b> | <b>Chain</b> | <b>Res</b> | <b>Type</b> |
|------------|--------------|------------|-------------|
| 1          | C            | 72         | ASP         |
| 1          | C            | 74         | ALA         |
| 1          | C            | 83         | TRP         |
| 1          | C            | 84         | GLN         |
| 1          | C            | 87         | ILE         |
| 1          | C            | 88         | TYR         |
| 1          | C            | 90         | LEU         |
| 1          | C            | 91         | ASN         |
| 1          | C            | 120        | ALA         |
| 1          | C            | 139        | PRO         |
| 1          | C            | 144        | ASP         |
| 1          | C            | 155        | TYR         |
| 1          | C            | 161        | VAL         |
| 1          | C            | 164        | CYS         |
| 1          | C            | 169        | ASN         |
| 1          | C            | 173        | LEU         |
| 1          | C            | 177        | ASP         |
| 1          | C            | 180        | LYS         |
| 1          | C            | 181        | ASP         |
| 1          | C            | 182        | VAL         |
| 1          | C            | 199        | SER         |
| 1          | C            | 214        | ASP         |
| 1          | C            | 225        | VAL         |
| 1          | C            | 226        | TYR         |
| 1          | C            | 231        | VAL         |
| 1          | C            | 233        | ASP         |
| 1          | C            | 247        | ASP         |
| 1          | C            | 263        | LYS         |
| 1          | C            | 268        | SER         |
| 1          | C            | 280        | LYS         |
| 1          | C            | 281        | SER         |
| 1          | C            | 293        | VAL         |
| 1          | C            | 295        | ASN         |
| 1          | C            | 296        | HIS         |
| 1          | C            | 301        | PHE         |
| 1          | C            | 341        | PRO         |
| 1          | C            | 344        | ARG         |
| 1          | C            | 345        | GLU         |
| 1          | C            | 346        | ALA         |
| 1          | C            | 354        | THR         |
| 1          | C            | 382        | TYR         |
| 1          | C            | 387        | ILE         |

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| <b>Mol</b> | <b>Chain</b> | <b>Res</b> | <b>Type</b> |
|------------|--------------|------------|-------------|
| 1          | C            | 426        | SER         |
| 1          | C            | 436        | VAL         |
| 1          | C            | 437        | ILE         |
| 1          | C            | 440        | THR         |
| 1          | C            | 460        | ARG         |
| 1          | C            | 472        | LYS         |
| 1          | C            | 473        | ILE         |
| 1          | A            | 6          | TRP         |
| 1          | A            | 22         | THR         |
| 1          | A            | 39         | GLY         |
| 1          | A            | 44         | GLY         |
| 1          | A            | 71         | GLN         |
| 1          | A            | 75         | TYR         |
| 1          | A            | 79         | TYR         |
| 1          | A            | 86         | ASP         |
| 1          | A            | 97         | ALA         |
| 1          | A            | 124        | GLY         |
| 1          | A            | 141        | SER         |
| 1          | A            | 170        | THR         |
| 1          | A            | 190        | TRP         |
| 1          | A            | 198        | TYR         |
| 1          | A            | 224        | GLY         |
| 1          | A            | 234        | GLY         |
| 1          | A            | 267        | GLY         |
| 1          | A            | 294        | GLU         |
| 1          | A            | 302        | ALA         |
| 1          | A            | 329        | ALA         |
| 1          | A            | 332        | GLU         |
| 1          | A            | 339        | ASN         |
| 1          | A            | 377        | THR         |
| 1          | A            | 383        | LYS         |
| 1          | A            | 400        | ASP         |
| 1          | A            | 416        | ASP         |
| 1          | A            | 417        | SER         |
| 1          | A            | 423        | SER         |
| 1          | A            | 429        | ALA         |
| 1          | A            | 477        | SER         |
| 1          | B            | 22         | THR         |
| 1          | B            | 39         | GLY         |
| 1          | B            | 44         | GLY         |
| 1          | B            | 71         | GLN         |
| 1          | B            | 75         | TYR         |

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| <b>Mol</b> | <b>Chain</b> | <b>Res</b> | <b>Type</b> |
|------------|--------------|------------|-------------|
| 1          | B            | 79         | TYR         |
| 1          | B            | 86         | ASP         |
| 1          | B            | 97         | ALA         |
| 1          | B            | 124        | GLY         |
| 1          | B            | 141        | SER         |
| 1          | B            | 170        | THR         |
| 1          | B            | 190        | TRP         |
| 1          | B            | 198        | TYR         |
| 1          | B            | 224        | GLY         |
| 1          | B            | 234        | GLY         |
| 1          | B            | 267        | GLY         |
| 1          | B            | 294        | GLU         |
| 1          | B            | 302        | ALA         |
| 1          | B            | 329        | ALA         |
| 1          | B            | 332        | GLU         |
| 1          | B            | 339        | ASN         |
| 1          | B            | 377        | THR         |
| 1          | B            | 383        | LYS         |
| 1          | B            | 400        | ASP         |
| 1          | B            | 416        | ASP         |
| 1          | B            | 417        | SER         |
| 1          | B            | 423        | SER         |
| 1          | B            | 429        | ALA         |
| 1          | B            | 477        | SER         |
| 1          | C            | 22         | THR         |
| 1          | C            | 39         | GLY         |
| 1          | C            | 44         | GLY         |
| 1          | C            | 71         | GLN         |
| 1          | C            | 75         | TYR         |
| 1          | C            | 79         | TYR         |
| 1          | C            | 86         | ASP         |
| 1          | C            | 97         | ALA         |
| 1          | C            | 124        | GLY         |
| 1          | C            | 141        | SER         |
| 1          | C            | 170        | THR         |
| 1          | C            | 190        | TRP         |
| 1          | C            | 198        | TYR         |
| 1          | C            | 224        | GLY         |
| 1          | C            | 234        | GLY         |
| 1          | C            | 267        | GLY         |
| 1          | C            | 294        | GLU         |
| 1          | C            | 302        | ALA         |

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| <b>Mol</b> | <b>Chain</b> | <b>Res</b> | <b>Type</b> |
|------------|--------------|------------|-------------|
| 1          | C            | 329        | ALA         |
| 1          | C            | 332        | GLU         |
| 1          | C            | 339        | ASN         |
| 1          | C            | 377        | THR         |
| 1          | C            | 383        | LYS         |
| 1          | C            | 400        | ASP         |
| 1          | C            | 416        | ASP         |
| 1          | C            | 417        | SER         |
| 1          | C            | 423        | SER         |
| 1          | C            | 429        | ALA         |
| 1          | C            | 477        | SER         |
| 1          | A            | 3          | PRO         |
| 1          | A            | 26         | THR         |
| 1          | A            | 70         | PRO         |
| 1          | A            | 77         | ASP         |
| 1          | A            | 112        | MET         |
| 1          | A            | 183        | VAL         |
| 1          | A            | 196        | SER         |
| 1          | A            | 349        | LEU         |
| 1          | A            | 446        | SER         |
| 1          | B            | 3          | PRO         |
| 1          | B            | 6          | TRP         |
| 1          | B            | 26         | THR         |
| 1          | B            | 70         | PRO         |
| 1          | B            | 77         | ASP         |
| 1          | B            | 112        | MET         |
| 1          | B            | 183        | VAL         |
| 1          | B            | 196        | SER         |
| 1          | B            | 349        | LEU         |
| 1          | B            | 446        | SER         |
| 1          | C            | 3          | PRO         |
| 1          | C            | 6          | TRP         |
| 1          | C            | 26         | THR         |
| 1          | C            | 70         | PRO         |
| 1          | C            | 77         | ASP         |
| 1          | C            | 112        | MET         |
| 1          | C            | 183        | VAL         |
| 1          | C            | 196        | SER         |
| 1          | C            | 349        | LEU         |
| 1          | C            | 446        | SER         |
| 1          | A            | 106        | ALA         |
| 1          | A            | 134        | TYR         |

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| <b>Mol</b> | <b>Chain</b> | <b>Res</b> | <b>Type</b> |
|------------|--------------|------------|-------------|
| 1          | A            | 241        | PRO         |
| 1          | A            | 297        | ASP         |
| 1          | A            | 380        | VAL         |
| 1          | A            | 381        | THR         |
| 1          | A            | 450        | VAL         |
| 1          | A            | 456        | GLY         |
| 1          | B            | 134        | TYR         |
| 1          | B            | 241        | PRO         |
| 1          | B            | 297        | ASP         |
| 1          | B            | 380        | VAL         |
| 1          | B            | 381        | THR         |
| 1          | B            | 450        | VAL         |
| 1          | B            | 456        | GLY         |
| 1          | C            | 134        | TYR         |
| 1          | C            | 241        | PRO         |
| 1          | C            | 297        | ASP         |
| 1          | C            | 380        | VAL         |
| 1          | C            | 381        | THR         |
| 1          | C            | 450        | VAL         |
| 1          | C            | 456        | GLY         |
| 1          | A            | 36         | LYS         |
| 1          | A            | 240        | CYS         |
| 1          | A            | 252        | TYR         |
| 1          | A            | 299        | PRO         |
| 1          | A            | 321        | ASN         |
| 1          | A            | 340        | ASP         |
| 1          | A            | 352        | TYR         |
| 1          | A            | 384        | ASN         |
| 1          | B            | 36         | LYS         |
| 1          | B            | 106        | ALA         |
| 1          | B            | 240        | CYS         |
| 1          | B            | 252        | TYR         |
| 1          | B            | 299        | PRO         |
| 1          | B            | 321        | ASN         |
| 1          | B            | 340        | ASP         |
| 1          | B            | 352        | TYR         |
| 1          | B            | 384        | ASN         |
| 1          | C            | 36         | LYS         |
| 1          | C            | 106        | ALA         |
| 1          | C            | 240        | CYS         |
| 1          | C            | 252        | TYR         |
| 1          | C            | 299        | PRO         |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1   | C     | 321 | ASN  |
| 1   | C     | 340 | ASP  |
| 1   | C     | 352 | TYR  |
| 1   | C     | 384 | ASN  |
| 1   | A     | 276 | ILE  |
| 1   | B     | 276 | ILE  |
| 1   | C     | 276 | ILE  |
| 1   | A     | 152 | ILE  |
| 1   | A     | 457 | GLY  |
| 1   | B     | 152 | ILE  |
| 1   | B     | 457 | GLY  |
| 1   | C     | 152 | ILE  |
| 1   | C     | 236 | PRO  |
| 1   | C     | 457 | GLY  |
| 1   | C     | 459 | PRO  |
| 1   | A     | 236 | PRO  |
| 1   | A     | 459 | PRO  |
| 1   | B     | 236 | PRO  |
| 1   | B     | 459 | PRO  |
| 1   | A     | 451 | PRO  |
| 1   | B     | 451 | PRO  |
| 1   | C     | 451 | PRO  |

### 5.3.2 Protein sidechains [i](#)

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

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

| Mol | Chain | Analysed         | Rotameric | Outliers  | Percentiles |   |
|-----|-------|------------------|-----------|-----------|-------------|---|
| 1   | A     | 400/400 (100%)   | 256 (64%) | 144 (36%) | 0           | 1 |
| 1   | B     | 400/400 (100%)   | 256 (64%) | 144 (36%) | 0           | 1 |
| 1   | C     | 400/400 (100%)   | 256 (64%) | 144 (36%) | 0           | 1 |
| All | All   | 1200/1200 (100%) | 768 (64%) | 432 (36%) | 0           | 1 |

All (432) residues with a non-rotameric sidechain are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1   | A     | 7   | ARG  |
| 1   | A     | 8   | SER  |
| 1   | A     | 9   | GLN  |
| 1   | A     | 10  | SER  |
| 1   | A     | 12  | TYR  |
| 1   | A     | 13  | PHE  |
| 1   | A     | 14  | LEU  |
| 1   | A     | 15  | LEU  |
| 1   | A     | 17  | ASP  |
| 1   | A     | 21  | ARG  |
| 1   | A     | 23  | ASP  |
| 1   | A     | 27  | THR  |
| 1   | A     | 31  | ASN  |
| 1   | A     | 35  | GLN  |
| 1   | A     | 42  | TRP  |
| 1   | A     | 48  | LYS  |
| 1   | A     | 50  | ASP  |
| 1   | A     | 55  | MET  |
| 1   | A     | 57  | PHE  |
| 1   | A     | 62  | ILE  |
| 1   | A     | 68  | GLN  |
| 1   | A     | 69  | LEU  |
| 1   | A     | 77  | ASP  |
| 1   | A     | 80  | THR  |
| 1   | A     | 84  | GLN  |
| 1   | A     | 90  | LEU  |
| 1   | A     | 91  | ASN  |
| 1   | A     | 92  | GLU  |
| 1   | A     | 96  | THR  |
| 1   | A     | 105 | SER  |
| 1   | A     | 107 | LEU  |
| 1   | A     | 108 | HIS  |
| 1   | A     | 110 | ARG  |
| 1   | A     | 114 | LEU  |
| 1   | A     | 115 | MET  |
| 1   | A     | 121 | ASN  |
| 1   | A     | 122 | HIS  |
| 1   | A     | 123 | MET  |
| 1   | A     | 126 | ASP  |
| 1   | A     | 139 | PRO  |
| 1   | A     | 157 | ASP  |
| 1   | A     | 161 | VAL  |
| 1   | A     | 163 | ASP  |

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| <b>Mol</b> | <b>Chain</b> | <b>Res</b> | <b>Type</b> |
|------------|--------------|------------|-------------|
| 1          | A            | 164        | CYS         |
| 1          | A            | 166        | LEU         |
| 1          | A            | 176        | LEU         |
| 1          | A            | 178        | THR         |
| 1          | A            | 180        | LYS         |
| 1          | A            | 181        | ASP         |
| 1          | A            | 183        | VAL         |
| 1          | A            | 184        | LYS         |
| 1          | A            | 186        | GLU         |
| 1          | A            | 193        | SER         |
| 1          | A            | 194        | LEU         |
| 1          | A            | 195        | VAL         |
| 1          | A            | 197        | ASN         |
| 1          | A            | 199        | SER         |
| 1          | A            | 205        | ILE         |
| 1          | A            | 206        | ASP         |
| 1          | A            | 207        | THR         |
| 1          | A            | 210        | HIS         |
| 1          | A            | 212        | GLN         |
| 1          | A            | 214        | ASP         |
| 1          | A            | 216        | TRP         |
| 1          | A            | 228        | ILE         |
| 1          | A            | 230        | GLU         |
| 1          | A            | 235        | ASP         |
| 1          | A            | 238        | TYR         |
| 1          | A            | 246        | MET         |
| 1          | A            | 249        | VAL         |
| 1          | A            | 250        | LEU         |
| 1          | A            | 251        | ASN         |
| 1          | A            | 252        | TYR         |
| 1          | A            | 255        | TYR         |
| 1          | A            | 259        | LEU         |
| 1          | A            | 264        | SER         |
| 1          | A            | 266        | SER         |
| 1          | A            | 268        | SER         |
| 1          | A            | 269        | MET         |
| 1          | A            | 271        | ASP         |
| 1          | A            | 272        | LEU         |
| 1          | A            | 275        | MET         |
| 1          | A            | 276        | ILE         |
| 1          | A            | 283        | CYS         |
| 1          | A            | 285        | ASP         |

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| <b>Mol</b> | <b>Chain</b> | <b>Res</b> | <b>Type</b> |
|------------|--------------|------------|-------------|
| 1          | A            | 286        | SER         |
| 1          | A            | 287        | THR         |
| 1          | A            | 291        | THR         |
| 1          | A            | 292        | PHE         |
| 1          | A            | 300        | ARG         |
| 1          | A            | 305        | THR         |
| 1          | A            | 306        | ASN         |
| 1          | A            | 307        | ASP         |
| 1          | A            | 308        | ILE         |
| 1          | A            | 314        | VAL         |
| 1          | A            | 317        | PHE         |
| 1          | A            | 318        | ILE         |
| 1          | A            | 320        | LEU         |
| 1          | A            | 322        | ASP         |
| 1          | A            | 324        | LEU         |
| 1          | A            | 325        | PRO         |
| 1          | A            | 333        | GLN         |
| 1          | A            | 341        | PRO         |
| 1          | A            | 347        | THR         |
| 1          | A            | 348        | TRP         |
| 1          | A            | 349        | LEU         |
| 1          | A            | 359        | TYR         |
| 1          | A            | 361        | LEU         |
| 1          | A            | 369        | ARG         |
| 1          | A            | 370        | ASN         |
| 1          | A            | 375        | LYS         |
| 1          | A            | 376        | ASP         |
| 1          | A            | 379        | PHE         |
| 1          | A            | 381        | THR         |
| 1          | A            | 389        | ASP         |
| 1          | A            | 395        | MET         |
| 1          | A            | 399        | THR         |
| 1          | A            | 404        | ILE         |
| 1          | A            | 407        | ILE         |
| 1          | A            | 408        | LEU         |
| 1          | A            | 417        | SER         |
| 1          | A            | 419        | THR         |
| 1          | A            | 420        | LEU         |
| 1          | A            | 421        | SER         |
| 1          | A            | 422        | LEU         |
| 1          | A            | 431        | GLN         |
| 1          | A            | 432        | GLN         |

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| <b>Mol</b> | <b>Chain</b> | <b>Res</b> | <b>Type</b> |
|------------|--------------|------------|-------------|
| 1          | A            | 434        | THR         |
| 1          | A            | 437        | ILE         |
| 1          | A            | 442        | VAL         |
| 1          | A            | 443        | THR         |
| 1          | A            | 444        | VAL         |
| 1          | A            | 447        | ASP         |
| 1          | A            | 449        | ASN         |
| 1          | A            | 452        | VAL         |
| 1          | A            | 454        | MET         |
| 1          | A            | 462        | LEU         |
| 1          | A            | 464        | PRO         |
| 1          | A            | 465        | THR         |
| 1          | A            | 466        | GLU         |
| 1          | A            | 471        | SER         |
| 1          | A            | 473        | ILE         |
| 1          | A            | 474        | CYS         |
| 1          | A            | 476        | ASP         |
| 1          | B            | 7          | ARG         |
| 1          | B            | 8          | SER         |
| 1          | B            | 9          | GLN         |
| 1          | B            | 10         | SER         |
| 1          | B            | 12         | TYR         |
| 1          | B            | 13         | PHE         |
| 1          | B            | 14         | LEU         |
| 1          | B            | 15         | LEU         |
| 1          | B            | 17         | ASP         |
| 1          | B            | 21         | ARG         |
| 1          | B            | 23         | ASP         |
| 1          | B            | 27         | THR         |
| 1          | B            | 31         | ASN         |
| 1          | B            | 35         | GLN         |
| 1          | B            | 42         | TRP         |
| 1          | B            | 48         | LYS         |
| 1          | B            | 50         | ASP         |
| 1          | B            | 55         | MET         |
| 1          | B            | 57         | PHE         |
| 1          | B            | 62         | ILE         |
| 1          | B            | 68         | GLN         |
| 1          | B            | 69         | LEU         |
| 1          | B            | 77         | ASP         |
| 1          | B            | 80         | THR         |
| 1          | B            | 84         | GLN         |

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| <b>Mol</b> | <b>Chain</b> | <b>Res</b> | <b>Type</b> |
|------------|--------------|------------|-------------|
| 1          | B            | 90         | LEU         |
| 1          | B            | 91         | ASN         |
| 1          | B            | 92         | GLU         |
| 1          | B            | 96         | THR         |
| 1          | B            | 105        | SER         |
| 1          | B            | 107        | LEU         |
| 1          | B            | 108        | HIS         |
| 1          | B            | 110        | ARG         |
| 1          | B            | 114        | LEU         |
| 1          | B            | 115        | MET         |
| 1          | B            | 121        | ASN         |
| 1          | B            | 122        | HIS         |
| 1          | B            | 123        | MET         |
| 1          | B            | 126        | ASP         |
| 1          | B            | 139        | PRO         |
| 1          | B            | 157        | ASP         |
| 1          | B            | 161        | VAL         |
| 1          | B            | 163        | ASP         |
| 1          | B            | 164        | CYS         |
| 1          | B            | 166        | LEU         |
| 1          | B            | 176        | LEU         |
| 1          | B            | 178        | THR         |
| 1          | B            | 180        | LYS         |
| 1          | B            | 181        | ASP         |
| 1          | B            | 183        | VAL         |
| 1          | B            | 184        | LYS         |
| 1          | B            | 186        | GLU         |
| 1          | B            | 193        | SER         |
| 1          | B            | 194        | LEU         |
| 1          | B            | 195        | VAL         |
| 1          | B            | 197        | ASN         |
| 1          | B            | 199        | SER         |
| 1          | B            | 205        | ILE         |
| 1          | B            | 206        | ASP         |
| 1          | B            | 207        | THR         |
| 1          | B            | 210        | HIS         |
| 1          | B            | 212        | GLN         |
| 1          | B            | 214        | ASP         |
| 1          | B            | 216        | TRP         |
| 1          | B            | 228        | ILE         |
| 1          | B            | 230        | GLU         |
| 1          | B            | 235        | ASP         |

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| <b>Mol</b> | <b>Chain</b> | <b>Res</b> | <b>Type</b> |
|------------|--------------|------------|-------------|
| 1          | B            | 238        | TYR         |
| 1          | B            | 246        | MET         |
| 1          | B            | 249        | VAL         |
| 1          | B            | 250        | LEU         |
| 1          | B            | 251        | ASN         |
| 1          | B            | 252        | TYR         |
| 1          | B            | 255        | TYR         |
| 1          | B            | 259        | LEU         |
| 1          | B            | 264        | SER         |
| 1          | B            | 266        | SER         |
| 1          | B            | 268        | SER         |
| 1          | B            | 269        | MET         |
| 1          | B            | 271        | ASP         |
| 1          | B            | 272        | LEU         |
| 1          | B            | 275        | MET         |
| 1          | B            | 276        | ILE         |
| 1          | B            | 283        | CYS         |
| 1          | B            | 285        | ASP         |
| 1          | B            | 286        | SER         |
| 1          | B            | 287        | THR         |
| 1          | B            | 291        | THR         |
| 1          | B            | 292        | PHE         |
| 1          | B            | 300        | ARG         |
| 1          | B            | 305        | THR         |
| 1          | B            | 306        | ASN         |
| 1          | B            | 307        | ASP         |
| 1          | B            | 308        | ILE         |
| 1          | B            | 314        | VAL         |
| 1          | B            | 317        | PHE         |
| 1          | B            | 318        | ILE         |
| 1          | B            | 320        | LEU         |
| 1          | B            | 322        | ASP         |
| 1          | B            | 324        | LEU         |
| 1          | B            | 325        | PRO         |
| 1          | B            | 333        | GLN         |
| 1          | B            | 341        | PRO         |
| 1          | B            | 347        | THR         |
| 1          | B            | 348        | TRP         |
| 1          | B            | 349        | LEU         |
| 1          | B            | 359        | TYR         |
| 1          | B            | 361        | LEU         |
| 1          | B            | 369        | ARG         |

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| <b>Mol</b> | <b>Chain</b> | <b>Res</b> | <b>Type</b> |
|------------|--------------|------------|-------------|
| 1          | B            | 370        | ASN         |
| 1          | B            | 375        | LYS         |
| 1          | B            | 376        | ASP         |
| 1          | B            | 379        | PHE         |
| 1          | B            | 381        | THR         |
| 1          | B            | 389        | ASP         |
| 1          | B            | 395        | MET         |
| 1          | B            | 399        | THR         |
| 1          | B            | 404        | ILE         |
| 1          | B            | 407        | ILE         |
| 1          | B            | 408        | LEU         |
| 1          | B            | 417        | SER         |
| 1          | B            | 419        | THR         |
| 1          | B            | 420        | LEU         |
| 1          | B            | 421        | SER         |
| 1          | B            | 422        | LEU         |
| 1          | B            | 431        | GLN         |
| 1          | B            | 432        | GLN         |
| 1          | B            | 434        | THR         |
| 1          | B            | 437        | ILE         |
| 1          | B            | 442        | VAL         |
| 1          | B            | 443        | THR         |
| 1          | B            | 444        | VAL         |
| 1          | B            | 447        | ASP         |
| 1          | B            | 449        | ASN         |
| 1          | B            | 452        | VAL         |
| 1          | B            | 454        | MET         |
| 1          | B            | 462        | LEU         |
| 1          | B            | 464        | PRO         |
| 1          | B            | 465        | THR         |
| 1          | B            | 466        | GLU         |
| 1          | B            | 471        | SER         |
| 1          | B            | 473        | ILE         |
| 1          | B            | 474        | CYS         |
| 1          | B            | 476        | ASP         |
| 1          | C            | 7          | ARG         |
| 1          | C            | 8          | SER         |
| 1          | C            | 9          | GLN         |
| 1          | C            | 10         | SER         |
| 1          | C            | 12         | TYR         |
| 1          | C            | 13         | PHE         |
| 1          | C            | 14         | LEU         |

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| <b>Mol</b> | <b>Chain</b> | <b>Res</b> | <b>Type</b> |
|------------|--------------|------------|-------------|
| 1          | C            | 15         | LEU         |
| 1          | C            | 17         | ASP         |
| 1          | C            | 21         | ARG         |
| 1          | C            | 23         | ASP         |
| 1          | C            | 27         | THR         |
| 1          | C            | 31         | ASN         |
| 1          | C            | 35         | GLN         |
| 1          | C            | 42         | TRP         |
| 1          | C            | 48         | LYS         |
| 1          | C            | 50         | ASP         |
| 1          | C            | 55         | MET         |
| 1          | C            | 57         | PHE         |
| 1          | C            | 62         | ILE         |
| 1          | C            | 68         | GLN         |
| 1          | C            | 69         | LEU         |
| 1          | C            | 77         | ASP         |
| 1          | C            | 80         | THR         |
| 1          | C            | 84         | GLN         |
| 1          | C            | 90         | LEU         |
| 1          | C            | 91         | ASN         |
| 1          | C            | 92         | GLU         |
| 1          | C            | 96         | THR         |
| 1          | C            | 105        | SER         |
| 1          | C            | 107        | LEU         |
| 1          | C            | 108        | HIS         |
| 1          | C            | 110        | ARG         |
| 1          | C            | 114        | LEU         |
| 1          | C            | 115        | MET         |
| 1          | C            | 121        | ASN         |
| 1          | C            | 122        | HIS         |
| 1          | C            | 123        | MET         |
| 1          | C            | 126        | ASP         |
| 1          | C            | 139        | PRO         |
| 1          | C            | 157        | ASP         |
| 1          | C            | 161        | VAL         |
| 1          | C            | 163        | ASP         |
| 1          | C            | 164        | CYS         |
| 1          | C            | 166        | LEU         |
| 1          | C            | 176        | LEU         |
| 1          | C            | 178        | THR         |
| 1          | C            | 180        | LYS         |
| 1          | C            | 181        | ASP         |

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| <b>Mol</b> | <b>Chain</b> | <b>Res</b> | <b>Type</b> |
|------------|--------------|------------|-------------|
| 1          | C            | 183        | VAL         |
| 1          | C            | 184        | LYS         |
| 1          | C            | 186        | GLU         |
| 1          | C            | 193        | SER         |
| 1          | C            | 194        | LEU         |
| 1          | C            | 195        | VAL         |
| 1          | C            | 197        | ASN         |
| 1          | C            | 199        | SER         |
| 1          | C            | 205        | ILE         |
| 1          | C            | 206        | ASP         |
| 1          | C            | 207        | THR         |
| 1          | C            | 210        | HIS         |
| 1          | C            | 212        | GLN         |
| 1          | C            | 214        | ASP         |
| 1          | C            | 216        | TRP         |
| 1          | C            | 228        | ILE         |
| 1          | C            | 230        | GLU         |
| 1          | C            | 235        | ASP         |
| 1          | C            | 238        | TYR         |
| 1          | C            | 246        | MET         |
| 1          | C            | 249        | VAL         |
| 1          | C            | 250        | LEU         |
| 1          | C            | 251        | ASN         |
| 1          | C            | 252        | TYR         |
| 1          | C            | 255        | TYR         |
| 1          | C            | 259        | LEU         |
| 1          | C            | 264        | SER         |
| 1          | C            | 266        | SER         |
| 1          | C            | 268        | SER         |
| 1          | C            | 269        | MET         |
| 1          | C            | 271        | ASP         |
| 1          | C            | 272        | LEU         |
| 1          | C            | 275        | MET         |
| 1          | C            | 276        | ILE         |
| 1          | C            | 283        | CYS         |
| 1          | C            | 285        | ASP         |
| 1          | C            | 286        | SER         |
| 1          | C            | 287        | THR         |
| 1          | C            | 291        | THR         |
| 1          | C            | 292        | PHE         |
| 1          | C            | 300        | ARG         |
| 1          | C            | 305        | THR         |

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| <b>Mol</b> | <b>Chain</b> | <b>Res</b> | <b>Type</b> |
|------------|--------------|------------|-------------|
| 1          | C            | 306        | ASN         |
| 1          | C            | 307        | ASP         |
| 1          | C            | 308        | ILE         |
| 1          | C            | 314        | VAL         |
| 1          | C            | 317        | PHE         |
| 1          | C            | 318        | ILE         |
| 1          | C            | 320        | LEU         |
| 1          | C            | 322        | ASP         |
| 1          | C            | 324        | LEU         |
| 1          | C            | 325        | PRO         |
| 1          | C            | 333        | GLN         |
| 1          | C            | 341        | PRO         |
| 1          | C            | 347        | THR         |
| 1          | C            | 348        | TRP         |
| 1          | C            | 349        | LEU         |
| 1          | C            | 359        | TYR         |
| 1          | C            | 361        | LEU         |
| 1          | C            | 369        | ARG         |
| 1          | C            | 370        | ASN         |
| 1          | C            | 375        | LYS         |
| 1          | C            | 376        | ASP         |
| 1          | C            | 379        | PHE         |
| 1          | C            | 381        | THR         |
| 1          | C            | 389        | ASP         |
| 1          | C            | 395        | MET         |
| 1          | C            | 399        | THR         |
| 1          | C            | 404        | ILE         |
| 1          | C            | 407        | ILE         |
| 1          | C            | 408        | LEU         |
| 1          | C            | 417        | SER         |
| 1          | C            | 419        | THR         |
| 1          | C            | 420        | LEU         |
| 1          | C            | 421        | SER         |
| 1          | C            | 422        | LEU         |
| 1          | C            | 431        | GLN         |
| 1          | C            | 432        | GLN         |
| 1          | C            | 434        | THR         |
| 1          | C            | 437        | ILE         |
| 1          | C            | 442        | VAL         |
| 1          | C            | 443        | THR         |
| 1          | C            | 444        | VAL         |
| 1          | C            | 447        | ASP         |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1   | C     | 449 | ASN  |
| 1   | C     | 452 | VAL  |
| 1   | C     | 454 | MET  |
| 1   | C     | 462 | LEU  |
| 1   | C     | 464 | PRO  |
| 1   | C     | 465 | THR  |
| 1   | C     | 466 | GLU  |
| 1   | C     | 471 | SER  |
| 1   | C     | 473 | ILE  |
| 1   | C     | 474 | CYS  |
| 1   | C     | 476 | ASP  |

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (57) such sidechains are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1   | A     | 31  | ASN  |
| 1   | A     | 35  | GLN  |
| 1   | A     | 68  | GLN  |
| 1   | A     | 71  | GLN  |
| 1   | A     | 84  | GLN  |
| 1   | A     | 91  | ASN  |
| 1   | A     | 143 | GLN  |
| 1   | A     | 147 | HIS  |
| 1   | A     | 185 | ASN  |
| 1   | A     | 210 | HIS  |
| 1   | A     | 212 | GLN  |
| 1   | A     | 296 | HIS  |
| 1   | A     | 298 | ASN  |
| 1   | A     | 306 | ASN  |
| 1   | A     | 321 | ASN  |
| 1   | A     | 334 | HIS  |
| 1   | A     | 384 | ASN  |
| 1   | A     | 403 | GLN  |
| 1   | A     | 410 | ASN  |
| 1   | A     | 431 | GLN  |
| 1   | B     | 31  | ASN  |
| 1   | B     | 35  | GLN  |
| 1   | B     | 68  | GLN  |
| 1   | B     | 71  | GLN  |
| 1   | B     | 91  | ASN  |
| 1   | B     | 147 | HIS  |
| 1   | B     | 158 | GLN  |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1   | B     | 210 | HIS  |
| 1   | B     | 220 | ASN  |
| 1   | B     | 274 | ASN  |
| 1   | B     | 296 | HIS  |
| 1   | B     | 298 | ASN  |
| 1   | B     | 306 | ASN  |
| 1   | B     | 321 | ASN  |
| 1   | B     | 334 | HIS  |
| 1   | B     | 384 | ASN  |
| 1   | B     | 403 | GLN  |
| 1   | B     | 410 | ASN  |
| 1   | B     | 431 | GLN  |
| 1   | C     | 31  | ASN  |
| 1   | C     | 35  | GLN  |
| 1   | C     | 68  | GLN  |
| 1   | C     | 71  | GLN  |
| 1   | C     | 91  | ASN  |
| 1   | C     | 147 | HIS  |
| 1   | C     | 185 | ASN  |
| 1   | C     | 210 | HIS  |
| 1   | C     | 212 | GLN  |
| 1   | C     | 296 | HIS  |
| 1   | C     | 298 | ASN  |
| 1   | C     | 306 | ASN  |
| 1   | C     | 321 | ASN  |
| 1   | C     | 334 | HIS  |
| 1   | C     | 384 | ASN  |
| 1   | C     | 403 | GLN  |
| 1   | C     | 410 | ASN  |
| 1   | C     | 431 | GLN  |

### 5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

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

## 5.5 Carbohydrates [i](#)

There are no carbohydrates in this entry.

## 5.6 Ligand geometry [i](#)

Of 3 ligands modelled in this entry, 3 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

## 5.7 Other polymers [i](#)

There are no such residues in this entry.

## 5.8 Polymer linkage issues [i](#)

The following chains have linkage breaks:

| Mol | Chain | Number of breaks |
|-----|-------|------------------|
| 1   | B     | 2                |
| 1   | A     | 2                |
| 1   | C     | 2                |

All chain breaks are listed below:

| Model | Chain | Residue-1 | Atom-1 | Residue-2 | Atom-2 | Distance (Å) |
|-------|-------|-----------|--------|-----------|--------|--------------|
| 1     | A     | 208:VAL   | C      | 209:LYS   | N      | 1.17         |
| 1     | A     | 458:LEU   | C      | 459:PRO   | N      | 1.17         |
| 1     | B     | 208:VAL   | C      | 209:LYS   | N      | 1.17         |
| 1     | B     | 458:LEU   | C      | 459:PRO   | N      | 1.17         |
| 1     | C     | 208:VAL   | C      | 209:LYS   | N      | 1.17         |
| 1     | C     | 458:LEU   | C      | 459:PRO   | N      | 1.17         |

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

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

EDS was not executed - this section is therefore empty.

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

EDS was not executed - this section is therefore empty.

### 6.3 Carbohydrates [i](#)

EDS was not executed - this section is therefore empty.

### 6.4 Ligands [i](#)

EDS was not executed - this section is therefore empty.

### 6.5 Other polymers [i](#)

EDS was not executed - this section is therefore empty.