



## Full wwPDB EM Validation Report ⓘ

Mar 9, 2024 – 01:50 PM EST

PDB ID : 6NRB  
EMDB ID : EMD-0493  
Title : hTRiC-hPFD Class2  
Authors : Gestaut, D.R.; Roh, S.H.; Ma, B.; Pintilie, G.; Joachimiak, L.A.; Leitner, A.; Walzthoeni, T.; Aebersold, R.; Chiu, W.; Frydman, J.  
Deposited on : 2019-01-23  
Resolution : 8.70 Å(reported)

This is a Full wwPDB EM 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/EMValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

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

EMDB validation analysis : 0.0.1.dev70  
MolProbity : 4.02b-467  
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)  
MapQ : 1.9.13  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.36

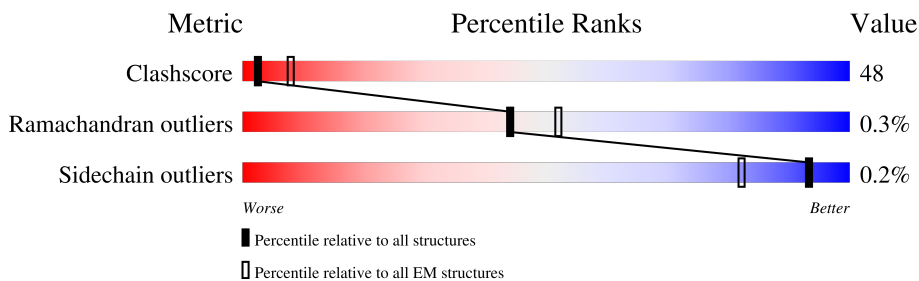
# 1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

*ELECTRON MICROSCOPY*

The reported resolution of this entry is 8.70 Å.

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



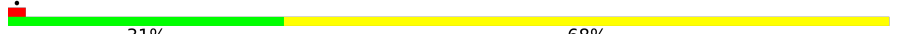
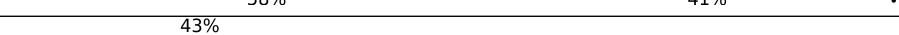
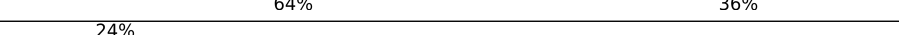


| Metric                | Whole archive (#Entries) | EM structures (#Entries) |
|-----------------------|--------------------------|--------------------------|
| Clashscore            | 158937                   | 4297                     |
| Ramachandran outliers | 154571                   | 4023                     |
| Sidechain outliers    | 154315                   | 3826                     |

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the 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  $\leq 5\%$ . The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion  $< 40\%$ ). The numeric value is given above the bar.

| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|------------------|
| 1   | A     | 534    |                  |
| 1   | I     | 534    |                  |
| 2   | B     | 509    |                  |
| 2   | J     | 509    |                  |
| 3   | C     | 513    |                  |
| 3   | K     | 513    |                  |
| 4   | D     | 514    |                  |
| 4   | L     | 514    |                  |

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| Mol | Chain | Length | Quality of chain  |
|-----|-------|--------|---|
| 5   | E     | 517    |  22% 76%      |
| 5   | M     | 517    |  31% 68%      |
| 6   | F     | 515    |  31% 68%      |
| 6   | N     | 515    |  31% 68%      |
| 7   | G     | 514    |  27% 71%      |
| 7   | O     | 514    |  34% 65%      |
| 8   | H     | 514    |  27% 71%      |
| 8   | P     | 514    |  33% 65%      |
| 9   | 1     | 107    |  37% 58% 41%  |
| 10  | 2     | 103    |  43% 64% 36%  |
| 11  | 3     | 132    |  24% 46% 54%  |
| 12  | 4     | 104    |  17% 40% 60%  |
| 13  | 5     | 127    |  17% 34% 66% |
| 14  | 6     | 102    |  7% 33% 66% |

## 2 Entry composition [i](#)

There are 14 unique types of molecules in this entry. The entry contains 68284 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, 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 T-complex protein 1 subunit alpha.

| Mol | Chain | Residues | Atoms |      |     |     |    | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|----|---------|-------|
|     |       |          | Total | C    | N   | O   | S  |         |       |
| 1   | A     | 521      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 3956  | 2479 | 691 | 763 | 23 |         |       |
| 1   | I     | 534      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 4056  | 2540 | 709 | 783 | 24 |         |       |

- Molecule 2 is a protein called T-complex protein 1 subunit beta.

| Mol | Chain | Residues | Atoms |      |     |     |    | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|----|---------|-------|
|     |       |          | Total | C    | N   | O   | S  |         |       |
| 2   | B     | 509      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 3829  | 2392 | 673 | 745 | 19 |         |       |
| 2   | J     | 508      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 3823  | 2389 | 672 | 743 | 19 |         |       |

- Molecule 3 is a protein called T-complex protein 1 subunit gamma.

| Mol | Chain | Residues | Atoms |      |     |     |    | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|----|---------|-------|
|     |       |          | Total | C    | N   | O   | S  |         |       |
| 3   | C     | 509      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 3956  | 2465 | 697 | 764 | 30 |         |       |
| 3   | K     | 513      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 3985  | 2481 | 703 | 771 | 30 |         |       |

- Molecule 4 is a protein called T-complex protein 1 subunit delta.

| Mol | Chain | Residues | Atoms |      |     |     |    | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|----|---------|-------|
|     |       |          | Total | C    | N   | O   | S  |         |       |
| 4   | D     | 508      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 3832  | 2398 | 665 | 746 | 23 |         |       |
| 4   | L     | 513      | Total | C    | N   | O   | S  | 0       | 0     |
|     |       |          | 3873  | 2422 | 674 | 754 | 23 |         |       |

- Molecule 5 is a protein called T-complex protein 1 subunit epsilon.

| Mol | Chain | Residues | Atoms |      |     |     |    | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|----|---------|-------|
|     |       |          | Total | C    | N   | O   | S  |         |       |
| 5   | E     | 517      | 3974  | 2483 | 692 | 769 | 30 | 0       | 0     |
| 5   | M     | 517      | 3974  | 2483 | 692 | 769 | 30 | 0       | 0     |

- Molecule 6 is a protein called T-complex protein 1 subunit zeta.

| Mol | Chain | Residues | Atoms |      |     |     |    | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|----|---------|-------|
|     |       |          | Total | C    | N   | O   | S  |         |       |
| 6   | F     | 514      | 3945  | 2478 | 690 | 757 | 20 | 0       | 0     |
| 6   | N     | 513      | 3940  | 2476 | 689 | 755 | 20 | 0       | 0     |

- Molecule 7 is a protein called T-complex protein 1 subunit eta.

| Mol | Chain | Residues | Atoms |      |     |     |    | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|----|---------|-------|
|     |       |          | Total | C    | N   | O   | S  |         |       |
| 7   | G     | 512      | 3936  | 2485 | 682 | 746 | 23 | 0       | 0     |
| 7   | O     | 514      | 3947  | 2490 | 684 | 750 | 23 | 0       | 0     |

- Molecule 8 is a protein called T-complex protein 1 subunit theta.

| Mol | Chain | Residues | Atoms |      |     |     |    | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|----|---------|-------|
|     |       |          | Total | C    | N   | O   | S  |         |       |
| 8   | H     | 510      | 3892  | 2451 | 661 | 754 | 26 | 0       | 0     |
| 8   | P     | 509      | 3884  | 2447 | 659 | 752 | 26 | 0       | 0     |

- Molecule 9 is a protein called Prefoldin subunit 1.

| Mol | Chain | Residues | Atoms |     |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
|     |       |          | Total | C   | N   | O   | S |         |       |
| 9   | 1     | 107      | 874   | 546 | 150 | 173 | 5 | 0       | 0     |

- Molecule 10 is a protein called Prefoldin subunit 2.

| Mol | Chain | Residues | Atoms |     |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
|     |       |          | Total | C   | N   | O   | S |         |       |
| 10  | 2     | 103      | 830   | 513 | 151 | 163 | 3 | 0       | 0     |

- Molecule 11 is a protein called Prefoldin subunit 3.

| Mol | Chain | Residues | Atoms |     |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
|     |       |          | Total | C   | N   | O   | S |         |       |
| 11  | 3     | 132      | 1087  | 690 | 179 | 210 | 8 | 0       | 0     |

- Molecule 12 is a protein called Prefoldin subunit 4.

| Mol | Chain | Residues | Atoms |     |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
|     |       |          | Total | C   | N   | O   | S |         |       |
| 12  | 4     | 104      | 847   | 523 | 142 | 177 | 5 | 0       | 0     |

- Molecule 13 is a protein called Prefoldin subunit 5.

| Mol | Chain | Residues | Atoms |     |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
|     |       |          | Total | C   | N   | O   | S |         |       |
| 13  | 5     | 127      | 1018  | 647 | 166 | 197 | 8 | 0       | 0     |

- Molecule 14 is a protein called Prefoldin subunit 6.

| Mol | Chain | Residues | Atoms |     |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
|     |       |          | Total | C   | N   | O   | S |         |       |
| 14  | 6     | 102      | 826   | 511 | 148 | 166 | 1 | 0       | 0     |

### 3 Residue-property plots

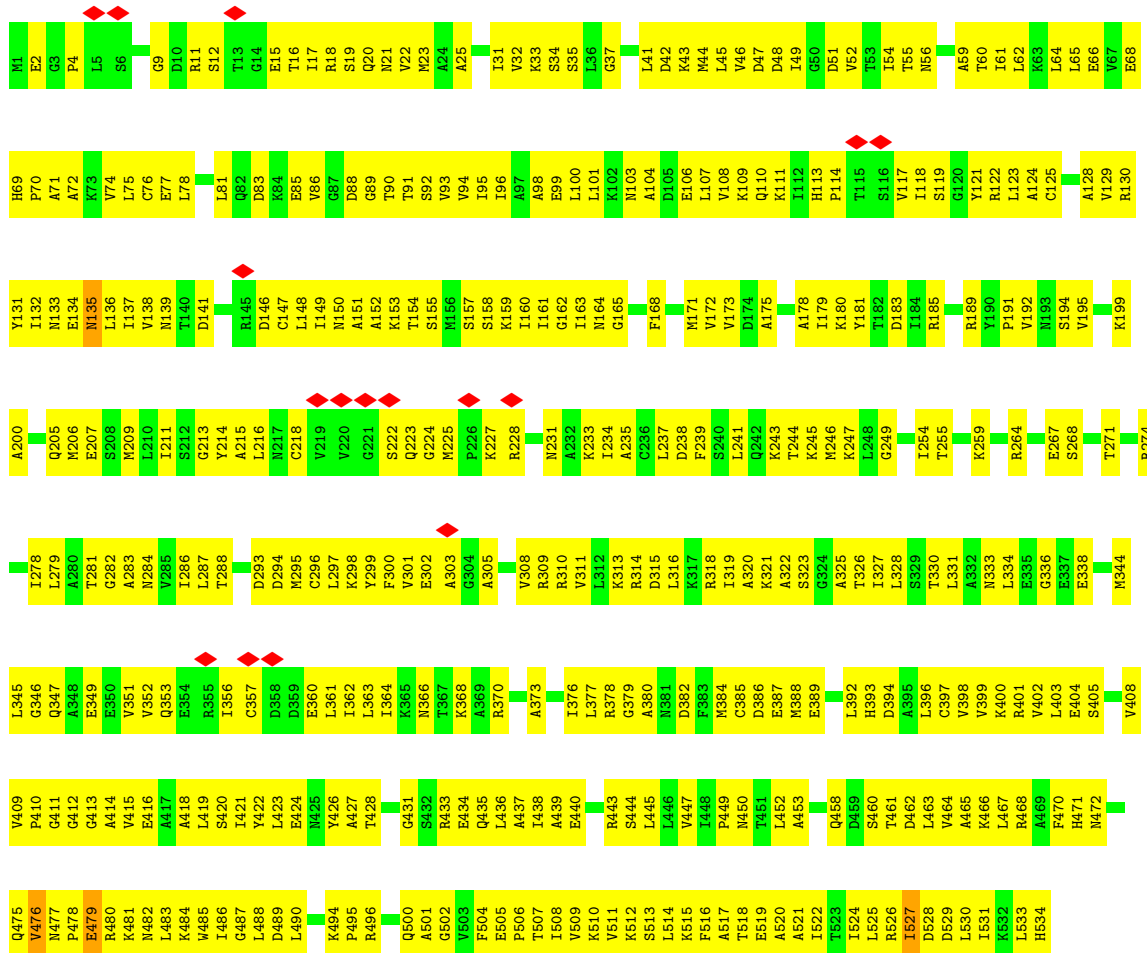
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion in map density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

- Molecule 1: T-complex protein 1 subunit alpha

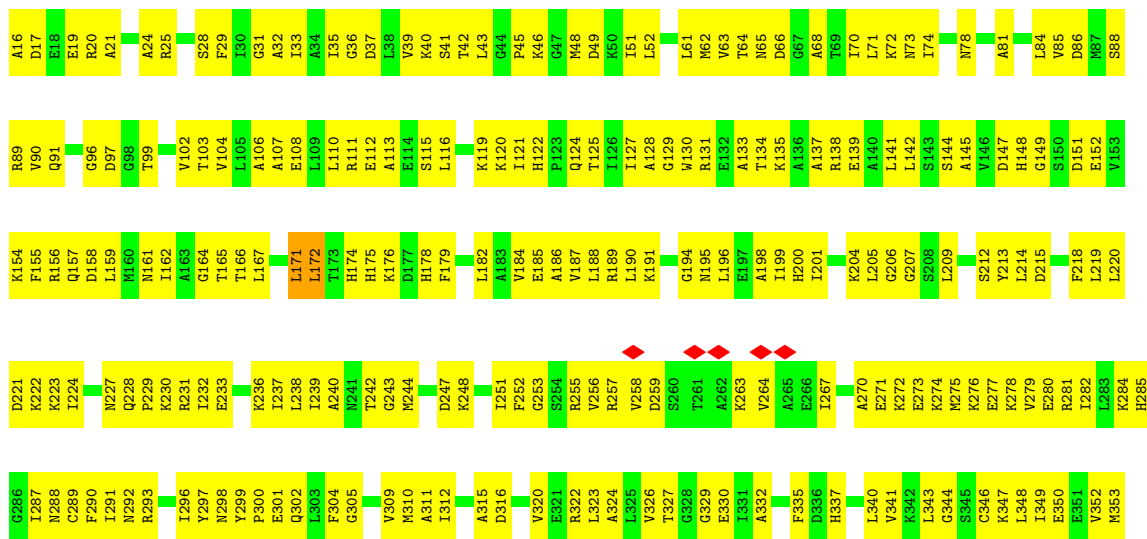


- Molecule 1: T-complex protein 1 subunit alpha

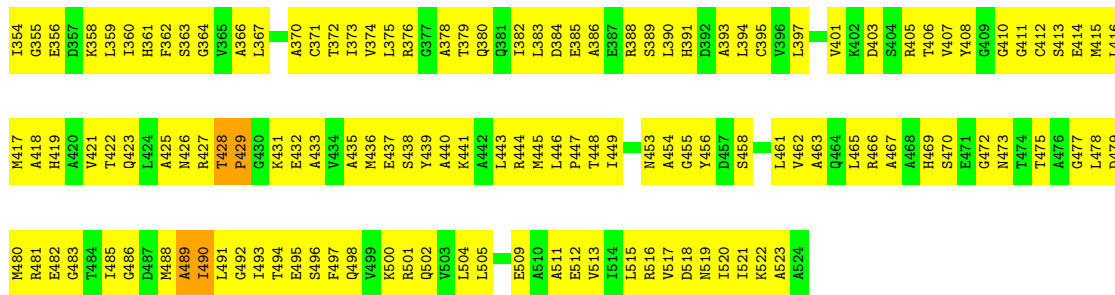




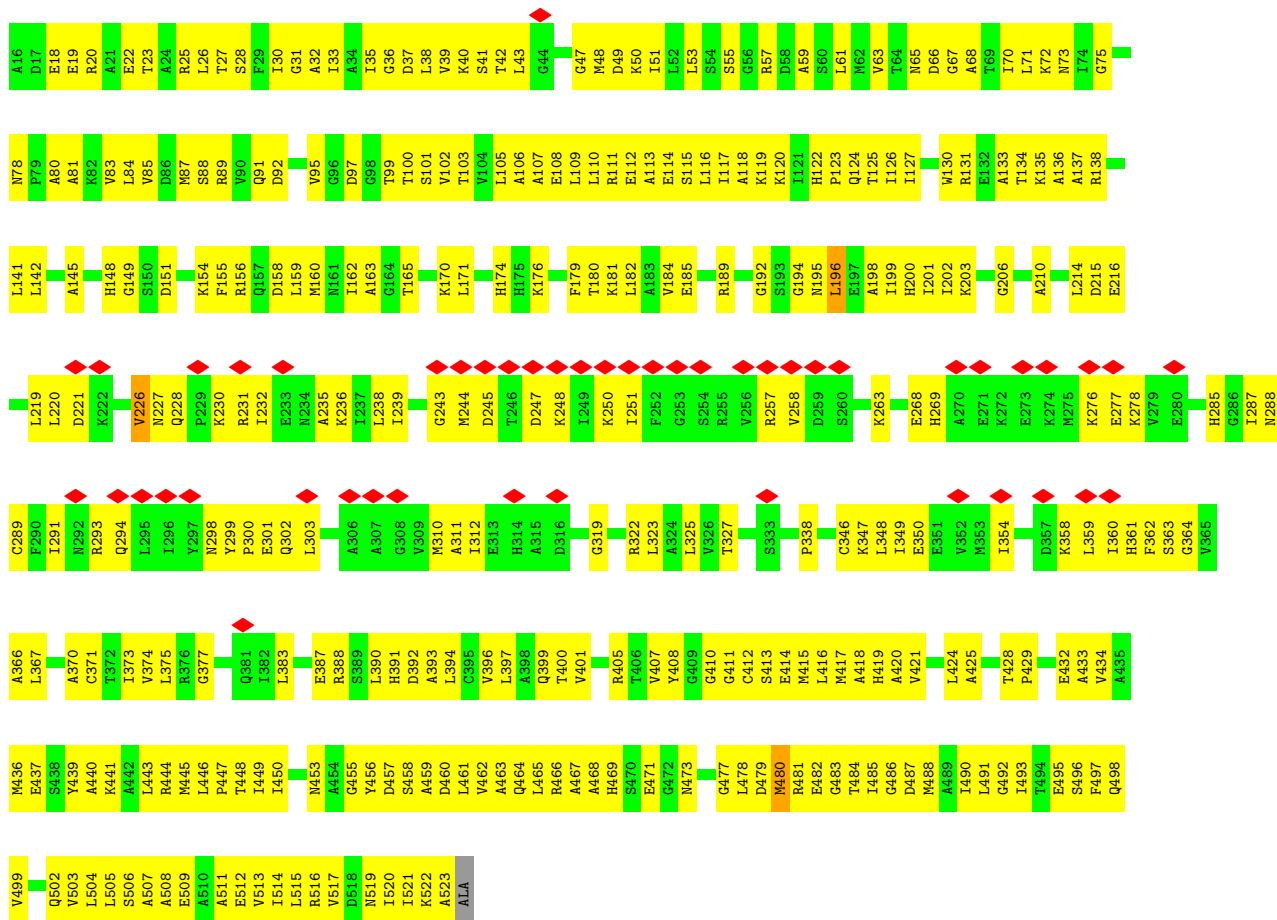
• Molecule 2: T-complex protein 1 subunit beta



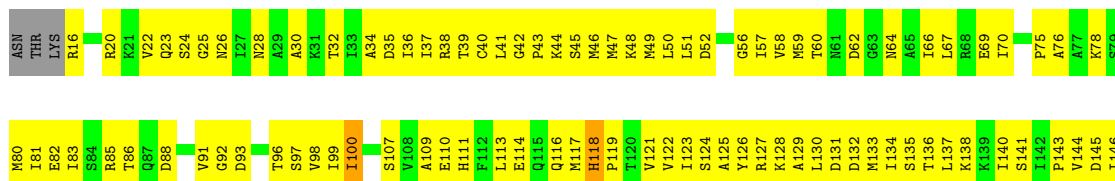




● Molecule 2: T-complex protein 1 subunit beta

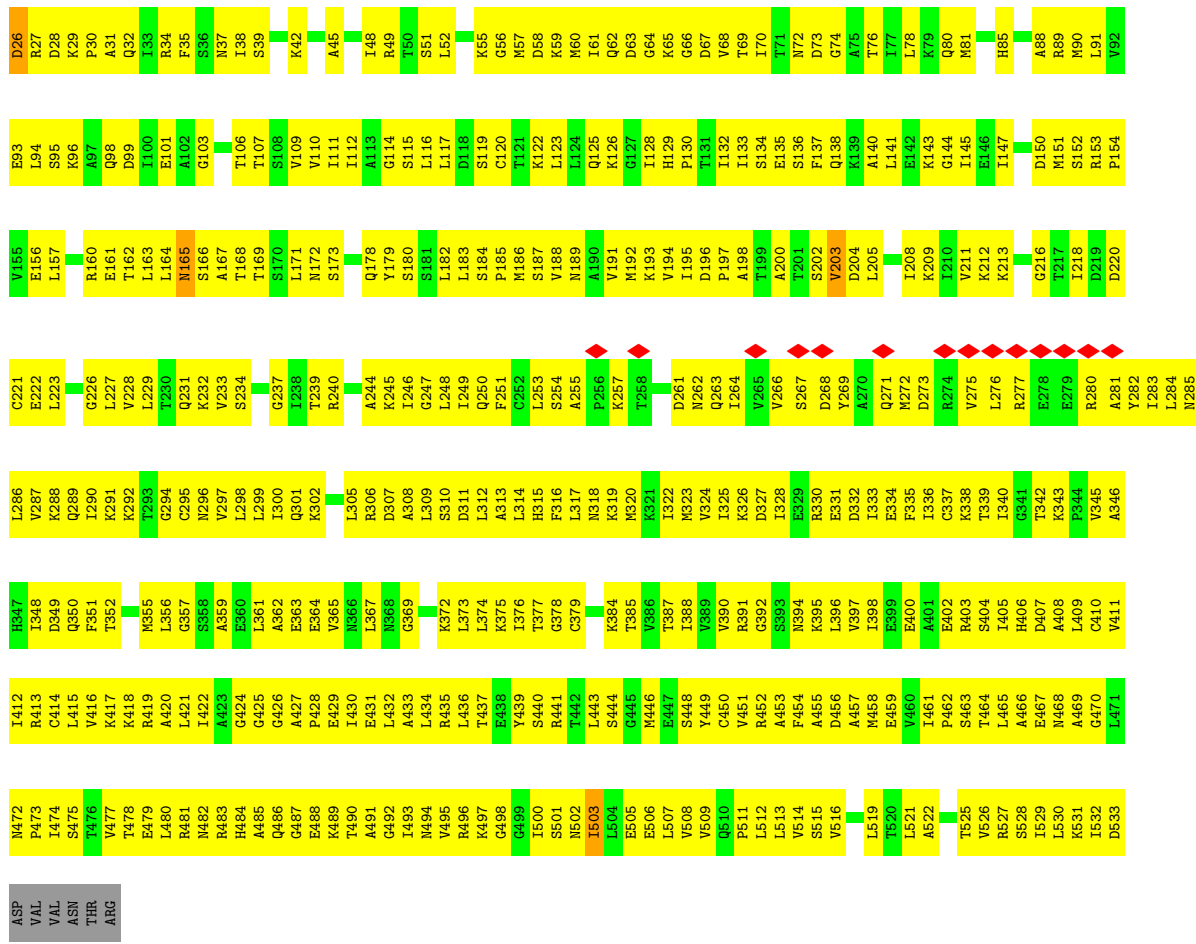


● Molecule 3: T-complex protein 1 subunit gamma

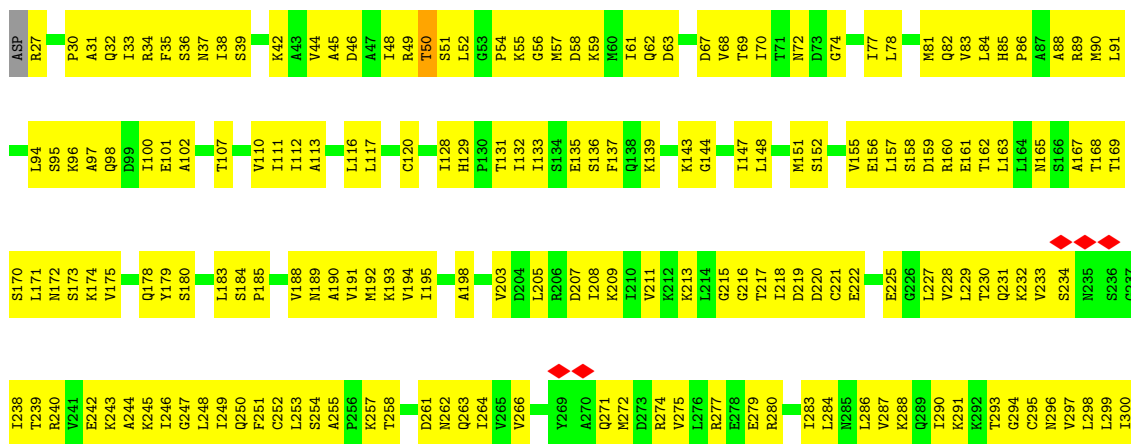


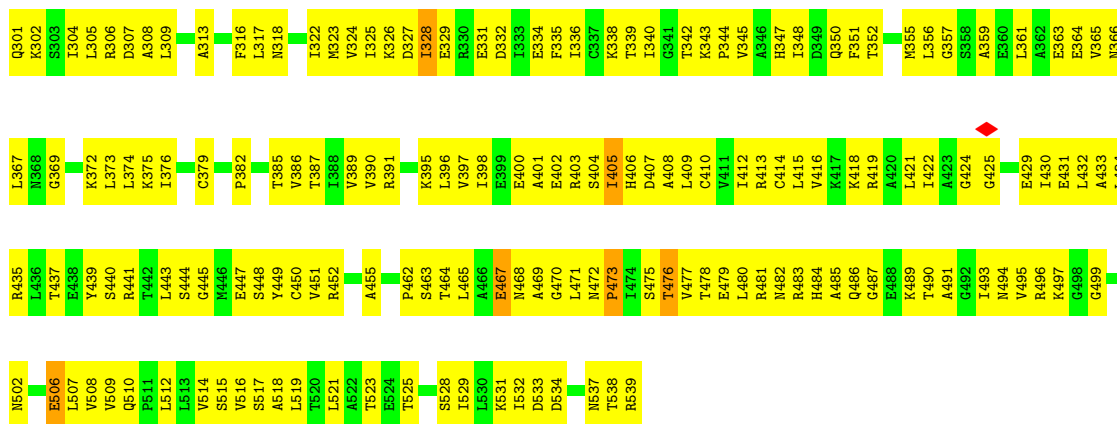


• Molecule 4: T-complex protein 1 subunit delta

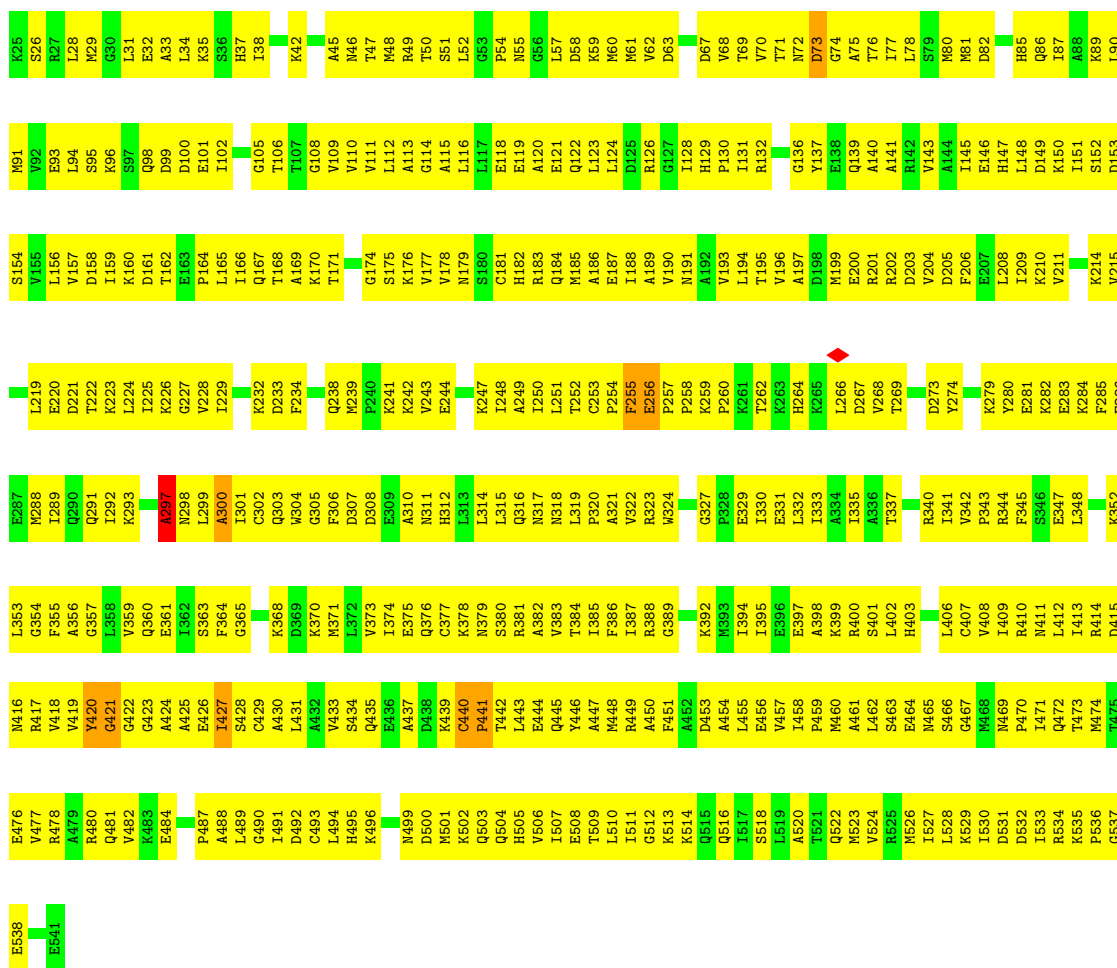


• Molecule 4: T-complex protein 1 subunit delta

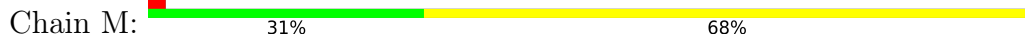


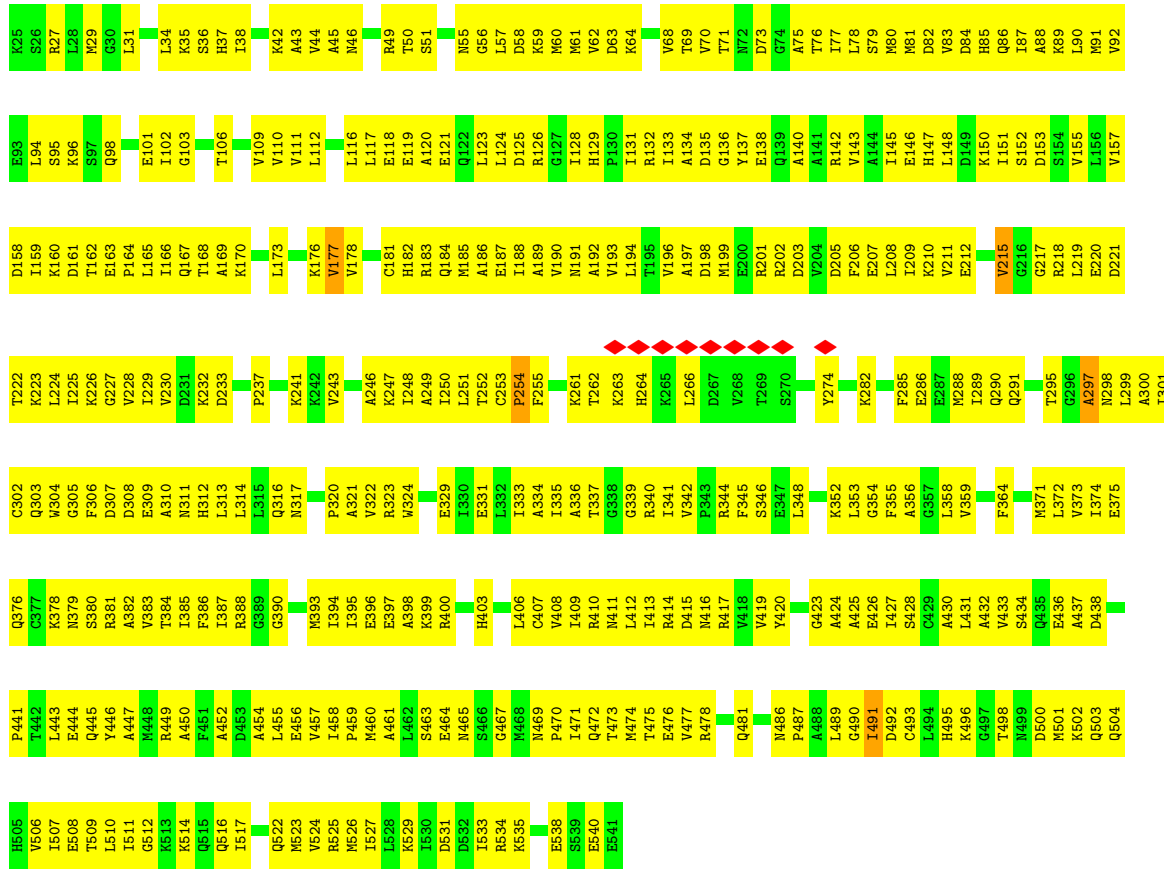


• Molecule 5: T-complex protein 1 subunit epsilon

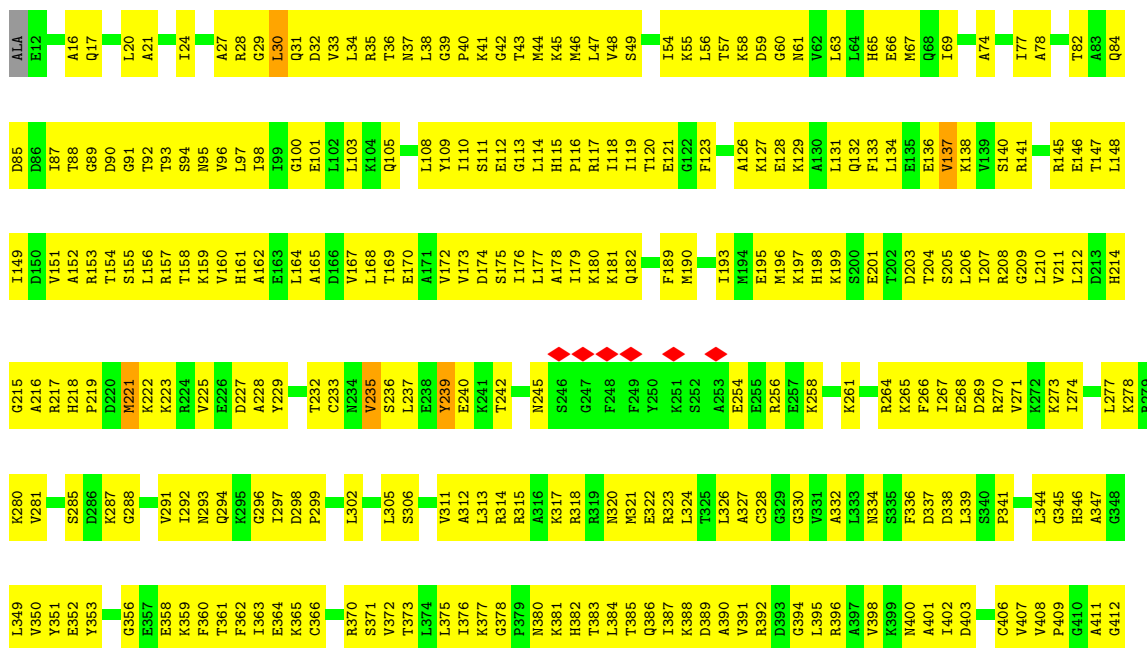


• Molecule 5: T-complex protein 1 subunit epsilon





● Molecule 6: T-complex protein 1 subunit zeta



A413 V414 E415 V416 A417 M418 A419 E420 A421 A422 I423 I424 K425 K426 P427 S428 N429 Y498 K430 C431 R432 A433 Q434 V437 Q438 A439 F440 A443 A444 I445 I446 I447 P448 K449 V450 L451 A452 Q453 M454 F457 D458 L459 Q460 E461 T462 L463 L466 Q467 A468 E469 H470 H471 S471 Q475 L476 V477 G478

V479 D480 L481 G484 E485 P486 M487 V488 A489 V492 K493 V494 W495 D496 N497 Y498 C499 V500 K501 K502 Q503 L504 L505 H506 C508 N514 I515 I516 I517 V518 D519 E520 I521 A524 G525

• Molecule 6: T-complex protein 1 subunit zeta



A11 R15 A14 R15 A19 L20 A21 V22 N23 N24 A26 A27 R28 G29 L30 Q31 L34 R35 T36 N37 L38 G39 P40 R41 K41 G42 T43 M44 K45 M46 L47 L48 V48 G122 F123 D53 I54 R55 L56 T57 K58 D59 G60 N61 V62 L63 L64 H65 Q68 P69 H70 H71 A74 I77 V80

A81 R84 D90 G91 T92 T93 A159 V160 S94 V161 N95 V162 L97 L98 I99 E100 E101 L102 L103 L104 Q105 Y109 T110 N110 S111 E112 G113 L114 H115 P116 R117 L118 I119 G122 F123 A126 K127 E128 K129 L130 L131 L132 F133 L134 E136 V137 K138 R141 E142 R145 E146 T147 L148 I149 V151

A152 R153 S155 L156 T158 K159 V160 V161 A162 E163 L164 A165 I166 V167 G168 T169 E170 A171 V172 V173 L174 S175 E176 L177 A178 G179 K180 P181 Q182 D187 F188 M190 M191 E192 E195 M196 K197 H198 K199 S200 E201 T202 D203 S205 L206 R207 R208 G209 L210 V211 L212 D213 G215

A216 R217 H218 F219 D220 M221 K222 K223 R224 R225 E226 D227 A228 Y229 I230 L231 G232 C233 C234 N234 V235 S236 L237 E238 Y239 E240 K241 N245 L246 G247 F248 F249 Y250 L251 S252 A253 E254 E255 R256 E257 K258 L259 E263 F266 I267 E268 D269 R270 V271 K272 K273 L274 L275 E276 R277 R278 R279 K280

V281 C282 G283 D284 K287 G288 F289 V290 V291 L292 N293 D294 K295 S301 L302 D303 A304 L305 S306 K307 E308 T310 I311 S312 A312 L313 R314 R315 A316 K317 R318 R319 N320 K321 F322 R323 L324 A327 C328 G329 G330 L333 N334 S335 F336 D337 L338 V339 P341 L344 G345

H346 A347 G348 L349 V350 Y351 E352 Y353 E358 K359 T361 F362 L363 E364 K365 C366 N367 R370 S371 G372 T373 L374 L375 L376 K377 G378 P379 N380 T383 Q386 I387 K388 D388 A390 R392 D393 G394 L395 R396 V398 V399 K399 T402 D403 D404 C405 C406 V407 V408 P409 G410 A411 G412

A413 V414 E415 V416 A417 M418 A419 E420 A421 A422 I423 I424 K425 K426 P427 S428 N429 Y498 K430 C431 R432 A433 Q434 V437 Q438 A439 F440 A443 A444 I445 I446 I447 P448 K449 V450 L451 A452 Q453 M454 F457 D458 L459 Q460 E461 T462 L463 L466 Q467 A468 E469 H470 H471 S471 Q475 L476 V477 G478

D480 L481 N482 T483 G484 E485 P486 M487 V488 A489 A490 E491 V494 W495 D496 N497 Y498 C499 V500 K501 T509 L504 L505 C508 T509 D510 A511 A512 I515 L516 L517 V518 D519 E520 I521 A524 G525 GLY

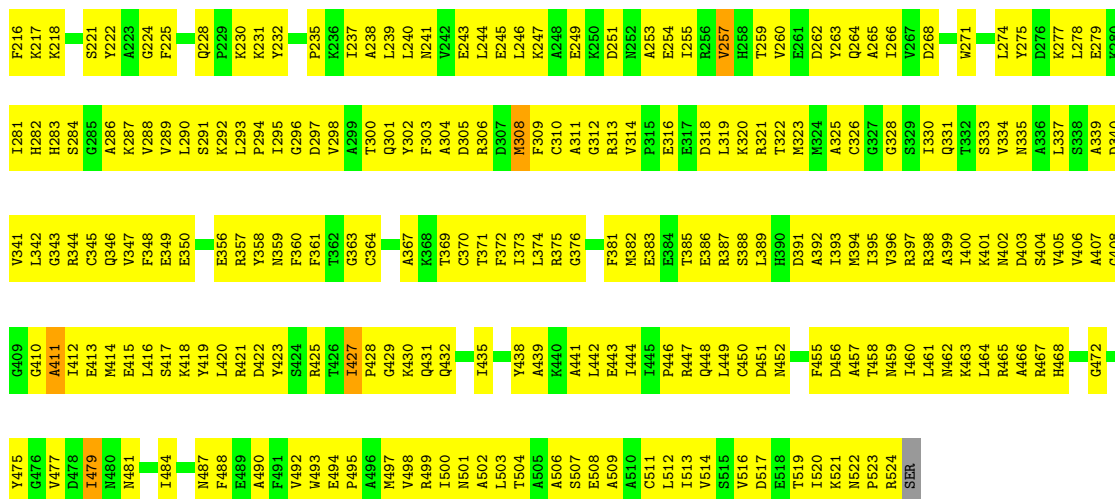
• Molecule 7: T-complex protein 1 subunit eta



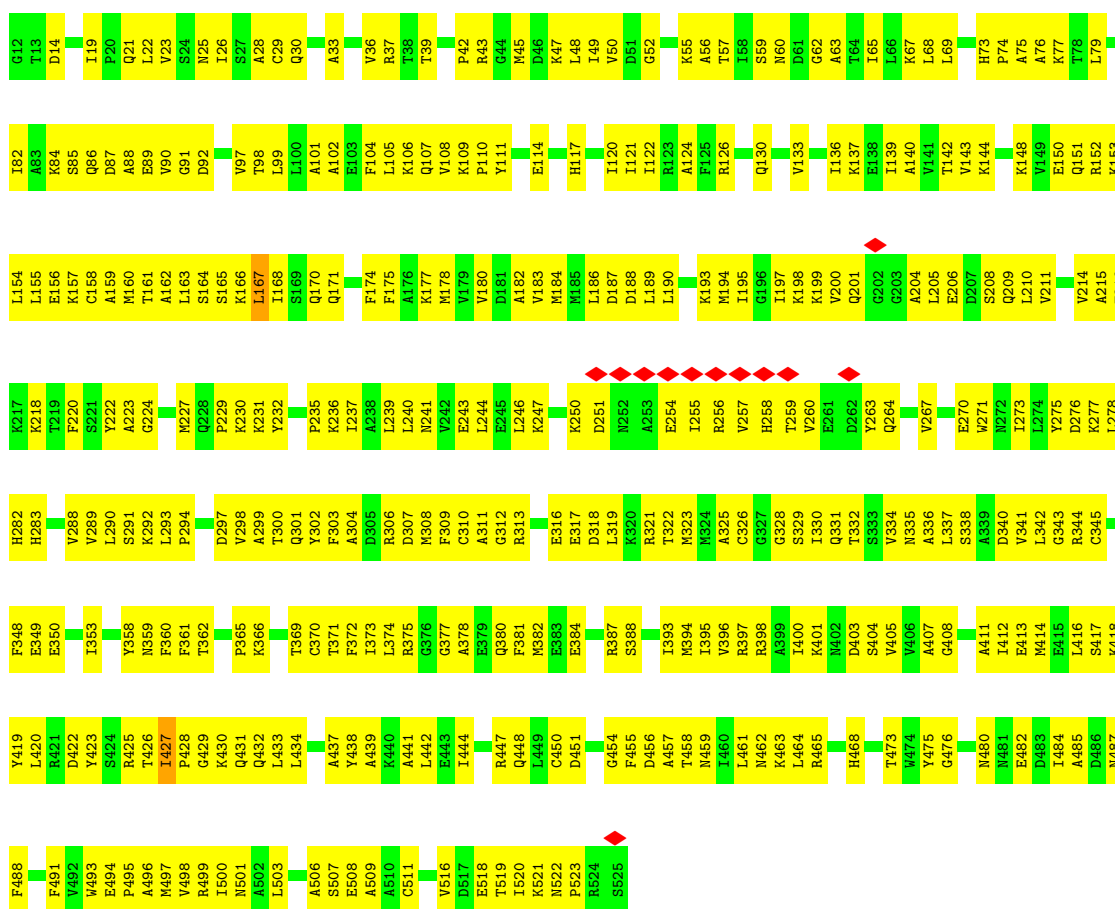
GLY T13 D14 S15 T16 Q17 G18 Q21 I26 S27 Q30 V31 I32 A33 E34 A35 R36 T38 T39 L40 G41 P42 R43 G44 M45 D46 K47 L48 L49 V50 D51 K55 A56 I57 S58 S59 A63 T64 I65 L66 K67 L68 V71 V72 H73 P74 A75 A76 E469 H470 H471 S471 Q475 L476 V477 G478

I82 A83 K84 S85 D86 Q87 T84 L89 L100 A101 A102 E103 F104 I105 K106 Q107 V108 K109 P110 Y111 V112 G115 L116 H117 R118 D119 A120 I121 I122 L123 A124 F125 R126 T129 Q130 L131 V132 V133 K134 L135 I136 K137 E138 V141 T142 V143 K144 K145 A146 D147 K148 V149 E150 L151 R152

K153 L154 E155 S156 K157 D158 A159 M160 T161 A162 L163 S164 S165 K166 L167 I168 S169 Q170 Q171 K172 A173 F174 F175 A176 K177 M178 V179 R180 D181 A182 I183 M184 R185 L186 D187 L188 R189 L190 Q191 L192 K193 M194 I195 G196 I197 K198 K199 V200 L205 E206 D207 Q209 L210 L211 A212 G213 V214 A215

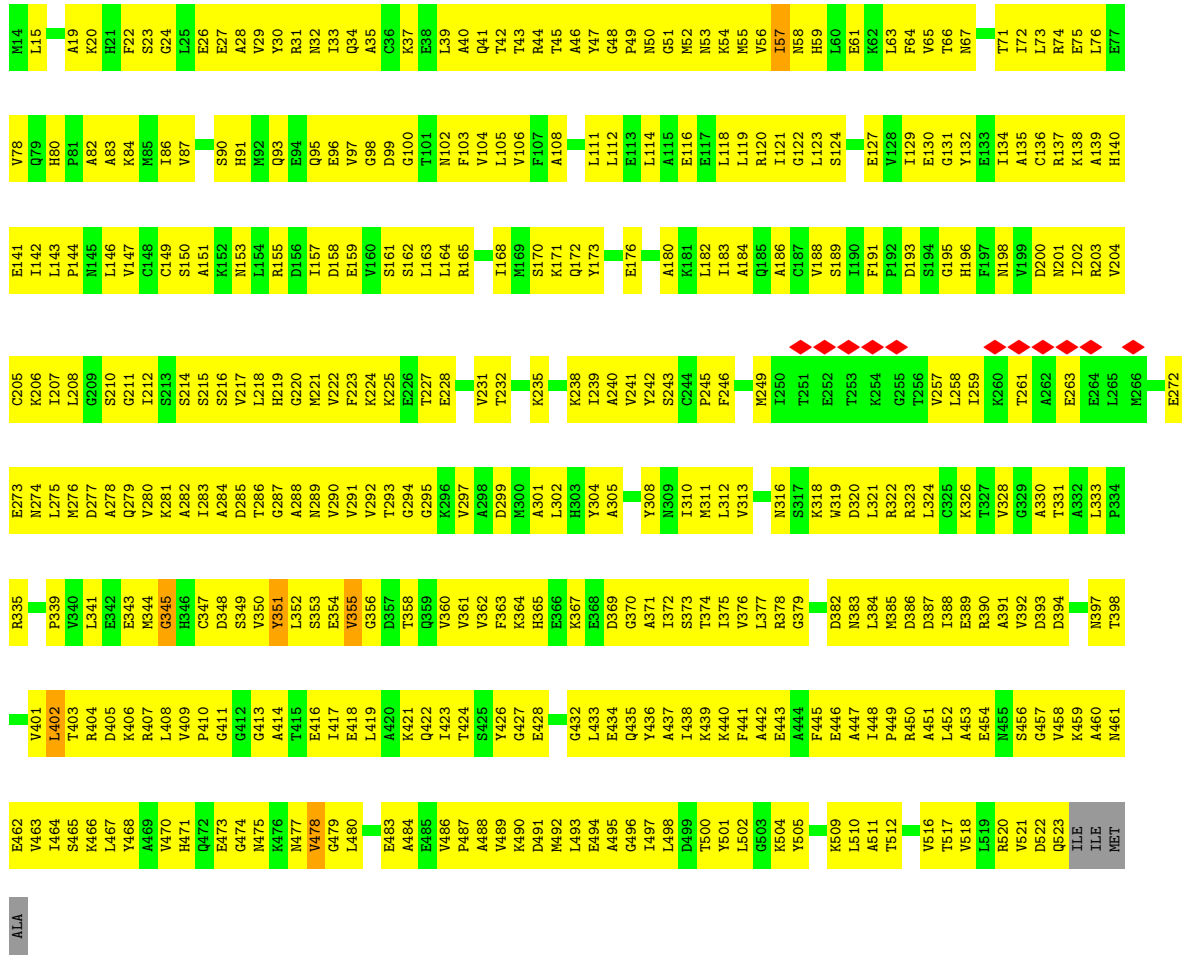


• Molecule 7: T-complex protein 1 subunit eta

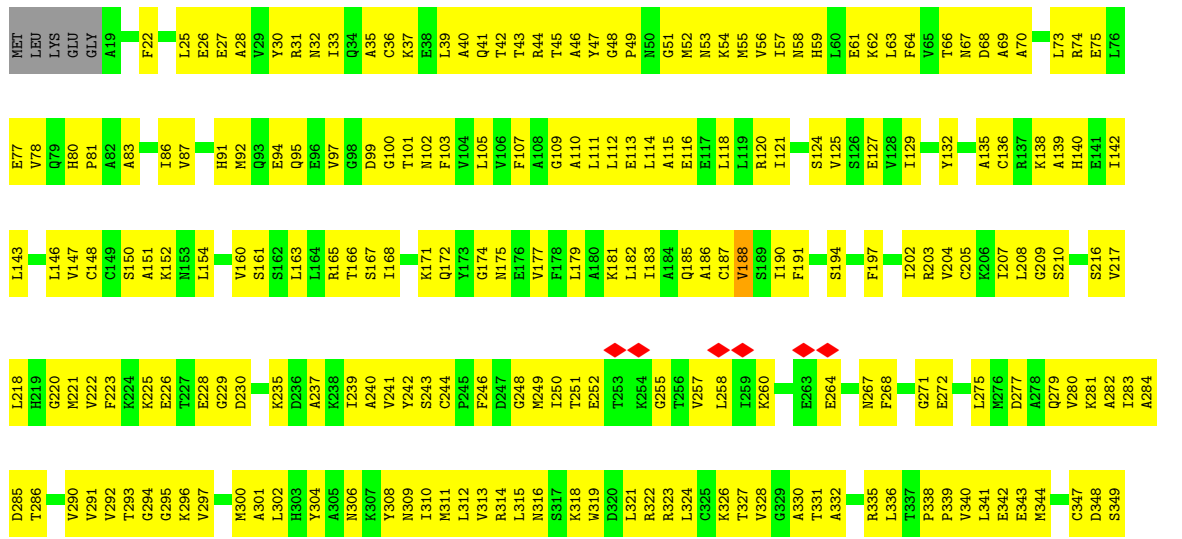


• Molecule 8: T-complex protein 1 subunit theta

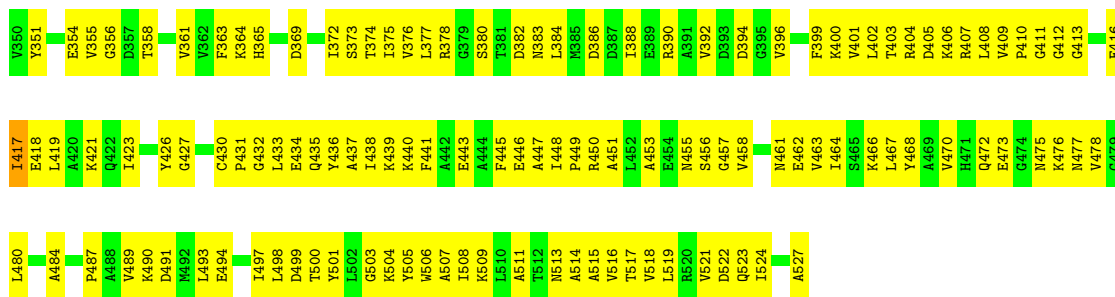




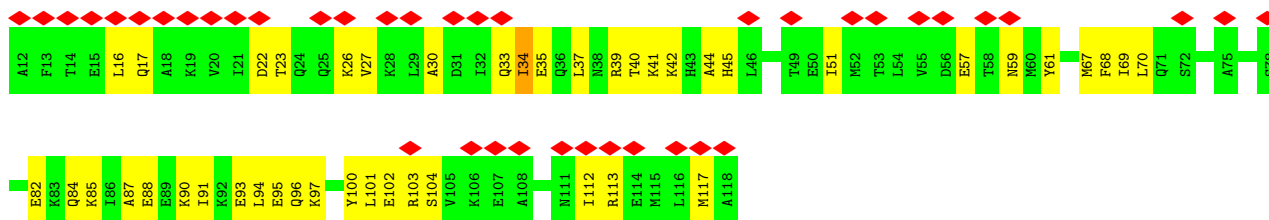
• Molecule 8: T-complex protein 1 subunit theta



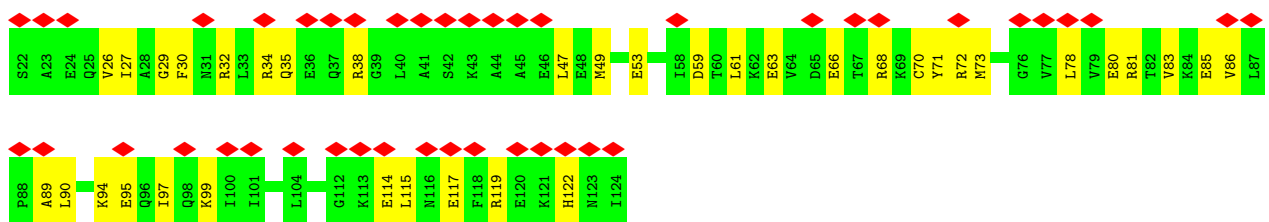
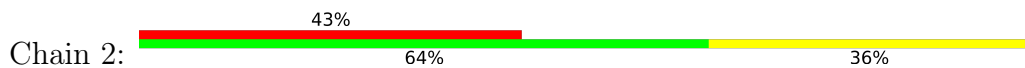




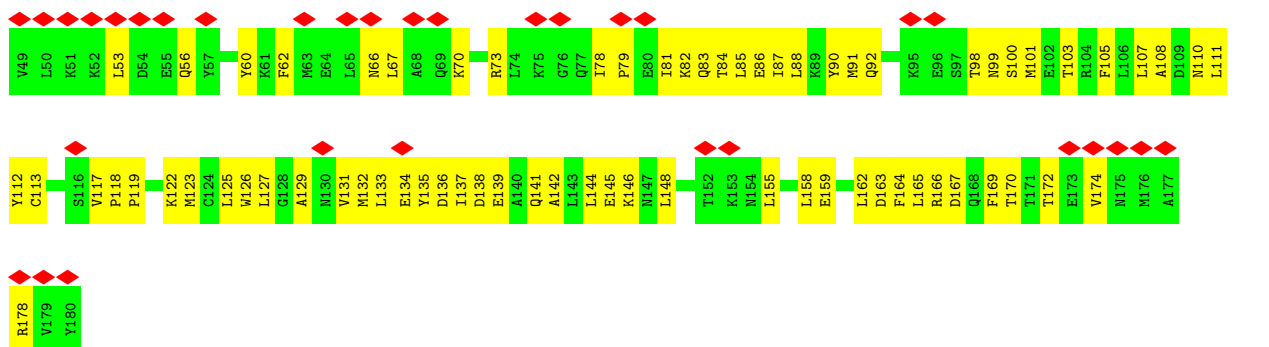
• Molecule 9: Prefoldin subunit 1



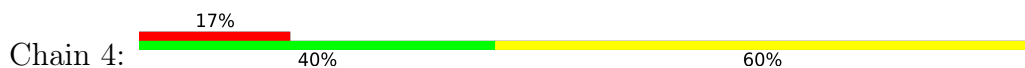
• Molecule 10: Prefoldin subunit 2

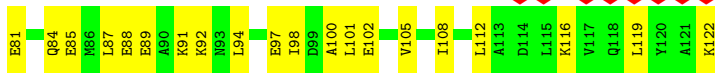
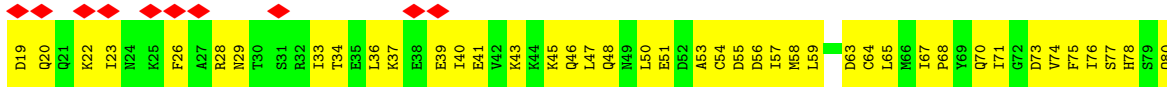


• Molecule 11: Prefoldin subunit 3

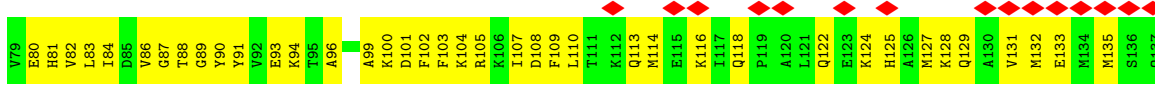


• Molecule 12: Prefoldin subunit 4

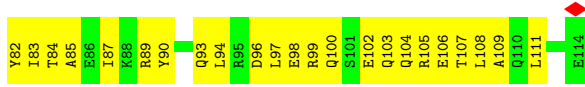




• Molecule 13: Prefoldin subunit 5



• Molecule 14: Prefoldin subunit 6



## 4 Experimental information

| Property                             | Value                                   | Source    |
|--------------------------------------|---|-----------|
| EM reconstruction method             | SINGLE PARTICLE                         | Depositor |
| Imposed symmetry                     | POINT, Not provided                     |           |
| Number of particles used             | 9500                                    | Depositor |
| Resolution determination method      | FSC 0.143 CUT-OFF                       | Depositor |
| CTF correction method                | PHASE FLIPPING AND AMPLITUDE CORRECTION | Depositor |
| Microscope                           | JEOL 3200FSC                            | Depositor |
| Voltage (kV)                         | 300                                     | Depositor |
| Electron dose ( $e^-/\text{\AA}^2$ ) | 1                                       | Depositor |
| Minimum defocus (nm)                 | Not provided                            |           |
| Maximum defocus (nm)                 | Not provided                            |           |
| Magnification                        | Not provided                            |           |
| Image detector                       | GATAN K2 SUMMIT (4k x 4k)               | Depositor |
| Maximum map value                    | 0.133                                   | Depositor |
| Minimum map value                    | -0.036                                  | Depositor |
| Average map value                    | 0.001                                   | Depositor |
| Map value standard deviation         | 0.010                                   | Depositor |
| Recommended contour level            | 0.025                                   | Depositor |
| Map size (Å)                         | 408.0, 408.0, 408.0                     | wwPDB     |
| Map dimensions                       | 240, 240, 240                           | wwPDB     |
| Map angles (°)                       | 90.0, 90.0, 90.0                        | wwPDB     |
| Pixel spacing (Å)                    | 1.7, 1.7, 1.7                           | Depositor |

## 5 Model quality i

### 5.1 Standard geometry i

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

| Mol | Chain | Bond lengths |         | Bond angles |                |
|-----|-------|--------------|---------|-------------|----------------|
|     |       | RMSZ         | # Z  >5 | RMSZ        | # Z  >5        |
| 1   | A     | 0.30         | 0/3992  | 0.57        | 0/5389         |
| 1   | I     | 0.29         | 0/4095  | 0.52        | 0/5526         |
| 2   | B     | 0.30         | 0/3869  | 0.55        | 0/5214         |
| 2   | J     | 0.27         | 0/3863  | 0.50        | 0/5207         |
| 3   | C     | 0.31         | 0/4000  | 0.54        | 1/5397 (0.0%)  |
| 3   | K     | 0.29         | 0/4029  | 0.54        | 1/5434 (0.0%)  |
| 4   | D     | 0.31         | 0/3863  | 0.56        | 0/5214         |
| 4   | L     | 0.28         | 0/3904  | 0.53        | 0/5269         |
| 5   | E     | 0.31         | 0/4020  | 0.56        | 2/5414 (0.0%)  |
| 5   | M     | 0.29         | 0/4020  | 0.53        | 0/5414         |
| 6   | F     | 0.31         | 0/3991  | 0.55        | 2/5379 (0.0%)  |
| 6   | N     | 0.29         | 0/3986  | 0.52        | 0/5374         |
| 7   | G     | 0.31         | 0/3990  | 0.56        | 0/5383         |
| 7   | O     | 0.29         | 0/4001  | 0.50        | 0/5396         |
| 8   | H     | 0.32         | 0/3945  | 0.55        | 0/5331         |
| 8   | P     | 0.30         | 0/3937  | 0.54        | 0/5321         |
| 9   | 1     | 0.24         | 0/880   | 0.39        | 0/1173         |
| 10  | 2     | 0.24         | 0/835   | 0.41        | 0/1116         |
| 11  | 3     | 0.27         | 0/1101  | 0.52        | 0/1476         |
| 12  | 4     | 0.27         | 0/852   | 0.48        | 0/1140         |
| 13  | 5     | 0.27         | 0/1032  | 0.48        | 0/1385         |
| 14  | 6     | 0.30         | 0/830   | 0.55        | 0/1109         |
| All | All   | 0.30         | 0/69035 | 0.53        | 6/93061 (0.0%) |

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

| Mol | Chain | #Chirality outliers | #Planarity outliers |
|-----|-------|---------------------|---------------------|
| 1   | A     | 0                   | 6                   |
| 1   | I     | 0                   | 3                   |
| 2   | B     | 0                   | 3                   |

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| Mol | Chain | #Chirality outliers | #Planarity outliers |
|-----|-------|---------------------|---------------------|
| 2   | J     | 0                   | 2                   |
| 3   | C     | 0                   | 11                  |
| 3   | K     | 0                   | 4                   |
| 4   | D     | 0                   | 1                   |
| 4   | L     | 0                   | 6                   |
| 5   | E     | 0                   | 6                   |
| 5   | M     | 0                   | 3                   |
| 6   | F     | 0                   | 4                   |
| 6   | N     | 0                   | 1                   |
| 7   | G     | 0                   | 7                   |
| 7   | O     | 0                   | 2                   |
| 8   | H     | 0                   | 5                   |
| 8   | P     | 0                   | 1                   |
| 14  | 6     | 0                   | 1                   |
| All | All   | 0                   | 66                  |

There are no bond length outliers.

All (6) bond angle outliers are listed below:

| Mol | Chain | Res | Type | Atoms     | Z     | Observed(°) | Ideal(°) |
|-----|-------|-----|------|-----------|-------|-------------|----------|
| 5   | E     | 256 | GLU  | N-CA-C    | -6.47 | 93.54       | 111.00   |
| 6   | F     | 30  | LEU  | CB-CG-CD2 | -5.62 | 101.45      | 111.00   |
| 3   | C     | 368 | ASP  | CB-CG-OD1 | 5.42  | 123.17      | 118.30   |
| 6   | F     | 30  | LEU  | CA-CB-CG  | 5.38  | 127.68      | 115.30   |
| 3   | K     | 113 | LEU  | CA-CB-CG  | -5.13 | 103.51      | 115.30   |
| 5   | E     | 255 | PHE  | C-N-CA    | 5.01  | 134.22      | 121.70   |

There are no chirality outliers.

All (66) planarity outliers are listed below:

| Mol | Chain | Res | Type | Group   |
|-----|-------|-----|------|---------|
| 14  | 6     | 59  | LEU  | Peptide |
| 1   | A     | 111 | LYS  | Peptide |
| 1   | A     | 242 | GLN  | Peptide |
| 1   | A     | 252 | VAL  | Peptide |
| 1   | A     | 281 | THR  | Peptide |
| 1   | A     | 282 | GLY  | Peptide |
| 1   | A     | 500 | GLN  | Peptide |
| 2   | B     | 171 | LEU  | Peptide |
| 2   | B     | 428 | THR  | Peptide |
| 2   | B     | 489 | ALA  | Peptide |

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| <b>Mol</b> | <b>Chain</b> | <b>Res</b> | <b>Type</b> | <b>Group</b> |
|------------|--------------|------------|-------------|--------------|
| 3          | C            | 118        | HIS         | Peptide      |
| 3          | C            | 164        | ALA         | Peptide      |
| 3          | C            | 184        | GLN         | Peptide      |
| 3          | C            | 185        | PHE         | Peptide      |
| 3          | C            | 228        | ARG         | Peptide      |
| 3          | C            | 229        | MET         | Peptide      |
| 3          | C            | 241        | LEU         | Peptide      |
| 3          | C            | 243        | SER         | Peptide      |
| 3          | C            | 287        | PRO         | Peptide      |
| 3          | C            | 367        | LYS         | Peptide      |
| 3          | C            | 496        | TRP         | Peptide      |
| 4          | D            | 26         | ASP         | Peptide      |
| 5          | E            | 297        | ALA         | Peptide      |
| 5          | E            | 300        | ALA         | Peptide      |
| 5          | E            | 420        | TYR         | Peptide      |
| 5          | E            | 421        | GLY         | Peptide      |
| 5          | E            | 440        | CYS         | Peptide      |
| 5          | E            | 73         | ASP         | Peptide      |
| 6          | F            | 137        | VAL         | Peptide      |
| 6          | F            | 221        | MET         | Peptide      |
| 6          | F            | 236        | SER         | Peptide      |
| 6          | F            | 239        | TYR         | Peptide      |
| 7          | G            | 115        | GLY         | Peptide      |
| 7          | G            | 119        | GLN         | Peptide      |
| 7          | G            | 257        | VAL         | Peptide      |
| 7          | G            | 308        | MET         | Peptide      |
| 7          | G            | 37         | ARG         | Peptide      |
| 7          | G            | 40         | LEU         | Peptide      |
| 7          | G            | 427        | ILE         | Peptide      |
| 8          | H            | 345        | GLY         | Peptide      |
| 8          | H            | 351        | TYR         | Peptide      |
| 8          | H            | 355        | VAL         | Peptide      |
| 8          | H            | 402        | LEU         | Peptide      |
| 8          | H            | 57         | ILE         | Peptide      |
| 1          | I            | 135        | ASN         | Peptide      |
| 1          | I            | 476        | VAL         | Peptide      |
| 1          | I            | 479        | GLU         | Peptide      |
| 2          | J            | 196        | LEU         | Peptide      |
| 2          | J            | 480        | MET         | Peptide      |
| 3          | K            | 118        | HIS         | Peptide      |
| 3          | K            | 18         | SER         | Peptide      |
| 3          | K            | 248        | LYS         | Peptide      |

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| Mol | Chain | Res | Type | Group   |
|-----|-------|-----|------|---------|
| 3   | K     | 411 | GLY  | Peptide |
| 4   | L     | 467 | GLU  | Peptide |
| 4   | L     | 473 | PRO  | Peptide |
| 4   | L     | 476 | THR  | Peptide |
| 4   | L     | 50  | THR  | Peptide |
| 4   | L     | 506 | GLU  | Peptide |
| 4   | L     | 507 | LEU  | Peptide |
| 5   | M     | 254 | PRO  | Peptide |
| 5   | M     | 297 | ALA  | Peptide |
| 5   | M     | 84  | ASP  | Peptide |
| 6   | N     | 180 | LYS  | Peptide |
| 7   | O     | 167 | LEU  | Peptide |
| 7   | O     | 427 | ILE  | Peptide |
| 8   | P     | 431 | PRO  | Peptide |

## 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     | 3956  | 0        | 4124     | 451     | 0            |
| 1   | I     | 4056  | 0        | 4217     | 414     | 0            |
| 2   | B     | 3829  | 0        | 3932     | 408     | 0            |
| 2   | J     | 3823  | 0        | 3927     | 316     | 0            |
| 3   | C     | 3956  | 0        | 4079     | 423     | 0            |
| 3   | K     | 3985  | 0        | 4108     | 401     | 0            |
| 4   | D     | 3832  | 0        | 4042     | 500     | 0            |
| 4   | L     | 3873  | 0        | 4086     | 412     | 0            |
| 5   | E     | 3974  | 0        | 4084     | 534     | 0            |
| 5   | M     | 3974  | 0        | 4084     | 418     | 0            |
| 6   | F     | 3945  | 0        | 4071     | 421     | 0            |
| 6   | N     | 3940  | 0        | 4068     | 396     | 0            |
| 7   | G     | 3936  | 0        | 4028     | 483     | 0            |
| 7   | O     | 3947  | 0        | 4036     | 358     | 0            |
| 8   | H     | 3892  | 0        | 3949     | 432     | 0            |
| 8   | P     | 3884  | 0        | 3943     | 356     | 0            |
| 9   | 1     | 874   | 0        | 902      | 37      | 0            |
| 10  | 2     | 830   | 0        | 852      | 39      | 0            |
| 11  | 3     | 1087  | 0        | 1114     | 71      | 0            |

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| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|-----|-------|-------|----------|----------|---------|--------------|
| 12  | 4     | 847   | 0        | 845      | 74      | 0            |
| 13  | 5     | 1018  | 0        | 1042     | 89      | 0            |
| 14  | 6     | 826   | 0        | 850      | 75      | 0            |
| All | All   | 68284 | 0        | 70383    | 6618    | 0            |

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 48.

All (6618) 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) |
|------------------|------------------|--------------------------|-------------------|
| 6:F:327:ALA:HA   | 6:F:370:ARG:H    | 1.23                     | 1.04              |
| 4:D:247:GLY:HA2  | 4:D:356:LEU:HD22 | 1.45                     | 0.99              |
| 8:P:187:CYS:HA   | 8:P:202:ILE:HD11 | 1.47                     | 0.97              |
| 3:K:241:LEU:HA   | 3:K:245:LEU:HB2  | 1.43                     | 0.96              |
| 6:N:31:GLN:HE22  | 6:N:100:GLY:H    | 1.12                     | 0.96              |
| 12:4:56:ASP:HB3  | 14:6:58:LYS:HE3  | 1.48                     | 0.95              |
| 6:F:190:MET:HG2  | 6:F:372:VAL:H    | 1.27                     | 0.95              |
| 5:E:254:PRO:HB3  | 5:E:258:PRO:HD3  | 1.49                     | 0.94              |
| 8:H:276:MET:HA   | 8:H:279:GLN:HB3  | 1.49                     | 0.94              |
| 7:G:186:LEU:HD11 | 7:G:370:CYS:H    | 1.30                     | 0.94              |
| 3:C:351:GLU:HB2  | 3:C:362:PHE:HB2  | 1.46                     | 0.94              |
| 14:6:73:ARG:HA   | 14:6:76:VAL:HG22 | 1.51                     | 0.93              |
| 3:C:160:ILE:HD13 | 3:C:169:SER:HB3  | 1.49                     | 0.93              |
| 8:H:218:LEU:HD22 | 8:H:355:VAL:HG21 | 1.49                     | 0.93              |
| 3:C:198:TYR:HD1  | 3:C:325:ARG:HD2  | 1.33                     | 0.93              |
| 5:M:492:ASP:HA   | 5:M:504:GLN:HE22 | 1.33                     | 0.93              |
| 1:A:183:ASP:HB2  | 1:A:187:GLN:HB3  | 1.51                     | 0.92              |
| 4:D:233:VAL:HB   | 4:D:326:LYS:HB3  | 1.51                     | 0.92              |
| 3:K:474:ASN:HB2  | 3:K:478:TRP:HB3  | 1.50                     | 0.92              |
| 6:F:225:VAL:HB   | 6:F:350:VAL:HB   | 1.52                     | 0.92              |
| 4:D:180:SER:O    | 4:D:184:SER:N    | 2.03                     | 0.91              |
| 7:G:232:TYR:HB2  | 7:G:348:PHE:HB3  | 1.52                     | 0.91              |
| 1:I:530:LEU:HA   | 4:L:59:LYS:HD2   | 1.53                     | 0.91              |
| 5:E:417:ARG:HD2  | 5:E:511:ILE:HG13 | 1.53                     | 0.90              |
| 7:G:427:ILE:HG13 | 7:G:435:ILE:HG13 | 1.52                     | 0.90              |
| 7:G:149:VAL:HG21 | 7:G:154:LEU:HB2  | 1.53                     | 0.90              |
| 2:J:519:ASN:HB2  | 5:M:59:LYS:HG3   | 1.53                     | 0.90              |
| 2:J:469:HIS:HA   | 2:J:473:ASN:HB2  | 1.51                     | 0.90              |
| 2:J:481:ARG:HG3  | 2:J:482:GLU:HG3  | 1.50                     | 0.90              |
| 2:B:255:ARG:HH11 | 2:B:257:ARG:HH22 | 1.17                     | 0.90              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 8:H:297:VAL:HG11 | 8:H:312:LEU:HD21 | 1.53                     | 0.89              |
| 2:B:350:GLU:HB2  | 2:B:361:HIS:HB2  | 1.54                     | 0.89              |
| 4:L:496:ARG:HH11 | 4:L:508:VAL:HG22 | 1.37                     | 0.89              |
| 1:I:183:ASP:HB2  | 1:I:191:PRO:HG3  | 1.55                     | 0.89              |
| 3:K:217:GLY:HA2  | 3:K:370:LYS:HD2  | 1.54                     | 0.88              |
| 7:O:136:ILE:HD11 | 7:O:416:LEU:HD11 | 1.55                     | 0.88              |
| 1:A:222:SER:HA   | 1:A:225:MET:HB3  | 1.54                     | 0.88              |
| 4:D:31:ALA:HA    | 4:D:34:ARG:HG2   | 1.53                     | 0.88              |
| 3:C:180:VAL:HA   | 3:C:183:VAL:HG22 | 1.55                     | 0.88              |
| 8:P:142:ILE:HG22 | 8:P:146:LEU:HD11 | 1.55                     | 0.88              |
| 5:E:251:LEU:HD13 | 5:E:255:PHE:HB2  | 1.56                     | 0.88              |
| 6:F:196:MET:HB3  | 6:F:377:LYS:HA   | 1.56                     | 0.88              |
| 3:C:408:VAL:HG13 | 3:C:497:GLU:HG3  | 1.54                     | 0.88              |
| 7:G:326:CYS:HB3  | 7:G:344:ARG:H    | 1.37                     | 0.88              |
| 6:N:205:SER:HB2  | 6:N:375:LEU:HB3  | 1.54                     | 0.88              |
| 1:A:328:LEU:HB2  | 1:A:344:MET:HG2  | 1.55                     | 0.88              |
| 8:P:172:GLN:HG2  | 8:P:174:GLY:H    | 1.39                     | 0.88              |
| 1:A:415:VAL:HA   | 1:A:476:VAL:HG21 | 1.53                     | 0.87              |
| 8:H:168:ILE:HB   | 8:H:176:GLU:HG2  | 1.57                     | 0.87              |
| 7:O:405:VAL:HA   | 7:O:495:PRO:HA   | 1.56                     | 0.87              |
| 2:B:433:ALA:HA   | 2:B:436:MET:HB3  | 1.57                     | 0.87              |
| 5:E:149:ASP:HA   | 5:E:510:LEU:HD21 | 1.55                     | 0.87              |
| 1:I:529:ASP:HB2  | 4:L:74:GLY:HA3   | 1.57                     | 0.87              |
| 6:N:278:LYS:HD2  | 6:N:310:ILE:HG13 | 1.55                     | 0.87              |
| 1:I:227:LYS:HB2  | 1:I:308:VAL:HG22 | 1.56                     | 0.87              |
| 5:E:140:ALA:HB2  | 5:E:448:MET:HG2  | 1.54                     | 0.87              |
| 5:E:119:GLU:HB3  | 5:E:450:ALA:HB1  | 1.55                     | 0.86              |
| 4:L:339:THR:HA   | 4:L:382:PRO:HD3  | 1.57                     | 0.86              |
| 5:E:233:ASP:HB2  | 5:E:323:ARG:H    | 1.40                     | 0.86              |
| 3:C:36:ILE:HG21  | 3:C:48:LYS:HD2   | 1.56                     | 0.86              |
| 5:E:223:LYS:HB2  | 5:E:386:PHE:HB3  | 1.56                     | 0.86              |
| 8:P:246:PHE:HB2  | 8:P:297:VAL:HG22 | 1.56                     | 0.86              |
| 5:E:182:HIS:HB3  | 5:E:184:GLN:HE22 | 1.40                     | 0.86              |
| 4:D:188:VAL:HA   | 4:D:191:VAL:HB   | 1.57                     | 0.86              |
| 2:B:252:PHE:HB2  | 2:B:274:LYS:HA   | 1.57                     | 0.86              |
| 5:E:250:ILE:HD12 | 5:E:354:GLY:HA3  | 1.58                     | 0.86              |
| 8:H:227:THR:HB   | 8:H:352:LEU:HD12 | 1.58                     | 0.85              |
| 8:H:49:PRO:HB2   | 8:H:480:LEU:H    | 1.41                     | 0.85              |
| 5:E:154:SER:HA   | 5:E:417:ARG:HG3  | 1.56                     | 0.85              |
| 2:J:230:LYS:HD3  | 4:L:343:LYS:HG3  | 1.56                     | 0.85              |
| 3:K:283:ILE:HD11 | 3:K:303:TYR:HB3  | 1.57                     | 0.85              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 8:H:413:GLY:O    | 8:H:477:ASN:ND2  | 2.09                     | 0.85              |
| 5:M:173:LEU:HD13 | 5:M:182:HIS:HB3  | 1.57                     | 0.85              |
| 8:H:48:GLY:H     | 8:H:170:SER:HA   | 1.42                     | 0.85              |
| 2:B:242:THR:O    | 2:B:292:ASN:ND2  | 2.09                     | 0.84              |
| 5:E:168:THR:HG21 | 5:E:408:VAL:HG21 | 1.59                     | 0.84              |
| 5:M:134:ALA:HB1  | 5:M:525:ARG:HG3  | 1.59                     | 0.84              |
| 5:E:128:ILE:HG23 | 5:E:132:ARG:HD3  | 1.57                     | 0.84              |
| 6:N:37:ASN:ND2   | 6:N:43:THR:O     | 2.11                     | 0.84              |
| 1:I:109:LYS:HD3  | 4:L:470:GLY:H    | 1.39                     | 0.84              |
| 2:J:375:LEU:HB3  | 2:J:383:LEU:HD22 | 1.59                     | 0.84              |
| 5:M:381:ARG:HH12 | 7:O:227:MET:HB3  | 1.41                     | 0.84              |
| 10:2:73:MET:SD   | 13:5:71:TYR:OH   | 2.36                     | 0.84              |
| 3:C:137:LEU:O    | 3:C:141:SER:N    | 2.10                     | 0.84              |
| 6:N:197:LYS:HD2  | 6:N:379:PRO:HA   | 1.59                     | 0.84              |
| 1:A:147:CYS:SG   | 1:A:148:LEU:N    | 2.50                     | 0.84              |
| 4:D:250:GLN:HB2  | 4:D:346:ALA:HA   | 1.58                     | 0.84              |
| 1:A:150:ASN:HA   | 1:A:153:LYS:HB3  | 1.58                     | 0.84              |
| 1:I:211:ILE:HG21 | 1:I:363:LEU:HD22 | 1.60                     | 0.84              |
| 2:J:408:TYR:HB3  | 2:J:488:MET:HB2  | 1.57                     | 0.84              |
| 5:M:36:SER:HB2   | 5:M:538:GLU:HG2  | 1.59                     | 0.84              |
| 8:P:417:ILE:O    | 8:P:421:LYS:N    | 2.10                     | 0.84              |
| 8:H:221:MET:N    | 8:H:363:PHE:O    | 2.08                     | 0.83              |
| 6:N:47:LEU:HB3   | 6:N:63:LEU:HD22  | 1.60                     | 0.83              |
| 8:H:282:ALA:HA   | 8:H:285:ASP:HB2  | 1.60                     | 0.83              |
| 7:G:181:ASP:HB2  | 7:G:210:LEU:HD13 | 1.59                     | 0.83              |
| 1:A:103:ASN:ND2  | 1:A:444:SER:OG   | 2.11                     | 0.83              |
| 7:G:316:GLU:HA   | 7:G:319:LEU:HB3  | 1.58                     | 0.83              |
| 8:H:223:PHE:HB2  | 8:H:361:VAL:HB   | 1.57                     | 0.83              |
| 4:D:430:ILE:HD12 | 4:D:493:ILE:HD11 | 1.59                     | 0.83              |
| 8:H:45:THR:OG1   | 8:H:54:LYS:NZ    | 2.11                     | 0.83              |
| 8:H:48:GLY:HA3   | 8:H:452:LEU:HD21 | 1.61                     | 0.83              |
| 7:O:167:LEU:HB2  | 7:O:384:GLU:HG3  | 1.59                     | 0.83              |
| 4:D:284:LEU:HD21 | 12:4:84:GLN:HE22 | 1.43                     | 0.83              |
| 3:K:466:LEU:HD13 | 3:K:480:VAL:HB   | 1.58                     | 0.83              |
| 5:M:420:TYR:HB2  | 5:M:487:PRO:HB2  | 1.61                     | 0.83              |
| 4:L:239:THR:HG21 | 4:L:296:ASN:HB3  | 1.61                     | 0.83              |
| 11:3:136:ASP:H   | 11:3:139:GLU:HB3 | 1.44                     | 0.82              |
| 7:G:494:GLU:OE2  | 7:G:499:ARG:NH2  | 2.12                     | 0.82              |
| 1:I:274:ARG:HB2  | 1:I:336:GLY:HA2  | 1.61                     | 0.82              |
| 12:4:53:ALA:HB1  | 14:6:63:VAL:HG22 | 1.60                     | 0.82              |
| 6:F:274:ILE:HD13 | 6:F:305:LEU:HD21 | 1.62                     | 0.82              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:I:146:ASP:HB2  | 1:I:150:ASN:HB2  | 1.61                     | 0.82              |
| 4:D:60:MET:HG2   | 4:D:70:ILE:HG12  | 1.61                     | 0.82              |
| 5:M:227:GLY:HA3  | 5:M:375:GLU:HA   | 1.61                     | 0.82              |
| 6:N:256:ARG:HD3  | 8:P:335:ARG:HE   | 1.43                     | 0.82              |
| 7:O:137:LYS:NZ   | 7:O:497:MET:SD   | 2.51                     | 0.82              |
| 1:A:184:ILE:HA   | 1:A:321:LYS:HD2  | 1.59                     | 0.82              |
| 4:L:343:LYS:HB2  | 4:L:355:MET:HB3  | 1.60                     | 0.82              |
| 5:M:34:LEU:HD13  | 5:M:124:LEU:HD21 | 1.59                     | 0.82              |
| 7:G:135:LYS:HD3  | 7:G:416:LEU:HD23 | 1.61                     | 0.82              |
| 7:G:163:LEU:HA   | 7:G:388:SER:HB3  | 1.62                     | 0.81              |
| 2:J:61:LEU:HD21  | 4:L:86:PRO:HB3   | 1.61                     | 0.81              |
| 7:O:416:LEU:HB3  | 7:O:442:LEU:HD13 | 1.62                     | 0.81              |
| 10:2:71:TYR:HB3  | 10:2:78:LEU:HD11 | 1.60                     | 0.81              |
| 2:B:16:ALA:HB3   | 5:E:81:MET:HA    | 1.62                     | 0.81              |
| 2:B:380:GLN:HA   | 2:B:383:LEU:HB3  | 1.62                     | 0.81              |
| 4:D:314:LEU:HD23 | 4:D:318:ASN:HD21 | 1.45                     | 0.81              |
| 7:G:278:LEU:HD21 | 7:G:302:TYR:HB2  | 1.61                     | 0.81              |
| 11:3:112:TYR:H   | 13:5:83:LEU:HB3  | 1.44                     | 0.81              |
| 1:A:367:THR:HG22 | 1:A:369:ALA:H    | 1.46                     | 0.81              |
| 1:I:109:LYS:HB2  | 4:L:469:ALA:HB3  | 1.62                     | 0.81              |
| 3:K:190:ARG:HA   | 3:K:191:LYS:HB3  | 1.61                     | 0.81              |
| 8:P:45:THR:O     | 8:P:455:ASN:ND2  | 2.13                     | 0.81              |
| 8:P:203:ARG:HB2  | 8:P:372:ILE:HG13 | 1.61                     | 0.81              |
| 6:N:393:ASP:OD1  | 6:N:396:ARG:NH2  | 2.13                     | 0.81              |
| 2:B:463:ALA:HB1  | 2:J:433:ALA:HB3  | 1.61                     | 0.81              |
| 4:D:209:LYS:HB3  | 4:D:387:THR:HA   | 1.61                     | 0.81              |
| 5:M:138:GLU:OE1  | 5:M:525:ARG:NH1  | 2.13                     | 0.81              |
| 7:O:39:THR:HG21  | 7:O:47:LYS:HG3   | 1.62                     | 0.81              |
| 3:C:201:VAL:HG11 | 3:C:388:GLU:HG3  | 1.61                     | 0.81              |
| 6:F:112:GLU:OE1  | 6:N:460:GLN:NE2  | 2.14                     | 0.81              |
| 6:N:40:PRO:HD2   | 6:N:481:LEU:HB3  | 1.62                     | 0.81              |
| 8:P:154:LEU:HB3  | 8:P:194:SER:HB2  | 1.61                     | 0.81              |
| 4:L:250:GLN:HG2  | 4:L:301:GLN:HB3  | 1.63                     | 0.81              |
| 7:O:36:VAL:HG21  | 7:O:98:THR:HB    | 1.62                     | 0.81              |
| 8:P:411:GLY:HA3  | 8:P:497:ILE:HG22 | 1.62                     | 0.81              |
| 3:C:76:ALA:HB1   | 3:C:516:LEU:HD13 | 1.61                     | 0.81              |
| 5:M:132:ARG:NH2  | 5:M:443:LEU:O    | 2.14                     | 0.81              |
| 2:B:97:ASP:HB2   | 2:B:166:THR:HG23 | 1.63                     | 0.80              |
| 5:E:31:LEU:O     | 5:E:35:LYS:N     | 2.12                     | 0.80              |
| 6:F:44:MET:HA    | 6:F:58:LYS:HG3   | 1.60                     | 0.80              |
| 3:C:276:GLN:O    | 3:C:280:GLU:N    | 2.13                     | 0.80              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 4:D:244:ALA:HB3  | 4:D:359:ALA:HB3  | 1.62                     | 0.80              |
| 6:N:458:ASP:HB2  | 6:N:461:GLU:H    | 1.45                     | 0.80              |
| 1:A:44:MET:HG2   | 1:A:54:ILE:HG12  | 1.64                     | 0.80              |
| 4:D:168:THR:O    | 4:D:172:ASN:N    | 2.14                     | 0.80              |
| 6:F:212:LEU:HB2  | 6:F:361:THR:HB   | 1.60                     | 0.80              |
| 2:B:421:VAL:HB   | 2:B:440:ALA:HB2  | 1.63                     | 0.80              |
| 4:D:49:ARG:HH22  | 4:D:114:GLY:H    | 1.29                     | 0.80              |
| 5:E:55:ASN:OD1   | 5:E:495:HIS:ND1  | 2.14                     | 0.80              |
| 1:I:528:ASP:HB2  | 4:L:74:GLY:H     | 1.47                     | 0.80              |
| 7:O:280:LYS:HD3  | 7:O:334:VAL:HG21 | 1.64                     | 0.80              |
| 3:C:235:ASN:O    | 3:C:237:ARG:NH1  | 2.13                     | 0.80              |
| 7:G:414:MET:HB2  | 7:G:468:HIS:HE1  | 1.45                     | 0.80              |
| 1:I:141:ASP:HA   | 1:I:500:GLN:HG2  | 1.62                     | 0.80              |
| 8:P:500:THR:HG23 | 8:P:503:GLY:H    | 1.44                     | 0.80              |
| 2:B:221:ASP:HA   | 2:B:359:LEU:HG   | 1.62                     | 0.80              |
| 3:C:227:PRO:O    | 3:C:231:ARG:NH1  | 2.15                     | 0.80              |
| 6:F:176:ILE:HB   | 6:F:402:ILE:HD11 | 1.63                     | 0.80              |
| 8:H:414:ALA:HB2  | 8:H:492:MET:HB2  | 1.63                     | 0.80              |
| 7:O:288:VAL:HG23 | 7:O:309:PHE:HB3  | 1.63                     | 0.80              |
| 4:D:213:LYS:NZ   | 4:D:367:LEU:O    | 2.15                     | 0.80              |
| 4:L:62:GLN:HG3   | 4:L:68:VAL:HG22  | 1.64                     | 0.80              |
| 6:N:352:GLU:HA   | 6:N:361:THR:HA   | 1.64                     | 0.80              |
| 1:I:132:ILE:HG23 | 1:I:409:VAL:HG11 | 1.62                     | 0.80              |
| 6:F:451:LEU:HD23 | 6:F:454:ASN:HD22 | 1.47                     | 0.80              |
| 6:N:141:ARG:NH1  | 6:N:407:VAL:O    | 2.14                     | 0.80              |
| 6:N:294:GLN:HE22 | 6:N:321:MET:HB2  | 1.46                     | 0.80              |
| 8:P:202:ILE:HD13 | 8:P:396:VAL:HG22 | 1.62                     | 0.80              |
| 2:B:236:LYS:HB2  | 2:B:287:ILE:HA   | 1.64                     | 0.79              |
| 1:A:475:GLN:HB3  | 1:A:484:LYS:HD3  | 1.62                     | 0.79              |
| 5:E:162:THR:O    | 5:E:166:ILE:N    | 2.13                     | 0.79              |
| 6:F:24:ILE:HG22  | 6:F:103:LEU:HB3  | 1.63                     | 0.79              |
| 8:H:220:GLY:O    | 8:H:374:THR:OG1  | 1.99                     | 0.79              |
| 3:C:203:LYS:H    | 3:C:221:ASN:HD22 | 1.27                     | 0.79              |
| 5:E:340:ARG:HB2  | 5:E:352:LYS:HA   | 1.62                     | 0.79              |
| 8:H:201:ASN:O    | 8:H:323:ARG:NH2  | 2.15                     | 0.79              |
| 8:H:240:ALA:HB3  | 8:H:291:VAL:HA   | 1.63                     | 0.79              |
| 3:K:286:LYS:HA   | 3:K:309:ILE:HD11 | 1.63                     | 0.79              |
| 6:F:40:PRO:HD2   | 6:F:481:LEU:HD22 | 1.64                     | 0.79              |
| 4:L:61:ILE:N     | 4:L:69:THR:O     | 2.15                     | 0.79              |
| 2:B:159:LEU:HD22 | 2:B:397:LEU:HG   | 1.63                     | 0.79              |
| 4:D:232:LYS:HA   | 4:D:325:ILE:HG13 | 1.63                     | 0.79              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 4:D:248:LEU:HD23 | 4:D:345:VAL:H    | 1.45                     | 0.79              |
| 5:E:74:GLY:O     | 5:E:78:LEU:N     | 2.15                     | 0.79              |
| 5:M:165:LEU:HD13 | 5:M:409:ILE:HG23 | 1.64                     | 0.79              |
| 8:P:347:CYS:SG   | 8:P:365:HIS:NE2  | 2.56                     | 0.79              |
| 8:P:407:ARG:HD3  | 8:P:501:TYR:HB3  | 1.63                     | 0.79              |
| 5:E:49:ARG:O     | 5:E:465:ASN:ND2  | 2.16                     | 0.79              |
| 8:P:163:LEU:HD13 | 8:P:402:LEU:HD13 | 1.65                     | 0.79              |
| 3:C:420:HIS:O    | 3:C:424:GLU:N    | 2.12                     | 0.79              |
| 4:D:135:GLU:HA   | 4:D:527:ARG:HH12 | 1.48                     | 0.79              |
| 6:N:268:GLU:HA   | 6:N:271:VAL:HG12 | 1.64                     | 0.79              |
| 9:1:26:LYS:HB3   | 9:1:101:LEU:HD23 | 1.62                     | 0.79              |
| 5:E:210:LYS:HB2  | 5:E:384:THR:HG22 | 1.65                     | 0.79              |
| 7:G:290:LEU:HA   | 7:G:311:ALA:HB3  | 1.63                     | 0.79              |
| 5:E:95:SER:HB3   | 5:E:106:THR:HG23 | 1.64                     | 0.79              |
| 1:A:43:LYS:HD2   | 3:C:521:ASP:HB2  | 1.64                     | 0.79              |
| 4:D:494:ASN:HB3  | 4:D:497:LYS:HB3  | 1.65                     | 0.79              |
| 2:J:84:LEU:HD23  | 2:J:103:THR:HA   | 1.65                     | 0.79              |
| 2:B:219:LEU:HD21 | 2:B:359:LEU:HD23 | 1.64                     | 0.78              |
| 3:C:118:HIS:CD2  | 3:C:121:VAL:HB   | 2.18                     | 0.78              |
| 2:B:466:ARG:O    | 2:B:470:SER:N    | 2.15                     | 0.78              |
| 8:P:143:LEU:HD11 | 8:P:508:ILE:HG13 | 1.65                     | 0.78              |
| 2:J:133:ALA:HB2  | 2:J:436:MET:HG2  | 1.64                     | 0.78              |
| 3:K:93:ASP:HB3   | 3:K:396:GLN:HE22 | 1.47                     | 0.78              |
| 4:L:163:LEU:HB3  | 4:L:188:VAL:HG22 | 1.63                     | 0.78              |
| 8:P:218:LEU:HD22 | 8:P:355:VAL:HG22 | 1.66                     | 0.78              |
| 8:H:42:THR:HG21  | 8:H:72:ILE:HG21  | 1.65                     | 0.78              |
| 5:M:119:GLU:HG3  | 5:M:454:ALA:HB2  | 1.66                     | 0.78              |
| 8:H:245:PRO:HA   | 8:H:335:ARG:HB2  | 1.64                     | 0.78              |
| 2:J:47:GLY:O     | 4:L:131:THR:OG1  | 2.01                     | 0.78              |
| 3:K:378:GLY:H    | 3:K:384:LEU:HD23 | 1.47                     | 0.78              |
| 6:N:135:GLU:HA   | 6:N:138:LYS:HE3  | 1.64                     | 0.78              |
| 6:N:190:MET:HA   | 6:N:372:VAL:H    | 1.47                     | 0.78              |
| 4:D:526:VAL:HA   | 4:D:529:ILE:HG22 | 1.64                     | 0.78              |
| 6:N:172:VAL:HG13 | 6:N:395:LEU:HD23 | 1.66                     | 0.78              |
| 4:L:304:ILE:HA   | 4:L:308:ALA:HB2  | 1.66                     | 0.78              |
| 8:P:472:GLN:HB3  | 8:P:475:ASN:HB2  | 1.66                     | 0.78              |
| 1:A:480:ARG:HD3  | 1:A:483:LEU:HB2  | 1.65                     | 0.78              |
| 6:F:30:LEU:HD21  | 6:F:77:ILE:HD13  | 1.64                     | 0.78              |
| 7:G:394:MET:O    | 7:G:398:ARG:NH1  | 2.17                     | 0.78              |
| 7:O:464:LEU:O    | 7:O:468:HIS:N    | 2.16                     | 0.78              |
| 2:B:138:ARG:O    | 2:B:142:LEU:N    | 2.17                     | 0.77              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 5:E:442:THR:HG23 | 5:E:443:LEU:H    | 1.49                     | 0.77              |
| 1:I:108:VAL:HG13 | 1:I:114:PRO:HB3  | 1.66                     | 0.77              |
| 1:I:274:ARG:NH1  | 1:I:338:GLU:O    | 2.17                     | 0.77              |
| 5:M:342:VAL:HG11 | 5:M:348:LEU:HD23 | 1.64                     | 0.77              |
| 1:A:145:ARG:HH22 | 1:A:401:ARG:HB2  | 1.47                     | 0.77              |
| 6:F:74:ALA:HA    | 6:F:77:ILE:HD12  | 1.65                     | 0.77              |
| 2:J:72:LYS:HZ3   | 2:J:89:ARG:HB2   | 1.47                     | 0.77              |
| 5:M:295:THR:HG21 | 5:M:348:LEU:HB3  | 1.65                     | 0.77              |
| 6:N:274:ILE:HG22 | 6:N:310:ILE:HD13 | 1.66                     | 0.77              |
| 6:N:431:GLY:O    | 6:N:435:LEU:N    | 2.13                     | 0.77              |
| 3:C:466:LEU:HD13 | 3:C:487:LEU:HD22 | 1.66                     | 0.77              |
| 1:A:185:ARG:H    | 1:A:321:LYS:HB2  | 1.50                     | 0.77              |
| 3:C:481:ASN:HB3  | 3:C:484:THR:HG22 | 1.65                     | 0.77              |
| 7:G:488:PHE:O    | 7:G:493:TRP:NE1  | 2.15                     | 0.77              |
| 5:M:209:ILE:HG21 | 5:M:406:LEU:HD21 | 1.66                     | 0.77              |
| 7:O:194:MET:HB3  | 7:O:369:THR:HA   | 1.67                     | 0.77              |
| 8:P:217:VAL:HG22 | 8:P:375:ILE:HG12 | 1.65                     | 0.77              |
| 3:K:415:GLU:HG2  | 3:K:447:ILE:HB   | 1.67                     | 0.77              |
| 1:A:421:ILE:HD13 | 7:O:425:ARG:HG3  | 1.66                     | 0.77              |
| 6:F:128:GLU:O    | 6:F:132:GLN:N    | 2.12                     | 0.77              |
| 8:H:163:LEU:HD22 | 8:H:406:LYS:HG2  | 1.66                     | 0.77              |
| 1:I:411:GLY:H    | 1:I:504:PHE:HD1  | 1.30                     | 0.77              |
| 7:G:160:MET:O    | 7:G:164:SER:OG   | 2.01                     | 0.77              |
| 7:G:237:ILE:O    | 7:G:343:GLY:N    | 2.18                     | 0.77              |
| 2:J:411:GLY:HA2  | 2:J:414:GLU:HB2  | 1.66                     | 0.77              |
| 3:C:279:CYS:HA   | 3:C:282:ILE:HB   | 1.66                     | 0.77              |
| 5:M:475:THR:HA   | 5:M:478:ARG:HB3  | 1.66                     | 0.77              |
| 8:P:45:THR:HA    | 8:P:455:ASN:HB2  | 1.67                     | 0.77              |
| 8:P:74:ARG:HH22  | 8:P:94:GLU:HG2   | 1.49                     | 0.77              |
| 1:A:182:THR:HB   | 1:A:370:ARG:HG2  | 1.67                     | 0.77              |
| 5:E:516:GLN:O    | 5:E:520:ALA:N    | 2.16                     | 0.77              |
| 7:O:79:LEU:HD22  | 7:O:101:ALA:HB1  | 1.67                     | 0.77              |
| 5:E:98:GLN:HE22  | 5:E:516:GLN:HA   | 1.50                     | 0.77              |
| 7:O:211:VAL:HG13 | 7:O:362:THR:HG22 | 1.67                     | 0.77              |
| 3:C:259:THR:HG23 | 3:C:260:ARG:HG3  | 1.67                     | 0.76              |
| 4:D:202:SER:HB3  | 4:D:417:LYS:HD3  | 1.67                     | 0.76              |
| 6:N:301:SER:O    | 6:N:305:LEU:N    | 2.17                     | 0.76              |
| 6:N:434:GLN:HA   | 6:N:437:VAL:HG22 | 1.67                     | 0.76              |
| 2:B:475:THR:O    | 2:B:488:MET:N    | 2.19                     | 0.76              |
| 6:F:174:ASP:HB3  | 6:F:206:LEU:HD22 | 1.65                     | 0.76              |
| 7:O:280:LYS:O    | 7:O:335:ASN:ND2  | 2.18                     | 0.76              |

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| Atom-1           | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 7:O:326:CYS:HA   | 7:O:365:PRO:HD2   | 1.68                     | 0.76              |
| 12:4:73:ASP:H    | 13:5:66:LEU:HD12  | 1.48                     | 0.76              |
| 6:F:40:PRO:HG3   | 6:F:157:ARG:HB3   | 1.68                     | 0.76              |
| 1:I:157:SER:HA   | 1:I:160:ILE:HB    | 1.67                     | 0.76              |
| 5:E:500:ASP:O    | 5:E:504:GLN:N     | 2.13                     | 0.76              |
| 7:G:57:THR:HB    | 7:G:68:LEU:HD13   | 1.67                     | 0.76              |
| 7:G:193:LYS:HA   | 7:G:321:ARG:HH21  | 1.50                     | 0.76              |
| 1:A:114:PRO:HB2  | 1:A:525:LEU:HD21  | 1.67                     | 0.76              |
| 7:G:120:ILE:O    | 7:G:431:GLN:NE2   | 2.17                     | 0.76              |
| 5:M:188:ILE:HB   | 5:M:224:LEU:HB2   | 1.68                     | 0.76              |
| 8:P:228:GLU:HG3  | 8:P:229:GLY:H     | 1.51                     | 0.76              |
| 2:B:272:LYS:O    | 2:B:276:LYS:N     | 2.19                     | 0.76              |
| 5:E:363:SER:HA   | 5:E:370:LYS:HA    | 1.65                     | 0.76              |
| 2:B:52:LEU:HD12  | 2:B:62:MET:HB3    | 1.68                     | 0.76              |
| 2:B:522:LYS:HG2  | 5:E:62:VAL:HB     | 1.66                     | 0.76              |
| 4:D:178:GLN:HG3  | 4:D:179:TYR:H     | 1.51                     | 0.76              |
| 6:F:446:ILE:HG23 | 6:F:447:ILE:HD12  | 1.68                     | 0.76              |
| 14:6:36:GLN:O    | 14:6:40:ASN:ND2   | 2.18                     | 0.76              |
| 7:G:398:ARG:HG2  | 7:G:495:PRO:HG2   | 1.68                     | 0.76              |
| 2:J:32:ALA:HB1   | 2:J:84:LEU:HD22   | 1.67                     | 0.76              |
| 2:J:509:GLU:O    | 2:J:513:VAL:N     | 2.19                     | 0.76              |
| 4:L:491:ALA:HB1  | 4:L:502:ASN:HA    | 1.68                     | 0.76              |
| 10:2:61:LEU:HD22 | 11:3:127:LEU:HD13 | 1.68                     | 0.76              |
| 5:E:165:LEU:HB3  | 5:E:190:VAL:HG11  | 1.68                     | 0.76              |
| 7:G:335:ASN:HB2  | 8:H:259:ILE:HG21  | 1.68                     | 0.76              |
| 6:N:210:LEU:HD11 | 6:N:320:ASN:HD22  | 1.51                     | 0.76              |
| 1:I:409:VAL:HG21 | 1:I:510:LYS:HG3   | 1.68                     | 0.75              |
| 2:B:167:LEU:HG   | 2:B:389:SER:HB3   | 1.69                     | 0.75              |
| 4:D:161:GLU:O    | 4:D:165:ASN:N     | 2.13                     | 0.75              |
| 4:D:211:VAL:O    | 4:D:390:VAL:N     | 2.19                     | 0.75              |
| 4:D:246:ILE:N    | 4:D:357:GLY:O     | 2.16                     | 0.75              |
| 5:E:489:LEU:HA   | 5:E:501:MET:H     | 1.50                     | 0.75              |
| 1:I:43:LYS:HG3   | 3:K:521:ASP:HB3   | 1.66                     | 0.75              |
| 4:L:156:GLU:HB3  | 4:L:159:ASP:HB2   | 1.68                     | 0.75              |
| 6:N:212:LEU:HB2  | 6:N:361:THR:HB    | 1.69                     | 0.75              |
| 6:N:233:CYS:HB3  | 6:N:336:PHE:CD1   | 2.20                     | 0.75              |
| 3:C:200:ARG:HH12 | 3:C:222:LYS:HD2   | 1.50                     | 0.75              |
| 4:D:134:SER:HB3  | 4:D:527:ARG:HG3   | 1.66                     | 0.75              |
| 8:P:435:GLN:HE21 | 8:P:439:LYS:HZ3   | 1.31                     | 0.75              |
| 14:6:78:LYS:O    | 14:6:82:TYR:N     | 2.18                     | 0.75              |
| 1:I:472:ASN:HB2  | 1:I:475:GLN:H     | 1.51                     | 0.75              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 8:P:190:ILE:HB   | 8:P:373:SER:HB2  | 1.66                     | 0.75              |
| 8:P:258:LEU:HB3  | 8:P:264:GLU:HB3  | 1.68                     | 0.75              |
| 2:B:465:LEU:HD22 | 2:B:478:LEU:HG   | 1.66                     | 0.75              |
| 4:D:290:ILE:HG21 | 4:D:298:LEU:HD11 | 1.69                     | 0.75              |
| 4:D:302:LYS:HA   | 4:D:327:ASP:HA   | 1.68                     | 0.75              |
| 1:A:436:LEU:HD22 | 7:O:458:THR:HG21 | 1.68                     | 0.75              |
| 3:C:404:ASP:HB3  | 3:C:500:ALA:HB2  | 1.69                     | 0.75              |
| 5:M:299:LEU:HD11 | 5:M:322:VAL:HG23 | 1.69                     | 0.75              |
| 1:A:140:THR:O    | 1:A:144:GLY:N    | 2.20                     | 0.75              |
| 4:D:188:VAL:O    | 4:D:192:MET:N    | 2.17                     | 0.75              |
| 7:G:122:ILE:HG13 | 7:G:511:CYS:HB2  | 1.69                     | 0.75              |
| 6:N:99:ILE:HG22  | 6:N:508:CYS:HA   | 1.66                     | 0.75              |
| 7:O:408:GLY:O    | 7:O:487:ASN:ND2  | 2.20                     | 0.75              |
| 8:P:39:LEU:HB3   | 8:P:105:LEU:HD13 | 1.67                     | 0.75              |
| 2:B:267:ILE:O    | 2:B:271:GLU:N    | 2.19                     | 0.75              |
| 3:C:290:VAL:HG23 | 3:C:309:ILE:HG21 | 1.69                     | 0.75              |
| 4:D:435:ARG:NH2  | 4:D:484:HIS:O    | 2.20                     | 0.75              |
| 5:E:232:LYS:HG3  | 5:E:322:VAL:HG22 | 1.68                     | 0.75              |
| 5:M:132:ARG:HH22 | 5:M:446:TYR:HD2  | 1.34                     | 0.75              |
| 8:P:210:SER:HB2  | 8:P:378:ARG:HE   | 1.51                     | 0.75              |
| 6:F:208:ARG:HA   | 6:F:372:VAL:HG13 | 1.68                     | 0.75              |
| 7:G:428:PRO:HG2  | 1:I:468:ARG:HB2  | 1.68                     | 0.75              |
| 3:K:376:LEU:HD22 | 3:K:388:GLU:HA   | 1.69                     | 0.75              |
| 1:A:217:ASN:HB2  | 1:A:312:LEU:HB2  | 1.69                     | 0.74              |
| 2:B:219:LEU:HB3  | 2:B:372:THR:HG21 | 1.68                     | 0.74              |
| 3:C:409:PRO:HB3  | 3:C:490:MET:HB2  | 1.69                     | 0.74              |
| 4:D:289:GLN:HE22 | 4:D:348:ILE:HG23 | 1.52                     | 0.74              |
| 3:K:368:ASP:O    | 3:K:370:LYS:NZ   | 2.19                     | 0.74              |
| 3:K:376:LEU:HB3  | 3:K:391:LEU:HD22 | 1.69                     | 0.74              |
| 1:A:292:ILE:HB   | 1:A:309:ARG:HG2  | 1.70                     | 0.74              |
| 5:E:126:ARG:HB3  | 4:L:481:ARG:HH22 | 1.52                     | 0.74              |
| 1:I:216:LEU:HB3  | 1:I:362:ILE:HB   | 1.69                     | 0.74              |
| 5:E:73:ASP:HB3   | 5:E:400:ARG:HH21 | 1.52                     | 0.74              |
| 7:G:417:SER:HA   | 7:G:420:LEU:HB2  | 1.66                     | 0.74              |
| 8:H:331:THR:H    | 8:H:343:GLU:HG3  | 1.52                     | 0.74              |
| 1:I:450:ASN:HA   | 1:I:460:SER:HB2  | 1.69                     | 0.74              |
| 14:6:96:ASP:O    | 14:6:100:GLN:N   | 2.19                     | 0.74              |
| 6:F:145:ARG:NH2  | 6:F:174:ASP:OD1  | 2.19                     | 0.74              |
| 7:G:123:ARG:HB2  | 7:G:431:GLN:HE22 | 1.52                     | 0.74              |
| 3:K:213:CYS:H    | 3:K:375:LEU:HD23 | 1.51                     | 0.74              |
| 4:L:300:ILE:HG12 | 4:L:309:LEU:HD12 | 1.67                     | 0.74              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 4:L:342:THR:HG23 | 4:L:356:LEU:HA   | 1.68                     | 0.74              |
| 5:M:473:THR:HG23 | 5:M:491:ILE:HG21 | 1.69                     | 0.74              |
| 5:E:193:VAL:O    | 5:E:197:ALA:N    | 2.18                     | 0.74              |
| 5:E:337:THR:HG21 | 5:E:355:PHE:H    | 1.53                     | 0.74              |
| 1:I:19:SER:HA    | 1:I:22:VAL:HG22  | 1.68                     | 0.74              |
| 3:C:226:HIS:HB2  | 3:C:229:MET:HG3  | 1.68                     | 0.74              |
| 1:I:330:THR:HG23 | 1:I:331:LEU:HG   | 1.70                     | 0.74              |
| 13:5:39:VAL:HG13 | 13:5:42:LYS:HE3  | 1.68                     | 0.74              |
| 2:B:224:ILE:HB   | 2:B:312:ILE:HA   | 1.70                     | 0.74              |
| 4:D:441:ARG:NH2  | 5:M:434:SER:OG   | 2.21                     | 0.74              |
| 2:J:73:ASN:HB3   | 4:L:538:THR:HG22 | 1.69                     | 0.74              |
| 6:N:274:ILE:HG21 | 6:N:305:LEU:HD22 | 1.70                     | 0.74              |
| 7:O:331:GLN:HE21 | 7:O:341:VAL:HG12 | 1.53                     | 0.74              |
| 5:E:530:ILE:H    | 7:G:46:ASP:HB2   | 1.53                     | 0.74              |
| 2:J:487:ASP:HB2  | 2:J:490:ILE:HG22 | 1.68                     | 0.74              |
| 3:K:184:GLN:HE22 | 3:K:191:LYS:HE2  | 1.53                     | 0.74              |
| 3:K:292:THR:HG21 | 3:K:296:ILE:HG23 | 1.68                     | 0.74              |
| 4:L:101:GLU:O    | 4:L:413:ARG:NH1  | 2.20                     | 0.74              |
| 1:A:412:GLY:N    | 1:A:503:VAL:O    | 2.21                     | 0.74              |
| 6:F:36:THR:O     | 6:F:43:THR:N     | 2.19                     | 0.74              |
| 4:L:139:LYS:HE2  | 4:L:443:LEU:HD13 | 1.69                     | 0.74              |
| 6:N:92:THR:OG1   | 6:N:159:LYS:NZ   | 2.20                     | 0.74              |
| 6:N:137:VAL:HG21 | 6:N:414:VAL:HG12 | 1.69                     | 0.74              |
| 3:C:52:ASP:HA    | 6:F:524:ALA:HB3  | 1.70                     | 0.74              |
| 3:C:150:ASP:HA   | 3:C:153:LEU:HB3  | 1.68                     | 0.74              |
| 7:O:136:ILE:HD12 | 7:O:503:LEU:HD11 | 1.68                     | 0.74              |
| 11:3:125:LEU:HA  | 13:5:70:MET:HA   | 1.67                     | 0.74              |
| 11:3:125:LEU:HG  | 13:5:70:MET:HG2  | 1.70                     | 0.74              |
| 13:5:94:LYS:HE2  | 13:5:102:PHE:HE2 | 1.53                     | 0.74              |
| 6:F:126:ALA:HB2  | 6:F:437:VAL:HG22 | 1.70                     | 0.73              |
| 7:G:171:GLN:HA   | 7:G:174:PHE:HB3  | 1.69                     | 0.73              |
| 8:H:242:TYR:HA   | 8:H:333:LEU:H    | 1.53                     | 0.73              |
| 3:K:144:VAL:HG21 | 3:K:155:ILE:HG21 | 1.69                     | 0.73              |
| 8:P:172:GLN:HE22 | 8:P:179:LEU:HD12 | 1.52                     | 0.73              |
| 4:D:247:GLY:HA3  | 4:D:298:LEU:HD23 | 1.71                     | 0.73              |
| 4:D:325:ILE:HG12 | 4:D:328:ILE:HB   | 1.69                     | 0.73              |
| 5:E:37:HIS:HA    | 5:E:85:HIS:CE1   | 2.23                     | 0.73              |
| 6:F:274:ILE:HA   | 6:F:277:LEU:HB3  | 1.70                     | 0.73              |
| 2:J:114:GLU:O    | 2:J:118:ALA:N    | 2.21                     | 0.73              |
| 8:P:73:LEU:HD11  | 8:P:105:LEU:HD11 | 1.70                     | 0.73              |
| 8:P:166:THR:HB   | 8:P:497:ILE:HA   | 1.69                     | 0.73              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 4:L:232:LYS:HB2  | 4:L:325:ILE:HD13 | 1.68                     | 0.73              |
| 6:N:58:LYS:HB2   | 6:N:160:VAL:HA   | 1.70                     | 0.73              |
| 6:N:301:SER:HA   | 6:N:304:ALA:HB3  | 1.69                     | 0.73              |
| 7:G:116:LEU:HA   | 7:G:430:LYS:HD3  | 1.70                     | 0.73              |
| 7:G:209:GLN:HB3  | 7:G:373:ILE:HB   | 1.69                     | 0.73              |
| 1:I:165:GLY:H    | 1:I:168:PHE:HB2  | 1.53                     | 0.73              |
| 1:I:453:ALA:HB1  | 1:I:458:GLN:HB2  | 1.68                     | 0.73              |
| 3:K:187:GLU:HG3  | 3:K:189:GLY:H    | 1.53                     | 0.73              |
| 4:L:49:ARG:HD3   | 4:L:111:ILE:HB   | 1.68                     | 0.73              |
| 4:L:440:SER:O    | 4:L:448:SER:HB2  | 1.89                     | 0.73              |
| 5:M:243:VAL:HB   | 5:M:359:VAL:HB   | 1.70                     | 0.73              |
| 1:I:45:LEU:HD21  | 1:I:61:ILE:HG12  | 1.70                     | 0.73              |
| 6:N:80:VAL:HG11  | 6:N:511:ILE:HB   | 1.69                     | 0.73              |
| 1:A:147:CYS:HB2  | 1:A:501:ALA:HA   | 1.69                     | 0.73              |
| 1:A:432:SER:OG   | 7:O:459:ASN:OD1  | 2.05                     | 0.73              |
| 5:E:52:LEU:HB2   | 5:E:465:ASN:HD21 | 1.50                     | 0.73              |
| 7:G:186:LEU:HD12 | 7:G:195:ILE:HG12 | 1.70                     | 0.73              |
| 7:G:428:PRO:HB2  | 1:I:465:ALA:HA   | 1.69                     | 0.73              |
| 7:G:444:ILE:HG13 | 7:G:447:ARG:HD2  | 1.68                     | 0.73              |
| 3:K:50:LEU:HB3   | 3:K:58:VAL:HB    | 1.71                     | 0.73              |
| 1:A:105:ASP:OD1  | 1:A:109:LYS:NZ   | 2.22                     | 0.73              |
| 7:G:154:LEU:O    | 7:G:158:CYS:N    | 2.17                     | 0.73              |
| 1:I:85:GLU:HB3   | 1:I:512:LYS:HD3  | 1.71                     | 0.73              |
| 2:B:218:PHE:N    | 2:B:362:PHE:O    | 2.20                     | 0.73              |
| 6:N:138:LYS:HD2  | 6:N:406:CYS:HB3  | 1.70                     | 0.73              |
| 1:A:286:ILE:HB   | 1:A:307:ALA:HA   | 1.70                     | 0.73              |
| 3:C:140:ILE:HG12 | 3:C:408:VAL:HG23 | 1.71                     | 0.73              |
| 3:C:282:ILE:HG12 | 3:C:338:LEU:HD22 | 1.71                     | 0.73              |
| 3:K:370:LYS:HG3  | 3:K:372:CYS:H    | 1.54                     | 0.73              |
| 3:K:452:ILE:HD11 | 3:K:480:VAL:HG21 | 1.71                     | 0.73              |
| 5:M:82:ASP:O     | 5:M:89:LYS:NZ    | 2.21                     | 0.73              |
| 6:N:44:MET:HG2   | 6:N:58:LYS:HG3   | 1.70                     | 0.73              |
| 12:4:68:PRO:HG2  | 14:6:64:LEU:HB3  | 1.70                     | 0.73              |
| 1:A:286:ILE:O    | 1:A:308:VAL:N    | 2.16                     | 0.72              |
| 1:A:418:ALA:O    | 1:A:422:TYR:N    | 2.20                     | 0.72              |
| 5:E:305:GLY:HA2  | 5:E:323:ARG:HB3  | 1.71                     | 0.72              |
| 7:G:143:VAL:HG11 | 7:G:154:LEU:HD22 | 1.69                     | 0.72              |
| 7:G:157:LYS:HA   | 7:G:160:MET:HB3  | 1.71                     | 0.72              |
| 3:K:15:LYS:HD2   | 3:K:524:SER:HB3  | 1.69                     | 0.72              |
| 6:N:237:LEU:HD12 | 6:N:298:ASP:H    | 1.54                     | 0.72              |
| 8:P:114:LEU:HB3  | 8:P:440:LYS:HD2  | 1.71                     | 0.72              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:445:MET:O    | 2:B:448:THR:OG1  | 2.04                     | 0.72              |
| 3:C:218:VAL:H    | 3:C:326:ALA:HA   | 1.52                     | 0.72              |
| 4:D:48:ILE:HD12  | 4:D:74:GLY:HA2   | 1.71                     | 0.72              |
| 4:L:152:SER:HA   | 4:L:422:ILE:HG22 | 1.71                     | 0.72              |
| 5:E:312:HIS:HA   | 5:E:315:LEU:HB2  | 1.69                     | 0.72              |
| 8:H:436:TYR:O    | 8:H:440:LYS:N    | 2.21                     | 0.72              |
| 5:M:492:ASP:HB3  | 5:M:495:HIS:HA   | 1.71                     | 0.72              |
| 3:C:374:ILE:HD13 | 3:C:391:LEU:HD21 | 1.71                     | 0.72              |
| 4:D:129:HIS:HB3  | 4:D:132:ILE:HD13 | 1.71                     | 0.72              |
| 4:D:246:ILE:HA   | 4:D:297:VAL:HB   | 1.70                     | 0.72              |
| 4:D:433:ALA:HB2  | 4:D:458:MET:HB2  | 1.70                     | 0.72              |
| 6:F:240:GLU:HG3  | 6:F:242:THR:H    | 1.53                     | 0.72              |
| 2:J:421:VAL:O    | 2:J:425:ALA:N    | 2.22                     | 0.72              |
| 6:N:31:GLN:NE2   | 6:N:100:GLY:H    | 1.87                     | 0.72              |
| 7:O:120:ILE:HD11 | 8:P:484:ALA:HB3  | 1.70                     | 0.72              |
| 6:F:293:ASN:ND2  | 6:F:296:GLY:O    | 2.23                     | 0.72              |
| 7:G:325:ALA:HB2  | 7:G:369:THR:HB   | 1.70                     | 0.72              |
| 3:K:370:LYS:HE2  | 3:K:372:CYS:HB2  | 1.71                     | 0.72              |
| 8:P:423:ILE:HA   | 8:P:426:TYR:HB3  | 1.70                     | 0.72              |
| 3:C:153:LEU:HA   | 3:C:156:ILE:HB   | 1.69                     | 0.72              |
| 3:C:462:LEU:O    | 3:C:466:LEU:N    | 2.23                     | 0.72              |
| 4:D:449:TYR:HD2  | 5:M:471:ILE:HG23 | 1.55                     | 0.72              |
| 4:D:513:LEU:HA   | 4:D:516:VAL:HB   | 1.70                     | 0.72              |
| 7:G:472:GLY:H    | 7:G:475:TYR:HD2  | 1.36                     | 0.72              |
| 2:J:189:ARG:NH2  | 2:J:198:ALA:O    | 2.23                     | 0.72              |
| 4:L:338:LYS:NZ   | 4:L:385:THR:OG1  | 2.21                     | 0.72              |
| 5:E:457:VAL:O    | 5:E:461:ALA:N    | 2.18                     | 0.72              |
| 6:F:228:ALA:O    | 6:F:346:HIS:ND1  | 2.21                     | 0.72              |
| 5:M:157:VAL:O    | 5:M:161:ASP:N    | 2.21                     | 0.72              |
| 5:M:526:MET:HG3  | 7:O:381:PHE:HA   | 1.72                     | 0.72              |
| 7:O:520:ILE:HB   | 8:P:56:VAL:HA    | 1.70                     | 0.72              |
| 8:P:293:THR:HB   | 8:P:314:ARG:HA   | 1.71                     | 0.72              |
| 3:C:216:ARG:NH2  | 3:C:366:CYS:O    | 2.23                     | 0.72              |
| 6:F:293:ASN:O    | 6:F:315:ARG:N    | 2.22                     | 0.72              |
| 7:G:423:TYR:CZ   | 7:G:427:ILE:HD11 | 2.25                     | 0.72              |
| 6:N:232:THR:HB   | 6:N:333:LEU:H    | 1.55                     | 0.72              |
| 4:D:249:ILE:HB   | 4:D:300:ILE:HG13 | 1.71                     | 0.72              |
| 4:D:475:SER:HA   | 5:M:443:LEU:HD21 | 1.72                     | 0.72              |
| 5:E:251:LEU:HD23 | 5:E:342:VAL:HG21 | 1.72                     | 0.72              |
| 6:F:91:GLY:O     | 6:F:95:ASN:N     | 2.18                     | 0.72              |
| 8:H:165:ARG:HG2  | 8:H:497:ILE:HG12 | 1.71                     | 0.72              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 4:L:193:LYS:HD3  | 4:L:386:VAL:HB   | 1.72                     | 0.72              |
| 8:P:56:VAL:HB    | 8:P:64:PHE:HB2   | 1.72                     | 0.72              |
| 8:P:341:LEU:HA   | 8:P:344:MET:HB2  | 1.71                     | 0.72              |
| 4:D:480:LEU:HG   | 4:D:500:ILE:HG22 | 1.71                     | 0.72              |
| 6:F:426:LYS:HD3  | 6:F:434:GLN:HB2  | 1.72                     | 0.72              |
| 2:J:66:ASP:OD1   | 2:J:388:ARG:NH2  | 2.23                     | 0.72              |
| 3:K:199:ALA:HA   | 3:K:372:CYS:HB3  | 1.70                     | 0.72              |
| 3:K:316:ARG:HG3  | 3:K:319:ASP:H    | 1.54                     | 0.72              |
| 8:P:202:ILE:H    | 8:P:202:ILE:HD12 | 1.53                     | 0.72              |
| 3:C:183:VAL:HA   | 3:C:370:LYS:O    | 1.90                     | 0.71              |
| 4:L:42:LYS:O     | 4:L:46:ASP:N     | 2.23                     | 0.71              |
| 8:P:356:GLY:HA3  | 8:P:376:VAL:HG11 | 1.70                     | 0.71              |
| 4:D:421:LEU:HD11 | 4:D:509:VAL:HB   | 1.71                     | 0.71              |
| 6:F:44:MET:HB3   | 6:F:56:LEU:HD11  | 1.70                     | 0.71              |
| 7:G:218:LYS:HG3  | 7:G:357:ARG:H    | 1.54                     | 0.71              |
| 7:G:385:THR:O    | 7:G:389:LEU:N    | 2.23                     | 0.71              |
| 8:H:460:ALA:O    | 8:H:464:ILE:N    | 2.16                     | 0.71              |
| 14:6:75:THR:O    | 14:6:79:ARG:N    | 2.17                     | 0.71              |
| 3:C:220:ILE:N    | 3:C:361:THR:O    | 2.22                     | 0.71              |
| 4:D:335:PHE:O    | 4:D:339:THR:OG1  | 2.04                     | 0.71              |
| 5:E:55:ASN:ND2   | 5:E:492:ASP:O    | 2.23                     | 0.71              |
| 5:E:400:ARG:HA   | 5:E:403:HIS:HD2  | 1.54                     | 0.71              |
| 8:H:421:LYS:HA   | 8:H:424:THR:HG22 | 1.72                     | 0.71              |
| 1:I:180:LYS:HB2  | 1:I:370:ARG:HD2  | 1.70                     | 0.71              |
| 4:L:144:GLY:HA2  | 4:L:432:LEU:HD11 | 1.71                     | 0.71              |
| 4:D:345:VAL:HG11 | 4:D:351:PHE:HD1  | 1.54                     | 0.71              |
| 5:E:434:SER:OG   | 4:L:441:ARG:NE   | 2.22                     | 0.71              |
| 8:H:273:GLU:O    | 8:H:277:ASP:N    | 2.18                     | 0.71              |
| 2:J:135:LYS:HA   | 2:J:138:ARG:HE   | 1.55                     | 0.71              |
| 2:J:325:LEU:HD12 | 2:J:370:ALA:HB2  | 1.72                     | 0.71              |
| 3:K:36:ILE:HD13  | 6:N:15:ARG:HH12  | 1.55                     | 0.71              |
| 3:K:182:MET:O    | 3:K:370:LYS:NZ   | 2.15                     | 0.71              |
| 4:L:157:LEU:HD23 | 4:L:419:ARG:HD2  | 1.70                     | 0.71              |
| 8:P:318:LYS:O    | 8:P:322:ARG:N    | 2.23                     | 0.71              |
| 14:6:76:VAL:HA   | 14:6:79:ARG:HB2  | 1.71                     | 0.71              |
| 1:A:294:ASP:HA   | 1:A:297:LEU:HB3  | 1.72                     | 0.71              |
| 3:C:42:GLY:O     | 3:C:45:SER:OG    | 2.06                     | 0.71              |
| 5:E:301:ILE:HG22 | 5:E:330:ILE:HG22 | 1.73                     | 0.71              |
| 7:G:405:VAL:HA   | 7:G:495:PRO:HA   | 1.72                     | 0.71              |
| 3:K:196:LYS:HZ3  | 3:K:399:ARG:HH22 | 1.38                     | 0.71              |
| 7:O:244:LEU:HD13 | 7:O:278:LEU:HD23 | 1.71                     | 0.71              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:228:ARG:HG3  | 1:A:352:VAL:HG22 | 1.72                     | 0.71              |
| 2:B:218:PHE:HD2  | 2:B:362:PHE:HD2  | 1.37                     | 0.71              |
| 3:C:199:ALA:HB1  | 3:C:374:ILE:HD11 | 1.72                     | 0.71              |
| 4:D:244:ALA:N    | 4:D:359:ALA:O    | 2.19                     | 0.71              |
| 4:D:395:LYS:HA   | 4:D:398:ILE:HD12 | 1.73                     | 0.71              |
| 8:H:261:THR:HG22 | 8:H:263:GLU:H    | 1.54                     | 0.71              |
| 4:L:421:LEU:HB3  | 4:L:509:VAL:HB   | 1.71                     | 0.71              |
| 9:1:57:GLU:HG2   | 10:2:80:GLU:HG2  | 1.71                     | 0.71              |
| 1:I:228:ARG:NH1  | 1:I:360:GLU:OE2  | 2.24                     | 0.71              |
| 4:L:137:PHE:HB3  | 4:L:523:THR:HG23 | 1.72                     | 0.71              |
| 5:M:101:GLU:O    | 5:M:411:ASN:ND2  | 2.22                     | 0.71              |
| 5:M:197:ALA:HB2  | 5:M:205:ASP:HB2  | 1.73                     | 0.71              |
| 6:F:452:ALA:HB1  | 6:F:462:THR:HG21 | 1.73                     | 0.71              |
| 1:I:172:VAL:HG13 | 1:I:396:LEU:HD23 | 1.72                     | 0.71              |
| 2:J:456:TYR:HB2  | 2:J:483:GLY:HA2  | 1.73                     | 0.71              |
| 6:N:162:ALA:O    | 6:N:166:ASP:N    | 2.24                     | 0.71              |
| 1:A:99:GLU:O     | 1:A:103:ASN:ND2  | 2.24                     | 0.71              |
| 5:E:50:THR:O     | 5:E:57:LEU:N     | 2.23                     | 0.71              |
| 7:G:464:LEU:HA   | 7:G:467:ARG:HB2  | 1.73                     | 0.71              |
| 5:M:191:ASN:HA   | 5:M:194:LEU:HB3  | 1.72                     | 0.71              |
| 5:E:412:LEU:O    | 5:E:416:ASN:ND2  | 2.23                     | 0.71              |
| 6:F:149:ILE:HG23 | 6:F:169:THR:HG21 | 1.73                     | 0.71              |
| 6:F:228:ALA:HB3  | 6:F:347:ALA:H    | 1.56                     | 0.71              |
| 7:G:186:LEU:HD11 | 7:G:370:CYS:N    | 2.04                     | 0.71              |
| 6:N:91:GLY:H     | 6:N:159:LYS:HD3  | 1.54                     | 0.71              |
| 4:D:143:LYS:HE2  | 4:D:443:LEU:HD11 | 1.73                     | 0.70              |
| 5:E:342:VAL:HG11 | 5:E:348:LEU:HD23 | 1.71                     | 0.70              |
| 8:H:41:GLN:OE1   | 8:H:44:ARG:NH1   | 2.24                     | 0.70              |
| 2:J:138:ARG:O    | 2:J:142:LEU:N    | 2.24                     | 0.70              |
| 6:N:230:ILE:HD13 | 6:N:324:LEU:HD11 | 1.73                     | 0.70              |
| 3:C:491:LYS:HG2  | 3:C:496:TRP:HH2  | 1.54                     | 0.70              |
| 5:E:49:ARG:HB3   | 5:E:461:ALA:HB1  | 1.73                     | 0.70              |
| 5:E:132:ARG:HG3  | 5:E:443:LEU:HG   | 1.72                     | 0.70              |
| 6:F:232:THR:HG21 | 6:F:321:MET:HA   | 1.72                     | 0.70              |
| 7:G:414:MET:HB2  | 7:G:468:HIS:CE1  | 2.25                     | 0.70              |
| 8:H:204:VAL:HG21 | 8:H:389:GLU:HG3  | 1.73                     | 0.70              |
| 1:I:477:ASN:HB3  | 1:I:479:GLU:HG3  | 1.73                     | 0.70              |
| 6:N:187:ASP:H    | 6:N:396:ARG:HG2  | 1.55                     | 0.70              |
| 10:2:71:TYR:HB2  | 11:3:132:MET:HB3 | 1.73                     | 0.70              |
| 2:J:95:VAL:HG21  | 2:J:502:GLN:HB2  | 1.74                     | 0.70              |
| 4:L:163:LEU:HG   | 4:L:412:ILE:HG23 | 1.71                     | 0.70              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 4:L:169:THR:HG21 | 4:L:509:VAL:H    | 1.55                     | 0.70              |
| 2:B:244:MET:HB2  | 2:B:297:TYR:H    | 1.56                     | 0.70              |
| 1:I:155:SER:OG   | 1:I:500:GLN:O    | 2.09                     | 0.70              |
| 1:A:195:VAL:O    | 1:A:314:ARG:NH2  | 2.24                     | 0.70              |
| 1:A:210:LEU:HA   | 1:A:375:ILE:HA   | 1.72                     | 0.70              |
| 1:A:245:LYS:HB2  | 3:C:335:PRO:HG2  | 1.72                     | 0.70              |
| 3:C:44:LYS:HD3   | 6:F:117:ARG:HG2  | 1.73                     | 0.70              |
| 3:C:233:ILE:HG13 | 3:C:289:VAL:HG13 | 1.74                     | 0.70              |
| 4:D:480:LEU:O    | 4:D:484:HIS:N    | 2.25                     | 0.70              |
| 5:E:415:ASP:HB3  | 5:E:511:ILE:HD11 | 1.74                     | 0.70              |
| 6:F:292:ILE:HG12 | 6:F:313:LEU:HB2  | 1.72                     | 0.70              |
| 8:H:294:GLY:HA2  | 8:H:316:ASN:HB2  | 1.72                     | 0.70              |
| 1:I:398:VAL:HA   | 1:I:401:ARG:HE   | 1.57                     | 0.70              |
| 2:B:359:LEU:HD13 | 2:B:376:ARG:HH22 | 1.54                     | 0.70              |
| 2:B:403:ASP:O    | 2:B:498:GLN:NE2  | 2.25                     | 0.70              |
| 3:C:225:THR:HG23 | 3:C:359:TYR:HB2  | 1.72                     | 0.70              |
| 1:I:89:GLY:HA2   | 1:I:92:SER:HB2   | 1.74                     | 0.70              |
| 1:I:192:VAL:HG11 | 1:I:396:LEU:HB3  | 1.74                     | 0.70              |
| 1:I:224:GLY:HA3  | 1:I:301:VAL:HG22 | 1.72                     | 0.70              |
| 3:K:202:GLU:OE2  | 3:K:221:ASN:ND2  | 2.25                     | 0.70              |
| 5:M:49:ARG:NH2   | 5:M:111:VAL:O    | 2.24                     | 0.70              |
| 5:M:470:PRO:HA   | 5:M:473:THR:HB   | 1.72                     | 0.70              |
| 6:N:123:PHE:HB3  | 6:N:509:THR:HG23 | 1.74                     | 0.70              |
| 1:A:19:SER:O     | 1:A:23:MET:N     | 2.21                     | 0.70              |
| 1:A:147:CYS:HB3  | 1:A:150:ASN:HB3  | 1.74                     | 0.70              |
| 3:C:218:VAL:HG11 | 3:C:322:ARG:HB3  | 1.72                     | 0.70              |
| 4:D:446:MET:SD   | 5:M:469:ASN:ND2  | 2.65                     | 0.70              |
| 1:I:119:SER:O    | 1:I:123:LEU:N    | 2.18                     | 0.70              |
| 4:D:189:ASN:OD1  | 4:D:193:LYS:NZ   | 2.25                     | 0.70              |
| 4:D:477:VAL:HG13 | 5:M:446:TYR:OH   | 1.92                     | 0.70              |
| 5:E:341:ILE:HB   | 7:G:301:GLN:NE2  | 2.07                     | 0.70              |
| 2:J:37:ASP:OD1   | 2:J:111:ARG:NH2  | 2.24                     | 0.70              |
| 5:M:133:ILE:HA   | 5:M:447:ALA:HB2  | 1.74                     | 0.70              |
| 6:N:90:ASP:OD1   | 6:N:91:GLY:N     | 2.25                     | 0.70              |
| 4:D:361:LEU:O    | 4:D:377:THR:N    | 2.20                     | 0.70              |
| 7:G:455:PHE:HB3  | 7:G:460:ILE:HG13 | 1.74                     | 0.70              |
| 1:I:397:CYS:O    | 1:I:401:ARG:N    | 2.24                     | 0.70              |
| 4:L:227:LEU:HD22 | 4:L:339:THR:HB   | 1.74                     | 0.70              |
| 4:D:209:LYS:HD2  | 4:D:227:LEU:HD22 | 1.73                     | 0.70              |
| 5:E:102:ILE:HD12 | 5:E:512:GLY:HA2  | 1.74                     | 0.70              |
| 5:E:530:ILE:HG13 | 5:E:532:ASP:H    | 1.57                     | 0.70              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 6:F:91:GLY:HA2   | 6:F:94:SER:HB2   | 1.73                     | 0.70              |
| 7:G:222:TYR:HB3  | 7:G:300:THR:HG21 | 1.73                     | 0.70              |
| 2:J:131:ARG:NH2  | 2:J:509:GLU:OE1  | 2.24                     | 0.70              |
| 3:K:230:ARG:NH2  | 3:K:233:ILE:O    | 2.24                     | 0.70              |
| 1:A:228:ARG:NH2  | 1:A:350:GLU:OE1  | 2.25                     | 0.69              |
| 5:E:160:LYS:O    | 5:E:164:PRO:HD2  | 1.91                     | 0.69              |
| 6:F:34:LEU:HA    | 6:F:37:ASN:HB3   | 1.74                     | 0.69              |
| 8:H:139:ALA:O    | 8:H:143:LEU:N    | 2.24                     | 0.69              |
| 8:H:207:ILE:HG21 | 8:H:356:GLY:HA3  | 1.73                     | 0.69              |
| 4:L:494:ASN:HD21 | 4:L:508:VAL:HB   | 1.57                     | 0.69              |
| 7:O:451:ASP:HB2  | 7:O:457:ALA:HB2  | 1.73                     | 0.69              |
| 14:6:30:ARG:HD2  | 14:6:90:TYR:HB3  | 1.74                     | 0.69              |
| 1:A:145:ARG:HG3  | 1:A:504:PHE:HB2  | 1.74                     | 0.69              |
| 6:F:88:THR:HG22  | 6:F:500:VAL:HA   | 1.74                     | 0.69              |
| 5:M:423:GLY:HA2  | 5:M:426:GLU:HB2  | 1.75                     | 0.69              |
| 6:N:220:ASP:HB2  | 6:N:306:SER:HB3  | 1.73                     | 0.69              |
| 7:O:140:ALA:HB2  | 7:O:496:ALA:HB2  | 1.74                     | 0.69              |
| 1:A:431:GLY:H    | 1:A:435:GLN:HB2  | 1.57                     | 0.69              |
| 2:B:285:HIS:HB3  | 2:B:343:LEU:HD11 | 1.74                     | 0.69              |
| 3:C:477:THR:OG1  | 3:C:489:ASP:OD1  | 2.09                     | 0.69              |
| 8:H:221:MET:HB2  | 8:H:363:PHE:HB2  | 1.74                     | 0.69              |
| 4:L:298:LEU:HB2  | 4:L:324:VAL:HG12 | 1.73                     | 0.69              |
| 5:M:533:ILE:HD13 | 7:O:48:LEU:HB3   | 1.74                     | 0.69              |
| 7:O:243:GLU:HG3  | 7:O:293:LEU:HD13 | 1.74                     | 0.69              |
| 7:O:306:ARG:HE   | 7:O:308:MET:HE2  | 1.55                     | 0.69              |
| 5:E:288:MET:SD   | 7:G:264:GLN:NE2  | 2.57                     | 0.69              |
| 8:H:348:ASP:H    | 8:H:365:HIS:HB3  | 1.56                     | 0.69              |
| 3:K:40:CYS:HA    | 3:K:46:MET:H     | 1.57                     | 0.69              |
| 5:M:112:LEU:HB2  | 5:M:458:ILE:HD11 | 1.74                     | 0.69              |
| 2:B:124:GLN:NE2  | 5:E:54:PRO:O     | 2.26                     | 0.69              |
| 5:E:536:PRO:HG2  | 5:E:538:GLU:HG2  | 1.74                     | 0.69              |
| 8:H:23:SER:HB2   | 8:H:32:ASN:HD21  | 1.57                     | 0.69              |
| 4:L:246:ILE:HG13 | 4:L:336:ILE:HD11 | 1.74                     | 0.69              |
| 6:N:127:LYS:HD3  | 6:N:509:THR:HB   | 1.74                     | 0.69              |
| 8:P:147:VAL:HG22 | 8:P:409:VAL:HG22 | 1.75                     | 0.69              |
| 8:P:409:VAL:N    | 8:P:499:ASP:O    | 2.25                     | 0.69              |
| 5:E:286:GLU:HA   | 5:E:289:ILE:HB   | 1.75                     | 0.69              |
| 6:F:205:SER:HB2  | 6:F:375:LEU:HB3  | 1.74                     | 0.69              |
| 6:F:239:TYR:H    | 6:F:267:ILE:HD11 | 1.58                     | 0.69              |
| 7:G:171:GLN:O    | 7:G:175:PHE:N    | 2.22                     | 0.69              |
| 8:H:52:MET:O     | 8:H:67:ASN:ND2   | 2.23                     | 0.69              |

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| Atom-1           | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 1:I:106:GLU:HA   | 4:L:470:GLY:HA3   | 1.74                     | 0.69              |
| 2:J:519:ASN:HD22 | 5:M:59:LYS:HE3    | 1.58                     | 0.69              |
| 6:N:292:ILE:HG12 | 6:N:313:LEU:HD12  | 1.74                     | 0.69              |
| 1:A:45:LEU:HD21  | 1:A:61:ILE:HB     | 1.75                     | 0.69              |
| 6:F:323:ARG:O    | 6:F:327:ALA:N     | 2.23                     | 0.69              |
| 2:J:39:VAL:HG11  | 2:J:67:GLY:HA2    | 1.74                     | 0.69              |
| 2:J:461:LEU:HD11 | 2:J:478:LEU:HG    | 1.75                     | 0.69              |
| 7:O:168:ILE:HD12 | 7:O:171:GLN:HB2   | 1.73                     | 0.69              |
| 13:5:36:LEU:HD21 | 13:5:113:GLN:HB3  | 1.73                     | 0.69              |
| 1:A:58:GLY:HA2   | 1:A:61:ILE:HG12   | 1.75                     | 0.69              |
| 1:A:210:LEU:HD11 | 1:A:373:ALA:HB1   | 1.73                     | 0.69              |
| 2:B:119:LYS:O    | 2:B:120:LYS:HG2   | 1.93                     | 0.69              |
| 3:C:204:ILE:HG21 | 3:C:377:ARG:HG2   | 1.73                     | 0.69              |
| 7:G:297:ASP:OD1  | 7:G:298:VAL:N     | 2.24                     | 0.69              |
| 7:G:419:TYR:O    | 7:G:423:TYR:N     | 2.26                     | 0.69              |
| 1:I:62:LEU:HD23  | 1:I:76:CYS:HA     | 1.74                     | 0.69              |
| 2:J:347:LYS:HG3  | 2:J:364:GLY:HA2   | 1.75                     | 0.69              |
| 4:L:222:GLU:OE2  | 4:L:391:ARG:NH2   | 2.26                     | 0.69              |
| 5:M:123:LEU:HD22 | 5:M:446:TYR:HB3   | 1.75                     | 0.69              |
| 11:3:82:LYS:HB2  | 11:3:148:LEU:HD13 | 1.73                     | 0.69              |
| 1:A:357:CYS:SG   | 1:A:378:ARG:NE    | 2.66                     | 0.69              |
| 3:C:208:ILE:HG13 | 3:C:210:GLU:H     | 1.56                     | 0.69              |
| 7:G:392:ALA:O    | 7:G:396:VAL:N     | 2.22                     | 0.69              |
| 7:G:418:LYS:HD3  | 7:G:465:ARG:HE    | 1.57                     | 0.69              |
| 2:J:201:ILE:HD13 | 2:J:373:ILE:HB    | 1.75                     | 0.69              |
| 2:J:445:MET:O    | 2:J:448:THR:OG1   | 2.11                     | 0.69              |
| 4:L:49:ARG:NH1   | 4:L:111:ILE:O     | 2.26                     | 0.69              |
| 2:B:178:HIS:NE2  | 2:B:212:SER:O     | 2.21                     | 0.69              |
| 2:B:337:HIS:HE1  | 5:E:238:GLN:HE22  | 1.41                     | 0.69              |
| 4:D:266:VAL:HG11 | 14:6:81:ASP:HB3   | 1.73                     | 0.69              |
| 7:G:200:VAL:H    | 7:G:382:MET:HE1   | 1.57                     | 0.69              |
| 4:L:132:ILE:O    | 4:L:136:SER:OG    | 2.10                     | 0.69              |
| 5:M:202:ARG:HH22 | 5:M:415:ASP:HB3   | 1.58                     | 0.69              |
| 4:D:483:ARG:O    | 4:D:487:GLY:N     | 2.25                     | 0.68              |
| 8:H:450:ARG:O    | 8:H:454:GLU:N     | 2.24                     | 0.68              |
| 1:I:228:ARG:HH12 | 1:I:353:GLN:HB2   | 1.58                     | 0.68              |
| 3:K:216:ARG:H    | 3:K:364:THR:HG23  | 1.58                     | 0.68              |
| 4:L:253:LEU:HB3  | 4:L:286:LEU:HD13  | 1.74                     | 0.68              |
| 1:A:388:MET:O    | 1:A:392:LEU:N     | 2.21                     | 0.68              |
| 1:A:521:ALA:O    | 1:A:525:LEU:N     | 2.25                     | 0.68              |
| 3:C:381:LYS:O    | 3:C:385:SER:N     | 2.25                     | 0.68              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 7:G:108:VAL:HG12 | 7:G:112:VAL:HG23 | 1.75                     | 0.68              |
| 8:H:161:SER:HA   | 8:H:164:LEU:HD12 | 1.74                     | 0.68              |
| 8:H:417:ILE:HG21 | 8:H:467:LEU:HB3  | 1.75                     | 0.68              |
| 4:L:253:LEU:HD22 | 4:L:286:LEU:HB3  | 1.76                     | 0.68              |
| 8:P:203:ARG:O    | 8:P:323:ARG:NH2  | 2.27                     | 0.68              |
| 11:3:100:SER:HA  | 11:3:118:PRO:HG3 | 1.76                     | 0.68              |
| 1:I:106:GLU:HA   | 4:L:471:LEU:H    | 1.58                     | 0.68              |
| 2:J:227:ASN:ND2  | 2:J:302:GLN:O    | 2.25                     | 0.68              |
| 3:K:368:ASP:HB2  | 3:K:370:LYS:HD3  | 1.74                     | 0.68              |
| 6:N:146:GLU:HA   | 6:N:149:ILE:HB   | 1.74                     | 0.68              |
| 8:P:423:ILE:HG21 | 8:P:441:PHE:HD2  | 1.59                     | 0.68              |
| 14:6:100:GLN:HA  | 14:6:103:GLN:HB2 | 1.75                     | 0.68              |
| 2:B:512:GLU:HA   | 2:B:515:LEU:HD12 | 1.76                     | 0.68              |
| 5:E:251:LEU:N    | 5:E:301:ILE:O    | 2.27                     | 0.68              |
| 3:K:193:ILE:HA   | 3:K:399:ARG:HB2  | 1.74                     | 0.68              |
| 5:M:165:LEU:HD22 | 5:M:409:ILE:HA   | 1.76                     | 0.68              |
| 6:N:330:GLY:HA3  | 6:N:345:GLY:HA2  | 1.75                     | 0.68              |
| 8:P:183:ILE:O    | 8:P:187:CYS:N    | 2.25                     | 0.68              |
| 1:A:96:ILE:HD11  | 1:A:448:ILE:HD11 | 1.75                     | 0.68              |
| 1:A:271:THR:HG22 | 1:A:275:ILE:HG13 | 1.76                     | 0.68              |
| 7:G:13:THR:N     | 7:G:523:PRO:HD3  | 2.08                     | 0.68              |
| 8:H:351:TYR:N    | 8:H:362:VAL:O    | 2.24                     | 0.68              |
| 1:A:392:LEU:HD22 | 1:A:393:HIS:HD2  | 1.58                     | 0.68              |
| 5:E:156:LEU:HB2  | 5:E:416:ASN:HB3  | 1.76                     | 0.68              |
| 5:E:165:LEU:O    | 5:E:169:ALA:N    | 2.17                     | 0.68              |
| 7:G:118:PRO:HB2  | 7:G:120:ILE:HG22 | 1.75                     | 0.68              |
| 1:I:179:ILE:HG23 | 1:I:181:TYR:HD2  | 1.57                     | 0.68              |
| 4:L:434:LEU:HD21 | 4:L:485:ALA:HA   | 1.73                     | 0.68              |
| 8:P:356:GLY:O    | 8:P:378:ARG:NH1  | 2.26                     | 0.68              |
| 12:4:57:ILE:HG13 | 12:4:80:GLN:HE22 | 1.58                     | 0.68              |
| 2:B:115:SER:O    | 2:B:119:LYS:N    | 2.26                     | 0.68              |
| 4:D:449:TYR:HD1  | 4:D:452:ARG:HH12 | 1.39                     | 0.68              |
| 2:J:288:ASN:OD1  | 2:J:289:CYS:N    | 2.24                     | 0.68              |
| 6:N:217:ARG:HE   | 6:N:352:GLU:HB3  | 1.59                     | 0.68              |
| 6:N:349:LEU:HB2  | 6:N:364:GLU:HB2  | 1.75                     | 0.68              |
| 1:A:98:ALA:HA    | 1:A:101:LEU:HB2  | 1.76                     | 0.68              |
| 1:A:498:ASN:HB3  | 1:A:504:PHE:CZ   | 2.28                     | 0.68              |
| 4:D:183:LEU:HD23 | 4:D:405:ILE:HG23 | 1.76                     | 0.68              |
| 4:D:512:LEU:O    | 4:D:516:VAL:N    | 2.23                     | 0.68              |
| 5:E:347:GLU:OE1  | 5:E:352:LYS:NZ   | 2.26                     | 0.68              |
| 1:I:18:ARG:HH21  | 4:L:468:ASN:HB3  | 1.59                     | 0.68              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 3:K:113:LEU:HD13 | 3:K:122:VAL:HG22 | 1.76                     | 0.68              |
| 3:K:238:ILE:HD11 | 3:K:324:ALA:HB2  | 1.74                     | 0.68              |
| 4:L:50:THR:OG1   | 4:L:468:ASN:ND2  | 2.27                     | 0.68              |
| 5:M:387:ILE:HD11 | 5:M:398:ALA:HB1  | 1.75                     | 0.68              |
| 8:P:197:PHE:HD2  | 8:P:400:LYS:HB2  | 1.57                     | 0.68              |
| 1:A:288:THR:O    | 1:A:310:ARG:N    | 2.27                     | 0.68              |
| 2:B:367:LEU:HB2  | 2:B:370:ALA:HB2  | 1.76                     | 0.68              |
| 3:C:355:ILE:HB   | 3:C:360:PHE:HE2  | 1.59                     | 0.68              |
| 4:D:209:LYS:NZ   | 4:D:332:ASP:OD1  | 2.21                     | 0.68              |
| 4:D:273:ASP:HA   | 4:D:276:LEU:HD12 | 1.74                     | 0.68              |
| 5:E:430:ALA:O    | 5:E:434:SER:N    | 2.27                     | 0.68              |
| 6:F:416:VAL:HG21 | 6:F:466:ILE:HG12 | 1.76                     | 0.68              |
| 7:O:444:ILE:HA   | 7:O:447:ARG:HB3  | 1.75                     | 0.68              |
| 9:1:41:LYS:NZ    | 9:1:88:GLU:OE1   | 2.27                     | 0.68              |
| 5:E:200:GLU:O    | 5:E:203:ASP:N    | 2.21                     | 0.68              |
| 7:G:398:ARG:HH21 | 7:G:494:GLU:HB2  | 1.58                     | 0.68              |
| 3:K:230:ARG:H    | 3:K:310:THR:HB   | 1.59                     | 0.68              |
| 2:B:213:TYR:O    | 2:B:374:VAL:N    | 2.27                     | 0.67              |
| 6:F:212:LEU:HD21 | 6:F:324:LEU:HD21 | 1.75                     | 0.67              |
| 8:H:464:ILE:O    | 8:H:468:TYR:N    | 2.27                     | 0.67              |
| 2:J:28:SER:HA    | 2:J:80:ALA:HB2   | 1.75                     | 0.67              |
| 3:K:152:MET:SD   | 3:K:181:LYS:NZ   | 2.67                     | 0.67              |
| 8:P:291:VAL:HB   | 8:P:312:LEU:HD23 | 1.75                     | 0.67              |
| 1:A:152:ALA:O    | 1:A:156:MET:N    | 2.24                     | 0.67              |
| 4:D:122:LYS:O    | 4:D:126:LYS:N    | 2.25                     | 0.67              |
| 4:D:483:ARG:HA   | 4:D:486:GLN:HB2  | 1.76                     | 0.67              |
| 7:G:37:ARG:HG3   | 7:G:448:GLN:HG3  | 1.76                     | 0.67              |
| 3:K:252:SER:H    | 3:K:270:MET:HG2  | 1.58                     | 0.67              |
| 6:N:38:LEU:HD13  | 6:N:450:VAL:HG11 | 1.76                     | 0.67              |
| 14:6:79:ARG:HA   | 14:6:82:TYR:HB2  | 1.76                     | 0.67              |
| 1:A:233:LYS:H    | 1:A:284:ASN:HD22 | 1.40                     | 0.67              |
| 1:A:410:PRO:HB2  | 1:A:486:ILE:HD11 | 1.76                     | 0.67              |
| 2:B:347:LYS:H    | 2:B:364:GLY:HA3  | 1.59                     | 0.67              |
| 6:F:217:ARG:NH1  | 6:F:297:ILE:O    | 2.28                     | 0.67              |
| 8:H:386:ASP:OD1  | 8:H:387:ASP:N    | 2.26                     | 0.67              |
| 2:J:151:ASP:O    | 2:J:155:PHE:N    | 2.20                     | 0.67              |
| 5:M:121:GLU:O    | 5:M:125:ASP:N    | 2.27                     | 0.67              |
| 5:M:201:ARG:HG3  | 5:M:203:ASP:H    | 1.60                     | 0.67              |
| 1:A:118:ILE:HG21 | 1:A:526:ARG:HH22 | 1.59                     | 0.67              |
| 1:A:124:ALA:HB1  | 1:A:423:LEU:HD21 | 1.76                     | 0.67              |
| 1:A:199:LYS:HG2  | 1:A:377:LEU:HB2  | 1.75                     | 0.67              |

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| Atom-1            | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 1:A:467:LEU:O     | 1:A:485:TRP:NE1  | 2.27                     | 0.67              |
| 3:C:195:ILE:HD11  | 3:C:198:TYR:CE2  | 2.28                     | 0.67              |
| 4:D:202:SER:OG    | 4:D:204:ASP:OD1  | 2.12                     | 0.67              |
| 7:G:182:ALA:H     | 7:G:210:LEU:HD11 | 1.57                     | 0.67              |
| 1:I:132:ILE:HD13  | 1:I:510:LYS:HB3  | 1.74                     | 0.67              |
| 4:L:253:LEU:HD21  | 4:L:290:ILE:HD11 | 1.76                     | 0.67              |
| 5:M:218:ARG:H     | 5:M:388:ARG:HE   | 1.43                     | 0.67              |
| 5:M:246:ALA:N     | 5:M:356:ALA:O    | 2.27                     | 0.67              |
| 4:D:229:LEU:HD22  | 4:D:336:ILE:HD11 | 1.75                     | 0.67              |
| 4:D:312:LEU:HD23  | 12:4:59:LEU:HB3  | 1.74                     | 0.67              |
| 8:H:277:ASP:OD1   | 8:H:308:TYR:OH   | 2.12                     | 0.67              |
| 4:L:96:LYS:O      | 4:L:100:ILE:N    | 2.24                     | 0.67              |
| 4:L:227:LEU:HB2   | 4:L:339:THR:HG21 | 1.76                     | 0.67              |
| 4:L:240:ARG:NH2   | 4:L:366:ASN:OD1  | 2.27                     | 0.67              |
| 4:L:479:GLU:O     | 4:L:483:ARG:N    | 2.27                     | 0.67              |
| 8:P:412:GLY:O     | 8:P:477:ASN:ND2  | 2.27                     | 0.67              |
| 8:P:417:ILE:HG21  | 8:P:467:LEU:HB3  | 1.75                     | 0.67              |
| 1:A:498:ASN:HA    | 1:A:502:GLY:HA3  | 1.75                     | 0.67              |
| 6:F:415:GLU:O     | 6:F:419:ALA:N    | 2.27                     | 0.67              |
| 8:H:235:LYS:HB3   | 8:H:349:SER:HA   | 1.77                     | 0.67              |
| 8:H:240:ALA:O     | 8:H:292:VAL:N    | 2.20                     | 0.67              |
| 2:J:49:ASP:HB2    | 4:L:531:LYS:HG2  | 1.77                     | 0.67              |
| 2:J:298:ASN:ND2   | 4:L:250:GLN:OE1  | 2.28                     | 0.67              |
| 11:3:85:LEU:HD12  | 11:3:144:LEU:HG  | 1.76                     | 0.67              |
| 1:A:181:TYR:CE1   | 1:A:195:VAL:HA   | 2.29                     | 0.67              |
| 2:B:406:THR:HA    | 2:B:496:SER:HA   | 1.77                     | 0.67              |
| 5:E:90:LEU:HD23   | 5:E:523:MET:HG3  | 1.76                     | 0.67              |
| 6:F:270:ARG:HD3   | 6:F:273:LYS:HD2  | 1.76                     | 0.67              |
| 2:J:415:MET:SD    | 2:J:462:VAL:HA   | 2.35                     | 0.67              |
| 6:N:154:THR:OG1   | 6:N:494:VAL:HA   | 1.94                     | 0.67              |
| 7:O:237:ILE:O     | 7:O:343:GLY:N    | 2.28                     | 0.67              |
| 8:P:37:LYS:NZ     | 8:P:113:GLU:OE1  | 2.26                     | 0.67              |
| 14:6:33:LEU:HB3   | 14:6:83:ILE:HG23 | 1.77                     | 0.67              |
| 1:A:143:LEU:HG    | 1:A:499:LYS:HB2  | 1.75                     | 0.67              |
| 2:B:458:SER:O     | 2:B:462:VAL:N    | 2.27                     | 0.67              |
| 6:F:42:GLY:O      | 8:H:520:ARG:NH2  | 2.28                     | 0.67              |
| 8:H:48:GLY:N      | 8:H:170:SER:HA   | 2.08                     | 0.67              |
| 1:I:150:ASN:HA    | 1:I:153:LYS:HB3  | 1.77                     | 0.67              |
| 3:K:415:GLU:OE1   | 3:K:506:TYR:OH   | 2.06                     | 0.67              |
| 7:O:289:VAL:HG21  | 7:O:303:PHE:HE1  | 1.58                     | 0.67              |
| 11:3:111:LEU:HD12 | 13:5:83:LEU:H    | 1.59                     | 0.67              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:154:LYS:O    | 2:B:158:ASP:N    | 2.22                     | 0.67              |
| 3:C:426:SER:HB2  | 3:C:434:GLN:HB2  | 1.77                     | 0.67              |
| 5:E:152:SER:HB2  | 5:E:419:VAL:HA   | 1.75                     | 0.67              |
| 8:H:219:HIS:HA   | 8:H:374:THR:H    | 1.59                     | 0.67              |
| 2:B:198:ALA:O    | 2:B:371:CYS:N    | 2.26                     | 0.67              |
| 5:E:61:MET:N     | 5:E:69:THR:O     | 2.21                     | 0.67              |
| 8:H:196:HIS:CE1  | 8:H:369:ASP:HA   | 2.30                     | 0.67              |
| 1:I:100:LEU:O    | 1:I:104:ALA:N    | 2.28                     | 0.67              |
| 7:O:183:VAL:O    | 7:O:187:ASP:N    | 2.25                     | 0.67              |
| 1:A:46:VAL:HA    | 1:A:52:VAL:HA    | 1.76                     | 0.66              |
| 2:B:227:ASN:HB3  | 2:B:302:GLN:HE22 | 1.59                     | 0.66              |
| 4:D:140:ALA:HB2  | 4:D:451:VAL:HG22 | 1.76                     | 0.66              |
| 4:D:220:ASP:O    | 4:D:391:ARG:NH1  | 2.27                     | 0.66              |
| 4:D:301:GLN:HE21 | 4:D:306:ARG:HB2  | 1.60                     | 0.66              |
| 5:E:250:ILE:HD13 | 5:E:333:ILE:HG23 | 1.77                     | 0.66              |
| 7:G:159:ALA:O    | 7:G:163:LEU:N    | 2.27                     | 0.66              |
| 4:L:434:LEU:HB3  | 4:L:489:LYS:HE2  | 1.76                     | 0.66              |
| 8:P:407:ARG:CD   | 8:P:501:TYR:HB3  | 2.26                     | 0.66              |
| 2:B:415:MET:HE3  | 2:B:462:VAL:HG13 | 1.76                     | 0.66              |
| 3:C:237:ARG:HE   | 3:C:340:GLU:HG3  | 1.59                     | 0.66              |
| 6:F:350:VAL:HG22 | 6:F:363:ILE:HG13 | 1.78                     | 0.66              |
| 7:G:33:ALA:HB1   | 7:G:99:LEU:HD23  | 1.76                     | 0.66              |
| 7:G:136:ILE:HD11 | 7:G:503:LEU:HD12 | 1.77                     | 0.66              |
| 7:G:463:LYS:O    | 7:G:467:ARG:N    | 2.21                     | 0.66              |
| 1:I:215:ALA:HB1  | 1:I:361:LEU:HB3  | 1.76                     | 0.66              |
| 5:M:167:GLN:HA   | 5:M:170:LYS:HD3  | 1.77                     | 0.66              |
| 6:N:230:ILE:HG21 | 6:N:324:LEU:HD21 | 1.77                     | 0.66              |
| 6:N:432:ARG:HA   | 6:N:435:LEU:HD12 | 1.77                     | 0.66              |
| 8:P:237:ALA:HB3  | 8:P:347:CYS:HB2  | 1.78                     | 0.66              |
| 8:P:408:LEU:HD23 | 8:P:498:LEU:HD22 | 1.77                     | 0.66              |
| 1:A:126:LYS:HB3  | 1:A:130:ARG:HH12 | 1.60                     | 0.66              |
| 4:D:27:ARG:O     | 4:D:31:ALA:N     | 2.28                     | 0.66              |
| 6:F:206:LEU:HD11 | 6:F:372:VAL:HG12 | 1.77                     | 0.66              |
| 8:H:40:ALA:O     | 8:H:44:ARG:N     | 2.21                     | 0.66              |
| 3:K:349:LEU:HB3  | 3:K:364:THR:HB   | 1.75                     | 0.66              |
| 2:B:222:LYS:HG3  | 2:B:315:ALA:HA   | 1.77                     | 0.66              |
| 5:E:289:ILE:O    | 5:E:293:LYS:N    | 2.24                     | 0.66              |
| 2:J:288:ASN:O    | 2:J:310:MET:N    | 2.27                     | 0.66              |
| 3:K:425:LYS:O    | 3:K:429:MET:N    | 2.21                     | 0.66              |
| 5:M:123:LEU:HD11 | 5:M:450:ALA:HB3  | 1.77                     | 0.66              |
| 6:N:20:LEU:HA    | 6:N:23:ASN:HD22  | 1.60                     | 0.66              |

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| Atom-1            | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 1:A:131:TYR:OH    | 1:A:475:GLN:OE1  | 2.07                     | 0.66              |
| 2:B:130:TRP:NE1   | 2:B:435:ALA:O    | 2.28                     | 0.66              |
| 2:B:228:GLN:HB3   | 2:B:310:MET:HA   | 1.78                     | 0.66              |
| 3:C:301:GLN:HB2   | 3:C:311:ALA:HB1  | 1.77                     | 0.66              |
| 4:D:459:GLU:HB2   | 4:D:477:VAL:HG21 | 1.78                     | 0.66              |
| 7:G:516:VAL:HG11  | 8:H:55:MET:H     | 1.60                     | 0.66              |
| 4:L:229:LEU:HD13  | 4:L:299:LEU:HD11 | 1.75                     | 0.66              |
| 7:O:155:LEU:HD11  | 7:O:184:MET:HG3  | 1.77                     | 0.66              |
| 1:A:235:ALA:O     | 1:A:287:LEU:N    | 2.27                     | 0.66              |
| 3:C:498:PRO:HD2   | 3:C:501:VAL:HB   | 1.78                     | 0.66              |
| 5:E:488:ALA:O     | 5:E:502:LYS:N    | 2.26                     | 0.66              |
| 7:G:222:TYR:H     | 7:G:225:PHE:HB2  | 1.60                     | 0.66              |
| 1:I:161:ILE:HG21  | 1:I:387:GLU:HB3  | 1.77                     | 0.66              |
| 4:L:482:ASN:HA    | 4:L:485:ALA:HB3  | 1.76                     | 0.66              |
| 5:M:198:ASP:HB2   | 5:M:201:ARG:HE   | 1.61                     | 0.66              |
| 6:N:31:GLN:NE2    | 6:N:96:VAL:O     | 2.29                     | 0.66              |
| 6:N:210:LEU:HB3   | 6:N:363:ILE:HD11 | 1.77                     | 0.66              |
| 6:N:430:LYS:HG2   | 6:N:431:GLY:H    | 1.60                     | 0.66              |
| 1:A:449:PRO:HB2   | 1:A:463:LEU:HD21 | 1.76                     | 0.66              |
| 2:B:520:ILE:HG12  | 5:E:60:MET:HB3   | 1.77                     | 0.66              |
| 3:C:59:MET:SD     | 6:F:518:VAL:HG11 | 2.35                     | 0.66              |
| 3:C:239:VAL:HG13  | 3:C:343:VAL:HG21 | 1.78                     | 0.66              |
| 5:E:111:VAL:O     | 5:E:115:ALA:N    | 2.29                     | 0.66              |
| 1:I:231:ASN:O     | 1:I:351:VAL:N    | 2.24                     | 0.66              |
| 5:M:535:LYS:HE3   | 5:M:540:GLU:HB2  | 1.76                     | 0.66              |
| 7:O:155:LEU:HB2   | 7:O:180:VAL:HG22 | 1.76                     | 0.66              |
| 7:O:163:LEU:HD22  | 7:O:168:ILE:HD11 | 1.78                     | 0.66              |
| 8:P:271:GLY:O     | 8:P:275:LEU:N    | 2.27                     | 0.66              |
| 8:P:472:GLN:HB2   | 8:P:476:LYS:HG2  | 1.76                     | 0.66              |
| 11:3:107:LEU:HD21 | 13:5:53:LEU:HD22 | 1.78                     | 0.66              |
| 3:C:185:PHE:O     | 3:C:191:LYS:NZ   | 2.28                     | 0.66              |
| 4:D:232:LYS:NZ    | 4:D:324:VAL:O    | 2.24                     | 0.66              |
| 5:E:285:PHE:HZ    | 5:E:310:ALA:HB1  | 1.61                     | 0.66              |
| 6:F:352:GLU:HA    | 6:F:361:THR:HA   | 1.76                     | 0.66              |
| 7:G:120:ILE:HG13  | 7:G:431:GLN:HG3  | 1.78                     | 0.66              |
| 1:I:475:GLN:HB3   | 1:I:484:LYS:HD3  | 1.76                     | 0.66              |
| 2:J:155:PHE:HA    | 2:J:158:ASP:HB3  | 1.77                     | 0.66              |
| 6:N:172:VAL:HG13  | 6:N:395:LEU:HA   | 1.78                     | 0.66              |
| 2:B:138:ARG:NH2   | 2:B:501:ARG:O    | 2.29                     | 0.66              |
| 5:E:177:VAL:HG13  | 5:E:178:VAL:H    | 1.60                     | 0.66              |
| 8:H:466:LYS:NZ    | 8:H:486:VAL:O    | 2.29                     | 0.66              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:I:2:GLU:HG2    | 1:I:20:GLN:HB2   | 1.77                     | 0.66              |
| 2:J:465:LEU:HA   | 2:J:468:ALA:HB3  | 1.78                     | 0.66              |
| 4:L:97:ALA:HB1   | 4:L:521:LEU:HD22 | 1.77                     | 0.66              |
| 5:M:44:VAL:HG12  | 5:M:110:VAL:HG11 | 1.77                     | 0.66              |
| 5:M:166:ILE:HA   | 5:M:186:ALA:HB1  | 1.78                     | 0.66              |
| 6:N:141:ARG:HD2  | 6:N:407:VAL:HG23 | 1.78                     | 0.66              |
| 4:D:157:LEU:HD13 | 4:D:416:VAL:HA   | 1.76                     | 0.66              |
| 7:G:520:ILE:HB   | 8:H:56:VAL:HA    | 1.77                     | 0.66              |
| 8:H:48:GLY:H     | 8:H:170:SER:CA   | 2.09                     | 0.66              |
| 2:J:250:LYS:NZ   | 2:J:277:GLU:OE1  | 2.28                     | 0.66              |
| 4:L:363:GLU:HB3  | 4:L:375:LYS:HB2  | 1.78                     | 0.66              |
| 10:2:34:ARG:HH12 | 13:5:20:ASN:HB3  | 1.60                     | 0.66              |
| 2:B:198:ALA:HA   | 2:B:326:VAL:HG12 | 1.78                     | 0.65              |
| 2:B:421:VAL:O    | 2:B:425:ALA:N    | 2.24                     | 0.65              |
| 3:C:131:ASP:O    | 3:C:135:SER:N    | 2.27                     | 0.65              |
| 4:D:492:GLY:N    | 4:D:501:SER:O    | 2.26                     | 0.65              |
| 5:E:463:SER:HB2  | 5:E:470:PRO:HA   | 1.77                     | 0.65              |
| 6:F:46:MET:HG3   | 6:F:56:LEU:HD13  | 1.78                     | 0.65              |
| 8:H:240:ALA:HA   | 8:H:341:LEU:HD21 | 1.78                     | 0.65              |
| 2:J:244:MET:HE2  | 2:J:278:LYS:HB3  | 1.78                     | 0.65              |
| 3:K:49:MET:HB2   | 6:N:518:VAL:HG13 | 1.77                     | 0.65              |
| 3:K:175:ILE:HG12 | 3:K:214:VAL:HA   | 1.77                     | 0.65              |
| 4:L:49:ARG:HE    | 4:L:464:THR:HB   | 1.60                     | 0.65              |
| 5:M:206:PHE:HA   | 5:M:209:ILE:HB   | 1.78                     | 0.65              |
| 5:M:301:ILE:HA   | 5:M:322:VAL:HB   | 1.78                     | 0.65              |
| 8:P:241:VAL:HG22 | 8:P:332:ALA:HB2  | 1.77                     | 0.65              |
| 1:A:22:VAL:HG22  | 1:A:101:LEU:HB3  | 1.77                     | 0.65              |
| 1:A:131:TYR:HA   | 1:A:134:GLU:HG2  | 1.78                     | 0.65              |
| 1:A:312:LEU:HB3  | 1:A:315:ASP:HB2  | 1.79                     | 0.65              |
| 3:C:239:VAL:HB   | 3:C:290:VAL:HG22 | 1.77                     | 0.65              |
| 4:D:179:TYR:O    | 4:D:183:LEU:N    | 2.26                     | 0.65              |
| 7:G:145:LYS:HD3  | 7:G:151:GLN:HB3  | 1.77                     | 0.65              |
| 7:G:148:LYS:HG3  | 7:G:149:VAL:HG13 | 1.79                     | 0.65              |
| 1:I:505:GLU:HB3  | 1:I:509:VAL:HG21 | 1.76                     | 0.65              |
| 4:L:482:ASN:O    | 4:L:486:GLN:N    | 2.24                     | 0.65              |
| 14:6:99:ARG:O    | 14:6:103:GLN:N   | 2.28                     | 0.65              |
| 1:A:78:LEU:HD11  | 1:A:516:PHE:HB3  | 1.77                     | 0.65              |
| 7:G:130:GLN:HA   | 7:G:133:VAL:HG22 | 1.77                     | 0.65              |
| 7:G:412:ILE:O    | 7:G:416:LEU:N    | 2.23                     | 0.65              |
| 8:H:73:LEU:HD23  | 8:H:76:LEU:HD12  | 1.76                     | 0.65              |
| 8:H:349:SER:O    | 8:H:364:LYS:N    | 2.27                     | 0.65              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:I:468:ARG:HA   | 1:I:471:HIS:HB2  | 1.77                     | 0.65              |
| 3:K:326:ALA:HB1  | 3:K:365:ASP:OD2  | 1.97                     | 0.65              |
| 6:N:279:ARG:NH1  | 6:N:284:ASP:OD2  | 2.29                     | 0.65              |
| 5:E:131:ILE:HA   | 7:G:43:ARG:HG2   | 1.77                     | 0.65              |
| 6:F:38:LEU:HG    | 6:F:451:LEU:HD11 | 1.79                     | 0.65              |
| 6:F:57:THR:OG1   | 6:F:66:GLU:OE2   | 2.12                     | 0.65              |
| 7:G:410:GLY:HA2  | 7:G:413:GLU:HB2  | 1.78                     | 0.65              |
| 8:H:283:ILE:HG22 | 8:H:310:ILE:HD13 | 1.78                     | 0.65              |
| 1:I:153:LYS:O    | 1:I:157:SER:N    | 2.19                     | 0.65              |
| 5:M:525:ARG:HE   | 5:M:529:LYS:HD2  | 1.59                     | 0.65              |
| 6:N:351:TYR:O    | 6:N:362:PHE:N    | 2.29                     | 0.65              |
| 7:O:205:LEU:HD23 | 7:O:377:GLY:HA2  | 1.79                     | 0.65              |
| 8:P:306:ASN:O    | 8:P:309:ASN:ND2  | 2.29                     | 0.65              |
| 2:B:497:PHE:CE2  | 2:B:501:ARG:HD3  | 2.32                     | 0.65              |
| 3:C:141:SER:HA   | 3:C:408:VAL:HB   | 1.78                     | 0.65              |
| 3:C:198:TYR:CD1  | 3:C:325:ARG:HD2  | 2.24                     | 0.65              |
| 5:E:308:ASP:HA   | 5:E:311:ASN:HB2  | 1.78                     | 0.65              |
| 8:H:82:ALA:O     | 8:H:86:ILE:N     | 2.22                     | 0.65              |
| 2:J:130:TRP:CD1  | 2:J:439:TYR:HB2  | 2.31                     | 0.65              |
| 6:N:133:PHE:HA   | 6:N:136:GLU:HB3  | 1.79                     | 0.65              |
| 6:N:409:PRO:HA   | 6:N:495:TRP:HA   | 1.79                     | 0.65              |
| 7:O:240:LEU:HB2  | 7:O:291:SER:HA   | 1.78                     | 0.65              |
| 8:P:151:ALA:H    | 8:P:408:LEU:HD13 | 1.62                     | 0.65              |
| 11:3:83:GLN:HE21 | 11:3:87:ILE:HG13 | 1.60                     | 0.65              |
| 1:A:238:ASP:OD2  | 1:A:313:LYS:NZ   | 2.30                     | 0.65              |
| 4:D:132:ILE:HA   | 4:D:135:GLU:HG2  | 1.78                     | 0.65              |
| 4:D:271:GLN:O    | 4:D:275:VAL:N    | 2.29                     | 0.65              |
| 5:E:191:ASN:HA   | 5:E:194:LEU:HB2  | 1.79                     | 0.65              |
| 5:E:424:ALA:HB1  | 5:E:487:PRO:HG2  | 1.78                     | 0.65              |
| 7:G:402:ASN:HB3  | 7:G:495:PRO:HB3  | 1.77                     | 0.65              |
| 8:H:421:LYS:NZ   | 8:H:468:TYR:HA   | 2.11                     | 0.65              |
| 1:I:15:GLU:HG3   | 1:I:18:ARG:HB2   | 1.77                     | 0.65              |
| 6:N:223:LYS:NZ   | 6:N:352:GLU:O    | 2.29                     | 0.65              |
| 14:6:65:VAL:HG12 | 14:6:67:GLN:HE21 | 1.61                     | 0.65              |
| 1:A:140:THR:OG1  | 1:A:144:GLY:O    | 2.13                     | 0.65              |
| 2:B:348:LEU:HB3  | 2:B:363:SER:HB2  | 1.79                     | 0.65              |
| 7:G:340:ASP:HA   | 7:G:344:ARG:HH12 | 1.61                     | 0.65              |
| 4:L:193:LYS:HD2  | 4:L:225:GLU:HG3  | 1.79                     | 0.65              |
| 7:O:30:GLN:HG2   | 7:O:102:ALA:HB1  | 1.78                     | 0.65              |
| 3:C:30:ALA:HB2   | 3:C:80:MET:HG3   | 1.79                     | 0.65              |
| 5:E:477:VAL:HA   | 5:E:480:ARG:HB2  | 1.79                     | 0.65              |

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| Atom-1           | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 5:E:480:ARG:HH12 | 5:E:499:ASN:HB2   | 1.61                     | 0.65              |
| 8:H:284:ALA:HB2  | 8:H:308:TYR:HB3   | 1.78                     | 0.65              |
| 1:I:101:LEU:HD23 | 1:I:520:ALA:HB1   | 1.79                     | 0.65              |
| 2:J:457:ASP:OD2  | 2:J:460:ASP:N     | 2.28                     | 0.65              |
| 8:P:296:LYS:HE3  | 8:P:315:LEU:HG    | 1.77                     | 0.65              |
| 9:1:51:ILE:HD13  | 10:2:80:GLU:HB3   | 1.79                     | 0.65              |
| 2:B:19:GLU:HB2   | 2:B:520:ILE:HB    | 1.78                     | 0.65              |
| 3:C:515:LEU:HA   | 3:C:518:ARG:HE    | 1.61                     | 0.65              |
| 4:D:226:GLY:HA3  | 4:D:376:ILE:HG22  | 1.78                     | 0.65              |
| 5:E:102:ILE:HD13 | 5:E:411:ASN:HD21  | 1.62                     | 0.65              |
| 1:I:393:HIS:O    | 1:I:397:CYS:N     | 2.25                     | 0.65              |
| 3:K:94:GLY:HA3   | 3:K:505:THR:HG22  | 1.78                     | 0.65              |
| 6:N:425:HIS:CE1  | 6:N:434:GLN:HG2   | 2.32                     | 0.65              |
| 3:C:184:GLN:HG3  | 3:C:193:ILE:HD12  | 1.79                     | 0.65              |
| 4:D:336:ILE:HG23 | 4:D:340:ILE:HD11  | 1.78                     | 0.65              |
| 4:D:440:SER:OG   | 4:D:448:SER:O     | 2.14                     | 0.65              |
| 4:D:479:GLU:O    | 4:D:483:ARG:N     | 2.24                     | 0.65              |
| 5:E:62:VAL:HG22  | 5:E:68:VAL:HG22   | 1.79                     | 0.65              |
| 7:G:108:VAL:O    | 7:G:112:VAL:N     | 2.27                     | 0.65              |
| 7:G:183:VAL:HG13 | 7:G:397:ARG:HD2   | 1.78                     | 0.65              |
| 7:G:245:GLU:HA   | 7:G:296:GLY:H     | 1.60                     | 0.65              |
| 3:K:395:MET:HA   | 3:K:398:CYS:HB2   | 1.79                     | 0.65              |
| 5:M:176:LYS:HB3  | 5:M:397:GLU:HG3   | 1.79                     | 0.65              |
| 6:N:45:LYS:HA    | 8:P:522:ASP:HB2   | 1.77                     | 0.65              |
| 6:N:148:LEU:HD13 | 6:N:176:ILE:HD11  | 1.79                     | 0.65              |
| 6:N:271:VAL:HG23 | 6:N:305:LEU:HD23  | 1.79                     | 0.65              |
| 6:N:449:LYS:O    | 6:N:453:GLN:N     | 2.30                     | 0.65              |
| 8:P:51:GLY:HA3   | 8:P:67:ASN:HB3    | 1.79                     | 0.65              |
| 13:5:94:LYS:HE2  | 13:5:102:PHE:CE2  | 2.32                     | 0.65              |
| 13:5:104:LYS:HA  | 13:5:107:ILE:HD12 | 1.80                     | 0.65              |
| 3:C:69:GLU:HB3   | 6:F:524:ALA:HB1   | 1.79                     | 0.64              |
| 4:D:496:ARG:NE   | 4:D:506:GLU:OE1   | 2.30                     | 0.64              |
| 6:F:118:ILE:HG13 | 6:F:121:GLU:OE2   | 1.97                     | 0.64              |
| 6:F:296:GLY:HA2  | 6:F:314:ARG:HB2   | 1.79                     | 0.64              |
| 8:H:186:ALA:HB2  | 8:H:217:VAL:HG21  | 1.78                     | 0.64              |
| 6:N:463:LEU:O    | 6:N:467:GLN:N     | 2.28                     | 0.64              |
| 1:A:465:ALA:HB1  | 7:O:428:PRO:HB2   | 1.78                     | 0.64              |
| 2:B:206:GLY:HA3  | 2:B:356:GLU:HG2   | 1.79                     | 0.64              |
| 3:C:20:ARG:O     | 3:C:24:SER:N      | 2.29                     | 0.64              |
| 3:C:172:ALA:O    | 3:C:176:ALA:N     | 2.24                     | 0.64              |
| 4:D:244:ALA:HB1  | 4:D:297:VAL:HG23  | 1.78                     | 0.64              |

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| Atom-1           | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 6:F:179:ILE:HD12 | 6:F:182:GLN:HB2   | 1.80                     | 0.64              |
| 6:F:190:MET:HG2  | 6:F:372:VAL:N     | 2.07                     | 0.64              |
| 7:G:33:ALA:HA    | 7:G:36:VAL:HG22   | 1.79                     | 0.64              |
| 7:G:111:TYR:O    | 7:G:115:GLY:N     | 2.29                     | 0.64              |
| 7:G:524:ARG:NH2  | 8:H:75:GLU:OE1    | 2.29                     | 0.64              |
| 4:L:56:GLY:H     | 4:L:469:ALA:HB2   | 1.62                     | 0.64              |
| 8:P:202:ILE:HA   | 8:P:373:SER:HB3   | 1.79                     | 0.64              |
| 1:A:121:TYR:HD1  | 1:A:441:PHE:HB2   | 1.62                     | 0.64              |
| 1:A:317:LYS:HA   | 1:A:320:ALA:HB3   | 1.78                     | 0.64              |
| 3:C:141:SER:HB3  | 3:C:499:LEU:HB2   | 1.78                     | 0.64              |
| 5:E:502:LYS:HG3  | 5:E:503:GLN:HG3   | 1.78                     | 0.64              |
| 6:F:110:ILE:HG13 | 6:F:119:ILE:HD11  | 1.78                     | 0.64              |
| 6:F:133:PHE:HA   | 6:F:136:GLU:HB2   | 1.80                     | 0.64              |
| 6:F:153:ARG:O    | 6:F:157:ARG:N     | 2.21                     | 0.64              |
| 7:G:288:VAL:HA   | 7:G:309:PHE:HB3   | 1.79                     | 0.64              |
| 8:H:418:GLU:OE2  | 8:H:474:GLY:N     | 2.31                     | 0.64              |
| 1:A:47:ASP:N     | 1:A:51:ASP:O      | 2.25                     | 0.64              |
| 2:B:423:GLN:OE1  | 2:B:426:ASN:ND2   | 2.31                     | 0.64              |
| 4:D:49:ARG:HA    | 4:D:111:ILE:HD12  | 1.79                     | 0.64              |
| 5:E:535:LYS:HB3  | 7:G:49:ILE:HD12   | 1.79                     | 0.64              |
| 6:F:415:GLU:HA   | 6:F:418:MET:HB3   | 1.80                     | 0.64              |
| 1:I:75:LEU:HD11  | 1:I:94:VAL:HA     | 1.79                     | 0.64              |
| 1:I:99:GLU:O     | 1:I:103:ASN:N     | 2.30                     | 0.64              |
| 2:J:126:ILE:HG22 | 2:J:515:LEU:HD11  | 1.80                     | 0.64              |
| 3:K:200:ARG:HE   | 3:K:371:ALA:HB1   | 1.63                     | 0.64              |
| 3:K:296:ILE:HD11 | 3:K:311:ALA:HB1   | 1.79                     | 0.64              |
| 12:4:40:ILE:HD11 | 12:4:105:VAL:HG21 | 1.79                     | 0.64              |
| 3:C:39:THR:O     | 3:C:46:MET:N      | 2.19                     | 0.64              |
| 3:C:155:ILE:HD11 | 3:C:407:LEU:HB3   | 1.79                     | 0.64              |
| 3:C:213:CYS:O    | 3:C:375:LEU:N     | 2.29                     | 0.64              |
| 4:L:37:ASN:HB3   | 4:L:529:ILE:HD12  | 1.79                     | 0.64              |
| 4:L:218:ILE:HA   | 4:L:221:CYS:SG    | 2.37                     | 0.64              |
| 5:M:201:ARG:NH1  | 5:M:205:ASP:OD2   | 2.31                     | 0.64              |
| 5:M:364:PHE:HE2  | 5:M:371:MET:HG3   | 1.62                     | 0.64              |
| 6:N:191:ILE:O    | 6:N:323:ARG:NH2   | 2.31                     | 0.64              |
| 7:O:444:ILE:HD13 | 7:O:447:ARG:HD2   | 1.80                     | 0.64              |
| 8:P:97:VAL:HG12  | 8:P:99:ASP:H      | 1.61                     | 0.64              |
| 2:B:444:ARG:HD3  | 2:B:466:ARG:HH21  | 1.61                     | 0.64              |
| 5:E:191:ASN:O    | 5:E:195:THR:N     | 2.30                     | 0.64              |
| 5:E:284:LYS:HE3  | 5:E:288:MET:HE2   | 1.80                     | 0.64              |
| 6:F:419:ALA:O    | 6:F:423:ILE:N     | 2.30                     | 0.64              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 7:G:102:ALA:O    | 7:G:106:LYS:N    | 2.28                     | 0.64              |
| 8:H:155:ARG:HH11 | 8:H:189:SER:HB2  | 1.61                     | 0.64              |
| 1:I:18:ARG:CZ    | 4:L:57:MET:H     | 2.11                     | 0.64              |
| 6:N:210:LEU:HD13 | 6:N:323:ARG:HB2  | 1.79                     | 0.64              |
| 7:O:257:VAL:HG22 | 7:O:258:HIS:H    | 1.62                     | 0.64              |
| 8:P:109:GLY:HA2  | 8:P:112:LEU:HB3  | 1.80                     | 0.64              |
| 1:A:482:ASN:OD1  | 1:A:483:LEU:N    | 2.29                     | 0.64              |
| 2:B:427:ARG:HH12 | 2:J:419:HIS:CE1  | 2.16                     | 0.64              |
| 2:B:461:LEU:HB3  | 2:B:478:LEU:HD22 | 1.79                     | 0.64              |
| 4:D:528:SER:O    | 4:D:532:ILE:N    | 2.28                     | 0.64              |
| 1:I:466:LYS:HD3  | 1:I:495:PRO:HD2  | 1.80                     | 0.64              |
| 2:J:71:LEU:HB3   | 2:J:85:VAL:HG13  | 1.78                     | 0.64              |
| 3:K:215:LEU:HB3  | 3:K:375:LEU:H    | 1.61                     | 0.64              |
| 3:K:230:ARG:HD2  | 3:K:289:VAL:HG22 | 1.80                     | 0.64              |
| 4:L:221:CYS:SG   | 4:L:391:ARG:N    | 2.64                     | 0.64              |
| 5:M:212:GLU:HB3  | 5:M:384:THR:HG23 | 1.78                     | 0.64              |
| 5:M:334:ALA:O    | 5:M:339:GLY:N    | 2.30                     | 0.64              |
| 1:A:122:ARG:HH22 | 1:A:519:GLU:HA   | 1.62                     | 0.64              |
| 5:E:307:ASP:O    | 5:E:311:ASN:N    | 2.28                     | 0.64              |
| 5:E:397:GLU:HA   | 5:E:400:ARG:HB3  | 1.78                     | 0.64              |
| 8:H:157:ILE:HA   | 8:H:184:ALA:HB1  | 1.80                     | 0.64              |
| 1:I:111:LYS:HE3  | 1:I:113:HIS:HA   | 1.80                     | 0.64              |
| 1:I:431:GLY:HA2  | 1:I:435:GLN:HB2  | 1.79                     | 0.64              |
| 3:K:298:ASP:O    | 3:K:302:HIS:ND1  | 2.19                     | 0.64              |
| 6:N:233:CYS:HB3  | 6:N:336:PHE:CE1  | 2.32                     | 0.64              |
| 9:1:59:ASN:ND2   | 13:5:61:GLU:OE1  | 2.31                     | 0.64              |
| 2:B:25:ARG:HG3   | 2:B:29:PHE:CE2   | 2.32                     | 0.64              |
| 2:B:124:GLN:OE1  | 2:B:131:ARG:NH2  | 2.31                     | 0.64              |
| 2:B:427:ARG:HH12 | 2:J:419:HIS:HE1  | 1.46                     | 0.64              |
| 2:B:509:GLU:O    | 2:B:513:VAL:N    | 2.27                     | 0.64              |
| 3:C:175:ILE:HD12 | 3:C:213:CYS:HA   | 1.80                     | 0.64              |
| 4:D:245:LYS:HB2  | 4:D:296:ASN:H    | 1.61                     | 0.64              |
| 5:E:489:LEU:HB2  | 5:E:500:ASP:HA   | 1.79                     | 0.64              |
| 5:E:531:ASP:HB2  | 7:G:38:THR:O     | 1.97                     | 0.64              |
| 6:F:170:GLU:O    | 6:F:174:ASP:N    | 2.27                     | 0.64              |
| 1:I:347:GLN:HB3  | 1:I:368:LYS:HD2  | 1.79                     | 0.64              |
| 3:K:185:PHE:HZ   | 3:K:195:ILE:H    | 1.46                     | 0.64              |
| 5:M:103:GLY:HA3  | 5:M:408:VAL:HG23 | 1.78                     | 0.64              |
| 6:N:434:GLN:HE21 | 6:N:438:GLN:HB2  | 1.63                     | 0.64              |
| 7:O:142:THR:HA   | 7:O:404:SER:HA   | 1.79                     | 0.64              |
| 5:E:226:LYS:HA   | 5:E:383:VAL:HG22 | 1.80                     | 0.64              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 5:E:254:PRO:HG3  | 7:G:264:GLN:HG2  | 1.80                     | 0.64              |
| 5:E:409:ILE:HA   | 5:E:412:LEU:HG   | 1.80                     | 0.64              |
| 8:H:49:PRO:HB3   | 8:H:173:TYR:HD1  | 1.63                     | 0.64              |
| 1:I:46:VAL:HA    | 1:I:52:VAL:HG12  | 1.79                     | 0.64              |
| 1:I:427:ALA:HA   | 1:I:438:ILE:HB   | 1.80                     | 0.64              |
| 4:L:48:ILE:HG13  | 4:L:110:VAL:HG12 | 1.80                     | 0.64              |
| 4:L:249:ILE:HG12 | 4:L:298:LEU:HD22 | 1.79                     | 0.64              |
| 5:M:77:ILE:O     | 5:M:81:MET:N     | 2.21                     | 0.64              |
| 6:N:490:ALA:HA   | 6:N:495:TRP:HE1  | 1.63                     | 0.64              |
| 8:P:472:GLN:O    | 8:P:475:ASN:ND2  | 2.25                     | 0.64              |
| 2:B:162:ILE:HD11 | 2:B:406:THR:HG22 | 1.80                     | 0.63              |
| 5:E:34:LEU:O     | 5:E:38:ILE:HG12  | 1.97                     | 0.63              |
| 1:I:423:LEU:HA   | 1:I:426:TYR:HB3  | 1.80                     | 0.63              |
| 1:A:225:MET:HB2  | 1:A:301:VAL:HG12 | 1.79                     | 0.63              |
| 2:B:408:TYR:HA   | 2:B:494:THR:HG23 | 1.79                     | 0.63              |
| 6:F:31:GLN:HB3   | 6:F:97:LEU:HD23  | 1.80                     | 0.63              |
| 6:F:84:GLN:NE2   | 6:F:504:LEU:HB3  | 2.13                     | 0.63              |
| 1:I:529:ASP:HA   | 4:L:48:ILE:O     | 1.98                     | 0.63              |
| 3:K:137:LEU:HD21 | 3:K:502:LYS:HB2  | 1.80                     | 0.63              |
| 6:N:466:ILE:HG23 | 6:N:477:VAL:HG13 | 1.79                     | 0.63              |
| 14:6:30:ARG:HG3  | 14:6:87:ILE:O    | 1.97                     | 0.63              |
| 2:B:148:HIS:H    | 2:B:405:ARG:HA   | 1.64                     | 0.63              |
| 3:C:327:CYS:O    | 3:C:345:THR:OG1  | 2.16                     | 0.63              |
| 5:E:165:LEU:HD13 | 5:E:190:VAL:HB   | 1.79                     | 0.63              |
| 5:E:355:PHE:HB3  | 5:E:378:LYS:HD2  | 1.78                     | 0.63              |
| 1:I:70:PRO:HB2   | 1:I:524:ILE:HD11 | 1.80                     | 0.63              |
| 1:I:422:TYR:CZ   | 1:I:476:VAL:HA   | 2.33                     | 0.63              |
| 1:I:433:ARG:NH2  | 4:L:475:SER:OG   | 2.31                     | 0.63              |
| 4:L:217:THR:H    | 4:L:220:ASP:HB3  | 1.62                     | 0.63              |
| 5:M:87:ILE:O     | 5:M:91:MET:N     | 2.30                     | 0.63              |
| 6:N:84:GLN:HB3   | 6:N:92:THR:HG22  | 1.79                     | 0.63              |
| 4:D:137:PHE:HA   | 4:D:140:ALA:HB3  | 1.80                     | 0.63              |
| 5:E:73:ASP:OD2   | 5:E:400:ARG:NE   | 2.29                     | 0.63              |
| 5:E:337:THR:HB   | 5:E:355:PHE:HB2  | 1.81                     | 0.63              |
| 8:H:448:ILE:HA   | 8:H:451:ALA:HB3  | 1.80                     | 0.63              |
| 8:H:465:SER:HB3  | 3:K:435:TRP:HE1  | 1.62                     | 0.63              |
| 1:I:33:LYS:HE3   | 1:I:95:ILE:HG23  | 1.80                     | 0.63              |
| 1:I:412:GLY:HA3  | 1:I:488:LEU:HB3  | 1.79                     | 0.63              |
| 3:K:218:VAL:HB   | 3:K:371:ALA:H    | 1.63                     | 0.63              |
| 5:M:76:THR:OG1   | 5:M:400:ARG:NH1  | 2.31                     | 0.63              |
| 5:M:427:ILE:HD11 | 5:M:474:MET:HB3  | 1.81                     | 0.63              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:425:ALA:HB2  | 2:B:436:MET:HG2  | 1.81                     | 0.63              |
| 3:C:213:CYS:N    | 3:C:375:LEU:O    | 2.24                     | 0.63              |
| 5:E:422:GLY:H    | 5:E:501:MET:HE3  | 1.63                     | 0.63              |
| 6:F:203:ASP:HB2  | 6:F:377:LYS:HB2  | 1.81                     | 0.63              |
| 1:I:132:ILE:HD12 | 1:I:514:LEU:HD11 | 1.80                     | 0.63              |
| 1:I:349:GLU:OE1  | 1:I:366:ASN:ND2  | 2.31                     | 0.63              |
| 2:J:159:LEU:HB3  | 2:J:184:VAL:HG22 | 1.81                     | 0.63              |
| 5:M:289:ILE:HB   | 5:M:317:ASN:HD22 | 1.64                     | 0.63              |
| 8:P:62:LYS:HE3   | 8:P:64:PHE:HE1   | 1.63                     | 0.63              |
| 8:P:286:THR:HG21 | 8:P:338:PRO:HB3  | 1.80                     | 0.63              |
| 9:1:68:PHE:O     | 13:5:63:LEU:N    | 2.24                     | 0.63              |
| 11:3:126:TRP:HA  | 11:3:132:MET:HE2 | 1.80                     | 0.63              |
| 1:A:476:VAL:HG13 | 1:A:486:ILE:HA   | 1.80                     | 0.63              |
| 3:C:407:LEU:HD13 | 3:C:496:TRP:CZ3  | 2.34                     | 0.63              |
| 3:C:480:VAL:HB   | 3:C:487:LEU:HD23 | 1.78                     | 0.63              |
| 5:E:47:THR:HG22  | 5:E:59:LYS:HE2   | 1.80                     | 0.63              |
| 7:G:349:GLU:HB2  | 7:G:360:PHE:HB2  | 1.81                     | 0.63              |
| 8:H:153:ASN:N    | 8:H:159:GLU:OE1  | 2.31                     | 0.63              |
| 1:I:159:LYS:HE3  | 1:I:394:ASP:HB2  | 1.81                     | 0.63              |
| 1:I:449:PRO:HA   | 1:I:452:LEU:HB2  | 1.80                     | 0.63              |
| 3:K:378:GLY:HA3  | 3:K:383:ILE:HG13 | 1.79                     | 0.63              |
| 5:M:243:VAL:HG21 | 5:M:299:LEU:HB2  | 1.80                     | 0.63              |
| 7:O:90:VAL:HG21  | 7:O:498:VAL:HA   | 1.81                     | 0.63              |
| 11:3:135:TYR:HD1 | 11:3:139:GLU:HG3 | 1.63                     | 0.63              |
| 1:A:161:ILE:HG21 | 1:A:388:MET:HG2  | 1.81                     | 0.63              |
| 4:D:136:SER:O    | 4:D:140:ALA:N    | 2.17                     | 0.63              |
| 5:E:50:THR:HA    | 5:E:465:ASN:HB3  | 1.79                     | 0.63              |
| 5:E:193:VAL:HG13 | 5:E:204:VAL:HG11 | 1.79                     | 0.63              |
| 8:H:313:VAL:HG13 | 8:H:361:VAL:HG21 | 1.80                     | 0.63              |
| 1:I:526:ARG:HA   | 4:L:54:PRO:HA    | 1.81                     | 0.63              |
| 2:J:155:PHE:O    | 2:J:159:LEU:N    | 2.31                     | 0.63              |
| 6:N:451:LEU:HD13 | 6:N:481:LEU:HA   | 1.81                     | 0.63              |
| 2:B:479:ASP:O    | 2:B:483:GLY:N    | 2.32                     | 0.63              |
| 3:C:211:ASP:OD2  | 3:C:377:ARG:NH1  | 2.30                     | 0.63              |
| 3:C:514:VAL:O    | 3:C:518:ARG:N    | 2.25                     | 0.63              |
| 4:D:291:LYS:HB2  | 4:D:322:ILE:HD11 | 1.81                     | 0.63              |
| 6:F:43:THR:HB    | 8:H:520:ARG:HB3  | 1.81                     | 0.63              |
| 1:I:104:ALA:HA   | 1:I:121:TYR:CE2  | 2.34                     | 0.63              |
| 7:O:104:PHE:HE2  | 7:O:507:SER:HA   | 1.62                     | 0.63              |
| 8:P:160:VAL:HG22 | 8:P:402:LEU:HD21 | 1.81                     | 0.63              |
| 1:A:103:ASN:ND2  | 1:A:444:SER:HG   | 1.95                     | 0.63              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:382:ASP:O    | 1:A:386:ASP:N    | 2.31                     | 0.63              |
| 3:C:149:SER:O    | 3:C:153:LEU:N    | 2.27                     | 0.63              |
| 3:C:214:VAL:HG12 | 3:C:374:ILE:HG12 | 1.80                     | 0.63              |
| 3:C:291:ILE:HA   | 3:C:312:ILE:HB   | 1.80                     | 0.63              |
| 4:D:415:LEU:HB2  | 4:D:511:PRO:HB3  | 1.81                     | 0.63              |
| 5:E:90:LEU:O     | 5:E:94:LEU:N     | 2.23                     | 0.63              |
| 5:E:330:ILE:HD13 | 5:E:341:ILE:HG21 | 1.81                     | 0.63              |
| 5:E:331:GLU:HA   | 5:E:341:ILE:HD11 | 1.80                     | 0.63              |
| 6:F:478:GLY:N    | 6:F:487:MET:O    | 2.32                     | 0.63              |
| 1:I:410:PRO:HG3  | 1:I:486:ILE:HG23 | 1.81                     | 0.63              |
| 2:J:101:SER:HB3  | 2:J:503:VAL:HB   | 1.81                     | 0.63              |
| 4:L:254:SER:HB2  | 4:L:347:HIS:CE1  | 2.33                     | 0.63              |
| 4:D:191:VAL:HA   | 4:D:194:VAL:HG22 | 1.81                     | 0.62              |
| 4:D:250:GLN:HA   | 4:D:301:GLN:HE22 | 1.63                     | 0.62              |
| 6:F:17:GLN:O     | 6:F:21:ALA:N     | 2.28                     | 0.62              |
| 6:F:34:LEU:HD11  | 6:F:96:VAL:HB    | 1.80                     | 0.62              |
| 6:F:408:VAL:O    | 6:F:496:ASP:N    | 2.27                     | 0.62              |
| 7:G:481:ASN:HD21 | 7:G:490:ALA:HB1  | 1.63                     | 0.62              |
| 3:K:446:VAL:O    | 3:K:450:THR:N    | 2.31                     | 0.62              |
| 7:O:518:GLU:HB3  | 8:P:54:LYS:HG3   | 1.79                     | 0.62              |
| 9:1:17:GLN:HE21  | 13:5:125:HIS:HB3 | 1.64                     | 0.62              |
| 2:B:35:ILE:HG13  | 2:B:81:ALA:HB1   | 1.80                     | 0.62              |
| 4:D:289:GLN:HA   | 4:D:292:LYS:HB2  | 1.80                     | 0.62              |
| 6:F:233:CYS:O    | 6:F:293:ASN:HA   | 1.98                     | 0.62              |
| 7:G:38:THR:HB    | 7:G:448:GLN:HB3  | 1.82                     | 0.62              |
| 7:G:157:LYS:O    | 7:G:161:THR:N    | 2.31                     | 0.62              |
| 7:G:464:LEU:HD21 | 7:G:484:ILE:HB   | 1.79                     | 0.62              |
| 1:I:18:ARG:NE    | 4:L:468:ASN:O    | 2.32                     | 0.62              |
| 7:O:216:PHE:HB2  | 7:O:359:ASN:HB2  | 1.80                     | 0.62              |
| 14:6:68:GLU:O    | 14:6:72:ALA:N    | 2.27                     | 0.62              |
| 1:A:233:LYS:NZ   | 1:A:347:GLN:HE21 | 1.97                     | 0.62              |
| 5:E:48:MET:SD    | 5:E:59:LYS:NZ    | 2.67                     | 0.62              |
| 5:E:161:ASP:O    | 5:E:165:LEU:N    | 2.25                     | 0.62              |
| 5:E:389:GLY:HA3  | 5:E:395:ILE:HB   | 1.80                     | 0.62              |
| 7:G:277:LYS:HD3  | 8:H:258:LEU:HD23 | 1.81                     | 0.62              |
| 8:H:132:TYR:O    | 8:H:136:CYS:N    | 2.29                     | 0.62              |
| 8:H:222:VAL:HG13 | 8:H:360:VAL:HG11 | 1.81                     | 0.62              |
| 2:J:456:TYR:HE2  | 2:J:461:LEU:HB2  | 1.64                     | 0.62              |
| 6:N:189:PHE:HB2  | 6:N:370:ARG:HG3  | 1.81                     | 0.62              |
| 6:N:216:ALA:H    | 6:N:313:LEU:HA   | 1.64                     | 0.62              |
| 7:O:456:ASP:HB3  | 7:O:459:ASN:HD22 | 1.64                     | 0.62              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 8:P:33:ILE:O     | 8:P:37:LYS:NZ    | 2.28                     | 0.62              |
| 9:1:16:LEU:HD13  | 9:1:112:ILE:HG12 | 1.81                     | 0.62              |
| 11:3:62:PHE:O    | 11:3:66:ASN:ND2  | 2.27                     | 0.62              |
| 1:A:26:ALA:HA    | 1:A:29:ALA:HB3   | 1.79                     | 0.62              |
| 1:A:432:SER:HA   | 7:O:459:ASN:HA   | 1.80                     | 0.62              |
| 7:G:81:ASP:O     | 7:G:85:SER:N     | 2.30                     | 0.62              |
| 7:G:411:ALA:HB2  | 7:G:487:ASN:HB2  | 1.81                     | 0.62              |
| 1:I:209:MET:SD   | 1:I:378:ARG:NH2  | 2.70                     | 0.62              |
| 2:J:465:LEU:O    | 2:J:469:HIS:N    | 2.27                     | 0.62              |
| 2:J:465:LEU:HG   | 2:J:469:HIS:HD2  | 1.65                     | 0.62              |
| 3:K:249:LYS:HD3  | 3:K:275:ILE:HG12 | 1.81                     | 0.62              |
| 3:K:301:GLN:OE1  | 3:K:313:ARG:NH1  | 2.31                     | 0.62              |
| 4:L:143:LYS:HD2  | 4:L:439:TYR:HB3  | 1.82                     | 0.62              |
| 5:M:300:ALA:H    | 5:M:321:ALA:HA   | 1.63                     | 0.62              |
| 5:M:500:ASP:HB3  | 5:M:502:LYS:H    | 1.64                     | 0.62              |
| 7:O:33:ALA:HA    | 7:O:98:THR:HG22  | 1.80                     | 0.62              |
| 7:O:516:VAL:HG11 | 8:P:55:MET:HG2   | 1.81                     | 0.62              |
| 8:P:272:GLU:HA   | 8:P:275:LEU:HB3  | 1.81                     | 0.62              |
| 1:A:285:VAL:HA   | 1:A:306:MET:HB3  | 1.80                     | 0.62              |
| 2:B:461:LEU:O    | 2:B:465:LEU:N    | 2.16                     | 0.62              |
| 3:C:223:ASP:HB2  | 3:C:319:ASP:OD2  | 1.99                     | 0.62              |
| 4:D:480:LEU:HB3  | 4:D:484:HIS:CE1  | 2.34                     | 0.62              |
| 6:F:67:MET:SD    | 8:H:523:GLN:NE2  | 2.73                     | 0.62              |
| 1:I:470:PHE:HB3  | 1:I:484:LYS:HB2  | 1.81                     | 0.62              |
| 5:M:426:GLU:HG3  | 5:M:459:PRO:HD3  | 1.81                     | 0.62              |
| 2:B:40:LYS:HB2   | 2:B:449:ILE:HG21 | 1.82                     | 0.62              |
| 2:B:51:ILE:HD11  | 2:B:61:LEU:HD22  | 1.81                     | 0.62              |
| 2:B:215:ASP:HB3  | 2:B:372:THR:HB   | 1.80                     | 0.62              |
| 4:D:298:LEU:N    | 4:D:323:MET:O    | 2.30                     | 0.62              |
| 5:E:225:ILE:HG23 | 5:E:375:GLU:HG2  | 1.82                     | 0.62              |
| 6:F:210:LEU:HD21 | 6:F:323:ARG:HB3  | 1.80                     | 0.62              |
| 7:G:49:ILE:O     | 7:G:57:THR:N     | 2.31                     | 0.62              |
| 7:G:415:GLU:HG3  | 7:G:468:HIS:CE1  | 2.35                     | 0.62              |
| 8:H:42:THR:HA    | 8:H:54:LYS:HE2   | 1.80                     | 0.62              |
| 8:H:249:MET:HB2  | 8:H:272:GLU:HA   | 1.80                     | 0.62              |
| 2:J:299:TYR:HB2  | 4:L:305:LEU:HD13 | 1.80                     | 0.62              |
| 4:L:243:LYS:O    | 4:L:296:ASN:ND2  | 2.32                     | 0.62              |
| 4:L:245:LYS:HD3  | 4:L:293:THR:HG22 | 1.80                     | 0.62              |
| 6:N:353:TYR:HB3  | 6:N:362:PHE:HE2  | 1.64                     | 0.62              |
| 7:O:110:PRO:O    | 7:O:114:GLU:N    | 2.32                     | 0.62              |
| 8:P:290:VAL:HG11 | 8:P:363:PHE:HZ   | 1.64                     | 0.62              |

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| Atom-1            | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 11:3:141:GLN:HE21 | 11:3:145:GLU:HB2 | 1.63                     | 0.62              |
| 2:B:296:ILE:HD13  | 2:B:311:ALA:HB1  | 1.80                     | 0.62              |
| 3:C:236:PRO:HG3   | 3:C:286:LYS:HE3  | 1.81                     | 0.62              |
| 4:D:65:LYS:HE2    | 4:D:67:ASP:HB3   | 1.81                     | 0.62              |
| 5:E:59:LYS:HD2    | 5:E:77:ILE:HG21  | 1.81                     | 0.62              |
| 6:F:85:ASP:HB2    | 6:F:92:THR:HG21  | 1.82                     | 0.62              |
| 1:I:239:PHE:CD1   | 1:I:331:LEU:HD13 | 2.35                     | 0.62              |
| 2:J:36:GLY:HA2    | 2:J:103:THR:HG22 | 1.81                     | 0.62              |
| 2:J:137:ALA:HB2   | 2:J:439:TYR:HE2  | 1.63                     | 0.62              |
| 2:J:517:VAL:HA    | 5:M:58:ASP:O     | 2.00                     | 0.62              |
| 1:A:489:ASP:OD2   | 1:A:496:ARG:NE   | 2.32                     | 0.62              |
| 5:E:255:PHE:HB3   | 5:E:323:ARG:HH12 | 1.65                     | 0.62              |
| 6:F:151:VAL:HG11  | 6:F:401:ALA:HB2  | 1.81                     | 0.62              |
| 8:H:196:HIS:NE2   | 8:H:198:ASN:OD1  | 2.23                     | 0.62              |
| 3:K:272:GLU:O     | 3:K:276:GLN:N    | 2.33                     | 0.62              |
| 3:K:414:SER:HA    | 3:K:476:GLU:HB3  | 1.81                     | 0.62              |
| 5:M:237:PRO:HA    | 5:M:241:LYS:HD3  | 1.82                     | 0.62              |
| 7:O:250:LYS:HG2   | 7:O:273:ILE:HD12 | 1.79                     | 0.62              |
| 7:O:468:HIS:CE1   | 7:O:475:TYR:HB2  | 2.35                     | 0.62              |
| 1:A:266:ARG:HA    | 1:A:269:ASP:HB2  | 1.80                     | 0.62              |
| 3:C:51:LEU:O      | 6:F:524:ALA:N    | 2.31                     | 0.62              |
| 3:C:329:ALA:HA    | 3:C:345:THR:HG23 | 1.81                     | 0.62              |
| 3:C:376:LEU:HD11  | 3:C:391:LEU:HD22 | 1.80                     | 0.62              |
| 5:E:185:MET:HG2   | 5:E:222:THR:HG21 | 1.81                     | 0.62              |
| 5:E:244:GLU:OE2   | 5:E:298:ASN:N    | 2.25                     | 0.62              |
| 6:F:294:GLN:NE2   | 6:F:321:MET:HB2  | 2.14                     | 0.62              |
| 7:G:83:ALA:HB1    | 7:G:94:THR:HG23  | 1.82                     | 0.62              |
| 1:I:264:ARG:HD2   | 3:K:247:TYR:HE2  | 1.65                     | 0.62              |
| 1:I:436:LEU:O     | 1:I:440:GLU:HG2  | 2.00                     | 0.62              |
| 5:M:298:ASN:O     | 5:M:320:PRO:HB2  | 2.00                     | 0.62              |
| 6:N:149:ILE:HG23  | 6:N:169:THR:HG22 | 1.82                     | 0.62              |
| 7:O:121:ILE:HG23  | 7:O:434:LEU:HG   | 1.81                     | 0.62              |
| 2:B:37:ASP:OD1    | 2:B:111:ARG:NH2  | 2.33                     | 0.62              |
| 2:B:48:MET:HE1    | 4:D:130:PRO:HG2  | 1.82                     | 0.62              |
| 3:C:125:ALA:O     | 3:C:129:ALA:N    | 2.24                     | 0.62              |
| 6:F:245:ASN:HB2   | 6:F:256:ARG:HG2  | 1.81                     | 0.62              |
| 7:G:300:THR:HA    | 7:G:303:PHE:HB2  | 1.81                     | 0.62              |
| 1:I:77:GLU:O      | 1:I:81:LEU:N     | 2.24                     | 0.62              |
| 5:M:246:ALA:HA    | 5:M:356:ALA:H    | 1.64                     | 0.62              |
| 6:N:118:ILE:HB    | 6:N:432:ARG:HB2  | 1.81                     | 0.62              |
| 6:N:190:MET:HG3   | 6:N:370:ARG:O    | 1.99                     | 0.62              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 7:O:222:TYR:H    | 7:O:300:THR:HG21 | 1.64                     | 0.62              |
| 7:O:223:ALA:HB2  | 7:O:301:GLN:HG2  | 1.82                     | 0.62              |
| 7:O:412:ILE:HD12 | 7:O:473:THR:HG23 | 1.81                     | 0.62              |
| 1:A:446:LEU:HB3  | 1:A:464:VAL:HG21 | 1.82                     | 0.61              |
| 5:E:222:THR:HG22 | 5:E:387:ILE:HA   | 1.82                     | 0.61              |
| 5:E:260:PRO:HA   | 5:E:304:TRP:CE3  | 2.34                     | 0.61              |
| 6:F:205:SER:N    | 6:F:375:LEU:O    | 2.23                     | 0.61              |
| 8:H:43:THR:HG21  | 8:H:105:LEU:HB3  | 1.80                     | 0.61              |
| 8:H:118:LEU:HB3  | 8:H:123:LEU:HB2  | 1.82                     | 0.61              |
| 1:I:189:ARG:HH11 | 1:I:400:LYS:HD2  | 1.65                     | 0.61              |
| 5:M:206:PHE:HE2  | 5:M:410:ARG:HE   | 1.48                     | 0.61              |
| 6:N:191:ILE:HG12 | 6:N:395:LEU:HD12 | 1.81                     | 0.61              |
| 6:N:195:GLU:HB3  | 6:N:376:ILE:HB   | 1.81                     | 0.61              |
| 1:A:237:LEU:N    | 1:A:287:LEU:O    | 2.33                     | 0.61              |
| 1:A:433:ARG:CZ   | 7:O:459:ASN:HD21 | 2.13                     | 0.61              |
| 2:B:91:GLN:O     | 2:B:96:GLY:N     | 2.33                     | 0.61              |
| 2:B:297:TYR:HD2  | 2:B:300:PRO:HD2  | 1.65                     | 0.61              |
| 2:B:478:LEU:HA   | 2:B:485:ILE:HA   | 1.82                     | 0.61              |
| 3:C:143:PRO:HA   | 3:C:406:GLN:HA   | 1.80                     | 0.61              |
| 4:D:49:ARG:NH2   | 4:D:114:GLY:H    | 1.96                     | 0.61              |
| 4:D:213:LYS:HB2  | 4:D:373:LEU:HD11 | 1.81                     | 0.61              |
| 6:F:451:LEU:HA   | 6:F:454:ASN:HB2  | 1.80                     | 0.61              |
| 7:G:235:PRO:HB3  | 7:G:348:PHE:HB2  | 1.81                     | 0.61              |
| 3:K:375:LEU:HD11 | 3:K:377:ARG:HE   | 1.65                     | 0.61              |
| 3:K:387:VAL:HG12 | 3:K:391:LEU:HD13 | 1.81                     | 0.61              |
| 7:O:337:LEU:HB2  | 7:O:341:VAL:HG11 | 1.81                     | 0.61              |
| 8:P:136:CYS:O    | 8:P:140:HIS:N    | 2.29                     | 0.61              |
| 8:P:477:ASN:O    | 8:P:490:LYS:N    | 2.25                     | 0.61              |
| 13:5:66:LEU:H    | 13:5:71:TYR:HA   | 1.66                     | 0.61              |
| 1:A:144:GLY:HA3  | 1:A:148:LEU:HA   | 1.81                     | 0.61              |
| 1:A:156:MET:HG2  | 1:A:391:SER:HB2  | 1.80                     | 0.61              |
| 3:C:148:ASP:OD2  | 3:C:151:MET:N    | 2.33                     | 0.61              |
| 4:D:144:GLY:HA2  | 4:D:436:LEU:HD22 | 1.80                     | 0.61              |
| 7:G:231:LYS:NZ   | 7:G:350:GLU:O    | 2.25                     | 0.61              |
| 8:H:71:THR:OG1   | 8:H:390:ARG:NH1  | 2.32                     | 0.61              |
| 8:H:421:LYS:HZ1  | 8:H:468:TYR:HA   | 1.63                     | 0.61              |
| 3:K:276:GLN:O    | 3:K:280:GLU:N    | 2.29                     | 0.61              |
| 5:M:308:ASP:OD1  | 5:M:311:ASN:ND2  | 2.33                     | 0.61              |
| 8:P:222:VAL:HG23 | 8:P:374:THR:HG21 | 1.81                     | 0.61              |
| 8:P:319:TRP:CE2  | 8:P:323:ARG:HD2  | 2.35                     | 0.61              |
| 12:4:63:ASP:HB3  | 12:4:80:GLN:H    | 1.65                     | 0.61              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:477:GLY:O    | 2:B:486:GLY:N    | 2.23                     | 0.61              |
| 4:D:31:ALA:O     | 4:D:35:PHE:N     | 2.19                     | 0.61              |
| 6:F:515:ILE:HA   | 6:F:518:VAL:HG22 | 1.82                     | 0.61              |
| 7:G:230:LYS:HB3  | 7:G:350:GLU:HB3  | 1.82                     | 0.61              |
| 8:H:64:PHE:CE2   | 8:H:66:THR:HB    | 2.36                     | 0.61              |
| 8:H:108:ALA:HB2  | 8:H:511:ALA:HB1  | 1.83                     | 0.61              |
| 8:H:313:VAL:HG11 | 8:H:316:ASN:HD21 | 1.65                     | 0.61              |
| 2:J:115:SER:HB3  | 2:J:119:LYS:NZ   | 2.15                     | 0.61              |
| 6:N:230:ILE:N    | 6:N:345:GLY:O    | 2.29                     | 0.61              |
| 6:N:294:GLN:HG2  | 6:N:316:ALA:HB3  | 1.81                     | 0.61              |
| 8:P:327:THR:HG23 | 8:P:328:VAL:H    | 1.65                     | 0.61              |
| 3:C:196:LYS:O    | 3:C:199:ALA:N    | 2.32                     | 0.61              |
| 4:D:228:VAL:H    | 4:D:387:THR:HG21 | 1.64                     | 0.61              |
| 6:F:391:VAL:O    | 6:F:395:LEU:N    | 2.26                     | 0.61              |
| 7:G:116:LEU:HG   | 7:G:121:ILE:HA   | 1.83                     | 0.61              |
| 8:H:31:ARG:HB2   | 8:H:80:HIS:CE1   | 2.34                     | 0.61              |
| 1:I:314:ARG:HB2  | 1:I:318:ARG:HH12 | 1.66                     | 0.61              |
| 2:J:92:ASP:HB2   | 2:J:99:THR:H     | 1.65                     | 0.61              |
| 8:P:147:VAL:HG21 | 8:P:407:ARG:HH11 | 1.65                     | 0.61              |
| 8:P:260:LYS:HB2  | 8:P:264:GLU:HG3  | 1.82                     | 0.61              |
| 1:A:481:LYS:HD3  | 1:A:497:ASP:H    | 1.66                     | 0.61              |
| 2:B:337:HIS:NE2  | 5:E:238:GLN:OE1  | 2.32                     | 0.61              |
| 3:C:237:ARG:NH1  | 3:C:347:ALA:O    | 2.34                     | 0.61              |
| 4:D:112:ILE:HG23 | 4:D:522:ALA:HB2  | 1.81                     | 0.61              |
| 4:D:430:ILE:HG13 | 4:D:462:PRO:HG2  | 1.81                     | 0.61              |
| 6:F:28:ARG:O     | 6:F:32:ASP:N     | 2.29                     | 0.61              |
| 7:G:232:TYR:HE2  | 7:G:309:PHE:HB2  | 1.65                     | 0.61              |
| 8:H:116:GLU:OE2  | 8:H:120:ARG:NH2  | 2.33                     | 0.61              |
| 1:I:125:CYS:O    | 1:I:129:VAL:N    | 2.34                     | 0.61              |
| 1:I:444:SER:O    | 1:I:447:VAL:HG22 | 2.01                     | 0.61              |
| 2:J:18:GLU:HG3   | 2:J:521:ILE:HG12 | 1.82                     | 0.61              |
| 2:J:130:TRP:HA   | 2:J:133:ALA:HB3  | 1.82                     | 0.61              |
| 2:J:276:LYS:HG2  | 2:J:303:LEU:HD13 | 1.82                     | 0.61              |
| 2:J:465:LEU:HD12 | 2:J:468:ALA:HB3  | 1.83                     | 0.61              |
| 2:J:465:LEU:HD22 | 2:J:485:ILE:HG12 | 1.81                     | 0.61              |
| 5:M:196:VAL:HG21 | 5:M:209:ILE:HG13 | 1.82                     | 0.61              |
| 7:O:60:ASN:HB3   | 7:O:166:LYS:HZ1  | 1.64                     | 0.61              |
| 13:5:53:LEU:HD11 | 13:5:76:LEU:HD13 | 1.82                     | 0.61              |
| 2:B:411:GLY:HA2  | 2:B:414:GLU:HB2  | 1.82                     | 0.61              |
| 4:D:257:LYS:HD2  | 4:D:308:ALA:HB2  | 1.83                     | 0.61              |
| 8:H:212:ILE:HD11 | 8:H:384:LEU:HB3  | 1.82                     | 0.61              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:I:100:LEU:HA   | 1:I:103:ASN:HB2  | 1.82                     | 0.61              |
| 1:I:326:THR:H    | 1:I:344:MET:HA   | 1.66                     | 0.61              |
| 3:K:27:ILE:HG12  | 3:K:106:LEU:HG   | 1.81                     | 0.61              |
| 5:M:71:THR:HG21  | 5:M:76:THR:HB    | 1.83                     | 0.61              |
| 5:M:165:LEU:HD21 | 5:M:412:LEU:HB2  | 1.82                     | 0.61              |
| 6:N:214:HIS:HD2  | 6:N:315:ARG:HB3  | 1.66                     | 0.61              |
| 6:N:341:PRO:HA   | 6:N:344:LEU:HD12 | 1.82                     | 0.61              |
| 2:B:218:PHE:CE2  | 2:B:323:LEU:HB2  | 2.35                     | 0.61              |
| 2:B:407:VAL:HG21 | 2:B:500:LYS:HG3  | 1.83                     | 0.61              |
| 2:B:429:PRO:HA   | 2:B:433:ALA:HB2  | 1.83                     | 0.61              |
| 5:E:171:THR:O    | 5:E:175:SER:N    | 2.33                     | 0.61              |
| 8:H:74:ARG:NH1   | 8:H:75:GLU:OE2   | 2.33                     | 0.61              |
| 8:H:228:GLU:HG3  | 8:H:302:LEU:HD13 | 1.81                     | 0.61              |
| 1:I:83:ASP:HB2   | 1:I:90:THR:HG22  | 1.82                     | 0.61              |
| 1:I:489:ASP:OD2  | 1:I:496:ARG:HB2  | 2.01                     | 0.61              |
| 2:J:199:ILE:HG22 | 2:J:371:CYS:HB2  | 1.81                     | 0.61              |
| 2:J:429:PRO:HG3  | 2:J:436:MET:SD   | 2.41                     | 0.61              |
| 3:K:351:GLU:OE1  | 3:K:353:LYS:NZ   | 2.34                     | 0.61              |
| 4:L:302:LYS:HA   | 4:L:327:ASP:HA   | 1.81                     | 0.61              |
| 5:M:228:VAL:O    | 5:M:374:ILE:N    | 2.31                     | 0.61              |
| 6:N:233:CYS:O    | 6:N:294:GLN:N    | 2.26                     | 0.61              |
| 3:C:43:PRO:HB2   | 3:C:483:GLU:HG3  | 1.82                     | 0.61              |
| 4:D:37:ASN:HB3   | 4:D:529:ILE:HD11 | 1.83                     | 0.61              |
| 4:D:212:LYS:HD3  | 4:D:395:LYS:NZ   | 2.16                     | 0.61              |
| 5:E:105:GLY:O    | 5:E:109:VAL:N    | 2.29                     | 0.61              |
| 5:E:482:VAL:HG21 | 4:L:444:SER:HB3  | 1.83                     | 0.61              |
| 7:G:460:ILE:HG23 | 7:G:484:ILE:HG21 | 1.82                     | 0.61              |
| 8:H:111:LEU:HD12 | 8:H:114:LEU:HD12 | 1.82                     | 0.61              |
| 1:I:237:LEU:HD11 | 1:I:278:ILE:HG21 | 1.82                     | 0.61              |
| 2:J:176:LYS:O    | 2:J:180:THR:OG1  | 2.15                     | 0.61              |
| 4:L:213:LYS:HD2  | 4:L:373:LEU:HD22 | 1.82                     | 0.61              |
| 7:O:21:GLN:O     | 7:O:25:ASN:N     | 2.33                     | 0.61              |
| 8:P:203:ARG:H    | 8:P:373:SER:H    | 1.47                     | 0.61              |
| 8:P:339:PRO:HB2  | 8:P:344:MET:HG3  | 1.81                     | 0.61              |
| 1:A:208:SER:OG   | 1:A:378:ARG:N    | 2.30                     | 0.61              |
| 1:A:286:ILE:N    | 1:A:306:MET:O    | 2.33                     | 0.61              |
| 2:B:184:VAL:O    | 2:B:188:LEU:N    | 2.29                     | 0.61              |
| 2:B:516:ARG:O    | 5:E:57:LEU:HB3   | 2.01                     | 0.61              |
| 3:C:110:GLU:O    | 3:C:114:GLU:N    | 2.31                     | 0.61              |
| 3:C:220:ILE:HB   | 3:C:361:THR:HB   | 1.83                     | 0.61              |
| 3:C:460:ILE:HG13 | 3:C:461:ARG:H    | 1.66                     | 0.61              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 4:D:338:LYS:HG3  | 4:D:339:THR:HG23 | 1.83                     | 0.61              |
| 4:D:342:THR:HG23 | 4:D:357:GLY:H    | 1.66                     | 0.61              |
| 5:E:242:LYS:H    | 5:E:320:PRO:HG2  | 1.66                     | 0.61              |
| 5:E:259:LYS:HB2  | 5:E:306:PHE:HD1  | 1.66                     | 0.61              |
| 5:E:447:ALA:O    | 5:E:451:PHE:N    | 2.33                     | 0.61              |
| 6:F:38:LEU:HB3   | 6:F:451:LEU:HD21 | 1.83                     | 0.61              |
| 6:F:233:CYS:HB2  | 6:F:235:VAL:HG13 | 1.83                     | 0.61              |
| 6:F:416:VAL:HG11 | 6:F:466:ILE:HG23 | 1.82                     | 0.61              |
| 7:G:288:VAL:HG13 | 7:G:309:PHE:HD2  | 1.66                     | 0.61              |
| 8:H:207:ILE:HA   | 8:H:224:LYS:HD3  | 1.83                     | 0.61              |
| 1:I:353:GLN:HG3  | 1:I:362:ILE:HA   | 1.83                     | 0.61              |
| 3:K:287:PRO:O    | 3:K:309:ILE:HG12 | 2.00                     | 0.61              |
| 4:L:213:LYS:HB3  | 4:L:391:ARG:HG2  | 1.82                     | 0.61              |
| 6:N:93:THR:HB    | 6:N:158:THR:O    | 2.00                     | 0.61              |
| 6:N:207:ILE:HB   | 6:N:373:THR:HB   | 1.83                     | 0.61              |
| 7:O:161:THR:OG1  | 7:O:491:PHE:O    | 2.19                     | 0.61              |
| 7:O:280:LYS:HA   | 7:O:283:HIS:CE1  | 2.34                     | 0.61              |
| 11:3:91:MET:HB3  | 11:3:99:ASN:HB3  | 1.83                     | 0.61              |
| 2:B:20:ARG:NH1   | 5:E:47:THR:HA    | 2.15                     | 0.60              |
| 2:B:229:PRO:HB2  | 2:B:232:ILE:HD11 | 1.81                     | 0.60              |
| 2:B:429:PRO:HD2  | 2:J:464:GLN:HA   | 1.83                     | 0.60              |
| 2:B:433:ALA:O    | 2:B:437:GLU:N    | 2.26                     | 0.60              |
| 3:C:16:ARG:HG2   | 3:C:523:VAL:HA   | 1.83                     | 0.60              |
| 3:C:168:TRP:HZ3  | 3:C:171:LEU:HD22 | 1.66                     | 0.60              |
| 3:C:241:LEU:O    | 3:C:293:GLU:HG2  | 2.01                     | 0.60              |
| 4:D:52:LEU:HA    | 4:D:107:THR:HG21 | 1.83                     | 0.60              |
| 4:D:226:GLY:H    | 4:D:378:GLY:H    | 1.47                     | 0.60              |
| 5:E:137:TYR:O    | 5:E:141:ALA:N    | 2.33                     | 0.60              |
| 8:H:183:ILE:HD11 | 8:H:392:VAL:HG13 | 1.83                     | 0.60              |
| 5:M:410:ARG:HA   | 5:M:413:ILE:HG22 | 1.83                     | 0.60              |
| 7:O:231:LYS:HZ3  | 7:O:349:GLU:HB2  | 1.66                     | 0.60              |
| 8:P:63:LEU:O     | 8:P:383:ASN:ND2  | 2.22                     | 0.60              |
| 8:P:163:LEU:HD12 | 8:P:408:LEU:HD11 | 1.82                     | 0.60              |
| 14:6:76:VAL:O    | 14:6:80:LEU:N    | 2.33                     | 0.60              |
| 3:C:239:VAL:HA   | 3:C:343:VAL:HB   | 1.82                     | 0.60              |
| 5:E:538:GLU:HG3  | 7:G:51:ASP:HA    | 1.82                     | 0.60              |
| 7:G:265:ALA:O    | 7:G:268:ASP:N    | 2.33                     | 0.60              |
| 7:G:334:VAL:HB   | 8:H:258:LEU:HD11 | 1.81                     | 0.60              |
| 7:G:371:THR:HG23 | 7:G:373:ILE:HD11 | 1.84                     | 0.60              |
| 8:H:49:PRO:HB3   | 8:H:173:TYR:CD1  | 2.36                     | 0.60              |
| 6:N:41:LYS:NZ    | 6:N:455:SER:OG   | 2.32                     | 0.60              |

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| Atom-1           | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 1:A:388:MET:HA   | 1:A:391:SER:HB3   | 1.83                     | 0.60              |
| 2:B:149:GLY:HA2  | 2:B:155:PHE:N     | 2.16                     | 0.60              |
| 3:C:176:ALA:HB2  | 3:C:391:LEU:HD12  | 1.82                     | 0.60              |
| 3:C:193:ILE:O    | 3:C:403:LEU:HB2   | 2.02                     | 0.60              |
| 3:C:381:LYS:NZ   | 3:C:385:SER:OG    | 2.32                     | 0.60              |
| 4:D:239:THR:HG23 | 4:D:364:GLU:HB3   | 1.83                     | 0.60              |
| 5:E:387:ILE:HG23 | 5:E:395:ILE:HD11  | 1.83                     | 0.60              |
| 6:F:390:ALA:O    | 6:F:394:GLY:N     | 2.26                     | 0.60              |
| 6:F:446:ILE:HA   | 6:F:449:LYS:HE3   | 1.82                     | 0.60              |
| 8:H:211:GLY:H    | 8:H:214:SER:HB2   | 1.65                     | 0.60              |
| 2:J:238:LEU:HD13 | 2:J:287:ILE:HD12  | 1.82                     | 0.60              |
| 2:J:268:GLU:OE1  | 4:L:306:ARG:NH2   | 2.33                     | 0.60              |
| 3:K:498:PRO:HB2  | 3:K:501:VAL:HG23  | 1.82                     | 0.60              |
| 4:L:290:ILE:HG21 | 4:L:298:LEU:HD11  | 1.84                     | 0.60              |
| 4:L:307:ASP:OD1  | 4:L:326:LYS:NZ    | 2.34                     | 0.60              |
| 6:N:274:ILE:HD11 | 6:N:336:PHE:HB3   | 1.83                     | 0.60              |
| 6:N:434:GLN:O    | 6:N:438:GLN:N     | 2.27                     | 0.60              |
| 10:2:47:LEU:HB3  | 10:2:97:ILE:HG23  | 1.82                     | 0.60              |
| 13:5:109:PHE:HD2 | 13:5:110:LEU:HD12 | 1.65                     | 0.60              |
| 3:C:154:ASN:OD1  | 3:C:155:ILE:N     | 2.33                     | 0.60              |
| 3:C:218:VAL:HG13 | 3:C:373:THR:HG21  | 1.83                     | 0.60              |
| 3:C:218:VAL:N    | 3:C:326:ALA:HA    | 2.15                     | 0.60              |
| 4:D:147:ILE:HG22 | 4:D:151:MET:HG3   | 1.84                     | 0.60              |
| 6:F:330:GLY:HA2  | 6:F:345:GLY:HA3   | 1.84                     | 0.60              |
| 8:H:475:ASN:HA   | 8:H:493:LEU:HB3   | 1.82                     | 0.60              |
| 2:J:206:GLY:H    | 2:J:377:GLY:H     | 1.50                     | 0.60              |
| 3:K:168:TRP:CG   | 3:K:387:VAL:HG22  | 2.37                     | 0.60              |
| 3:K:194:ASP:OD1  | 3:K:399:ARG:NE    | 2.32                     | 0.60              |
| 4:L:91:LEU:O     | 4:L:95:SER:N      | 2.34                     | 0.60              |
| 7:O:73:HIS:HB3   | 7:O:76:ALA:HB3    | 1.82                     | 0.60              |
| 1:A:465:ALA:HB3  | 7:O:429:GLY:O     | 2.02                     | 0.60              |
| 2:B:51:ILE:HA    | 2:B:63:VAL:HG22   | 1.83                     | 0.60              |
| 7:G:521:LYS:HA   | 8:H:57:ILE:HB     | 1.83                     | 0.60              |
| 3:K:351:GLU:HB2  | 3:K:362:PHE:HB2   | 1.81                     | 0.60              |
| 7:O:97:VAL:HG13  | 7:O:506:ALA:HB2   | 1.82                     | 0.60              |
| 8:P:49:PRO:HG2   | 8:P:480:LEU:H     | 1.66                     | 0.60              |
| 13:5:82:VAL:O    | 13:5:93:GLU:HA    | 2.02                     | 0.60              |
| 2:B:138:ARG:HH22 | 2:B:505:LEU:HB2   | 1.66                     | 0.60              |
| 2:B:187:VAL:HG21 | 2:B:397:LEU:HD23  | 1.83                     | 0.60              |
| 3:C:204:ILE:HG23 | 3:C:360:PHE:CE2   | 2.37                     | 0.60              |
| 4:D:490:THR:HG23 | 4:D:491:ALA:H     | 1.66                     | 0.60              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 5:E:205:ASP:H    | 5:E:208:LEU:HD12 | 1.67                     | 0.60              |
| 6:F:353:TYR:O    | 6:F:360:PHE:N    | 2.26                     | 0.60              |
| 7:G:414:MET:HG3  | 7:G:464:LEU:HD13 | 1.83                     | 0.60              |
| 8:H:24:GLY:O     | 8:H:28:ALA:N     | 2.30                     | 0.60              |
| 3:K:152:MET:HE3  | 3:K:177:LEU:HB3  | 1.83                     | 0.60              |
| 3:K:215:LEU:HD21 | 3:K:219:MET:HB2  | 1.83                     | 0.60              |
| 4:L:152:SER:HB3  | 4:L:512:LEU:HD13 | 1.84                     | 0.60              |
| 5:M:158:ASP:HA   | 5:M:161:ASP:HB2  | 1.83                     | 0.60              |
| 5:M:250:ILE:HG12 | 5:M:301:ILE:HD11 | 1.82                     | 0.60              |
| 6:N:26:ALA:HB1   | 6:N:71:HIS:HB3   | 1.82                     | 0.60              |
| 6:N:74:ALA:HA    | 6:N:77:ILE:HG12  | 1.83                     | 0.60              |
| 6:N:350:VAL:HG22 | 6:N:363:ILE:HG22 | 1.84                     | 0.60              |
| 7:O:428:PRO:HB3  | 7:O:432:GLN:N    | 2.15                     | 0.60              |
| 1:A:168:PHE:CE1  | 1:A:208:SER:HB2  | 2.37                     | 0.60              |
| 1:A:392:LEU:HD22 | 1:A:393:HIS:CD2  | 2.36                     | 0.60              |
| 3:C:24:SER:O     | 3:C:28:ASN:ND2   | 2.34                     | 0.60              |
| 3:C:209:ILE:HA   | 3:C:378:GLY:HA2  | 1.84                     | 0.60              |
| 3:C:461:ARG:HH21 | 6:N:456:GLY:H    | 1.50                     | 0.60              |
| 4:D:64:GLY:N     | 4:D:81:MET:SD    | 2.75                     | 0.60              |
| 4:D:222:GLU:OE2  | 4:D:391:ARG:NH2  | 2.35                     | 0.60              |
| 5:E:29:MET:N     | 5:E:32:GLU:OE1   | 2.33                     | 0.60              |
| 5:E:477:VAL:HA   | 5:E:480:ARG:HE   | 1.65                     | 0.60              |
| 7:G:59:SER:OG    | 7:G:65:ILE:HG12  | 2.02                     | 0.60              |
| 7:G:82:ILE:HG21  | 7:G:509:ALA:HB2  | 1.84                     | 0.60              |
| 8:H:47:TYR:HB3   | 8:H:448:ILE:HD12 | 1.83                     | 0.60              |
| 1:I:118:ILE:HD12 | 1:I:522:ILE:HG12 | 1.82                     | 0.60              |
| 1:I:453:ALA:HB2  | 1:I:463:LEU:HD22 | 1.82                     | 0.60              |
| 2:J:456:TYR:CE2  | 2:J:461:LEU:HB2  | 2.36                     | 0.60              |
| 4:L:422:ILE:HD13 | 4:L:512:LEU:HA   | 1.84                     | 0.60              |
| 5:M:249:ALA:HB3  | 5:M:300:ALA:HA   | 1.84                     | 0.60              |
| 7:O:240:LEU:HD13 | 7:O:281:ILE:HG12 | 1.82                     | 0.60              |
| 7:O:465:ARG:HA   | 7:O:468:HIS:HB2  | 1.82                     | 0.60              |
| 8:P:118:LEU:HD23 | 8:P:121:ILE:HD12 | 1.83                     | 0.60              |
| 10:2:71:TYR:N    | 11:3:132:MET:O   | 2.35                     | 0.60              |
| 1:A:164:ASN:HB3  | 1:A:168:PHE:CD2  | 2.37                     | 0.60              |
| 1:A:274:ARG:HH21 | 1:A:337:GLU:HG3  | 1.65                     | 0.60              |
| 1:A:408:VAL:HG12 | 1:A:506:PRO:HA   | 1.84                     | 0.60              |
| 2:B:135:LYS:HA   | 2:B:138:ARG:HB3  | 1.84                     | 0.60              |
| 2:B:385:GLU:OE2  | 2:B:388:ARG:NH2  | 2.30                     | 0.60              |
| 5:E:42:LYS:O     | 5:E:46:ASN:N     | 2.34                     | 0.60              |
| 5:E:259:LYS:HB3  | 5:E:306:PHE:HA   | 1.84                     | 0.60              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 5:E:357:GLY:H    | 5:E:377:CYS:H    | 1.50                     | 0.60              |
| 6:F:61:ASN:HD21  | 6:F:82:THR:HA    | 1.66                     | 0.60              |
| 7:G:155:LEU:HG   | 7:G:396:VAL:HB   | 1.82                     | 0.60              |
| 8:H:453:ALA:O    | 8:H:458:VAL:N    | 2.35                     | 0.60              |
| 1:I:147:CYS:SG   | 1:I:148:LEU:N    | 2.74                     | 0.60              |
| 3:K:29:ALA:HB1   | 3:K:77:ALA:HB2   | 1.82                     | 0.60              |
| 3:K:84:SER:O     | 3:K:88:ASP:N     | 2.35                     | 0.60              |
| 7:O:222:TYR:C    | 7:O:224:GLY:H    | 2.04                     | 0.60              |
| 1:A:281:THR:HG22 | 1:A:342:ALA:HB2  | 1.83                     | 0.60              |
| 2:B:135:LYS:O    | 2:B:139:GLU:N    | 2.24                     | 0.60              |
| 3:C:385:SER:HA   | 3:C:388:GLU:HB3  | 1.84                     | 0.60              |
| 4:D:478:THR:HG21 | 5:M:443:LEU:HA   | 1.84                     | 0.60              |
| 5:E:151:ILE:HD13 | 5:E:425:ALA:HA   | 1.83                     | 0.60              |
| 5:E:344:ARG:HB2  | 5:E:347:GLU:HG2  | 1.83                     | 0.60              |
| 6:F:264:ARG:HA   | 6:F:267:ILE:HD12 | 1.83                     | 0.60              |
| 7:G:119:GLN:HG3  | 8:H:51:GLY:H     | 1.66                     | 0.60              |
| 2:J:92:ASP:HB2   | 2:J:99:THR:N     | 2.17                     | 0.60              |
| 3:K:34:ALA:HA    | 3:K:100:ILE:HA   | 1.84                     | 0.60              |
| 5:M:90:LEU:HB3   | 7:O:380:GLN:HE21 | 1.66                     | 0.60              |
| 5:M:183:ARG:O    | 5:M:187:GLU:N    | 2.29                     | 0.60              |
| 5:M:264:HIS:CE1  | 7:O:256:ARG:HB3  | 2.36                     | 0.60              |
| 7:O:28:ALA:HB3   | 7:O:73:HIS:CD2   | 2.37                     | 0.60              |
| 8:P:44:ARG:HA    | 8:P:451:ALA:HB1  | 1.84                     | 0.60              |
| 8:P:470:VAL:HG22 | 8:P:472:GLN:HE21 | 1.66                     | 0.60              |
| 2:B:205:LEU:HD21 | 2:B:380:GLN:HB2  | 1.84                     | 0.60              |
| 3:C:67:LEU:HD13  | 3:C:81:ILE:HA    | 1.82                     | 0.60              |
| 4:D:285:ASN:O    | 4:D:289:GLN:N    | 2.25                     | 0.60              |
| 5:E:392:LYS:HA   | 5:E:395:ILE:HG22 | 1.83                     | 0.60              |
| 5:E:477:VAL:HB   | 5:E:480:ARG:HH21 | 1.66                     | 0.60              |
| 7:G:152:ARG:HH12 | 7:G:177:LYS:HD2  | 1.66                     | 0.60              |
| 8:H:86:ILE:HD11  | 8:H:518:VAL:HG11 | 1.84                     | 0.60              |
| 8:H:155:ARG:NH1  | 8:H:189:SER:O    | 2.35                     | 0.60              |
| 8:H:280:VAL:HA   | 8:H:283:ILE:HB   | 1.84                     | 0.60              |
| 2:J:405:ARG:NH2  | 2:J:498:GLN:OE1  | 2.35                     | 0.60              |
| 3:K:212:SER:HB2  | 3:K:377:ARG:HB2  | 1.84                     | 0.60              |
| 4:L:366:ASN:HB3  | 4:L:369:GLY:HA2  | 1.84                     | 0.60              |
| 5:M:178:VAL:HG13 | 5:M:182:HIS:CE1  | 2.37                     | 0.60              |
| 5:M:263:LYS:NZ   | 7:O:251:ASP:O    | 2.35                     | 0.60              |
| 5:M:266:LEU:HB2  | 7:O:256:ARG:HH11 | 1.67                     | 0.60              |
| 5:M:339:GLY:HA2  | 5:M:355:PHE:HD2  | 1.67                     | 0.60              |
| 5:M:433:VAL:O    | 5:M:437:ALA:N    | 2.34                     | 0.60              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 6:N:84:GLN:HB2   | 6:N:95:ASN:ND2   | 2.17                     | 0.60              |
| 8:P:416:GLU:HG3  | 8:P:448:ILE:HB   | 1.84                     | 0.60              |
| 3:C:167:ARG:NH2  | 3:C:386:GLU:OE1  | 2.29                     | 0.59              |
| 3:C:233:ILE:HD12 | 3:C:288:ASP:HB3  | 1.84                     | 0.59              |
| 4:D:166:SER:HB2  | 4:D:415:LEU:HD22 | 1.83                     | 0.59              |
| 4:D:237:GLY:N    | 4:D:318:ASN:HB3  | 2.16                     | 0.59              |
| 4:D:462:PRO:HA   | 4:D:465:LEU:HB3  | 1.84                     | 0.59              |
| 4:D:482:ASN:HB2  | 5:M:445:GLN:HE22 | 1.66                     | 0.59              |
| 5:E:260:PRO:HG2  | 7:G:253:ALA:O    | 2.01                     | 0.59              |
| 8:H:382:ASP:O    | 8:H:386:ASP:N    | 2.34                     | 0.59              |
| 2:J:459:ALA:O    | 2:J:463:ALA:N    | 2.35                     | 0.59              |
| 6:N:408:VAL:O    | 6:N:496:ASP:N    | 2.35                     | 0.59              |
| 1:A:25:ALA:O     | 1:A:29:ALA:N     | 2.25                     | 0.59              |
| 1:A:366:ASN:HA   | 1:A:372:SER:H    | 1.68                     | 0.59              |
| 5:E:269:THR:OG1  | 5:E:273:ASP:OD2  | 2.16                     | 0.59              |
| 5:E:306:PHE:O    | 5:E:311:ASN:ND2  | 2.36                     | 0.59              |
| 6:F:131:LEU:HA   | 6:F:134:LEU:HG   | 1.84                     | 0.59              |
| 6:F:322:GLU:O    | 6:F:326:LEU:N    | 2.34                     | 0.59              |
| 7:G:192:LEU:O    | 7:G:195:ILE:N    | 2.35                     | 0.59              |
| 8:H:129:ILE:HG21 | 8:H:516:VAL:HA   | 1.85                     | 0.59              |
| 1:I:534:HIS:H    | 4:L:82:GLN:HB2   | 1.66                     | 0.59              |
| 5:M:356:ALA:HB2  | 5:M:374:ILE:HG23 | 1.85                     | 0.59              |
| 6:N:31:GLN:HA    | 6:N:34:LEU:HD12  | 1.84                     | 0.59              |
| 6:N:173:VAL:HG22 | 6:N:398:VAL:HG11 | 1.84                     | 0.59              |
| 6:N:217:ARG:HH22 | 6:N:350:VAL:HG12 | 1.67                     | 0.59              |
| 6:N:277:LEU:HD22 | 6:N:338:ASP:HA   | 1.83                     | 0.59              |
| 6:N:386:GLN:NE2  | 8:P:517:THR:OG1  | 2.34                     | 0.59              |
| 9:1:23:THR:HG21  | 9:1:104:SER:HB2  | 1.84                     | 0.59              |
| 10:2:72:ARG:HB2  | 10:2:81:ARG:HH11 | 1.67                     | 0.59              |
| 3:C:180:VAL:HG11 | 3:C:399:ARG:HA   | 1.84                     | 0.59              |
| 6:F:414:VAL:O    | 6:F:418:MET:N    | 2.35                     | 0.59              |
| 7:G:406:VAL:HG22 | 7:G:407:ALA:H    | 1.67                     | 0.59              |
| 1:I:17:ILE:HG23  | 1:I:18:ARG:NH1   | 2.16                     | 0.59              |
| 1:I:138:VAL:HB   | 1:I:410:PRO:HB3  | 1.83                     | 0.59              |
| 3:K:282:ILE:HD13 | 3:K:290:VAL:HG21 | 1.84                     | 0.59              |
| 5:M:340:ARG:HE   | 5:M:352:LYS:HE3  | 1.67                     | 0.59              |
| 6:N:333:LEU:HB2  | 6:N:339:LEU:HD13 | 1.85                     | 0.59              |
| 6:N:415:GLU:OE2  | 6:N:501:LYS:NZ   | 2.29                     | 0.59              |
| 8:P:241:VAL:HA   | 8:P:292:VAL:HB   | 1.83                     | 0.59              |
| 11:3:86:GLU:HG2  | 11:3:90:TYR:CE2  | 2.37                     | 0.59              |
| 1:A:160:ILE:HD12 | 1:A:380:ALA:HB3  | 1.83                     | 0.59              |

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| Atom-1           | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 1:A:214:TYR:CE1  | 1:A:318:ARG:HB3   | 2.37                     | 0.59              |
| 1:A:511:VAL:HA   | 1:A:514:LEU:HD12  | 1.85                     | 0.59              |
| 2:B:84:LEU:HD13  | 2:B:103:THR:HG23  | 1.83                     | 0.59              |
| 3:C:22:VAL:O     | 3:C:26:ASN:N      | 2.29                     | 0.59              |
| 4:D:194:VAL:HG21 | 4:D:208:ILE:HD11  | 1.84                     | 0.59              |
| 5:E:89:LYS:NZ    | 7:G:50:VAL:HG21   | 2.18                     | 0.59              |
| 6:F:273:LYS:O    | 6:F:277:LEU:N     | 2.35                     | 0.59              |
| 8:H:27:GLU:O     | 8:H:31:ARG:N      | 2.36                     | 0.59              |
| 8:H:203:ARG:HD3  | 8:H:323:ARG:HD2   | 1.84                     | 0.59              |
| 8:H:220:GLY:HA2  | 8:H:372:ILE:HG13  | 1.83                     | 0.59              |
| 1:I:235:ALA:O    | 1:I:287:LEU:N     | 2.32                     | 0.59              |
| 2:J:71:LEU:HD22  | 2:J:85:VAL:HG22   | 1.84                     | 0.59              |
| 5:M:336:ALA:HB2  | 5:M:382:ALA:HB3   | 1.83                     | 0.59              |
| 6:N:56:LEU:HD21  | 8:P:521:VAL:HG12  | 1.83                     | 0.59              |
| 6:N:293:ASN:N    | 6:N:313:LEU:O     | 2.35                     | 0.59              |
| 6:N:480:ASP:HA   | 6:N:487:MET:SD    | 2.43                     | 0.59              |
| 8:P:240:ALA:HB3  | 8:P:291:VAL:HG13  | 1.85                     | 0.59              |
| 8:P:501:TYR:O    | 8:P:505:TYR:N     | 2.17                     | 0.59              |
| 14:6:13:VAL:HG11 | 14:6:108:LEU:HD13 | 1.83                     | 0.59              |
| 2:B:237:ILE:HG12 | 2:B:289:CYS:HB2   | 1.82                     | 0.59              |
| 2:B:350:GLU:O    | 2:B:361:HIS:N     | 2.21                     | 0.59              |
| 3:C:328:GLY:HA3  | 3:C:367:LYS:O     | 2.03                     | 0.59              |
| 4:D:315:HIS:HA   | 4:D:318:ASN:HD22  | 1.67                     | 0.59              |
| 5:E:356:ALA:HA   | 5:E:376:GLN:HA    | 1.84                     | 0.59              |
| 5:E:360:GLN:HG3  | 5:E:373:VAL:HB    | 1.83                     | 0.59              |
| 5:E:493:CYS:HB2  | 5:E:506:VAL:HG21  | 1.84                     | 0.59              |
| 7:G:232:TYR:HD2  | 7:G:348:PHE:CD2   | 2.21                     | 0.59              |
| 8:H:301:ALA:O    | 8:H:305:ALA:N     | 2.29                     | 0.59              |
| 8:H:355:VAL:HG12 | 8:H:376:VAL:HG21  | 1.85                     | 0.59              |
| 3:K:208:ILE:H    | 3:K:211:ASP:HB2   | 1.68                     | 0.59              |
| 4:L:407:ASP:HA   | 4:L:410:CYS:HB2   | 1.84                     | 0.59              |
| 4:L:418:LYS:HG2  | 4:L:512:LEU:HB3   | 1.84                     | 0.59              |
| 13:5:62:LEU:HD11 | 13:5:76:LEU:HB2   | 1.85                     | 0.59              |
| 1:A:126:LYS:O    | 1:A:129:VAL:HG22  | 2.01                     | 0.59              |
| 2:B:413:SER:HA   | 2:B:416:LEU:HB3   | 1.83                     | 0.59              |
| 2:B:441:LYS:O    | 2:B:445:MET:N     | 2.35                     | 0.59              |
| 2:B:521:ILE:HD12 | 5:E:77:ILE:HG13   | 1.83                     | 0.59              |
| 3:C:234:LYS:HD2  | 3:C:349:LEU:HD22  | 1.84                     | 0.59              |
| 4:D:193:LYS:O    | 4:D:384:LYS:HG2   | 2.02                     | 0.59              |
| 4:D:461:ILE:HB   | 4:D:462:PRO:HD3   | 1.85                     | 0.59              |
| 5:E:123:LEU:HD23 | 5:E:126:ARG:HD3   | 1.83                     | 0.59              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 6:F:197:LYS:HZ2  | 6:F:358:GLU:H    | 1.51                     | 0.59              |
| 7:G:200:VAL:HB   | 7:G:375:ARG:HA   | 1.83                     | 0.59              |
| 8:H:221:MET:HG2  | 8:H:323:ARG:CZ   | 2.31                     | 0.59              |
| 2:J:414:GLU:HA   | 2:J:417:MET:HE2  | 1.85                     | 0.59              |
| 3:K:76:ALA:HB1   | 3:K:80:MET:HG2   | 1.84                     | 0.59              |
| 4:L:430:ILE:HD11 | 4:L:462:PRO:HD3  | 1.84                     | 0.59              |
| 6:N:123:PHE:CE2  | 6:N:516:LEU:HD11 | 2.37                     | 0.59              |
| 6:N:430:LYS:HD2  | 6:N:432:ARG:HG2  | 1.85                     | 0.59              |
| 8:P:52:MET:HG2   | 8:P:455:ASN:HD21 | 1.67                     | 0.59              |
| 2:B:473:ASN:OD1  | 2:B:475:THR:N    | 2.24                     | 0.59              |
| 4:D:244:ALA:O    | 4:D:359:ALA:N    | 2.17                     | 0.59              |
| 5:E:357:GLY:N    | 5:E:377:CYS:H    | 2.01                     | 0.59              |
| 5:E:480:ARG:O    | 5:E:484:GLU:N    | 2.34                     | 0.59              |
| 1:I:104:ALA:HB2  | 1:I:521:ALA:HB1  | 1.84                     | 0.59              |
| 1:I:162:GLY:HA3  | 1:I:206:MET:SD   | 2.41                     | 0.59              |
| 3:K:203:LYS:HB3  | 3:K:376:LEU:HD11 | 1.84                     | 0.59              |
| 4:L:328:ILE:HD11 | 4:L:332:ASP:HB2  | 1.84                     | 0.59              |
| 6:N:328:CYS:O    | 6:N:367:ASN:ND2  | 2.35                     | 0.59              |
| 2:B:45:PRO:HD2   | 2:B:480:MET:SD   | 2.42                     | 0.59              |
| 3:C:491:LYS:HG2  | 3:C:496:TRP:CH2  | 2.36                     | 0.59              |
| 4:D:60:MET:HB3   | 4:D:68:VAL:HG23  | 1.83                     | 0.59              |
| 4:D:232:LYS:HD3  | 4:D:364:GLU:HB2  | 1.84                     | 0.59              |
| 5:E:489:LEU:HA   | 5:E:501:MET:N    | 2.18                     | 0.59              |
| 8:H:203:ARG:NH2  | 8:H:222:VAL:O    | 2.35                     | 0.59              |
| 8:H:389:GLU:HA   | 8:H:392:VAL:HB   | 1.84                     | 0.59              |
| 6:N:174:ASP:HB3  | 6:N:208:ARG:HH21 | 1.68                     | 0.59              |
| 6:N:179:ILE:HD12 | 6:N:182:GLN:H    | 1.68                     | 0.59              |
| 7:O:323:MET:HG3  | 7:O:329:SER:HA   | 1.84                     | 0.59              |
| 1:A:153:LYS:NZ   | 1:A:162:GLY:O    | 2.28                     | 0.59              |
| 3:C:193:ILE:HG23 | 3:C:195:ILE:HG22 | 1.83                     | 0.59              |
| 3:C:355:ILE:HB   | 3:C:360:PHE:CE2  | 2.38                     | 0.59              |
| 4:D:484:HIS:HA   | 4:D:488:GLU:HA   | 1.84                     | 0.59              |
| 4:D:502:ASN:HB2  | 4:D:505:GLU:HG2  | 1.83                     | 0.59              |
| 5:E:280:TYR:HB3  | 7:G:260:VAL:HG22 | 1.85                     | 0.59              |
| 7:G:216:PHE:CE2  | 7:G:290:LEU:HD13 | 2.38                     | 0.59              |
| 7:G:282:HIS:HB3  | 7:G:306:ARG:NE   | 2.18                     | 0.59              |
| 1:I:527:ILE:HG13 | 4:L:72:ASN:HA    | 1.83                     | 0.59              |
| 1:I:531:ILE:H    | 4:L:59:LYS:HE2   | 1.68                     | 0.59              |
| 3:K:70:ILE:HG13  | 3:K:71:GLN:H     | 1.68                     | 0.59              |
| 3:K:118:HIS:CD2  | 3:K:122:VAL:HG23 | 2.38                     | 0.59              |
| 3:K:220:ILE:HG22 | 3:K:222:LYS:H    | 1.68                     | 0.59              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 4:L:91:LEU:HA    | 4:L:94:LEU:HB3   | 1.84                     | 0.59              |
| 4:L:497:LYS:HG2  | 4:L:508:VAL:HG23 | 1.85                     | 0.59              |
| 5:M:135:ASP:OD1  | 5:M:525:ARG:NH2  | 2.35                     | 0.59              |
| 10:2:29:GLY:HA2  | 10:2:32:ARG:HE   | 1.67                     | 0.59              |
| 2:B:219:LEU:HD12 | 2:B:361:HIS:CD2  | 2.38                     | 0.59              |
| 2:B:422:THR:O    | 2:B:426:ASN:N    | 2.36                     | 0.59              |
| 4:D:463:SER:O    | 4:D:467:GLU:N    | 2.32                     | 0.59              |
| 5:E:243:VAL:HG11 | 5:E:361:GLU:H    | 1.68                     | 0.59              |
| 6:F:182:GLN:NE2  | 6:F:370:ARG:HD2  | 2.18                     | 0.59              |
| 7:G:175:PHE:HA   | 7:G:178:MET:HB2  | 1.85                     | 0.59              |
| 8:H:87:VAL:O     | 8:H:91:HIS:ND1   | 2.28                     | 0.59              |
| 8:H:401:VAL:HG21 | 8:H:406:LYS:HG3  | 1.84                     | 0.59              |
| 2:J:43:LEU:HD22  | 2:J:100:THR:HB   | 1.84                     | 0.59              |
| 6:N:15:ARG:HH11  | 6:N:520:GLU:HB2  | 1.67                     | 0.59              |
| 6:N:231:LEU:HG   | 6:N:233:CYS:SG   | 2.43                     | 0.59              |
| 7:O:155:LEU:HD12 | 7:O:180:VAL:HG13 | 1.84                     | 0.59              |
| 8:P:499:ASP:HB2  | 8:P:504:LYS:HE2  | 1.85                     | 0.59              |
| 1:A:86:VAL:HG11  | 1:A:509:VAL:HG22 | 1.84                     | 0.58              |
| 1:A:152:ALA:HA   | 1:A:155:SER:HB2  | 1.85                     | 0.58              |
| 1:A:226:PRO:HG2  | 1:A:229:ILE:HD11 | 1.85                     | 0.58              |
| 2:B:130:TRP:CD1  | 2:B:439:TYR:HB2  | 2.38                     | 0.58              |
| 3:C:173:CYS:O    | 3:C:177:LEU:N    | 2.21                     | 0.58              |
| 3:C:239:VAL:HG23 | 3:C:287:PRO:HB3  | 1.84                     | 0.58              |
| 4:D:28:ASP:O     | 4:D:32:GLN:N     | 2.31                     | 0.58              |
| 5:E:189:ALA:HB2  | 5:E:402:LEU:HD22 | 1.85                     | 0.58              |
| 6:F:61:ASN:ND2   | 6:F:82:THR:HA    | 2.18                     | 0.58              |
| 7:G:448:GLN:O    | 7:G:451:ASP:N    | 2.35                     | 0.58              |
| 8:H:165:ARG:NH1  | 8:H:496:GLY:O    | 2.32                     | 0.58              |
| 8:H:238:LYS:H    | 8:H:289:ASN:HD22 | 1.50                     | 0.58              |
| 8:H:283:ILE:HG12 | 8:H:339:PRO:HG2  | 1.84                     | 0.58              |
| 1:I:45:LEU:HD23  | 1:I:64:LEU:HD23  | 1.85                     | 0.58              |
| 1:I:398:VAL:HB   | 1:I:401:ARG:HH21 | 1.67                     | 0.58              |
| 2:J:516:ARG:O    | 5:M:57:LEU:HB3   | 2.03                     | 0.58              |
| 3:K:99:ILE:HG13  | 3:K:100:ILE:HG23 | 1.84                     | 0.58              |
| 4:L:431:GLU:HA   | 4:L:484:HIS:CE1  | 2.38                     | 0.58              |
| 5:M:153:ASP:OD1  | 5:M:417:ARG:NH2  | 2.30                     | 0.58              |
| 7:O:259:THR:HG23 | 7:O:260:VAL:HG23 | 1.85                     | 0.58              |
| 7:O:413:GLU:HA   | 7:O:416:LEU:HD12 | 1.85                     | 0.58              |
| 2:B:176:LYS:HA   | 2:B:179:PHE:HB2  | 1.84                     | 0.58              |
| 3:C:153:LEU:O    | 3:C:157:ASN:N    | 2.29                     | 0.58              |
| 4:D:250:GLN:HA   | 4:D:301:GLN:NE2  | 2.17                     | 0.58              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 6:F:227:ASP:O    | 6:F:288:GLY:N    | 2.37                     | 0.58              |
| 1:I:25:ALA:HB1   | 1:I:98:ALA:HA    | 1.85                     | 0.58              |
| 3:K:36:ILE:HD13  | 6:N:519:ASP:HB2  | 1.85                     | 0.58              |
| 4:L:496:ARG:HB3  | 4:L:508:VAL:HG21 | 1.85                     | 0.58              |
| 6:N:69:ILE:HA    | 8:P:527:ALA:HA   | 1.84                     | 0.58              |
| 6:N:455:SER:OG   | 6:N:482:ASN:O    | 2.19                     | 0.58              |
| 7:O:50:VAL:HG12  | 7:O:52:GLY:H     | 1.67                     | 0.58              |
| 2:B:46:LYS:HE2   | 2:B:454:ALA:HA   | 1.85                     | 0.58              |
| 3:C:175:ILE:O    | 3:C:179:ALA:N    | 2.36                     | 0.58              |
| 3:C:489:ASP:OD1  | 3:C:491:LYS:N    | 2.37                     | 0.58              |
| 5:E:166:ILE:HG23 | 5:E:183:ARG:HH22 | 1.68                     | 0.58              |
| 5:E:248:ILE:HB   | 5:E:359:VAL:HG11 | 1.85                     | 0.58              |
| 6:F:140:SER:HA   | 6:F:406:CYS:HA   | 1.85                     | 0.58              |
| 7:G:104:PHE:CE1  | 7:G:438:TYR:HA   | 2.38                     | 0.58              |
| 3:K:452:ILE:HG22 | 3:K:459:THR:HA   | 1.85                     | 0.58              |
| 3:K:463:LEU:O    | 3:K:467:ARG:N    | 2.24                     | 0.58              |
| 6:N:380:ASN:O    | 6:N:383:THR:OG1  | 2.18                     | 0.58              |
| 6:N:466:ILE:O    | 6:N:470:HIS:N    | 2.32                     | 0.58              |
| 1:A:78:LEU:HD22  | 1:A:520:ALA:HB2  | 1.84                     | 0.58              |
| 2:B:190:LEU:HD13 | 2:B:194:GLY:HA2  | 1.84                     | 0.58              |
| 2:B:232:ILE:H    | 2:B:349:ILE:HB   | 1.68                     | 0.58              |
| 2:B:290:PHE:N    | 2:B:310:MET:O    | 2.36                     | 0.58              |
| 4:D:114:GLY:HA2  | 4:D:117:LEU:HB2  | 1.84                     | 0.58              |
| 4:D:191:VAL:HG11 | 4:D:412:ILE:HG21 | 1.85                     | 0.58              |
| 4:D:262:ASN:HB2  | 4:D:264:ILE:HG12 | 1.84                     | 0.58              |
| 4:D:396:LEU:O    | 4:D:400:GLU:N    | 2.30                     | 0.58              |
| 4:D:503:ILE:HB   | 4:D:508:VAL:HB   | 1.85                     | 0.58              |
| 5:E:58:ASP:HA    | 5:E:72:ASN:HD21  | 1.68                     | 0.58              |
| 6:F:90:ASP:OD1   | 6:F:159:LYS:NZ   | 2.24                     | 0.58              |
| 6:F:426:LYS:HB2  | 6:F:429:VAL:HA   | 1.86                     | 0.58              |
| 7:G:279:GLU:HB3  | 7:G:283:HIS:CE1  | 2.38                     | 0.58              |
| 7:G:303:PHE:HB3  | 7:G:310:CYS:HB2  | 1.84                     | 0.58              |
| 8:H:176:GLU:OE2  | 8:H:180:ALA:HB2  | 2.04                     | 0.58              |
| 8:H:349:SER:N    | 8:H:364:LYS:O    | 2.36                     | 0.58              |
| 3:K:93:ASP:OD1   | 3:K:94:GLY:N     | 2.35                     | 0.58              |
| 4:L:112:ILE:HD12 | 4:L:519:LEU:HD23 | 1.86                     | 0.58              |
| 2:B:172:LEU:HD22 | 2:B:382:ILE:HG23 | 1.85                     | 0.58              |
| 3:C:97:SER:HA    | 3:C:100:ILE:HB   | 1.85                     | 0.58              |
| 4:D:98:GLN:HE21  | 4:D:109:VAL:HB   | 1.68                     | 0.58              |
| 4:D:288:LYS:O    | 4:D:292:LYS:N    | 2.35                     | 0.58              |
| 4:D:402:GLU:O    | 4:D:405:ILE:HG13 | 2.03                     | 0.58              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 5:E:410:ARG:HG2  | 5:E:414:ARG:HH12 | 1.67                     | 0.58              |
| 6:F:109:TYR:HE2  | 6:F:439:ALA:HB2  | 1.68                     | 0.58              |
| 7:G:441:ALA:O    | 7:G:444:ILE:HG22 | 2.03                     | 0.58              |
| 7:G:481:ASN:ND2  | 7:G:490:ALA:HB1  | 2.18                     | 0.58              |
| 8:H:108:ALA:O    | 8:H:112:LEU:N    | 2.33                     | 0.58              |
| 2:J:391:HIS:HA   | 2:J:394:LEU:HD12 | 1.85                     | 0.58              |
| 5:M:120:ALA:HA   | 5:M:133:ILE:HG21 | 1.85                     | 0.58              |
| 6:N:84:GLN:HE21  | 6:N:95:ASN:HD22  | 1.50                     | 0.58              |
| 2:B:237:ILE:O    | 2:B:344:GLY:N    | 2.37                     | 0.58              |
| 4:D:99:ASP:HA    | 4:D:103:GLY:H    | 1.68                     | 0.58              |
| 5:E:249:ALA:O    | 5:E:301:ILE:N    | 2.28                     | 0.58              |
| 6:F:61:ASN:OD1   | 6:F:65:HIS:HE1   | 1.86                     | 0.58              |
| 6:F:326:LEU:HB3  | 6:F:370:ARG:HB2  | 1.85                     | 0.58              |
| 7:G:210:LEU:HD12 | 7:G:372:PHE:HD1  | 1.68                     | 0.58              |
| 7:G:417:SER:O    | 7:G:421:ARG:N    | 2.35                     | 0.58              |
| 1:I:68:GLU:HB2   | 4:L:62:GLN:HE22  | 1.68                     | 0.58              |
| 1:I:246:MET:HG3  | 1:I:247:LYS:H    | 1.68                     | 0.58              |
| 2:J:92:ASP:OD1   | 2:J:97:ASP:N     | 2.36                     | 0.58              |
| 4:L:34:ARG:HA    | 4:L:37:ASN:HD22  | 1.68                     | 0.58              |
| 4:L:317:LEU:HD13 | 4:L:324:VAL:HG11 | 1.84                     | 0.58              |
| 5:M:73:ASP:HB2   | 5:M:176:LYS:HE3  | 1.86                     | 0.58              |
| 5:M:95:SER:HB3   | 5:M:106:THR:HG22 | 1.85                     | 0.58              |
| 5:M:427:ILE:HA   | 5:M:456:GLU:HG2  | 1.86                     | 0.58              |
| 5:M:534:ARG:HB3  | 7:O:49:ILE:HA    | 1.86                     | 0.58              |
| 6:N:263:GLU:HA   | 6:N:266:PHE:HD2  | 1.67                     | 0.58              |
| 8:P:115:ALA:HA   | 8:P:118:LEU:HD12 | 1.84                     | 0.58              |
| 11:3:119:PRO:HG3 | 13:5:73:PRO:HG2  | 1.85                     | 0.58              |
| 11:3:138:ASP:O   | 11:3:142:ALA:N   | 2.35                     | 0.58              |
| 2:B:348:LEU:N    | 2:B:363:SER:O    | 2.31                     | 0.58              |
| 3:C:168:TRP:CD2  | 3:C:387:VAL:HG22 | 2.39                     | 0.58              |
| 3:C:320:ASN:O    | 3:C:324:ALA:N    | 2.22                     | 0.58              |
| 5:E:255:PHE:CG   | 5:E:300:ALA:HB2  | 2.39                     | 0.58              |
| 7:G:117:HIS:NE2  | 7:G:517:ASP:OD2  | 2.36                     | 0.58              |
| 7:G:301:GLN:O    | 7:G:305:ASP:N    | 2.37                     | 0.58              |
| 1:I:122:ARG:HH12 | 1:I:515:LYS:HG2  | 1.69                     | 0.58              |
| 2:J:115:SER:HA   | 2:J:118:ALA:HB3  | 1.84                     | 0.58              |
| 2:J:162:ILE:HG12 | 2:J:495:GLU:HA   | 1.85                     | 0.58              |
| 3:K:322:ARG:O    | 3:K:326:ALA:N    | 2.33                     | 0.58              |
| 3:K:438:ARG:O    | 3:K:442:GLN:HG3  | 2.03                     | 0.58              |
| 4:L:195:ILE:HA   | 4:L:203:VAL:HG22 | 1.85                     | 0.58              |
| 5:M:111:VAL:HG23 | 5:M:458:ILE:HG12 | 1.84                     | 0.58              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 5:M:182:HIS:CE1  | 5:M:219:LEU:HD13 | 2.39                     | 0.58              |
| 5:M:302:CYS:HG   | 5:M:306:PHE:HE1  | 1.50                     | 0.58              |
| 6:N:249:PHE:HB3  | 6:N:255:GLU:HB3  | 1.86                     | 0.58              |
| 6:N:467:GLN:O    | 6:N:471:SER:N    | 2.28                     | 0.58              |
| 7:O:395:ILE:HA   | 7:O:398:ARG:HB3  | 1.85                     | 0.58              |
| 7:O:447:ARG:HB2  | 7:O:461:LEU:HD11 | 1.86                     | 0.58              |
| 8:P:223:PHE:HD2  | 8:P:313:VAL:HG11 | 1.68                     | 0.58              |
| 10:2:81:ARG:NH2  | 10:2:85:GLU:O    | 2.36                     | 0.58              |
| 13:5:54:ASN:HD21 | 13:5:96:ALA:HB1  | 1.69                     | 0.58              |
| 2:B:304:PHE:HB3  | 2:B:309:VAL:HB   | 1.84                     | 0.58              |
| 2:B:353:MET:HB2  | 2:B:358:LYS:HD2  | 1.86                     | 0.58              |
| 4:D:145:ILE:HB   | 4:D:519:LEU:HD13 | 1.84                     | 0.58              |
| 4:D:311:ASP:OD1  | 4:D:326:LYS:NZ   | 2.34                     | 0.58              |
| 5:E:187:GLU:HA   | 5:E:190:VAL:HG22 | 1.84                     | 0.58              |
| 6:F:459:LEU:O    | 6:F:463:LEU:N    | 2.30                     | 0.58              |
| 7:G:144:LYS:HB2  | 7:G:147:ASP:HB2  | 1.84                     | 0.58              |
| 7:G:297:ASP:O    | 7:G:301:GLN:HG3  | 2.02                     | 0.58              |
| 7:G:449:LEU:HA   | 7:G:452:ASN:HB2  | 1.86                     | 0.58              |
| 8:H:143:LEU:HG   | 8:H:501:TYR:HE1  | 1.67                     | 0.58              |
| 1:I:55:THR:HG21  | 1:I:60:THR:HG21  | 1.86                     | 0.58              |
| 2:J:68:ALA:HB2   | 2:J:99:THR:HG21  | 1.85                     | 0.58              |
| 3:K:152:MET:O    | 3:K:156:ILE:HG22 | 2.03                     | 0.58              |
| 3:K:408:VAL:HG23 | 3:K:497:GLU:HB3  | 1.85                     | 0.58              |
| 7:O:65:ILE:O     | 7:O:69:LEU:N     | 2.31                     | 0.58              |
| 8:P:86:ILE:HD11  | 8:P:518:VAL:HG11 | 1.85                     | 0.58              |
| 1:A:461:THR:O    | 1:A:465:ALA:N    | 2.36                     | 0.58              |
| 3:C:140:ILE:HG12 | 3:C:409:PRO:HD2  | 1.85                     | 0.58              |
| 5:E:112:LEU:HA   | 5:E:115:ALA:HB3  | 1.85                     | 0.58              |
| 7:G:232:TYR:CE2  | 7:G:309:PHE:HB2  | 2.39                     | 0.58              |
| 7:G:416:LEU:HB2  | 7:G:442:LEU:HD13 | 1.85                     | 0.58              |
| 8:H:240:ALA:HB1  | 8:H:242:TYR:CE2  | 2.39                     | 0.58              |
| 8:H:350:VAL:HG13 | 8:H:363:PHE:CD1  | 2.39                     | 0.58              |
| 4:L:217:THR:O    | 4:L:221:CYS:N    | 2.37                     | 0.58              |
| 5:M:424:ALA:HB1  | 5:M:487:PRO:HA   | 1.84                     | 0.58              |
| 8:P:322:ARG:O    | 8:P:326:LYS:N    | 2.35                     | 0.58              |
| 8:P:449:PRO:O    | 8:P:453:ALA:N    | 2.36                     | 0.58              |
| 1:A:145:ARG:NH2  | 1:A:401:ARG:HB2  | 2.19                     | 0.58              |
| 2:B:161:ASN:ND2  | 2:B:490:ILE:HG23 | 2.19                     | 0.58              |
| 2:B:417:MET:HB3  | 2:B:443:LEU:HD13 | 1.86                     | 0.58              |
| 4:D:37:ASN:HA    | 4:D:85:HIS:HE1   | 1.68                     | 0.58              |
| 4:D:301:GLN:NE2  | 4:D:306:ARG:HE   | 2.01                     | 0.58              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 4:D:316:PHE:O    | 4:D:320:MET:HG3  | 2.04                     | 0.58              |
| 5:E:166:ILE:HG22 | 5:E:170:LYS:NZ   | 2.19                     | 0.58              |
| 6:F:134:LEU:HD23 | 6:F:418:MET:HE1  | 1.86                     | 0.58              |
| 6:F:452:ALA:HA   | 6:F:484:GLY:HA2  | 1.86                     | 0.58              |
| 7:G:118:PRO:O    | 7:G:121:ILE:N    | 2.32                     | 0.58              |
| 2:J:258:VAL:HG22 | 2:J:263:LYS:HB2  | 1.86                     | 0.58              |
| 3:K:152:MET:HB3  | 3:K:177:LEU:HD22 | 1.84                     | 0.58              |
| 5:M:186:ALA:O    | 5:M:190:VAL:HG23 | 2.04                     | 0.58              |
| 5:M:386:PHE:CE2  | 5:M:388:ARG:HB2  | 2.39                     | 0.58              |
| 11:3:81:ILE:O    | 11:3:84:THR:OG1  | 2.19                     | 0.58              |
| 1:A:55:THR:HG23  | 1:A:61:ILE:HG22  | 1.86                     | 0.57              |
| 1:A:225:MET:HG3  | 1:A:306:MET:HA   | 1.85                     | 0.57              |
| 1:A:476:VAL:HG12 | 1:A:486:ILE:HD12 | 1.85                     | 0.57              |
| 3:C:174:ASN:HA   | 3:C:177:LEU:HD12 | 1.86                     | 0.57              |
| 3:C:449:ARG:O    | 3:C:453:GLN:N    | 2.22                     | 0.57              |
| 4:D:194:VAL:HG11 | 4:D:208:ILE:HG13 | 1.86                     | 0.57              |
| 5:E:136:GLY:HA2  | 5:E:139:GLN:HB2  | 1.86                     | 0.57              |
| 5:E:442:THR:HA   | 4:L:482:ASN:CG   | 2.24                     | 0.57              |
| 7:G:398:ARG:HE   | 7:G:495:PRO:HD2  | 1.69                     | 0.57              |
| 8:H:291:VAL:N    | 8:H:311:MET:O    | 2.34                     | 0.57              |
| 3:K:37:ILE:HA    | 3:K:40:CYS:HB2   | 1.85                     | 0.57              |
| 4:L:30:PRO:HG3   | 4:L:534:ASP:H    | 1.68                     | 0.57              |
| 5:M:463:SER:HB3  | 5:M:470:PRO:HB3  | 1.84                     | 0.57              |
| 6:N:231:LEU:HD13 | 6:N:339:LEU:HB2  | 1.86                     | 0.57              |
| 7:O:243:GLU:HG2  | 7:O:294:PRO:HD2  | 1.85                     | 0.57              |
| 11:3:82:LYS:HA   | 11:3:85:LEU:HD13 | 1.84                     | 0.57              |
| 12:4:51:GLU:HG2  | 12:4:54:CYS:HB2  | 1.86                     | 0.57              |
| 4:D:244:ALA:HA   | 4:D:296:ASN:HB2  | 1.86                     | 0.57              |
| 5:E:534:ARG:HB2  | 7:G:35:ALA:HB2   | 1.86                     | 0.57              |
| 6:F:235:VAL:HG21 | 6:F:336:PHE:CE2  | 2.39                     | 0.57              |
| 6:F:449:LYS:HD2  | 6:F:459:LEU:HD22 | 1.85                     | 0.57              |
| 8:H:31:ARG:HB2   | 8:H:80:HIS:HE1   | 1.69                     | 0.57              |
| 8:H:442:ALA:HA   | 8:H:445:PHE:HE2  | 1.69                     | 0.57              |
| 1:I:130:ARG:O    | 1:I:134:GLU:N    | 2.33                     | 0.57              |
| 2:J:109:LEU:O    | 2:J:113:ALA:N    | 2.31                     | 0.57              |
| 7:O:463:LYS:HD2  | 7:O:484:ILE:HG21 | 1.86                     | 0.57              |
| 11:3:105:PHE:N   | 11:3:113:CYS:O   | 2.37                     | 0.57              |
| 14:6:58:LYS:HE2  | 14:6:67:GLN:NE2  | 2.19                     | 0.57              |
| 1:A:522:ILE:O    | 1:A:526:ARG:HG2  | 2.05                     | 0.57              |
| 5:E:161:ASP:OD1  | 5:E:162:THR:N    | 2.37                     | 0.57              |
| 5:E:204:VAL:HG12 | 5:E:413:ILE:HD13 | 1.86                     | 0.57              |

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| Atom-1           | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 5:E:441:PRO:HB3  | 4:L:485:ALA:HB1   | 1.86                     | 0.57              |
| 6:F:201:GLU:HA   | 6:F:377:LYS:O     | 2.04                     | 0.57              |
| 6:F:349:LEU:HB3  | 6:F:364:GLU:HG3   | 1.87                     | 0.57              |
| 6:F:398:VAL:HA   | 6:F:401:ALA:HB3   | 1.86                     | 0.57              |
| 7:G:121:ILE:HD13 | 7:G:514:VAL:HG22  | 1.85                     | 0.57              |
| 1:I:107:LEU:HB2  | 1:I:117:VAL:HG11  | 1.86                     | 0.57              |
| 2:J:415:MET:HG2  | 2:J:444:ARG:HA    | 1.84                     | 0.57              |
| 5:M:509:THR:HG23 | 5:M:512:GLY:H     | 1.69                     | 0.57              |
| 6:N:114:LEU:HD13 | 6:N:435:LEU:HD11  | 1.85                     | 0.57              |
| 6:N:349:LEU:O    | 6:N:364:GLU:N     | 2.28                     | 0.57              |
| 3:C:332:VAL:HG11 | 3:C:338:LEU:HG    | 1.86                     | 0.57              |
| 4:D:56:GLY:O     | 4:D:72:ASN:ND2    | 2.35                     | 0.57              |
| 4:D:180:SER:O    | 4:D:183:LEU:N     | 2.37                     | 0.57              |
| 6:F:417:ALA:HA   | 6:F:470:HIS:CD2   | 2.40                     | 0.57              |
| 6:F:449:LYS:HB2  | 6:F:459:LEU:HB2   | 1.85                     | 0.57              |
| 8:H:143:LEU:HG   | 8:H:501:TYR:CE1   | 2.39                     | 0.57              |
| 1:I:461:THR:HA   | 1:I:464:VAL:HG22  | 1.85                     | 0.57              |
| 3:K:438:ARG:O    | 3:K:442:GLN:N     | 2.38                     | 0.57              |
| 3:K:449:ARG:HH21 | 3:K:463:LEU:HB3   | 1.69                     | 0.57              |
| 4:L:129:HIS:HB2  | 4:L:132:ILE:HG12  | 1.86                     | 0.57              |
| 5:M:155:VAL:HA   | 5:M:416:ASN:H     | 1.69                     | 0.57              |
| 5:M:477:VAL:O    | 5:M:481:GLN:N     | 2.34                     | 0.57              |
| 7:O:19:ILE:HA    | 7:O:22:LEU:HB3    | 1.86                     | 0.57              |
| 7:O:85:SER:O     | 7:O:89:GLU:N      | 2.33                     | 0.57              |
| 7:O:244:LEU:HD11 | 7:O:281:ILE:HD13  | 1.86                     | 0.57              |
| 7:O:464:LEU:HD13 | 7:O:475:TYR:HB3   | 1.87                     | 0.57              |
| 10:2:66:GLU:HG2  | 11:3:133:LEU:HD21 | 1.85                     | 0.57              |
| 11:3:67:LEU:HD22 | 11:3:158:LEU:HD11 | 1.86                     | 0.57              |
| 2:B:201:ILE:H    | 2:B:322:ARG:NH1   | 2.01                     | 0.57              |
| 3:C:293:GLU:OE1  | 3:C:317:LYS:HA    | 2.04                     | 0.57              |
| 4:D:48:ILE:HG13  | 4:D:110:VAL:HG11  | 1.87                     | 0.57              |
| 4:D:291:LYS:HD2  | 4:D:294:GLY:HA2   | 1.86                     | 0.57              |
| 5:E:255:PHE:HB3  | 5:E:323:ARG:NH1   | 2.19                     | 0.57              |
| 6:F:127:LYS:HZ1  | 6:F:506:HIS:HA    | 1.70                     | 0.57              |
| 6:F:160:VAL:HG12 | 6:F:161:HIS:N     | 2.20                     | 0.57              |
| 7:G:74:PRO:O     | 7:G:78:THR:HG23   | 2.04                     | 0.57              |
| 7:G:348:PHE:CD1  | 7:G:361:PHE:HE1   | 2.22                     | 0.57              |
| 8:H:158:ASP:HA   | 8:H:161:SER:OG    | 2.03                     | 0.57              |
| 4:L:364:GLU:HA   | 4:L:373:LEU:O     | 2.03                     | 0.57              |
| 5:M:132:ARG:CZ   | 5:M:443:LEU:HB3   | 2.34                     | 0.57              |
| 6:N:41:LYS:HB2   | 6:N:482:ASN:HA    | 1.85                     | 0.57              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 7:O:278:LEU:HD21 | 7:O:299:ALA:HB1  | 1.87                     | 0.57              |
| 1:A:122:ARG:HH12 | 1:A:519:GLU:HG3  | 1.69                     | 0.57              |
| 1:A:237:LEU:HB2  | 1:A:288:THR:HG23 | 1.87                     | 0.57              |
| 2:B:236:LYS:HB3  | 2:B:343:LEU:HD13 | 1.86                     | 0.57              |
| 4:D:300:ILE:HD13 | 4:D:324:VAL:HG13 | 1.87                     | 0.57              |
| 5:E:130:PRO:O    | 7:G:43:ARG:NH1   | 2.36                     | 0.57              |
| 5:E:304:TRP:HE1  | 7:G:271:TRP:HZ2  | 1.52                     | 0.57              |
| 5:E:400:ARG:HA   | 5:E:403:HIS:CD2  | 2.38                     | 0.57              |
| 5:E:423:GLY:HA3  | 5:E:491:ILE:HG12 | 1.87                     | 0.57              |
| 7:G:306:ARG:HG3  | 7:G:308:MET:H    | 1.69                     | 0.57              |
| 8:H:210:SER:HB2  | 8:H:378:ARG:HB3  | 1.85                     | 0.57              |
| 2:J:72:LYS:NZ    | 2:J:89:ARG:HB2   | 2.17                     | 0.57              |
| 4:L:35:PHE:O     | 4:L:39:SER:N     | 2.38                     | 0.57              |
| 4:L:139:LYS:HG2  | 4:L:443:LEU:HD22 | 1.84                     | 0.57              |
| 4:L:271:GLN:HG2  | 4:L:274:ARG:HH21 | 1.69                     | 0.57              |
| 4:L:297:VAL:HG22 | 4:L:323:MET:HB2  | 1.87                     | 0.57              |
| 5:M:128:ILE:HG21 | 5:M:133:ILE:HD11 | 1.85                     | 0.57              |
| 6:N:303:ASP:HB3  | 6:N:307:LYS:HE2  | 1.87                     | 0.57              |
| 9:1:40:THR:O     | 9:1:44:ALA:N     | 2.36                     | 0.57              |
| 1:A:107:LEU:HD11 | 1:A:440:GLU:HG3  | 1.86                     | 0.57              |
| 2:B:391:HIS:O    | 2:B:395:CYS:N    | 2.33                     | 0.57              |
| 3:C:131:ASP:OD1  | 3:C:132:ASP:N    | 2.37                     | 0.57              |
| 3:C:249:LYS:HB2  | 3:C:255:ASP:H    | 1.69                     | 0.57              |
| 4:D:153:ARG:O    | 4:D:421:LEU:N    | 2.36                     | 0.57              |
| 4:D:165:ASN:OD1  | 4:D:169:THR:OG1  | 2.20                     | 0.57              |
| 5:E:89:LYS:HZ3   | 7:G:50:VAL:HG21  | 1.69                     | 0.57              |
| 5:E:227:GLY:O    | 5:E:384:THR:OG1  | 2.21                     | 0.57              |
| 7:G:192:LEU:HD13 | 7:G:196:GLY:HA2  | 1.86                     | 0.57              |
| 8:H:114:LEU:HB3  | 8:H:440:LYS:HE3  | 1.87                     | 0.57              |
| 1:I:93:VAL:HG21  | 1:I:516:PHE:HB3  | 1.87                     | 0.57              |
| 3:K:445:GLU:OE1  | 3:K:467:ARG:NH1  | 2.38                     | 0.57              |
| 4:L:410:CYS:O    | 4:L:414:CYS:N    | 2.28                     | 0.57              |
| 5:M:221:ASP:OD2  | 5:M:388:ARG:NH2  | 2.37                     | 0.57              |
| 6:N:36:THR:O     | 6:N:43:THR:N     | 2.37                     | 0.57              |
| 7:O:89:GLU:OE1   | 7:O:501:ASN:HB3  | 2.05                     | 0.57              |
| 7:O:455:PHE:HD2  | 7:O:482:GLU:HB2  | 1.70                     | 0.57              |
| 1:A:175:ALA:HA   | 1:A:179:ILE:HG23 | 1.86                     | 0.57              |
| 1:A:370:ARG:HD2  | 1:A:371:THR:H    | 1.68                     | 0.57              |
| 1:A:433:ARG:NH1  | 7:O:459:ASN:HD21 | 2.02                     | 0.57              |
| 1:A:506:PRO:HB2  | 1:A:509:VAL:HG23 | 1.87                     | 0.57              |
| 7:G:150:GLU:OE1  | 7:G:152:ARG:NE   | 2.38                     | 0.57              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 7:G:232:TYR:N    | 7:G:348:PHE:O    | 2.23                     | 0.57              |
| 1:I:274:ARG:HH21 | 1:I:331:LEU:HD11 | 1.70                     | 0.57              |
| 2:J:170:LYS:NZ   | 2:J:392:ASP:OD2  | 2.32                     | 0.57              |
| 3:K:92:GLY:O     | 3:K:389:ARG:NH2  | 2.37                     | 0.57              |
| 3:K:190:ARG:HD2  | 3:K:192:GLU:HB2  | 1.85                     | 0.57              |
| 3:C:330:ARG:NH1  | 3:C:342:ASP:OD1  | 2.38                     | 0.57              |
| 3:C:353:LYS:HB2  | 3:C:362:PHE:HE2  | 1.70                     | 0.57              |
| 4:D:314:LEU:O    | 4:D:318:ASN:ND2  | 2.38                     | 0.57              |
| 4:D:529:ILE:HA   | 4:D:532:ILE:HB   | 1.85                     | 0.57              |
| 5:E:214:LYS:HB2  | 5:E:386:PHE:CZ   | 2.40                     | 0.57              |
| 7:G:26:ILE:O     | 7:G:30:GLN:N     | 2.36                     | 0.57              |
| 2:J:495:GLU:HB2  | 2:J:499:VAL:HG11 | 1.87                     | 0.57              |
| 3:K:203:LYS:HD2  | 3:K:384:LEU:HB3  | 1.86                     | 0.57              |
| 5:M:165:LEU:HD13 | 5:M:190:VAL:HG22 | 1.86                     | 0.57              |
| 5:M:299:LEU:HD22 | 5:M:359:VAL:HG11 | 1.85                     | 0.57              |
| 5:M:524:VAL:HA   | 5:M:527:ILE:HB   | 1.87                     | 0.57              |
| 8:P:116:GLU:OE2  | 8:P:120:ARG:NH1  | 2.38                     | 0.57              |
| 1:A:29:ALA:HA    | 1:A:32:VAL:HG22  | 1.86                     | 0.57              |
| 1:A:223:GLN:HE21 | 1:A:301:VAL:HG21 | 1.69                     | 0.57              |
| 3:C:44:LYS:HE2   | 3:C:483:GLU:HA   | 1.85                     | 0.57              |
| 5:E:51:SER:HA    | 5:E:57:LEU:H     | 1.69                     | 0.57              |
| 5:E:221:ASP:HB3  | 5:E:388:ARG:HD2  | 1.86                     | 0.57              |
| 8:H:151:ALA:HB3  | 8:H:406:LYS:HD3  | 1.86                     | 0.57              |
| 8:H:432:GLY:O    | 8:H:435:GLN:HG2  | 2.05                     | 0.57              |
| 1:I:114:PRO:HB2  | 4:L:54:PRO:HG2   | 1.86                     | 0.57              |
| 1:I:389:GLU:HG2  | 1:I:393:HIS:CD2  | 2.40                     | 0.57              |
| 1:I:463:LEU:HD13 | 1:I:494:LYS:HD3  | 1.86                     | 0.57              |
| 2:J:145:ALA:HB1  | 2:J:405:ARG:HB3  | 1.87                     | 0.57              |
| 3:K:238:ILE:HG22 | 3:K:289:VAL:HG11 | 1.86                     | 0.57              |
| 3:K:481:ASN:ND2  | 3:K:495:ILE:HG13 | 2.19                     | 0.57              |
| 4:L:277:ARG:HA   | 4:L:280:ARG:HG2  | 1.87                     | 0.57              |
| 6:N:91:GLY:O     | 6:N:95:ASN:N     | 2.38                     | 0.57              |
| 6:N:466:ILE:HD11 | 6:N:486:PRO:HA   | 1.85                     | 0.57              |
| 8:P:166:THR:OG1  | 8:P:497:ILE:HG23 | 2.05                     | 0.57              |
| 8:P:255:GLY:HA2  | 8:P:275:LEU:HD21 | 1.86                     | 0.57              |
| 11:3:136:ASP:N   | 11:3:139:GLU:HB3 | 2.19                     | 0.57              |
| 14:6:90:TYR:O    | 14:6:93:GLN:N    | 2.37                     | 0.57              |
| 1:A:111:LYS:HE2  | 1:A:433:ARG:HH21 | 1.70                     | 0.56              |
| 1:A:149:ILE:HA   | 1:A:169:ALA:HB1  | 1.86                     | 0.56              |
| 1:A:176:VAL:HG21 | 1:A:396:LEU:HA   | 1.85                     | 0.56              |
| 2:B:290:PHE:O    | 2:B:311:ALA:HA   | 2.05                     | 0.56              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 3:C:133:MET:HG3  | 3:C:418:VAL:HG21 | 1.86                     | 0.56              |
| 3:C:429:MET:SD   | 3:C:433:GLU:HB2  | 2.45                     | 0.56              |
| 4:D:209:LYS:HZ2  | 4:D:227:LEU:HB3  | 1.69                     | 0.56              |
| 4:D:284:LEU:HD23 | 12:4:58:MET:SD   | 2.44                     | 0.56              |
| 6:F:212:LEU:N    | 6:F:361:THR:O    | 2.31                     | 0.56              |
| 6:F:274:ILE:O    | 6:F:278:LYS:N    | 2.38                     | 0.56              |
| 7:G:175:PHE:CD2  | 7:G:385:THR:HG21 | 2.39                     | 0.56              |
| 8:H:45:THR:HB    | 8:H:52:MET:HG2   | 1.86                     | 0.56              |
| 1:I:216:LEU:HD11 | 1:I:311:VAL:HB   | 1.86                     | 0.56              |
| 3:K:184:GLN:HE21 | 3:K:367:LYS:HG2  | 1.70                     | 0.56              |
| 4:L:266:VAL:HG12 | 4:L:272:MET:HA   | 1.86                     | 0.56              |
| 4:L:478:THR:O    | 4:L:481:ARG:HB2  | 2.04                     | 0.56              |
| 5:M:165:LEU:HD23 | 5:M:412:LEU:HD12 | 1.86                     | 0.56              |
| 6:N:313:LEU:HD13 | 6:N:361:THR:HG21 | 1.87                     | 0.56              |
| 6:N:403:ASP:OD1  | 6:N:404:ASP:N    | 2.38                     | 0.56              |
| 2:B:21:ALA:HA    | 2:B:518:ASP:HB2  | 1.87                     | 0.56              |
| 3:C:37:ILE:HA    | 3:C:40:CYS:HB2   | 1.87                     | 0.56              |
| 5:E:77:ILE:HD12  | 5:E:80:MET:HB2   | 1.87                     | 0.56              |
| 7:G:37:ARG:HG3   | 7:G:448:GLN:CG   | 2.35                     | 0.56              |
| 7:G:200:VAL:N    | 7:G:382:MET:HE1  | 2.20                     | 0.56              |
| 7:G:244:LEU:O    | 7:G:295:ILE:HA   | 2.05                     | 0.56              |
| 8:H:150:SER:HA   | 8:H:408:LEU:H    | 1.70                     | 0.56              |
| 1:I:316:LEU:HD23 | 1:I:327:ILE:HG22 | 1.87                     | 0.56              |
| 2:J:165:THR:OG1  | 2:J:492:GLY:O    | 2.23                     | 0.56              |
| 2:J:511:ALA:O    | 2:J:515:LEU:HB2  | 2.05                     | 0.56              |
| 3:K:51:LEU:HD23  | 6:N:523:ARG:HE   | 1.70                     | 0.56              |
| 4:L:418:LYS:HE2  | 4:L:512:LEU:HD23 | 1.87                     | 0.56              |
| 5:M:90:LEU:O     | 7:O:380:GLN:NE2  | 2.38                     | 0.56              |
| 5:M:169:ALA:O    | 5:M:173:LEU:N    | 2.31                     | 0.56              |
| 13:5:37:LYS:HA   | 13:5:114:MET:HE1 | 1.87                     | 0.56              |
| 1:A:180:LYS:NZ   | 1:A:372:SER:O    | 2.38                     | 0.56              |
| 3:C:200:ARG:HB3  | 3:C:373:THR:HG22 | 1.87                     | 0.56              |
| 3:C:217:GLY:O    | 3:C:373:THR:N    | 2.38                     | 0.56              |
| 3:C:349:LEU:O    | 3:C:363:ILE:HA   | 2.06                     | 0.56              |
| 4:D:28:ASP:HA    | 4:D:31:ALA:HB3   | 1.88                     | 0.56              |
| 5:E:86:GLN:HG2   | 7:G:48:LEU:O     | 2.04                     | 0.56              |
| 5:E:156:LEU:HD12 | 5:E:412:LEU:HD22 | 1.86                     | 0.56              |
| 5:E:288:MET:HG2  | 5:E:345:PHE:CE1  | 2.41                     | 0.56              |
| 6:F:151:VAL:HG11 | 6:F:497:ASN:HD21 | 1.69                     | 0.56              |
| 7:G:124:ALA:H    | 7:G:431:GLN:NE2  | 2.03                     | 0.56              |
| 7:G:279:GLU:HA   | 7:G:282:HIS:HB2  | 1.87                     | 0.56              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 7:G:295:ILE:HG22 | 7:G:300:THR:HB   | 1.87                     | 0.56              |
| 2:J:95:VAL:HG13  | 2:J:399:GLN:HE22 | 1.70                     | 0.56              |
| 2:J:347:LYS:HZ1  | 2:J:364:GLY:H    | 1.54                     | 0.56              |
| 2:J:354:ILE:HB   | 2:J:359:LEU:HD13 | 1.87                     | 0.56              |
| 2:J:508:ALA:O    | 2:J:512:GLU:N    | 2.37                     | 0.56              |
| 3:K:325:ARG:HE   | 3:K:369:PRO:HG3  | 1.71                     | 0.56              |
| 5:M:46:ASN:HA    | 5:M:49:ARG:HG2   | 1.86                     | 0.56              |
| 5:M:185:MET:HG2  | 5:M:222:THR:HG21 | 1.86                     | 0.56              |
| 6:N:217:ARG:NH1  | 6:N:222:LYS:O    | 2.38                     | 0.56              |
| 7:O:158:CYS:HB3  | 7:O:396:VAL:HG22 | 1.87                     | 0.56              |
| 7:O:319:LEU:HB3  | 7:O:330:ILE:HG22 | 1.87                     | 0.56              |
| 8:P:57:ILE:HG23  | 8:P:61:GLU:HA    | 1.88                     | 0.56              |
| 8:P:248:GLY:O    | 8:P:255:GLY:HA3  | 2.04                     | 0.56              |
| 8:P:348:ASP:HB2  | 8:P:364:LYS:HB3  | 1.87                     | 0.56              |
| 8:P:421:LYS:HZ3  | 8:P:468:TYR:HD1  | 1.53                     | 0.56              |
| 1:A:463:LEU:O    | 1:A:467:LEU:HG   | 2.06                     | 0.56              |
| 2:B:125:THR:HG23 | 2:B:431:LYS:HB3  | 1.86                     | 0.56              |
| 4:D:48:ILE:HG22  | 4:D:107:THR:HG23 | 1.87                     | 0.56              |
| 4:D:299:LEU:HD21 | 4:D:336:ILE:HD13 | 1.87                     | 0.56              |
| 1:I:243:LYS:HD2  | 1:I:299:TYR:HB3  | 1.86                     | 0.56              |
| 1:I:298:LYS:O    | 1:I:302:GLU:HG2  | 2.06                     | 0.56              |
| 2:J:226:VAL:HA   | 4:L:345:VAL:HA   | 1.88                     | 0.56              |
| 3:K:192:GLU:HA   | 3:K:402:LEU:HD23 | 1.87                     | 0.56              |
| 7:O:171:GLN:HE21 | 7:O:206:GLU:HG2  | 1.70                     | 0.56              |
| 7:O:182:ALA:HB2  | 7:O:372:PHE:HZ   | 1.71                     | 0.56              |
| 7:O:197:ILE:HG12 | 7:O:372:PHE:HB2  | 1.86                     | 0.56              |
| 11:3:108:ALA:HB3 | 13:5:46:ALA:HA   | 1.87                     | 0.56              |
| 13:5:82:VAL:HG21 | 13:5:99:ALA:HB2  | 1.87                     | 0.56              |
| 1:A:216:LEU:O    | 1:A:361:LEU:HD13 | 2.06                     | 0.56              |
| 1:A:428:THR:HG21 | 7:O:418:LYS:HD2  | 1.86                     | 0.56              |
| 2:B:449:ILE:O    | 2:B:453:ASN:ND2  | 2.39                     | 0.56              |
| 3:C:464:THR:HG23 | 8:P:435:GLN:OE1  | 2.05                     | 0.56              |
| 4:D:503:ILE:HD13 | 4:D:503:ILE:H    | 1.71                     | 0.56              |
| 7:G:71:VAL:HG21  | 7:G:76:ALA:HB3   | 1.88                     | 0.56              |
| 7:G:186:LEU:HD13 | 7:G:194:MET:HB3  | 1.87                     | 0.56              |
| 8:H:330:ALA:HA   | 8:H:343:GLU:HA   | 1.87                     | 0.56              |
| 5:M:310:ALA:HA   | 5:M:313:LEU:HB2  | 1.87                     | 0.56              |
| 5:M:346:SER:H    | 7:O:271:TRP:HZ3  | 1.53                     | 0.56              |
| 7:O:49:ILE:HD11  | 7:O:68:LEU:HD13  | 1.88                     | 0.56              |
| 14:6:20:GLN:HE22 | 14:6:98:GLU:HA   | 1.71                     | 0.56              |
| 1:A:453:ALA:HB2  | 1:A:463:LEU:HD13 | 1.88                     | 0.56              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:207:GLY:HA3  | 2:B:355:GLY:HA2  | 1.88                     | 0.56              |
| 3:C:144:VAL:H    | 3:C:406:GLN:HA   | 1.69                     | 0.56              |
| 5:E:259:LYS:CB   | 5:E:306:PHE:HA   | 2.35                     | 0.56              |
| 5:E:424:ALA:HB2  | 5:E:490:GLY:HA3  | 1.87                     | 0.56              |
| 6:F:39:GLY:HA2   | 6:F:158:THR:HA   | 1.88                     | 0.56              |
| 2:J:198:ALA:O    | 2:J:371:CYS:N    | 2.39                     | 0.56              |
| 2:J:226:VAL:HG11 | 2:J:298:ASN:OD1  | 2.06                     | 0.56              |
| 3:K:13:ASN:OD1   | 3:K:524:SER:OG   | 2.16                     | 0.56              |
| 3:K:379:ALA:H    | 3:K:383:ILE:HD11 | 1.70                     | 0.56              |
| 4:L:248:LEU:HA   | 4:L:299:LEU:HB2  | 1.88                     | 0.56              |
| 5:M:396:GLU:O    | 5:M:400:ARG:NE   | 2.39                     | 0.56              |
| 8:P:25:LEU:HA    | 8:P:523:GLN:HB3  | 1.87                     | 0.56              |
| 9:I:34:ILE:HD12  | 9:I:95:GLU:HB2   | 1.87                     | 0.56              |
| 1:A:117:VAL:O    | 1:A:121:TYR:N    | 2.29                     | 0.56              |
| 3:C:241:LEU:HD13 | 3:C:245:LEU:HB2  | 1.87                     | 0.56              |
| 4:D:137:PHE:CE1  | 4:D:454:PHE:HB2  | 2.40                     | 0.56              |
| 5:E:167:GLN:OE1  | 5:E:505:HIS:ND1  | 2.39                     | 0.56              |
| 6:F:157:ARG:HG2  | 6:F:162:ALA:HA   | 1.87                     | 0.56              |
| 7:G:137:LYS:HD3  | 7:G:500:ILE:HD11 | 1.85                     | 0.56              |
| 7:G:287:LYS:HA   | 7:G:308:MET:HB3  | 1.88                     | 0.56              |
| 7:G:346:GLN:HB2  | 7:G:363:GLY:HA3  | 1.88                     | 0.56              |
| 8:H:137:ARG:O    | 8:H:141:GLU:N    | 2.31                     | 0.56              |
| 1:I:421:ILE:HG12 | 1:I:468:ARG:HE   | 1.71                     | 0.56              |
| 4:L:191:VAL:O    | 4:L:195:ILE:N    | 2.39                     | 0.56              |
| 2:B:52:LEU:HD22  | 2:B:73:ASN:HD22  | 1.70                     | 0.56              |
| 2:B:162:ILE:HG12 | 2:B:496:SER:N    | 2.21                     | 0.56              |
| 4:D:277:ARG:HA   | 4:D:280:ARG:NH2  | 2.21                     | 0.56              |
| 4:D:361:LEU:HB3  | 4:D:377:THR:HB   | 1.87                     | 0.56              |
| 5:E:223:LYS:HB3  | 5:E:225:ILE:HD11 | 1.88                     | 0.56              |
| 6:F:199:LYS:NZ   | 8:H:95:GLN:OE1   | 2.38                     | 0.56              |
| 7:G:244:LEU:HG   | 8:H:258:LEU:HD22 | 1.88                     | 0.56              |
| 8:H:453:ALA:O    | 8:H:457:GLY:N    | 2.38                     | 0.56              |
| 8:H:477:ASN:OD1  | 8:H:478:VAL:N    | 2.38                     | 0.56              |
| 2:J:243:GLY:HA2  | 2:J:278:LYS:HE3  | 1.88                     | 0.56              |
| 2:J:268:GLU:HB3  | 4:L:306:ARG:HE   | 1.71                     | 0.56              |
| 3:K:108:VAL:HG21 | 3:K:443:ALA:HB2  | 1.88                     | 0.56              |
| 3:K:292:THR:HG22 | 3:K:295:GLY:H    | 1.70                     | 0.56              |
| 3:K:478:TRP:HA   | 3:K:489:ASP:HA   | 1.88                     | 0.56              |
| 6:N:270:ARG:HD2  | 6:N:336:PHE:HB2  | 1.88                     | 0.56              |
| 6:N:353:TYR:N    | 6:N:360:PHE:O    | 2.38                     | 0.56              |
| 7:O:82:ILE:HG13  | 7:O:509:ALA:HB2  | 1.87                     | 0.56              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 7:O:241:ASN:HB2  | 7:O:332:THR:HA   | 1.87                     | 0.56              |
| 8:P:66:THR:HG22  | 8:P:390:ARG:HH21 | 1.70                     | 0.56              |
| 12:4:56:ASP:HB3  | 14:6:58:LYS:CE   | 2.30                     | 0.56              |
| 1:A:278:ILE:HG21 | 1:A:300:PHE:HE1  | 1.71                     | 0.56              |
| 2:B:200:HIS:HD2  | 2:B:322:ARG:CZ   | 2.19                     | 0.56              |
| 2:B:237:ILE:HG23 | 2:B:291:ILE:HG12 | 1.88                     | 0.56              |
| 3:C:124:SER:OG   | 3:C:433:GLU:OE2  | 2.18                     | 0.56              |
| 3:C:289:VAL:HG12 | 3:C:310:THR:HB   | 1.88                     | 0.56              |
| 5:E:122:GLN:O    | 5:E:126:ARG:N    | 2.38                     | 0.56              |
| 8:H:401:VAL:HG13 | 8:H:502:LEU:HD22 | 1.87                     | 0.56              |
| 3:K:50:LEU:HB2   | 3:K:66:ILE:HG23  | 1.88                     | 0.56              |
| 3:K:172:ALA:HB2  | 3:K:391:LEU:HD12 | 1.88                     | 0.56              |
| 4:L:245:LYS:HE3  | 4:L:356:LEU:HB2  | 1.88                     | 0.56              |
| 6:N:174:ASP:O    | 6:N:178:ALA:N    | 2.38                     | 0.56              |
| 7:O:394:MET:O    | 7:O:398:ARG:N    | 2.39                     | 0.56              |
| 8:P:443:GLU:O    | 8:P:446:GLU:N    | 2.36                     | 0.56              |
| 3:C:226:HIS:HE1  | 3:C:312:ILE:HG23 | 1.70                     | 0.56              |
| 4:D:130:PRO:HA   | 4:D:133:ILE:HD12 | 1.88                     | 0.56              |
| 5:E:446:TYR:OH   | 4:L:481:ARG:HB3  | 2.06                     | 0.56              |
| 6:F:129:LYS:O    | 6:F:133:PHE:N    | 2.37                     | 0.56              |
| 7:G:63:ALA:HB2   | 7:G:94:THR:HG21  | 1.88                     | 0.56              |
| 7:G:214:VAL:O    | 7:G:361:PHE:HB2  | 2.05                     | 0.56              |
| 7:G:421:ARG:HB3  | 7:G:465:ARG:HH22 | 1.70                     | 0.56              |
| 8:H:135:ALA:HB2  | 8:H:438:ILE:HG23 | 1.88                     | 0.56              |
| 8:H:208:LEU:HA   | 8:H:379:GLY:O    | 2.06                     | 0.56              |
| 1:I:37:GLY:O     | 1:I:56:ASN:ND2   | 2.39                     | 0.56              |
| 1:I:205:GLN:O    | 1:I:379:GLY:HA2  | 2.06                     | 0.56              |
| 1:I:237:LEU:HB2  | 1:I:288:THR:HA   | 1.88                     | 0.56              |
| 1:I:243:LYS:NZ   | 1:I:268:SER:O    | 2.37                     | 0.56              |
| 1:I:244:THR:HG22 | 1:I:245:LYS:HG3  | 1.88                     | 0.56              |
| 2:J:440:ALA:HA   | 2:J:443:LEU:HD12 | 1.88                     | 0.56              |
| 3:K:44:LYS:HB3   | 3:K:454:ASN:HB2  | 1.88                     | 0.56              |
| 4:L:148:LEU:HA   | 4:L:151:MET:HG2  | 1.87                     | 0.56              |
| 6:N:84:GLN:NE2   | 6:N:95:ASN:HD22  | 2.04                     | 0.56              |
| 6:N:180:LYS:HG3  | 6:N:181:LYS:H    | 1.70                     | 0.56              |
| 7:O:107:GLN:NE2  | 7:O:437:ALA:O    | 2.39                     | 0.56              |
| 7:O:164:SER:HB3  | 7:O:480:ASN:HD21 | 1.70                     | 0.56              |
| 1:A:17:ILE:HD12  | 1:A:20:GLN:HB2   | 1.87                     | 0.55              |
| 1:A:295:MET:SD   | 3:C:334:ARG:NH2  | 2.79                     | 0.55              |
| 2:B:498:GLN:OE1  | 2:B:501:ARG:NH2  | 2.39                     | 0.55              |
| 4:D:249:ILE:HG12 | 4:D:251:PHE:CZ   | 2.40                     | 0.55              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 5:E:209:ILE:HD11 | 5:E:406:LEU:HG   | 1.88                     | 0.55              |
| 6:F:178:ALA:O    | 6:F:181:LYS:HB3  | 2.07                     | 0.55              |
| 6:F:407:VAL:HG22 | 6:F:497:ASN:HD22 | 1.71                     | 0.55              |
| 7:G:143:VAL:HG12 | 7:G:403:ASP:O    | 2.05                     | 0.55              |
| 7:G:255:ILE:HD13 | 7:G:262:ASP:HB3  | 1.88                     | 0.55              |
| 2:J:456:TYR:HB2  | 2:J:483:GLY:CA   | 2.35                     | 0.55              |
| 3:K:26:ASN:HD21  | 3:K:519:ILE:HD11 | 1.72                     | 0.55              |
| 3:K:83:ILE:HG13  | 3:K:508:THR:HB   | 1.87                     | 0.55              |
| 5:M:355:PHE:HB3  | 5:M:378:LYS:HD2  | 1.87                     | 0.55              |
| 8:P:109:GLY:O    | 8:P:113:GLU:N    | 2.31                     | 0.55              |
| 1:A:238:ASP:H    | 1:A:329:SER:HA   | 1.71                     | 0.55              |
| 2:B:255:ARG:NH1  | 2:B:257:ARG:HH22 | 1.97                     | 0.55              |
| 3:C:176:ALA:HB1  | 3:C:395:MET:HB3  | 1.88                     | 0.55              |
| 4:D:302:LYS:O    | 4:D:306:ARG:N    | 2.30                     | 0.55              |
| 5:E:258:PRO:HD2  | 7:G:263:TYR:HB3  | 1.88                     | 0.55              |
| 5:E:417:ARG:HD3  | 5:E:510:LEU:HB3  | 1.88                     | 0.55              |
| 7:G:458:THR:HG21 | 1:I:436:LEU:HD21 | 1.87                     | 0.55              |
| 8:H:228:GLU:HB3  | 8:H:312:LEU:HG   | 1.89                     | 0.55              |
| 1:I:88:ASP:HB2   | 1:I:509:VAL:HB   | 1.88                     | 0.55              |
| 5:M:163:GLU:HB2  | 5:M:164:PRO:HD3  | 1.87                     | 0.55              |
| 6:N:92:THR:HA    | 6:N:95:ASN:HB3   | 1.88                     | 0.55              |
| 6:N:192:GLU:HB3  | 6:N:373:THR:HA   | 1.88                     | 0.55              |
| 6:N:271:VAL:HG22 | 6:N:275:ILE:HG23 | 1.87                     | 0.55              |
| 7:O:178:MET:HB3  | 7:O:372:PHE:HE1  | 1.72                     | 0.55              |
| 8:P:369:ASP:OD1  | 8:P:369:ASP:N    | 2.35                     | 0.55              |
| 13:5:94:LYS:NZ   | 14:6:50:LEU:HG   | 2.19                     | 0.55              |
| 1:A:275:ILE:HD12 | 1:A:299:TYR:HB2  | 1.88                     | 0.55              |
| 1:A:348:ALA:C    | 1:A:368:LYS:HG2  | 2.27                     | 0.55              |
| 1:A:412:GLY:HA2  | 1:A:505:GLU:HG2  | 1.88                     | 0.55              |
| 3:C:229:MET:HA   | 3:C:310:THR:HG21 | 1.89                     | 0.55              |
| 4:D:152:SER:OG   | 4:D:512:LEU:HD21 | 2.07                     | 0.55              |
| 6:F:227:ASP:HB2  | 6:F:287:LYS:HA   | 1.87                     | 0.55              |
| 8:H:349:SER:HB3  | 8:H:351:TYR:CE2  | 2.40                     | 0.55              |
| 8:H:436:TYR:O    | 8:H:440:LYS:HG2  | 2.07                     | 0.55              |
| 3:K:172:ALA:HB1  | 3:K:394:ALA:HB2  | 1.87                     | 0.55              |
| 3:K:239:VAL:HB   | 3:K:290:VAL:HG12 | 1.88                     | 0.55              |
| 4:L:248:LEU:H    | 4:L:299:LEU:HB2  | 1.70                     | 0.55              |
| 5:M:143:VAL:HA   | 5:M:146:GLU:HB3  | 1.88                     | 0.55              |
| 5:M:246:ALA:HB2  | 5:M:378:LYS:HE3  | 1.87                     | 0.55              |
| 6:N:214:HIS:CD2  | 6:N:315:ARG:HB3  | 2.40                     | 0.55              |
| 6:N:497:ASN:HB2  | 6:N:500:VAL:HG23 | 1.88                     | 0.55              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 9:1:67:MET:HB3   | 11:3:107:LEU:HA  | 1.88                     | 0.55              |
| 2:B:221:ASP:OD1  | 2:B:222:LYS:N    | 2.40                     | 0.55              |
| 2:B:273:GLU:HA   | 2:B:276:LYS:HE3  | 1.88                     | 0.55              |
| 2:B:429:PRO:HB2  | 2:J:463:ALA:C    | 2.27                     | 0.55              |
| 3:C:132:ASP:O    | 3:C:136:THR:N    | 2.37                     | 0.55              |
| 4:D:359:ALA:HB1  | 4:D:376:ILE:HG23 | 1.89                     | 0.55              |
| 5:E:94:LEU:HD22  | 5:E:523:MET:HB2  | 1.87                     | 0.55              |
| 5:E:140:ALA:HA   | 5:E:143:VAL:HG22 | 1.88                     | 0.55              |
| 5:E:248:ILE:HA   | 5:E:297:ALA:HB2  | 1.88                     | 0.55              |
| 6:F:207:ILE:O    | 6:F:373:THR:N    | 2.40                     | 0.55              |
| 8:H:53:ASN:HB3   | 8:H:65:VAL:HG23  | 1.89                     | 0.55              |
| 1:I:34:SER:C     | 1:I:43:LYS:HZ3   | 2.09                     | 0.55              |
| 3:K:225:THR:OG1  | 3:K:229:MET:SD   | 2.63                     | 0.55              |
| 5:M:120:ALA:O    | 5:M:124:LEU:N    | 2.30                     | 0.55              |
| 7:O:104:PHE:CE2  | 7:O:507:SER:HA   | 2.40                     | 0.55              |
| 7:O:516:VAL:HG21 | 8:P:55:MET:HG2   | 1.89                     | 0.55              |
| 8:P:380:SER:H    | 8:P:384:LEU:HD12 | 1.72                     | 0.55              |
| 8:P:427:GLY:HA2  | 8:P:430:CYS:SG   | 2.47                     | 0.55              |
| 9:1:93:GLU:HA    | 9:1:96:GLN:HB3   | 1.88                     | 0.55              |
| 14:6:105:ARG:O   | 14:6:109:ALA:HB3 | 2.07                     | 0.55              |
| 1:A:185:ARG:HD3  | 1:A:321:LYS:O    | 2.06                     | 0.55              |
| 2:B:52:LEU:HD13  | 2:B:73:ASN:ND2   | 2.22                     | 0.55              |
| 3:C:113:LEU:HB3  | 3:C:118:HIS:NE2  | 2.22                     | 0.55              |
| 3:C:411:GLY:O    | 3:C:415:GLU:HG2  | 2.06                     | 0.55              |
| 4:D:340:ILE:HG23 | 4:D:385:THR:HG21 | 1.89                     | 0.55              |
| 5:E:49:ARG:HG2   | 5:E:111:VAL:HG13 | 1.87                     | 0.55              |
| 6:F:222:LYS:HE2  | 6:F:225:VAL:HA   | 1.88                     | 0.55              |
| 6:F:420:GLU:HA   | 6:F:423:ILE:HB   | 1.88                     | 0.55              |
| 7:G:214:VAL:HG13 | 7:G:369:THR:HG21 | 1.87                     | 0.55              |
| 7:G:237:ILE:HG12 | 7:G:288:VAL:HB   | 1.89                     | 0.55              |
| 7:G:309:PHE:CE2  | 7:G:311:ALA:HB2  | 2.42                     | 0.55              |
| 7:G:449:LEU:HD23 | 7:G:452:ASN:HD22 | 1.72                     | 0.55              |
| 8:H:475:ASN:OD1  | 8:H:494:GLU:N    | 2.36                     | 0.55              |
| 8:H:483:GLU:HB3  | 8:H:489:VAL:O    | 2.07                     | 0.55              |
| 3:K:204:ILE:HG13 | 3:K:362:PHE:CZ   | 2.41                     | 0.55              |
| 4:L:83:VAL:HG23  | 4:L:89:ARG:HA    | 1.88                     | 0.55              |
| 4:L:174:LYS:HE2  | 4:L:407:ASP:HB3  | 1.89                     | 0.55              |
| 4:L:395:LYS:HA   | 4:L:398:ILE:HB   | 1.88                     | 0.55              |
| 7:O:522:ASN:HB2  | 8:P:58:ASN:HA    | 1.88                     | 0.55              |
| 8:P:249:MET:O    | 8:P:279:GLN:NE2  | 2.40                     | 0.55              |
| 8:P:323:ARG:HH22 | 8:P:374:THR:HG22 | 1.71                     | 0.55              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:460:SER:O    | 1:A:464:VAL:N    | 2.29                     | 0.55              |
| 2:B:70:ILE:HG23  | 2:B:74:ILE:HD12  | 1.88                     | 0.55              |
| 2:B:161:ASN:HD22 | 2:B:490:ILE:HG23 | 1.70                     | 0.55              |
| 3:C:278:LEU:O    | 3:C:282:ILE:N    | 2.38                     | 0.55              |
| 3:C:415:GLU:HG3  | 3:C:448:PRO:HD3  | 1.88                     | 0.55              |
| 4:D:114:GLY:HA2  | 4:D:117:LEU:HD12 | 1.88                     | 0.55              |
| 4:D:144:GLY:O    | 4:D:432:LEU:HD21 | 2.06                     | 0.55              |
| 4:D:283:ILE:HD12 | 12:4:58:MET:HE2  | 1.89                     | 0.55              |
| 6:F:265:LYS:O    | 6:F:269:ASP:N    | 2.37                     | 0.55              |
| 7:G:15:SER:HB2   | 7:G:520:ILE:HG12 | 1.87                     | 0.55              |
| 2:J:42:THR:HG22  | 2:J:49:ASP:HA    | 1.88                     | 0.55              |
| 5:M:38:ILE:HD11  | 5:M:42:LYS:HZ2   | 1.72                     | 0.55              |
| 5:M:86:GLN:HE21  | 7:O:48:LEU:HD11  | 1.71                     | 0.55              |
| 5:M:164:PRO:O    | 5:M:168:THR:N    | 2.35                     | 0.55              |
| 7:O:29:CYS:SG    | 7:O:79:LEU:HD11  | 2.47                     | 0.55              |
| 7:O:239:LEU:O    | 7:O:331:GLN:N    | 2.39                     | 0.55              |
| 8:P:447:ALA:HA   | 8:P:450:ARG:HB3  | 1.88                     | 0.55              |
| 14:6:58:LYS:HD3  | 14:6:75:THR:HG21 | 1.88                     | 0.55              |
| 1:A:181:TYR:CD2  | 1:A:191:PRO:HB3  | 2.42                     | 0.55              |
| 3:C:44:LYS:HG3   | 3:C:483:GLU:HA   | 1.89                     | 0.55              |
| 3:C:291:ILE:HG13 | 3:C:315:VAL:HG21 | 1.88                     | 0.55              |
| 4:D:502:ASN:HB2  | 4:D:505:GLU:CG   | 2.37                     | 0.55              |
| 5:E:533:ILE:HA   | 7:G:47:LYS:H     | 1.70                     | 0.55              |
| 7:G:337:LEU:HB3  | 7:G:341:VAL:HG21 | 1.88                     | 0.55              |
| 8:H:33:ILE:HG23  | 8:H:112:LEU:HB3  | 1.87                     | 0.55              |
| 1:I:20:GLN:HA    | 1:I:23:MET:HG2   | 1.88                     | 0.55              |
| 3:K:177:LEU:HD23 | 3:K:398:CYS:SG   | 2.46                     | 0.55              |
| 6:N:171:ALA:HA   | 6:N:206:LEU:HD22 | 1.88                     | 0.55              |
| 7:O:277:LYS:HA   | 7:O:280:LYS:HD2  | 1.88                     | 0.55              |
| 7:O:292:LYS:O    | 7:O:313:ARG:HA   | 2.06                     | 0.55              |
| 7:O:428:PRO:HA   | 7:O:431:GLN:HB2  | 1.89                     | 0.55              |
| 10:2:63:GLU:HG2  | 11:3:146:LYS:HD2 | 1.89                     | 0.55              |
| 1:A:129:VAL:O    | 1:A:133:ASN:N    | 2.31                     | 0.55              |
| 1:A:323:SER:O    | 1:A:347:GLN:N    | 2.39                     | 0.55              |
| 4:D:245:LYS:O    | 4:D:297:VAL:N    | 2.38                     | 0.55              |
| 5:E:165:LEU:HD11 | 5:E:409:ILE:HD12 | 1.89                     | 0.55              |
| 7:G:420:LEU:HD13 | 7:G:438:TYR:CE2  | 2.41                     | 0.55              |
| 1:I:69:HIS:HB2   | 1:I:72:ALA:HB3   | 1.87                     | 0.55              |
| 1:I:109:LYS:CB   | 4:L:469:ALA:HB3  | 2.36                     | 0.55              |
| 1:I:179:ILE:HG23 | 1:I:181:TYR:CD2  | 2.42                     | 0.55              |
| 1:I:293:ASP:O    | 1:I:297:LEU:N    | 2.32                     | 0.55              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 4:L:49:ARG:HG2   | 4:L:111:ILE:HG22 | 1.88                     | 0.55              |
| 4:L:340:ILE:HG22 | 4:L:357:GLY:HA3  | 1.89                     | 0.55              |
| 5:M:230:VAL:HG21 | 5:M:322:VAL:HG11 | 1.89                     | 0.55              |
| 8:P:67:ASN:HB2   | 8:P:171:LYS:O    | 2.06                     | 0.55              |
| 8:P:515:ALA:O    | 8:P:518:VAL:HG12 | 2.07                     | 0.55              |
| 10:2:114:GLU:HA  | 10:2:117:GLU:HB3 | 1.89                     | 0.55              |
| 14:6:45:GLU:O    | 14:6:49:LEU:N    | 2.35                     | 0.55              |
| 1:A:271:THR:O    | 1:A:275:ILE:N    | 2.33                     | 0.55              |
| 1:A:420:SER:O    | 1:A:424:GLU:N    | 2.32                     | 0.55              |
| 2:B:258:VAL:HG22 | 2:B:264:VAL:HB   | 1.89                     | 0.55              |
| 2:B:516:ARG:HA   | 5:E:57:LEU:HD22  | 1.88                     | 0.55              |
| 3:C:143:PRO:HA   | 3:C:406:GLN:HG2  | 1.87                     | 0.55              |
| 5:E:129:HIS:HB3  | 5:E:131:ILE:H    | 1.71                     | 0.55              |
| 5:E:196:VAL:HG11 | 5:E:208:LEU:HB3  | 1.87                     | 0.55              |
| 7:G:323:MET:HG3  | 7:G:328:GLY:O    | 2.06                     | 0.55              |
| 7:G:502:ALA:O    | 7:G:506:ALA:N    | 2.34                     | 0.55              |
| 8:H:103:PHE:HD1  | 8:H:448:ILE:HG13 | 1.71                     | 0.55              |
| 8:H:171:LYS:HE2  | 8:H:394:ASP:OD2  | 2.07                     | 0.55              |
| 8:H:495:ALA:CB   | 8:H:497:ILE:H    | 2.20                     | 0.55              |
| 1:I:321:LYS:HB2  | 1:I:370:ARG:HH21 | 1.71                     | 0.55              |
| 2:J:37:ASP:HA    | 2:J:40:LYS:HE2   | 1.88                     | 0.55              |
| 2:J:465:LEU:HG   | 2:J:469:HIS:CD2  | 2.42                     | 0.55              |
| 3:K:182:MET:HB3  | 3:K:367:LYS:H    | 1.71                     | 0.55              |
| 4:L:84:LEU:O     | 4:L:88:ALA:HB3   | 2.07                     | 0.55              |
| 5:M:344:ARG:HE   | 7:O:298:VAL:HG21 | 1.72                     | 0.55              |
| 5:M:359:VAL:HG22 | 5:M:374:ILE:HA   | 1.88                     | 0.55              |
| 6:N:56:LEU:HD12  | 6:N:386:GLN:HE21 | 1.71                     | 0.55              |
| 6:N:187:ASP:N    | 6:N:396:ARG:HG2  | 2.22                     | 0.55              |
| 13:5:84:ILE:HD11 | 13:5:99:ALA:HA   | 1.89                     | 0.55              |
| 2:B:229:PRO:HD3  | 2:B:305:GLY:HA2  | 1.88                     | 0.55              |
| 3:C:160:ILE:HG12 | 3:C:173:CYS:SG   | 2.47                     | 0.55              |
| 3:C:192:GLU:O    | 3:C:193:ILE:HD13 | 2.07                     | 0.55              |
| 3:C:239:VAL:O    | 3:C:291:ILE:N    | 2.40                     | 0.55              |
| 5:E:184:GLN:HE21 | 5:E:220:GLU:HA   | 1.71                     | 0.55              |
| 5:E:223:LYS:O    | 5:E:386:PHE:N    | 2.30                     | 0.55              |
| 6:F:30:LEU:HD23  | 6:F:96:VAL:HG13  | 1.88                     | 0.55              |
| 6:F:193:ILE:O    | 6:F:388:LYS:NZ   | 2.40                     | 0.55              |
| 6:F:222:LYS:NZ   | 6:F:285:SER:O    | 2.37                     | 0.55              |
| 6:F:273:LYS:HD3  | 6:F:337:ASP:H    | 1.72                     | 0.55              |
| 6:F:299:PRO:HA   | 6:F:302:LEU:HD12 | 1.89                     | 0.55              |
| 7:G:213:GLY:HA2  | 7:G:369:THR:O    | 2.07                     | 0.55              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 8:H:27:GLU:HB3   | 8:H:31:ARG:HG2   | 1.88                     | 0.55              |
| 8:H:100:GLY:O    | 8:H:104:VAL:HG23 | 2.07                     | 0.55              |
| 1:I:15:GLU:O     | 1:I:19:SER:N     | 2.27                     | 0.55              |
| 1:I:135:ASN:O    | 1:I:408:VAL:N    | 2.40                     | 0.55              |
| 1:I:288:THR:N    | 1:I:308:VAL:O    | 2.33                     | 0.55              |
| 1:I:527:ILE:HD11 | 4:L:59:LYS:HG3   | 1.89                     | 0.55              |
| 3:K:123:ILE:HG21 | 3:K:518:ARG:HH21 | 1.72                     | 0.55              |
| 3:K:192:GLU:HG2  | 3:K:402:LEU:HG   | 1.89                     | 0.55              |
| 3:K:462:LEU:O    | 3:K:466:LEU:HG   | 2.07                     | 0.55              |
| 7:O:74:PRO:HA    | 7:O:77:LYS:HD2   | 1.89                     | 0.55              |
| 8:P:297:VAL:H    | 8:P:314:ARG:HH21 | 1.55                     | 0.55              |
| 8:P:400:LYS:O    | 8:P:403:THR:OG1  | 2.22                     | 0.55              |
| 8:P:453:ALA:O    | 8:P:457:GLY:N    | 2.40                     | 0.55              |
| 12:4:46:GLN:O    | 12:4:50:LEU:N    | 2.21                     | 0.55              |
| 12:4:88:GLU:O    | 12:4:92:LYS:N    | 2.37                     | 0.55              |
| 1:A:214:TYR:HE2  | 1:A:322:ALA:HB3  | 1.71                     | 0.54              |
| 1:A:476:VAL:HG22 | 1:A:485:TRP:HB2  | 1.88                     | 0.54              |
| 2:B:256:VAL:HA   | 2:B:267:ILE:HD13 | 1.89                     | 0.54              |
| 2:B:285:HIS:HB2  | 2:B:287:ILE:HG23 | 1.89                     | 0.54              |
| 3:C:447:ILE:HA   | 3:C:450:THR:HB   | 1.89                     | 0.54              |
| 4:D:209:LYS:HB2  | 4:D:335:PHE:CE2  | 2.42                     | 0.54              |
| 4:D:251:PHE:CD1  | 4:D:286:LEU:HD23 | 2.41                     | 0.54              |
| 8:H:193:ASP:O    | 8:H:404:ARG:HG2  | 2.06                     | 0.54              |
| 1:I:534:HIS:CE1  | 4:L:83:VAL:HA    | 2.41                     | 0.54              |
| 2:J:182:LEU:HD21 | 2:J:373:ILE:HG13 | 1.88                     | 0.54              |
| 3:K:64:ASN:HD22  | 3:K:67:LEU:HD12  | 1.72                     | 0.54              |
| 4:L:217:THR:N    | 4:L:220:ASP:HB3  | 2.21                     | 0.54              |
| 5:M:60:MET:HG3   | 5:M:68:VAL:HG23  | 1.88                     | 0.54              |
| 7:O:322:THR:HG23 | 7:O:326:CYS:SG   | 2.46                     | 0.54              |
| 7:O:414:MET:SD   | 7:O:464:LEU:HB2  | 2.47                     | 0.54              |
| 8:P:111:LEU:HD11 | 8:P:132:TYR:CE1  | 2.42                     | 0.54              |
| 1:A:62:LEU:HD11  | 1:A:94:VAL:HG21  | 1.88                     | 0.54              |
| 1:A:236:CYS:SG   | 1:A:287:LEU:HD12 | 2.47                     | 0.54              |
| 3:C:472:GLN:HG3  | 3:C:473:GLU:N    | 2.23                     | 0.54              |
| 4:D:157:LEU:HD22 | 4:D:416:VAL:HG12 | 1.89                     | 0.54              |
| 4:D:375:LYS:HZ1  | 4:D:391:ARG:NH2  | 2.05                     | 0.54              |
| 5:E:98:GLN:NE2   | 5:E:516:GLN:HA   | 2.20                     | 0.54              |
| 5:E:115:ALA:O    | 5:E:119:GLU:HG2  | 2.07                     | 0.54              |
| 1:I:151:ALA:HA   | 1:I:500:GLN:HB3  | 1.88                     | 0.54              |
| 2:J:124:GLN:HE21 | 5:M:55:ASN:HD22  | 1.55                     | 0.54              |
| 3:K:183:VAL:HG21 | 3:K:199:ALA:HB2  | 1.89                     | 0.54              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 4:L:49:ARG:HD2   | 4:L:465:LEU:HD12 | 1.89                     | 0.54              |
| 4:L:483:ARG:HH11 | 4:L:493:ILE:HG21 | 1.72                     | 0.54              |
| 6:N:44:MET:HB3   | 6:N:56:LEU:HD22  | 1.88                     | 0.54              |
| 7:O:47:LYS:NZ    | 7:O:60:ASN:O     | 2.34                     | 0.54              |
| 14:6:19:LEU:O    | 14:6:97:LEU:HB3  | 2.08                     | 0.54              |
| 1:A:225:MET:CG   | 1:A:306:MET:HA   | 2.38                     | 0.54              |
| 2:B:16:ALA:HB2   | 2:B:523:ALA:HB2  | 1.89                     | 0.54              |
| 2:B:48:MET:HB2   | 4:D:27:ARG:HH12  | 1.72                     | 0.54              |
| 2:B:394:LEU:HA   | 2:B:397:LEU:HB2  | 1.89                     | 0.54              |
| 4:D:212:LYS:HD3  | 4:D:395:LYS:HZ3  | 1.71                     | 0.54              |
| 4:D:441:ARG:NH2  | 5:M:431:LEU:HA   | 2.22                     | 0.54              |
| 5:E:48:MET:HG3   | 5:E:110:VAL:HB   | 1.89                     | 0.54              |
| 5:E:52:LEU:HD21  | 5:E:111:VAL:HG21 | 1.88                     | 0.54              |
| 5:E:441:PRO:O    | 5:E:442:THR:HG22 | 2.07                     | 0.54              |
| 8:H:349:SER:HB2  | 8:H:364:LYS:HB3  | 1.88                     | 0.54              |
| 1:I:41:LEU:HB3   | 3:K:518:ARG:O    | 2.07                     | 0.54              |
| 1:I:467:LEU:HB3  | 1:I:471:HIS:CE1  | 2.42                     | 0.54              |
| 2:J:47:GLY:H     | 2:J:450:ILE:HD11 | 1.72                     | 0.54              |
| 3:K:155:ILE:HA   | 3:K:496:TRP:HB2  | 1.89                     | 0.54              |
| 3:K:469:LYS:HA   | 3:K:472:GLN:HB3  | 1.88                     | 0.54              |
| 3:K:478:TRP:CZ2  | 3:K:487:LEU:HD13 | 2.43                     | 0.54              |
| 4:L:171:LEU:HD13 | 4:L:180:SER:HA   | 1.89                     | 0.54              |
| 5:M:98:GLN:HE22  | 5:M:516:GLN:HG3  | 1.72                     | 0.54              |
| 5:M:217:GLY:HA3  | 5:M:388:ARG:HG2  | 1.89                     | 0.54              |
| 5:M:255:PHE:HB2  | 5:M:306:PHE:HA   | 1.90                     | 0.54              |
| 5:M:303:GLN:NE2  | 7:O:297:ASP:OD2  | 2.39                     | 0.54              |
| 5:M:335:ILE:HB   | 7:O:224:GLY:HA2  | 1.90                     | 0.54              |
| 6:N:40:PRO:HD3   | 6:N:157:ARG:HB3  | 1.89                     | 0.54              |
| 6:N:168:LEU:O    | 6:N:172:VAL:HB   | 2.07                     | 0.54              |
| 6:N:203:ASP:OD1  | 6:N:204:THR:N    | 2.40                     | 0.54              |
| 6:N:389:ASP:HB3  | 6:N:392:ARG:HH21 | 1.72                     | 0.54              |
| 7:O:84:LYS:O     | 7:O:88:ALA:N     | 2.38                     | 0.54              |
| 7:O:208:SER:HB2  | 7:O:374:LEU:HD13 | 1.90                     | 0.54              |
| 7:O:281:ILE:HG21 | 7:O:289:VAL:HG13 | 1.88                     | 0.54              |
| 7:O:331:GLN:NE2  | 7:O:336:ALA:HA   | 2.23                     | 0.54              |
| 8:P:493:LEU:HD12 | 8:P:498:LEU:HD21 | 1.87                     | 0.54              |
| 1:A:414:ALA:HB1  | 1:A:485:TRP:CD1  | 2.41                     | 0.54              |
| 3:C:118:HIS:CD2  | 3:C:122:VAL:HG23 | 2.42                     | 0.54              |
| 3:C:133:MET:HB2  | 3:C:418:VAL:HG11 | 1.90                     | 0.54              |
| 4:D:120:CYS:HB3  | 4:D:530:LEU:HD21 | 1.90                     | 0.54              |
| 4:D:390:VAL:HG11 | 4:D:402:GLU:HA   | 1.89                     | 0.54              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 7:G:302:TYR:HA   | 7:G:305:ASP:HB2  | 1.89                     | 0.54              |
| 7:G:443:GLU:OE2  | 7:G:465:ARG:HD3  | 2.08                     | 0.54              |
| 8:H:28:ALA:HA    | 8:H:32:ASN:ND2   | 2.23                     | 0.54              |
| 8:H:135:ALA:HA   | 8:H:138:LYS:HB3  | 1.88                     | 0.54              |
| 1:I:161:ILE:HG12 | 1:I:164:ASN:ND2  | 2.22                     | 0.54              |
| 1:I:322:ALA:HA   | 1:I:370:ARG:HG2  | 1.88                     | 0.54              |
| 3:K:201:VAL:HB   | 3:K:388:GLU:HG3  | 1.90                     | 0.54              |
| 3:K:407:LEU:HD11 | 3:K:496:TRP:HB3  | 1.87                     | 0.54              |
| 6:N:90:ASP:OD2   | 6:N:155:SER:HB3  | 2.08                     | 0.54              |
| 6:N:318:ARG:NH1  | 6:N:321:MET:SD   | 2.78                     | 0.54              |
| 6:N:430:LYS:HG2  | 6:N:431:GLY:N    | 2.22                     | 0.54              |
| 6:N:440:PHE:O    | 6:N:444:LEU:HG   | 2.08                     | 0.54              |
| 7:O:214:VAL:HG12 | 7:O:369:THR:HG21 | 1.89                     | 0.54              |
| 7:O:240:LEU:O    | 7:O:292:LYS:N    | 2.25                     | 0.54              |
| 7:O:384:GLU:OE1  | 7:O:387:ARG:NH2  | 2.36                     | 0.54              |
| 1:A:36:LEU:HD22  | 1:A:451:THR:HG23 | 1.90                     | 0.54              |
| 1:A:41:LEU:HB2   | 1:A:43:LYS:HZ2   | 1.73                     | 0.54              |
| 1:A:106:GLU:O    | 1:A:110:GLN:N    | 2.40                     | 0.54              |
| 1:A:143:LEU:HA   | 1:A:499:LYS:HG3  | 1.90                     | 0.54              |
| 2:B:418:ALA:HA   | 2:B:440:ALA:HB1  | 1.88                     | 0.54              |
| 3:C:123:ILE:HG12 | 3:C:514:VAL:HG13 | 1.89                     | 0.54              |
| 3:C:456:GLY:HA2  | 6:F:115:HIS:ND1  | 2.23                     | 0.54              |
| 5:E:528:LEU:HD23 | 7:G:43:ARG:HD2   | 1.90                     | 0.54              |
| 7:G:161:THR:O    | 7:G:165:SER:OG   | 2.13                     | 0.54              |
| 7:G:407:ALA:HB1  | 7:G:487:ASN:HB3  | 1.88                     | 0.54              |
| 7:G:412:ILE:HA   | 7:G:415:GLU:HB2  | 1.89                     | 0.54              |
| 8:H:382:ASP:O    | 8:H:385:MET:N    | 2.40                     | 0.54              |
| 2:J:393:ALA:O    | 2:J:397:LEU:N    | 2.31                     | 0.54              |
| 3:K:19:GLY:N     | 3:K:520:ASP:O    | 2.38                     | 0.54              |
| 4:L:218:ILE:HD11 | 4:L:397:VAL:O    | 2.07                     | 0.54              |
| 5:M:205:ASP:HA   | 5:M:207:GLU:HG2  | 1.88                     | 0.54              |
| 6:N:164:LEU:HA   | 6:N:167:VAL:HG12 | 1.89                     | 0.54              |
| 8:P:226:GLU:HG2  | 8:P:228:GLU:HB2  | 1.89                     | 0.54              |
| 2:B:289:CYS:HA   | 2:B:310:MET:H    | 1.72                     | 0.54              |
| 3:C:36:ILE:O     | 3:C:39:THR:OG1   | 2.18                     | 0.54              |
| 3:C:130:LEU:HB2  | 3:C:510:VAL:HG11 | 1.89                     | 0.54              |
| 8:H:243:SER:O    | 8:H:295:GLY:N    | 2.41                     | 0.54              |
| 2:J:84:LEU:O     | 2:J:88:SER:OG    | 2.26                     | 0.54              |
| 3:K:52:ASP:HB2   | 3:K:56:GLY:H     | 1.73                     | 0.54              |
| 3:K:211:ASP:HB3  | 3:K:377:ARG:NH1  | 2.22                     | 0.54              |
| 4:L:33:ILE:O     | 4:L:37:ASN:ND2   | 2.40                     | 0.54              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 6:N:98:ILE:HB    | 6:N:508:CYS:SG   | 2.48                     | 0.54              |
| 6:N:452:ALA:HB3  | 6:N:459:LEU:HA   | 1.89                     | 0.54              |
| 7:O:120:ILE:H    | 7:O:120:ILE:HD12 | 1.72                     | 0.54              |
| 8:P:283:ILE:HD11 | 8:P:336:LEU:HD11 | 1.89                     | 0.54              |
| 1:A:236:CYS:H    | 1:A:327:ILE:HD11 | 1.73                     | 0.54              |
| 1:A:412:GLY:H    | 1:A:503:VAL:HG13 | 1.73                     | 0.54              |
| 2:B:407:VAL:N    | 2:B:495:GLU:O    | 2.26                     | 0.54              |
| 4:D:276:LEU:HD21 | 14:6:82:TYR:OH   | 2.08                     | 0.54              |
| 5:E:28:LEU:HD12  | 7:G:47:LYS:HE3   | 1.88                     | 0.54              |
| 6:F:426:LYS:HE2  | 6:F:429:VAL:HA   | 1.90                     | 0.54              |
| 7:G:253:ALA:HB1  | 7:G:266:ILE:HG13 | 1.90                     | 0.54              |
| 8:H:149:CYS:O    | 8:H:408:LEU:N    | 2.41                     | 0.54              |
| 8:H:219:HIS:ND1  | 8:H:373:SER:HB3  | 2.22                     | 0.54              |
| 1:I:33:LYS:HG2   | 1:I:95:ILE:HG12  | 1.89                     | 0.54              |
| 1:I:420:SER:HB2  | 1:I:445:LEU:HB2  | 1.90                     | 0.54              |
| 2:J:25:ARG:HD2   | 2:J:117:ILE:HD13 | 1.90                     | 0.54              |
| 2:J:228:GLN:NE2  | 2:J:311:ALA:O    | 2.37                     | 0.54              |
| 6:N:234:ASN:HD22 | 6:N:318:ARG:NH2  | 2.06                     | 0.54              |
| 6:N:455:SER:HB2  | 6:N:484:GLY:HA3  | 1.90                     | 0.54              |
| 7:O:292:LYS:HD2  | 7:O:316:GLU:HB2  | 1.88                     | 0.54              |
| 8:P:97:VAL:HA    | 8:P:401:VAL:HG21 | 1.89                     | 0.54              |
| 12:4:23:ILE:HA   | 12:4:26:PHE:HB3  | 1.88                     | 0.54              |
| 13:5:44:VAL:O    | 13:5:48:ASP:N    | 2.35                     | 0.54              |
| 13:5:84:ILE:HG13 | 13:5:102:PHE:HD2 | 1.73                     | 0.54              |
| 1:A:220:VAL:HG12 | 1:A:362:ILE:HD12 | 1.89                     | 0.54              |
| 1:A:318:ARG:O    | 1:A:321:LYS:HG2  | 2.08                     | 0.54              |
| 2:B:64:THR:OG1   | 2:B:66:ASP:O     | 2.24                     | 0.54              |
| 2:B:488:MET:SD   | 2:B:493:ILE:HG23 | 2.48                     | 0.54              |
| 3:C:323:ILE:HA   | 3:C:326:ALA:HB3  | 1.89                     | 0.54              |
| 4:D:35:PHE:O     | 4:D:39:SER:N     | 2.37                     | 0.54              |
| 5:E:251:LEU:HD23 | 5:E:342:VAL:CG2  | 2.36                     | 0.54              |
| 5:E:478:ARG:NH2  | 4:L:441:ARG:HD3  | 2.22                     | 0.54              |
| 6:F:45:LYS:HD2   | 8:H:522:ASP:HB2  | 1.89                     | 0.54              |
| 6:F:48:VAL:HG12  | 6:F:54:ILE:HG23  | 1.90                     | 0.54              |
| 7:G:26:ILE:CG1   | 7:G:105:LEU:HB3  | 2.38                     | 0.54              |
| 7:G:205:LEU:HD23 | 7:G:376:GLY:HA2  | 1.89                     | 0.54              |
| 7:G:292:LYS:HG3  | 7:G:293:LEU:HG   | 1.90                     | 0.54              |
| 7:G:519:THR:HG23 | 8:H:55:MET:HB2   | 1.89                     | 0.54              |
| 1:I:495:PRO:O    | 1:I:496:ARG:NH1  | 2.37                     | 0.54              |
| 3:K:352:ILE:HG13 | 3:K:361:THR:HA   | 1.90                     | 0.54              |
| 3:K:409:PRO:HG3  | 3:K:496:TRP:CZ3  | 2.42                     | 0.54              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 5:M:148:LEU:O    | 5:M:510:LEU:HD11 | 2.07                     | 0.54              |
| 5:M:289:ILE:HD13 | 5:M:314:LEU:HA   | 1.89                     | 0.54              |
| 7:O:499:ARG:O    | 7:O:503:LEU:N    | 2.26                     | 0.54              |
| 8:P:28:ALA:HA    | 8:P:32:ASN:ND2   | 2.22                     | 0.54              |
| 12:4:76:ILE:HG12 | 12:4:78:HIS:HD2  | 1.73                     | 0.54              |
| 1:A:153:LYS:HD3  | 1:A:165:GLY:HA3  | 1.90                     | 0.54              |
| 1:A:217:ASN:O    | 1:A:312:LEU:N    | 2.40                     | 0.54              |
| 1:A:274:ARG:HD2  | 1:A:339:THR:H    | 1.73                     | 0.54              |
| 2:B:239:ILE:HD11 | 2:B:323:LEU:HG   | 1.89                     | 0.54              |
| 4:D:160:ARG:HG3  | 4:D:188:VAL:CG1  | 2.38                     | 0.54              |
| 4:D:309:LEU:HD23 | 4:D:326:LYS:HG3  | 1.89                     | 0.54              |
| 5:E:285:PHE:O    | 5:E:289:ILE:N    | 2.36                     | 0.54              |
| 5:E:488:ALA:HB1  | 5:E:502:LYS:HB3  | 1.90                     | 0.54              |
| 6:F:33:VAL:O     | 6:F:37:ASN:N     | 2.41                     | 0.54              |
| 1:I:47:ASP:N     | 1:I:51:ASP:O     | 2.41                     | 0.54              |
| 1:I:527:ILE:CD1  | 4:L:59:LYS:HG3   | 2.38                     | 0.54              |
| 1:I:531:ILE:HG13 | 4:L:59:LYS:HE2   | 1.90                     | 0.54              |
| 2:J:466:ARG:HA   | 2:J:469:HIS:CE1  | 2.43                     | 0.54              |
| 5:M:306:PHE:CE2  | 5:M:314:LEU:HD22 | 2.43                     | 0.54              |
| 7:O:523:PRO:HB3  | 8:P:59:HIS:HA    | 1.89                     | 0.54              |
| 8:P:209:GLY:O    | 8:P:378:ARG:HB3  | 2.08                     | 0.54              |
| 8:P:313:VAL:HG12 | 8:P:316:ASN:HD21 | 1.72                     | 0.54              |
| 8:P:472:GLN:HG3  | 8:P:476:LYS:HE2  | 1.90                     | 0.54              |
| 9:1:97:LYS:O     | 9:1:101:LEU:HB2  | 2.08                     | 0.54              |
| 3:C:149:SER:HB3  | 3:C:177:LEU:HD13 | 1.90                     | 0.54              |
| 3:C:238:ILE:HG21 | 3:C:363:ILE:HD13 | 1.90                     | 0.54              |
| 4:D:300:ILE:O    | 4:D:328:ILE:HG22 | 2.08                     | 0.54              |
| 4:D:410:CYS:HA   | 4:D:413:ARG:HG2  | 1.89                     | 0.54              |
| 4:D:434:LEU:O    | 4:D:437:THR:OG1  | 2.26                     | 0.54              |
| 4:D:474:ILE:HG23 | 5:M:126:ARG:HH12 | 1.73                     | 0.54              |
| 5:E:157:VAL:HG23 | 5:E:159:ILE:H    | 1.72                     | 0.54              |
| 7:G:350:GLU:HB2  | 7:G:359:ASN:HD22 | 1.73                     | 0.54              |
| 8:H:130:GLU:O    | 8:H:134:ILE:N    | 2.33                     | 0.54              |
| 8:H:280:VAL:HB   | 8:H:304:TYR:HB3  | 1.90                     | 0.54              |
| 2:J:115:SER:O    | 2:J:119:LYS:N    | 2.34                     | 0.54              |
| 2:J:466:ARG:HA   | 2:J:469:HIS:NE2  | 2.21                     | 0.54              |
| 3:K:220:ILE:HB   | 3:K:223:ASP:HB2  | 1.89                     | 0.54              |
| 3:K:354:LYS:HD3  | 3:K:359:TYR:CE1  | 2.43                     | 0.54              |
| 3:K:418:VAL:O    | 3:K:422:LEU:HG   | 2.08                     | 0.54              |
| 3:K:434:GLN:CD   | 3:K:438:ARG:HH22 | 2.10                     | 0.54              |
| 5:M:223:LYS:O    | 5:M:386:PHE:N    | 2.40                     | 0.54              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 6:N:84:GLN:HB2   | 6:N:95:ASN:HD22  | 1.72                     | 0.54              |
| 6:N:236:SER:HA   | 6:N:336:PHE:CZ   | 2.42                     | 0.54              |
| 7:O:122:ILE:HB   | 7:O:511:CYS:SG   | 2.48                     | 0.54              |
| 7:O:137:LYS:HA   | 7:O:496:ALA:HB1  | 1.90                     | 0.54              |
| 7:O:210:LEU:HD11 | 7:O:370:CYS:HB2  | 1.89                     | 0.54              |
| 10:2:90:LEU:HD21 | 11:3:131:VAL:HB  | 1.89                     | 0.54              |
| 12:4:67:ILE:N    | 12:4:78:HIS:O    | 2.29                     | 0.54              |
| 12:4:75:PHE:CE2  | 14:6:64:LEU:HD22 | 2.43                     | 0.54              |
| 1:A:194:SER:HB3  | 1:A:396:LEU:HD21 | 1.90                     | 0.53              |
| 1:A:393:HIS:O    | 1:A:396:LEU:HB3  | 2.06                     | 0.53              |
| 2:B:209:LEU:HD13 | 2:B:382:ILE:HG21 | 1.89                     | 0.53              |
| 2:B:477:GLY:N    | 2:B:486:GLY:O    | 2.27                     | 0.53              |
| 3:C:353:LYS:HB2  | 3:C:362:PHE:CE2  | 2.42                     | 0.53              |
| 3:C:465:SER:O    | 3:C:469:LYS:N    | 2.37                     | 0.53              |
| 4:D:302:LYS:H    | 4:D:305:LEU:HB2  | 1.74                     | 0.53              |
| 5:E:460:MET:HG3  | 5:E:470:PRO:HB2  | 1.89                     | 0.53              |
| 6:F:41:LYS:HB3   | 6:F:451:LEU:HD22 | 1.90                     | 0.53              |
| 6:F:293:ASN:N    | 6:F:313:LEU:O    | 2.31                     | 0.53              |
| 7:G:197:ILE:HG12 | 7:G:389:LEU:HD13 | 1.89                     | 0.53              |
| 7:G:214:VAL:HG23 | 7:G:361:PHE:HD2  | 1.73                     | 0.53              |
| 7:G:421:ARG:HH22 | 1:I:421:ILE:HG23 | 1.73                     | 0.53              |
| 8:H:165:ARG:HA   | 8:H:176:GLU:OE2  | 2.08                     | 0.53              |
| 1:I:398:VAL:HG11 | 1:I:502:GLY:HA2  | 1.89                     | 0.53              |
| 2:J:251:ILE:HD12 | 5:M:274:TYR:HE2  | 1.73                     | 0.53              |
| 2:J:323:LEU:O    | 2:J:327:THR:OG1  | 2.18                     | 0.53              |
| 2:J:418:ALA:HA   | 2:J:440:ALA:HB1  | 1.91                     | 0.53              |
| 4:L:213:LYS:HD3  | 4:L:391:ARG:NE   | 2.23                     | 0.53              |
| 5:M:341:ILE:O    | 5:M:352:LYS:HD3  | 2.08                     | 0.53              |
| 6:N:28:ARG:HH11  | 6:N:104:LYS:HA   | 1.74                     | 0.53              |
| 7:O:237:ILE:N    | 7:O:343:GLY:O    | 2.32                     | 0.53              |
| 8:P:225:LYS:HG3  | 8:P:316:ASN:HA   | 1.90                     | 0.53              |
| 3:C:477:THR:HB   | 3:C:491:LYS:HE2  | 1.90                     | 0.53              |
| 4:D:147:ILE:HA   | 4:D:150:ASP:HB2  | 1.90                     | 0.53              |
| 5:E:170:LYS:HG2  | 5:E:181:CYS:SG   | 2.48                     | 0.53              |
| 6:F:146:GLU:HG3  | 6:F:147:THR:H    | 1.74                     | 0.53              |
| 6:F:450:VAL:O    | 6:F:454:ASN:N    | 2.37                     | 0.53              |
| 6:F:466:ILE:HG13 | 6:F:477:VAL:HG22 | 1.89                     | 0.53              |
| 7:G:257:VAL:HG13 | 7:G:259:THR:C    | 2.28                     | 0.53              |
| 2:J:19:GLU:OE1   | 2:J:522:LYS:NZ   | 2.41                     | 0.53              |
| 3:K:26:ASN:HB3   | 3:K:516:LEU:HB3  | 1.90                     | 0.53              |
| 5:M:76:THR:HA    | 5:M:79:SER:HB2   | 1.89                     | 0.53              |

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| Atom-1            | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|-------------------|--------------------------|-------------------|
| 6:N:38:LEU:H      | 6:N:42:GLY:HA3    | 1.73                     | 0.53              |
| 7:O:23:VAL:HA     | 7:O:26:ILE:HG12   | 1.90                     | 0.53              |
| 8:P:31:ARG:HD2    | 8:P:80:HIS:CG     | 2.43                     | 0.53              |
| 8:P:111:LEU:HD13  | 8:P:441:PHE:HA    | 1.88                     | 0.53              |
| 8:P:172:GLN:NE2   | 8:P:175:ASN:O     | 2.40                     | 0.53              |
| 1:A:202:GLY:N     | 1:A:379:GLY:O     | 2.34                     | 0.53              |
| 2:B:24:ALA:O      | 2:B:28:SER:N      | 2.39                     | 0.53              |
| 4:D:73:ASP:HB3    | 4:D:76:THR:HG22   | 1.90                     | 0.53              |
| 4:D:88:ALA:HA     | 4:D:91:LEU:HD12   | 1.91                     | 0.53              |
| 4:D:223:LEU:HD21  | 4:D:388:ILE:HB    | 1.91                     | 0.53              |
| 5:E:132:ARG:CZ    | 5:E:443:LEU:HA    | 2.39                     | 0.53              |
| 5:E:229:ILE:HG22  | 5:E:374:ILE:H     | 1.74                     | 0.53              |
| 5:E:243:VAL:HG23  | 5:E:299:LEU:HD11  | 1.90                     | 0.53              |
| 5:E:297:ALA:HB1   | 5:E:299:LEU:H     | 1.74                     | 0.53              |
| 5:E:420:TYR:HB3   | 5:E:501:MET:HB3   | 1.90                     | 0.53              |
| 5:E:530:ILE:N     | 7:G:46:ASP:HB2    | 2.22                     | 0.53              |
| 6:F:161:HIS:O     | 6:F:165:ALA:N     | 2.36                     | 0.53              |
| 3:K:390:ASN:O     | 3:K:394:ALA:N     | 2.35                     | 0.53              |
| 4:L:45:ALA:HA     | 4:L:48:ILE:HG12   | 1.90                     | 0.53              |
| 4:L:78:LEU:HD11   | 4:L:107:THR:HA    | 1.88                     | 0.53              |
| 5:M:248:ILE:HG23  | 5:M:299:LEU:HD23  | 1.90                     | 0.53              |
| 5:M:454:ALA:O     | 5:M:457:VAL:HG12  | 2.07                     | 0.53              |
| 6:N:275:ILE:O     | 6:N:279:ARG:HG2   | 2.08                     | 0.53              |
| 7:O:516:VAL:HA    | 8:P:53:ASN:O      | 2.08                     | 0.53              |
| 8:P:204:VAL:HG12  | 8:P:375:ILE:HB    | 1.91                     | 0.53              |
| 10:2:115:LEU:HD21 | 10:2:119:ARG:HH22 | 1.72                     | 0.53              |
| 11:3:88:LEU:O     | 11:3:92:GLN:N     | 2.32                     | 0.53              |
| 1:A:45:LEU:O      | 1:A:53:THR:N      | 2.37                     | 0.53              |
| 1:A:414:ALA:HB1   | 1:A:485:TRP:HD1   | 1.74                     | 0.53              |
| 3:C:113:LEU:HA    | 3:C:116:GLN:HB2   | 1.89                     | 0.53              |
| 5:E:208:LEU:O     | 5:E:382:ALA:HA    | 2.08                     | 0.53              |
| 5:E:285:PHE:HB3   | 5:E:314:LEU:HD12  | 1.90                     | 0.53              |
| 5:E:312:HIS:O     | 5:E:316:GLN:N     | 2.42                     | 0.53              |
| 8:H:463:VAL:HA    | 8:H:488:ALA:HB1   | 1.89                     | 0.53              |
| 1:I:96:ILE:HG22   | 1:I:100:LEU:HG    | 1.90                     | 0.53              |
| 1:I:299:TYR:HD1   | 3:K:339:ARG:HH12  | 1.55                     | 0.53              |
| 3:K:74:HIS:HA     | 3:K:78:LYS:HE3    | 1.90                     | 0.53              |
| 6:N:228:ALA:O     | 6:N:346:HIS:HA    | 2.09                     | 0.53              |
| 7:O:215:ALA:HB3   | 7:O:371:THR:HG21  | 1.90                     | 0.53              |
| 8:P:223:PHE:CD2   | 8:P:313:VAL:HG11  | 2.44                     | 0.53              |
| 8:P:250:ILE:HD12  | 8:P:279:GLN:HG2   | 1.90                     | 0.53              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 8:P:291:VAL:N    | 8:P:311:MET:O    | 2.41                     | 0.53              |
| 1:A:132:ILE:HD11 | 1:A:419:LEU:HD11 | 1.89                     | 0.53              |
| 1:A:285:VAL:HG22 | 1:A:306:MET:HB3  | 1.90                     | 0.53              |
| 1:A:474:ALA:HA   | 1:A:485:TRP:HZ3  | 1.72                     | 0.53              |
| 1:A:528:ASP:HB2  | 4:D:59:LYS:HE3   | 1.88                     | 0.53              |
| 2:B:78:ASN:HB3   | 2:B:81:ALA:HB3   | 1.90                     | 0.53              |
| 2:B:141:LEU:HD13 | 2:B:504:LEU:HD11 | 1.91                     | 0.53              |
| 3:C:75:PRO:HB2   | 3:C:522:ILE:HD13 | 1.91                     | 0.53              |
| 3:C:218:VAL:HG22 | 3:C:373:THR:HG23 | 1.89                     | 0.53              |
| 5:E:74:GLY:HA2   | 5:E:77:ILE:HG22  | 1.91                     | 0.53              |
| 7:G:374:LEU:HD12 | 7:G:389:LEU:HD11 | 1.90                     | 0.53              |
| 1:I:464:VAL:HA   | 1:I:467:LEU:HB2  | 1.90                     | 0.53              |
| 3:K:73:GLN:HB3   | 3:K:75:PRO:HD2   | 1.90                     | 0.53              |
| 5:M:94:LEU:HB2   | 7:O:380:GLN:HE22 | 1.72                     | 0.53              |
| 5:M:339:GLY:HA2  | 5:M:355:PHE:CD2  | 2.43                     | 0.53              |
| 6:N:207:ILE:O    | 6:N:373:THR:N    | 2.27                     | 0.53              |
| 11:3:126:TRP:H   | 13:5:69:SER:C    | 2.11                     | 0.53              |
| 13:5:19:LYS:HD2  | 13:5:132:MET:HB2 | 1.90                     | 0.53              |
| 1:A:236:CYS:HB2  | 1:A:327:ILE:HG12 | 1.90                     | 0.53              |
| 4:D:282:TYR:CZ   | 4:D:286:LEU:HD22 | 2.44                     | 0.53              |
| 4:D:298:LEU:HG   | 4:D:322:ILE:HG21 | 1.90                     | 0.53              |
| 5:E:96:LYS:NZ    | 5:E:100:ASP:OD2  | 2.40                     | 0.53              |
| 8:H:71:THR:HB    | 8:H:74:ARG:HE    | 1.73                     | 0.53              |
| 8:H:118:LEU:HD11 | 8:H:440:LYS:HG3  | 1.90                     | 0.53              |
| 8:H:232:THR:N    | 8:H:311:MET:HB2  | 2.23                     | 0.53              |
| 1:I:106:GLU:HB2  | 4:L:471:LEU:HB2  | 1.90                     | 0.53              |
| 3:K:449:ARG:NE   | 3:K:460:ILE:HA   | 2.24                     | 0.53              |
| 4:L:160:ARG:HH11 | 4:L:188:VAL:HG12 | 1.74                     | 0.53              |
| 4:L:323:MET:HE3  | 4:L:364:GLU:HB2  | 1.90                     | 0.53              |
| 5:M:44:VAL:HG13  | 5:M:81:MET:HE1   | 1.90                     | 0.53              |
| 5:M:59:LYS:N     | 5:M:71:THR:O     | 2.41                     | 0.53              |
| 8:P:356:GLY:CA   | 8:P:376:VAL:HG11 | 2.39                     | 0.53              |
| 11:3:60:TYR:HB3  | 11:3:169:PHE:HB2 | 1.91                     | 0.53              |
| 1:A:328:LEU:HB2  | 1:A:344:MET:CG   | 2.34                     | 0.53              |
| 1:A:409:VAL:HG21 | 1:A:510:LYS:HD2  | 1.91                     | 0.53              |
| 3:C:289:VAL:HG21 | 3:C:350:LEU:HD13 | 1.91                     | 0.53              |
| 4:D:250:GLN:HG2  | 4:D:330:ARG:HH12 | 1.73                     | 0.53              |
| 5:E:116:LEU:HD11 | 5:E:137:TYR:CD1  | 2.43                     | 0.53              |
| 5:E:417:ARG:HD3  | 5:E:510:LEU:HD22 | 1.91                     | 0.53              |
| 5:E:427:ILE:HD13 | 5:E:477:VAL:HG13 | 1.91                     | 0.53              |
| 5:E:461:ALA:O    | 5:E:464:GLU:HB3  | 2.09                     | 0.53              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 6:F:140:SER:OG   | 6:F:406:CYS:SG   | 2.61                     | 0.53              |
| 8:H:123:LEU:HD22 | 8:H:433:LEU:HD13 | 1.91                     | 0.53              |
| 8:H:161:SER:HB2  | 8:H:180:ALA:HB1  | 1.89                     | 0.53              |
| 1:I:42:ASP:O     | 3:K:519:ILE:HA   | 2.09                     | 0.53              |
| 1:I:200:ALA:HB1  | 1:I:357:CYS:SG   | 2.49                     | 0.53              |
| 1:I:388:MET:O    | 1:I:392:LEU:N    | 2.39                     | 0.53              |
| 2:J:105:LEU:HD13 | 2:J:504:LEU:HD23 | 1.89                     | 0.53              |
| 3:K:323:ILE:HA   | 3:K:326:ALA:HB3  | 1.89                     | 0.53              |
| 4:L:184:SER:O    | 4:L:188:VAL:HG23 | 2.09                     | 0.53              |
| 5:M:94:LEU:HD22  | 5:M:523:MET:SD   | 2.49                     | 0.53              |
| 5:M:162:THR:HA   | 5:M:165:LEU:HB2  | 1.90                     | 0.53              |
| 5:M:344:ARG:NE   | 7:O:298:VAL:HG11 | 2.24                     | 0.53              |
| 6:N:399:LYS:HA   | 6:N:402:ILE:HG22 | 1.91                     | 0.53              |
| 6:N:418:MET:O    | 6:N:422:LEU:N    | 2.23                     | 0.53              |
| 7:O:49:ILE:HG21  | 7:O:65:ILE:HB    | 1.91                     | 0.53              |
| 7:O:456:ASP:HB3  | 7:O:459:ASN:ND2  | 2.24                     | 0.53              |
| 8:P:100:GLY:HA2  | 8:P:103:PHE:HB3  | 1.91                     | 0.53              |
| 8:P:435:GLN:HE21 | 8:P:439:LYS:NZ   | 2.05                     | 0.53              |
| 9:1:100:TYR:HD2  | 9:1:101:LEU:HD12 | 1.74                     | 0.53              |
| 13:5:104:LYS:O   | 13:5:108:ASP:N   | 2.38                     | 0.53              |
| 1:A:95:ILE:O     | 1:A:99:GLU:N     | 2.36                     | 0.53              |
| 3:C:231:ARG:O    | 3:C:352:ILE:HB   | 2.08                     | 0.53              |
| 3:C:470:HIS:CE1  | 3:C:474:ASN:HD22 | 2.27                     | 0.53              |
| 4:D:298:LEU:HD12 | 4:D:324:VAL:HG22 | 1.90                     | 0.53              |
| 5:E:124:LEU:HD13 | 5:E:130:PRO:HD3  | 1.90                     | 0.53              |
| 7:G:281:ILE:HG13 | 7:G:286:ALA:HB2  | 1.90                     | 0.53              |
| 8:H:221:MET:HG3  | 8:H:372:ILE:HD12 | 1.89                     | 0.53              |
| 8:H:453:ALA:HB1  | 8:H:458:VAL:HG23 | 1.90                     | 0.53              |
| 2:J:226:VAL:N    | 4:L:344:PRO:O    | 2.39                     | 0.53              |
| 3:K:217:GLY:HA3  | 3:K:365:ASP:HB2  | 1.90                     | 0.53              |
| 4:L:33:ILE:O     | 4:L:37:ASN:N     | 2.33                     | 0.53              |
| 4:L:183:LEU:HD21 | 4:L:401:ALA:HA   | 1.90                     | 0.53              |
| 4:L:298:LEU:N    | 4:L:323:MET:O    | 2.26                     | 0.53              |
| 5:M:102:ILE:HD11 | 5:M:511:ILE:HG22 | 1.90                     | 0.53              |
| 5:M:123:LEU:HD13 | 5:M:133:ILE:HD12 | 1.89                     | 0.53              |
| 5:M:190:VAL:O    | 5:M:194:LEU:N    | 2.32                     | 0.53              |
| 6:N:218:HIS:CE1  | 6:N:302:LEU:HD11 | 2.43                     | 0.53              |
| 8:P:43:THR:HA    | 8:P:102:ASN:HB3  | 1.90                     | 0.53              |
| 14:6:43:VAL:O    | 14:6:47:LEU:N    | 2.34                     | 0.53              |
| 1:A:217:ASN:HD22 | 1:A:312:LEU:HD22 | 1.72                     | 0.53              |
| 1:A:275:ILE:HA   | 1:A:278:ILE:HD12 | 1.90                     | 0.53              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:279:VAL:HA   | 2:B:304:PHE:CZ   | 2.44                     | 0.53              |
| 3:C:129:ALA:HB1  | 3:C:440:VAL:HG11 | 1.91                     | 0.53              |
| 3:C:204:ILE:HD12 | 3:C:360:PHE:CE2  | 2.44                     | 0.53              |
| 4:D:511:PRO:O    | 4:D:514:VAL:HG22 | 2.08                     | 0.53              |
| 5:E:433:VAL:HG11 | 5:E:451:PHE:HD2  | 1.74                     | 0.53              |
| 5:E:442:THR:O    | 5:E:445:GLN:HG2  | 2.09                     | 0.53              |
| 6:F:291:VAL:HB   | 6:F:312:ALA:HA   | 1.91                     | 0.53              |
| 6:F:323:ARG:HA   | 6:F:326:LEU:HB2  | 1.91                     | 0.53              |
| 6:F:391:VAL:HG13 | 6:F:392:ARG:H    | 1.74                     | 0.53              |
| 7:G:188:ASP:H    | 7:G:397:ARG:HH21 | 1.55                     | 0.53              |
| 7:G:237:ILE:N    | 7:G:343:GLY:O    | 2.25                     | 0.53              |
| 7:G:464:LEU:O    | 7:G:468:HIS:N    | 2.42                     | 0.53              |
| 8:H:67:ASN:HD22  | 8:H:172:GLN:NE2  | 2.05                     | 0.53              |
| 8:H:512:THR:O    | 8:H:516:VAL:HG23 | 2.09                     | 0.53              |
| 1:I:328:LEU:HD11 | 1:I:331:LEU:HB2  | 1.91                     | 0.53              |
| 3:K:175:ILE:HA   | 3:K:214:VAL:HG13 | 1.91                     | 0.53              |
| 4:L:102:ALA:O    | 4:L:410:CYS:HB3  | 2.09                     | 0.53              |
| 4:L:257:LYS:HB2  | 4:L:279:GLU:HB2  | 1.91                     | 0.53              |
| 6:N:156:LEU:HB3  | 6:N:165:ALA:HB1  | 1.89                     | 0.53              |
| 6:N:271:VAL:HA   | 6:N:274:ILE:HB   | 1.91                     | 0.53              |
| 6:N:340:SER:O    | 6:N:344:LEU:N    | 2.37                     | 0.53              |
| 7:O:236:LYS:HB3  | 7:O:342:LEU:HD21 | 1.91                     | 0.53              |
| 8:P:272:GLU:HB3  | 8:P:300:MET:HB2  | 1.91                     | 0.53              |
| 8:P:340:VAL:O    | 8:P:344:MET:N    | 2.42                     | 0.53              |
| 14:6:107:THR:O   | 14:6:111:LEU:N   | 2.41                     | 0.53              |
| 1:A:367:THR:HG22 | 1:A:369:ALA:N    | 2.19                     | 0.53              |
| 3:C:239:VAL:HG22 | 3:C:285:LEU:HD11 | 1.90                     | 0.53              |
| 3:C:245:LEU:HG   | 3:C:300:ALA:HB1  | 1.90                     | 0.53              |
| 4:D:272:MET:O    | 4:D:276:LEU:N    | 2.37                     | 0.53              |
| 4:D:320:MET:HB2  | 4:D:322:ILE:HD12 | 1.91                     | 0.53              |
| 6:F:49:SER:HB2   | 8:H:20:LYS:HE3   | 1.91                     | 0.53              |
| 6:F:95:ASN:O     | 6:F:98:ILE:HG12  | 2.09                     | 0.53              |
| 7:G:294:PRO:HA   | 7:G:313:ARG:HG3  | 1.91                     | 0.53              |
| 7:G:294:PRO:HB3  | 7:G:313:ARG:HH21 | 1.74                     | 0.53              |
| 7:G:339:ALA:O    | 7:G:344:ARG:NH2  | 2.41                     | 0.53              |
| 8:H:59:HIS:NE2   | 8:H:61:GLU:OE2   | 2.42                     | 0.53              |
| 8:H:191:PHE:CE2  | 8:H:202:ILE:HG13 | 2.44                     | 0.53              |
| 1:I:288:THR:HB   | 1:I:309:ARG:HG2  | 1.91                     | 0.53              |
| 3:K:362:PHE:HZ   | 3:K:377:ARG:HH21 | 1.57                     | 0.53              |
| 3:K:396:GLN:NE2  | 3:K:501:VAL:HG22 | 2.24                     | 0.53              |
| 3:K:463:LEU:HA   | 3:K:466:LEU:HB2  | 1.91                     | 0.53              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 4:L:415:LEU:HA   | 4:L:418:LYS:O    | 2.09                     | 0.53              |
| 5:M:153:ASP:HA   | 5:M:417:ARG:HE   | 1.74                     | 0.53              |
| 5:M:341:ILE:HD13 | 7:O:223:ALA:HB1  | 1.91                     | 0.53              |
| 6:N:62:VAL:HG21  | 6:N:392:ARG:NH2  | 2.24                     | 0.53              |
| 7:O:29:CYS:HB2   | 7:O:75:ALA:HB1   | 1.89                     | 0.53              |
| 8:P:47:TYR:CD1   | 8:P:102:ASN:HB2  | 2.44                     | 0.53              |
| 8:P:70:ALA:O     | 8:P:74:ARG:N     | 2.30                     | 0.53              |
| 9:1:44:ALA:HB3   | 9:1:84:GLN:HE21  | 1.74                     | 0.53              |
| 1:A:43:LYS:N     | 1:A:55:THR:O     | 2.24                     | 0.52              |
| 1:A:88:ASP:HB2   | 1:A:509:VAL:HG11 | 1.90                     | 0.52              |
| 1:A:530:LEU:O    | 4:D:62:GLN:HG2   | 2.09                     | 0.52              |
| 2:B:162:ILE:HA   | 2:B:165:THR:HB   | 1.90                     | 0.52              |
| 2:B:444:ARG:HD3  | 2:B:466:ARG:NH2  | 2.25                     | 0.52              |
| 3:C:223:ASP:HB3  | 3:C:314:ARG:O    | 2.09                     | 0.52              |
| 2:J:115:SER:HB3  | 2:J:119:LYS:HZ3  | 1.73                     | 0.52              |
| 2:J:154:LYS:O    | 2:J:158:ASP:N    | 2.31                     | 0.52              |
| 3:K:36:ILE:O     | 3:K:39:THR:OG1   | 2.16                     | 0.52              |
| 3:K:225:THR:OG1  | 3:K:226:HIS:ND1  | 2.42                     | 0.52              |
| 3:K:502:LYS:HE3  | 3:K:506:TYR:HE2  | 1.73                     | 0.52              |
| 4:L:287:VAL:HG21 | 4:L:316:PHE:HB3  | 1.89                     | 0.52              |
| 5:M:116:LEU:O    | 5:M:137:TYR:OH   | 2.17                     | 0.52              |
| 5:M:161:ASP:HB3  | 5:M:165:LEU:CD1  | 2.39                     | 0.52              |
| 5:M:243:VAL:HG22 | 5:M:298:ASN:O    | 2.09                     | 0.52              |
| 5:M:420:TYR:HE1  | 5:M:507:ILE:HG12 | 1.74                     | 0.52              |
| 6:N:56:LEU:HD21  | 8:P:521:VAL:HA   | 1.90                     | 0.52              |
| 7:O:126:ARG:HE   | 7:O:508:GLU:HA   | 1.73                     | 0.52              |
| 8:P:152:LYS:HB2  | 8:P:406:LYS:HA   | 1.90                     | 0.52              |
| 8:P:161:SER:O    | 8:P:165:ARG:HB2  | 2.10                     | 0.52              |
| 8:P:250:ILE:HA   | 8:P:336:LEU:HB3  | 1.90                     | 0.52              |
| 14:6:17:GLN:O    | 14:6:21:LYS:N    | 2.33                     | 0.52              |
| 1:A:128:ALA:HA   | 1:A:422:TYR:HE2  | 1.74                     | 0.52              |
| 1:A:187:GLN:NE2  | 1:A:189:ARG:HE   | 2.06                     | 0.52              |
| 1:A:275:ILE:HG12 | 1:A:278:ILE:HD12 | 1.91                     | 0.52              |
| 1:A:526:ARG:O    | 4:D:57:MET:HB3   | 2.09                     | 0.52              |
| 2:B:237:ILE:N    | 2:B:344:GLY:O    | 2.38                     | 0.52              |
| 2:B:496:SER:HB2  | 2:B:498:GLN:HG2  | 1.90                     | 0.52              |
| 4:D:185:PRO:O    | 4:D:189:ASN:N    | 2.34                     | 0.52              |
| 5:E:286:GLU:OE2  | 5:E:317:ASN:HB3  | 2.10                     | 0.52              |
| 6:F:412:GLY:HA3  | 6:F:448:PRO:HB3  | 1.91                     | 0.52              |
| 7:G:103:GLU:HG3  | 7:G:444:ILE:HG21 | 1.90                     | 0.52              |
| 7:G:178:MET:HB3  | 7:G:372:PHE:HE1  | 1.73                     | 0.52              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 8:H:450:ARG:HB2  | 8:H:460:ALA:HB2  | 1.91                     | 0.52              |
| 1:I:103:ASN:HB3  | 1:I:440:GLU:HB3  | 1.91                     | 0.52              |
| 1:I:121:TYR:O    | 1:I:518:THR:OG1  | 2.23                     | 0.52              |
| 1:I:136:LEU:HD23 | 1:I:480:ARG:HD3  | 1.91                     | 0.52              |
| 1:I:171:MET:O    | 1:I:175:ALA:N    | 2.32                     | 0.52              |
| 1:I:218:CYS:SG   | 1:I:362:ILE:HG13 | 2.50                     | 0.52              |
| 1:I:233:LYS:HD3  | 1:I:345:LEU:HD13 | 1.90                     | 0.52              |
| 1:I:419:LEU:HA   | 1:I:422:TYR:HB2  | 1.91                     | 0.52              |
| 2:J:57:ARG:NH1   | 2:J:73:ASN:OD1   | 2.40                     | 0.52              |
| 2:J:429:PRO:HG2  | 2:J:433:ALA:HA   | 1.92                     | 0.52              |
| 6:N:115:HIS:HB2  | 6:N:118:ILE:HG23 | 1.90                     | 0.52              |
| 8:P:151:ALA:N    | 8:P:408:LEU:HD13 | 2.24                     | 0.52              |
| 11:3:78:ILE:HB   | 11:3:79:PRO:HD3  | 1.91                     | 0.52              |
| 1:A:208:SER:HB3  | 1:A:377:LEU:HA   | 1.91                     | 0.52              |
| 2:B:354:ILE:HB   | 2:B:376:ARG:HH21 | 1.74                     | 0.52              |
| 2:B:495:GLU:OE1  | 2:B:500:LYS:HE3  | 2.09                     | 0.52              |
| 3:C:81:ILE:O     | 3:C:85:ARG:HG2   | 2.10                     | 0.52              |
| 5:E:477:VAL:O    | 5:E:481:GLN:N    | 2.37                     | 0.52              |
| 6:F:95:ASN:HB2   | 6:F:504:LEU:HB2  | 1.91                     | 0.52              |
| 8:H:288:ALA:O    | 8:H:310:ILE:HG12 | 2.09                     | 0.52              |
| 8:H:452:LEU:HD22 | 8:H:479:GLY:HA2  | 1.90                     | 0.52              |
| 8:H:463:VAL:HA   | 8:H:488:ALA:CB   | 2.40                     | 0.52              |
| 1:I:135:ASN:HB2  | 1:I:409:VAL:HG12 | 1.91                     | 0.52              |
| 1:I:141:ASP:O    | 1:I:500:GLN:NE2  | 2.39                     | 0.52              |
| 2:J:20:ARG:HH22  | 5:M:43:ALA:HA    | 1.75                     | 0.52              |
| 5:M:189:ALA:HB3  | 5:M:409:ILE:HD12 | 1.91                     | 0.52              |
| 5:M:228:VAL:N    | 5:M:374:ILE:O    | 2.39                     | 0.52              |
| 5:M:419:VAL:HG11 | 5:M:510:LEU:HA   | 1.90                     | 0.52              |
| 6:N:138:LYS:NZ   | 6:N:406:CYS:SG   | 2.77                     | 0.52              |
| 7:O:407:ALA:HB1  | 7:O:487:ASN:HB2  | 1.90                     | 0.52              |
| 1:A:40:GLY:HA2   | 1:A:455:ASN:ND2  | 2.25                     | 0.52              |
| 1:A:174:ASP:O    | 1:A:178:ALA:N    | 2.37                     | 0.52              |
| 1:A:213:GLY:N    | 1:A:372:SER:O    | 2.42                     | 0.52              |
| 1:A:227:LYS:HB3  | 1:A:353:GLN:HB3  | 1.91                     | 0.52              |
| 1:A:234:ILE:O    | 1:A:346:GLY:N    | 2.27                     | 0.52              |
| 1:A:298:LYS:O    | 1:A:301:VAL:HG22 | 2.09                     | 0.52              |
| 2:B:419:HIS:CD2  | 2:B:470:SER:HA   | 2.45                     | 0.52              |
| 3:C:98:VAL:HA    | 3:C:509:ALA:HB2  | 1.91                     | 0.52              |
| 3:C:98:VAL:HG13  | 3:C:505:THR:HG23 | 1.92                     | 0.52              |
| 3:C:382:GLU:O    | 3:C:386:GLU:N    | 2.36                     | 0.52              |
| 5:E:166:ILE:HG22 | 5:E:170:LYS:HZ3  | 1.74                     | 0.52              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 5:E:341:ILE:HB   | 7:G:301:GLN:HE21 | 1.74                     | 0.52              |
| 6:F:419:ALA:HB2  | 6:F:444:LEU:HB2  | 1.90                     | 0.52              |
| 7:G:198:LYS:HB2  | 7:G:373:ILE:HD12 | 1.90                     | 0.52              |
| 8:H:118:LEU:HD22 | 8:H:123:LEU:HD12 | 1.90                     | 0.52              |
| 8:H:231:VAL:C    | 8:H:311:MET:HB2  | 2.29                     | 0.52              |
| 1:I:100:LEU:HD23 | 1:I:103:ASN:HD22 | 1.72                     | 0.52              |
| 1:I:231:ASN:HB2  | 1:I:284:ASN:HB2  | 1.90                     | 0.52              |
| 1:I:427:ALA:HB1  | 1:I:435:GLN:HA   | 1.91                     | 0.52              |
| 2:J:156:ARG:O    | 2:J:160:MET:HG2  | 2.10                     | 0.52              |
| 3:K:47:MET:N     | 6:N:517:LEU:O    | 2.35                     | 0.52              |
| 3:K:238:ILE:HG13 | 3:K:331:ILE:HD13 | 1.92                     | 0.52              |
| 4:L:139:LYS:HG3  | 4:L:143:LYS:HE2  | 1.91                     | 0.52              |
| 1:A:234:ILE:HD13 | 1:A:285:VAL:HB   | 1.92                     | 0.52              |
| 3:C:183:VAL:HG11 | 3:C:199:ALA:N    | 2.24                     | 0.52              |
| 3:C:226:HIS:CE1  | 3:C:312:ILE:HA   | 2.45                     | 0.52              |
| 4:D:58:ASP:OD1   | 4:D:72:ASN:HB2   | 2.09                     | 0.52              |
| 4:D:232:LYS:HD2  | 4:D:374:LEU:HD12 | 1.92                     | 0.52              |
| 4:D:289:GLN:NE2  | 4:D:348:ILE:HG23 | 2.23                     | 0.52              |
| 5:E:37:HIS:CE1   | 7:G:47:LYS:HG3   | 2.44                     | 0.52              |
| 5:E:184:GLN:NE2  | 5:E:220:GLU:HA   | 2.25                     | 0.52              |
| 5:E:255:PHE:HD1  | 5:E:292:ILE:HG12 | 1.75                     | 0.52              |
| 6:F:400:ASN:HB3  | 6:F:499:CYS:HB2  | 1.92                     | 0.52              |
| 7:G:135:LYS:HA   | 7:G:138:GLU:OE2  | 2.09                     | 0.52              |
| 7:G:162:ALA:HB2  | 7:G:395:ILE:HD12 | 1.92                     | 0.52              |
| 7:G:217:LYS:O    | 7:G:356:GLU:HB3  | 2.09                     | 0.52              |
| 7:G:271:TRP:HB3  | 7:G:302:TYR:OH   | 2.10                     | 0.52              |
| 8:H:241:VAL:HA   | 8:H:292:VAL:HB   | 1.92                     | 0.52              |
| 8:H:350:VAL:HG13 | 8:H:363:PHE:HD1  | 1.73                     | 0.52              |
| 1:I:74:VAL:O     | 1:I:78:LEU:HD13  | 2.09                     | 0.52              |
| 2:J:33:ILE:HA    | 2:J:107:ALA:HB1  | 1.91                     | 0.52              |
| 4:L:317:LEU:HB3  | 4:L:324:VAL:HG11 | 1.91                     | 0.52              |
| 6:N:278:LYS:HD3  | 6:N:308:GLU:HG3  | 1.92                     | 0.52              |
| 7:O:450:CYS:HA   | 7:O:482:GLU:HB3  | 1.91                     | 0.52              |
| 14:6:100:GLN:O   | 14:6:104:GLN:N   | 2.35                     | 0.52              |
| 1:A:74:VAL:O     | 1:A:78:LEU:N     | 2.29                     | 0.52              |
| 1:A:347:GLN:HB3  | 1:A:368:LYS:HB2  | 1.92                     | 0.52              |
| 1:A:466:LYS:HG2  | 1:A:470:PHE:CZ   | 2.44                     | 0.52              |
| 2:B:244:MET:HB3  | 2:B:300:PRO:HG3  | 1.92                     | 0.52              |
| 2:B:255:ARG:HH11 | 2:B:257:ARG:NH2  | 1.98                     | 0.52              |
| 3:C:133:MET:HE2  | 3:C:137:LEU:HD21 | 1.92                     | 0.52              |
| 3:C:145:ASP:HB2  | 3:C:151:MET:HG2  | 1.92                     | 0.52              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 3:C:226:HIS:CE1  | 3:C:312:ILE:HG23 | 2.44                     | 0.52              |
| 4:D:465:LEU:HD21 | 4:D:495:VAL:HG12 | 1.91                     | 0.52              |
| 5:E:426:GLU:OE1  | 5:E:458:ILE:HB   | 2.09                     | 0.52              |
| 6:F:382:HIS:O    | 6:F:386:GLN:N    | 2.42                     | 0.52              |
| 7:G:288:VAL:HG13 | 7:G:309:PHE:CD2  | 2.44                     | 0.52              |
| 8:H:155:ARG:HD3  | 8:H:189:SER:OG   | 2.10                     | 0.52              |
| 8:H:365:HIS:CE1  | 8:H:372:ILE:HG12 | 2.45                     | 0.52              |
| 8:H:423:ILE:HG21 | 8:H:441:PHE:HD2  | 1.74                     | 0.52              |
| 1:I:389:GLU:HA   | 1:I:392:LEU:HD12 | 1.91                     | 0.52              |
| 3:K:449:ARG:O    | 3:K:459:THR:OG1  | 2.24                     | 0.52              |
| 4:L:228:VAL:O    | 4:L:387:THR:HG21 | 2.10                     | 0.52              |
| 4:L:257:LYS:N    | 4:L:262:ASN:OD1  | 2.42                     | 0.52              |
| 5:M:251:LEU:HD21 | 5:M:348:LEU:HD21 | 1.91                     | 0.52              |
| 8:P:125:VAL:HG13 | 8:P:519:LEU:HG   | 1.91                     | 0.52              |
| 13:5:12:LEU:HB2  | 13:5:13:PRO:HD3  | 1.91                     | 0.52              |
| 1:A:225:MET:SD   | 1:A:307:ALA:N    | 2.77                     | 0.52              |
| 4:D:34:ARG:NH1   | 4:D:530:LEU:O    | 2.43                     | 0.52              |
| 4:D:116:LEU:O    | 4:D:120:CYS:N    | 2.41                     | 0.52              |
| 5:E:42:LYS:HB3   | 5:E:118:GLU:OE2  | 2.10                     | 0.52              |
| 5:E:453:ASP:OD1  | 5:E:454:ALA:N    | 2.42                     | 0.52              |
| 6:F:268:GLU:HA   | 6:F:271:VAL:HB   | 1.92                     | 0.52              |
| 7:G:295:ILE:HG12 | 7:G:312:GLY:HA3  | 1.91                     | 0.52              |
| 2:J:55:SER:N     | 4:L:537:ASN:OD1  | 2.38                     | 0.52              |
| 4:L:78:LEU:HD11  | 4:L:107:THR:HG22 | 1.92                     | 0.52              |
| 5:M:117:LEU:O    | 5:M:121:GLU:HG2  | 2.09                     | 0.52              |
| 8:P:142:ILE:O    | 8:P:146:LEU:HG   | 2.10                     | 0.52              |
| 8:P:181:LYS:O    | 8:P:185:GLN:N    | 2.33                     | 0.52              |
| 8:P:251:THR:HG21 | 8:P:335:ARG:HB2  | 1.91                     | 0.52              |
| 1:A:164:ASN:HA   | 1:A:167:PHE:HB3  | 1.92                     | 0.52              |
| 1:A:171:MET:O    | 1:A:175:ALA:N    | 2.43                     | 0.52              |
| 2:B:127:ILE:O    | 2:B:131:ARG:HG3  | 2.10                     | 0.52              |
| 3:C:272:GLU:O    | 3:C:276:GLN:N    | 2.29                     | 0.52              |
| 3:C:424:GLU:O    | 3:C:428:ALA:N    | 2.35                     | 0.52              |
| 4:D:134:SER:HB2  | 4:D:531:LYS:HZ2  | 1.75                     | 0.52              |
| 4:D:151:MET:HB3  | 4:D:489:LYS:HZ1  | 1.75                     | 0.52              |
| 4:D:203:VAL:HG23 | 4:D:416:VAL:HG21 | 1.91                     | 0.52              |
| 4:D:314:LEU:HA   | 4:D:317:LEU:HB3  | 1.91                     | 0.52              |
| 5:E:329:GLU:O    | 5:E:333:ILE:HG22 | 2.10                     | 0.52              |
| 6:F:480:ASP:HB3  | 6:F:485:GLU:HG2  | 1.91                     | 0.52              |
| 7:G:118:PRO:O    | 7:G:121:ILE:HG13 | 2.09                     | 0.52              |
| 8:H:188:VAL:HA   | 8:H:202:ILE:HD12 | 1.92                     | 0.52              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 8:H:205:CYS:HA   | 8:H:319:TRP:HZ2  | 1.73                     | 0.52              |
| 2:J:127:ILE:HD13 | 2:J:515:LEU:HD22 | 1.91                     | 0.52              |
| 3:K:362:PHE:HE1  | 3:K:375:LEU:HD13 | 1.75                     | 0.52              |
| 5:M:202:ARG:HH12 | 5:M:415:ASP:CG   | 2.13                     | 0.52              |
| 5:M:252:THR:HB   | 5:M:344:ARG:HD3  | 1.91                     | 0.52              |
| 8:P:239:ILE:HG21 | 8:P:324:LEU:HD11 | 1.90                     | 0.52              |
| 13:5:83:LEU:HD13 | 13:5:91:TYR:CD1  | 2.45                     | 0.52              |
| 14:6:22:ASP:CB   | 14:6:97:LEU:HD13 | 2.40                     | 0.52              |
| 3:C:132:ASP:HB2  | 3:C:425:LYS:HD2  | 1.91                     | 0.52              |
| 3:C:215:LEU:HD13 | 3:C:375:LEU:HB3  | 1.92                     | 0.52              |
| 3:C:329:ALA:HB1  | 3:C:343:VAL:HA   | 1.92                     | 0.52              |
| 4:D:301:GLN:HE21 | 4:D:306:ARG:HE   | 1.57                     | 0.52              |
| 4:D:432:LEU:HG   | 4:D:436:LEU:HD11 | 1.92                     | 0.52              |
| 5:E:256:GLU:HB3  | 5:E:314:LEU:HD13 | 1.92                     | 0.52              |
| 6:F:69:ILE:HA    | 8:H:19:ALA:HA    | 1.91                     | 0.52              |
| 6:F:421:ALA:O    | 6:F:425:HIS:ND1  | 2.43                     | 0.52              |
| 7:G:166:LYS:HG2  | 7:G:387:ARG:HH12 | 1.75                     | 0.52              |
| 8:H:48:GLY:CA    | 8:H:170:SER:HA   | 2.40                     | 0.52              |
| 8:H:293:THR:OG1  | 8:H:313:VAL:O    | 2.14                     | 0.52              |
| 1:I:237:LEU:H    | 1:I:316:LEU:HD11 | 1.74                     | 0.52              |
| 2:J:51:ILE:HD12  | 2:J:63:VAL:HG22  | 1.92                     | 0.52              |
| 2:J:269:HIS:CE1  | 4:L:257:LYS:HD2  | 2.44                     | 0.52              |
| 3:K:473:GLU:OE1  | 3:K:478:TRP:NE1  | 2.43                     | 0.52              |
| 6:N:291:VAL:HG23 | 6:N:293:ASN:HD21 | 1.74                     | 0.52              |
| 14:6:90:TYR:CE2  | 14:6:94:LEU:HB2  | 2.45                     | 0.52              |
| 1:A:182:THR:HB   | 1:A:370:ARG:CG   | 2.39                     | 0.52              |
| 1:A:334:LEU:HD22 | 1:A:344:MET:SD   | 2.50                     | 0.52              |
| 1:A:341:GLU:HG2  | 1:A:343:ALA:H    | 1.75                     | 0.52              |
| 1:A:408:VAL:HA   | 1:A:507:THR:H    | 1.75                     | 0.52              |
| 3:C:66:ILE:O     | 3:C:70:ILE:HG12  | 2.10                     | 0.52              |
| 3:C:445:GLU:HA   | 3:C:448:PRO:HD2  | 1.92                     | 0.52              |
| 4:D:48:ILE:HG21  | 4:D:110:VAL:HB   | 1.91                     | 0.52              |
| 4:D:90:MET:HB3   | 4:D:525:THR:HG21 | 1.92                     | 0.52              |
| 4:D:345:VAL:HG11 | 4:D:351:PHE:CD1  | 2.40                     | 0.52              |
| 5:E:75:ALA:H     | 5:E:106:THR:CG2  | 2.22                     | 0.52              |
| 5:E:306:PHE:CG   | 5:E:307:ASP:N    | 2.78                     | 0.52              |
| 7:G:26:ILE:HB    | 7:G:109:LYS:HD3  | 1.92                     | 0.52              |
| 1:I:241:LEU:HD22 | 1:I:271:THR:HA   | 1.92                     | 0.52              |
| 2:J:429:PRO:HB2  | 2:J:432:GLU:HB2  | 1.92                     | 0.52              |
| 3:K:148:ASP:HB2  | 3:K:151:MET:HB2  | 1.91                     | 0.52              |
| 3:K:230:ARG:HG2  | 3:K:310:THR:HB   | 1.92                     | 0.52              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 4:L:36:SER:HA    | 4:L:39:SER:HB2   | 1.92                     | 0.52              |
| 4:L:98:GLN:HE21  | 4:L:518:ALA:HB2  | 1.75                     | 0.52              |
| 4:L:102:ALA:O    | 4:L:413:ARG:NH2  | 2.43                     | 0.52              |
| 5:M:103:GLY:HA2  | 5:M:407:CYS:HB2  | 1.92                     | 0.52              |
| 5:M:161:ASP:HB3  | 5:M:165:LEU:HD11 | 1.91                     | 0.52              |
| 6:N:151:VAL:HG21 | 6:N:407:VAL:HG21 | 1.92                     | 0.52              |
| 7:O:279:GLU:O    | 7:O:283:HIS:ND1  | 2.34                     | 0.52              |
| 8:P:455:ASN:ND2  | 8:P:480:LEU:HD13 | 2.24                     | 0.52              |
| 1:A:82:GLN:HG3   | 1:A:90:THR:HG22  | 1.91                     | 0.51              |
| 1:A:173:VAL:HG22 | 1:A:395:ALA:HB1  | 1.92                     | 0.51              |
| 1:A:480:ARG:HD3  | 1:A:483:LEU:CB   | 2.39                     | 0.51              |
| 2:B:238:LEU:HD23 | 2:B:282:ILE:HG23 | 1.92                     | 0.51              |
| 7:G:106:LYS:HA   | 7:G:109:LYS:HE2  | 1.91                     | 0.51              |
| 7:G:117:HIS:HE2  | 7:G:517:ASP:CG   | 2.14                     | 0.51              |
| 7:G:213:GLY:O    | 7:G:371:THR:HG22 | 2.10                     | 0.51              |
| 7:G:222:TYR:H    | 7:G:225:PHE:CB   | 2.21                     | 0.51              |
| 8:H:39:LEU:HB3   | 8:H:105:LEU:HD21 | 1.93                     | 0.51              |
| 8:H:53:ASN:HA    | 8:H:67:ASN:ND2   | 2.25                     | 0.51              |
| 8:H:219:HIS:HA   | 8:H:373:SER:HA   | 1.92                     | 0.51              |
| 8:H:401:VAL:HG12 | 8:H:403:THR:H    | 1.74                     | 0.51              |
| 1:I:245:LYS:NZ   | 1:I:249:GLY:O    | 2.42                     | 0.51              |
| 3:K:207:GLY:HA3  | 3:K:377:ARG:HH11 | 1.74                     | 0.51              |
| 3:K:469:LYS:NZ   | 3:K:478:TRP:O    | 2.42                     | 0.51              |
| 4:L:98:GLN:NE2   | 4:L:514:VAL:O    | 2.38                     | 0.51              |
| 6:N:297:ILE:O    | 6:N:314:ARG:NH2  | 2.43                     | 0.51              |
| 11:3:166:ARG:HA  | 11:3:169:PHE:HB3 | 1.91                     | 0.51              |
| 2:B:172:LEU:HD21 | 2:B:179:PHE:HE2  | 1.74                     | 0.51              |
| 2:B:282:ILE:HG22 | 2:B:287:ILE:HD11 | 1.92                     | 0.51              |
| 2:B:415:MET:HA   | 2:B:418:ALA:HB3  | 1.92                     | 0.51              |
| 3:C:107:SER:O    | 3:C:111:HIS:NE2  | 2.42                     | 0.51              |
| 4:D:191:VAL:HG21 | 4:D:412:ILE:HD13 | 1.91                     | 0.51              |
| 4:D:229:LEU:HB2  | 4:D:374:LEU:HB3  | 1.92                     | 0.51              |
| 5:E:164:PRO:HA   | 5:E:167:GLN:HG2  | 1.92                     | 0.51              |
| 5:E:184:GLN:O    | 5:E:188:ILE:HB   | 2.10                     | 0.51              |
| 5:E:252:THR:H    | 5:E:341:ILE:HG22 | 1.73                     | 0.51              |
| 5:E:343:PRO:HG2  | 5:E:347:GLU:HG3  | 1.92                     | 0.51              |
| 5:E:411:ASN:HD22 | 5:E:414:ARG:NH2  | 2.07                     | 0.51              |
| 6:F:101:GLU:HG3  | 6:F:443:ALA:HA   | 1.92                     | 0.51              |
| 6:F:114:LEU:HD23 | 6:F:119:ILE:HG12 | 1.91                     | 0.51              |
| 6:F:269:ASP:O    | 6:F:273:LYS:HG3  | 2.10                     | 0.51              |
| 6:F:451:LEU:HD23 | 6:F:454:ASN:ND2  | 2.22                     | 0.51              |

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| Atom-1           | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 7:G:103:GLU:OE1  | 7:G:441:ALA:HB2   | 2.11                     | 0.51              |
| 7:G:291:SER:O    | 7:G:314:VAL:HG22  | 2.10                     | 0.51              |
| 7:G:397:ARG:O    | 7:G:401:LYS:HG2   | 2.10                     | 0.51              |
| 8:H:96:GLU:OE1   | 8:H:510:LEU:HD11  | 2.10                     | 0.51              |
| 8:H:447:ALA:O    | 8:H:451:ALA:N     | 2.30                     | 0.51              |
| 1:I:9:GLY:HA2    | 4:L:62:GLN:H      | 1.74                     | 0.51              |
| 2:J:248:LYS:HD3  | 2:J:278:LYS:HD2   | 1.93                     | 0.51              |
| 3:K:275:ILE:HG23 | 3:K:296:ILE:HG22  | 1.92                     | 0.51              |
| 5:M:529:LYS:NZ   | 7:O:42:PRO:O      | 2.39                     | 0.51              |
| 8:P:392:VAL:O    | 8:P:396:VAL:HG23  | 2.09                     | 0.51              |
| 8:P:401:VAL:HG13 | 8:P:404:ARG:HE    | 1.74                     | 0.51              |
| 11:3:56:GLN:HB2  | 11:3:172:THR:HG21 | 1.92                     | 0.51              |
| 13:5:39:VAL:HA   | 13:5:42:LYS:HG2   | 1.92                     | 0.51              |
| 2:B:213:TYR:N    | 2:B:374:VAL:O     | 2.28                     | 0.51              |
| 3:C:460:ILE:C    | 8:P:433:LEU:HD21  | 2.30                     | 0.51              |
| 4:D:229:LEU:N    | 4:D:374:LEU:O     | 2.33                     | 0.51              |
| 4:D:289:GLN:HA   | 4:D:292:LYS:HD2   | 1.92                     | 0.51              |
| 4:D:501:SER:OG   | 4:D:505:GLU:OE2   | 2.25                     | 0.51              |
| 5:E:253:CYS:HA   | 7:G:271:TRP:CH2   | 2.46                     | 0.51              |
| 5:E:304:TRP:HZ2  | 7:G:251:ASP:HB3   | 1.76                     | 0.51              |
| 6:F:267:ILE:HD13 | 6:F:298:ASP:OD2   | 2.10                     | 0.51              |
| 6:F:480:ASP:O    | 6:F:484:GLY:N     | 2.42                     | 0.51              |
| 7:G:239:LEU:O    | 7:G:331:GLN:N     | 2.36                     | 0.51              |
| 7:G:398:ARG:NE   | 7:G:495:PRO:HD2   | 2.25                     | 0.51              |
| 1:I:43:LYS:O     | 1:I:54:ILE:HA     | 2.10                     | 0.51              |
| 1:I:209:MET:HB3  | 1:I:376:ILE:HB    | 1.93                     | 0.51              |
| 1:I:385:CYS:O    | 1:I:389:GLU:N     | 2.40                     | 0.51              |
| 1:I:531:ILE:HG12 | 4:L:77:ILE:CG2    | 2.40                     | 0.51              |
| 2:J:49:ASP:H     | 4:L:531:LYS:HG3   | 1.75                     | 0.51              |
| 4:L:274:ARG:HG2  | 4:L:277:ARG:HH21  | 1.74                     | 0.51              |
| 7:O:220:PHE:H    | 7:O:312:GLY:H     | 1.57                     | 0.51              |
| 9:1:82:GLU:HA    | 9:1:85:LYS:HB3    | 1.91                     | 0.51              |
| 1:A:39:VAL:HG21  | 1:A:490:LEU:HD22  | 1.93                     | 0.51              |
| 1:A:121:TYR:O    | 1:A:125:CYS:N     | 2.30                     | 0.51              |
| 2:B:37:ASP:O     | 2:B:40:LYS:HG2    | 2.11                     | 0.51              |
| 2:B:416:LEU:HB2  | 2:B:469:HIS:CD2   | 2.46                     | 0.51              |
| 3:C:16:ARG:HE    | 3:C:524:SER:HB2   | 1.75                     | 0.51              |
| 3:C:195:ILE:HD11 | 3:C:198:TYR:HE2   | 1.71                     | 0.51              |
| 3:C:258:ILE:HG12 | 3:C:264:PHE:HD1   | 1.75                     | 0.51              |
| 4:D:151:MET:HE1  | 4:D:432:LEU:HB2   | 1.92                     | 0.51              |
| 5:E:490:GLY:O    | 5:E:499:ASN:HB3   | 2.10                     | 0.51              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 7:G:59:SER:OG    | 7:G:64:THR:HB    | 2.10                     | 0.51              |
| 7:G:211:VAL:HG12 | 7:G:213:GLY:H    | 1.75                     | 0.51              |
| 8:H:140:HIS:NE2  | 8:H:505:TYR:O    | 2.43                     | 0.51              |
| 8:H:278:ALA:HA   | 8:H:281:LYS:HE3  | 1.93                     | 0.51              |
| 8:H:351:TYR:HB2  | 8:H:362:VAL:HB   | 1.92                     | 0.51              |
| 1:I:130:ARG:NH1  | 1:I:134:GLU:OE2  | 2.42                     | 0.51              |
| 1:I:243:LYS:HE3  | 1:I:303:ALA:HB3  | 1.93                     | 0.51              |
| 1:I:288:THR:O    | 1:I:311:VAL:HG22 | 2.09                     | 0.51              |
| 5:M:98:GLN:HG3   | 5:M:102:ILE:HG12 | 1.92                     | 0.51              |
| 9:1:100:TYR:HA   | 9:1:103:ARG:NH1  | 2.25                     | 0.51              |
| 14:6:79:ARG:HA   | 14:6:82:TYR:HD2  | 1.75                     | 0.51              |
| 3:C:452:ILE:HA   | 3:C:455:CYS:SG   | 2.51                     | 0.51              |
| 4:D:30:PRO:O     | 4:D:34:ARG:N     | 2.34                     | 0.51              |
| 4:D:152:SER:HB3  | 4:D:421:LEU:O    | 2.11                     | 0.51              |
| 4:D:311:ASP:O    | 4:D:315:HIS:N    | 2.30                     | 0.51              |
| 4:D:352:THR:O    | 4:D:356:LEU:HG   | 2.10                     | 0.51              |
| 4:D:436:LEU:O    | 4:D:440:SER:N    | 2.28                     | 0.51              |
| 5:E:165:LEU:HD21 | 5:E:409:ILE:HB   | 1.93                     | 0.51              |
| 5:E:281:GLU:HB3  | 5:E:285:PHE:CZ   | 2.45                     | 0.51              |
| 5:E:398:ALA:O    | 5:E:402:LEU:HG   | 2.10                     | 0.51              |
| 6:F:30:LEU:HD21  | 6:F:77:ILE:HG21  | 1.93                     | 0.51              |
| 6:F:65:HIS:NE2   | 6:F:78:ALA:O     | 2.43                     | 0.51              |
| 7:G:65:ILE:HD13  | 7:G:68:LEU:HD12  | 1.92                     | 0.51              |
| 7:G:218:LYS:HA   | 7:G:357:ARG:O    | 2.11                     | 0.51              |
| 7:G:464:LEU:HD11 | 7:G:477:VAL:HB   | 1.93                     | 0.51              |
| 8:H:164:LEU:HD13 | 8:H:180:ALA:HA   | 1.92                     | 0.51              |
| 8:H:223:PHE:O    | 8:H:360:VAL:HG13 | 2.10                     | 0.51              |
| 8:H:239:ILE:N    | 8:H:344:MET:O    | 2.39                     | 0.51              |
| 8:H:495:ALA:HB3  | 8:H:497:ILE:H    | 1.76                     | 0.51              |
| 1:I:458:GLN:HB3  | 1:I:494:LYS:HE3  | 1.91                     | 0.51              |
| 2:J:27:THR:HA    | 2:J:30:ILE:HG12  | 1.91                     | 0.51              |
| 2:J:131:ARG:HH21 | 2:J:516:ARG:HH22 | 1.59                     | 0.51              |
| 3:K:507:LYS:O    | 3:K:511:GLU:N    | 2.37                     | 0.51              |
| 4:L:424:GLY:HA3  | 4:L:508:VAL:HG12 | 1.92                     | 0.51              |
| 5:M:143:VAL:O    | 5:M:147:HIS:N    | 2.25                     | 0.51              |
| 5:M:145:ILE:HA   | 5:M:148:LEU:HD12 | 1.92                     | 0.51              |
| 6:N:110:ILE:HG12 | 6:N:119:ILE:HG13 | 1.92                     | 0.51              |
| 8:P:230:ASP:OD2  | 8:P:309:ASN:ND2  | 2.44                     | 0.51              |
| 11:3:125:LEU:O   | 11:3:132:MET:HG3 | 2.11                     | 0.51              |
| 14:6:20:GLN:NE2  | 14:6:98:GLU:HA   | 2.24                     | 0.51              |
| 1:A:36:LEU:HB3   | 1:A:455:ASN:OD1  | 2.10                     | 0.51              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 3:C:165:ILE:HB   | 3:C:390:ASN:HD21 | 1.75                     | 0.51              |
| 3:C:205:PRO:HD2  | 3:C:360:PHE:CZ   | 2.45                     | 0.51              |
| 4:D:257:LYS:HD3  | 4:D:307:ASP:HB3  | 1.93                     | 0.51              |
| 7:G:279:GLU:O    | 7:G:283:HIS:N    | 2.24                     | 0.51              |
| 7:G:459:ASN:HB2  | 1:I:433:ARG:CZ   | 2.41                     | 0.51              |
| 2:J:257:ARG:O    | 2:J:263:LYS:HG3  | 2.11                     | 0.51              |
| 3:K:219:MET:HB3  | 3:K:373:THR:HG21 | 1.92                     | 0.51              |
| 3:K:407:LEU:HA   | 3:K:499:LEU:HB2  | 1.92                     | 0.51              |
| 4:L:38:ILE:HA    | 4:L:117:LEU:HD22 | 1.92                     | 0.51              |
| 4:L:220:ASP:OD2  | 4:L:391:ARG:NH1  | 2.33                     | 0.51              |
| 5:M:254:PRO:HG3  | 7:O:267:VAL:HG11 | 1.93                     | 0.51              |
| 5:M:304:TRP:HA   | 5:M:324:TRP:CE3  | 2.45                     | 0.51              |
| 6:N:462:THR:O    | 6:N:466:ILE:HG12 | 2.10                     | 0.51              |
| 7:O:521:LYS:HA   | 8:P:57:ILE:HB    | 1.92                     | 0.51              |
| 14:6:57:PHE:CD2  | 14:6:64:LEU:HD21 | 2.46                     | 0.51              |
| 1:A:277:LYS:O    | 1:A:281:THR:N    | 2.34                     | 0.51              |
| 2:B:174:HIS:CE1  | 2:B:175:HIS:CD2  | 2.98                     | 0.51              |
| 2:B:337:HIS:CE1  | 5:E:238:GLN:HE22 | 2.27                     | 0.51              |
| 3:C:431:GLY:O    | 3:C:434:GLN:HG2  | 2.11                     | 0.51              |
| 3:C:489:ASP:CG   | 3:C:492:GLU:H    | 2.14                     | 0.51              |
| 5:E:247:LYS:O    | 5:E:297:ALA:HB2  | 2.11                     | 0.51              |
| 5:E:279:LYS:HE3  | 5:E:283:GLU:HB3  | 1.92                     | 0.51              |
| 5:E:453:ASP:O    | 5:E:457:VAL:HG23 | 2.11                     | 0.51              |
| 6:F:196:MET:HB2  | 6:F:375:LEU:HD11 | 1.93                     | 0.51              |
| 7:G:207:ASP:O    | 7:G:375:ARG:HB2  | 2.10                     | 0.51              |
| 7:G:418:LYS:HE2  | 1:I:428:THR:HG21 | 1.93                     | 0.51              |
| 7:G:520:ILE:N    | 8:H:55:MET:O     | 2.39                     | 0.51              |
| 8:H:243:SER:H    | 8:H:333:LEU:N    | 2.09                     | 0.51              |
| 2:J:220:LEU:HB3  | 2:J:360:ILE:HG23 | 1.91                     | 0.51              |
| 3:K:109:ALA:HB1  | 3:K:113:LEU:HD12 | 1.93                     | 0.51              |
| 3:K:273:GLU:O    | 3:K:277:GLN:N    | 2.35                     | 0.51              |
| 5:M:430:ALA:O    | 5:M:434:SER:N    | 2.36                     | 0.51              |
| 13:5:87:GLY:N    | 14:6:39:GLU:HB3  | 2.25                     | 0.51              |
| 1:A:166:ASP:O    | 1:A:170:ASN:ND2  | 2.44                     | 0.51              |
| 1:A:229:ILE:HG21 | 1:A:284:ASN:HB3  | 1.91                     | 0.51              |
| 2:B:32:ALA:HB1   | 2:B:84:LEU:HD11  | 1.91                     | 0.51              |
| 2:B:122:HIS:ND1  | 5:E:466:SER:O    | 2.43                     | 0.51              |
| 2:B:323:LEU:HD12 | 2:B:327:THR:OG1  | 2.10                     | 0.51              |
| 4:D:298:LEU:HB3  | 4:D:300:ILE:HD11 | 1.93                     | 0.51              |
| 5:E:71:THR:HG21  | 5:E:80:MET:SD    | 2.51                     | 0.51              |
| 5:E:204:VAL:N    | 5:E:413:ILE:HD12 | 2.26                     | 0.51              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 5:E:417:ARG:HG2  | 5:E:510:LEU:HB3  | 1.92                     | 0.51              |
| 6:F:17:GLN:HA    | 6:F:20:LEU:HB2   | 1.92                     | 0.51              |
| 7:G:193:LYS:O    | 7:G:321:ARG:NE   | 2.43                     | 0.51              |
| 7:G:209:GLN:O    | 7:G:373:ILE:N    | 2.36                     | 0.51              |
| 7:G:240:LEU:HB2  | 7:G:291:SER:HA   | 1.93                     | 0.51              |
| 7:G:414:MET:HE2  | 7:G:464:LEU:HB2  | 1.92                     | 0.51              |
| 7:G:450:CYS:O    | 7:G:455:PHE:N    | 2.44                     | 0.51              |
| 8:H:421:LYS:HZ2  | 8:H:468:TYR:HD1  | 1.59                     | 0.51              |
| 4:L:209:LYS:NZ   | 4:L:331:GLU:HG2  | 2.25                     | 0.51              |
| 4:L:329:GLU:HG3  | 4:L:332:ASP:H    | 1.75                     | 0.51              |
| 8:P:26:GLU:O     | 8:P:30:TYR:HB3   | 2.11                     | 0.51              |
| 1:A:72:ALA:HA    | 1:A:75:LEU:HD12  | 1.93                     | 0.51              |
| 2:B:198:ALA:HA   | 2:B:326:VAL:CG1  | 2.40                     | 0.51              |
| 2:B:415:MET:HG3  | 2:B:469:HIS:HB2  | 1.93                     | 0.51              |
| 3:C:152:MET:HG2  | 3:C:401:VAL:HG11 | 1.93                     | 0.51              |
| 3:C:239:VAL:HB   | 3:C:290:VAL:HA   | 1.92                     | 0.51              |
| 3:C:341:ASP:HA   | 3:C:345:THR:HG22 | 1.93                     | 0.51              |
| 4:D:147:ILE:O    | 4:D:151:MET:N    | 2.30                     | 0.51              |
| 4:D:291:LYS:HD2  | 4:D:295:CYS:H    | 1.76                     | 0.51              |
| 5:E:251:LEU:HB2  | 5:E:302:CYS:HA   | 1.93                     | 0.51              |
| 5:E:282:LYS:HA   | 5:E:285:PHE:CD2  | 2.45                     | 0.51              |
| 6:F:100:GLY:HA2  | 6:F:103:LEU:HB2  | 1.92                     | 0.51              |
| 6:F:270:ARG:HB3  | 6:F:336:PHE:CD2  | 2.46                     | 0.51              |
| 6:F:488:VAL:O    | 6:F:492:VAL:HG23 | 2.11                     | 0.51              |
| 7:G:63:ALA:O     | 7:G:67:LYS:HG3   | 2.11                     | 0.51              |
| 7:G:205:LEU:HD22 | 7:G:381:PHE:CD2  | 2.46                     | 0.51              |
| 7:G:512:LEU:HB2  | 7:G:513:ILE:HD12 | 1.91                     | 0.51              |
| 8:H:183:ILE:O    | 8:H:186:ALA:HB3  | 2.11                     | 0.51              |
| 8:H:387:ASP:O    | 8:H:390:ARG:HB3  | 2.10                     | 0.51              |
| 1:I:47:ASP:OD1   | 1:I:64:LEU:HD21  | 2.11                     | 0.51              |
| 1:I:295:MET:SD   | 3:K:331:ILE:HG13 | 2.51                     | 0.51              |
| 3:K:178:ASP:O    | 3:K:182:MET:HG2  | 2.11                     | 0.51              |
| 6:N:411:ALA:HB3  | 6:N:489:ALA:HB2  | 1.93                     | 0.51              |
| 8:P:47:TYR:CZ    | 8:P:103:PHE:HB2  | 2.46                     | 0.51              |
| 8:P:100:GLY:H    | 8:P:171:LYS:HZ1  | 1.57                     | 0.51              |
| 8:P:423:ILE:O    | 8:P:427:GLY:N    | 2.31                     | 0.51              |
| 1:A:131:TYR:O    | 1:A:135:ASN:N    | 2.44                     | 0.51              |
| 1:A:314:ARG:O    | 1:A:318:ARG:HG2  | 2.11                     | 0.51              |
| 2:B:141:LEU:HB2  | 2:B:417:MET:SD   | 2.51                     | 0.51              |
| 2:B:352:VAL:HB   | 2:B:361:HIS:CE1  | 2.45                     | 0.51              |
| 3:C:109:ALA:HB1  | 3:C:113:LEU:HD12 | 1.93                     | 0.51              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 5:E:162:THR:HA   | 5:E:165:LEU:HB2  | 1.92                     | 0.51              |
| 5:E:379:ASN:OD1  | 5:E:380:SER:N    | 2.44                     | 0.51              |
| 6:F:408:VAL:HG23 | 6:F:496:ASP:HB2  | 1.93                     | 0.51              |
| 7:G:161:THR:HG21 | 7:G:493:TRP:H    | 1.75                     | 0.51              |
| 7:G:462:ASN:HB3  | 1:I:435:GLN:HB3  | 1.93                     | 0.51              |
| 8:H:388:ILE:O    | 8:H:392:VAL:N    | 2.24                     | 0.51              |
| 3:K:49:MET:HG3   | 6:N:521:ILE:HG13 | 1.93                     | 0.51              |
| 3:K:124:SER:HB3  | 3:K:128:LYS:HE2  | 1.92                     | 0.51              |
| 3:K:193:ILE:HG23 | 3:K:403:LEU:HB2  | 1.93                     | 0.51              |
| 5:M:417:ARG:NH2  | 5:M:510:LEU:HD22 | 2.25                     | 0.51              |
| 7:O:126:ARG:NH2  | 7:O:511:CYS:HB2  | 2.26                     | 0.51              |
| 10:2:95:GLU:HG3  | 10:2:99:LYS:HE3  | 1.92                     | 0.51              |
| 13:5:27:GLU:HA   | 13:5:30:SER:HB2  | 1.93                     | 0.51              |
| 14:6:50:LEU:HD22 | 14:6:53:SER:HB3  | 1.93                     | 0.51              |
| 1:A:334:LEU:HG   | 1:A:336:GLY:N    | 2.25                     | 0.50              |
| 2:B:326:VAL:HA   | 2:B:367:LEU:HD12 | 1.93                     | 0.50              |
| 2:B:421:VAL:HG11 | 2:B:439:TYR:HD2  | 1.76                     | 0.50              |
| 3:C:26:ASN:ND2   | 3:C:516:LEU:O    | 2.44                     | 0.50              |
| 4:D:417:LYS:HB3  | 4:D:513:LEU:HD22 | 1.92                     | 0.50              |
| 6:F:182:GLN:HE22 | 6:F:370:ARG:HD2  | 1.75                     | 0.50              |
| 6:F:317:LYS:H    | 6:F:320:ASN:HD22 | 1.57                     | 0.50              |
| 7:G:241:ASN:HD21 | 7:G:330:ILE:HB   | 1.76                     | 0.50              |
| 1:I:125:CYS:O    | 1:I:129:VAL:HG23 | 2.12                     | 0.50              |
| 3:K:146:ILE:HG22 | 3:K:401:VAL:HG22 | 1.92                     | 0.50              |
| 4:L:229:LEU:HB2  | 4:L:374:LEU:HD23 | 1.93                     | 0.50              |
| 7:O:209:GLN:O    | 7:O:373:ILE:N    | 2.37                     | 0.50              |
| 7:O:230:LYS:HB2  | 7:O:350:GLU:HB3  | 1.92                     | 0.50              |
| 8:P:417:ILE:CG2  | 8:P:467:LEU:HB3  | 2.41                     | 0.50              |
| 2:B:397:LEU:O    | 2:B:401:VAL:N    | 2.37                     | 0.50              |
| 3:C:293:GLU:CD   | 3:C:320:ASN:HD22 | 2.15                     | 0.50              |
| 5:E:293:LYS:HG3  | 5:E:298:ASN:ND2  | 2.25                     | 0.50              |
| 6:F:31:GLN:NE2   | 6:F:100:GLY:H    | 2.09                     | 0.50              |
| 7:G:155:LEU:HB3  | 7:G:180:VAL:CG2  | 2.41                     | 0.50              |
| 7:G:257:VAL:HG21 | 7:G:263:TYR:CE2  | 2.45                     | 0.50              |
| 8:H:116:GLU:HA   | 8:H:119:LEU:HD12 | 1.93                     | 0.50              |
| 2:J:257:ARG:NH2  | 4:L:263:GLN:OE1  | 2.44                     | 0.50              |
| 3:K:119:PRO:O    | 3:K:123:ILE:N    | 2.41                     | 0.50              |
| 3:K:349:LEU:O    | 3:K:364:THR:N    | 2.43                     | 0.50              |
| 4:L:217:THR:HG22 | 4:L:219:ASP:H    | 1.77                     | 0.50              |
| 4:L:390:VAL:HG12 | 4:L:398:ILE:HG23 | 1.92                     | 0.50              |
| 5:M:51:SER:C     | 5:M:56:GLY:HA3   | 2.32                     | 0.50              |

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| Atom-1           | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 6:N:414:VAL:HG21 | 6:N:501:LYS:HE2   | 1.94                     | 0.50              |
| 8:P:331:THR:N    | 8:P:342:GLU:O     | 2.44                     | 0.50              |
| 1:A:131:TYR:OH   | 1:A:476:VAL:N     | 2.39                     | 0.50              |
| 1:A:233:LYS:O    | 1:A:284:ASN:N     | 2.42                     | 0.50              |
| 1:A:234:ILE:N    | 1:A:346:GLY:O     | 2.35                     | 0.50              |
| 3:C:412:GLY:HA2  | 3:C:415:GLU:HB2   | 1.93                     | 0.50              |
| 3:C:434:GLN:HA   | 3:C:437:TYR:CD2   | 2.46                     | 0.50              |
| 3:C:472:GLN:HG3  | 3:C:473:GLU:H     | 1.76                     | 0.50              |
| 4:D:333:ILE:HA   | 4:D:336:ILE:HD12  | 1.93                     | 0.50              |
| 4:D:515:SER:O    | 4:D:519:LEU:HG    | 2.12                     | 0.50              |
| 5:E:205:ASP:N    | 5:E:208:LEU:HD12  | 2.25                     | 0.50              |
| 7:G:152:ARG:O    | 7:G:156:GLU:N     | 2.37                     | 0.50              |
| 8:H:93:GLN:NE2   | 8:H:510:LEU:HD12  | 2.26                     | 0.50              |
| 8:H:203:ARG:HH22 | 8:H:223:PHE:HD1   | 1.60                     | 0.50              |
| 8:H:212:ILE:HA   | 8:H:215:SER:OG    | 2.11                     | 0.50              |
| 1:I:146:ASP:HB3  | 1:I:149:ILE:HB    | 1.94                     | 0.50              |
| 3:K:190:ARG:HE   | 3:K:193:ILE:HG12  | 1.77                     | 0.50              |
| 4:L:52:LEU:HD11  | 4:L:425:GLY:HA3   | 1.94                     | 0.50              |
| 4:L:248:LEU:H    | 4:L:299:LEU:H     | 1.58                     | 0.50              |
| 5:M:157:VAL:HA   | 5:M:199:MET:SD    | 2.50                     | 0.50              |
| 6:N:19:ALA:HB3   | 6:N:519:ASP:O     | 2.12                     | 0.50              |
| 6:N:149:ILE:HG12 | 6:N:169:THR:O     | 2.11                     | 0.50              |
| 6:N:164:LEU:HD22 | 6:N:387:ILE:HD13  | 1.92                     | 0.50              |
| 6:N:237:LEU:HB3  | 6:N:267:ILE:HG12  | 1.91                     | 0.50              |
| 7:O:235:PRO:HG3  | 7:O:348:PHE:HB2   | 1.92                     | 0.50              |
| 7:O:280:LYS:HA   | 7:O:283:HIS:HE1   | 1.74                     | 0.50              |
| 8:P:146:LEU:HD22 | 8:P:418:GLU:OE1   | 2.10                     | 0.50              |
| 8:P:235:LYS:O    | 8:P:349:SER:HA    | 2.12                     | 0.50              |
| 11:3:101:MET:O   | 11:3:117:VAL:HG12 | 2.10                     | 0.50              |
| 1:A:17:ILE:O     | 1:A:21:ASN:N      | 2.43                     | 0.50              |
| 1:A:156:MET:HE1  | 1:A:168:PHE:HB2   | 1.92                     | 0.50              |
| 1:A:195:VAL:N    | 1:A:396:LEU:HD11  | 2.26                     | 0.50              |
| 1:A:428:THR:HA   | 1:A:435:GLN:NE2   | 2.27                     | 0.50              |
| 1:A:527:ILE:HA   | 4:D:58:ASP:O      | 2.12                     | 0.50              |
| 2:B:141:LEU:HA   | 2:B:144:SER:OG    | 2.11                     | 0.50              |
| 3:C:460:ILE:HG13 | 3:C:461:ARG:N     | 2.27                     | 0.50              |
| 4:D:137:PHE:CD1  | 4:D:454:PHE:HB2   | 2.46                     | 0.50              |
| 5:E:225:ILE:HG13 | 5:E:229:ILE:HD13  | 1.93                     | 0.50              |
| 5:E:361:GLU:HG2  | 5:E:370:LYS:HB3   | 1.93                     | 0.50              |
| 5:E:471:ILE:HG23 | 4:L:449:TYR:CD2   | 2.46                     | 0.50              |
| 6:F:46:MET:H     | 8:H:521:VAL:HB    | 1.76                     | 0.50              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 6:F:216:ALA:HB1  | 6:F:302:LEU:HD13 | 1.94                     | 0.50              |
| 7:G:65:ILE:HA    | 7:G:68:LEU:HD12  | 1.94                     | 0.50              |
| 7:G:79:LEU:HA    | 7:G:82:ILE:HB    | 1.94                     | 0.50              |
| 7:G:423:TYR:O    | 7:G:427:ILE:HG12 | 2.11                     | 0.50              |
| 8:H:47:TYR:HB2   | 8:H:102:ASN:C    | 2.32                     | 0.50              |
| 8:H:281:LYS:O    | 8:H:285:ASP:N    | 2.45                     | 0.50              |
| 4:L:479:GLU:O    | 4:L:482:ASN:N    | 2.44                     | 0.50              |
| 5:M:255:PHE:CE1  | 5:M:289:ILE:HG13 | 2.47                     | 0.50              |
| 6:N:159:LYS:HG3  | 6:N:393:ASP:HB3  | 1.94                     | 0.50              |
| 8:P:377:LEU:HD22 | 8:P:388:ILE:HG13 | 1.93                     | 0.50              |
| 8:P:418:GLU:HG3  | 8:P:473:GLU:HB3  | 1.93                     | 0.50              |
| 1:A:20:GLN:NE2   | 1:A:23:MET:SD    | 2.85                     | 0.50              |
| 1:A:86:VAL:HG21  | 1:A:509:VAL:HG22 | 1.93                     | 0.50              |
| 2:B:433:ALA:O    | 2:B:437:GLU:HG2  | 2.12                     | 0.50              |
| 3:C:250:GLY:N    | 3:C:253:GLN:O    | 2.31                     | 0.50              |
| 3:C:434:GLN:O    | 3:C:438:ARG:HG3  | 2.12                     | 0.50              |
| 3:C:446:VAL:O    | 3:C:450:THR:N    | 2.26                     | 0.50              |
| 4:D:128:ILE:HD11 | 5:M:471:ILE:HG21 | 1.92                     | 0.50              |
| 4:D:290:ILE:HG12 | 4:D:298:LEU:HD21 | 1.92                     | 0.50              |
| 4:D:290:ILE:HA   | 4:D:351:PHE:CE2  | 2.47                     | 0.50              |
| 4:D:441:ARG:NH2  | 5:M:431:LEU:HD23 | 2.26                     | 0.50              |
| 5:E:28:LEU:HD22  | 5:E:32:GLU:HB3   | 1.92                     | 0.50              |
| 5:E:335:ILE:O    | 5:E:381:ARG:HD3  | 2.10                     | 0.50              |
| 5:E:420:TYR:CD1  | 5:E:502:LYS:HA   | 2.47                     | 0.50              |
| 7:G:80:VAL:HG13  | 7:G:84:LYS:NZ    | 2.27                     | 0.50              |
| 7:G:431:GLN:O    | 7:G:435:ILE:HG12 | 2.11                     | 0.50              |
| 7:G:450:CYS:SG   | 7:G:477:VAL:HG11 | 2.51                     | 0.50              |
| 8:H:73:LEU:HD13  | 8:H:87:VAL:HG12  | 1.93                     | 0.50              |
| 1:I:118:ILE:HG23 | 1:I:522:ILE:HG12 | 1.92                     | 0.50              |
| 1:I:194:SER:HA   | 1:I:318:ARG:HH21 | 1.76                     | 0.50              |
| 1:I:531:ILE:HD13 | 4:L:81:MET:HA    | 1.94                     | 0.50              |
| 2:J:22:GLU:O     | 2:J:26:LEU:N     | 2.39                     | 0.50              |
| 2:J:53:LEU:O     | 4:L:537:ASN:HA   | 2.11                     | 0.50              |
| 3:K:227:PRO:HA   | 3:K:231:ARG:HH21 | 1.75                     | 0.50              |
| 4:L:395:LYS:HD2  | 4:L:398:ILE:HD12 | 1.93                     | 0.50              |
| 5:M:420:TYR:HB3  | 5:M:501:MET:CB   | 2.41                     | 0.50              |
| 6:N:301:SER:HB3  | 6:N:305:LEU:HG   | 1.94                     | 0.50              |
| 2:B:130:TRP:CD1  | 2:B:435:ALA:HB1  | 2.46                     | 0.50              |
| 2:B:275:MET:HB3  | 2:B:300:PRO:HD3  | 1.93                     | 0.50              |
| 2:B:293:ARG:HE   | 2:B:320:VAL:HB   | 1.75                     | 0.50              |
| 3:C:202:GLU:HG2  | 3:C:374:ILE:O    | 2.12                     | 0.50              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 3:C:238:ILE:HA   | 3:C:289:VAL:HG23 | 1.93                     | 0.50              |
| 5:E:38:ILE:HG22  | 5:E:42:LYS:NZ    | 2.27                     | 0.50              |
| 7:G:80:VAL:HG13  | 7:G:84:LYS:HZ2   | 1.77                     | 0.50              |
| 7:G:402:ASN:HD22 | 7:G:497:MET:H    | 1.58                     | 0.50              |
| 8:H:406:LYS:O    | 8:H:500:THR:OG1  | 2.15                     | 0.50              |
| 8:H:426:TYR:CE2  | 8:H:438:ILE:HD13 | 2.47                     | 0.50              |
| 1:I:199:LYS:HD3  | 1:I:382:ASP:HB3  | 1.94                     | 0.50              |
| 3:K:26:ASN:ND2   | 3:K:519:ILE:HD11 | 2.27                     | 0.50              |
| 3:K:453:GLN:O    | 6:N:115:HIS:NE2  | 2.44                     | 0.50              |
| 5:M:252:THR:OG1  | 5:M:303:GLN:OE1  | 2.21                     | 0.50              |
| 6:N:216:ALA:HB3  | 6:N:312:ALA:O    | 2.11                     | 0.50              |
| 7:O:30:GLN:NE2   | 7:O:106:LYS:HG3  | 2.27                     | 0.50              |
| 8:P:493:LEU:O    | 8:P:498:LEU:HD11 | 2.12                     | 0.50              |
| 1:A:225:MET:SD   | 1:A:306:MET:HG3  | 2.50                     | 0.50              |
| 1:A:477:ASN:ND2  | 1:A:479:GLU:HB2  | 2.27                     | 0.50              |
| 2:B:48:MET:SD    | 4:D:27:ARG:NH1   | 2.85                     | 0.50              |
| 2:B:218:PHE:HB3  | 2:B:362:PHE:HB2  | 1.92                     | 0.50              |
| 2:B:466:ARG:HH22 | 2:J:434:VAL:HG12 | 1.77                     | 0.50              |
| 3:C:239:VAL:CG2  | 3:C:285:LEU:HD11 | 2.42                     | 0.50              |
| 4:D:157:LEU:HD11 | 4:D:419:ARG:HA   | 1.92                     | 0.50              |
| 4:D:160:ARG:NH2  | 4:D:185:PRO:O    | 2.45                     | 0.50              |
| 4:D:388:ILE:HG12 | 4:D:405:ILE:HG21 | 1.93                     | 0.50              |
| 5:E:148:LEU:HD21 | 5:E:513:LYS:HB2  | 1.93                     | 0.50              |
| 5:E:157:VAL:HG23 | 5:E:160:LYS:H    | 1.77                     | 0.50              |
| 5:E:167:GLN:HG3  | 5:E:507:ILE:HG21 | 1.91                     | 0.50              |
| 5:E:268:VAL:HG21 | 5:E:274:TYR:HB2  | 1.93                     | 0.50              |
| 5:E:288:MET:HG2  | 5:E:345:PHE:HE1  | 1.75                     | 0.50              |
| 5:E:411:ASN:HB2  | 5:E:509:THR:HG21 | 1.94                     | 0.50              |
| 6:F:328:CYS:HA   | 6:F:366:CYS:HB3  | 1.94                     | 0.50              |
| 6:F:409:PRO:HG2  | 6:F:476:LEU:HB3  | 1.92                     | 0.50              |
| 7:G:133:VAL:HA   | 7:G:136:ILE:HD12 | 1.93                     | 0.50              |
| 8:H:200:ASP:O    | 8:H:203:ARG:HB2  | 2.11                     | 0.50              |
| 2:J:232:ILE:HB   | 2:J:349:ILE:HB   | 1.93                     | 0.50              |
| 3:K:409:PRO:HB2  | 3:K:490:MET:HB2  | 1.93                     | 0.50              |
| 5:M:224:LEU:HD21 | 5:M:226:LYS:HZ1  | 1.77                     | 0.50              |
| 5:M:262:THR:OG1  | 7:O:270:GLU:OE2  | 2.19                     | 0.50              |
| 6:N:297:ILE:HG22 | 6:N:302:LEU:HB2  | 1.94                     | 0.50              |
| 7:O:211:VAL:HB   | 7:O:371:THR:HB   | 1.92                     | 0.50              |
| 7:O:235:PRO:HD2  | 7:O:345:CYS:O    | 2.12                     | 0.50              |
| 8:P:58:ASN:HD21  | 8:P:75:GLU:HG2   | 1.76                     | 0.50              |
| 8:P:118:LEU:HD11 | 8:P:440:LYS:HG3  | 1.93                     | 0.50              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 11:3:125:LEU:HB2 | 11:3:135:TYR:CD2 | 2.47                     | 0.50              |
| 1:A:34:SER:HA    | 1:A:454:VAL:HG11 | 1.93                     | 0.50              |
| 1:A:275:ILE:O    | 1:A:278:ILE:HB   | 2.12                     | 0.50              |
| 2:B:52:LEU:HD11  | 2:B:64:THR:HB    | 1.93                     | 0.50              |
| 2:B:456:TYR:CD2  | 2:B:483:GLY:HA3  | 2.47                     | 0.50              |
| 2:B:461:LEU:HB3  | 2:B:478:LEU:CD2  | 2.41                     | 0.50              |
| 3:C:118:HIS:HD2  | 3:C:122:VAL:HG23 | 1.76                     | 0.50              |
| 3:C:420:HIS:HA   | 3:C:423:THR:HB   | 1.93                     | 0.50              |
| 4:D:340:ILE:HB   | 4:D:379:CYS:SG   | 2.51                     | 0.50              |
| 5:E:164:PRO:O    | 5:E:168:THR:N    | 2.43                     | 0.50              |
| 7:G:133:VAL:HG12 | 7:G:136:ILE:HD12 | 1.93                     | 0.50              |
| 8:H:224:LYS:HA   | 8:H:360:VAL:HG22 | 1.93                     | 0.50              |
| 8:H:491:ASP:O    | 8:H:495:ALA:HB2  | 2.12                     | 0.50              |
| 1:I:15:GLU:HA    | 1:I:18:ARG:CG    | 2.42                     | 0.50              |
| 1:I:131:TYR:HE2  | 1:I:415:VAL:HG23 | 1.77                     | 0.50              |
| 1:I:139:ASN:OD1  | 1:I:504:PHE:HB2  | 2.12                     | 0.50              |
| 1:I:160:ILE:HG12 | 1:I:162:GLY:H    | 1.76                     | 0.50              |
| 3:K:217:GLY:O    | 3:K:373:THR:N    | 2.45                     | 0.50              |
| 3:K:467:ARG:O    | 3:K:470:HIS:HB3  | 2.11                     | 0.50              |
| 5:M:226:LYS:HA   | 5:M:383:VAL:HG13 | 1.94                     | 0.50              |
| 5:M:423:GLY:HA2  | 5:M:459:PRO:HG3  | 1.94                     | 0.50              |
| 5:M:472:GLN:O    | 5:M:476:GLU:N    | 2.27                     | 0.50              |
| 6:N:237:LEU:CD1  | 6:N:301:SER:HB2  | 2.41                     | 0.50              |
| 6:N:408:VAL:HG11 | 6:N:501:LYS:HG2  | 1.92                     | 0.50              |
| 8:P:280:VAL:O    | 8:P:284:ALA:N    | 2.34                     | 0.50              |
| 1:A:379:GLY:HA2  | 1:A:384:MET:HB3  | 1.94                     | 0.50              |
| 2:B:421:VAL:HG11 | 2:B:439:TYR:CD2  | 2.45                     | 0.50              |
| 2:B:448:THR:HG22 | 2:B:462:VAL:HG21 | 1.92                     | 0.50              |
| 4:D:34:ARG:HA    | 4:D:37:ASN:HB2   | 1.94                     | 0.50              |
| 4:D:286:LEU:O    | 4:D:290:ILE:HD12 | 2.12                     | 0.50              |
| 6:F:172:VAL:O    | 6:F:176:ILE:HG23 | 2.12                     | 0.50              |
| 6:F:280:LYS:HD2  | 6:F:338:ASP:HB3  | 1.92                     | 0.50              |
| 8:H:93:GLN:OE1   | 8:H:97:VAL:HG22  | 2.11                     | 0.50              |
| 8:H:124:SER:HB2  | 8:H:127:GLU:HG2  | 1.94                     | 0.50              |
| 8:H:140:HIS:HA   | 8:H:143:LEU:HB3  | 1.92                     | 0.50              |
| 8:H:286:THR:OG1  | 8:H:341:LEU:N    | 2.44                     | 0.50              |
| 8:H:347:CYS:SG   | 8:H:363:PHE:HB3  | 2.51                     | 0.50              |
| 1:I:68:GLU:HB2   | 4:L:62:GLN:NE2   | 2.27                     | 0.50              |
| 1:I:527:ILE:HB   | 4:L:72:ASN:HD22  | 1.77                     | 0.50              |
| 2:J:88:SER:HB3   | 2:J:102:VAL:HB   | 1.94                     | 0.50              |
| 2:J:156:ARG:HG3  | 2:J:184:VAL:HG11 | 1.93                     | 0.50              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:J:482:GLU:OE1  | 2:J:484:THR:OG1  | 2.28                     | 0.50              |
| 3:K:400:ASN:HD21 | 3:K:499:LEU:H    | 1.59                     | 0.50              |
| 3:K:444:LEU:HD22 | 3:K:506:TYR:HE1  | 1.76                     | 0.50              |
| 4:L:216:GLY:HA2  | 4:L:367:LEU:HD22 | 1.93                     | 0.50              |
| 4:L:373:LEU:HD21 | 4:L:389:VAL:HG21 | 1.93                     | 0.50              |
| 5:M:151:ILE:HD12 | 5:M:486:ASN:OD1  | 2.11                     | 0.50              |
| 5:M:196:VAL:HG21 | 5:M:209:ILE:CG1  | 2.42                     | 0.50              |
| 5:M:472:GLN:HG3  | 5:M:476:GLU:HG3  | 1.93                     | 0.50              |
| 6:N:46:MET:HB2   | 8:P:521:VAL:HB   | 1.93                     | 0.50              |
| 7:O:298:VAL:HA   | 7:O:301:GLN:HB2  | 1.94                     | 0.50              |
| 8:P:283:ILE:HD13 | 8:P:291:VAL:HG11 | 1.94                     | 0.50              |
| 11:3:163:ASP:OD1 | 12:4:28:ARG:NH2  | 2.44                     | 0.50              |
| 1:A:320:ALA:HB1  | 1:A:327:ILE:HG21 | 1.93                     | 0.49              |
| 2:B:218:PHE:HD2  | 2:B:362:PHE:CD2  | 2.24                     | 0.49              |
| 2:B:240:ALA:HB1  | 2:B:242:THR:H    | 1.77                     | 0.49              |
| 3:C:400:ASN:HB3  | 3:C:500:ALA:HB1  | 1.93                     | 0.49              |
| 5:E:34:LEU:O     | 5:E:38:ILE:N     | 2.45                     | 0.49              |
| 5:E:254:PRO:HB2  | 5:E:288:MET:SD   | 2.52                     | 0.49              |
| 7:G:38:THR:OG1   | 7:G:452:ASN:ND2  | 2.45                     | 0.49              |
| 7:G:364:CYS:HB2  | 7:G:367:ALA:HB2  | 1.93                     | 0.49              |
| 7:G:395:ILE:O    | 7:G:399:ALA:N    | 2.33                     | 0.49              |
| 8:H:191:PHE:CZ   | 8:H:198:ASN:HB2  | 2.47                     | 0.49              |
| 8:H:386:ASP:O    | 8:H:390:ARG:N    | 2.28                     | 0.49              |
| 1:I:12:SER:O     | 1:I:16:THR:OG1   | 2.27                     | 0.49              |
| 2:J:179:PHE:HZ   | 2:J:375:LEU:HD11 | 1.76                     | 0.49              |
| 2:J:477:GLY:N    | 2:J:486:GLY:O    | 2.44                     | 0.49              |
| 3:K:47:MET:HB3   | 3:K:59:MET:HB2   | 1.93                     | 0.49              |
| 3:K:243:SER:HB2  | 3:K:334:ARG:HG3  | 1.94                     | 0.49              |
| 4:L:195:ILE:HA   | 4:L:203:VAL:CG2  | 2.41                     | 0.49              |
| 5:M:252:THR:O    | 5:M:344:ARG:HD3  | 2.12                     | 0.49              |
| 6:N:227:ASP:HA   | 6:N:346:HIS:HE1  | 1.76                     | 0.49              |
| 7:O:461:LEU:O    | 7:O:465:ARG:HG3  | 2.12                     | 0.49              |
| 8:P:242:TYR:O    | 8:P:294:GLY:N    | 2.23                     | 0.49              |
| 8:P:272:GLU:OE2  | 8:P:301:ALA:HB2  | 2.11                     | 0.49              |
| 9:1:61:TYR:HB3   | 9:1:68:PHE:HB3   | 1.94                     | 0.49              |
| 11:3:122:LYS:HA  | 11:3:136:ASP:HA  | 1.94                     | 0.49              |
| 12:4:39:GLU:HG2  | 12:4:43:LYS:HE2  | 1.94                     | 0.49              |
| 13:5:65:PRO:HA   | 13:5:71:TYR:CD1  | 2.46                     | 0.49              |
| 1:A:114:PRO:HA   | 1:A:117:VAL:HG22 | 1.94                     | 0.49              |
| 1:A:118:ILE:O    | 1:A:122:ARG:HG2  | 2.12                     | 0.49              |
| 1:A:316:LEU:HD21 | 1:A:329:SER:OG   | 2.12                     | 0.49              |

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| Atom-1           | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 2:B:276:LYS:O    | 2:B:279:VAL:HB    | 2.12                     | 0.49              |
| 3:C:133:MET:O    | 3:C:137:LEU:N     | 2.39                     | 0.49              |
| 4:D:56:GLY:HA2   | 4:D:468:ASN:HB3   | 1.95                     | 0.49              |
| 4:D:115:SER:HB3  | 4:D:457:ALA:HB1   | 1.93                     | 0.49              |
| 4:D:141:LEU:O    | 4:D:145:ILE:HG12  | 2.13                     | 0.49              |
| 5:E:156:LEU:HD23 | 5:E:160:LYS:HE2   | 1.94                     | 0.49              |
| 5:E:453:ASP:HB3  | 4:L:452:ARG:NH1   | 2.27                     | 0.49              |
| 6:F:115:HIS:HB2  | 6:F:118:ILE:HG22  | 1.93                     | 0.49              |
| 6:F:407:VAL:HG22 | 6:F:497:ASN:HA    | 1.93                     | 0.49              |
| 7:G:191:GLN:HE22 | 7:G:394:MET:HG2   | 1.76                     | 0.49              |
| 7:G:275:TYR:CZ   | 7:G:279:GLU:HG3   | 2.47                     | 0.49              |
| 8:H:29:VAL:HG13  | 8:H:119:LEU:HD13  | 1.94                     | 0.49              |
| 8:H:191:PHE:CZ   | 8:H:202:ILE:HG13  | 2.47                     | 0.49              |
| 1:I:47:ASP:HB2   | 1:I:51:ASP:HB3    | 1.93                     | 0.49              |
| 1:I:148:LEU:HB3  | 1:I:173:VAL:HG22  | 1.93                     | 0.49              |
| 1:I:282:GLY:HA3  | 1:I:345:LEU:HD11  | 1.94                     | 0.49              |
| 2:J:416:LEU:N    | 2:J:469:HIS:HE1   | 2.10                     | 0.49              |
| 3:K:204:ILE:HB   | 3:K:377:ARG:NE    | 2.27                     | 0.49              |
| 4:L:128:ILE:HG22 | 4:L:133:ILE:HG13  | 1.93                     | 0.49              |
| 5:M:34:LEU:HA    | 5:M:37:HIS:HD2    | 1.78                     | 0.49              |
| 5:M:162:THR:OG1  | 5:M:190:VAL:HG11  | 2.12                     | 0.49              |
| 5:M:534:ARG:O    | 7:O:50:VAL:N      | 2.45                     | 0.49              |
| 6:N:102:LEU:HG   | 6:N:123:PHE:CZ    | 2.47                     | 0.49              |
| 6:N:233:CYS:HB2  | 6:N:293:ASN:HA    | 1.92                     | 0.49              |
| 12:4:29:ASN:O    | 12:4:33:ILE:HG13  | 2.12                     | 0.49              |
| 12:4:36:LEU:HB3  | 12:4:105:VAL:HG22 | 1.93                     | 0.49              |
| 2:B:49:ASP:HB3   | 2:B:63:VAL:HG12   | 1.94                     | 0.49              |
| 2:B:49:ASP:O     | 4:D:533:ASP:N     | 2.45                     | 0.49              |
| 3:C:91:VAL:HG12  | 3:C:93:ASP:H      | 1.77                     | 0.49              |
| 4:D:78:LEU:HD13  | 4:D:91:LEU:HB3    | 1.94                     | 0.49              |
| 4:D:128:ILE:HG21 | 4:D:450:CYS:SG    | 2.52                     | 0.49              |
| 4:D:336:ILE:HG22 | 4:D:342:THR:HB    | 1.94                     | 0.49              |
| 4:D:434:LEU:HB2  | 4:D:481:ARG:HB2   | 1.94                     | 0.49              |
| 6:F:28:ARG:HB2   | 8:H:15:LEU:HD12   | 1.93                     | 0.49              |
| 6:F:145:ARG:NH1  | 6:F:173:VAL:O     | 2.45                     | 0.49              |
| 6:F:195:GLU:HA   | 6:F:376:ILE:HG13  | 1.93                     | 0.49              |
| 6:F:281:VAL:HA   | 6:F:341:PRO:HD3   | 1.94                     | 0.49              |
| 7:G:180:VAL:HG12 | 7:G:184:MET:HG3   | 1.94                     | 0.49              |
| 7:G:350:GLU:OE2  | 7:G:357:ARG:HB3   | 2.12                     | 0.49              |
| 8:H:218:LEU:HD23 | 8:H:222:VAL:HG22  | 1.94                     | 0.49              |
| 1:I:416:GLU:HB3  | 1:I:445:LEU:HB3   | 1.94                     | 0.49              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:J:449:ILE:O    | 2:J:453:ASN:ND2  | 2.45                     | 0.49              |
| 3:K:452:ILE:HG12 | 3:K:485:GLY:HA2  | 1.93                     | 0.49              |
| 4:L:190:ALA:HB3  | 4:L:409:LEU:HD21 | 1.93                     | 0.49              |
| 5:M:419:VAL:HG12 | 5:M:508:GLU:O    | 2.11                     | 0.49              |
| 6:N:41:LYS:HE3   | 8:P:127:GLU:HG3  | 1.94                     | 0.49              |
| 7:O:407:ALA:HB2  | 7:O:488:PHE:HB2  | 1.94                     | 0.49              |
| 12:4:112:LEU:HG  | 12:4:116:LYS:HE2 | 1.94                     | 0.49              |
| 1:A:237:LEU:O    | 1:A:289:THR:N    | 2.45                     | 0.49              |
| 1:A:241:LEU:HD12 | 1:A:292:ILE:HG12 | 1.94                     | 0.49              |
| 1:A:356:ILE:HG21 | 1:A:363:LEU:HD21 | 1.94                     | 0.49              |
| 1:A:431:GLY:N    | 1:A:435:GLN:HB2  | 2.25                     | 0.49              |
| 2:B:104:VAL:O    | 2:B:108:GLU:N    | 2.36                     | 0.49              |
| 3:C:287:PRO:HG2  | 3:C:309:ILE:HD13 | 1.94                     | 0.49              |
| 4:D:26:ASP:HB3   | 4:D:29:LYS:H     | 1.78                     | 0.49              |
| 4:D:343:LYS:N    | 4:D:355:MET:O    | 2.46                     | 0.49              |
| 5:E:256:GLU:HB2  | 5:E:285:PHE:CD1  | 2.48                     | 0.49              |
| 6:F:133:PHE:HZ   | 6:F:417:ALA:HB1  | 1.78                     | 0.49              |
| 6:F:302:LEU:O    | 6:F:306:SER:N    | 2.30                     | 0.49              |
| 1:I:81:LEU:O     | 1:I:85:GLU:HG2   | 2.12                     | 0.49              |
| 2:J:75:GLY:N     | 4:L:539:ARG:HE   | 2.10                     | 0.49              |
| 2:J:113:ALA:N    | 2:J:130:TRP:HH2  | 2.10                     | 0.49              |
| 6:N:210:LEU:HD23 | 6:N:363:ILE:HG12 | 1.94                     | 0.49              |
| 8:P:56:VAL:HG11  | 8:P:75:GLU:OE1   | 2.12                     | 0.49              |
| 8:P:148:CYS:HB2  | 8:P:493:LEU:HD13 | 1.95                     | 0.49              |
| 8:P:297:VAL:HG21 | 8:P:312:LEU:HD13 | 1.94                     | 0.49              |
| 10:2:30:PHE:HB3  | 10:2:122:HIS:CE1 | 2.46                     | 0.49              |
| 1:A:205:GLN:HB2  | 1:A:384:MET:SD   | 2.52                     | 0.49              |
| 1:A:236:CYS:HB3  | 1:A:316:LEU:HG   | 1.93                     | 0.49              |
| 2:B:17:ASP:N     | 2:B:522:LYS:O    | 2.31                     | 0.49              |
| 3:C:224:VAL:HG22 | 3:C:315:VAL:HG12 | 1.94                     | 0.49              |
| 4:D:430:ILE:HG23 | 4:D:477:VAL:HG23 | 1.94                     | 0.49              |
| 5:E:229:ILE:HD12 | 5:E:371:MET:SD   | 2.52                     | 0.49              |
| 5:E:260:PRO:HD2  | 5:E:264:HIS:HE1  | 1.77                     | 0.49              |
| 6:F:134:LEU:O    | 6:F:138:LYS:HB3  | 2.12                     | 0.49              |
| 6:F:384:LEU:HD12 | 6:F:387:ILE:HD11 | 1.94                     | 0.49              |
| 7:G:108:VAL:O    | 7:G:112:VAL:HG23 | 2.13                     | 0.49              |
| 7:G:350:GLU:HA   | 7:G:358:TYR:O    | 2.12                     | 0.49              |
| 7:G:413:GLU:HB3  | 7:G:442:LEU:O    | 2.12                     | 0.49              |
| 7:G:501:ASN:O    | 7:G:504:THR:OG1  | 2.29                     | 0.49              |
| 8:H:393:ASP:O    | 8:H:397:ASN:N    | 2.24                     | 0.49              |
| 1:I:137:ILE:HD12 | 1:I:478:PRO:O    | 2.12                     | 0.49              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:I:179:ILE:HD11 | 1:I:195:VAL:HA   | 1.94                     | 0.49              |
| 1:I:319:ILE:O    | 1:I:323:SER:N    | 2.26                     | 0.49              |
| 1:I:434:GLU:HA   | 1:I:437:ALA:HB3  | 1.94                     | 0.49              |
| 1:I:506:PRO:O    | 1:I:509:VAL:HG22 | 2.13                     | 0.49              |
| 2:J:133:ALA:O    | 2:J:137:ALA:N    | 2.29                     | 0.49              |
| 2:J:196:LEU:HD21 | 2:J:390:LEU:HD21 | 1.93                     | 0.49              |
| 2:J:251:ILE:HD12 | 5:M:274:TYR:CE2  | 2.47                     | 0.49              |
| 2:J:407:VAL:HG11 | 2:J:497:PHE:HD1  | 1.77                     | 0.49              |
| 5:M:193:VAL:HA   | 5:M:196:VAL:HG22 | 1.92                     | 0.49              |
| 6:N:47:LEU:HD22  | 6:N:63:LEU:O     | 2.12                     | 0.49              |
| 6:N:53:ASP:HB3   | 6:N:55:LYS:NZ    | 2.27                     | 0.49              |
| 6:N:291:VAL:O    | 6:N:312:ALA:HA   | 2.12                     | 0.49              |
| 7:O:289:VAL:HG21 | 7:O:303:PHE:CE1  | 2.45                     | 0.49              |
| 2:B:247:ASP:OD2  | 2:B:256:VAL:HG23 | 2.13                     | 0.49              |
| 2:B:287:ILE:O    | 2:B:309:VAL:HG22 | 2.12                     | 0.49              |
| 3:C:48:LYS:HG2   | 3:C:49:MET:O     | 2.13                     | 0.49              |
| 3:C:240:LEU:HA   | 3:C:291:ILE:HG23 | 1.94                     | 0.49              |
| 3:C:319:ASP:O    | 3:C:323:ILE:N    | 2.43                     | 0.49              |
| 4:D:168:THR:HA   | 4:D:171:LEU:HB2  | 1.94                     | 0.49              |
| 4:D:188:VAL:HG22 | 4:D:412:ILE:HD11 | 1.93                     | 0.49              |
| 4:D:414:CYS:HA   | 4:D:513:LEU:HD23 | 1.95                     | 0.49              |
| 4:D:456:ASP:O    | 4:D:459:GLU:HG2  | 2.13                     | 0.49              |
| 5:E:124:LEU:HA   | 5:E:128:ILE:O    | 2.13                     | 0.49              |
| 5:E:174:GLY:O    | 5:E:179:ASN:HA   | 2.12                     | 0.49              |
| 5:E:182:HIS:HB3  | 5:E:184:GLN:NE2  | 2.17                     | 0.49              |
| 5:E:259:LYS:HB2  | 5:E:306:PHE:CD1  | 2.45                     | 0.49              |
| 5:E:417:ARG:CG   | 5:E:510:LEU:HB3  | 2.42                     | 0.49              |
| 5:E:427:ILE:HA   | 5:E:456:GLU:HG2  | 1.94                     | 0.49              |
| 6:F:113:GLY:O    | 6:F:114:LEU:HB2  | 2.12                     | 0.49              |
| 6:F:207:ILE:HB   | 6:F:373:THR:HB   | 1.93                     | 0.49              |
| 8:H:328:VAL:HG13 | 8:H:345:GLY:HA2  | 1.94                     | 0.49              |
| 1:I:12:SER:HB2   | 1:I:17:ILE:HB    | 1.94                     | 0.49              |
| 1:I:506:PRO:HG2  | 1:I:509:VAL:HG13 | 1.94                     | 0.49              |
| 4:L:157:LEU:HD12 | 4:L:158:SER:N    | 2.27                     | 0.49              |
| 4:L:178:GLN:HG3  | 4:L:179:TYR:H    | 1.77                     | 0.49              |
| 4:L:249:ILE:HG21 | 4:L:298:LEU:HD22 | 1.95                     | 0.49              |
| 5:M:285:PHE:HZ   | 7:O:263:TYR:HE2  | 1.60                     | 0.49              |
| 7:O:14:ASP:HB2   | 7:O:521:LYS:HB3  | 1.94                     | 0.49              |
| 12:4:76:ILE:HG12 | 12:4:78:HIS:CD2  | 2.48                     | 0.49              |
| 13:5:21:GLN:NE2  | 13:5:24:GLN:OE1  | 2.45                     | 0.49              |
| 2:B:19:GLU:HB3   | 2:B:24:ALA:HB2   | 1.94                     | 0.49              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:416:LEU:HB2  | 2:B:469:HIS:HD2  | 1.76                     | 0.49              |
| 3:C:51:LEU:HB2   | 6:F:521:ILE:HD11 | 1.94                     | 0.49              |
| 3:C:455:CYS:O    | 6:F:118:ILE:HB   | 2.13                     | 0.49              |
| 4:D:29:LYS:HB2   | 4:D:30:PRO:HD3   | 1.95                     | 0.49              |
| 4:D:154:PRO:HA   | 4:D:420:ALA:HA   | 1.94                     | 0.49              |
| 4:D:334:GLU:O    | 4:D:338:LYS:HG2  | 2.13                     | 0.49              |
| 5:E:251:LEU:O    | 5:E:303:GLN:N    | 2.31                     | 0.49              |
| 6:F:116:PRO:HB2  | 6:F:517:LEU:HD23 | 1.95                     | 0.49              |
| 6:F:156:LEU:O    | 6:F:160:VAL:N    | 2.46                     | 0.49              |
| 6:F:277:LEU:HD11 | 6:F:339:LEU:HB2  | 1.94                     | 0.49              |
| 7:G:150:GLU:C    | 7:G:152:ARG:H    | 2.14                     | 0.49              |
| 7:G:458:THR:O    | 7:G:462:ASN:N    | 2.32                     | 0.49              |
| 1:I:215:ALA:HA   | 1:I:362:ILE:O    | 2.12                     | 0.49              |
| 1:I:450:ASN:HA   | 1:I:460:SER:CB   | 2.39                     | 0.49              |
| 3:K:489:ASP:HB3  | 3:K:492:GLU:HB2  | 1.94                     | 0.49              |
| 5:M:70:VAL:H     | 5:M:393:MET:HE1  | 1.78                     | 0.49              |
| 6:N:171:ALA:HB1  | 6:N:206:LEU:HB2  | 1.94                     | 0.49              |
| 6:N:235:VAL:HG13 | 6:N:245:ASN:ND2  | 2.27                     | 0.49              |
| 2:B:280:GLU:O    | 2:B:284:LYS:N    | 2.33                     | 0.49              |
| 3:C:205:PRO:HD2  | 3:C:360:PHE:HZ   | 1.78                     | 0.49              |
| 3:C:426:SER:HB3  | 3:C:437:TYR:HB2  | 1.93                     | 0.49              |
| 4:D:171:LEU:HD11 | 4:D:408:ALA:HB2  | 1.95                     | 0.49              |
| 4:D:244:ALA:HA   | 4:D:296:ASN:CB   | 2.43                     | 0.49              |
| 5:E:86:GLN:HB3   | 7:G:48:LEU:HB3   | 1.93                     | 0.49              |
| 5:E:409:ILE:HA   | 5:E:412:LEU:CG   | 2.43                     | 0.49              |
| 6:F:31:GLN:HE22  | 6:F:100:GLY:H    | 1.61                     | 0.49              |
| 6:F:145:ARG:CZ   | 6:F:173:VAL:HG23 | 2.42                     | 0.49              |
| 6:F:350:VAL:HA   | 6:F:362:PHE:O    | 2.12                     | 0.49              |
| 6:F:351:TYR:O    | 6:F:362:PHE:N    | 2.31                     | 0.49              |
| 7:G:383:GLU:HA   | 7:G:386:GLU:HB2  | 1.93                     | 0.49              |
| 8:H:47:TYR:HE1   | 8:H:100:GLY:H    | 1.61                     | 0.49              |
| 8:H:316:ASN:ND2  | 8:H:320:ASP:OD2  | 2.37                     | 0.49              |
| 2:J:185:GLU:O    | 2:J:189:ARG:HG2  | 2.12                     | 0.49              |
| 3:K:20:ARG:HD2   | 3:K:114:GLU:HG2  | 1.95                     | 0.49              |
| 3:K:169:SER:O    | 3:K:173:CYS:N    | 2.41                     | 0.49              |
| 3:K:521:ASP:OD1  | 3:K:522:ILE:N    | 2.46                     | 0.49              |
| 4:L:429:GLU:O    | 4:L:433:ALA:N    | 2.46                     | 0.49              |
| 5:M:63:ASP:HA    | 5:M:80:MET:HE1   | 1.94                     | 0.49              |
| 5:M:85:HIS:CG    | 5:M:86:GLN:N     | 2.80                     | 0.49              |
| 6:N:30:LEU:HD21  | 6:N:69:ILE:HB    | 1.94                     | 0.49              |
| 6:N:213:ASP:HB3  | 6:N:317:LYS:HD3  | 1.95                     | 0.49              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 7:O:102:ALA:HA   | 7:O:105:LEU:HD13 | 1.94                     | 0.49              |
| 7:O:294:PRO:HB3  | 7:O:313:ARG:CZ   | 2.42                     | 0.49              |
| 7:O:412:ILE:HG22 | 7:O:416:LEU:HG   | 1.95                     | 0.49              |
| 8:P:216:SER:H    | 8:P:376:VAL:HG13 | 1.78                     | 0.49              |
| 8:P:308:TYR:CD2  | 8:P:310:ILE:HB   | 2.48                     | 0.49              |
| 1:A:333:ASN:HB2  | 1:A:341:GLU:CD   | 2.33                     | 0.49              |
| 1:A:471:HIS:CE1  | 7:O:426:THR:HA   | 2.48                     | 0.49              |
| 1:A:471:HIS:HA   | 1:A:484:LYS:HA   | 1.93                     | 0.49              |
| 2:B:16:ALA:N     | 5:E:82:ASP:HB2   | 2.28                     | 0.49              |
| 2:B:139:GLU:HA   | 2:B:142:LEU:HD12 | 1.94                     | 0.49              |
| 2:B:186:ALA:HB1  | 2:B:199:ILE:HD12 | 1.94                     | 0.49              |
| 2:B:455:GLY:HA3  | 4:D:129:HIS:CG   | 2.48                     | 0.49              |
| 3:C:119:PRO:O    | 3:C:517:LEU:HD21 | 2.13                     | 0.49              |
| 3:C:188:ASN:HD21 | 3:C:190:ARG:HB3  | 1.77                     | 0.49              |
| 3:C:215:LEU:HB2  | 3:C:219:MET:HE1  | 1.95                     | 0.49              |
| 4:D:392:GLY:HA3  | 4:D:397:VAL:HG12 | 1.94                     | 0.49              |
| 5:E:99:ASP:OD2   | 5:E:400:ARG:NH2  | 2.37                     | 0.49              |
| 5:E:196:VAL:HA   | 5:E:199:MET:HG2  | 1.94                     | 0.49              |
| 5:E:259:LYS:HB3  | 5:E:305:GLY:O    | 2.13                     | 0.49              |
| 5:E:297:ALA:CB   | 5:E:299:LEU:H    | 2.26                     | 0.49              |
| 5:E:478:ARG:HH22 | 4:L:441:ARG:NH1  | 2.11                     | 0.49              |
| 7:G:214:VAL:HG21 | 7:G:322:THR:OG1  | 2.13                     | 0.49              |
| 7:G:423:TYR:CE2  | 7:G:427:ILE:HD11 | 2.47                     | 0.49              |
| 8:H:207:ILE:N    | 8:H:377:LEU:O    | 2.45                     | 0.49              |
| 1:I:164:ASN:HA   | 1:I:168:PHE:CD2  | 2.48                     | 0.49              |
| 1:I:178:ALA:HB1  | 1:I:373:ALA:H    | 1.78                     | 0.49              |
| 1:I:206:MET:HA   | 1:I:388:MET:HE2  | 1.93                     | 0.49              |
| 1:I:481:LYS:HE2  | 1:I:483:LEU:HG   | 1.94                     | 0.49              |
| 1:I:501:ALA:HB3  | 1:I:504:PHE:CE2  | 2.48                     | 0.49              |
| 2:J:202:ILE:O    | 2:J:374:VAL:HA   | 2.13                     | 0.49              |
| 3:K:51:LEU:N     | 6:N:522:MET:O    | 2.44                     | 0.49              |
| 3:K:370:LYS:HG3  | 3:K:372:CYS:N    | 2.24                     | 0.49              |
| 4:L:85:HIS:O     | 4:L:89:ARG:HG2   | 2.13                     | 0.49              |
| 4:L:299:LEU:HB3  | 4:L:328:ILE:HD12 | 1.95                     | 0.49              |
| 7:O:348:PHE:HD1  | 7:O:361:PHE:CE1  | 2.31                     | 0.49              |
| 7:O:428:PRO:HG3  | 7:O:432:GLN:HB3  | 1.94                     | 0.49              |
| 8:P:74:ARG:N     | 8:P:91:HIS:HE1   | 2.10                     | 0.49              |
| 8:P:129:ILE:HG23 | 8:P:516:VAL:HB   | 1.95                     | 0.49              |
| 8:P:491:ASP:OD2  | 8:P:494:GLU:N    | 2.44                     | 0.49              |
| 9:1:57:GLU:HG3   | 9:1:59:ASN:H     | 1.78                     | 0.49              |
| 11:3:135:TYR:CD1 | 11:3:139:GLU:HG3 | 2.45                     | 0.49              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 13:5:26:VAL:HG13 | 13:5:125:HIS:CE1 | 2.48                     | 0.49              |
| 1:A:384:MET:O    | 1:A:388:MET:N    | 2.37                     | 0.49              |
| 1:A:529:ASP:O    | 4:D:60:MET:HB2   | 2.12                     | 0.49              |
| 2:B:42:THR:HB    | 2:B:65:ASN:O     | 2.12                     | 0.49              |
| 2:B:446:LEU:HA   | 2:B:449:ILE:HG12 | 1.95                     | 0.49              |
| 3:C:208:ILE:HG23 | 3:C:210:GLU:O    | 2.11                     | 0.49              |
| 3:C:229:MET:HE1  | 3:C:350:LEU:HD11 | 1.95                     | 0.49              |
| 4:D:178:GLN:HG3  | 4:D:179:TYR:N    | 2.23                     | 0.49              |
| 4:D:218:ILE:HD13 | 4:D:391:ARG:O    | 2.13                     | 0.49              |
| 4:D:249:ILE:HD11 | 4:D:298:LEU:HD13 | 1.94                     | 0.49              |
| 5:E:522:GLN:HG2  | 5:E:526:MET:SD   | 2.53                     | 0.49              |
| 7:G:326:CYS:CB   | 7:G:344:ARG:H    | 2.19                     | 0.49              |
| 7:G:468:HIS:NE2  | 7:G:475:TYR:O    | 2.43                     | 0.49              |
| 1:I:81:LEU:HB3   | 1:I:516:PHE:HE1  | 1.78                     | 0.49              |
| 1:I:131:TYR:CE2  | 1:I:415:VAL:HG23 | 2.48                     | 0.49              |
| 1:I:148:LEU:HA   | 1:I:151:ALA:HB3  | 1.94                     | 0.49              |
| 3:K:120:THR:O    | 3:K:123:ILE:HB   | 2.13                     | 0.49              |
| 3:K:279:CYS:HA   | 3:K:282:ILE:HD12 | 1.95                     | 0.49              |
| 4:L:32:GLN:O     | 4:L:36:SER:N     | 2.36                     | 0.49              |
| 5:M:331:GLU:HG2  | 7:O:223:ALA:HB2  | 1.95                     | 0.49              |
| 6:N:49:SER:H     | 6:N:55:LYS:NZ    | 2.10                     | 0.49              |
| 6:N:289:PHE:HD2  | 6:N:310:ILE:HG23 | 1.78                     | 0.49              |
| 7:O:405:VAL:HG11 | 7:O:493:TRP:HB3  | 1.94                     | 0.49              |
| 8:P:73:LEU:HB3   | 8:P:87:VAL:HG13  | 1.93                     | 0.49              |
| 8:P:172:GLN:NE2  | 8:P:179:LEU:HD12 | 2.25                     | 0.49              |
| 12:4:46:GLN:HB2  | 12:4:94:LEU:HD21 | 1.95                     | 0.49              |
| 13:5:62:LEU:N    | 13:5:74:GLY:O    | 2.45                     | 0.49              |
| 1:A:131:TYR:HB2  | 1:A:422:TYR:CZ   | 2.47                     | 0.48              |
| 1:A:235:ALA:N    | 1:A:285:VAL:O    | 2.42                     | 0.48              |
| 2:B:252:PHE:CZ   | 2:B:281:ARG:HG3  | 2.48                     | 0.48              |
| 3:C:168:TRP:HE1  | 3:C:383:ILE:HG13 | 1.76                     | 0.48              |
| 3:C:232:TYR:O    | 3:C:233:ILE:HD13 | 2.13                     | 0.48              |
| 4:D:52:LEU:HD13  | 4:D:111:ILE:HG13 | 1.95                     | 0.48              |
| 4:D:422:ILE:HD11 | 4:D:489:LYS:HZ1  | 1.78                     | 0.48              |
| 5:E:158:ASP:CG   | 5:E:202:ARG:HH22 | 2.16                     | 0.48              |
| 5:E:478:ARG:NH2  | 4:L:440:SER:O    | 2.30                     | 0.48              |
| 5:E:535:LYS:C    | 5:E:537:GLY:H    | 2.17                     | 0.48              |
| 6:F:453:GLN:OE1  | 6:F:459:LEU:HD23 | 2.13                     | 0.48              |
| 7:G:117:HIS:HA   | 7:G:121:ILE:HD11 | 1.95                     | 0.48              |
| 7:G:224:GLY:O    | 7:G:228:GLN:HG3  | 2.12                     | 0.48              |
| 1:I:32:VAL:HG11  | 1:I:91:THR:HA    | 1.94                     | 0.48              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:I:223:GLN:NE2  | 1:I:309:ARG:O    | 2.45                     | 0.48              |
| 1:I:413:GLY:H    | 1:I:488:LEU:HD23 | 1.77                     | 0.48              |
| 1:I:512:LYS:HA   | 1:I:515:LYS:NZ   | 2.28                     | 0.48              |
| 2:J:95:VAL:HG13  | 2:J:499:VAL:HA   | 1.94                     | 0.48              |
| 2:J:520:ILE:HA   | 5:M:60:MET:O     | 2.12                     | 0.48              |
| 3:K:68:ARG:HD3   | 3:K:85:ARG:HH21  | 1.78                     | 0.48              |
| 3:K:200:ARG:N    | 3:K:371:ALA:O    | 2.46                     | 0.48              |
| 3:K:417:ALA:HA   | 3:K:470:HIS:CE1  | 2.48                     | 0.48              |
| 5:M:181:CYS:HB2  | 5:M:220:GLU:HG2  | 1.95                     | 0.48              |
| 5:M:329:GLU:O    | 5:M:333:ILE:N    | 2.31                     | 0.48              |
| 7:O:348:PHE:HD1  | 7:O:361:PHE:HE1  | 1.61                     | 0.48              |
| 8:P:52:MET:HG2   | 8:P:455:ASN:ND2  | 2.26                     | 0.48              |
| 8:P:81:PRO:HG3   | 8:P:524:ILE:HD11 | 1.95                     | 0.48              |
| 1:A:44:MET:HG3   | 3:C:519:ILE:HD12 | 1.94                     | 0.48              |
| 1:A:122:ARG:O    | 1:A:126:LYS:N    | 2.42                     | 0.48              |
| 2:B:39:VAL:O     | 2:B:42:THR:OG1   | 2.23                     | 0.48              |
| 2:B:149:GLY:H    | 2:B:154:LYS:HB3  | 1.78                     | 0.48              |
| 4:D:59:LYS:HB3   | 4:D:61:ILE:HD11  | 1.95                     | 0.48              |
| 4:D:122:LYS:HB3  | 4:D:126:LYS:NZ   | 2.28                     | 0.48              |
| 4:D:365:VAL:HG21 | 4:D:375:LYS:HD2  | 1.94                     | 0.48              |
| 5:E:38:ILE:O     | 5:E:42:LYS:HG2   | 2.13                     | 0.48              |
| 5:E:446:TYR:HD1  | 5:E:449:ARG:HD2  | 1.77                     | 0.48              |
| 7:G:318:ASP:O    | 7:G:322:THR:N    | 2.42                     | 0.48              |
| 8:H:275:LEU:O    | 8:H:279:GLN:N    | 2.26                     | 0.48              |
| 1:I:106:GLU:HG3  | 1:I:107:LEU:HG   | 1.95                     | 0.48              |
| 2:J:131:ARG:NH2  | 2:J:516:ARG:HH22 | 2.11                     | 0.48              |
| 2:J:312:ILE:HG21 | 2:J:362:PHE:HZ   | 1.76                     | 0.48              |
| 2:J:424:LEU:O    | 2:J:429:PRO:HD3  | 2.12                     | 0.48              |
| 3:K:409:PRO:CB   | 3:K:490:MET:HB2  | 2.43                     | 0.48              |
| 5:M:229:ILE:HG21 | 5:M:371:MET:SD   | 2.52                     | 0.48              |
| 5:M:510:LEU:HD23 | 5:M:514:LYS:HG3  | 1.94                     | 0.48              |
| 5:M:522:GLN:HB3  | 7:O:381:PHE:HB2  | 1.94                     | 0.48              |
| 6:N:28:ARG:NH1   | 6:N:104:LYS:HA   | 2.27                     | 0.48              |
| 6:N:42:GLY:O     | 6:N:58:LYS:NZ    | 2.44                     | 0.48              |
| 6:N:390:ALA:O    | 6:N:394:GLY:N    | 2.46                     | 0.48              |
| 7:O:62:GLY:O     | 7:O:65:ILE:HG13  | 2.12                     | 0.48              |
| 7:O:111:TYR:OH   | 7:O:433:LEU:HB3  | 2.13                     | 0.48              |
| 7:O:289:VAL:O    | 7:O:311:ALA:N    | 2.40                     | 0.48              |
| 8:P:246:PHE:N    | 8:P:296:LYS:O    | 2.34                     | 0.48              |
| 13:5:101:ASP:O   | 13:5:105:ARG:N   | 2.30                     | 0.48              |
| 2:B:360:ILE:HG22 | 2:B:362:PHE:CE1  | 2.48                     | 0.48              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 3:C:152:MET:O    | 3:C:156:ILE:HG12 | 2.13                     | 0.48              |
| 3:C:462:LEU:HA   | 3:C:465:SER:HB2  | 1.95                     | 0.48              |
| 4:D:55:LYS:HE2   | 4:D:496:ARG:HA   | 1.94                     | 0.48              |
| 5:E:255:PHE:CE2  | 5:E:321:ALA:HB2  | 2.49                     | 0.48              |
| 5:E:419:VAL:HG11 | 5:E:513:LYS:HG3  | 1.95                     | 0.48              |
| 6:F:165:ALA:O    | 6:F:169:THR:N    | 2.44                     | 0.48              |
| 7:G:16:SER:HB2   | 7:G:21:GLN:HE21  | 1.78                     | 0.48              |
| 7:G:516:VAL:HG11 | 8:H:55:MET:HG2   | 1.94                     | 0.48              |
| 1:I:18:ARG:HE    | 4:L:56:GLY:HA2   | 1.78                     | 0.48              |
| 1:I:494:LYS:HB2  | 1:I:496:ARG:HH12 | 1.77                     | 0.48              |
| 2:J:57:ARG:NH2   | 2:J:73:ASN:HA    | 2.27                     | 0.48              |
| 2:J:116:LEU:HB3  | 2:J:126:ILE:HG12 | 1.95                     | 0.48              |
| 2:J:458:SER:O    | 2:J:462:VAL:HG22 | 2.13                     | 0.48              |
| 3:K:65:ALA:HA    | 3:K:68:ARG:HE    | 1.78                     | 0.48              |
| 3:K:144:VAL:HG21 | 3:K:155:ILE:HD13 | 1.95                     | 0.48              |
| 3:K:351:GLU:O    | 3:K:362:PHE:N    | 2.44                     | 0.48              |
| 4:L:287:VAL:HA   | 4:L:290:ILE:HD12 | 1.95                     | 0.48              |
| 4:L:451:VAL:O    | 4:L:455:ALA:N    | 2.35                     | 0.48              |
| 5:M:197:ALA:HA   | 5:M:205:ASP:OD2  | 2.13                     | 0.48              |
| 6:N:105:GLN:HG3  | 6:N:442:ASP:HB2  | 1.95                     | 0.48              |
| 6:N:233:CYS:N    | 6:N:292:ILE:O    | 2.45                     | 0.48              |
| 7:O:148:LYS:HE3  | 7:O:157:LYS:HD2  | 1.96                     | 0.48              |
| 8:P:220:GLY:HA2  | 8:P:365:HIS:ND1  | 2.27                     | 0.48              |
| 1:A:98:ALA:O     | 1:A:102:LYS:N    | 2.45                     | 0.48              |
| 3:C:214:VAL:HA   | 3:C:374:ILE:HA   | 1.95                     | 0.48              |
| 3:C:292:THR:HB   | 3:C:296:ILE:HD13 | 1.95                     | 0.48              |
| 3:C:318:THR:O    | 3:C:322:ARG:HG2  | 2.13                     | 0.48              |
| 4:D:123:LEU:HD12 | 4:D:133:ILE:HG23 | 1.95                     | 0.48              |
| 4:D:268:ASP:HB3  | 4:D:271:GLN:HB2  | 1.94                     | 0.48              |
| 5:E:205:ASP:HB2  | 5:E:208:LEU:HG   | 1.95                     | 0.48              |
| 6:F:35:ARG:O     | 6:F:454:ASN:ND2  | 2.46                     | 0.48              |
| 6:F:43:THR:HA    | 8:H:520:ARG:NH2  | 2.27                     | 0.48              |
| 6:F:235:VAL:HG12 | 6:F:334:ASN:O    | 2.14                     | 0.48              |
| 6:F:415:GLU:OE1  | 6:F:444:LEU:HB3  | 2.13                     | 0.48              |
| 8:H:241:VAL:HG21 | 8:H:324:LEU:HB3  | 1.94                     | 0.48              |
| 8:H:413:GLY:O    | 8:H:416:GLU:HG2  | 2.13                     | 0.48              |
| 1:I:137:ILE:HD11 | 1:I:482:ASN:ND2  | 2.28                     | 0.48              |
| 1:I:414:ALA:HB2  | 1:I:467:LEU:HD22 | 1.95                     | 0.48              |
| 2:J:151:ASP:H    | 2:J:154:LYS:HB2  | 1.79                     | 0.48              |
| 2:J:155:PHE:CE1  | 2:J:400:THR:HG22 | 2.48                     | 0.48              |
| 3:K:177:LEU:HA   | 3:K:398:CYS:SG   | 2.53                     | 0.48              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 3:K:218:VAL:HA   | 3:K:371:ALA:HB3  | 1.95                     | 0.48              |
| 3:K:481:ASN:ND2  | 3:K:483:GLU:HB2  | 2.28                     | 0.48              |
| 4:L:283:ILE:HA   | 4:L:286:LEU:HD12 | 1.95                     | 0.48              |
| 7:O:182:ALA:HB2  | 7:O:372:PHE:CZ   | 2.47                     | 0.48              |
| 7:O:199:LYS:HA   | 7:O:374:LEU:O    | 2.14                     | 0.48              |
| 7:O:204:ALA:H    | 7:O:375:ARG:NH1  | 2.12                     | 0.48              |
| 7:O:397:ARG:O    | 7:O:401:LYS:N    | 2.27                     | 0.48              |
| 2:B:162:ILE:HD13 | 2:B:496:SER:HB3  | 1.96                     | 0.48              |
| 2:B:435:ALA:O    | 2:B:439:TYR:N    | 2.46                     | 0.48              |
| 3:C:447:ILE:HB   | 3:C:448:PRO:HD3  | 1.95                     | 0.48              |
| 4:D:332:ASP:O    | 4:D:336:ILE:N    | 2.40                     | 0.48              |
| 5:E:250:ILE:CD1  | 5:E:354:GLY:HA3  | 2.39                     | 0.48              |
| 5:E:252:THR:N    | 5:E:341:ILE:HG22 | 2.28                     | 0.48              |
| 5:E:314:LEU:O    | 5:E:318:ASN:N    | 2.46                     | 0.48              |
| 5:E:440:CYS:SG   | 5:E:444:GLU:HG3  | 2.53                     | 0.48              |
| 6:F:141:ARG:NE   | 6:F:407:VAL:O    | 2.46                     | 0.48              |
| 6:F:427:PRO:HD2  | 6:F:437:VAL:HG21 | 1.95                     | 0.48              |
| 7:G:149:VAL:HB   | 7:G:153:LYS:HB2  | 1.95                     | 0.48              |
| 7:G:316:GLU:O    | 7:G:320:LYS:N    | 2.27                     | 0.48              |
| 7:G:385:THR:HA   | 7:G:388:SER:HB2  | 1.95                     | 0.48              |
| 7:G:414:MET:SD   | 7:G:443:GLU:HG2  | 2.53                     | 0.48              |
| 8:H:26:GLU:O     | 8:H:30:TYR:N     | 2.45                     | 0.48              |
| 1:I:11:ARG:HB2   | 4:L:59:LYS:HZ3   | 1.79                     | 0.48              |
| 2:J:214:LEU:HD13 | 2:J:367:LEU:HD21 | 1.95                     | 0.48              |
| 3:K:156:ILE:HG21 | 3:K:177:LEU:HD11 | 1.95                     | 0.48              |
| 3:K:287:PRO:HG3  | 3:K:335:PRO:HD3  | 1.95                     | 0.48              |
| 3:K:514:VAL:O    | 3:K:518:ARG:N    | 2.47                     | 0.48              |
| 4:L:494:ASN:OD1  | 4:L:495:VAL:N    | 2.46                     | 0.48              |
| 5:M:282:LYS:HA   | 5:M:313:LEU:HD21 | 1.95                     | 0.48              |
| 6:N:490:ALA:HA   | 6:N:495:TRP:NE1  | 2.26                     | 0.48              |
| 7:O:162:ALA:O    | 7:O:165:SER:OG   | 2.32                     | 0.48              |
| 7:O:209:GLN:HB2  | 7:O:373:ILE:HB   | 1.95                     | 0.48              |
| 7:O:300:THR:HG23 | 7:O:310:CYS:SG   | 2.53                     | 0.48              |
| 8:P:186:ALA:O    | 8:P:190:ILE:HG22 | 2.12                     | 0.48              |
| 10:2:47:LEU:HB3  | 10:2:97:ILE:HG12 | 1.94                     | 0.48              |
| 1:A:399:VAL:HA   | 1:A:402:VAL:HB   | 1.96                     | 0.48              |
| 2:B:200:HIS:N    | 2:B:371:CYS:O    | 2.32                     | 0.48              |
| 2:B:322:ARG:O    | 2:B:326:VAL:HG22 | 2.14                     | 0.48              |
| 2:B:382:ILE:O    | 2:B:386:ALA:N    | 2.36                     | 0.48              |
| 2:B:453:ASN:HA   | 4:D:27:ARG:NH2   | 2.29                     | 0.48              |
| 3:C:216:ARG:HA   | 3:C:372:CYS:SG   | 2.54                     | 0.48              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 4:D:89:ARG:O     | 4:D:93:GLU:HG2   | 2.14                     | 0.48              |
| 4:D:140:ALA:HB1  | 4:D:451:VAL:HG13 | 1.96                     | 0.48              |
| 4:D:151:MET:HB3  | 4:D:489:LYS:CE   | 2.43                     | 0.48              |
| 5:E:478:ARG:HD2  | 4:L:449:TYR:CE1  | 2.49                     | 0.48              |
| 5:E:529:LYS:O    | 7:G:42:PRO:HB2   | 2.14                     | 0.48              |
| 6:F:173:VAL:HA   | 6:F:176:ILE:HG12 | 1.94                     | 0.48              |
| 7:G:298:VAL:HA   | 7:G:301:GLN:CD   | 2.34                     | 0.48              |
| 7:G:421:ARG:HH21 | 1:I:424:GLU:HB3  | 1.77                     | 0.48              |
| 7:G:458:THR:HG22 | 7:G:462:ASN:OD1  | 2.13                     | 0.48              |
| 8:H:218:LEU:HB3  | 8:H:222:VAL:HG21 | 1.95                     | 0.48              |
| 1:I:453:ALA:HB3  | 1:I:460:SER:OG   | 2.14                     | 0.48              |
| 1:I:524:ILE:HG12 | 4:L:58:ASP:H     | 1.77                     | 0.48              |
| 3:K:232:TYR:CE1  | 3:K:352:ILE:HD12 | 2.49                     | 0.48              |
| 4:L:299:LEU:HD22 | 4:L:328:ILE:HG13 | 1.96                     | 0.48              |
| 5:M:159:ILE:HG23 | 5:M:160:LYS:H    | 1.79                     | 0.48              |
| 6:N:35:ARG:NH2   | 6:N:446:ILE:HG13 | 2.28                     | 0.48              |
| 7:O:316:GLU:HA   | 7:O:319:LEU:HB2  | 1.95                     | 0.48              |
| 7:O:464:LEU:HD22 | 7:O:475:TYR:HB3  | 1.96                     | 0.48              |
| 8:P:27:GLU:O     | 8:P:31:ARG:N     | 2.46                     | 0.48              |
| 8:P:42:THR:O     | 8:P:102:ASN:ND2  | 2.47                     | 0.48              |
| 1:A:157:SER:HB3  | 1:A:387:GLU:OE1  | 2.14                     | 0.48              |
| 1:A:356:ILE:HG13 | 1:A:357:CYS:SG   | 2.53                     | 0.48              |
| 1:A:433:ARG:HH22 | 7:O:456:ASP:CG   | 2.16                     | 0.48              |
| 3:C:303:TYR:O    | 3:C:307:ALA:N    | 2.45                     | 0.48              |
| 3:C:330:ARG:N    | 3:C:342:ASP:O    | 2.46                     | 0.48              |
| 4:D:93:GLU:HA    | 4:D:96:LYS:HE3   | 1.96                     | 0.48              |
| 4:D:228:VAL:HG22 | 4:D:375:LYS:HG2  | 1.95                     | 0.48              |
| 4:D:283:ILE:HB   | 12:4:58:MET:HE2  | 1.96                     | 0.48              |
| 4:D:435:ARG:HB3  | 4:D:439:TYR:HE2  | 1.79                     | 0.48              |
| 5:E:90:LEU:HD12  | 5:E:93:GLU:HB2   | 1.94                     | 0.48              |
| 5:E:112:LEU:O    | 5:E:116:LEU:N    | 2.37                     | 0.48              |
| 5:E:332:LEU:O    | 5:E:335:ILE:HG13 | 2.14                     | 0.48              |
| 6:F:57:THR:HA    | 6:F:386:GLN:OE1  | 2.14                     | 0.48              |
| 6:F:90:ASP:OD2   | 6:F:155:SER:HA   | 2.12                     | 0.48              |
| 7:G:244:LEU:HD22 | 7:G:278:LEU:HB3  | 1.96                     | 0.48              |
| 7:G:295:ILE:HG21 | 7:G:310:CYS:SG   | 2.54                     | 0.48              |
| 7:G:516:VAL:HG21 | 8:H:55:MET:HG2   | 1.95                     | 0.48              |
| 8:H:238:LYS:O    | 8:H:288:ALA:HA   | 2.14                     | 0.48              |
| 1:I:18:ARG:NH2   | 4:L:468:ASN:HB3  | 2.27                     | 0.48              |
| 1:I:59:ALA:H     | 1:I:90:THR:HB    | 1.79                     | 0.48              |
| 1:I:330:THR:HG22 | 1:I:344:MET:SD   | 2.53                     | 0.48              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:I:414:ALA:HB3  | 1:I:486:ILE:O    | 2.13                     | 0.48              |
| 1:I:527:ILE:HG12 | 1:I:528:ASP:N    | 2.28                     | 0.48              |
| 3:K:182:MET:HG3  | 3:K:216:ARG:HD3  | 1.96                     | 0.48              |
| 4:L:170:SER:O    | 4:L:174:LYS:HG2  | 2.14                     | 0.48              |
| 5:M:31:LEU:HA    | 5:M:34:LEU:HB2   | 1.95                     | 0.48              |
| 5:M:403:HIS:O    | 5:M:407:CYS:N    | 2.46                     | 0.48              |
| 11:3:123:MET:O   | 11:3:135:TYR:HB2 | 2.14                     | 0.48              |
| 14:6:37:LEU:HD13 | 14:6:84:THR:HG22 | 1.94                     | 0.48              |
| 1:A:62:LEU:HD23  | 1:A:65:LEU:HD12  | 1.96                     | 0.48              |
| 1:A:102:LYS:HA   | 1:A:105:ASP:HB2  | 1.96                     | 0.48              |
| 1:A:138:VAL:HG13 | 1:A:139:ASN:H    | 1.79                     | 0.48              |
| 1:A:460:SER:O    | 1:A:463:LEU:HB3  | 2.13                     | 0.48              |
| 1:A:486:ILE:HD11 | 1:A:498:ASN:HD21 | 1.78                     | 0.48              |
| 2:B:151:ASP:OD1  | 2:B:152:GLU:N    | 2.46                     | 0.48              |
| 3:C:134:ILE:HG23 | 3:C:138:LYS:NZ   | 2.28                     | 0.48              |
| 3:C:332:VAL:HG21 | 3:C:338:LEU:HD21 | 1.94                     | 0.48              |
| 4:D:299:LEU:HD23 | 4:D:333:ILE:HG12 | 1.95                     | 0.48              |
| 4:D:516:VAL:HA   | 4:D:519:LEU:CD1  | 2.44                     | 0.48              |
| 5:E:120:ALA:HB2  | 5:E:137:TYR:HE2  | 1.79                     | 0.48              |
| 5:E:431:LEU:HD22 | 5:E:481:GLN:HB3  | 1.96                     | 0.48              |
| 7:G:38:THR:HB    | 7:G:448:GLN:CB   | 2.44                     | 0.48              |
| 7:G:82:ILE:HD11  | 7:G:512:LEU:HD12 | 1.96                     | 0.48              |
| 7:G:388:SER:O    | 7:G:391:ASP:HB2  | 2.13                     | 0.48              |
| 8:H:99:ASP:HA    | 8:H:171:LYS:NZ   | 2.28                     | 0.48              |
| 1:I:325:ALA:HB2  | 1:I:346:GLY:HA2  | 1.95                     | 0.48              |
| 2:J:239:ILE:HG12 | 2:J:291:ILE:HD11 | 1.95                     | 0.48              |
| 2:J:269:HIS:HB3  | 4:L:261:ASP:HA   | 1.95                     | 0.48              |
| 2:J:358:LYS:HD2  | 4:L:343:LYS:HE3  | 1.96                     | 0.48              |
| 3:K:150:ASP:O    | 3:K:153:LEU:HB3  | 2.14                     | 0.48              |
| 3:K:351:GLU:N    | 3:K:362:PHE:O    | 2.44                     | 0.48              |
| 4:L:44:VAL:O     | 4:L:48:ILE:HG12  | 2.14                     | 0.48              |
| 4:L:156:GLU:HA   | 4:L:419:ARG:HH21 | 1.78                     | 0.48              |
| 5:M:184:GLN:HG3  | 5:M:185:MET:N    | 2.29                     | 0.48              |
| 6:N:419:ALA:HA   | 6:N:422:LEU:HB3  | 1.96                     | 0.48              |
| 1:A:121:TYR:CD1  | 1:A:441:PHE:HB2  | 2.45                     | 0.48              |
| 3:C:242:ASP:HB2  | 3:C:332:VAL:O    | 2.12                     | 0.48              |
| 4:D:297:VAL:HA   | 4:D:323:MET:HB3  | 1.95                     | 0.48              |
| 4:D:408:ALA:HA   | 4:D:411:VAL:HG22 | 1.96                     | 0.48              |
| 4:D:434:LEU:HD21 | 4:D:485:ALA:HB2  | 1.96                     | 0.48              |
| 6:F:428:SER:OG   | 6:F:430:LYS:HG2  | 2.14                     | 0.48              |
| 7:G:249:GLU:HB3  | 7:G:274:LEU:HG   | 1.96                     | 0.48              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 8:H:188:VAL:HG12 | 8:H:202:ILE:HD12 | 1.95                     | 0.48              |
| 1:I:175:ALA:HB3  | 1:I:396:LEU:HD21 | 1.95                     | 0.48              |
| 1:I:528:ASP:HB2  | 4:L:74:GLY:N     | 2.23                     | 0.48              |
| 2:J:523:ALA:HB3  | 5:M:64:LYS:H     | 1.78                     | 0.48              |
| 3:K:94:GLY:O     | 3:K:98:VAL:N     | 2.42                     | 0.48              |
| 3:K:278:LEU:O    | 3:K:282:ILE:HG13 | 2.13                     | 0.48              |
| 3:K:438:ARG:HA   | 3:K:441:ALA:HB3  | 1.94                     | 0.48              |
| 3:K:462:LEU:HD22 | 3:K:486:THR:HG22 | 1.96                     | 0.48              |
| 4:L:168:THR:O    | 4:L:172:ASN:N    | 2.34                     | 0.48              |
| 5:M:248:ILE:HD12 | 5:M:299:LEU:HD23 | 1.95                     | 0.48              |
| 6:N:118:ILE:HB   | 6:N:432:ARG:CB   | 2.44                     | 0.48              |
| 8:P:297:VAL:O    | 8:P:314:ARG:NH2  | 2.47                     | 0.48              |
| 1:A:113:HIS:CB   | 4:D:470:GLY:HA2  | 2.44                     | 0.48              |
| 2:B:49:ASP:HB3   | 2:B:63:VAL:CG1   | 2.44                     | 0.48              |
| 2:B:239:ILE:HD12 | 2:B:329:GLY:HA3  | 1.96                     | 0.48              |
| 2:B:293:ARG:HH21 | 2:B:320:VAL:HG12 | 1.79                     | 0.48              |
| 2:B:354:ILE:O    | 2:B:376:ARG:NH2  | 2.46                     | 0.48              |
| 3:C:219:MET:SD   | 3:C:375:LEU:HB2  | 2.54                     | 0.48              |
| 4:D:156:GLU:O    | 4:D:162:THR:OG1  | 2.15                     | 0.48              |
| 4:D:209:LYS:CD   | 4:D:227:LEU:HD22 | 2.43                     | 0.48              |
| 4:D:240:ARG:HB2  | 4:D:363:GLU:HG3  | 1.96                     | 0.48              |
| 4:D:319:LYS:HE3  | 12:4:64:CYS:HB3  | 1.96                     | 0.48              |
| 4:D:333:ILE:O    | 4:D:337:CYS:N    | 2.39                     | 0.48              |
| 5:E:183:ARG:HH11 | 5:E:187:GLU:HG2  | 1.79                     | 0.48              |
| 5:E:250:ILE:HG22 | 5:E:341:ILE:HG23 | 1.96                     | 0.48              |
| 6:F:120:THR:HA   | 6:F:123:PHE:CD2  | 2.48                     | 0.48              |
| 6:F:221:MET:SD   | 6:F:302:LEU:HD22 | 2.54                     | 0.48              |
| 6:F:433:ALA:O    | 6:F:437:VAL:N    | 2.41                     | 0.48              |
| 7:G:238:ALA:HB3  | 7:G:289:VAL:HG22 | 1.95                     | 0.48              |
| 7:G:331:GLN:HE22 | 7:G:342:LEU:HD23 | 1.79                     | 0.48              |
| 8:H:468:TYR:HE2  | 3:K:435:TRP:CZ2  | 2.30                     | 0.48              |
| 1:I:141:ASP:HB3  | 1:I:151:ALA:HB1  | 1.94                     | 0.48              |
| 1:I:225:MET:HB3  | 1:I:305:ALA:HB3  | 1.96                     | 0.48              |
| 1:I:511:VAL:HA   | 1:I:514:LEU:HD12 | 1.96                     | 0.48              |
| 2:J:122:HIS:CB   | 5:M:467:GLY:HA2  | 2.44                     | 0.48              |
| 2:J:239:ILE:HG23 | 2:J:293:ARG:HH22 | 1.79                     | 0.48              |
| 2:J:302:GLN:HE22 | 4:L:251:PHE:CB   | 2.27                     | 0.48              |
| 3:K:487:LEU:O    | 3:K:487:LEU:HD12 | 2.14                     | 0.48              |
| 4:L:161:GLU:O    | 4:L:165:ASN:N    | 2.32                     | 0.48              |
| 4:L:193:LYS:HE3  | 4:L:225:GLU:O    | 2.14                     | 0.48              |
| 4:L:253:LEU:HD12 | 4:L:313:ALA:HB1  | 1.96                     | 0.48              |

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| Atom-1           | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 4:L:406:HIS:O    | 4:L:410:CYS:N     | 2.42                     | 0.48              |
| 5:M:49:ARG:HH12  | 5:M:457:VAL:HG22  | 1.79                     | 0.48              |
| 7:O:194:MET:O    | 7:O:370:CYS:N     | 2.46                     | 0.48              |
| 7:O:476:GLY:N    | 7:O:485:ALA:O     | 2.31                     | 0.48              |
| 8:P:244:CYS:SG   | 8:P:336:LEU:HB2   | 2.54                     | 0.48              |
| 8:P:297:VAL:H    | 8:P:314:ARG:NH2   | 2.12                     | 0.48              |
| 11:3:84:THR:OG1  | 11:3:144:LEU:HD11 | 2.14                     | 0.48              |
| 12:4:65:LEU:HD13 | 14:6:66:LYS:HG2   | 1.95                     | 0.48              |
| 13:5:27:GLU:O    | 13:5:31:THR:N     | 2.45                     | 0.48              |
| 14:6:29:GLY:HA3  | 14:6:89:ARG:HH21  | 1.78                     | 0.48              |
| 1:A:250:VAL:O    | 1:A:251:GLN:HG2   | 2.14                     | 0.47              |
| 2:B:230:LYS:HG3  | 2:B:231:ARG:H     | 1.79                     | 0.47              |
| 2:B:449:ILE:HG22 | 2:B:453:ASN:ND2   | 2.29                     | 0.47              |
| 3:C:62:ASP:HB3   | 3:C:64:ASN:H      | 1.78                     | 0.47              |
| 3:C:88:ASP:HA    | 3:C:92:GLY:HA2    | 1.95                     | 0.47              |
| 4:D:430:ILE:HD11 | 4:D:462:PRO:HB2   | 1.96                     | 0.47              |
| 5:E:184:GLN:OE1  | 5:E:184:GLN:N     | 2.48                     | 0.47              |
| 6:F:126:ALA:HA   | 6:F:427:PRO:HG2   | 1.95                     | 0.47              |
| 7:G:274:LEU:HD22 | 7:G:298:VAL:HG12  | 1.96                     | 0.47              |
| 7:G:395:ILE:HG12 | 7:G:398:ARG:HH22  | 1.78                     | 0.47              |
| 7:G:466:ALA:HB2  | 1:I:431:GLY:HA3   | 1.95                     | 0.47              |
| 8:H:238:LYS:HB3  | 8:H:341:LEU:HD13  | 1.96                     | 0.47              |
| 8:H:318:LYS:O    | 8:H:322:ARG:N     | 2.32                     | 0.47              |
| 3:K:141:SER:CB   | 3:K:406:GLN:HB3   | 2.44                     | 0.47              |
| 3:K:507:LYS:O    | 3:K:511:GLU:HG2   | 2.13                     | 0.47              |
| 4:L:247:GLY:O    | 4:L:342:THR:HG21  | 2.14                     | 0.47              |
| 4:L:430:ILE:H    | 4:L:430:ILE:HD12  | 1.79                     | 0.47              |
| 5:M:212:GLU:O    | 5:M:386:PHE:HA    | 2.14                     | 0.47              |
| 6:N:392:ARG:HG3  | 6:N:393:ASP:N     | 2.29                     | 0.47              |
| 7:O:418:LYS:N    | 7:O:465:ARG:HH21  | 2.12                     | 0.47              |
| 8:P:436:TYR:O    | 8:P:440:LYS:HG2   | 2.13                     | 0.47              |
| 11:3:123:MET:N   | 11:3:135:TYR:O    | 2.35                     | 0.47              |
| 11:3:155:LEU:O   | 11:3:159:GLU:N    | 2.40                     | 0.47              |
| 1:A:232:ALA:HB3  | 1:A:348:ALA:HB3   | 1.96                     | 0.47              |
| 1:A:488:LEU:N    | 1:A:503:VAL:HG12  | 2.29                     | 0.47              |
| 4:D:403:ARG:HB3  | 4:D:407:ASP:OD2   | 2.14                     | 0.47              |
| 4:D:425:GLY:HA3  | 4:D:503:ILE:HG21  | 1.96                     | 0.47              |
| 4:D:463:SER:O    | 4:D:473:PRO:HB3   | 2.14                     | 0.47              |
| 5:E:201:ARG:HB2  | 5:E:203:ASP:HB2   | 1.94                     | 0.47              |
| 5:E:247:LYS:HE2  | 5:E:355:PHE:CE1   | 2.49                     | 0.47              |
| 5:E:457:VAL:HA   | 5:E:460:MET:HB3   | 1.96                     | 0.47              |

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| Atom-1            | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 5:E:472:GLN:O     | 5:E:476:GLU:N    | 2.43                     | 0.47              |
| 6:F:38:LEU:HD23   | 6:F:451:LEU:HG   | 1.96                     | 0.47              |
| 6:F:215:GLY:HA3   | 6:F:352:GLU:OE2  | 2.14                     | 0.47              |
| 6:F:416:VAL:HB    | 6:F:467:GLN:HA   | 1.96                     | 0.47              |
| 6:F:459:LEU:HD12  | 6:F:460:GLN:N    | 2.29                     | 0.47              |
| 1:I:101:LEU:HA    | 1:I:521:ALA:HA   | 1.95                     | 0.47              |
| 1:I:244:THR:HG23  | 3:K:247:TYR:OH   | 2.13                     | 0.47              |
| 1:I:529:ASP:O     | 1:I:531:ILE:HG23 | 2.15                     | 0.47              |
| 2:J:522:LYS:HA    | 5:M:62:VAL:O     | 2.15                     | 0.47              |
| 3:K:51:LEU:HB2    | 6:N:521:ILE:HD11 | 1.95                     | 0.47              |
| 5:M:85:HIS:CD2    | 5:M:87:ILE:HG12  | 2.50                     | 0.47              |
| 5:M:306:PHE:HE2   | 5:M:314:LEU:HD22 | 1.77                     | 0.47              |
| 7:O:340:ASP:OD1   | 7:O:344:ARG:NH1  | 2.37                     | 0.47              |
| 11:3:82:LYS:O     | 11:3:85:LEU:HB2  | 2.14                     | 0.47              |
| 11:3:110:ASN:HD21 | 13:5:42:LYS:NZ   | 2.12                     | 0.47              |
| 2:B:19:GLU:O      | 2:B:519:ASN:HA   | 2.13                     | 0.47              |
| 2:B:349:ILE:HG23  | 2:B:362:PHE:HE1  | 1.79                     | 0.47              |
| 3:C:395:MET:HA    | 3:C:398:CYS:HB2  | 1.96                     | 0.47              |
| 4:D:128:ILE:HD13  | 4:D:450:CYS:SG   | 2.54                     | 0.47              |
| 4:D:184:SER:O     | 4:D:187:SER:HB2  | 2.13                     | 0.47              |
| 4:D:345:VAL:HG22  | 4:D:350:GLN:O    | 2.14                     | 0.47              |
| 5:E:417:ARG:HD3   | 5:E:510:LEU:CD2  | 2.44                     | 0.47              |
| 6:F:87:ILE:HG23   | 6:F:400:ASN:HD21 | 1.78                     | 0.47              |
| 6:F:212:LEU:HD13  | 6:F:313:LEU:HD22 | 1.95                     | 0.47              |
| 7:G:18:GLY:O      | 7:G:517:ASP:HB2  | 2.14                     | 0.47              |
| 7:G:302:TYR:O     | 7:G:306:ARG:N    | 2.46                     | 0.47              |
| 7:G:419:TYR:HA    | 7:G:422:ASP:HB2  | 1.96                     | 0.47              |
| 8:H:427:GLY:HA3   | 8:H:439:LYS:HG3  | 1.95                     | 0.47              |
| 1:I:315:ASP:O     | 1:I:319:ILE:N    | 2.39                     | 0.47              |
| 1:I:527:ILE:HG21  | 4:L:57:MET:C     | 2.35                     | 0.47              |
| 3:K:104:GLU:HG3   | 3:K:443:ALA:HB1  | 1.95                     | 0.47              |
| 3:K:245:LEU:HD11  | 3:K:282:ILE:HD11 | 1.96                     | 0.47              |
| 3:K:499:LEU:O     | 3:K:503:LEU:HG   | 2.15                     | 0.47              |
| 4:L:185:PRO:O     | 4:L:189:ASN:N    | 2.31                     | 0.47              |
| 4:L:264:ILE:HG23  | 4:L:274:ARG:NH2  | 2.30                     | 0.47              |
| 5:M:304:TRP:CH2   | 7:O:247:LYS:HD3  | 2.49                     | 0.47              |
| 5:M:498:THR:O     | 5:M:504:GLN:NE2  | 2.48                     | 0.47              |
| 8:P:62:LYS:HB3    | 8:P:64:PHE:CE1   | 2.50                     | 0.47              |
| 8:P:241:VAL:HG11  | 8:P:330:ALA:HB1  | 1.95                     | 0.47              |
| 1:A:17:ILE:HA     | 1:A:20:GLN:HB2   | 1.95                     | 0.47              |
| 2:B:232:ILE:HG21  | 2:B:288:ASN:CB   | 2.45                     | 0.47              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:253:GLY:HA3  | 2:B:270:ALA:HB1  | 1.95                     | 0.47              |
| 2:B:384:ASP:OD1  | 2:B:385:GLU:N    | 2.47                     | 0.47              |
| 2:B:447:PRO:HB2  | 2:B:462:VAL:HG22 | 1.96                     | 0.47              |
| 2:B:521:ILE:N    | 5:E:60:MET:O     | 2.33                     | 0.47              |
| 3:C:289:VAL:HG21 | 3:C:350:LEU:HD22 | 1.96                     | 0.47              |
| 3:C:318:THR:O    | 3:C:322:ARG:N    | 2.36                     | 0.47              |
| 4:D:229:LEU:HD12 | 4:D:374:LEU:HD22 | 1.96                     | 0.47              |
| 4:D:231:GLN:HA   | 4:D:372:LYS:O    | 2.14                     | 0.47              |
| 5:E:78:LEU:HD13  | 5:E:91:MET:HB3   | 1.95                     | 0.47              |
| 5:E:159:ILE:O    | 5:E:162:THR:OG1  | 2.16                     | 0.47              |
| 5:E:225:ILE:HG22 | 5:E:227:GLY:H    | 1.78                     | 0.47              |
| 5:E:301:ILE:HG21 | 5:E:333:ILE:HG21 | 1.96                     | 0.47              |
| 7:G:67:LYS:HG2   | 7:G:84:LYS:HE3   | 1.95                     | 0.47              |
| 7:G:122:ILE:HG12 | 7:G:126:ARG:NH1  | 2.30                     | 0.47              |
| 7:G:522:ASN:HD22 | 8:H:57:ILE:C     | 2.17                     | 0.47              |
| 8:H:24:GLY:HA2   | 8:H:522:ASP:HA   | 1.96                     | 0.47              |
| 8:H:31:ARG:HE    | 8:H:80:HIS:CE1   | 2.32                     | 0.47              |
| 8:H:43:THR:HG22  | 8:H:102:ASN:HA   | 1.97                     | 0.47              |
| 8:H:196:HIS:HE1  | 8:H:369:ASP:HA   | 1.76                     | 0.47              |
| 2:J:141:LEU:HD11 | 2:J:413:SER:HB2  | 1.96                     | 0.47              |
| 2:J:200:HIS:N    | 2:J:371:CYS:O    | 2.45                     | 0.47              |
| 3:K:395:MET:O    | 3:K:399:ARG:HG2  | 2.14                     | 0.47              |
| 3:K:400:ASN:O    | 3:K:404:ASP:N    | 2.39                     | 0.47              |
| 5:M:61:MET:HB2   | 5:M:69:THR:OG1   | 2.14                     | 0.47              |
| 8:P:290:VAL:HG22 | 8:P:311:MET:SD   | 2.54                     | 0.47              |
| 1:A:111:LYS:HD3  | 7:O:451:ASP:OD1  | 2.14                     | 0.47              |
| 1:A:236:CYS:HA   | 1:A:287:LEU:HB2  | 1.96                     | 0.47              |
| 2:B:238:LEU:HD23 | 2:B:290:PHE:CD1  | 2.50                     | 0.47              |
| 3:C:180:VAL:HG12 | 3:C:402:LEU:HD12 | 1.96                     | 0.47              |
| 3:C:422:LEU:O    | 3:C:426:SER:N    | 2.39                     | 0.47              |
| 4:D:300:ILE:HB   | 4:D:326:LYS:HA   | 1.96                     | 0.47              |
| 5:E:419:VAL:HG12 | 5:E:508:GLU:O    | 2.15                     | 0.47              |
| 7:G:108:VAL:HA   | 7:G:111:TYR:HD2  | 1.79                     | 0.47              |
| 8:H:168:ILE:HG12 | 8:H:392:VAL:HA   | 1.96                     | 0.47              |
| 2:J:38:LEU:HB3   | 2:J:50:LYS:HE2   | 1.97                     | 0.47              |
| 3:K:16:ARG:NH1   | 3:K:521:ASP:OD2  | 2.47                     | 0.47              |
| 4:L:396:LEU:O    | 4:L:400:GLU:HG3  | 2.15                     | 0.47              |
| 5:M:31:LEU:O     | 5:M:35:LYS:HG2   | 2.14                     | 0.47              |
| 5:M:223:LYS:N    | 5:M:386:PHE:O    | 2.46                     | 0.47              |
| 5:M:331:GLU:HB3  | 7:O:223:ALA:H    | 1.78                     | 0.47              |
| 6:N:96:VAL:O     | 6:N:99:ILE:HG12  | 2.14                     | 0.47              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 8:P:147:VAL:HG11 | 8:P:407:ARG:HG3  | 1.97                     | 0.47              |
| 8:P:239:ILE:O    | 8:P:344:MET:HA   | 2.15                     | 0.47              |
| 13:5:90:TYR:CE1  | 14:6:58:LYS:HB3  | 2.50                     | 0.47              |
| 1:A:82:GLN:HG2   | 1:A:89:GLY:O     | 2.15                     | 0.47              |
| 2:B:130:TRP:HA   | 2:B:133:ALA:HB3  | 1.97                     | 0.47              |
| 2:B:271:GLU:O    | 2:B:275:MET:N    | 2.28                     | 0.47              |
| 2:B:273:GLU:HA   | 2:B:276:LYS:HB3  | 1.95                     | 0.47              |
| 2:B:425:ALA:O    | 2:B:429:PRO:HG3  | 2.14                     | 0.47              |
| 2:B:429:PRO:HA   | 2:B:433:ALA:CB   | 2.45                     | 0.47              |
| 3:C:130:LEU:HD12 | 3:C:506:TYR:CE2  | 2.49                     | 0.47              |
| 3:C:240:LEU:HD23 | 3:C:331:ILE:HG22 | 1.95                     | 0.47              |
| 4:D:483:ARG:HD3  | 4:D:486:GLN:OE1  | 2.14                     | 0.47              |
| 6:F:115:HIS:O    | 6:F:119:ILE:HG13 | 2.14                     | 0.47              |
| 6:F:326:LEU:HB3  | 6:F:370:ARG:CB   | 2.45                     | 0.47              |
| 6:F:411:ALA:HB1  | 6:F:479:VAL:H    | 1.79                     | 0.47              |
| 7:G:108:VAL:HA   | 7:G:111:TYR:CD2  | 2.49                     | 0.47              |
| 7:G:126:ARG:O    | 7:G:129:THR:HG22 | 2.15                     | 0.47              |
| 7:G:457:ALA:O    | 7:G:461:LEU:HG   | 2.15                     | 0.47              |
| 7:G:487:ASN:HB3  | 7:G:492:VAL:HB   | 1.97                     | 0.47              |
| 8:H:49:PRO:HB2   | 8:H:480:LEU:N    | 2.20                     | 0.47              |
| 8:H:116:GLU:O    | 8:H:120:ARG:HG2  | 2.15                     | 0.47              |
| 8:H:228:GLU:O    | 8:H:312:LEU:HB3  | 2.15                     | 0.47              |
| 8:H:453:ALA:HA   | 8:H:456:SER:HB3  | 1.96                     | 0.47              |
| 1:I:297:LEU:O    | 1:I:301:VAL:N    | 2.45                     | 0.47              |
| 4:L:347:HIS:CD2  | 4:L:348:ILE:H    | 2.32                     | 0.47              |
| 5:M:206:PHE:HZ   | 5:M:407:CYS:HA   | 1.80                     | 0.47              |
| 5:M:304:TRP:HZ3  | 7:O:271:TRP:HE1  | 1.62                     | 0.47              |
| 7:O:358:TYR:HB2  | 7:O:360:PHE:CE2  | 2.50                     | 0.47              |
| 8:P:188:VAL:O    | 8:P:191:PHE:N    | 2.48                     | 0.47              |
| 8:P:497:ILE:C    | 8:P:498:LEU:HD12 | 2.35                     | 0.47              |
| 14:6:34:GLU:OE2  | 14:6:87:ILE:HG21 | 2.15                     | 0.47              |
| 1:A:392:LEU:O    | 1:A:396:LEU:HB2  | 2.15                     | 0.47              |
| 1:A:486:ILE:HD11 | 1:A:498:ASN:ND2  | 2.29                     | 0.47              |
| 2:B:127:ILE:HG22 | 2:B:131:ARG:HE   | 1.80                     | 0.47              |
| 2:B:182:LEU:HB3  | 2:B:373:ILE:HD11 | 1.97                     | 0.47              |
| 2:B:237:ILE:HG21 | 2:B:323:LEU:HD21 | 1.97                     | 0.47              |
| 3:C:34:ALA:O     | 3:C:38:ARG:NH1   | 2.48                     | 0.47              |
| 3:C:289:VAL:HA   | 3:C:310:THR:HB   | 1.97                     | 0.47              |
| 3:C:436:PRO:O    | 3:C:440:VAL:N    | 2.38                     | 0.47              |
| 4:D:99:ASP:HA    | 4:D:103:GLY:N    | 2.29                     | 0.47              |
| 4:D:173:SER:OG   | 4:D:508:VAL:HA   | 2.13                     | 0.47              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 4:D:249:ILE:HG23 | 4:D:251:PHE:CD1  | 2.50                     | 0.47              |
| 4:D:418:LYS:HG2  | 4:D:516:VAL:HG21 | 1.96                     | 0.47              |
| 4:D:427:ALA:HB3  | 4:D:428:PRO:HD3  | 1.95                     | 0.47              |
| 5:E:75:ALA:H     | 5:E:106:THR:HG22 | 1.78                     | 0.47              |
| 5:E:403:HIS:O    | 5:E:407:CYS:N    | 2.45                     | 0.47              |
| 5:E:496:LYS:HD2  | 5:E:504:GLN:OE1  | 2.14                     | 0.47              |
| 6:F:160:VAL:HG12 | 6:F:161:HIS:H    | 1.79                     | 0.47              |
| 6:F:198:HIS:HB3  | 6:F:378:GLY:N    | 2.30                     | 0.47              |
| 6:F:221:MET:HB2  | 6:F:311:VAL:HA   | 1.96                     | 0.47              |
| 6:F:349:LEU:O    | 6:F:364:GLU:N    | 2.31                     | 0.47              |
| 6:F:420:GLU:O    | 6:F:424:LYS:N    | 2.37                     | 0.47              |
| 7:G:120:ILE:HG21 | 7:G:430:LYS:HD2  | 1.96                     | 0.47              |
| 7:G:142:THR:HA   | 7:G:404:SER:HA   | 1.96                     | 0.47              |
| 7:G:143:VAL:HG21 | 7:G:154:LEU:HD22 | 1.95                     | 0.47              |
| 7:G:407:ALA:HB2  | 7:G:488:PHE:HB2  | 1.96                     | 0.47              |
| 7:G:408:GLY:H    | 7:G:492:VAL:HG12 | 1.80                     | 0.47              |
| 7:G:413:GLU:OE1  | 7:G:446:PRO:HD3  | 2.15                     | 0.47              |
| 7:G:418:LYS:HA   | 7:G:465:ARG:CZ   | 2.45                     | 0.47              |
| 7:G:522:ASN:N    | 8:H:57:ILE:O     | 2.47                     | 0.47              |
| 8:H:168:ILE:HG23 | 8:H:391:ALA:HB1  | 1.96                     | 0.47              |
| 8:H:246:PHE:CD2  | 8:H:297:VAL:HG13 | 2.50                     | 0.47              |
| 8:H:299:ASP:HA   | 8:H:302:LEU:HB3  | 1.96                     | 0.47              |
| 8:H:439:LYS:O    | 8:H:443:GLU:HG3  | 2.15                     | 0.47              |
| 1:I:213:GLY:HA3  | 1:I:364:ILE:O    | 2.15                     | 0.47              |
| 1:I:482:ASN:ND2  | 1:I:485:TRP:HA   | 2.29                     | 0.47              |
| 1:I:513:SER:HA   | 1:I:516:PHE:HB2  | 1.96                     | 0.47              |
| 1:I:515:LYS:O    | 1:I:519:GLU:N    | 2.48                     | 0.47              |
| 2:J:112:GLU:OE1  | 2:J:441:LYS:HD2  | 2.15                     | 0.47              |
| 2:J:479:ASP:HB2  | 2:J:488:MET:HE3  | 1.97                     | 0.47              |
| 3:K:155:ILE:HG22 | 3:K:496:TRP:CG   | 2.50                     | 0.47              |
| 3:K:374:ILE:HB   | 3:K:391:LEU:HD23 | 1.96                     | 0.47              |
| 4:L:128:ILE:HG21 | 4:L:450:CYS:SG   | 2.55                     | 0.47              |
| 4:L:191:VAL:HG13 | 4:L:203:VAL:HG11 | 1.97                     | 0.47              |
| 4:L:248:LEU:N    | 4:L:299:LEU:HB2  | 2.30                     | 0.47              |
| 4:L:249:ILE:HG22 | 4:L:356:LEU:HD21 | 1.95                     | 0.47              |
| 4:L:291:LYS:HE2  | 4:L:296:ASN:OD1  | 2.14                     | 0.47              |
| 4:L:298:LEU:O    | 4:L:324:VAL:HA   | 2.14                     | 0.47              |
| 5:M:42:LYS:NZ    | 5:M:118:GLU:HB2  | 2.30                     | 0.47              |
| 5:M:87:ILE:HD12  | 5:M:527:ILE:HG12 | 1.96                     | 0.47              |
| 6:N:61:ASN:HB2   | 6:N:65:HIS:NE2   | 2.29                     | 0.47              |
| 6:N:112:GLU:HB2  | 6:N:114:LEU:HG   | 1.97                     | 0.47              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 6:N:291:VAL:N    | 6:N:311:VAL:O    | 2.46                     | 0.47              |
| 6:N:445:LEU:HD13 | 6:N:463:LEU:HD21 | 1.97                     | 0.47              |
| 6:N:470:HIS:CE1  | 6:N:476:LEU:HD23 | 2.50                     | 0.47              |
| 7:O:74:PRO:HB3   | 8:P:63:LEU:HD21  | 1.96                     | 0.47              |
| 8:P:78:VAL:HG11  | 8:P:87:VAL:HG21  | 1.96                     | 0.47              |
| 8:P:99:ASP:HB2   | 8:P:167:SER:HA   | 1.96                     | 0.47              |
| 8:P:239:ILE:HA   | 8:P:290:VAL:O    | 2.14                     | 0.47              |
| 9:1:113:ARG:O    | 9:1:117:MET:N    | 2.38                     | 0.47              |
| 12:4:102:GLU:HA  | 12:4:105:VAL:HB  | 1.97                     | 0.47              |
| 13:5:78:ASP:HB3  | 13:5:81:HIS:HD2  | 1.80                     | 0.47              |
| 1:A:62:LEU:HA    | 1:A:65:LEU:HD12  | 1.95                     | 0.47              |
| 2:B:196:LEU:HD22 | 2:B:394:LEU:HD13 | 1.97                     | 0.47              |
| 2:B:316:ASP:O    | 2:B:320:VAL:N    | 2.30                     | 0.47              |
| 2:B:489:ALA:HB3  | 2:B:491:LEU:HD12 | 1.95                     | 0.47              |
| 3:C:185:PHE:CD2  | 3:C:370:LYS:HB2  | 2.50                     | 0.47              |
| 4:D:310:SER:HB3  | 4:D:313:ALA:HB3  | 1.96                     | 0.47              |
| 5:E:176:LYS:HD2  | 5:E:401:SER:HA   | 1.96                     | 0.47              |
| 5:E:232:LYS:HB3  | 5:E:234:PHE:CE2  | 2.49                     | 0.47              |
| 5:E:244:GLU:OE2  | 5:E:299:LEU:HG   | 2.14                     | 0.47              |
| 5:E:250:ILE:HA   | 5:E:301:ILE:HB   | 1.96                     | 0.47              |
| 5:E:356:ALA:HB3  | 5:E:359:VAL:HG13 | 1.97                     | 0.47              |
| 6:F:176:ILE:O    | 6:F:180:LYS:HG3  | 2.15                     | 0.47              |
| 6:F:237:LEU:CB   | 6:F:297:ILE:HG23 | 2.44                     | 0.47              |
| 6:F:254:GLU:O    | 6:F:258:LYS:NZ   | 2.43                     | 0.47              |
| 7:G:14:ASP:O     | 7:G:521:LYS:N    | 2.36                     | 0.47              |
| 2:J:196:LEU:HD22 | 2:J:199:ILE:HG13 | 1.96                     | 0.47              |
| 2:J:300:PRO:HA   | 2:J:303:LEU:HD12 | 1.97                     | 0.47              |
| 2:J:496:SER:O    | 2:J:499:VAL:HG12 | 2.14                     | 0.47              |
| 3:K:48:LYS:O     | 3:K:59:MET:HA    | 2.15                     | 0.47              |
| 5:M:55:ASN:HD21  | 5:M:495:HIS:CB   | 2.28                     | 0.47              |
| 5:M:496:LYS:NZ   | 5:M:504:GLN:HA   | 2.29                     | 0.47              |
| 5:M:500:ASP:HB2  | 5:M:503:GLN:HB2  | 1.97                     | 0.47              |
| 6:N:182:GLN:NE2  | 6:N:370:ARG:HE   | 2.13                     | 0.47              |
| 7:O:28:ALA:HB3   | 7:O:73:HIS:CG    | 2.49                     | 0.47              |
| 8:P:49:PRO:HA    | 8:P:497:ILE:HD11 | 1.97                     | 0.47              |
| 8:P:171:LYS:HB2  | 8:P:394:ASP:OD2  | 2.15                     | 0.47              |
| 8:P:179:LEU:HD11 | 8:P:388:ILE:HG22 | 1.97                     | 0.47              |
| 8:P:182:LEU:O    | 8:P:185:GLN:HB3  | 2.14                     | 0.47              |
| 8:P:434:GLU:O    | 8:P:438:ILE:HD12 | 2.14                     | 0.47              |
| 1:A:35:SER:HB2   | 1:A:43:LYS:NZ    | 2.30                     | 0.47              |
| 1:A:287:LEU:HD23 | 1:A:308:VAL:HB   | 1.95                     | 0.47              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:461:THR:HA   | 1:A:464:VAL:HG12 | 1.97                     | 0.47              |
| 2:B:337:HIS:HB2  | 2:B:341:VAL:HB   | 1.96                     | 0.47              |
| 3:C:91:VAL:O     | 3:C:396:GLN:NE2  | 2.47                     | 0.47              |
| 3:C:452:ILE:HD13 | 3:C:459:THR:HA   | 1.96                     | 0.47              |
| 4:D:267:SER:O    | 14:6:85:ALA:HB1  | 2.15                     | 0.47              |
| 5:E:247:LYS:HZ1  | 5:E:353:LEU:HB2  | 1.79                     | 0.47              |
| 5:E:268:VAL:HG11 | 5:E:274:TYR:HA   | 1.96                     | 0.47              |
| 5:E:365:GLY:H    | 5:E:388:ARG:CZ   | 2.28                     | 0.47              |
| 5:E:439:LYS:C    | 5:E:441:PRO:HD3  | 2.35                     | 0.47              |
| 6:F:31:GLN:NE2   | 6:F:97:LEU:O     | 2.48                     | 0.47              |
| 6:F:270:ARG:HD2  | 6:F:336:PHE:HD2  | 1.79                     | 0.47              |
| 6:F:453:GLN:HA   | 6:F:457:PHE:O    | 2.15                     | 0.47              |
| 8:H:93:GLN:HG2   | 8:H:104:VAL:HG21 | 1.97                     | 0.47              |
| 2:J:67:GLY:O     | 2:J:71:LEU:HG    | 2.14                     | 0.47              |
| 2:J:180:THR:O    | 2:J:184:VAL:HG23 | 2.15                     | 0.47              |
| 4:L:245:LYS:N    | 4:L:294:GLY:O    | 2.47                     | 0.47              |
| 4:L:338:LYS:HZ2  | 4:L:385:THR:HG1  | 1.56                     | 0.47              |
| 5:M:131:ILE:HD11 | 7:O:45:MET:HG2   | 1.97                     | 0.47              |
| 5:M:192:ALA:O    | 5:M:196:VAL:HG22 | 2.15                     | 0.47              |
| 5:M:196:VAL:HB   | 5:M:208:LEU:HB2  | 1.97                     | 0.47              |
| 5:M:198:ASP:CG   | 5:M:201:ARG:HH21 | 2.17                     | 0.47              |
| 5:M:358:LEU:O    | 5:M:375:GLU:HG2  | 2.15                     | 0.47              |
| 5:M:411:ASN:OD1  | 5:M:414:ARG:NH2  | 2.34                     | 0.47              |
| 6:N:187:ASP:OD2  | 6:N:395:LEU:HB3  | 2.15                     | 0.47              |
| 6:N:268:GLU:O    | 6:N:272:LYS:HG3  | 2.14                     | 0.47              |
| 6:N:422:LEU:HD11 | 6:N:437:VAL:HB   | 1.97                     | 0.47              |
| 7:O:144:LYS:HB3  | 7:O:151:GLN:HE21 | 1.80                     | 0.47              |
| 7:O:170:GLN:HG2  | 7:O:171:GLN:N    | 2.30                     | 0.47              |
| 8:P:500:THR:HG23 | 8:P:503:GLY:N    | 2.23                     | 0.47              |
| 13:5:67:THR:HG23 | 13:5:68:SER:O    | 2.15                     | 0.47              |
| 1:A:182:THR:O    | 1:A:321:LYS:NZ   | 2.46                     | 0.47              |
| 1:A:232:ALA:O    | 1:A:348:ALA:N    | 2.41                     | 0.47              |
| 1:A:416:GLU:HA   | 1:A:419:LEU:HB2  | 1.96                     | 0.47              |
| 1:A:427:ALA:HA   | 1:A:438:ILE:HB   | 1.97                     | 0.47              |
| 1:A:471:HIS:HB3  | 1:A:485:TRP:CZ3  | 2.50                     | 0.47              |
| 1:A:498:ASN:HB3  | 1:A:504:PHE:CE2  | 2.49                     | 0.47              |
| 2:B:37:ASP:HA    | 2:B:40:LYS:HG2   | 1.96                     | 0.47              |
| 2:B:113:ALA:HA   | 2:B:116:LEU:HB2  | 1.96                     | 0.47              |
| 2:B:238:LEU:CD2  | 2:B:282:ILE:HG23 | 2.45                     | 0.47              |
| 2:B:391:HIS:HD1  | 2:B:395:CYS:HG   | 1.63                     | 0.47              |
| 3:C:50:LEU:O     | 3:C:57:ILE:HA    | 2.15                     | 0.47              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 3:C:114:GLU:C    | 3:C:117:MET:H    | 2.19                     | 0.47              |
| 3:C:127:ARG:O    | 3:C:130:LEU:HB3  | 2.15                     | 0.47              |
| 3:C:188:ASN:ND2  | 3:C:190:ARG:HB3  | 2.30                     | 0.47              |
| 4:D:99:ASP:OD1   | 4:D:106:THR:HG22 | 2.15                     | 0.47              |
| 4:D:157:LEU:HB2  | 4:D:198:ALA:O    | 2.15                     | 0.47              |
| 4:D:179:TYR:CE1  | 4:D:218:ILE:HG13 | 2.50                     | 0.47              |
| 4:D:209:LYS:O    | 4:D:388:ILE:N    | 2.44                     | 0.47              |
| 4:D:273:ASP:C    | 12:4:48:GLN:HE21 | 2.19                     | 0.47              |
| 4:D:301:GLN:H    | 4:D:301:GLN:CD   | 2.18                     | 0.47              |
| 5:E:31:LEU:HA    | 5:E:34:LEU:HB3   | 1.97                     | 0.47              |
| 5:E:34:LEU:O     | 5:E:37:HIS:N     | 2.48                     | 0.47              |
| 5:E:376:GLN:O    | 5:E:380:SER:OG   | 2.33                     | 0.47              |
| 6:F:229:TYR:N    | 6:F:288:GLY:O    | 2.36                     | 0.47              |
| 6:F:274:ILE:HD11 | 6:F:336:PHE:CZ   | 2.50                     | 0.47              |
| 8:H:144:PRO:HA   | 8:H:147:VAL:HG23 | 1.97                     | 0.47              |
| 8:H:279:GLN:HE21 | 8:H:283:ILE:HD11 | 1.80                     | 0.47              |
| 1:I:31:ILE:HD13  | 3:K:16:ARG:HD3   | 1.96                     | 0.47              |
| 1:I:421:ILE:CG1  | 1:I:468:ARG:HE   | 2.28                     | 0.47              |
| 2:J:200:HIS:HE1  | 2:J:370:ALA:HB1  | 1.79                     | 0.47              |
| 3:K:180:VAL:HA   | 3:K:183:VAL:HG23 | 1.97                     | 0.47              |
| 3:K:223:ASP:HB3  | 3:K:361:THR:CB   | 2.45                     | 0.47              |
| 3:K:231:ARG:HH12 | 3:K:352:ILE:HG21 | 1.80                     | 0.47              |
| 3:K:448:PRO:O    | 3:K:452:ILE:N    | 2.31                     | 0.47              |
| 4:L:63:ASP:N     | 4:L:67:ASP:O     | 2.48                     | 0.47              |
| 5:M:208:LEU:O    | 5:M:382:ALA:HA   | 2.15                     | 0.47              |
| 6:N:216:ALA:N    | 6:N:314:ARG:H    | 2.13                     | 0.47              |
| 8:P:44:ARG:HH22  | 8:P:110:ALA:HB2  | 1.81                     | 0.47              |
| 12:4:40:ILE:HG23 | 12:4:98:ILE:HG23 | 1.98                     | 0.47              |
| 12:4:45:LYS:HD2  | 12:4:48:GLN:OE1  | 2.15                     | 0.47              |
| 1:A:274:ARG:NH2  | 1:A:337:GLU:HG3  | 2.30                     | 0.46              |
| 4:D:45:ALA:O     | 4:D:49:ARG:HG3   | 2.14                     | 0.46              |
| 4:D:63:ASP:O     | 4:D:66:GLY:N     | 2.36                     | 0.46              |
| 4:D:95:SER:HA    | 4:D:109:VAL:HG11 | 1.97                     | 0.46              |
| 4:D:277:ARG:HA   | 4:D:280:ARG:CZ   | 2.46                     | 0.46              |
| 4:D:434:LEU:HD22 | 4:D:481:ARG:O    | 2.15                     | 0.46              |
| 5:E:234:PHE:HE1  | 5:E:241:LYS:HG2  | 1.79                     | 0.46              |
| 5:E:288:MET:O    | 5:E:292:ILE:HD13 | 2.15                     | 0.46              |
| 5:E:387:ILE:HG12 | 5:E:395:ILE:HG13 | 1.96                     | 0.46              |
| 6:F:27:ALA:HB3   | 6:F:28:ARG:NH1   | 2.30                     | 0.46              |
| 6:F:61:ASN:HB2   | 6:F:92:THR:HG21  | 1.97                     | 0.46              |
| 7:G:79:LEU:HA    | 7:G:82:ILE:HD12  | 1.97                     | 0.46              |

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| Atom-1           | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 7:G:83:ALA:O     | 7:G:87:ASP:N      | 2.48                     | 0.46              |
| 7:G:169:SER:O    | 7:G:172:LYS:N     | 2.29                     | 0.46              |
| 7:G:465:ARG:HB3  | 1:I:428:THR:HG23  | 1.96                     | 0.46              |
| 8:H:389:GLU:O    | 8:H:393:ASP:N     | 2.29                     | 0.46              |
| 8:H:410:PRO:HB3  | 8:H:414:ALA:HB3   | 1.97                     | 0.46              |
| 1:I:35:SER:HB3   | 1:I:56:ASN:O      | 2.15                     | 0.46              |
| 1:I:44:MET:O     | 3:K:522:ILE:HA    | 2.15                     | 0.46              |
| 1:I:180:LYS:HG3  | 1:I:370:ARG:HB2   | 1.97                     | 0.46              |
| 3:K:469:LYS:HE2  | 3:K:479:GLY:HA2   | 1.97                     | 0.46              |
| 4:L:445:GLY:O    | 4:L:448:SER:OG    | 2.16                     | 0.46              |
| 4:L:476:THR:HG22 | 4:L:480:LEU:HD12  | 1.97                     | 0.46              |
| 6:N:58:LYS:HD3   | 6:N:161:HIS:N     | 2.29                     | 0.46              |
| 6:N:349:LEU:N    | 6:N:364:GLU:O     | 2.36                     | 0.46              |
| 7:O:462:ASN:HD22 | 7:O:465:ARG:HD3   | 1.81                     | 0.46              |
| 8:P:179:LEU:HD23 | 8:P:182:LEU:HD12  | 1.96                     | 0.46              |
| 10:2:70:CYS:SG   | 10:2:83:VAL:HA    | 2.54                     | 0.46              |
| 13:5:18:LEU:O    | 13:5:22:LEU:HG    | 2.15                     | 0.46              |
| 1:A:101:LEU:O    | 1:A:105:ASP:HB2   | 2.15                     | 0.46              |
| 2:B:463:ALA:O    | 2:B:466:ARG:HB3   | 2.15                     | 0.46              |
| 3:C:80:MET:O     | 3:C:83:ILE:HG13   | 2.15                     | 0.46              |
| 3:C:233:ILE:HG23 | 3:C:236:PRO:HB2   | 1.97                     | 0.46              |
| 4:D:428:PRO:HA   | 4:D:431:GLU:HB2   | 1.97                     | 0.46              |
| 4:D:502:ASN:O    | 4:D:505:GLU:HG2   | 2.15                     | 0.46              |
| 5:E:214:LYS:O    | 5:E:388:ARG:HA    | 2.16                     | 0.46              |
| 6:F:27:ALA:O     | 6:F:30:LEU:HB2    | 2.15                     | 0.46              |
| 6:F:28:ARG:HB2   | 8:H:15:LEU:CD1    | 2.44                     | 0.46              |
| 6:F:46:MET:HG3   | 8:H:521:VAL:HG11  | 1.98                     | 0.46              |
| 7:G:333:SER:OG   | 7:G:335:ASN:O     | 2.19                     | 0.46              |
| 8:H:467:LEU:HA   | 8:H:470:VAL:HG22  | 1.96                     | 0.46              |
| 1:I:42:ASP:HA    | 1:I:56:ASN:HB3    | 1.96                     | 0.46              |
| 1:I:356:ILE:HG23 | 1:I:378:ARG:HH12  | 1.81                     | 0.46              |
| 3:K:291:ILE:HG22 | 3:K:312:ILE:HB    | 1.98                     | 0.46              |
| 3:K:424:GLU:O    | 3:K:427:LYS:HB2   | 2.15                     | 0.46              |
| 4:L:205:LEU:HD22 | 4:L:406:HIS:CE1   | 2.51                     | 0.46              |
| 4:L:257:LYS:HE2  | 4:L:275:VAL:HB    | 1.97                     | 0.46              |
| 4:L:361:LEU:O    | 4:L:376:ILE:HA    | 2.15                     | 0.46              |
| 8:P:43:THR:HG23  | 8:P:44:ARG:HG3    | 1.97                     | 0.46              |
| 8:P:100:GLY:N    | 8:P:171:LYS:HZ1   | 2.13                     | 0.46              |
| 11:3:67:LEU:HB2  | 11:3:162:LEU:HD12 | 1.97                     | 0.46              |
| 13:5:25:GLU:OE1  | 13:5:124:LYS:HD2  | 2.16                     | 0.46              |
| 1:A:334:LEU:HG   | 1:A:336:GLY:H     | 1.80                     | 0.46              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:386:ALA:O    | 2:B:390:LEU:N    | 2.48                     | 0.46              |
| 3:C:202:GLU:HG3  | 3:C:219:MET:SD   | 2.56                     | 0.46              |
| 3:C:434:GLN:HG3  | 3:C:435:TRP:N    | 2.30                     | 0.46              |
| 4:D:122:LYS:O    | 4:D:126:LYS:HG2  | 2.15                     | 0.46              |
| 4:D:167:ALA:O    | 4:D:171:LEU:HG   | 2.15                     | 0.46              |
| 4:D:209:LYS:HD2  | 4:D:335:PHE:CD2  | 2.51                     | 0.46              |
| 4:D:280:ARG:NH2  | 12:4:51:GLU:HB3  | 2.31                     | 0.46              |
| 4:D:283:ILE:HG13 | 4:D:284:LEU:N    | 2.31                     | 0.46              |
| 4:D:287:VAL:HG22 | 4:D:317:LEU:HB2  | 1.98                     | 0.46              |
| 4:D:296:ASN:O    | 4:D:323:MET:N    | 2.37                     | 0.46              |
| 4:D:337:CYS:HA   | 4:D:342:THR:O    | 2.14                     | 0.46              |
| 4:D:363:GLU:O    | 4:D:375:LYS:N    | 2.24                     | 0.46              |
| 5:E:225:ILE:HG21 | 5:E:229:ILE:HG23 | 1.97                     | 0.46              |
| 5:E:308:ASP:OD1  | 5:E:324:TRP:NE1  | 2.48                     | 0.46              |
| 7:G:278:LEU:HA   | 7:G:334:VAL:HG21 | 1.98                     | 0.46              |
| 8:H:53:ASN:HA    | 8:H:67:ASN:HD21  | 1.81                     | 0.46              |
| 8:H:203:ARG:HG2  | 8:H:204:VAL:N    | 2.31                     | 0.46              |
| 8:H:218:LEU:N    | 8:H:374:THR:O    | 2.48                     | 0.46              |
| 8:H:220:GLY:HA2  | 8:H:364:LYS:HA   | 1.96                     | 0.46              |
| 1:I:124:ALA:HB1  | 1:I:423:LEU:HD23 | 1.97                     | 0.46              |
| 2:J:123:PRO:O    | 2:J:127:ILE:HG12 | 2.14                     | 0.46              |
| 2:J:516:ARG:HB3  | 5:M:58:ASP:H     | 1.80                     | 0.46              |
| 3:K:156:ILE:HG23 | 3:K:173:CYS:SG   | 2.56                     | 0.46              |
| 3:K:287:PRO:HD2  | 3:K:309:ILE:HD13 | 1.97                     | 0.46              |
| 3:K:316:ARG:HH21 | 3:K:322:ARG:NH2  | 2.13                     | 0.46              |
| 4:L:178:GLN:HG3  | 4:L:179:TYR:N    | 2.30                     | 0.46              |
| 4:L:248:LEU:CA   | 4:L:299:LEU:HB2  | 2.46                     | 0.46              |
| 5:M:247:LYS:HA   | 5:M:353:LEU:HD13 | 1.98                     | 0.46              |
| 6:N:142:GLU:H    | 6:N:147:THR:HG21 | 1.80                     | 0.46              |
| 7:O:136:ILE:HD13 | 7:O:499:ARG:HD3  | 1.97                     | 0.46              |
| 7:O:224:GLY:HA3  | 7:O:227:MET:HG2  | 1.97                     | 0.46              |
| 7:O:303:PHE:O    | 7:O:307:ASP:N    | 2.24                     | 0.46              |
| 8:P:351:TYR:HE2  | 8:P:364:LYS:HB2  | 1.80                     | 0.46              |
| 8:P:446:GLU:HB3  | 8:P:464:ILE:HG12 | 1.97                     | 0.46              |
| 10:2:34:ARG:NH1  | 13:5:20:ASN:HB3  | 2.29                     | 0.46              |
| 12:4:68:PRO:HB2  | 12:4:75:PHE:HB3  | 1.97                     | 0.46              |
| 1:A:188:PRO:HB3  | 1:A:370:ARG:CZ   | 2.45                     | 0.46              |
| 1:A:377:LEU:HD13 | 1:A:388:MET:HB3  | 1.97                     | 0.46              |
| 2:B:490:ILE:HA   | 2:B:494:THR:HB   | 1.98                     | 0.46              |
| 3:C:67:LEU:HD23  | 3:C:70:ILE:HD11  | 1.97                     | 0.46              |
| 3:C:218:VAL:HG12 | 3:C:220:ILE:HD13 | 1.97                     | 0.46              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 4:D:299:LEU:HD21 | 4:D:336:ILE:HG21 | 1.96                     | 0.46              |
| 5:E:116:LEU:O    | 5:E:119:GLU:HB2  | 2.16                     | 0.46              |
| 5:E:162:THR:O    | 5:E:166:ILE:HG13 | 2.16                     | 0.46              |
| 6:F:16:ALA:HA    | 6:F:519:ASP:HB3  | 1.96                     | 0.46              |
| 6:F:59:ASP:HA    | 6:F:159:LYS:HE3  | 1.96                     | 0.46              |
| 6:F:169:THR:O    | 6:F:173:VAL:HG22 | 2.16                     | 0.46              |
| 6:F:389:ASP:OD1  | 6:F:390:ALA:N    | 2.49                     | 0.46              |
| 1:I:239:PHE:HE1  | 1:I:334:LEU:HA   | 1.81                     | 0.46              |
| 1:I:380:ALA:HB3  | 1:I:384:MET:HE1  | 1.96                     | 0.46              |
| 3:K:400:ASN:HD22 | 3:K:498:PRO:HB3  | 1.80                     | 0.46              |
| 4:L:117:LEU:HA   | 4:L:120:CYS:SG   | 2.55                     | 0.46              |
| 5:M:35:LYS:HA    | 5:M:38:ILE:HG22  | 1.96                     | 0.46              |
| 5:M:182:HIS:CD2  | 5:M:185:MET:SD   | 3.09                     | 0.46              |
| 5:M:218:ARG:NH1  | 5:M:220:GLU:HB2  | 2.30                     | 0.46              |
| 5:M:229:ILE:HG12 | 5:M:371:MET:HB3  | 1.97                     | 0.46              |
| 6:N:320:ASN:O    | 6:N:324:LEU:N    | 2.47                     | 0.46              |
| 7:O:325:ALA:HA   | 7:O:366:LYS:HB2  | 1.96                     | 0.46              |
| 7:O:522:ASN:OD1  | 8:P:58:ASN:HA    | 2.16                     | 0.46              |
| 10:2:34:ARG:HG2  | 10:2:38:ARG:HH12 | 1.80                     | 0.46              |
| 13:5:60:LYS:O    | 13:5:75:LYS:HA   | 2.15                     | 0.46              |
| 1:A:145:ARG:HG3  | 1:A:504:PHE:CB   | 2.42                     | 0.46              |
| 2:B:106:ALA:O    | 2:B:110:LEU:HG   | 2.15                     | 0.46              |
| 2:B:218:PHE:CD2  | 2:B:323:LEU:HD13 | 2.50                     | 0.46              |
| 2:B:462:VAL:O    | 2:B:466:ARG:N    | 2.27                     | 0.46              |
| 3:C:273:GLU:HA   | 3:C:276:GLN:HB3  | 1.97                     | 0.46              |
| 3:C:430:THR:HA   | 3:C:434:GLN:OE1  | 2.16                     | 0.46              |
| 3:C:459:THR:O    | 3:C:463:LEU:N    | 2.27                     | 0.46              |
| 4:D:183:LEU:O    | 4:D:187:SER:N    | 2.39                     | 0.46              |
| 4:D:479:GLU:O    | 4:D:483:ARG:HG2  | 2.15                     | 0.46              |
| 6:F:109:TYR:CE2  | 6:F:439:ALA:HB2  | 2.49                     | 0.46              |
| 6:F:392:ARG:HA   | 6:F:395:LEU:HD12 | 1.97                     | 0.46              |
| 6:F:449:LYS:HB3  | 6:F:463:LEU:HD11 | 1.98                     | 0.46              |
| 7:G:129:THR:HA   | 7:G:438:TYR:OH   | 2.16                     | 0.46              |
| 7:G:163:LEU:HD21 | 7:G:389:LEU:HD23 | 1.97                     | 0.46              |
| 7:G:254:GLU:O    | 7:G:266:ILE:HG12 | 2.15                     | 0.46              |
| 7:G:521:LYS:HG2  | 8:H:57:ILE:HD12  | 1.98                     | 0.46              |
| 8:H:410:PRO:HB3  | 8:H:474:GLY:O    | 2.16                     | 0.46              |
| 2:J:192:GLY:HA2  | 2:J:401:VAL:HG21 | 1.96                     | 0.46              |
| 2:J:244:MET:HB2  | 2:J:247:ASP:O    | 2.16                     | 0.46              |
| 2:J:396:VAL:O    | 2:J:400:THR:N    | 2.48                     | 0.46              |
| 3:K:320:ASN:O    | 3:K:324:ALA:N    | 2.32                     | 0.46              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 4:L:33:ILE:HA    | 4:L:36:SER:HB2   | 1.97                     | 0.46              |
| 5:M:60:MET:HG3   | 5:M:68:VAL:CG2   | 2.45                     | 0.46              |
| 5:M:176:LYS:HE2  | 5:M:400:ARG:CD   | 2.46                     | 0.46              |
| 5:M:302:CYS:SG   | 5:M:306:PHE:HE1  | 2.38                     | 0.46              |
| 6:N:278:LYS:HG3  | 6:N:282:CYS:HB2  | 1.97                     | 0.46              |
| 8:P:168:ILE:O    | 8:P:172:GLN:N    | 2.48                     | 0.46              |
| 8:P:505:TYR:CZ   | 8:P:509:LYS:HD3  | 2.51                     | 0.46              |
| 1:A:413:GLY:HA3  | 1:A:488:LEU:HD23 | 1.97                     | 0.46              |
| 1:A:420:SER:HB2  | 1:A:446:LEU:HD21 | 1.98                     | 0.46              |
| 1:A:498:ASN:HA   | 1:A:502:GLY:CA   | 2.45                     | 0.46              |
| 2:B:139:GLU:HA   | 2:B:142:LEU:HB2  | 1.98                     | 0.46              |
| 3:C:168:TRP:CG   | 3:C:387:VAL:HG22 | 2.50                     | 0.46              |
| 4:D:205:LEU:HG   | 4:D:413:ARG:HD2  | 1.96                     | 0.46              |
| 4:D:280:ARG:HD3  | 12:4:55:ASP:HB2  | 1.96                     | 0.46              |
| 4:D:284:LEU:HD21 | 12:4:84:GLN:NE2  | 2.20                     | 0.46              |
| 4:D:474:ILE:HG23 | 5:M:126:ARG:NH1  | 2.31                     | 0.46              |
| 5:E:494:LEU:HD23 | 5:E:496:LYS:HE2  | 1.97                     | 0.46              |
| 7:G:180:VAL:HA   | 7:G:183:VAL:HB   | 1.96                     | 0.46              |
| 7:G:456:ASP:CG   | 1:I:433:ARG:HH22 | 2.19                     | 0.46              |
| 1:I:222:SER:HB3  | 1:I:310:ARG:NH1  | 2.31                     | 0.46              |
| 1:I:237:LEU:N    | 1:I:287:LEU:O    | 2.49                     | 0.46              |
| 2:J:91:GLN:OE1   | 2:J:506:SER:HB2  | 2.15                     | 0.46              |
| 2:J:110:LEU:HD11 | 2:J:514:ILE:HD11 | 1.98                     | 0.46              |
| 2:J:291:ILE:O    | 2:J:291:ILE:HG13 | 2.14                     | 0.46              |
| 5:M:78:LEU:HB3   | 5:M:92:VAL:HA    | 1.98                     | 0.46              |
| 5:M:158:ASP:OD1  | 5:M:159:ILE:N    | 2.48                     | 0.46              |
| 5:M:177:VAL:HG12 | 5:M:177:VAL:O    | 2.16                     | 0.46              |
| 5:M:336:ALA:O    | 5:M:380:SER:HA   | 2.15                     | 0.46              |
| 7:O:124:ALA:HB3  | 7:O:434:LEU:HD23 | 1.96                     | 0.46              |
| 7:O:239:LEU:HB2  | 7:O:329:SER:O    | 2.15                     | 0.46              |
| 8:P:36:CYS:O     | 8:P:40:ALA:N     | 2.49                     | 0.46              |
| 8:P:507:ALA:O    | 8:P:511:ALA:N    | 2.40                     | 0.46              |
| 10:2:35:GLN:NE2  | 13:5:23:ASP:OD2  | 2.46                     | 0.46              |
| 11:3:112:TYR:CD2 | 13:5:83:LEU:HD22 | 2.50                     | 0.46              |
| 14:6:67:GLN:OE1  | 14:6:71:GLU:HB3  | 2.16                     | 0.46              |
| 1:A:104:ALA:HA   | 1:A:107:LEU:HD12 | 1.96                     | 0.46              |
| 1:A:239:PHE:HD2  | 1:A:328:LEU:HD21 | 1.78                     | 0.46              |
| 2:B:68:ALA:HB2   | 2:B:99:THR:HG21  | 1.96                     | 0.46              |
| 2:B:171:LEU:O    | 2:B:172:LEU:HB3  | 2.16                     | 0.46              |
| 2:B:220:LEU:N    | 2:B:360:ILE:O    | 2.46                     | 0.46              |
| 2:B:243:GLY:HA3  | 2:B:248:LYS:HE2  | 1.98                     | 0.46              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:397:LEU:O    | 2:B:401:VAL:HG23 | 2.16                     | 0.46              |
| 3:C:204:ILE:H    | 3:C:384:LEU:HD11 | 1.81                     | 0.46              |
| 3:C:481:ASN:O    | 3:C:485:GLY:N    | 2.47                     | 0.46              |
| 4:D:31:ALA:HB1   | 4:D:35:PHE:CE2   | 2.50                     | 0.46              |
| 4:D:111:ILE:HG22 | 4:D:461:ILE:HG13 | 1.98                     | 0.46              |
| 4:D:130:PRO:HA   | 4:D:133:ILE:HB   | 1.97                     | 0.46              |
| 4:D:205:LEU:HD22 | 4:D:409:LEU:HB3  | 1.98                     | 0.46              |
| 4:D:211:VAL:O    | 4:D:390:VAL:HG22 | 2.15                     | 0.46              |
| 5:E:26:SER:H     | 5:E:537:GLY:HA2  | 1.80                     | 0.46              |
| 5:E:170:LYS:O    | 5:E:174:GLY:N    | 2.47                     | 0.46              |
| 5:E:425:ALA:O    | 5:E:429:CYS:N    | 2.28                     | 0.46              |
| 6:F:38:LEU:O     | 6:F:42:GLY:N     | 2.49                     | 0.46              |
| 6:F:280:LYS:CD   | 6:F:338:ASP:HB3  | 2.46                     | 0.46              |
| 7:G:57:THR:HB    | 7:G:68:LEU:CD1   | 2.43                     | 0.46              |
| 7:G:221:SER:HA   | 7:G:225:PHE:CG   | 2.50                     | 0.46              |
| 7:G:516:VAL:HG22 | 8:H:53:ASN:C     | 2.35                     | 0.46              |
| 8:H:140:HIS:CE1  | 8:H:509:LYS:HB2  | 2.50                     | 0.46              |
| 1:I:66:GLU:HB2   | 3:K:13:ASN:HA    | 1.98                     | 0.46              |
| 1:I:163:ILE:HG13 | 1:I:206:MET:HE2  | 1.97                     | 0.46              |
| 1:I:185:ARG:HE   | 1:I:189:ARG:NE   | 2.13                     | 0.46              |
| 2:J:125:THR:HG23 | 2:J:432:GLU:HG2  | 1.97                     | 0.46              |
| 3:K:38:ARG:HG3   | 3:K:100:ILE:HD12 | 1.96                     | 0.46              |
| 3:K:113:LEU:HD11 | 3:K:439:ALA:HB3  | 1.96                     | 0.46              |
| 3:K:153:LEU:HG   | 3:K:157:ASN:ND2  | 2.31                     | 0.46              |
| 3:K:206:GLY:N    | 3:K:381:LYS:HD3  | 2.30                     | 0.46              |
| 3:K:376:LEU:HD12 | 3:K:376:LEU:O    | 2.16                     | 0.46              |
| 4:L:61:ILE:O     | 4:L:69:THR:N     | 2.49                     | 0.46              |
| 4:L:74:GLY:HA2   | 4:L:77:ILE:HB    | 1.97                     | 0.46              |
| 4:L:159:ASP:HB3  | 4:L:162:THR:OG1  | 2.15                     | 0.46              |
| 4:L:517:SER:O    | 4:L:521:LEU:HG   | 2.15                     | 0.46              |
| 5:M:98:GLN:HE22  | 5:M:516:GLN:CG   | 2.29                     | 0.46              |
| 5:M:285:PHE:CZ   | 7:O:263:TYR:HE2  | 2.34                     | 0.46              |
| 6:N:122:GLY:C    | 6:N:436:GLY:HA3  | 2.36                     | 0.46              |
| 6:N:133:PHE:O    | 6:N:137:VAL:N    | 2.41                     | 0.46              |
| 7:O:174:PHE:O    | 7:O:177:LYS:NZ   | 2.46                     | 0.46              |
| 7:O:329:SER:HB2  | 7:O:341:VAL:HA   | 1.98                     | 0.46              |
| 8:P:177:VAL:O    | 8:P:181:LYS:HG2  | 2.16                     | 0.46              |
| 9:1:30:ALA:HA    | 9:1:33:GLN:HB2   | 1.97                     | 0.46              |
| 13:5:41:THR:O    | 13:5:45:GLU:N    | 2.39                     | 0.46              |
| 1:A:145:ARG:HA   | 1:A:504:PHE:CD2  | 2.51                     | 0.46              |
| 2:B:71:LEU:HB3   | 2:B:85:VAL:HG22  | 1.97                     | 0.46              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:259:ASP:HB2  | 2:B:263:LYS:HG2  | 1.97                     | 0.46              |
| 5:E:71:THR:OG1   | 5:E:77:ILE:HD13  | 2.15                     | 0.46              |
| 5:E:153:ASP:OD1  | 5:E:418:VAL:HG23 | 2.15                     | 0.46              |
| 5:E:166:ILE:HG12 | 5:E:187:GLU:OE2  | 2.16                     | 0.46              |
| 5:E:257:PRO:HB2  | 5:E:306:PHE:CZ   | 2.51                     | 0.46              |
| 5:E:359:VAL:HG12 | 5:E:374:ILE:HG23 | 1.98                     | 0.46              |
| 6:F:352:GLU:OE2  | 6:F:359:LYS:HD2  | 2.15                     | 0.46              |
| 6:F:415:GLU:HG3  | 6:F:444:LEU:O    | 2.15                     | 0.46              |
| 7:G:155:LEU:HB3  | 7:G:180:VAL:HG22 | 1.97                     | 0.46              |
| 8:H:52:MET:HE3   | 8:H:54:LYS:HE3   | 1.96                     | 0.46              |
| 8:H:90:SER:O     | 8:H:93:GLN:HB3   | 2.16                     | 0.46              |
| 8:H:118:LEU:HB3  | 8:H:123:LEU:HD12 | 1.98                     | 0.46              |
| 8:H:354:GLU:HA   | 8:H:358:THR:O    | 2.15                     | 0.46              |
| 1:I:297:LEU:O    | 1:I:301:VAL:HG23 | 2.15                     | 0.46              |
| 2:J:19:GLU:HB3   | 2:J:520:ILE:HB   | 1.97                     | 0.46              |
| 2:J:78:ASN:HB3   | 2:J:81:ALA:HB3   | 1.98                     | 0.46              |
| 2:J:194:GLY:O    | 2:J:195:ASN:ND2  | 2.49                     | 0.46              |
| 4:L:139:LYS:HE3  | 4:L:143:LYS:HD3  | 1.97                     | 0.46              |
| 4:L:175:VAL:HG11 | 4:L:400:GLU:HA   | 1.97                     | 0.46              |
| 4:L:231:GLN:NE2  | 4:L:233:VAL:HG22 | 2.30                     | 0.46              |
| 4:L:296:ASN:O    | 4:L:323:MET:N    | 2.33                     | 0.46              |
| 5:M:75:ALA:HB2   | 5:M:106:THR:HG21 | 1.98                     | 0.46              |
| 5:M:205:ASP:O    | 5:M:208:LEU:N    | 2.48                     | 0.46              |
| 6:N:109:TYR:HB3  | 6:N:435:LEU:HD22 | 1.97                     | 0.46              |
| 6:N:142:GLU:N    | 6:N:147:THR:HG21 | 2.31                     | 0.46              |
| 6:N:488:VAL:HG22 | 6:N:491:GLU:H    | 1.80                     | 0.46              |
| 7:O:130:GLN:HA   | 7:O:133:VAL:HG22 | 1.98                     | 0.46              |
| 7:O:177:LYS:O    | 7:O:180:VAL:HB   | 2.16                     | 0.46              |
| 8:P:41:GLN:O     | 8:P:45:THR:HG22  | 2.16                     | 0.46              |
| 8:P:427:GLY:O    | 8:P:439:LYS:NZ   | 2.48                     | 0.46              |
| 12:4:20:GLN:NE2  | 12:4:122:LYS:O   | 2.49                     | 0.46              |
| 1:A:145:ARG:HH21 | 1:A:398:VAL:HA   | 1.79                     | 0.46              |
| 1:A:243:LYS:HG3  | 1:A:295:MET:SD   | 2.56                     | 0.46              |
| 1:A:478:PRO:HA   | 1:A:486:ILE:HG12 | 1.97                     | 0.46              |
| 2:B:411:GLY:HA2  | 2:B:447:PRO:HG3  | 1.98                     | 0.46              |
| 3:C:37:ILE:O     | 3:C:41:LEU:N     | 2.49                     | 0.46              |
| 3:C:136:THR:HB   | 3:C:418:VAL:HG22 | 1.98                     | 0.46              |
| 3:C:326:ALA:HB1  | 3:C:363:ILE:HB   | 1.98                     | 0.46              |
| 3:C:464:THR:O    | 3:C:467:ARG:HB2  | 2.16                     | 0.46              |
| 3:C:515:LEU:HB2  | 3:C:518:ARG:HH21 | 1.81                     | 0.46              |
| 4:D:144:GLY:HA2  | 4:D:436:LEU:CD2  | 2.46                     | 0.46              |

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| Atom-1           | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 4:D:516:VAL:HA   | 4:D:519:LEU:HD12  | 1.97                     | 0.46              |
| 6:F:31:GLN:HE22  | 6:F:100:GLY:N     | 2.13                     | 0.46              |
| 6:F:148:LEU:HD13 | 6:F:176:ILE:HD12  | 1.96                     | 0.46              |
| 6:F:179:ILE:HD13 | 6:F:189:PHE:O     | 2.16                     | 0.46              |
| 7:G:349:GLU:O    | 7:G:360:PHE:N     | 2.30                     | 0.46              |
| 8:H:87:VAL:HB    | 8:H:91:HIS:CE1    | 2.51                     | 0.46              |
| 8:H:225:LYS:O    | 8:H:361:VAL:HG23  | 2.16                     | 0.46              |
| 8:H:292:VAL:HG12 | 8:H:316:ASN:OD1   | 2.16                     | 0.46              |
| 1:I:452:LEU:HD13 | 1:I:490:LEU:HD21  | 1.97                     | 0.46              |
| 3:K:181:LYS:HE3  | 3:K:402:LEU:HD13  | 1.97                     | 0.46              |
| 5:M:410:ARG:HG2  | 5:M:414:ARG:HE    | 1.81                     | 0.46              |
| 6:N:35:ARG:HH11  | 6:N:104:LYS:NZ    | 2.14                     | 0.46              |
| 6:N:480:ASP:N    | 6:N:485:GLU:O     | 2.46                     | 0.46              |
| 7:O:21:GLN:HG2   | 7:O:519:THR:H     | 1.81                     | 0.46              |
| 7:O:36:VAL:HG12  | 7:O:62:GLY:HA3    | 1.98                     | 0.46              |
| 7:O:163:LEU:HA   | 7:O:388:SER:HB3   | 1.96                     | 0.46              |
| 8:P:243:SER:HA   | 8:P:294:GLY:HA3   | 1.98                     | 0.46              |
| 9:1:100:TYR:HA   | 9:1:103:ARG:HH11  | 1.79                     | 0.46              |
| 12:4:33:ILE:HG12 | 12:4:108:ILE:HG23 | 1.97                     | 0.46              |
| 1:A:194:SER:HA   | 1:A:400:LYS:HD2   | 1.96                     | 0.46              |
| 1:A:210:LEU:HD12 | 1:A:374:SER:C     | 2.36                     | 0.46              |
| 1:A:359:ASP:HB3  | 1:A:361:LEU:HG    | 1.97                     | 0.46              |
| 2:B:46:LYS:HD3   | 2:B:480:MET:O     | 2.16                     | 0.46              |
| 2:B:127:ILE:HG22 | 2:B:131:ARG:HG3   | 1.98                     | 0.46              |
| 3:C:203:LYS:HG2  | 3:C:381:LYS:HE2   | 1.98                     | 0.46              |
| 3:C:234:LYS:HE3  | 3:C:351:GLU:HG2   | 1.97                     | 0.46              |
| 4:D:482:ASN:ND2  | 5:M:438:ASP:O     | 2.49                     | 0.46              |
| 5:E:201:ARG:NH2  | 5:E:205:ASP:OD1   | 2.32                     | 0.46              |
| 5:E:211:VAL:HG22 | 5:E:385:ILE:HD11  | 1.96                     | 0.46              |
| 5:E:360:GLN:HE21 | 5:E:373:VAL:HG11  | 1.80                     | 0.46              |
| 5:E:524:VAL:O    | 5:E:527:ILE:HG12  | 2.16                     | 0.46              |
| 6:F:46:MET:HA    | 6:F:56:LEU:HA     | 1.98                     | 0.46              |
| 6:F:205:SER:O    | 6:F:375:LEU:N     | 2.49                     | 0.46              |
| 6:F:497:ASN:HB2  | 6:F:500:VAL:HG23  | 1.98                     | 0.46              |
| 7:G:171:GLN:HB3  | 7:G:175:PHE:CZ    | 2.51                     | 0.46              |
| 7:G:246:LEU:HD11 | 7:G:247:LYS:NZ    | 2.30                     | 0.46              |
| 8:H:435:GLN:C    | 8:H:439:LYS:HZ3   | 2.18                     | 0.46              |
| 8:H:474:GLY:O    | 8:H:493:LEU:HB2   | 2.16                     | 0.46              |
| 1:I:124:ALA:O    | 1:I:128:ALA:N     | 2.48                     | 0.46              |
| 1:I:150:ASN:OD1  | 1:I:154:THR:OG1   | 2.17                     | 0.46              |
| 1:I:400:LYS:HA   | 1:I:403:LEU:HB2   | 1.97                     | 0.46              |

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| Atom-1           | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 1:I:533:LEU:HD23 | 4:L:82:GLN:H      | 1.81                     | 0.46              |
| 2:J:216:GLU:OE1  | 2:J:366:ALA:HA    | 2.17                     | 0.46              |
| 2:J:298:ASN:ND2  | 4:L:250:GLN:HB2   | 2.31                     | 0.46              |
| 4:L:38:ILE:O     | 4:L:42:LYS:HB2    | 2.16                     | 0.46              |
| 4:L:170:SER:O    | 4:L:174:LYS:N     | 2.40                     | 0.46              |
| 4:L:205:LEU:HD22 | 4:L:406:HIS:HE1   | 1.81                     | 0.46              |
| 4:L:208:ILE:HG21 | 4:L:409:LEU:HD13  | 1.98                     | 0.46              |
| 4:L:249:ILE:HG22 | 4:L:345:VAL:HG22  | 1.98                     | 0.46              |
| 5:M:109:VAL:HB   | 5:M:516:GLN:HG2   | 1.97                     | 0.46              |
| 7:O:231:LYS:NZ   | 7:O:349:GLU:HB2   | 2.30                     | 0.46              |
| 8:P:418:GLU:CG   | 8:P:473:GLU:HB3   | 2.46                     | 0.46              |
| 11:3:98:THR:OG1  | 11:3:137:ILE:HD12 | 2.16                     | 0.46              |
| 1:A:15:GLU:HA    | 1:A:18:ARG:HB2    | 1.98                     | 0.45              |
| 1:A:186:GLY:N    | 1:A:322:ALA:HA    | 2.31                     | 0.45              |
| 1:A:292:ILE:HG22 | 1:A:297:LEU:HB2   | 1.98                     | 0.45              |
| 2:B:52:LEU:HD13  | 2:B:73:ASN:HD21   | 1.80                     | 0.45              |
| 3:C:297:SER:O    | 3:C:301:GLN:HG2   | 2.16                     | 0.45              |
| 4:D:250:GLN:HG2  | 4:D:330:ARG:NH1   | 2.31                     | 0.45              |
| 5:E:147:HIS:HA   | 5:E:150:LYS:NZ    | 2.30                     | 0.45              |
| 5:E:398:ALA:O    | 5:E:401:SER:HB2   | 2.16                     | 0.45              |
| 6:F:34:LEU:O     | 6:F:38:LEU:N      | 2.49                     | 0.45              |
| 6:F:145:ARG:HH12 | 6:F:174:ASP:HA    | 1.81                     | 0.45              |
| 7:G:37:ARG:NH1   | 7:G:448:GLN:HG2   | 2.32                     | 0.45              |
| 7:G:192:LEU:HB2  | 7:G:196:GLY:H     | 1.81                     | 0.45              |
| 7:G:214:VAL:CG1  | 7:G:369:THR:HG21  | 2.46                     | 0.45              |
| 8:H:108:ALA:HA   | 8:H:111:LEU:HB3   | 1.97                     | 0.45              |
| 8:H:217:VAL:HG22 | 8:H:375:ILE:HD13  | 1.98                     | 0.45              |
| 1:I:22:VAL:HG12  | 1:I:101:LEU:HD12  | 1.98                     | 0.45              |
| 1:I:487:GLY:O    | 1:I:495:PRO:HB3   | 2.17                     | 0.45              |
| 2:J:18:GLU:HA    | 2:J:521:ILE:HA    | 1.97                     | 0.45              |
| 2:J:50:LYS:HD2   | 4:L:533:ASP:OD1   | 2.16                     | 0.45              |
| 2:J:174:HIS:HB3  | 2:J:210:ALA:O     | 2.17                     | 0.45              |
| 2:J:428:THR:HB   | 2:J:429:PRO:HD3   | 1.96                     | 0.45              |
| 3:K:244:SER:HA   | 3:K:285:LEU:HD12  | 1.96                     | 0.45              |
| 4:L:246:ILE:HB   | 4:L:359:ALA:HB2   | 1.98                     | 0.45              |
| 5:M:143:VAL:HG11 | 5:M:436:GLU:OE1   | 2.16                     | 0.45              |
| 5:M:222:THR:HG23 | 5:M:387:ILE:HA    | 1.98                     | 0.45              |
| 6:N:221:MET:HE2  | 6:N:312:ALA:HB3   | 1.98                     | 0.45              |
| 6:N:228:ALA:HB3  | 6:N:347:ALA:O     | 2.16                     | 0.45              |
| 7:O:216:PHE:CD1  | 7:O:318:ASP:HB3   | 2.50                     | 0.45              |
| 7:O:279:GLU:OE2  | 7:O:306:ARG:NH1   | 2.49                     | 0.45              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 8:P:445:PHE:HE1  | 8:P:508:ILE:HD12 | 1.81                     | 0.45              |
| 9:1:69:ILE:HA    | 13:5:62:LEU:HA   | 1.98                     | 0.45              |
| 12:4:71:ILE:HG13 | 12:4:74:VAL:HG23 | 1.98                     | 0.45              |
| 12:4:89:GLU:HA   | 12:4:92:LYS:HB3  | 1.97                     | 0.45              |
| 2:B:42:THR:HB    | 2:B:65:ASN:C     | 2.36                     | 0.45              |
| 3:C:20:ARG:HA    | 3:C:23:GLN:HB2   | 1.97                     | 0.45              |
| 3:C:44:LYS:O     | 6:F:117:ARG:NH2  | 2.49                     | 0.45              |
| 3:C:196:LYS:HB2  | 3:C:399:ARG:HD3  | 1.97                     | 0.45              |
| 4:D:302:LYS:N    | 4:D:305:LEU:HB2  | 2.31                     | 0.45              |
| 4:D:469:ALA:HB3  | 4:D:498:GLY:HA3  | 1.98                     | 0.45              |
| 4:D:483:ARG:HH12 | 5:M:441:PRO:CB   | 2.29                     | 0.45              |
| 6:F:43:THR:HA    | 8:H:520:ARG:CZ   | 2.46                     | 0.45              |
| 6:F:133:PHE:CE2  | 6:F:137:VAL:HB   | 2.51                     | 0.45              |
| 6:F:225:VAL:HG13 | 6:F:288:GLY:HA3  | 1.99                     | 0.45              |
| 6:F:270:ARG:HA   | 6:F:273:LYS:HD2  | 1.97                     | 0.45              |
| 7:G:86:GLN:HE22  | 7:G:501:ASN:HB3  | 1.81                     | 0.45              |
| 7:G:425:ARG:HH22 | 1:I:422:TYR:HA   | 1.81                     | 0.45              |
| 7:G:452:ASN:HB3  | 7:G:479:ILE:HG13 | 1.98                     | 0.45              |
| 8:H:53:ASN:C     | 8:H:54:LYS:HD2   | 2.37                     | 0.45              |
| 8:H:353:SER:HB2  | 8:H:362:VAL:HG21 | 1.97                     | 0.45              |
| 1:I:235:ALA:HB3  | 1:I:286:ILE:HA   | 1.98                     | 0.45              |
| 1:I:264:ARG:NE   | 3:K:247:TYR:OH   | 2.40                     | 0.45              |
| 2:J:92:ASP:CB    | 2:J:99:THR:HG23  | 2.46                     | 0.45              |
| 2:J:488:MET:SD   | 2:J:493:ILE:HB   | 2.56                     | 0.45              |
| 3:K:478:TRP:HE3  | 3:K:489:ASP:HB2  | 1.80                     | 0.45              |
| 6:N:224:ARG:HD2  | 6:N:349:LEU:HD22 | 1.97                     | 0.45              |
| 6:N:358:GLU:HB2  | 6:N:360:PHE:CZ   | 2.51                     | 0.45              |
| 6:N:433:ALA:O    | 6:N:437:VAL:HG13 | 2.16                     | 0.45              |
| 6:N:512:ALA:O    | 6:N:516:LEU:HG   | 2.17                     | 0.45              |
| 7:O:200:VAL:HG21 | 7:O:353:ILE:O    | 2.17                     | 0.45              |
| 7:O:378:ALA:O    | 7:O:382:MET:HB2  | 2.16                     | 0.45              |
| 8:P:135:ALA:O    | 8:P:139:ALA:N    | 2.43                     | 0.45              |
| 8:P:327:THR:HG23 | 8:P:328:VAL:N    | 2.30                     | 0.45              |
| 8:P:417:ILE:HD12 | 8:P:467:LEU:HB3  | 1.99                     | 0.45              |
| 10:2:59:ASP:O    | 10:2:63:GLU:HB2  | 2.16                     | 0.45              |
| 12:4:22:LYS:O    | 12:4:26:PHE:N    | 2.43                     | 0.45              |
| 12:4:43:LYS:NZ   | 12:4:97:GLU:OE1  | 2.49                     | 0.45              |
| 1:A:200:ALA:O    | 1:A:378:ARG:HA   | 2.16                     | 0.45              |
| 1:A:410:PRO:HB2  | 1:A:486:ILE:CD1  | 2.44                     | 0.45              |
| 3:C:83:ILE:HG12  | 3:C:512:THR:HG21 | 1.98                     | 0.45              |
| 4:D:52:LEU:HD23  | 4:D:465:LEU:HB2  | 1.98                     | 0.45              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 4:D:436:LEU:HB2  | 4:D:455:ALA:CB   | 2.45                     | 0.45              |
| 4:D:490:THR:HG23 | 4:D:491:ALA:N    | 2.31                     | 0.45              |
| 5:E:29:MET:H     | 5:E:32:GLU:HB2   | 1.81                     | 0.45              |
| 5:E:52:LEU:HB3   | 5:E:462:LEU:HD12 | 1.98                     | 0.45              |
| 5:E:492:ASP:HB3  | 5:E:499:ASN:HD22 | 1.80                     | 0.45              |
| 6:F:131:LEU:HD12 | 6:F:505:LEU:HD13 | 1.99                     | 0.45              |
| 6:F:298:ASP:O    | 6:F:302:LEU:HG   | 2.17                     | 0.45              |
| 7:G:275:TYR:CE2  | 7:G:279:GLU:HG3  | 2.52                     | 0.45              |
| 1:I:244:THR:HG23 | 3:K:247:TYR:CZ   | 2.52                     | 0.45              |
| 2:J:245:ASP:OD1  | 2:J:294:GLN:HB3  | 2.16                     | 0.45              |
| 3:K:132:ASP:HA   | 3:K:135:SER:HB2  | 1.97                     | 0.45              |
| 3:K:209:ILE:HG13 | 3:K:210:GLU:N    | 2.30                     | 0.45              |
| 3:K:369:PRO:C    | 3:K:370:LYS:HG2  | 2.36                     | 0.45              |
| 4:L:249:ILE:O    | 4:L:300:ILE:HA   | 2.16                     | 0.45              |
| 5:M:61:MET:HB3   | 5:M:80:MET:HG2   | 1.98                     | 0.45              |
| 5:M:219:LEU:HB3  | 5:M:398:ALA:HB2  | 1.97                     | 0.45              |
| 6:N:234:ASN:OD1  | 6:N:295:LYS:HG3  | 2.16                     | 0.45              |
| 6:N:324:LEU:HD12 | 6:N:363:ILE:HD13 | 1.98                     | 0.45              |
| 7:O:144:LYS:HE2  | 7:O:400:ILE:HA   | 1.97                     | 0.45              |
| 7:O:438:TYR:CZ   | 7:O:442:LEU:HD21 | 2.52                     | 0.45              |
| 7:O:497:MET:O    | 7:O:501:ASN:N    | 2.24                     | 0.45              |
| 8:P:399:PHE:O    | 8:P:403:THR:HG23 | 2.17                     | 0.45              |
| 9:1:87:ALA:O     | 9:1:91:ILE:HG23  | 2.16                     | 0.45              |
| 1:A:127:GLU:HG2  | 1:A:426:TYR:CD2  | 2.52                     | 0.45              |
| 1:A:146:ASP:H    | 1:A:504:PHE:HD2  | 1.64                     | 0.45              |
| 2:B:240:ALA:HA   | 2:B:332:ALA:H    | 1.81                     | 0.45              |
| 2:B:427:ARG:HH22 | 2:J:419:HIS:HE2  | 1.63                     | 0.45              |
| 2:B:469:HIS:C    | 2:B:472:GLY:H    | 2.20                     | 0.45              |
| 3:C:456:GLY:HA2  | 6:F:115:HIS:CG   | 2.52                     | 0.45              |
| 4:D:107:THR:O    | 4:D:111:ILE:HG12 | 2.17                     | 0.45              |
| 4:D:331:GLU:OE1  | 4:D:331:GLU:N    | 2.49                     | 0.45              |
| 4:D:444:SER:O    | 4:D:448:SER:HB3  | 2.16                     | 0.45              |
| 4:D:472:ASN:ND2  | 4:D:475:SER:OG   | 2.49                     | 0.45              |
| 6:F:133:PHE:O    | 6:F:137:VAL:HG12 | 2.17                     | 0.45              |
| 6:F:232:THR:O    | 6:F:332:ALA:HA   | 2.15                     | 0.45              |
| 7:G:43:ARG:HD3   | 7:G:44:GLY:H     | 1.82                     | 0.45              |
| 7:G:122:ILE:HG23 | 7:G:126:ARG:HH12 | 1.82                     | 0.45              |
| 7:G:171:GLN:NE2  | 7:G:205:LEU:O    | 2.49                     | 0.45              |
| 8:H:203:ARG:CZ   | 8:H:323:ARG:HH11 | 2.30                     | 0.45              |
| 8:H:424:THR:O    | 8:H:428:GLU:HG3  | 2.16                     | 0.45              |
| 8:H:442:ALA:HA   | 8:H:445:PHE:CE2  | 2.49                     | 0.45              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 8:H:445:PHE:O    | 8:H:449:PRO:HD2  | 2.15                     | 0.45              |
| 1:I:125:CYS:HB3  | 1:I:514:LEU:HB3  | 1.98                     | 0.45              |
| 1:I:399:VAL:O    | 1:I:403:LEU:N    | 2.49                     | 0.45              |
| 2:J:446:LEU:HA   | 2:J:449:ILE:HG13 | 1.98                     | 0.45              |
| 3:K:197:LYS:HG2  | 3:K:322:ARG:HH12 | 1.81                     | 0.45              |
| 4:L:242:GLU:HA   | 4:L:361:LEU:HA   | 1.99                     | 0.45              |
| 5:M:437:ALA:O    | 5:M:445:GLN:HG3  | 2.17                     | 0.45              |
| 6:N:469:GLU:HB2  | 6:N:477:VAL:HG11 | 1.98                     | 0.45              |
| 8:P:456:SER:CB   | 8:P:484:ALA:HB1  | 2.47                     | 0.45              |
| 13:5:88:THR:OG1  | 14:6:79:ARG:HD2  | 2.17                     | 0.45              |
| 1:A:150:ASN:OD1  | 1:A:154:THR:HG23 | 2.16                     | 0.45              |
| 1:A:421:ILE:HD12 | 1:A:485:TRP:CZ2  | 2.51                     | 0.45              |
| 1:A:476:VAL:CG1  | 1:A:486:ILE:HA   | 2.46                     | 0.45              |
| 2:B:19:GLU:N     | 2:B:520:ILE:O    | 2.26                     | 0.45              |
| 2:B:41:SER:O     | 2:B:48:MET:N     | 2.50                     | 0.45              |
| 4:D:189:ASN:C    | 4:D:193:LYS:HZ3  | 2.20                     | 0.45              |
| 4:D:253:LEU:HD12 | 4:D:314:LEU:HD12 | 1.98                     | 0.45              |
| 4:D:281:ALA:HB1  | 4:D:285:ASN:ND2  | 2.31                     | 0.45              |
| 5:E:251:LEU:CD1  | 5:E:255:PHE:HB2  | 2.38                     | 0.45              |
| 5:E:421:GLY:HA2  | 5:E:501:MET:SD   | 2.56                     | 0.45              |
| 5:E:529:LYS:HG2  | 5:E:530:ILE:HG23 | 1.98                     | 0.45              |
| 6:F:197:LYS:HB2  | 6:F:356:GLY:HA3  | 1.98                     | 0.45              |
| 6:F:450:VAL:HG13 | 6:F:451:LEU:H    | 1.82                     | 0.45              |
| 8:H:49:PRO:HB2   | 8:H:480:LEU:HB3  | 1.99                     | 0.45              |
| 8:H:205:CYS:O    | 8:H:377:LEU:N    | 2.47                     | 0.45              |
| 8:H:411:GLY:O    | 8:H:492:MET:HB3  | 2.17                     | 0.45              |
| 2:J:65:ASN:ND2   | 2:J:171:LEU:HB2  | 2.31                     | 0.45              |
| 3:K:62:ASP:OD2   | 3:K:65:ALA:N     | 2.46                     | 0.45              |
| 3:K:383:ILE:O    | 3:K:387:VAL:HG23 | 2.16                     | 0.45              |
| 4:L:295:CYS:O    | 4:L:322:ILE:HG12 | 2.16                     | 0.45              |
| 5:M:215:VAL:HG12 | 5:M:395:ILE:HG21 | 1.98                     | 0.45              |
| 5:M:233:ASP:HA   | 5:M:372:LEU:HD22 | 1.98                     | 0.45              |
| 6:N:412:GLY:HA3  | 6:N:448:PRO:HG3  | 1.99                     | 0.45              |
| 8:P:118:LEU:HD11 | 8:P:437:ALA:HA   | 1.98                     | 0.45              |
| 8:P:283:ILE:HA   | 8:P:339:PRO:CD   | 2.47                     | 0.45              |
| 13:5:91:TYR:CD2  | 14:6:57:PHE:HB2  | 2.52                     | 0.45              |
| 14:6:19:LEU:HG   | 14:6:97:LEU:HD22 | 1.98                     | 0.45              |
| 14:6:22:ASP:HB3  | 14:6:97:LEU:HD13 | 1.98                     | 0.45              |
| 1:A:287:LEU:HD22 | 1:A:311:VAL:HG21 | 1.99                     | 0.45              |
| 1:A:419:LEU:HA   | 1:A:422:TYR:HB3  | 1.98                     | 0.45              |
| 2:B:72:LYS:HG2   | 2:B:89:ARG:HE    | 1.80                     | 0.45              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:453:ASN:HA   | 4:D:27:ARG:HH21  | 1.81                     | 0.45              |
| 2:B:489:ALA:H    | 2:B:491:LEU:HD13 | 1.81                     | 0.45              |
| 2:B:505:LEU:O    | 2:B:509:GLU:HG3  | 2.16                     | 0.45              |
| 3:C:146:ILE:HG22 | 3:C:401:VAL:HG12 | 1.99                     | 0.45              |
| 3:C:218:VAL:H    | 3:C:326:ALA:CA   | 2.23                     | 0.45              |
| 4:D:202:SER:O    | 4:D:413:ARG:HB2  | 2.16                     | 0.45              |
| 6:F:219:PRO:HA   | 6:F:359:LYS:HE3  | 1.99                     | 0.45              |
| 7:G:190:LEU:HD23 | 7:G:401:LYS:HG3  | 1.98                     | 0.45              |
| 7:G:484:ILE:HG13 | 7:G:484:ILE:O    | 2.16                     | 0.45              |
| 8:H:201:ASN:HB3  | 8:H:371:ALA:O    | 2.16                     | 0.45              |
| 8:H:301:ALA:HA   | 8:H:304:TYR:HB2  | 1.98                     | 0.45              |
| 8:H:456:SER:HB2  | 8:H:479:GLY:O    | 2.17                     | 0.45              |
| 8:H:478:VAL:HB   | 8:H:484:ALA:HB1  | 1.97                     | 0.45              |
| 1:I:152:ALA:CB   | 1:I:172:VAL:HB   | 2.47                     | 0.45              |
| 1:I:171:MET:SD   | 1:I:377:LEU:HD21 | 2.57                     | 0.45              |
| 2:J:226:VAL:HA   | 4:L:345:VAL:CA   | 2.46                     | 0.45              |
| 3:K:23:GLN:O     | 3:K:27:ILE:HG13  | 2.16                     | 0.45              |
| 3:K:81:ILE:O     | 3:K:85:ARG:HG2   | 2.16                     | 0.45              |
| 3:K:205:PRO:HB2  | 3:K:381:LYS:HE3  | 1.98                     | 0.45              |
| 4:L:135:GLU:HB3  | 4:L:447:GLU:OE2  | 2.16                     | 0.45              |
| 4:L:190:ALA:HB1  | 4:L:386:VAL:HG11 | 1.98                     | 0.45              |
| 4:L:506:GLU:CB   | 4:L:508:VAL:H    | 2.29                     | 0.45              |
| 7:O:136:ILE:O    | 7:O:139:ILE:HG22 | 2.17                     | 0.45              |
| 7:O:171:GLN:HE21 | 7:O:206:GLU:HA   | 1.81                     | 0.45              |
| 7:O:279:GLU:HA   | 7:O:282:HIS:HB2  | 1.98                     | 0.45              |
| 8:P:99:ASP:HA    | 8:P:171:LYS:NZ   | 2.32                     | 0.45              |
| 1:A:54:ILE:HG23  | 3:C:519:ILE:HD11 | 1.98                     | 0.45              |
| 1:A:421:ILE:HD11 | 1:A:468:ARG:HB3  | 1.97                     | 0.45              |
| 1:A:439:ALA:O    | 1:A:443:ARG:HG2  | 2.16                     | 0.45              |
| 2:B:31:GLY:O     | 2:B:35:ILE:HG12  | 2.16                     | 0.45              |
| 2:B:239:ILE:HD12 | 2:B:324:ALA:HA   | 1.99                     | 0.45              |
| 2:B:429:PRO:O    | 2:J:464:GLN:HB2  | 2.17                     | 0.45              |
| 3:C:233:ILE:HG21 | 3:C:289:VAL:HG22 | 1.97                     | 0.45              |
| 4:D:80:GLN:HG3   | 4:D:81:MET:H     | 1.81                     | 0.45              |
| 4:D:129:HIS:CD2  | 4:D:130:PRO:HD2  | 2.52                     | 0.45              |
| 4:D:183:LEU:HA   | 4:D:186:MET:HB2  | 1.99                     | 0.45              |
| 4:D:227:LEU:HD12 | 4:D:336:ILE:HA   | 1.99                     | 0.45              |
| 5:E:247:LYS:HE2  | 5:E:355:PHE:CD1  | 2.52                     | 0.45              |
| 5:E:426:GLU:HA   | 5:E:429:CYS:HB2  | 1.97                     | 0.45              |
| 6:F:101:GLU:CG   | 6:F:443:ALA:HA   | 2.47                     | 0.45              |
| 6:F:129:LYS:HA   | 6:F:132:GLN:HB2  | 1.99                     | 0.45              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 6:F:134:LEU:HB3  | 6:F:498:TYR:CE1  | 2.51                     | 0.45              |
| 6:F:450:VAL:HG22 | 6:F:454:ASN:HD21 | 1.82                     | 0.45              |
| 7:G:37:ARG:HA    | 7:G:99:LEU:HD21  | 1.99                     | 0.45              |
| 7:G:82:ILE:HG21  | 7:G:509:ALA:CB   | 2.46                     | 0.45              |
| 7:G:392:ALA:O    | 7:G:396:VAL:HG22 | 2.17                     | 0.45              |
| 7:G:511:CYS:HA   | 7:G:514:VAL:HG12 | 1.98                     | 0.45              |
| 8:H:221:MET:HG3  | 8:H:372:ILE:CD1  | 2.46                     | 0.45              |
| 8:H:461:ASN:HD22 | 3:K:116:GLN:CD   | 2.20                     | 0.45              |
| 1:I:389:GLU:HA   | 1:I:392:LEU:HB2  | 1.98                     | 0.45              |
| 2:J:130:TRP:HB2  | 2:J:512:GLU:OE2  | 2.17                     | 0.45              |
| 2:J:219:LEU:HA   | 2:J:361:HIS:HA   | 1.98                     | 0.45              |
| 2:J:221:ASP:OD1  | 2:J:359:LEU:HG   | 2.17                     | 0.45              |
| 3:K:224:VAL:N    | 3:K:361:THR:OG1  | 2.44                     | 0.45              |
| 4:L:215:GLY:O    | 4:L:391:ARG:HB3  | 2.17                     | 0.45              |
| 4:L:293:THR:OG1  | 4:L:348:ILE:HD11 | 2.17                     | 0.45              |
| 5:M:173:LEU:HD22 | 5:M:182:HIS:HD2  | 1.82                     | 0.45              |
| 5:M:211:VAL:HA   | 5:M:385:ILE:HG12 | 1.99                     | 0.45              |
| 7:O:275:TYR:HD1  | 7:O:278:LEU:HD12 | 1.81                     | 0.45              |
| 8:P:165:ARG:HA   | 8:P:168:ILE:HG12 | 1.98                     | 0.45              |
| 8:P:419:LEU:HD13 | 8:P:445:PHE:CD1  | 2.52                     | 0.45              |
| 1:A:211:ILE:HG13 | 1:A:374:SER:O    | 2.17                     | 0.45              |
| 1:A:286:ILE:HG13 | 1:A:300:PHE:CE1  | 2.52                     | 0.45              |
| 2:B:156:ARG:HH12 | 2:B:185:GLU:HA   | 1.82                     | 0.45              |
| 2:B:228:GLN:NE2  | 2:B:301:GLU:O    | 2.49                     | 0.45              |
| 2:B:252:PHE:HZ   | 2:B:281:ARG:HG3  | 1.81                     | 0.45              |
| 2:B:323:LEU:O    | 2:B:327:THR:HB   | 2.16                     | 0.45              |
| 2:B:517:VAL:HG11 | 5:E:70:VAL:HG22  | 1.99                     | 0.45              |
| 3:C:154:ASN:OD1  | 3:C:155:ILE:HG13 | 2.17                     | 0.45              |
| 4:D:286:LEU:HG   | 4:D:348:ILE:HD11 | 1.99                     | 0.45              |
| 4:D:435:ARG:HB3  | 4:D:439:TYR:CE2  | 2.52                     | 0.45              |
| 5:E:361:GLU:HG2  | 5:E:370:LYS:CB   | 2.46                     | 0.45              |
| 5:E:451:PHE:CE2  | 5:E:455:LEU:HD11 | 2.51                     | 0.45              |
| 6:F:31:GLN:HG2   | 6:F:97:LEU:HA    | 1.97                     | 0.45              |
| 6:F:37:ASN:HD21  | 6:F:59:ASP:H     | 1.65                     | 0.45              |
| 8:H:215:SER:HB3  | 8:H:377:LEU:HA   | 1.99                     | 0.45              |
| 8:H:468:TYR:HE2  | 3:K:435:TRP:HZ2  | 1.63                     | 0.45              |
| 1:I:12:SER:HB2   | 1:I:17:ILE:N     | 2.32                     | 0.45              |
| 1:I:494:LYS:HB2  | 1:I:496:ARG:HH22 | 1.81                     | 0.45              |
| 2:J:235:ALA:HB3  | 2:J:346:CYS:HB2  | 1.98                     | 0.45              |
| 3:K:397:VAL:O    | 3:K:401:VAL:HG12 | 2.16                     | 0.45              |
| 3:K:431:GLY:O    | 3:K:434:GLN:HG2  | 2.17                     | 0.45              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 4:L:421:LEU:HD13 | 4:L:509:VAL:HG21 | 1.98                     | 0.45              |
| 5:M:489:LEU:HG   | 5:M:500:ASP:OD1  | 2.16                     | 0.45              |
| 6:N:68:GLN:NE2   | 6:N:74:ALA:HB1   | 2.32                     | 0.45              |
| 6:N:387:ILE:O    | 6:N:391:VAL:HG23 | 2.16                     | 0.45              |
| 7:O:247:LYS:HD2  | 7:O:270:GLU:OE1  | 2.17                     | 0.45              |
| 14:6:15:LYS:HB3  | 14:6:104:GLN:HG3 | 1.98                     | 0.45              |
| 14:6:90:TYR:CD1  | 14:6:93:GLN:HB3  | 2.52                     | 0.45              |
| 1:A:136:LEU:HD22 | 1:A:407:SER:HB3  | 1.99                     | 0.45              |
| 1:A:142:GLU:O    | 1:A:148:LEU:HD22 | 2.16                     | 0.45              |
| 1:A:146:ASP:N    | 1:A:504:PHE:HD2  | 2.15                     | 0.45              |
| 1:A:273:GLU:HG3  | 1:A:277:LYS:NZ   | 2.31                     | 0.45              |
| 2:B:185:GLU:O    | 2:B:189:ARG:HG3  | 2.17                     | 0.45              |
| 3:C:128:LYS:HE2  | 3:C:437:TYR:OH   | 2.16                     | 0.45              |
| 3:C:320:ASN:HA   | 3:C:323:ILE:HB   | 1.98                     | 0.45              |
| 3:C:498:PRO:HB2  | 3:C:501:VAL:H    | 1.82                     | 0.45              |
| 4:D:38:ILE:O     | 4:D:42:LYS:NZ    | 2.45                     | 0.45              |
| 5:E:203:ASP:HA   | 5:E:413:ILE:HB   | 1.98                     | 0.45              |
| 5:E:469:ASN:HB2  | 5:E:472:GLN:HB3  | 1.98                     | 0.45              |
| 5:E:477:VAL:HB   | 5:E:480:ARG:NH2  | 2.30                     | 0.45              |
| 6:F:34:LEU:CD1   | 6:F:96:VAL:HB    | 2.44                     | 0.45              |
| 6:F:209:GLY:HA3  | 6:F:364:GLU:HA   | 1.99                     | 0.45              |
| 7:G:156:GLU:O    | 7:G:176:ALA:HB1  | 2.17                     | 0.45              |
| 7:G:345:CYS:HA   | 7:G:364:CYS:HA   | 1.98                     | 0.45              |
| 8:H:111:LEU:HA   | 8:H:114:LEU:HD12 | 1.99                     | 0.45              |
| 1:I:150:ASN:O    | 1:I:154:THR:N    | 2.40                     | 0.45              |
| 2:J:387:GLU:HA   | 2:J:390:LEU:HB3  | 1.99                     | 0.45              |
| 2:J:513:VAL:O    | 2:J:517:VAL:HG23 | 2.17                     | 0.45              |
| 3:K:23:GLN:NE2   | 3:K:517:LEU:O    | 2.48                     | 0.45              |
| 3:K:353:LYS:HB2  | 3:K:362:PHE:CE2  | 2.52                     | 0.45              |
| 4:L:231:GLN:OE1  | 4:L:299:LEU:HD23 | 2.17                     | 0.45              |
| 4:L:291:LYS:HB2  | 4:L:322:ILE:HD11 | 1.99                     | 0.45              |
| 4:L:431:GLU:HG3  | 4:L:484:HIS:HE2  | 1.82                     | 0.45              |
| 5:M:225:ILE:HB   | 5:M:384:THR:HB   | 1.99                     | 0.45              |
| 6:N:211:VAL:HG11 | 6:N:360:PHE:HB3  | 1.98                     | 0.45              |
| 6:N:230:ILE:HG23 | 6:N:292:ILE:HG13 | 1.99                     | 0.45              |
| 6:N:281:VAL:HG22 | 6:N:341:PRO:HG3  | 1.99                     | 0.45              |
| 6:N:297:ILE:HD13 | 6:N:312:ALA:HB1  | 1.99                     | 0.45              |
| 6:N:488:VAL:CG1  | 6:N:491:GLU:HB3  | 2.46                     | 0.45              |
| 7:O:276:ASP:OD2  | 7:O:280:LYS:HE2  | 2.17                     | 0.45              |
| 8:P:281:LYS:HB3  | 8:P:285:ASP:OD2  | 2.17                     | 0.45              |
| 8:P:291:VAL:HG21 | 8:P:310:ILE:HD11 | 1.98                     | 0.45              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 8:P:405:ASP:OD2  | 8:P:500:THR:OG1  | 2.28                     | 0.45              |
| 12:4:57:ILE:HG13 | 12:4:80:GLN:NE2  | 2.30                     | 0.45              |
| 1:A:228:ARG:HH12 | 1:A:230:VAL:HB   | 1.82                     | 0.45              |
| 1:A:292:ILE:HB   | 1:A:309:ARG:CG   | 2.44                     | 0.45              |
| 1:A:311:VAL:HB   | 1:A:316:LEU:HD12 | 1.98                     | 0.45              |
| 2:B:432:GLU:O    | 2:B:436:MET:N    | 2.46                     | 0.45              |
| 3:C:404:ASP:OD2  | 3:C:499:LEU:HB3  | 2.17                     | 0.45              |
| 4:D:299:LEU:HA   | 4:D:325:ILE:HG23 | 1.99                     | 0.45              |
| 5:E:233:ASP:CB   | 5:E:323:ARG:H    | 2.20                     | 0.45              |
| 5:E:298:ASN:HB3  | 5:E:319:LEU:HD13 | 1.99                     | 0.45              |
| 6:F:58:LYS:O     | 6:F:159:LYS:HG3  | 2.17                     | 0.45              |
| 6:F:458:ASP:OD1  | 6:F:461:GLU:HB3  | 2.17                     | 0.45              |
| 8:H:147:VAL:HG22 | 8:H:409:VAL:HG12 | 1.99                     | 0.45              |
| 1:I:71:ALA:HA    | 1:I:74:VAL:HG22  | 1.99                     | 0.45              |
| 1:I:101:LEU:HB3  | 1:I:520:ALA:O    | 2.17                     | 0.45              |
| 2:J:227:ASN:OD1  | 2:J:302:GLN:HA   | 2.17                     | 0.45              |
| 3:K:38:ARG:HG2   | 3:K:450:THR:HG21 | 1.99                     | 0.45              |
| 3:K:190:ARG:HA   | 3:K:191:LYS:CB   | 2.39                     | 0.45              |
| 5:M:193:VAL:HG21 | 5:M:409:ILE:HG22 | 1.99                     | 0.45              |
| 5:M:290:GLN:HG3  | 5:M:317:ASN:ND2  | 2.32                     | 0.45              |
| 6:N:40:PRO:CD    | 6:N:481:LEU:HB3  | 2.41                     | 0.45              |
| 6:N:237:LEU:HG   | 6:N:336:PHE:HE2  | 1.82                     | 0.45              |
| 6:N:290:VAL:HG22 | 6:N:311:VAL:HB   | 1.99                     | 0.45              |
| 6:N:497:ASN:HB2  | 6:N:500:VAL:CG2  | 2.47                     | 0.45              |
| 8:P:80:HIS:HB2   | 8:P:83:ALA:HB3   | 1.99                     | 0.45              |
| 8:P:112:LEU:HD11 | 8:P:519:LEU:HB2  | 1.99                     | 0.45              |
| 8:P:221:MET:H    | 8:P:363:PHE:HB2  | 1.82                     | 0.45              |
| 13:5:104:LYS:NZ  | 13:5:108:ASP:OD1 | 2.43                     | 0.45              |
| 1:A:21:ASN:HA    | 1:A:71:ALA:HB2   | 1.98                     | 0.44              |
| 1:A:90:THR:O     | 1:A:93:VAL:HG12  | 2.17                     | 0.44              |
| 2:B:182:LEU:HD11 | 2:B:212:SER:O    | 2.17                     | 0.44              |
| 3:C:185:PHE:HD2  | 3:C:370:LYS:HB2  | 1.81                     | 0.44              |
| 3:C:240:LEU:HD23 | 3:C:320:ASN:HB3  | 1.98                     | 0.44              |
| 3:C:240:LEU:H    | 3:C:343:VAL:CG1  | 2.30                     | 0.44              |
| 3:C:345:THR:HB   | 3:C:367:LYS:HD2  | 1.98                     | 0.44              |
| 4:D:311:ASP:HA   | 4:D:314:LEU:HB3  | 1.99                     | 0.44              |
| 4:D:316:PHE:CE1  | 12:4:80:GLN:HG2  | 2.51                     | 0.44              |
| 5:E:166:ILE:HG23 | 5:E:183:ARG:HH12 | 1.81                     | 0.44              |
| 6:F:196:MET:O    | 6:F:378:GLY:N    | 2.47                     | 0.44              |
| 6:F:351:TYR:HE2  | 6:F:353:TYR:HD1  | 1.64                     | 0.44              |
| 6:F:391:VAL:HG13 | 6:F:392:ARG:N    | 2.32                     | 0.44              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 6:F:450:VAL:HG13 | 6:F:451:LEU:N    | 2.32                     | 0.44              |
| 7:G:26:ILE:HG13  | 7:G:105:LEU:HB3  | 1.99                     | 0.44              |
| 7:G:300:THR:O    | 7:G:304:ALA:N    | 2.40                     | 0.44              |
| 1:I:48:ASP:HB3   | 1:I:51:ASP:HB2   | 1.98                     | 0.44              |
| 1:I:189:ARG:NH1  | 1:I:400:LYS:HD2  | 2.30                     | 0.44              |
| 1:I:477:ASN:O    | 1:I:484:LYS:HE3  | 2.16                     | 0.44              |
| 2:J:106:ALA:O    | 2:J:110:LEU:N    | 2.31                     | 0.44              |
| 2:J:122:HIS:CG   | 5:M:467:GLY:HA2  | 2.52                     | 0.44              |
| 2:J:138:ARG:CZ   | 2:J:505:LEU:HD21 | 2.47                     | 0.44              |
| 2:J:509:GLU:O    | 2:J:513:VAL:HG23 | 2.16                     | 0.44              |
| 3:K:127:ARG:HA   | 3:K:130:LEU:HB3  | 1.99                     | 0.44              |
| 3:K:132:ASP:HB3  | 3:K:422:LEU:HD23 | 1.98                     | 0.44              |
| 4:L:171:LEU:HA   | 4:L:174:LYS:HB2  | 1.98                     | 0.44              |
| 4:L:351:PHE:CG   | 4:L:352:THR:N    | 2.85                     | 0.44              |
| 6:N:41:LYS:HG3   | 6:N:454:ASN:HB3  | 1.98                     | 0.44              |
| 7:O:99:LEU:HD21  | 7:O:444:ILE:HG21 | 2.00                     | 0.44              |
| 8:P:35:ALA:HB1   | 8:P:83:ALA:HB2   | 1.99                     | 0.44              |
| 8:P:36:CYS:CB    | 8:P:109:GLY:HA3  | 2.47                     | 0.44              |
| 8:P:223:PHE:HB2  | 8:P:361:VAL:CG1  | 2.47                     | 0.44              |
| 10:2:68:ARG:HH21 | 11:3:134:GLU:HB3 | 1.82                     | 0.44              |
| 14:6:79:ARG:HA   | 14:6:82:TYR:CD2  | 2.51                     | 0.44              |
| 1:A:233:LYS:HZ3  | 1:A:347:GLN:HE21 | 1.62                     | 0.44              |
| 1:A:411:GLY:N    | 1:A:498:ASN:HD21 | 2.15                     | 0.44              |
| 2:B:227:ASN:ND2  | 4:D:349:ASP:HB3  | 2.32                     | 0.44              |
| 3:C:275:ILE:HA   | 3:C:278:LEU:HD12 | 1.99                     | 0.44              |
| 4:D:120:CYS:SG   | 4:D:530:LEU:HD11 | 2.57                     | 0.44              |
| 5:E:118:GLU:HG3  | 5:E:121:GLU:OE1  | 2.17                     | 0.44              |
| 5:E:224:LEU:O    | 5:E:225:ILE:HD13 | 2.17                     | 0.44              |
| 6:F:34:LEU:HD21  | 6:F:60:GLY:HA2   | 1.99                     | 0.44              |
| 6:F:168:LEU:HD22 | 6:F:391:VAL:HB   | 1.98                     | 0.44              |
| 6:F:176:ILE:HA   | 6:F:179:ILE:HG22 | 1.98                     | 0.44              |
| 6:F:198:HIS:CD2  | 6:F:199:LYS:H    | 2.35                     | 0.44              |
| 8:H:80:HIS:HB2   | 8:H:83:ALA:HB3   | 1.99                     | 0.44              |
| 8:H:118:LEU:HD23 | 8:H:121:ILE:HD12 | 1.99                     | 0.44              |
| 1:I:200:ALA:HB3  | 1:I:378:ARG:HA   | 1.98                     | 0.44              |
| 2:J:130:TRP:O    | 2:J:134:THR:N    | 2.37                     | 0.44              |
| 2:J:203:LYS:HG2  | 2:J:375:LEU:HB2  | 1.99                     | 0.44              |
| 3:K:137:LEU:HD12 | 3:K:408:VAL:HG11 | 1.98                     | 0.44              |
| 3:K:420:HIS:CD2  | 3:K:467:ARG:HB3  | 2.52                     | 0.44              |
| 3:K:424:GLU:HA   | 3:K:427:LYS:HD3  | 1.99                     | 0.44              |
| 3:K:448:PRO:O    | 3:K:452:ILE:HG13 | 2.16                     | 0.44              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 5:M:140:ALA:HB1  | 5:M:433:VAL:HG13 | 1.97                     | 0.44              |
| 5:M:420:TYR:CE1  | 5:M:507:ILE:HG12 | 2.53                     | 0.44              |
| 6:N:126:ALA:HB2  | 6:N:437:VAL:HG12 | 1.99                     | 0.44              |
| 6:N:145:ARG:HH22 | 6:N:170:GLU:HB3  | 1.82                     | 0.44              |
| 7:O:63:ALA:O     | 7:O:67:LYS:HG3   | 2.17                     | 0.44              |
| 7:O:222:TYR:H    | 7:O:300:THR:CG2  | 2.30                     | 0.44              |
| 8:P:365:HIS:HB2  | 8:P:372:ILE:CG2  | 2.47                     | 0.44              |
| 9:1:33:GLN:HB3   | 9:1:94:LEU:CD2   | 2.47                     | 0.44              |
| 12:4:70:GLN:HA   | 12:4:75:PHE:CD1  | 2.52                     | 0.44              |
| 13:5:89:GLY:O    | 14:6:59:LEU:HB3  | 2.18                     | 0.44              |
| 1:A:243:LYS:HE2  | 1:A:295:MET:SD   | 2.57                     | 0.44              |
| 1:A:297:LEU:O    | 1:A:301:VAL:HG13 | 2.17                     | 0.44              |
| 2:B:130:TRP:CZ3  | 2:B:515:LEU:HD11 | 2.53                     | 0.44              |
| 2:B:498:GLN:O    | 2:B:502:GLN:HG2  | 2.16                     | 0.44              |
| 3:C:250:GLY:O    | 3:C:270:MET:HB3  | 2.17                     | 0.44              |
| 3:C:278:LEU:O    | 3:C:282:ILE:HG13 | 2.17                     | 0.44              |
| 4:D:362:ALA:HA   | 4:D:376:ILE:HA   | 1.99                     | 0.44              |
| 5:E:37:HIS:HB3   | 5:E:87:ILE:HG13  | 1.99                     | 0.44              |
| 5:E:145:ILE:HG23 | 5:E:514:LYS:HG3  | 1.98                     | 0.44              |
| 5:E:188:ILE:HG23 | 5:E:224:LEU:HB2  | 1.99                     | 0.44              |
| 5:E:228:VAL:HG12 | 5:E:384:THR:HG21 | 1.99                     | 0.44              |
| 5:E:254:PRO:HB3  | 5:E:258:PRO:CD   | 2.33                     | 0.44              |
| 6:F:237:LEU:HB2  | 6:F:297:ILE:HG23 | 1.99                     | 0.44              |
| 8:H:35:ALA:O     | 8:H:39:LEU:HG    | 2.18                     | 0.44              |
| 8:H:186:ALA:CB   | 8:H:217:VAL:HG21 | 2.46                     | 0.44              |
| 8:H:221:MET:HG2  | 8:H:323:ARG:NE   | 2.32                     | 0.44              |
| 8:H:283:ILE:HA   | 8:H:286:THR:HG22 | 1.98                     | 0.44              |
| 2:J:425:ALA:HB1  | 2:J:437:GLU:HG3  | 1.98                     | 0.44              |
| 3:K:42:GLY:O     | 3:K:45:SER:OG    | 2.33                     | 0.44              |
| 3:K:44:LYS:HA    | 6:N:117:ARG:NE   | 2.31                     | 0.44              |
| 3:K:64:ASN:HB3   | 3:K:85:ARG:HH22  | 1.82                     | 0.44              |
| 3:K:420:HIS:HD2  | 3:K:467:ARG:HB3  | 1.82                     | 0.44              |
| 4:L:148:LEU:HB3  | 4:L:512:LEU:HD11 | 1.99                     | 0.44              |
| 4:L:209:LYS:HD2  | 4:L:335:PHE:CG   | 2.53                     | 0.44              |
| 4:L:340:ILE:HG12 | 4:L:379:CYS:HB2  | 2.00                     | 0.44              |
| 5:M:101:GLU:OE1  | 7:O:201:GLN:NE2  | 2.50                     | 0.44              |
| 5:M:337:THR:HA   | 5:M:376:GLN:HG3  | 1.98                     | 0.44              |
| 6:N:463:LEU:HA   | 6:N:466:ILE:HB   | 1.98                     | 0.44              |
| 7:O:188:ASP:O    | 7:O:189:LEU:HD12 | 2.17                     | 0.44              |
| 7:O:349:GLU:HG2  | 7:O:360:PHE:HB2  | 1.99                     | 0.44              |
| 8:P:205:CYS:SG   | 8:P:374:THR:HB   | 2.57                     | 0.44              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 13:5:104:LYS:HA  | 13:5:107:ILE:HB  | 2.00                     | 0.44              |
| 1:A:62:LEU:HA    | 1:A:65:LEU:HB2   | 2.00                     | 0.44              |
| 1:A:122:ARG:HH21 | 1:A:522:ILE:HG21 | 1.83                     | 0.44              |
| 1:A:202:GLY:HA3  | 1:A:358:ASP:OD2  | 2.17                     | 0.44              |
| 1:A:413:GLY:HA3  | 1:A:488:LEU:CD2  | 2.48                     | 0.44              |
| 1:A:481:LYS:HA   | 1:A:486:ILE:HG22 | 2.00                     | 0.44              |
| 2:B:148:HIS:CD2  | 2:B:158:ASP:HB2  | 2.52                     | 0.44              |
| 3:C:249:LYS:HB2  | 3:C:254:THR:HA   | 1.99                     | 0.44              |
| 3:C:285:LEU:HD22 | 3:C:339:ARG:O    | 2.18                     | 0.44              |
| 3:C:473:GLU:O    | 3:C:476:GLU:HG3  | 2.18                     | 0.44              |
| 4:D:483:ARG:HH12 | 5:M:441:PRO:HB2  | 1.81                     | 0.44              |
| 5:E:206:PHE:H    | 5:E:410:ARG:NH1  | 2.15                     | 0.44              |
| 5:E:222:THR:HG22 | 5:E:387:ILE:HG13 | 1.98                     | 0.44              |
| 5:E:402:LEU:O    | 5:E:406:LEU:N    | 2.43                     | 0.44              |
| 6:F:47:LEU:HB2   | 6:F:55:LYS:HE2   | 2.00                     | 0.44              |
| 6:F:266:PHE:O    | 6:F:269:ASP:HB2  | 2.18                     | 0.44              |
| 6:F:380:ASN:HD22 | 6:F:384:LEU:HD23 | 1.81                     | 0.44              |
| 7:G:78:THR:HG21  | 7:G:513:ILE:HD11 | 2.00                     | 0.44              |
| 7:G:104:PHE:HE1  | 7:G:438:TYR:HA   | 1.78                     | 0.44              |
| 7:G:122:ILE:O    | 7:G:126:ARG:NH1  | 2.51                     | 0.44              |
| 7:G:402:ASN:ND2  | 7:G:497:MET:H    | 2.16                     | 0.44              |
| 7:G:429:GLY:O    | 1:I:461:THR:OG1  | 2.36                     | 0.44              |
| 7:G:492:VAL:O    | 7:G:493:TRP:HD1  | 2.00                     | 0.44              |
| 8:H:98:GLY:HA3   | 8:H:397:ASN:HB2  | 2.00                     | 0.44              |
| 8:H:216:SER:N    | 8:H:376:VAL:O    | 2.45                     | 0.44              |
| 2:J:196:LEU:HD22 | 2:J:199:ILE:CG1  | 2.48                     | 0.44              |
| 3:K:413:ALA:O    | 3:K:417:ALA:N    | 2.31                     | 0.44              |
| 3:K:478:TRP:HZ2  | 3:K:487:LEU:HD13 | 1.82                     | 0.44              |
| 4:L:238:ILE:HD11 | 4:L:322:ILE:C    | 2.38                     | 0.44              |
| 4:L:348:ILE:HD12 | 4:L:348:ILE:HA   | 1.89                     | 0.44              |
| 4:L:437:THR:O    | 4:L:440:SER:HB2  | 2.16                     | 0.44              |
| 5:M:288:MET:HG3  | 5:M:345:PHE:CE1  | 2.53                     | 0.44              |
| 5:M:493:CYS:HB2  | 5:M:506:VAL:HG21 | 2.00                     | 0.44              |
| 6:N:30:LEU:HG    | 6:N:71:HIS:CE1   | 2.52                     | 0.44              |
| 6:N:459:LEU:HD12 | 6:N:460:GLN:HG3  | 1.98                     | 0.44              |
| 7:O:194:MET:HA   | 7:O:369:THR:HG23 | 1.98                     | 0.44              |
| 8:P:208:LEU:HA   | 8:P:378:ARG:HA   | 1.99                     | 0.44              |
| 8:P:463:VAL:O    | 8:P:467:LEU:N    | 2.50                     | 0.44              |
| 10:2:94:LYS:HA   | 10:2:97:ILE:HD12 | 1.98                     | 0.44              |
| 11:3:105:PHE:HE2 | 13:5:76:LEU:HA   | 1.83                     | 0.44              |
| 1:A:131:TYR:HH   | 1:A:476:VAL:H    | 1.62                     | 0.44              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:160:ILE:HD11 | 1:A:384:MET:HB2  | 2.00                     | 0.44              |
| 1:A:168:PHE:HE1  | 1:A:208:SER:HB2  | 1.80                     | 0.44              |
| 2:B:36:GLY:HA2   | 2:B:103:THR:HG22 | 1.99                     | 0.44              |
| 2:B:251:ILE:N    | 2:B:255:ARG:HH22 | 2.16                     | 0.44              |
| 2:B:259:ASP:OD1  | 5:E:267:ASP:HA   | 2.18                     | 0.44              |
| 3:C:188:ASN:OD1  | 3:C:191:LYS:N    | 2.51                     | 0.44              |
| 3:C:251:GLU:H    | 3:C:253:GLN:NE2  | 2.15                     | 0.44              |
| 4:D:336:ILE:HA   | 4:D:340:ILE:HG12 | 1.98                     | 0.44              |
| 4:D:431:GLU:HG2  | 4:D:484:HIS:CG   | 2.53                     | 0.44              |
| 5:E:196:VAL:HA   | 5:E:199:MET:CG   | 2.46                     | 0.44              |
| 5:E:266:LEU:HD13 | 5:E:274:TYR:HE1  | 1.81                     | 0.44              |
| 5:E:473:THR:O    | 5:E:476:GLU:HB3  | 2.17                     | 0.44              |
| 6:F:40:PRO:HD3   | 6:F:158:THR:HA   | 1.99                     | 0.44              |
| 6:F:134:LEU:HD21 | 6:F:505:LEU:HD11 | 1.99                     | 0.44              |
| 7:G:143:VAL:O    | 7:G:403:ASP:HB3  | 2.18                     | 0.44              |
| 7:G:171:GLN:CD   | 7:G:206:GLU:HA   | 2.38                     | 0.44              |
| 7:G:244:LEU:HD22 | 7:G:303:PHE:CZ   | 2.53                     | 0.44              |
| 8:H:246:PHE:HB2  | 8:H:297:VAL:HA   | 2.00                     | 0.44              |
| 8:H:274:ASN:O    | 8:H:277:ASP:HB3  | 2.17                     | 0.44              |
| 8:H:409:VAL:HG21 | 8:H:504:LYS:HE2  | 1.99                     | 0.44              |
| 1:I:181:TYR:OH   | 1:I:370:ARG:NH2  | 2.49                     | 0.44              |
| 1:I:239:PHE:CE2  | 1:I:241:LEU:HG   | 2.53                     | 0.44              |
| 2:J:182:LEU:HD11 | 2:J:199:ILE:HG21 | 2.00                     | 0.44              |
| 2:J:302:GLN:HB3  | 4:L:350:GLN:OE1  | 2.17                     | 0.44              |
| 2:J:396:VAL:HG11 | 2:J:495:GLU:HB3  | 1.98                     | 0.44              |
| 2:J:469:HIS:HA   | 2:J:473:ASN:CB   | 2.35                     | 0.44              |
| 3:K:20:ARG:HA    | 3:K:23:GLN:HB2   | 1.99                     | 0.44              |
| 4:L:217:THR:HB   | 4:L:220:ASP:H    | 1.81                     | 0.44              |
| 4:L:422:ILE:HG12 | 4:L:510:GLN:O    | 2.17                     | 0.44              |
| 5:M:460:MET:HB2  | 5:M:474:MET:SD   | 2.57                     | 0.44              |
| 6:N:123:PHE:HB3  | 6:N:509:THR:CG2  | 2.46                     | 0.44              |
| 6:N:327:ALA:HB1  | 6:N:366:CYS:SG   | 2.57                     | 0.44              |
| 7:O:156:GLU:O    | 7:O:160:MET:HG3  | 2.17                     | 0.44              |
| 7:O:338:SER:HB2  | 7:O:341:VAL:HG23 | 2.00                     | 0.44              |
| 11:3:162:LEU:HA  | 11:3:165:LEU:HB3 | 2.00                     | 0.44              |
| 14:6:17:GLN:HA   | 14:6:20:GLN:HB2  | 1.98                     | 0.44              |
| 2:B:218:PHE:CG   | 2:B:219:LEU:N    | 2.86                     | 0.44              |
| 3:C:332:VAL:HG12 | 3:C:342:ASP:HB3  | 1.99                     | 0.44              |
| 3:C:416:MET:HA   | 3:C:419:ALA:HB3  | 1.99                     | 0.44              |
| 4:D:189:ASN:O    | 4:D:193:LYS:NZ   | 2.49                     | 0.44              |
| 5:E:143:VAL:HA   | 5:E:146:GLU:HB2  | 2.00                     | 0.44              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 5:E:302:CYS:HB3  | 5:E:323:ARG:HG2  | 2.00                     | 0.44              |
| 6:F:212:LEU:HD11 | 6:F:363:ILE:HB   | 1.99                     | 0.44              |
| 6:F:323:ARG:NH1  | 6:F:371:SER:OG   | 2.44                     | 0.44              |
| 6:F:407:VAL:CG2  | 6:F:497:ASN:HD22 | 2.30                     | 0.44              |
| 6:F:411:ALA:HB1  | 6:F:479:VAL:O    | 2.18                     | 0.44              |
| 6:F:502:LYS:HG2  | 6:F:506:HIS:CE1  | 2.53                     | 0.44              |
| 7:G:459:ASN:OD1  | 7:G:463:LYS:NZ   | 2.36                     | 0.44              |
| 7:G:513:ILE:O    | 7:G:516:VAL:N    | 2.37                     | 0.44              |
| 8:H:40:ALA:HB1   | 8:H:106:VAL:HA   | 1.99                     | 0.44              |
| 8:H:158:ASP:O    | 8:H:162:SER:OG   | 2.22                     | 0.44              |
| 1:I:380:ALA:N    | 1:I:384:MET:SD   | 2.90                     | 0.44              |
| 1:I:419:LEU:HA   | 1:I:422:TYR:CD2  | 2.53                     | 0.44              |
| 1:I:463:LEU:HG   | 1:I:467:LEU:HG   | 1.98                     | 0.44              |
| 3:K:125:ALA:HB2  | 3:K:436:PRO:HB2  | 1.98                     | 0.44              |
| 3:K:215:LEU:O    | 3:K:374:ILE:HA   | 2.17                     | 0.44              |
| 3:K:355:ILE:HD11 | 3:K:377:ARG:HH12 | 1.82                     | 0.44              |
| 4:L:479:GLU:O    | 4:L:483:ARG:HG3  | 2.17                     | 0.44              |
| 5:M:112:LEU:HD21 | 5:M:517:ILE:HA   | 2.00                     | 0.44              |
| 5:M:322:VAL:HG12 | 5:M:323:ARG:O    | 2.17                     | 0.44              |
| 5:M:329:GLU:HG2  | 5:M:333:ILE:HG13 | 2.00                     | 0.44              |
| 5:M:344:ARG:HH21 | 7:O:246:LEU:HD12 | 1.83                     | 0.44              |
| 5:M:477:VAL:HG12 | 5:M:481:GLN:HG2  | 2.00                     | 0.44              |
| 6:N:211:VAL:CG1  | 6:N:360:PHE:HB3  | 2.48                     | 0.44              |
| 7:O:99:LEU:HD21  | 7:O:444:ILE:CG2  | 2.48                     | 0.44              |
| 7:O:195:ILE:HA   | 7:O:370:CYS:SG   | 2.57                     | 0.44              |
| 8:P:86:ILE:HA    | 8:P:514:ALA:HB1  | 1.99                     | 0.44              |
| 8:P:476:LYS:HD2  | 8:P:489:VAL:CG2  | 2.48                     | 0.44              |
| 11:3:92:GLN:HE22 | 11:3:141:GLN:HB2 | 1.81                     | 0.44              |
| 14:6:102:GLU:O   | 14:6:106:GLU:HG3 | 2.17                     | 0.44              |
| 1:A:97:ALA:O     | 1:A:101:LEU:N    | 2.36                     | 0.44              |
| 1:A:132:ILE:HG23 | 1:A:409:VAL:HG11 | 1.99                     | 0.44              |
| 1:A:421:ILE:HD11 | 1:A:468:ARG:HE   | 1.81                     | 0.44              |
| 3:C:96:THR:O     | 3:C:99:ILE:HG12  | 2.17                     | 0.44              |
| 3:C:416:MET:CE   | 3:C:467:ARG:HH11 | 2.31                     | 0.44              |
| 3:C:416:MET:HE2  | 3:C:466:LEU:HG   | 1.98                     | 0.44              |
| 5:E:105:GLY:C    | 5:E:108:GLY:H    | 2.21                     | 0.44              |
| 5:E:156:LEU:HD11 | 5:E:418:VAL:HG13 | 2.00                     | 0.44              |
| 5:E:200:GLU:O    | 5:E:202:ARG:N    | 2.51                     | 0.44              |
| 6:F:385:THR:HA   | 6:F:388:LYS:HB3  | 2.00                     | 0.44              |
| 6:F:394:GLY:O    | 6:F:398:VAL:HG22 | 2.17                     | 0.44              |
| 7:G:245:GLU:HG3  | 7:G:247:LYS:H    | 1.83                     | 0.44              |

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| Atom-1           | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 7:G:522:ASN:HB2  | 8:H:58:ASN:HA     | 1.98                     | 0.44              |
| 8:H:53:ASN:OD1   | 8:H:172:GLN:NE2   | 2.51                     | 0.44              |
| 8:H:238:LYS:HE2  | 8:H:287:GLY:O     | 2.18                     | 0.44              |
| 2:J:95:VAL:CG1   | 2:J:499:VAL:HA    | 2.48                     | 0.44              |
| 2:J:102:VAL:HA   | 2:J:507:ALA:HB2   | 2.00                     | 0.44              |
| 2:J:215:ASP:HB2  | 2:J:374:VAL:HG22  | 1.99                     | 0.44              |
| 2:J:488:MET:HE1  | 2:J:491:LEU:HD12  | 1.99                     | 0.44              |
| 3:K:22:VAL:HG21  | 3:K:521:ASP:HA    | 1.99                     | 0.44              |
| 4:L:482:ASN:O    | 4:L:486:GLN:HG2   | 2.17                     | 0.44              |
| 4:L:487:GLY:O    | 4:L:490:THR:OG1   | 2.28                     | 0.44              |
| 5:M:88:ALA:O     | 5:M:92:VAL:HG23   | 2.18                     | 0.44              |
| 5:M:132:ARG:HG2  | 7:O:43:ARG:HH22   | 1.82                     | 0.44              |
| 5:M:305:GLY:H    | 5:M:324:TRP:HE3   | 1.66                     | 0.44              |
| 5:M:417:ARG:CZ   | 5:M:510:LEU:HB3   | 2.48                     | 0.44              |
| 5:M:425:ALA:HB2  | 5:M:487:PRO:HG3   | 1.99                     | 0.44              |
| 6:N:458:ASP:H    | 6:N:461:GLU:HB3   | 1.83                     | 0.44              |
| 6:N:488:VAL:HG13 | 6:N:491:GLU:HB3   | 1.99                     | 0.44              |
| 7:O:162:ALA:HA   | 7:O:165:SER:HB3   | 1.98                     | 0.44              |
| 7:O:235:PRO:HG2  | 7:O:345:CYS:HB2   | 2.00                     | 0.44              |
| 7:O:275:TYR:HA   | 7:O:278:LEU:HD12  | 1.98                     | 0.44              |
| 7:O:291:SER:O    | 7:O:313:ARG:N     | 2.50                     | 0.44              |
| 8:P:475:ASN:O    | 8:P:491:ASP:HA    | 2.18                     | 0.44              |
| 9:1:70:LEU:N     | 13:5:61:GLU:O     | 2.37                     | 0.44              |
| 10:2:86:VAL:HG11 | 11:3:131:VAL:HG23 | 1.98                     | 0.44              |
| 12:4:47:LEU:CD2  | 12:4:91:LYS:HZ1   | 2.31                     | 0.44              |
| 12:4:51:GLU:HB2  | 12:4:91:LYS:HD2   | 1.99                     | 0.44              |
| 12:4:101:LEU:HG  | 12:4:105:VAL:HG23 | 1.98                     | 0.44              |
| 13:5:113:GLN:HG3 | 13:5:116:LYS:HE3  | 2.00                     | 0.44              |
| 1:A:92:SER:O     | 1:A:96:ILE:HG12   | 2.17                     | 0.44              |
| 1:A:149:ILE:HB   | 1:A:165:GLY:O     | 2.17                     | 0.44              |
| 1:A:314:ARG:O    | 1:A:317:LYS:HG2   | 2.18                     | 0.44              |
| 1:A:471:HIS:CD2  | 7:O:425:ARG:HE    | 2.36                     | 0.44              |
| 2:B:165:THR:OG1  | 2:B:492:GLY:O     | 2.36                     | 0.44              |
| 2:B:272:LYS:HE2  | 2:B:299:TYR:HB3   | 2.00                     | 0.44              |
| 2:B:285:HIS:CG   | 2:B:343:LEU:HD21  | 2.52                     | 0.44              |
| 4:D:160:ARG:HG3  | 4:D:188:VAL:HG12  | 1.99                     | 0.44              |
| 4:D:301:GLN:HA   | 4:D:328:ILE:O     | 2.18                     | 0.44              |
| 5:E:122:GLN:O    | 5:E:126:ARG:HG3   | 2.17                     | 0.44              |
| 5:E:249:ALA:HB3  | 5:E:299:LEU:O     | 2.18                     | 0.44              |
| 5:E:327:GLY:O    | 5:E:330:ILE:HG13  | 2.17                     | 0.44              |
| 6:F:450:VAL:HG22 | 6:F:454:ASN:ND2   | 2.33                     | 0.44              |

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| Atom-1           | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 7:G:205:LEU:HD23 | 7:G:376:GLY:CA    | 2.47                     | 0.44              |
| 7:G:291:SER:HB2  | 7:G:312:GLY:HA2   | 1.99                     | 0.44              |
| 1:I:194:SER:HA   | 1:I:318:ARG:NH2   | 2.32                     | 0.44              |
| 1:I:524:ILE:O    | 4:L:57:MET:HA     | 2.18                     | 0.44              |
| 2:J:59:ALA:HB1   | 4:L:89:ARG:NE     | 2.33                     | 0.44              |
| 2:J:102:VAL:HG13 | 2:J:507:ALA:HA    | 2.00                     | 0.44              |
| 2:J:137:ALA:HB1  | 2:J:417:MET:SD    | 2.58                     | 0.44              |
| 2:J:412:CYS:N    | 2:J:478:LEU:HD13  | 2.32                     | 0.44              |
| 3:K:74:HIS:N     | 3:K:75:PRO:HD2    | 2.32                     | 0.44              |
| 3:K:152:MET:CE   | 3:K:177:LEU:HB3   | 2.48                     | 0.44              |
| 3:K:168:TRP:CZ3  | 3:K:209:ILE:HG22  | 2.53                     | 0.44              |
| 3:K:516:LEU:HA   | 3:K:519:ILE:HG12  | 2.00                     | 0.44              |
| 4:L:171:LEU:HB3  | 4:L:180:SER:OG    | 2.17                     | 0.44              |
| 5:M:165:LEU:CD2  | 5:M:412:LEU:HB2   | 2.46                     | 0.44              |
| 5:M:438:ASP:HA   | 5:M:445:GLN:HE21  | 1.82                     | 0.44              |
| 6:N:91:GLY:HA3   | 6:N:500:VAL:HG13  | 2.00                     | 0.44              |
| 7:O:331:GLN:HE22 | 7:O:336:ALA:HA    | 1.83                     | 0.44              |
| 8:P:49:PRO:CG    | 8:P:480:LEU:H     | 2.31                     | 0.44              |
| 8:P:386:ASP:O    | 8:P:390:ARG:HG2   | 2.18                     | 0.44              |
| 12:4:22:LYS:HB2  | 12:4:119:LEU:HD13 | 1.99                     | 0.44              |
| 14:6:79:ARG:HD3  | 14:6:82:TYR:CD2   | 2.51                     | 0.44              |
| 1:A:197:ILE:HB   | 1:A:392:LEU:HD21  | 2.00                     | 0.44              |
| 1:A:435:GLN:CD   | 7:O:462:ASN:HB3   | 2.39                     | 0.44              |
| 2:B:227:ASN:HB3  | 2:B:302:GLN:NE2   | 2.31                     | 0.44              |
| 2:B:326:VAL:HB   | 2:B:370:ALA:CB    | 2.48                     | 0.44              |
| 3:C:137:LEU:HD12 | 3:C:503:LEU:HD12  | 1.99                     | 0.44              |
| 3:C:258:ILE:HG13 | 3:C:267:ILE:HD12  | 1.99                     | 0.44              |
| 3:C:320:ASN:HB3  | 3:C:331:ILE:HG22  | 1.99                     | 0.44              |
| 4:D:179:TYR:HB2  | 4:D:404:SER:OG    | 2.18                     | 0.44              |
| 4:D:364:GLU:HA   | 4:D:374:LEU:HA    | 2.00                     | 0.44              |
| 5:E:42:LYS:HA    | 5:E:45:ALA:HB3    | 2.00                     | 0.44              |
| 5:E:259:LYS:O    | 5:E:304:TRP:HB3   | 2.18                     | 0.44              |
| 5:E:408:VAL:O    | 5:E:509:THR:HG21  | 2.18                     | 0.44              |
| 5:E:477:VAL:HG22 | 5:E:481:GLN:HG2   | 2.00                     | 0.44              |
| 6:F:40:PRO:HD2   | 6:F:481:LEU:CD2   | 2.43                     | 0.44              |
| 6:F:60:GLY:HA3   | 6:F:92:THR:C      | 2.38                     | 0.44              |
| 6:F:160:VAL:HG12 | 6:F:164:LEU:HB2   | 2.00                     | 0.44              |
| 6:F:294:GLN:HB3  | 6:F:318:ARG:NH1   | 2.32                     | 0.44              |
| 6:F:463:LEU:HA   | 6:F:466:ILE:HG22  | 1.99                     | 0.44              |
| 7:G:216:PHE:CZ   | 7:G:290:LEU:HD13  | 2.52                     | 0.44              |
| 7:G:300:THR:HA   | 7:G:303:PHE:HD2   | 1.83                     | 0.44              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 7:G:346:GLN:HG2  | 7:G:363:GLY:O    | 2.18                     | 0.44              |
| 8:H:42:THR:HG22  | 8:H:54:LYS:HE2   | 1.99                     | 0.44              |
| 8:H:162:SER:HA   | 8:H:165:ARG:NH1  | 2.33                     | 0.44              |
| 8:H:331:THR:O    | 8:H:333:LEU:HG   | 2.18                     | 0.44              |
| 1:I:100:LEU:HA   | 1:I:100:LEU:HD23 | 1.87                     | 0.44              |
| 1:I:103:ASN:CG   | 1:I:440:GLU:HB3  | 2.38                     | 0.44              |
| 1:I:109:LYS:HD3  | 4:L:470:GLY:N    | 2.20                     | 0.44              |
| 1:I:386:ASP:HA   | 1:I:389:GLU:HB3  | 2.00                     | 0.44              |
| 2:J:75:GLY:H     | 4:L:539:ARG:HE   | 1.65                     | 0.44              |
| 3:K:37:ILE:HG13  | 3:K:63:GLY:H     | 1.83                     | 0.44              |
| 3:K:256:ILE:HA   | 3:K:263:ASP:OD2  | 2.18                     | 0.44              |
| 4:L:248:LEU:H    | 4:L:299:LEU:CB   | 2.31                     | 0.44              |
| 4:L:395:LYS:HA   | 4:L:398:ILE:HD12 | 2.00                     | 0.44              |
| 5:M:129:HIS:NE2  | 7:O:454:GLY:HA3  | 2.33                     | 0.44              |
| 5:M:140:ALA:HB1  | 5:M:433:VAL:CG1  | 2.48                     | 0.44              |
| 5:M:166:ILE:O    | 5:M:170:LYS:HG3  | 2.18                     | 0.44              |
| 5:M:210:LYS:HE2  | 5:M:212:GLU:HB2  | 2.00                     | 0.44              |
| 5:M:340:ARG:NH2  | 7:O:304:ALA:O    | 2.51                     | 0.44              |
| 6:N:293:ASN:O    | 6:N:314:ARG:HA   | 2.17                     | 0.44              |
| 7:O:211:VAL:N    | 7:O:371:THR:O    | 2.28                     | 0.44              |
| 7:O:420:LEU:O    | 7:O:423:TYR:N    | 2.44                     | 0.44              |
| 7:O:476:GLY:O    | 7:O:485:ALA:N    | 2.51                     | 0.44              |
| 8:P:68:ASP:OD1   | 8:P:101:THR:OG1  | 2.36                     | 0.44              |
| 9:1:70:LEU:HB2   | 13:5:61:GLU:HB2  | 1.99                     | 0.44              |
| 13:5:12:LEU:O    | 13:5:16:GLU:HG3  | 2.17                     | 0.44              |
| 14:6:16:TYR:O    | 14:6:20:GLN:HG2  | 2.17                     | 0.44              |
| 1:A:442:ALA:HA   | 1:A:445:LEU:HD12 | 2.00                     | 0.43              |
| 2:B:233:GLU:HA   | 2:B:347:LYS:O    | 2.17                     | 0.43              |
| 2:B:348:LEU:HD23 | 2:B:363:SER:HB2  | 1.99                     | 0.43              |
| 3:C:134:ILE:HG23 | 3:C:138:LYS:HZ3  | 1.82                     | 0.43              |
| 3:C:241:LEU:HD23 | 3:C:332:VAL:HG21 | 2.00                     | 0.43              |
| 3:C:421:ALA:O    | 3:C:425:LYS:N    | 2.31                     | 0.43              |
| 4:D:161:GLU:O    | 4:D:164:LEU:N    | 2.51                     | 0.43              |
| 4:D:208:ILE:HD13 | 4:D:409:LEU:HD22 | 1.99                     | 0.43              |
| 4:D:414:CYS:HB3  | 4:D:513:LEU:HB3  | 1.99                     | 0.43              |
| 4:D:492:GLY:O    | 4:D:501:SER:N    | 2.49                     | 0.43              |
| 5:E:364:PHE:CE1  | 5:E:386:PHE:HZ   | 2.36                     | 0.43              |
| 5:E:480:ARG:NH1  | 5:E:499:ASN:HB2  | 2.28                     | 0.43              |
| 6:F:291:VAL:O    | 6:F:313:LEU:N    | 2.33                     | 0.43              |
| 6:F:478:GLY:HA3  | 6:F:489:ALA:HB2  | 2.00                     | 0.43              |
| 7:G:421:ARG:HB3  | 7:G:465:ARG:NH2  | 2.33                     | 0.43              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 8:H:30:TYR:O     | 8:H:34:GLN:HG3   | 2.18                     | 0.43              |
| 8:H:201:ASN:HA   | 8:H:372:ILE:HG22 | 1.99                     | 0.43              |
| 1:I:86:VAL:HG21  | 1:I:509:VAL:HG12 | 1.99                     | 0.43              |
| 1:I:109:LYS:HZ1  | 4:L:473:PRO:HA   | 1.83                     | 0.43              |
| 1:I:293:ASP:HB2  | 1:I:296:CYS:SG   | 2.58                     | 0.43              |
| 1:I:405:SER:OG   | 1:I:508:ILE:HG13 | 2.18                     | 0.43              |
| 2:J:42:THR:HG21  | 2:J:65:ASN:HA    | 1.98                     | 0.43              |
| 3:K:232:TYR:OH   | 3:K:352:ILE:N    | 2.39                     | 0.43              |
| 3:K:243:SER:HB2  | 3:K:333:SER:HB3  | 1.99                     | 0.43              |
| 3:K:522:ILE:HG13 | 3:K:522:ILE:O    | 2.18                     | 0.43              |
| 4:L:31:ALA:HB1   | 4:L:35:PHE:CE2   | 2.53                     | 0.43              |
| 5:M:184:GLN:HE22 | 5:M:220:GLU:C    | 2.21                     | 0.43              |
| 5:M:224:LEU:HD13 | 5:M:385:ILE:HG22 | 1.99                     | 0.43              |
| 5:M:356:ALA:HB2  | 5:M:374:ILE:CG2  | 2.46                     | 0.43              |
| 5:M:464:GLU:OE2  | 5:M:470:PRO:HG3  | 2.17                     | 0.43              |
| 6:N:131:LEU:HA   | 6:N:134:LEU:HG   | 2.00                     | 0.43              |
| 6:N:138:LYS:HD3  | 6:N:498:TYR:CD1  | 2.53                     | 0.43              |
| 6:N:383:THR:HG22 | 8:P:513:ASN:HD21 | 1.83                     | 0.43              |
| 7:O:90:VAL:HG21  | 7:O:498:VAL:HG22 | 2.00                     | 0.43              |
| 7:O:283:HIS:CE1  | 7:O:335:ASN:HD21 | 2.36                     | 0.43              |
| 7:O:447:ARG:HG3  | 7:O:457:ALA:HB1  | 1.99                     | 0.43              |
| 8:P:239:ILE:HG22 | 8:P:290:VAL:HB   | 2.00                     | 0.43              |
| 13:5:96:ALA:O    | 13:5:100:LYS:HG3 | 2.18                     | 0.43              |
| 13:5:129:GLN:O   | 13:5:133:GLU:N   | 2.50                     | 0.43              |
| 14:6:14:GLU:O    | 14:6:17:GLN:N    | 2.51                     | 0.43              |
| 1:A:188:PRO:HB3  | 1:A:370:ARG:NH1  | 2.33                     | 0.43              |
| 1:A:383:PHE:HA   | 1:A:386:ASP:HB2  | 1.99                     | 0.43              |
| 2:B:17:ASP:O     | 2:B:522:LYS:N    | 2.38                     | 0.43              |
| 2:B:40:LYS:HA    | 2:B:43:LEU:HB2   | 2.00                     | 0.43              |
| 2:B:99:THR:O     | 2:B:102:VAL:HG12 | 2.18                     | 0.43              |
| 3:C:461:ARG:HH21 | 6:N:456:GLY:N    | 2.16                     | 0.43              |
| 4:D:191:VAL:HG23 | 4:D:409:LEU:HD23 | 2.00                     | 0.43              |
| 4:D:254:SER:OG   | 4:D:310:SER:N    | 2.51                     | 0.43              |
| 5:E:136:GLY:O    | 5:E:140:ALA:N    | 2.41                     | 0.43              |
| 5:E:153:ASP:OD1  | 5:E:153:ASP:N    | 2.50                     | 0.43              |
| 5:E:204:VAL:HG22 | 5:E:205:ASP:O    | 2.18                     | 0.43              |
| 7:G:120:ILE:HA   | 7:G:123:ARG:HE   | 1.82                     | 0.43              |
| 7:G:251:ASP:OD2  | 7:G:298:VAL:HG21 | 2.19                     | 0.43              |
| 7:G:421:ARG:NH2  | 1:I:421:ILE:HG23 | 2.34                     | 0.43              |
| 1:I:34:SER:O     | 1:I:41:LEU:N     | 2.51                     | 0.43              |
| 1:I:254:ILE:HG21 | 1:I:259:LYS:HG3  | 1.99                     | 0.43              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:I:288:THR:HB   | 1:I:309:ARG:HA   | 2.00                     | 0.43              |
| 2:J:299:TYR:H    | 4:L:305:LEU:HD22 | 1.82                     | 0.43              |
| 3:K:185:PHE:CZ   | 3:K:194:ASP:HA   | 2.53                     | 0.43              |
| 3:K:469:LYS:HD2  | 3:K:478:TRP:NE1  | 2.33                     | 0.43              |
| 4:L:170:SER:O    | 4:L:173:SER:N    | 2.51                     | 0.43              |
| 4:L:365:VAL:HG23 | 4:L:375:LYS:HD3  | 1.99                     | 0.43              |
| 5:M:147:HIS:ND1  | 5:M:150:LYS:HD2  | 2.34                     | 0.43              |
| 5:M:312:HIS:O    | 5:M:316:GLN:N    | 2.44                     | 0.43              |
| 5:M:509:THR:O    | 5:M:512:GLY:N    | 2.51                     | 0.43              |
| 6:N:31:GLN:NE2   | 6:N:99:ILE:HG12  | 2.32                     | 0.43              |
| 6:N:176:ILE:HG22 | 6:N:187:ASP:OD2  | 2.17                     | 0.43              |
| 6:N:293:ASN:O    | 6:N:315:ARG:N    | 2.50                     | 0.43              |
| 6:N:408:VAL:CG1  | 6:N:414:VAL:HG11 | 2.48                     | 0.43              |
| 6:N:418:MET:O    | 6:N:421:ALA:N    | 2.51                     | 0.43              |
| 7:O:87:ASP:HA    | 7:O:91:GLY:HA2   | 2.00                     | 0.43              |
| 7:O:108:VAL:HA   | 7:O:111:TYR:CD2  | 2.53                     | 0.43              |
| 7:O:317:GLU:OE2  | 7:O:321:ARG:NH2  | 2.51                     | 0.43              |
| 7:O:437:ALA:O    | 7:O:441:ALA:N    | 2.51                     | 0.43              |
| 7:O:463:LYS:HD2  | 7:O:484:ILE:HG12 | 2.00                     | 0.43              |
| 8:P:107:PHE:HZ   | 8:P:441:PHE:CE1  | 2.35                     | 0.43              |
| 1:A:459:ASP:O    | 1:A:463:LEU:N    | 2.23                     | 0.43              |
| 2:B:137:ALA:HB1  | 2:B:417:MET:SD   | 2.58                     | 0.43              |
| 2:B:162:ILE:HG12 | 2:B:496:SER:H    | 1.83                     | 0.43              |
| 2:B:239:ILE:HB   | 2:B:330:GLU:O    | 2.18                     | 0.43              |
| 2:B:326:VAL:HB   | 2:B:370:ALA:HB1  | 2.00                     | 0.43              |
| 3:C:144:VAL:HG11 | 3:C:401:VAL:HG13 | 1.99                     | 0.43              |
| 3:C:407:LEU:HD13 | 3:C:496:TRP:CE3  | 2.53                     | 0.43              |
| 3:C:407:LEU:HA   | 3:C:498:PRO:HA   | 1.99                     | 0.43              |
| 4:D:464:THR:HA   | 4:D:467:GLU:HB3  | 1.99                     | 0.43              |
| 5:E:188:ILE:CG2  | 5:E:224:LEU:HB2  | 2.48                     | 0.43              |
| 5:E:214:LYS:HB2  | 5:E:386:PHE:HZ   | 1.83                     | 0.43              |
| 5:E:225:ILE:HG21 | 5:E:229:ILE:CG2  | 2.49                     | 0.43              |
| 6:F:164:LEU:HA   | 6:F:167:VAL:HB   | 2.01                     | 0.43              |
| 7:G:406:VAL:HG11 | 7:G:499:ARG:CG   | 2.47                     | 0.43              |
| 8:H:207:ILE:HB   | 8:H:378:ARG:HA   | 2.00                     | 0.43              |
| 8:H:242:TYR:O    | 8:H:294:GLY:N    | 2.29                     | 0.43              |
| 1:I:527:ILE:HG21 | 4:L:57:MET:O     | 2.19                     | 0.43              |
| 2:J:163:ALA:HB2  | 2:J:397:LEU:HD11 | 2.00                     | 0.43              |
| 3:K:26:ASN:ND2   | 3:K:516:LEU:HD22 | 2.33                     | 0.43              |
| 3:K:45:SER:H     | 6:N:117:ARG:CZ   | 2.30                     | 0.43              |
| 3:K:220:ILE:HG22 | 3:K:222:LYS:N    | 2.33                     | 0.43              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 3:K:240:LEU:HB2  | 3:K:291:ILE:HD11 | 1.99                     | 0.43              |
| 6:N:218:HIS:HB2  | 6:N:221:MET:HE3  | 2.01                     | 0.43              |
| 7:O:49:ILE:HG12  | 7:O:65:ILE:HG22  | 2.00                     | 0.43              |
| 7:O:121:ILE:HG12 | 7:O:434:LEU:HD21 | 2.00                     | 0.43              |
| 7:O:144:LYS:HB3  | 7:O:151:GLN:NE2  | 2.33                     | 0.43              |
| 7:O:155:LEU:HA   | 7:O:396:VAL:HG13 | 1.99                     | 0.43              |
| 7:O:239:LEU:HB3  | 7:O:319:LEU:HD22 | 2.00                     | 0.43              |
| 8:P:242:TYR:HB3  | 8:P:244:CYS:HB3  | 2.00                     | 0.43              |
| 8:P:302:LEU:HD22 | 8:P:314:ARG:NH1  | 2.32                     | 0.43              |
| 9:1:34:ILE:HB    | 9:1:94:LEU:HB3   | 2.00                     | 0.43              |
| 1:A:161:ILE:HA   | 1:A:164:ASN:HB2  | 2.00                     | 0.43              |
| 2:B:48:MET:SD    | 4:D:130:PRO:HG2  | 2.59                     | 0.43              |
| 2:B:209:LEU:HG   | 2:B:378:ALA:H    | 1.83                     | 0.43              |
| 2:B:252:PHE:CD2  | 2:B:277:GLU:HB2  | 2.53                     | 0.43              |
| 2:B:278:LYS:O    | 2:B:282:ILE:HG12 | 2.19                     | 0.43              |
| 4:D:73:ASP:OD1   | 4:D:106:THR:OG1  | 2.35                     | 0.43              |
| 4:D:119:SER:OG   | 4:D:453:ALA:O    | 2.26                     | 0.43              |
| 4:D:406:HIS:HA   | 4:D:409:LEU:HD12 | 2.00                     | 0.43              |
| 4:D:451:VAL:O    | 4:D:454:PHE:HB3  | 2.18                     | 0.43              |
| 5:E:268:VAL:HB   | 5:E:273:ASP:HB2  | 2.00                     | 0.43              |
| 6:F:27:ALA:HB3   | 6:F:28:ARG:HH11  | 1.83                     | 0.43              |
| 6:F:156:LEU:HD13 | 6:F:168:LEU:HB2  | 2.00                     | 0.43              |
| 6:F:426:LYS:HD2  | 6:F:430:LYS:O    | 2.19                     | 0.43              |
| 7:G:155:LEU:HD21 | 7:G:400:ILE:HG13 | 1.99                     | 0.43              |
| 7:G:197:ILE:HD11 | 7:G:393:ILE:HD11 | 2.00                     | 0.43              |
| 8:H:134:ILE:O    | 8:H:137:ARG:HB2  | 2.17                     | 0.43              |
| 1:I:207:GLU:HB3  | 1:I:378:ARG:HB2  | 2.01                     | 0.43              |
| 1:I:524:ILE:CG1  | 4:L:58:ASP:H     | 2.32                     | 0.43              |
| 2:J:236:LYS:O    | 2:J:289:CYS:HB2  | 2.18                     | 0.43              |
| 3:K:168:TRP:CD1  | 3:K:387:VAL:HG22 | 2.53                     | 0.43              |
| 3:K:274:TYR:O    | 3:K:278:LEU:HG   | 2.18                     | 0.43              |
| 3:K:289:VAL:HG22 | 3:K:310:THR:HG22 | 2.00                     | 0.43              |
| 4:L:147:ILE:HD11 | 4:L:439:TYR:CE2  | 2.53                     | 0.43              |
| 4:L:334:GLU:O    | 4:L:338:LYS:N    | 2.47                     | 0.43              |
| 5:M:132:ARG:HE   | 5:M:132:ARG:HB3  | 1.48                     | 0.43              |
| 6:N:409:PRO:HB3  | 6:N:495:TRP:HD1  | 1.82                     | 0.43              |
| 7:O:153:LYS:NZ   | 7:O:156:GLU:OE1  | 2.34                     | 0.43              |
| 7:O:171:GLN:HB3  | 7:O:175:PHE:CE2  | 2.53                     | 0.43              |
| 7:O:438:TYR:O    | 7:O:442:LEU:HG   | 2.18                     | 0.43              |
| 13:5:94:LYS:HD2  | 14:6:50:LEU:HD11 | 2.00                     | 0.43              |
| 14:6:59:LEU:HD12 | 14:6:61:GLY:O    | 2.18                     | 0.43              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:A:41:LEU:HD21  | 3:C:119:PRO:HG3  | 2.01                     | 0.43              |
| 1:A:229:ILE:N    | 1:A:351:VAL:O    | 2.34                     | 0.43              |
| 3:C:144:VAL:HG23 | 3:C:151:MET:HG3  | 2.00                     | 0.43              |
| 3:C:480:VAL:HA   | 3:C:486:THR:O    | 2.18                     | 0.43              |
| 3:C:491:LYS:HA   | 3:C:496:TRP:CH2  | 2.54                     | 0.43              |
| 4:D:138:GLN:HB2  | 4:D:527:ARG:HD2  | 2.00                     | 0.43              |
| 4:D:291:LYS:HA   | 4:D:294:GLY:HA2  | 2.01                     | 0.43              |
| 4:D:313:ALA:HA   | 12:4:58:MET:HE1  | 2.00                     | 0.43              |
| 5:E:183:ARG:HD2  | 5:E:187:GLU:HG2  | 1.99                     | 0.43              |
| 5:E:193:VAL:HG21 | 5:E:409:ILE:CG2  | 2.49                     | 0.43              |
| 5:E:394:ILE:O    | 5:E:398:ALA:N    | 2.46                     | 0.43              |
| 5:E:423:GLY:HA2  | 5:E:459:PRO:HB3  | 2.00                     | 0.43              |
| 5:E:511:ILE:HA   | 5:E:514:LYS:HE3  | 1.99                     | 0.43              |
| 6:F:58:LYS:HE3   | 6:F:159:LYS:HA   | 1.99                     | 0.43              |
| 6:F:152:ALA:HB3  | 6:F:169:THR:HG23 | 2.00                     | 0.43              |
| 6:F:154:THR:HB   | 6:F:157:ARG:HH21 | 1.83                     | 0.43              |
| 7:G:418:LYS:HD2  | 7:G:465:ARG:HH21 | 1.83                     | 0.43              |
| 8:H:161:SER:O    | 8:H:165:ARG:HB2  | 2.19                     | 0.43              |
| 8:H:414:ALA:HA   | 8:H:477:ASN:HB2  | 2.01                     | 0.43              |
| 8:H:437:ALA:O    | 8:H:441:PHE:N    | 2.51                     | 0.43              |
| 1:I:111:LYS:HB2  | 1:I:113:HIS:CA   | 2.49                     | 0.43              |
| 1:I:279:LEU:HA   | 1:I:283:ALA:O    | 2.19                     | 0.43              |
| 2:J:285:HIS:CD2  | 2:J:338:PRO:HD3  | 2.53                     | 0.43              |
| 3:K:76:ALA:HA    | 3:K:79:SER:HB2   | 2.00                     | 0.43              |
| 3:K:144:VAL:CG2  | 3:K:155:ILE:HD13 | 2.48                     | 0.43              |
| 5:M:300:ALA:HB3  | 5:M:321:ALA:HB1  | 2.00                     | 0.43              |
| 5:M:425:ALA:N    | 5:M:487:PRO:HB3  | 2.32                     | 0.43              |
| 6:N:207:ILE:HG21 | 6:N:211:VAL:HG21 | 2.00                     | 0.43              |
| 6:N:210:LEU:HD22 | 6:N:324:LEU:N    | 2.33                     | 0.43              |
| 6:N:351:TYR:CE2  | 6:N:353:TYR:HB2  | 2.53                     | 0.43              |
| 7:O:195:ILE:HG21 | 7:O:393:ILE:HG21 | 1.99                     | 0.43              |
| 7:O:413:GLU:HA   | 7:O:416:LEU:HB2  | 2.00                     | 0.43              |
| 8:P:97:VAL:HG22  | 8:P:404:ARG:HH22 | 1.83                     | 0.43              |
| 8:P:138:LYS:O    | 8:P:142:ILE:HG13 | 2.17                     | 0.43              |
| 8:P:250:ILE:HB   | 8:P:279:GLN:HE21 | 1.83                     | 0.43              |
| 8:P:413:GLY:O    | 8:P:467:LEU:HD21 | 2.18                     | 0.43              |
| 12:4:47:LEU:O    | 12:4:91:LYS:NZ   | 2.52                     | 0.43              |
| 13:5:80:GLU:HA   | 13:5:96:ALA:HB2  | 2.00                     | 0.43              |
| 1:A:247:LYS:HE2  | 3:C:274:TYR:HA   | 1.99                     | 0.43              |
| 1:A:347:GLN:CB   | 1:A:368:LYS:HB2  | 2.48                     | 0.43              |
| 1:A:421:ILE:CD1  | 7:O:425:ARG:HG3  | 2.42                     | 0.43              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:B:145:ALA:HB2  | 2:B:497:PHE:CD1  | 2.53                     | 0.43              |
| 2:B:147:ASP:OD1  | 2:B:405:ARG:HB3  | 2.19                     | 0.43              |
| 2:B:148:HIS:CE1  | 2:B:157:GLN:HE21 | 2.37                     | 0.43              |
| 2:B:229:PRO:HD2  | 2:B:309:VAL:O    | 2.18                     | 0.43              |
| 2:B:277:GLU:O    | 2:B:281:ARG:HG2  | 2.18                     | 0.43              |
| 2:B:393:ALA:O    | 2:B:397:LEU:N    | 2.42                     | 0.43              |
| 3:C:23:GLN:OE1   | 3:C:114:GLU:HG3  | 2.19                     | 0.43              |
| 3:C:46:MET:HG2   | 6:F:517:LEU:HD22 | 2.00                     | 0.43              |
| 4:D:276:LEU:HD21 | 14:6:82:TYR:CE1  | 2.54                     | 0.43              |
| 5:E:453:ASP:HB3  | 4:L:452:ARG:CZ   | 2.48                     | 0.43              |
| 5:E:467:GLY:H    | 5:E:495:HIS:HE1  | 1.67                     | 0.43              |
| 6:F:114:LEU:HG   | 6:F:118:ILE:HG23 | 1.98                     | 0.43              |
| 6:F:127:LYS:HA   | 6:F:440:PHE:CZ   | 2.54                     | 0.43              |
| 7:G:154:LEU:O    | 7:G:157:LYS:N    | 2.51                     | 0.43              |
| 7:G:191:GLN:O    | 7:G:397:ARG:NH1  | 2.51                     | 0.43              |
| 7:G:309:PHE:HE2  | 7:G:311:ALA:HB2  | 1.83                     | 0.43              |
| 7:G:508:GLU:HA   | 7:G:511:CYS:SG   | 2.59                     | 0.43              |
| 8:H:138:LYS:HG2  | 8:H:426:TYR:CD2  | 2.54                     | 0.43              |
| 8:H:164:LEU:HD13 | 8:H:183:ILE:HB   | 2.00                     | 0.43              |
| 8:H:216:SER:O    | 8:H:376:VAL:N    | 2.42                     | 0.43              |
| 1:I:331:LEU:HD23 | 1:I:338:GLU:CD   | 2.39                     | 0.43              |
| 1:I:352:VAL:HG13 | 1:I:363:LEU:HB2  | 2.00                     | 0.43              |
| 2:J:226:VAL:H    | 4:L:344:PRO:C    | 2.20                     | 0.43              |
| 3:K:120:THR:HA   | 3:K:123:ILE:HD12 | 1.98                     | 0.43              |
| 3:K:159:SER:O    | 3:K:162:THR:OG1  | 2.23                     | 0.43              |
| 3:K:200:ARG:NH1  | 3:K:316:ARG:HH22 | 2.17                     | 0.43              |
| 3:K:243:SER:CB   | 3:K:334:ARG:HG3  | 2.48                     | 0.43              |
| 4:L:56:GLY:HA2   | 4:L:469:ALA:HA   | 2.00                     | 0.43              |
| 4:L:208:ILE:HD13 | 4:L:409:LEU:HD22 | 2.01                     | 0.43              |
| 4:L:484:HIS:CE1  | 4:L:489:LYS:HA   | 2.54                     | 0.43              |
| 5:M:50:THR:HA    | 5:M:465:ASN:HD21 | 1.84                     | 0.43              |
| 5:M:434:SER:HB3  | 5:M:452:ALA:HB3  | 2.00                     | 0.43              |
| 6:N:216:ALA:HB1  | 6:N:218:HIS:CE1  | 2.54                     | 0.43              |
| 6:N:501:LYS:O    | 6:N:504:LEU:HB3  | 2.19                     | 0.43              |
| 7:O:144:LYS:HD2  | 7:O:403:ASP:HB3  | 2.00                     | 0.43              |
| 7:O:294:PRO:HB3  | 7:O:313:ARG:NH1  | 2.34                     | 0.43              |
| 8:P:36:CYS:HB3   | 8:P:109:GLY:HA3  | 2.00                     | 0.43              |
| 13:5:88:THR:HG23 | 14:6:79:ARG:HB3  | 2.00                     | 0.43              |
| 1:A:158:SER:HB3  | 1:A:162:GLY:HA2  | 2.00                     | 0.43              |
| 1:A:435:GLN:OE1  | 7:O:462:ASN:HB3  | 2.18                     | 0.43              |
| 1:A:448:ILE:HA   | 1:A:451:THR:HG22 | 2.01                     | 0.43              |

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| Atom-1           | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 2:B:479:ASP:HB3  | 2:B:481:ARG:HG2   | 2.01                     | 0.43              |
| 4:D:78:LEU:HD22  | 4:D:91:LEU:HD13   | 2.01                     | 0.43              |
| 4:D:255:ALA:CB   | 4:D:263:GLN:HB2   | 2.49                     | 0.43              |
| 4:D:269:TYR:CG   | 14:6:82:TYR:O     | 2.71                     | 0.43              |
| 4:D:431:GLU:OE2  | 4:D:489:LYS:HD3   | 2.19                     | 0.43              |
| 4:D:477:VAL:O    | 4:D:481:ARG:HG2   | 2.19                     | 0.43              |
| 5:E:167:GLN:HB2  | 5:E:505:HIS:HB3   | 1.99                     | 0.43              |
| 5:E:360:GLN:O    | 5:E:373:VAL:N     | 2.40                     | 0.43              |
| 6:F:29:GLY:HA2   | 6:F:32:ASP:HB2    | 2.01                     | 0.43              |
| 7:G:26:ILE:HG12  | 7:G:105:LEU:HB3   | 2.01                     | 0.43              |
| 7:G:279:GLU:HB3  | 7:G:283:HIS:NE2   | 2.34                     | 0.43              |
| 7:G:450:CYS:SG   | 7:G:457:ALA:HA    | 2.59                     | 0.43              |
| 8:H:29:VAL:CG1   | 8:H:120:ARG:HH12  | 2.32                     | 0.43              |
| 1:I:418:ALA:HB1  | 1:I:422:TYR:CE2   | 2.54                     | 0.43              |
| 2:J:189:ARG:NH2  | 2:J:371:CYS:SG    | 2.88                     | 0.43              |
| 4:L:286:LEU:O    | 4:L:348:ILE:HG21  | 2.18                     | 0.43              |
| 5:M:152:SER:O    | 5:M:417:ARG:HB3   | 2.18                     | 0.43              |
| 5:M:254:PRO:HG2  | 7:O:264:GLN:HE22  | 1.84                     | 0.43              |
| 6:N:239:TYR:CE1  | 6:N:246:SER:HB2   | 2.54                     | 0.43              |
| 6:N:278:LYS:HG3  | 6:N:289:PHE:HB2   | 1.99                     | 0.43              |
| 7:O:232:TYR:OH   | 7:O:307:ASP:O     | 2.37                     | 0.43              |
| 7:O:422:ASP:O    | 7:O:425:ARG:HB3   | 2.19                     | 0.43              |
| 8:P:42:THR:O     | 8:P:46:ALA:HB3    | 2.19                     | 0.43              |
| 8:P:205:CYS:HB3  | 8:P:222:VAL:HB    | 2.01                     | 0.43              |
| 8:P:294:GLY:HA3  | 8:P:321:LEU:HD11  | 1.99                     | 0.43              |
| 8:P:322:ARG:O    | 8:P:326:LYS:HG2   | 2.18                     | 0.43              |
| 10:2:61:LEU:HB2  | 11:3:127:LEU:HD22 | 1.99                     | 0.43              |
| 12:4:68:PRO:HA   | 12:4:77:SER:HA    | 2.00                     | 0.43              |
| 13:5:118:GLN:O   | 13:5:122:GLN:HG3  | 2.19                     | 0.43              |
| 1:A:117:VAL:HA   | 1:A:437:ALA:HB2   | 2.00                     | 0.43              |
| 1:A:183:ASP:HB3  | 1:A:193:ASN:ND2   | 2.34                     | 0.43              |
| 1:A:188:PRO:HD3  | 1:A:370:ARG:HD3   | 2.00                     | 0.43              |
| 1:A:219:VAL:HB   | 1:A:309:ARG:HB2   | 2.01                     | 0.43              |
| 1:A:464:VAL:HA   | 1:A:467:LEU:HD12  | 2.01                     | 0.43              |
| 2:B:137:ALA:HB2  | 2:B:443:LEU:HD11  | 1.99                     | 0.43              |
| 3:C:249:LYS:O    | 3:C:270:MET:HB2   | 2.19                     | 0.43              |
| 3:C:312:ILE:HG22 | 3:C:315:VAL:HG21  | 2.00                     | 0.43              |
| 4:D:216:GLY:CA   | 4:D:369:GLY:HA3   | 2.48                     | 0.43              |
| 5:E:60:MET:HA    | 5:E:70:VAL:HA     | 2.01                     | 0.43              |
| 5:E:61:MET:HE1   | 5:E:80:MET:O      | 2.18                     | 0.43              |
| 5:E:491:ILE:HA   | 5:E:499:ASN:HB3   | 2.01                     | 0.43              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 6:F:39:GLY:HA3   | 6:F:481:LEU:HD23 | 2.01                     | 0.43              |
| 6:F:105:GLN:HB3  | 6:F:109:TYR:CE2  | 2.54                     | 0.43              |
| 6:F:134:LEU:HB3  | 6:F:498:TYR:HE1  | 1.84                     | 0.43              |
| 6:F:216:ALA:HB3  | 6:F:218:HIS:O    | 2.19                     | 0.43              |
| 7:G:101:ALA:HB2  | 7:G:509:ALA:HB3  | 2.00                     | 0.43              |
| 7:G:118:PRO:HG2  | 7:G:430:LYS:HZ2  | 1.83                     | 0.43              |
| 7:G:465:ARG:HG3  | 1:I:435:GLN:HE22 | 1.84                     | 0.43              |
| 1:I:106:GLU:HA   | 4:L:471:LEU:N    | 2.31                     | 0.43              |
| 1:I:450:ASN:HD22 | 1:I:460:SER:HB2  | 1.83                     | 0.43              |
| 1:I:513:SER:O    | 1:I:517:ALA:N    | 2.34                     | 0.43              |
| 1:I:531:ILE:H    | 4:L:59:LYS:CE    | 2.30                     | 0.43              |
| 3:K:203:LYS:HB3  | 3:K:376:LEU:CD1  | 2.47                     | 0.43              |
| 3:K:323:ILE:O    | 3:K:327:CYS:N    | 2.30                     | 0.43              |
| 5:M:55:ASN:O     | 5:M:465:ASN:HB3  | 2.19                     | 0.43              |
| 6:N:30:LEU:O     | 6:N:34:LEU:HG    | 2.19                     | 0.43              |
| 7:O:237:ILE:HG21 | 7:O:290:LEU:HD22 | 1.99                     | 0.43              |
| 8:P:252:GLU:OE2  | 8:P:338:PRO:HD3  | 2.18                     | 0.43              |
| 8:P:282:ALA:O    | 8:P:338:PRO:HA   | 2.19                     | 0.43              |
| 8:P:323:ARG:O    | 8:P:327:THR:HG22 | 2.18                     | 0.43              |
| 12:4:54:CYS:HA   | 12:4:57:ILE:HG12 | 2.00                     | 0.43              |
| 1:A:145:ARG:N    | 1:A:147:CYS:O    | 2.51                     | 0.43              |
| 1:A:398:VAL:O    | 1:A:402:VAL:HG23 | 2.18                     | 0.43              |
| 1:A:532:LYS:HA   | 4:D:62:GLN:O     | 2.19                     | 0.43              |
| 2:B:152:GLU:O    | 2:B:156:ARG:N    | 2.33                     | 0.43              |
| 3:C:204:ILE:H    | 3:C:384:LEU:CD1  | 2.31                     | 0.43              |
| 3:C:239:VAL:CG2  | 3:C:287:PRO:HB3  | 2.49                     | 0.43              |
| 4:D:101:GLU:OE1  | 4:D:521:LEU:HD11 | 2.19                     | 0.43              |
| 4:D:160:ARG:NH2  | 4:D:189:ASN:HB2  | 2.34                     | 0.43              |
| 4:D:394:ASN:OD1  | 4:D:397:VAL:HG23 | 2.18                     | 0.43              |
| 4:D:424:GLY:O    | 4:D:503:ILE:HG21 | 2.18                     | 0.43              |
| 5:E:291:GLN:HG3  | 5:E:348:LEU:HD13 | 1.99                     | 0.43              |
| 5:E:387:ILE:HG21 | 5:E:399:LYS:HG2  | 2.01                     | 0.43              |
| 6:F:65:HIS:NE2   | 6:F:82:THR:OG1   | 2.51                     | 0.43              |
| 6:F:175:SER:HA   | 6:F:178:ALA:HB3  | 2.01                     | 0.43              |
| 6:F:261:LYS:O    | 6:F:265:LYS:HG2  | 2.19                     | 0.43              |
| 7:G:74:PRO:HA    | 8:H:63:LEU:HD13  | 2.01                     | 0.43              |
| 8:H:73:LEU:HB2   | 8:H:91:HIS:CE1   | 2.54                     | 0.43              |
| 8:H:239:ILE:HB   | 8:H:328:VAL:HG11 | 2.00                     | 0.43              |
| 1:I:18:ARG:O     | 1:I:22:VAL:HG13  | 2.19                     | 0.43              |
| 1:I:75:LEU:HD21  | 1:I:94:VAL:HG13  | 2.01                     | 0.43              |
| 1:I:243:LYS:HE2  | 1:I:300:PHE:CD1  | 2.53                     | 0.43              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 3:K:113:LEU:HD11 | 3:K:436:PRO:HA   | 2.01                     | 0.43              |
| 3:K:449:ARG:HG3  | 3:K:459:THR:O    | 2.19                     | 0.43              |
| 4:L:32:GLN:HG3   | 4:L:33:ILE:H     | 1.83                     | 0.43              |
| 4:L:464:THR:O    | 4:L:467:GLU:HB2  | 2.18                     | 0.43              |
| 5:M:29:MET:HA    | 5:M:531:ASP:O    | 2.19                     | 0.43              |
| 5:M:92:VAL:O     | 5:M:96:LYS:HG2   | 2.18                     | 0.43              |
| 5:M:184:GLN:O    | 5:M:188:ILE:N    | 2.41                     | 0.43              |
| 6:N:38:LEU:HD23  | 6:N:39:GLY:N     | 2.33                     | 0.43              |
| 6:N:271:VAL:O    | 6:N:275:ILE:HG12 | 2.18                     | 0.43              |
| 6:N:413:ALA:HA   | 6:N:416:VAL:HG22 | 2.01                     | 0.43              |
| 7:O:416:LEU:HA   | 7:O:419:TYR:HB3  | 2.01                     | 0.43              |
| 8:P:279:GLN:HG2  | 8:P:336:LEU:HD23 | 2.01                     | 0.43              |
| 8:P:341:LEU:HD23 | 8:P:344:MET:HB2  | 2.01                     | 0.43              |
| 10:2:27:ILE:HG13 | 13:5:19:LYS:HD3  | 2.01                     | 0.43              |
| 12:4:68:PRO:O    | 14:6:63:VAL:HB   | 2.18                     | 0.43              |
| 12:4:73:ASP:HB2  | 13:5:66:LEU:HA   | 2.00                     | 0.43              |
| 1:A:233:LYS:HB2  | 1:A:284:ASN:H    | 1.84                     | 0.43              |
| 1:A:233:LYS:HB2  | 1:A:284:ASN:N    | 2.34                     | 0.43              |
| 1:A:397:CYS:HB3  | 1:A:401:ARG:HH12 | 1.84                     | 0.43              |
| 1:A:452:LEU:HD22 | 1:A:490:LEU:HD23 | 2.00                     | 0.43              |
| 1:A:456:ALA:HB1  | 1:A:458:GLN:HE21 | 1.84                     | 0.43              |
| 1:A:506:PRO:HB2  | 1:A:509:VAL:CG2  | 2.49                     | 0.43              |
| 2:B:449:ILE:HG22 | 2:B:453:ASN:HD21 | 1.84                     | 0.43              |
| 3:C:47:MET:O     | 6:F:518:VAL:HG12 | 2.19                     | 0.43              |
| 3:C:323:ILE:HG12 | 3:C:363:ILE:HD12 | 2.00                     | 0.43              |
| 4:D:254:SER:HB3  | 4:D:261:ASP:O    | 2.18                     | 0.43              |
| 4:D:287:VAL:O    | 4:D:290:ILE:HB   | 2.19                     | 0.43              |
| 4:D:432:LEU:O    | 4:D:436:LEU:HG   | 2.19                     | 0.43              |
| 4:D:475:SER:CA   | 5:M:443:LEU:HD21 | 2.46                     | 0.43              |
| 5:E:110:VAL:HA   | 5:E:113:ALA:HB3  | 2.01                     | 0.43              |
| 5:E:147:HIS:HE1  | 5:E:428:SER:OG   | 2.02                     | 0.43              |
| 6:F:204:THR:HG23 | 6:F:376:ILE:HG22 | 2.00                     | 0.43              |
| 6:F:376:ILE:HG13 | 6:F:376:ILE:O    | 2.19                     | 0.43              |
| 7:G:164:SER:CB   | 7:G:172:LYS:HD2  | 2.49                     | 0.43              |
| 8:H:118:LEU:O    | 8:H:122:GLY:N    | 2.52                     | 0.43              |
| 8:H:318:LYS:HA   | 8:H:321:LEU:HB2  | 2.01                     | 0.43              |
| 8:H:365:HIS:NE2  | 8:H:370:GLY:O    | 2.43                     | 0.43              |
| 1:I:18:ARG:HH22  | 1:I:530:LEU:CD2  | 2.32                     | 0.43              |
| 1:I:65:LEU:HA    | 3:K:525:GLY:OXT  | 2.19                     | 0.43              |
| 1:I:434:GLU:OE1  | 1:I:434:GLU:N    | 2.50                     | 0.43              |
| 1:I:463:LEU:O    | 1:I:467:LEU:N    | 2.32                     | 0.43              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:J:289:CYS:SG   | 2:J:349:ILE:HD12 | 2.59                     | 0.43              |
| 2:J:450:ILE:HD12 | 2:J:453:ASN:HD22 | 1.83                     | 0.43              |
| 3:K:205:PRO:HA   | 3:K:384:LEU:HD11 | 1.99                     | 0.43              |
| 3:K:236:PRO:O    | 3:K:329:ALA:HA   | 2.19                     | 0.43              |
| 4:L:252:CYS:HB3  | 4:L:308:ALA:HA   | 2.01                     | 0.43              |
| 4:L:274:ARG:HG2  | 4:L:277:ARG:NH2  | 2.33                     | 0.43              |
| 4:L:435:ARG:HG2  | 4:L:489:LYS:HZ3  | 1.83                     | 0.43              |
| 5:M:45:ALA:HB1   | 5:M:111:VAL:HA   | 2.01                     | 0.43              |
| 5:M:147:HIS:NE2  | 5:M:428:SER:OG   | 2.50                     | 0.43              |
| 5:M:250:ILE:HA   | 5:M:301:ILE:HG13 | 2.01                     | 0.43              |
| 5:M:263:LYS:NZ   | 7:O:254:GLU:O    | 2.42                     | 0.43              |
| 5:M:523:MET:O    | 5:M:527:ILE:HG13 | 2.19                     | 0.43              |
| 6:N:48:VAL:HG21  | 8:P:81:PRO:HB3   | 2.00                     | 0.43              |
| 6:N:292:ILE:HA   | 6:N:313:LEU:HB2  | 2.00                     | 0.43              |
| 6:N:412:GLY:HA3  | 6:N:448:PRO:HD3  | 2.00                     | 0.43              |
| 6:N:436:GLY:O    | 6:N:440:PHE:N    | 2.44                     | 0.43              |
| 7:O:159:ALA:O    | 7:O:163:LEU:HG   | 2.18                     | 0.43              |
| 7:O:184:MET:HA   | 7:O:187:ASP:HB3  | 2.00                     | 0.43              |
| 8:P:434:GLU:OE1  | 8:P:434:GLU:N    | 2.49                     | 0.43              |
| 1:A:21:ASN:ND2   | 1:A:69:HIS:HE1   | 2.17                     | 0.42              |
| 1:A:135:ASN:O    | 1:A:409:VAL:HG12 | 2.19                     | 0.42              |
| 1:A:347:GLN:HB3  | 1:A:368:LYS:HG3  | 2.00                     | 0.42              |
| 2:B:112:GLU:HB3  | 2:B:438:SER:HB3  | 2.01                     | 0.42              |
| 2:B:129:GLY:HA3  | 2:B:432:GLU:O    | 2.19                     | 0.42              |
| 3:C:183:VAL:HB   | 3:C:198:TYR:HB2  | 2.00                     | 0.42              |
| 4:D:232:LYS:NZ   | 4:D:323:MET:HG3  | 2.33                     | 0.42              |
| 4:D:290:ILE:HG23 | 4:D:295:CYS:SG   | 2.59                     | 0.42              |
| 5:E:165:LEU:HA   | 5:E:168:THR:HB   | 2.00                     | 0.42              |
| 5:E:233:ASP:OD2  | 5:E:323:ARG:HB2  | 2.19                     | 0.42              |
| 5:E:437:ALA:O    | 5:E:440:CYS:HB2  | 2.19                     | 0.42              |
| 5:E:460:MET:O    | 5:E:464:GLU:N    | 2.39                     | 0.42              |
| 5:E:518:SER:O    | 5:E:522:GLN:HB2  | 2.19                     | 0.42              |
| 6:F:132:GLN:O    | 6:F:136:GLU:HG3  | 2.18                     | 0.42              |
| 6:F:153:ARG:HA   | 6:F:156:LEU:HB2  | 2.01                     | 0.42              |
| 6:F:211:VAL:HG13 | 6:F:362:PHE:CE1  | 2.54                     | 0.42              |
| 7:G:306:ARG:NH2  | 7:G:308:MET:SD   | 2.91                     | 0.42              |
| 1:I:214:TYR:CE2  | 1:I:318:ARG:HB3  | 2.54                     | 0.42              |
| 2:J:226:VAL:HG11 | 2:J:302:GLN:HE21 | 1.83                     | 0.42              |
| 2:J:437:GLU:O    | 2:J:441:LYS:HG3  | 2.19                     | 0.42              |
| 3:K:237:ARG:O    | 3:K:289:VAL:HB   | 2.18                     | 0.42              |
| 3:K:275:ILE:HG22 | 3:K:300:ALA:HB3  | 2.01                     | 0.42              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 3:K:469:LYS:HE3  | 3:K:469:LYS:HB3  | 1.88                     | 0.42              |
| 4:L:90:MET:O     | 4:L:94:LEU:N     | 2.51                     | 0.42              |
| 5:M:340:ARG:HG3  | 5:M:352:LYS:HG2  | 2.01                     | 0.42              |
| 6:N:37:ASN:HB3   | 6:N:93:THR:HG23  | 2.00                     | 0.42              |
| 6:N:232:THR:HG21 | 6:N:321:MET:HG3  | 2.00                     | 0.42              |
| 6:N:333:LEU:HG   | 6:N:335:SER:H    | 1.84                     | 0.42              |
| 6:N:480:ASP:HB3  | 6:N:485:GLU:H    | 1.83                     | 0.42              |
| 7:O:97:VAL:O     | 7:O:101:ALA:N    | 2.52                     | 0.42              |
| 7:O:167:LEU:HB2  | 7:O:384:GLU:CG   | 2.42                     | 0.42              |
| 7:O:243:GLU:CG   | 7:O:293:LEU:HB3  | 2.49                     | 0.42              |
| 8:P:32:ASN:ND2   | 8:P:519:LEU:HA   | 2.34                     | 0.42              |
| 8:P:136:CYS:HA   | 8:P:139:ALA:HB3  | 2.00                     | 0.42              |
| 8:P:239:ILE:HD13 | 8:P:241:VAL:HB   | 2.00                     | 0.42              |
| 8:P:462:GLU:HG3  | 8:P:466:LYS:NZ   | 2.34                     | 0.42              |
| 13:5:91:TYR:CE2  | 13:5:93:GLU:HG3  | 2.54                     | 0.42              |
| 1:A:181:TYR:CE2  | 1:A:191:PRO:HB3  | 2.53                     | 0.42              |
| 1:A:234:ILE:H    | 1:A:346:GLY:C    | 2.21                     | 0.42              |
| 1:A:298:LYS:HA   | 1:A:301:VAL:HG22 | 2.00                     | 0.42              |
| 2:B:252:PHE:CG   | 2:B:277:GLU:HB2  | 2.55                     | 0.42              |
| 4:D:205:LEU:CD2  | 4:D:409:LEU:HB3  | 2.49                     | 0.42              |
| 4:D:467:GLU:HB2  | 4:D:473:PRO:HG3  | 2.01                     | 0.42              |
| 5:E:63:ASP:OD2   | 5:E:67:ASP:HB2   | 2.18                     | 0.42              |
| 5:E:201:ARG:O    | 5:E:202:ARG:HB2  | 2.19                     | 0.42              |
| 5:E:533:ILE:HG22 | 7:G:47:LYS:N     | 2.34                     | 0.42              |
| 6:F:172:VAL:CG2  | 6:F:391:VAL:HG23 | 2.49                     | 0.42              |
| 6:F:228:ALA:HB3  | 6:F:347:ALA:N    | 2.30                     | 0.42              |
| 6:F:468:ALA:HA   | 6:F:471:SER:HB2  | 2.01                     | 0.42              |
| 7:G:50:VAL:HA    | 7:G:55:LYS:O     | 2.19                     | 0.42              |
| 7:G:412:ILE:HD11 | 7:G:499:ARG:HD2  | 2.01                     | 0.42              |
| 7:G:418:LYS:HA   | 7:G:465:ARG:NH2  | 2.35                     | 0.42              |
| 8:H:47:TYR:HB3   | 8:H:448:ILE:CD1  | 2.48                     | 0.42              |
| 8:H:206:LYS:HD3  | 8:H:382:ASP:OD1  | 2.18                     | 0.42              |
| 1:I:68:GLU:OE1   | 4:L:62:GLN:NE2   | 2.53                     | 0.42              |
| 1:I:109:LYS:C    | 1:I:111:LYS:H    | 2.21                     | 0.42              |
| 1:I:314:ARG:HB2  | 1:I:318:ARG:NH1  | 2.32                     | 0.42              |
| 1:I:322:ALA:HA   | 1:I:370:ARG:CG   | 2.49                     | 0.42              |
| 1:I:525:LEU:HD23 | 4:L:56:GLY:O     | 2.19                     | 0.42              |
| 3:K:50:LEU:HD12  | 6:N:522:MET:O    | 2.20                     | 0.42              |
| 3:K:130:LEU:O    | 3:K:134:ILE:HG12 | 2.19                     | 0.42              |
| 3:K:179:ALA:O    | 3:K:183:VAL:HG23 | 2.19                     | 0.42              |
| 3:K:204:ILE:HG13 | 3:K:362:PHE:HZ   | 1.80                     | 0.42              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 3:K:241:LEU:HD23 | 3:K:245:LEU:HD22 | 2.00                     | 0.42              |
| 3:K:260:ARG:HB3  | 3:K:263:ASP:HB2  | 2.01                     | 0.42              |
| 3:K:375:LEU:HD11 | 3:K:377:ARG:NE   | 2.31                     | 0.42              |
| 4:L:116:LEU:HD22 | 4:L:137:PHE:CD1  | 2.54                     | 0.42              |
| 4:L:497:LYS:HG2  | 4:L:508:VAL:CG2  | 2.48                     | 0.42              |
| 5:M:27:ARG:CZ    | 5:M:534:ARG:HB2  | 2.48                     | 0.42              |
| 5:M:78:LEU:HD11  | 5:M:110:VAL:HG21 | 2.01                     | 0.42              |
| 5:M:81:MET:HG3   | 5:M:83:VAL:HG23  | 2.01                     | 0.42              |
| 5:M:307:ASP:O    | 5:M:310:ALA:N    | 2.49                     | 0.42              |
| 6:N:98:ILE:HD12  | 6:N:504:LEU:HD11 | 2.01                     | 0.42              |
| 6:N:225:VAL:HG13 | 6:N:288:GLY:HA3  | 2.00                     | 0.42              |
| 6:N:231:LEU:O    | 6:N:291:VAL:HA   | 2.19                     | 0.42              |
| 7:O:57:THR:HG21  | 7:O:68:LEU:HD13  | 2.01                     | 0.42              |
| 7:O:198:LYS:HB2  | 7:O:373:ILE:HD13 | 2.00                     | 0.42              |
| 8:P:147:VAL:HG22 | 8:P:409:VAL:CG2  | 2.48                     | 0.42              |
| 8:P:427:GLY:O    | 8:P:430:CYS:HB2  | 2.18                     | 0.42              |
| 13:5:86:VAL:HA   | 14:6:39:GLU:HB3  | 2.02                     | 0.42              |
| 13:5:91:TYR:HE2  | 13:5:93:GLU:HG3  | 1.84                     | 0.42              |
| 1:A:286:ILE:HG12 | 1:A:306:MET:O    | 2.19                     | 0.42              |
| 1:A:383:PHE:O    | 1:A:387:GLU:HG2  | 2.20                     | 0.42              |
| 2:B:209:LEU:HA   | 2:B:376:ARG:O    | 2.18                     | 0.42              |
| 2:B:350:GLU:HB3  | 2:B:352:VAL:HG23 | 2.00                     | 0.42              |
| 3:C:208:ILE:HG13 | 3:C:210:GLU:N    | 2.31                     | 0.42              |
| 3:C:233:ILE:CG2  | 3:C:236:PRO:HB2  | 2.49                     | 0.42              |
| 3:C:420:HIS:HE1  | 3:C:467:ARG:HA   | 1.84                     | 0.42              |
| 4:D:365:VAL:N    | 4:D:373:LEU:O    | 2.39                     | 0.42              |
| 4:D:413:ARG:HA   | 4:D:416:VAL:HG22 | 2.01                     | 0.42              |
| 6:F:34:LEU:HD22  | 6:F:93:THR:HA    | 2.01                     | 0.42              |
| 6:F:138:LYS:HA   | 6:F:408:VAL:CG1  | 2.49                     | 0.42              |
| 6:F:193:ILE:HD11 | 6:F:395:LEU:HD11 | 2.01                     | 0.42              |
| 7:G:119:GLN:C    | 7:G:121:ILE:N    | 2.72                     | 0.42              |
| 7:G:141:VAL:O    | 7:G:405:VAL:N    | 2.33                     | 0.42              |
| 7:G:199:LYS:N    | 7:G:217:LYS:HE3  | 2.34                     | 0.42              |
| 7:G:297:ASP:O    | 7:G:300:THR:HG22 | 2.20                     | 0.42              |
| 8:H:205:CYS:SG   | 8:H:222:VAL:HB   | 2.59                     | 0.42              |
| 8:H:459:LYS:HG3  | 8:H:462:GLU:H    | 1.84                     | 0.42              |
| 1:I:9:GLY:HA2    | 4:L:62:GLN:N     | 2.34                     | 0.42              |
| 1:I:17:ILE:O     | 1:I:21:ASN:ND2   | 2.52                     | 0.42              |
| 1:I:400:LYS:O    | 1:I:404:GLU:HG3  | 2.20                     | 0.42              |
| 2:J:141:LEU:HD12 | 2:J:141:LEU:HA   | 1.66                     | 0.42              |
| 3:K:411:GLY:H    | 3:K:414:SER:H    | 1.68                     | 0.42              |

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| Atom-1            | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|-------------------|------------------|--------------------------|-------------------|
| 4:L:234:SER:HB2   | 4:L:318:ASN:ND2  | 2.34                     | 0.42              |
| 5:M:136:GLY:HA3   | 5:M:444:GLU:HB3  | 2.00                     | 0.42              |
| 5:M:230:VAL:CG2   | 5:M:322:VAL:HG11 | 2.50                     | 0.42              |
| 5:M:308:ASP:HA    | 5:M:311:ASN:ND2  | 2.34                     | 0.42              |
| 5:M:437:ALA:HB3   | 5:M:449:ARG:HD2  | 2.02                     | 0.42              |
| 5:M:475:THR:HA    | 5:M:478:ARG:CB   | 2.45                     | 0.42              |
| 6:N:207:ILE:N     | 6:N:373:THR:O    | 2.47                     | 0.42              |
| 7:O:107:GLN:HB3   | 7:O:437:ALA:HB1  | 2.00                     | 0.42              |
| 8:P:179:LEU:O     | 8:P:183:ILE:HG22 | 2.20                     | 0.42              |
| 8:P:257:VAL:HG12  | 8:P:268:PHE:CE1  | 2.54                     | 0.42              |
| 8:P:458:VAL:HG21  | 8:P:478:VAL:HG11 | 2.00                     | 0.42              |
| 9:1:67:MET:SD     | 11:3:107:LEU:HG  | 2.60                     | 0.42              |
| 11:3:107:LEU:HD11 | 13:5:53:LEU:HD22 | 2.00                     | 0.42              |
| 1:A:15:GLU:OE2    | 1:A:18:ARG:NH1   | 2.51                     | 0.42              |
| 1:A:33:LYS:HG2    | 1:A:454:VAL:HG21 | 2.02                     | 0.42              |
| 1:A:33:LYS:HG3    | 1:A:451:THR:HB   | 2.01                     | 0.42              |
| 1:A:296:CYS:HA    | 1:A:299:TYR:CD2  | 2.55                     | 0.42              |
| 1:A:461:THR:HG21  | 7:O:430:LYS:HG3  | 2.01                     | 0.42              |
| 2:B:137:ALA:O     | 2:B:141:LEU:N    | 2.46                     | 0.42              |
| 2:B:278:LYS:HG2   | 2:B:335:PHE:CZ   | 2.54                     | 0.42              |
| 2:B:375:LEU:HD11  | 2:B:390:LEU:HD22 | 2.01                     | 0.42              |
| 2:B:410:GLY:HA3   | 2:B:488:MET:HE3  | 2.02                     | 0.42              |
| 3:C:48:LYS:N      | 3:C:60:THR:O     | 2.34                     | 0.42              |
| 4:D:35:PHE:HA     | 4:D:38:ILE:HB    | 2.01                     | 0.42              |
| 4:D:255:ALA:HB3   | 4:D:263:GLN:HB2  | 2.02                     | 0.42              |
| 4:D:280:ARG:CZ    | 12:4:51:GLU:HB3  | 2.49                     | 0.42              |
| 4:D:440:SER:HB2   | 4:D:451:VAL:HG12 | 2.02                     | 0.42              |
| 5:E:118:GLU:OE1   | 5:E:118:GLU:N    | 2.51                     | 0.42              |
| 5:E:147:HIS:CE1   | 5:E:151:ILE:HD11 | 2.53                     | 0.42              |
| 5:E:221:ASP:O     | 5:E:388:ARG:HB2  | 2.19                     | 0.42              |
| 5:E:478:ARG:HD2   | 4:L:449:TYR:CZ   | 2.54                     | 0.42              |
| 6:F:95:ASN:OD1    | 6:F:508:CYS:HB2  | 2.19                     | 0.42              |
| 7:G:125:PHE:HB3   | 7:G:507:SER:HB3  | 2.02                     | 0.42              |
| 7:G:350:GLU:HB2   | 7:G:359:ASN:ND2  | 2.33                     | 0.42              |
| 7:G:498:VAL:HA    | 7:G:501:ASN:HD22 | 1.83                     | 0.42              |
| 1:I:41:LEU:HD22   | 3:K:518:ARG:HG2  | 2.01                     | 0.42              |
| 1:I:401:ARG:HD2   | 1:I:506:PRO:HD3  | 2.00                     | 0.42              |
| 2:J:20:ARG:HD3    | 2:J:519:ASN:OD1  | 2.19                     | 0.42              |
| 2:J:66:ASP:O      | 2:J:70:ILE:HD12  | 2.19                     | 0.42              |
| 2:J:350:GLU:O     | 2:J:360:ILE:HA   | 2.20                     | 0.42              |
| 3:K:430:THR:HA    | 3:K:434:GLN:OE1  | 2.20                     | 0.42              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 4:L:175:VAL:HB   | 4:L:404:SER:HG   | 1.84                     | 0.42              |
| 5:M:218:ARG:HH11 | 5:M:220:GLU:HB2  | 1.85                     | 0.42              |
| 5:M:379:ASN:HD21 | 5:M:381:ARG:HE   | 1.66                     | 0.42              |
| 5:M:452:ALA:O    | 5:M:455:LEU:HB2  | 2.19                     | 0.42              |
| 6:N:31:GLN:HE21  | 6:N:97:LEU:C     | 2.22                     | 0.42              |
| 6:N:138:LYS:HZ3  | 6:N:406:CYS:CB   | 2.31                     | 0.42              |
| 6:N:308:GLU:HB3  | 6:N:310:ILE:HD12 | 2.02                     | 0.42              |
| 7:O:190:LEU:O    | 7:O:397:ARG:NH1  | 2.52                     | 0.42              |
| 7:O:229:PRO:O    | 7:O:309:PHE:HB2  | 2.19                     | 0.42              |
| 1:A:161:ILE:O    | 1:A:165:GLY:N    | 2.52                     | 0.42              |
| 1:A:196:ASN:HA   | 1:A:314:ARG:HH21 | 1.85                     | 0.42              |
| 1:A:274:ARG:O    | 1:A:278:ILE:HG13 | 2.18                     | 0.42              |
| 2:B:425:ALA:HA   | 2:B:428:THR:OG1  | 2.20                     | 0.42              |
| 2:B:427:ARG:C    | 2:B:429:PRO:HD3  | 2.40                     | 0.42              |
| 3:C:240:LEU:HD11 | 3:C:323:ILE:CG2  | 2.50                     | 0.42              |
| 3:C:249:LYS:HD2  | 3:C:254:THR:HG23 | 2.02                     | 0.42              |
| 3:C:270:MET:HA   | 3:C:273:GLU:HB3  | 2.02                     | 0.42              |
| 3:C:464:THR:CG2  | 8:P:432:GLY:H    | 2.33                     | 0.42              |
| 4:D:61:ILE:N     | 4:D:69:THR:O     | 2.52                     | 0.42              |
| 4:D:167:ALA:HA   | 4:D:411:VAL:HG23 | 2.02                     | 0.42              |
| 4:D:193:LYS:NZ   | 4:D:223:LEU:HD13 | 2.34                     | 0.42              |
| 4:D:462:PRO:O    | 4:D:466:ALA:N    | 2.27                     | 0.42              |
| 5:E:256:GLU:HB2  | 5:E:285:PHE:HD1  | 1.83                     | 0.42              |
| 6:F:153:ARG:HE   | 6:F:157:ARG:HD3  | 1.85                     | 0.42              |
| 7:G:37:ARG:CZ    | 7:G:448:GLN:HG2  | 2.50                     | 0.42              |
| 7:G:151:GLN:O    | 7:G:155:LEU:HD13 | 2.20                     | 0.42              |
| 7:G:298:VAL:HA   | 7:G:301:GLN:OE1  | 2.19                     | 0.42              |
| 7:G:494:GLU:OE1  | 7:G:494:GLU:N    | 2.52                     | 0.42              |
| 8:H:211:GLY:O    | 8:H:378:ARG:HB2  | 2.20                     | 0.42              |
| 8:H:239:ILE:HG22 | 8:H:241:VAL:HG23 | 2.01                     | 0.42              |
| 8:H:299:ASP:OD1  | 8:H:302:LEU:HD23 | 2.20                     | 0.42              |
| 1:I:75:LEU:HD11  | 1:I:94:VAL:HG13  | 2.02                     | 0.42              |
| 1:I:111:LYS:HB2  | 1:I:113:HIS:HA   | 2.01                     | 0.42              |
| 2:J:503:VAL:HG23 | 2:J:504:LEU:N    | 2.34                     | 0.42              |
| 3:K:142:ILE:HD12 | 3:K:409:PRO:HG2  | 2.00                     | 0.42              |
| 3:K:168:TRP:CD2  | 3:K:387:VAL:HG22 | 2.55                     | 0.42              |
| 3:K:397:VAL:O    | 3:K:401:VAL:N    | 2.36                     | 0.42              |
| 4:L:227:LEU:HD12 | 4:L:387:THR:OG1  | 2.20                     | 0.42              |
| 4:L:231:GLN:HE21 | 4:L:233:VAL:HG22 | 1.85                     | 0.42              |
| 4:L:247:GLY:O    | 4:L:356:LEU:HD22 | 2.19                     | 0.42              |
| 5:M:135:ASP:HA   | 5:M:525:ARG:CZ   | 2.49                     | 0.42              |

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| Atom-1           | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 5:M:472:GLN:O    | 5:M:476:GLU:HG3   | 2.19                     | 0.42              |
| 6:N:222:LYS:HB2  | 6:N:225:VAL:HG22  | 2.01                     | 0.42              |
| 6:N:229:TYR:HD2  | 6:N:282:CYS:SG    | 2.42                     | 0.42              |
| 6:N:277:LEU:HB2  | 6:N:338:ASP:OD1   | 2.20                     | 0.42              |
| 7:O:193:LYS:O    | 7:O:321:ARG:NE    | 2.53                     | 0.42              |
| 8:P:100:GLY:CA   | 8:P:103:PHE:HB3   | 2.48                     | 0.42              |
| 8:P:186:ALA:CB   | 8:P:375:ILE:HD11  | 2.50                     | 0.42              |
| 11:3:170:THR:O   | 11:3:174:VAL:HG23 | 2.19                     | 0.42              |
| 12:4:26:PHE:HE1  | 12:4:116:LYS:HG2  | 1.84                     | 0.42              |
| 12:4:81:GLU:O    | 12:4:85:GLU:HG2   | 2.20                     | 0.42              |
| 12:4:97:GLU:HA   | 12:4:100:ALA:HB3  | 2.02                     | 0.42              |
| 1:A:319:ILE:HG21 | 1:A:364:ILE:HD12  | 2.02                     | 0.42              |
| 1:A:477:ASN:O    | 1:A:486:ILE:HB    | 2.19                     | 0.42              |
| 2:B:128:ALA:HA   | 2:B:131:ARG:HD2   | 2.02                     | 0.42              |
| 2:B:422:THR:HA   | 2:B:425:ALA:HB3   | 2.02                     | 0.42              |
| 3:C:32:THR:HA    | 3:C:35:ASP:OD2    | 2.19                     | 0.42              |
| 3:C:52:ASP:HB2   | 3:C:56:GLY:H      | 1.84                     | 0.42              |
| 3:C:240:LEU:HD11 | 3:C:323:ILE:HG21  | 2.01                     | 0.42              |
| 3:C:319:ASP:O    | 3:C:323:ILE:HG13  | 2.20                     | 0.42              |
| 3:C:397:VAL:O    | 3:C:401:VAL:N     | 2.34                     | 0.42              |
| 3:C:443:ALA:O    | 3:C:446:VAL:HG12  | 2.20                     | 0.42              |
| 4:D:193:LYS:HB3  | 4:D:384:LYS:NZ    | 2.34                     | 0.42              |
| 4:D:328:ILE:HG23 | 4:D:333:ILE:HD11  | 2.01                     | 0.42              |
| 5:E:29:MET:N     | 5:E:32:GLU:HB2    | 2.34                     | 0.42              |
| 5:E:73:ASP:CB    | 5:E:400:ARG:HH21  | 2.29                     | 0.42              |
| 5:E:478:ARG:HH22 | 4:L:441:ARG:HH11  | 1.67                     | 0.42              |
| 6:F:33:VAL:HG13  | 6:F:45:LYS:NZ     | 2.34                     | 0.42              |
| 6:F:175:SER:HB3  | 6:F:190:MET:HB3   | 2.01                     | 0.42              |
| 6:F:411:ALA:HB2  | 6:F:494:VAL:HG21  | 2.01                     | 0.42              |
| 6:F:452:ALA:O    | 6:F:457:PHE:HB2   | 2.20                     | 0.42              |
| 6:F:504:LEU:HA   | 6:F:507:SER:HB2   | 2.02                     | 0.42              |
| 7:G:158:CYS:O    | 7:G:161:THR:HB    | 2.19                     | 0.42              |
| 7:G:232:TYR:OH   | 7:G:308:MET:HA    | 2.20                     | 0.42              |
| 7:G:408:GLY:HA2  | 7:G:499:ARG:HH21  | 1.85                     | 0.42              |
| 8:H:104:VAL:HG13 | 8:H:511:ALA:HB2   | 2.00                     | 0.42              |
| 8:H:486:VAL:HB   | 8:H:487:PRO:HD3   | 2.00                     | 0.42              |
| 1:I:462:ASP:O    | 1:I:465:ALA:HB3   | 2.19                     | 0.42              |
| 1:I:479:GLU:OE1  | 1:I:481:LYS:HG3   | 2.19                     | 0.42              |
| 2:J:138:ARG:HH11 | 2:J:505:LEU:HD11  | 1.85                     | 0.42              |
| 2:J:149:GLY:HA2  | 2:J:155:PHE:HB2   | 2.01                     | 0.42              |
| 2:J:227:ASN:OD1  | 2:J:228:GLN:N     | 2.53                     | 0.42              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 3:K:238:ILE:H    | 3:K:329:ALA:HB1  | 1.84                     | 0.42              |
| 3:K:330:ARG:NE   | 3:K:340:GLU:O    | 2.52                     | 0.42              |
| 3:K:421:ALA:HB2  | 3:K:470:HIS:NE2  | 2.34                     | 0.42              |
| 3:K:500:ALA:O    | 3:K:504:GLN:HG2  | 2.19                     | 0.42              |
| 4:L:30:PRO:CG    | 4:L:534:ASP:H    | 2.32                     | 0.42              |
| 4:L:42:LYS:HG2   | 4:L:46:ASP:OD2   | 2.19                     | 0.42              |
| 4:L:209:LYS:O    | 4:L:387:THR:HA   | 2.20                     | 0.42              |
| 6:N:199:LYS:HB3  | 8:P:506:TRP:CZ3  | 2.55                     | 0.42              |
| 8:P:140:HIS:CE1  | 8:P:509:LYS:HG2  | 2.54                     | 0.42              |
| 8:P:150:SER:HB3  | 8:P:406:LYS:HG3  | 2.02                     | 0.42              |
| 8:P:308:TYR:HD2  | 8:P:310:ILE:HB   | 1.85                     | 0.42              |
| 8:P:340:VAL:HG23 | 8:P:343:GLU:H    | 1.85                     | 0.42              |
| 10:2:72:ARG:HE   | 10:2:81:ARG:NH1  | 2.18                     | 0.42              |
| 10:2:115:LEU:O   | 10:2:119:ARG:N   | 2.52                     | 0.42              |
| 14:6:104:GLN:HA  | 14:6:107:THR:OG1 | 2.20                     | 0.42              |
| 1:A:138:VAL:HG13 | 1:A:139:ASN:N    | 2.35                     | 0.42              |
| 1:A:470:PHE:CD2  | 1:A:495:PRO:HG2  | 2.54                     | 0.42              |
| 1:A:522:ILE:HA   | 1:A:525:LEU:HB3  | 2.01                     | 0.42              |
| 2:B:189:ARG:O    | 2:B:191:LYS:NZ   | 2.31                     | 0.42              |
| 4:D:268:ASP:O    | 4:D:272:MET:HB2  | 2.20                     | 0.42              |
| 4:D:390:VAL:HG21 | 4:D:402:GLU:HG2  | 2.00                     | 0.42              |
| 5:E:101:GLU:O    | 5:E:411:ASN:ND2  | 2.53                     | 0.42              |
| 5:E:183:ARG:HA   | 5:E:186:ALA:HB3  | 2.00                     | 0.42              |
| 5:E:215:VAL:HG12 | 5:E:389:GLY:N    | 2.35                     | 0.42              |
| 5:E:219:LEU:HD21 | 5:E:394:ILE:HG13 | 2.01                     | 0.42              |
| 5:E:255:PHE:CD1  | 5:E:292:ILE:HG12 | 2.52                     | 0.42              |
| 6:F:24:ILE:HB    | 6:F:28:ARG:HH22  | 1.83                     | 0.42              |
| 6:F:41:LYS:HB2   | 6:F:481:LEU:O    | 2.18                     | 0.42              |
| 6:F:108:LEU:HA   | 6:F:111:SER:HB2  | 2.02                     | 0.42              |
| 6:F:129:LYS:HG3  | 6:F:422:LEU:HD11 | 2.02                     | 0.42              |
| 6:F:409:PRO:HA   | 6:F:495:TRP:HD1  | 1.85                     | 0.42              |
| 6:F:443:ALA:O    | 6:F:446:ILE:HG22 | 2.20                     | 0.42              |
| 7:G:278:LEU:HD22 | 7:G:303:PHE:CD2  | 2.55                     | 0.42              |
| 7:G:333:SER:HB2  | 8:H:259:ILE:CG2  | 2.50                     | 0.42              |
| 8:H:108:ALA:O    | 8:H:112:LEU:HG   | 2.19                     | 0.42              |
| 3:K:222:LYS:HA   | 3:K:225:THR:HG23 | 2.02                     | 0.42              |
| 3:K:309:ILE:HG22 | 3:K:310:THR:O    | 2.20                     | 0.42              |
| 4:L:91:LEU:HD22  | 4:L:113:ALA:HB1  | 2.01                     | 0.42              |
| 4:L:435:ARG:HD2  | 4:L:489:LYS:HB3  | 2.02                     | 0.42              |
| 5:M:232:LYS:HG3  | 5:M:324:TRP:N    | 2.35                     | 0.42              |
| 5:M:248:ILE:O    | 5:M:354:GLY:N    | 2.43                     | 0.42              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 5:M:250:ILE:HG21 | 5:M:341:ILE:HD12 | 2.02                     | 0.42              |
| 5:M:254:PRO:HD3  | 7:O:267:VAL:HG11 | 2.01                     | 0.42              |
| 5:M:496:LYS:HZ3  | 5:M:504:GLN:HA   | 1.85                     | 0.42              |
| 6:N:57:THR:HB    | 6:N:59:ASP:HB2   | 2.02                     | 0.42              |
| 6:N:172:VAL:HG11 | 6:N:394:GLY:O    | 2.19                     | 0.42              |
| 6:N:289:PHE:CD2  | 6:N:310:ILE:HG12 | 2.55                     | 0.42              |
| 7:O:86:GLN:NE2   | 7:O:92:ASP:O     | 2.49                     | 0.42              |
| 7:O:216:PHE:CE1  | 7:O:318:ASP:HB3  | 2.54                     | 0.42              |
| 7:O:523:PRO:HD3  | 8:P:58:ASN:O     | 2.18                     | 0.42              |
| 8:P:216:SER:H    | 8:P:376:VAL:CG1  | 2.33                     | 0.42              |
| 8:P:339:PRO:HA   | 8:P:343:GLU:OE1  | 2.19                     | 0.42              |
| 10:2:49:MET:O    | 10:2:53:GLU:N    | 2.39                     | 0.42              |
| 10:2:90:LEU:CD2  | 11:3:131:VAL:HB  | 2.50                     | 0.42              |
| 12:4:34:THR:HA   | 12:4:37:LYS:HB3  | 2.00                     | 0.42              |
| 12:4:45:LYS:HA   | 12:4:48:GLN:HB3  | 2.02                     | 0.42              |
| 13:5:82:VAL:HG11 | 13:5:96:ALA:HA   | 2.02                     | 0.42              |
| 1:A:265:GLN:HG3  | 1:A:269:ASP:OD2  | 2.20                     | 0.42              |
| 2:B:223:LYS:HD3  | 2:B:358:LYS:O    | 2.20                     | 0.42              |
| 2:B:298:ASN:ND2  | 2:B:301:GLU:OE1  | 2.46                     | 0.42              |
| 2:B:327:THR:HA   | 2:B:366:ALA:H    | 1.85                     | 0.42              |
| 2:B:481:ARG:HG3  | 2:B:482:GLU:N    | 2.35                     | 0.42              |
| 3:C:129:ALA:O    | 3:C:506:TYR:OH   | 2.37                     | 0.42              |
| 3:C:133:MET:O    | 3:C:137:LEU:HG   | 2.19                     | 0.42              |
| 3:C:323:ILE:HA   | 3:C:326:ALA:CB   | 2.50                     | 0.42              |
| 3:C:465:SER:O    | 3:C:469:LYS:HG2  | 2.20                     | 0.42              |
| 4:D:300:ILE:CD1  | 4:D:324:VAL:HG13 | 2.49                     | 0.42              |
| 5:E:410:ARG:HG2  | 5:E:414:ARG:NH1  | 2.33                     | 0.42              |
| 5:E:442:THR:HG23 | 5:E:443:LEU:N    | 2.27                     | 0.42              |
| 5:E:487:PRO:HB2  | 5:E:489:LEU:O    | 2.20                     | 0.42              |
| 6:F:49:SER:HB3   | 8:H:22:PHE:CD2   | 2.54                     | 0.42              |
| 6:F:61:ASN:O     | 6:F:65:HIS:ND1   | 2.52                     | 0.42              |
| 6:F:294:GLN:CD   | 6:F:321:MET:HB2  | 2.39                     | 0.42              |
| 7:G:104:PHE:O    | 7:G:108:VAL:HG23 | 2.20                     | 0.42              |
| 8:H:37:LYS:O     | 8:H:40:ALA:N     | 2.38                     | 0.42              |
| 1:I:11:ARG:HB2   | 4:L:59:LYS:NZ    | 2.34                     | 0.42              |
| 1:I:139:ASN:HD22 | 1:I:408:VAL:HB   | 1.84                     | 0.42              |
| 1:I:175:ALA:O    | 1:I:179:ILE:HG12 | 2.20                     | 0.42              |
| 2:J:131:ARG:NH2  | 2:J:512:GLU:OE1  | 2.53                     | 0.42              |
| 2:J:159:LEU:CB   | 2:J:184:VAL:HG22 | 2.47                     | 0.42              |
| 2:J:181:LYS:O    | 2:J:185:GLU:HG2  | 2.20                     | 0.42              |
| 2:J:200:HIS:CE1  | 2:J:370:ALA:HB1  | 2.54                     | 0.42              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 3:K:469:LYS:NZ   | 3:K:479:GLY:HA2  | 2.34                     | 0.42              |
| 4:L:284:LEU:O    | 4:L:288:LYS:HG3  | 2.19                     | 0.42              |
| 5:M:243:VAL:CB   | 5:M:359:VAL:HB   | 2.46                     | 0.42              |
| 5:M:473:THR:O    | 5:M:476:GLU:HB2  | 2.19                     | 0.42              |
| 6:N:48:VAL:HA    | 6:N:53:ASP:O     | 2.20                     | 0.42              |
| 6:N:61:ASN:CB    | 6:N:81:ALA:HB1   | 2.50                     | 0.42              |
| 6:N:129:LYS:HB3  | 6:N:418:MET:CE   | 2.50                     | 0.42              |
| 6:N:353:TYR:HB3  | 6:N:362:PHE:CE2  | 2.50                     | 0.42              |
| 6:N:392:ARG:HG3  | 6:N:393:ASP:H    | 1.85                     | 0.42              |
| 7:O:117:HIS:CE1  | 7:O:121:ILE:HB   | 2.55                     | 0.42              |
| 8:P:401:VAL:O    | 8:P:404:ARG:HG2  | 2.20                     | 0.42              |
| 10:2:90:LEU:HD22 | 11:3:129:ALA:O   | 2.19                     | 0.42              |
| 12:4:63:ASP:CB   | 12:4:80:GLN:H    | 2.30                     | 0.42              |
| 1:A:278:ILE:HG23 | 1:A:340:PHE:CD2  | 2.55                     | 0.42              |
| 2:B:24:ALA:HB1   | 2:B:520:ILE:HD12 | 2.01                     | 0.42              |
| 2:B:25:ARG:HH21  | 2:B:113:ALA:CB   | 2.32                     | 0.42              |
| 3:C:137:LEU:O    | 3:C:140:ILE:N    | 2.52                     | 0.42              |
| 3:C:165:ILE:HB   | 3:C:390:ASN:ND2  | 2.35                     | 0.42              |
| 4:D:55:LYS:HB3   | 4:D:469:ALA:HA   | 2.02                     | 0.42              |
| 4:D:160:ARG:O    | 4:D:163:LEU:HB2  | 2.20                     | 0.42              |
| 4:D:184:SER:O    | 4:D:188:VAL:HG23 | 2.19                     | 0.42              |
| 4:D:405:ILE:O    | 4:D:409:LEU:HG   | 2.19                     | 0.42              |
| 5:E:38:ILE:HG22  | 5:E:42:LYS:HZ2   | 1.84                     | 0.42              |
| 5:E:508:GLU:OE1  | 5:E:513:LYS:HD3  | 2.19                     | 0.42              |
| 6:F:31:GLN:NE2   | 6:F:96:VAL:O     | 2.26                     | 0.42              |
| 7:G:331:GLN:NE2  | 7:G:341:VAL:HG23 | 2.35                     | 0.42              |
| 7:G:449:LEU:HD22 | 7:G:479:ILE:HG21 | 2.02                     | 0.42              |
| 8:H:42:THR:HA    | 8:H:54:LYS:CE    | 2.49                     | 0.42              |
| 8:H:63:LEU:N     | 8:H:383:ASN:HD21 | 2.18                     | 0.42              |
| 8:H:367:LYS:H    | 8:H:371:ALA:HB2  | 1.85                     | 0.42              |
| 1:I:246:MET:HG2  | 1:I:267:GLU:HB3  | 2.01                     | 0.42              |
| 1:I:330:THR:HG23 | 1:I:331:LEU:N    | 2.34                     | 0.42              |
| 1:I:439:ALA:O    | 1:I:443:ARG:N    | 2.32                     | 0.42              |
| 1:I:468:ARG:HA   | 1:I:471:HIS:CB   | 2.45                     | 0.42              |
| 2:J:23:THR:HA    | 2:J:26:LEU:HB2   | 2.02                     | 0.42              |
| 2:J:448:THR:CG2  | 2:J:462:VAL:HG11 | 2.49                     | 0.42              |
| 2:J:455:GLY:HA2  | 4:L:129:HIS:HE1  | 1.84                     | 0.42              |
| 3:K:156:ILE:HD11 | 3:K:394:ALA:CB   | 2.50                     | 0.42              |
| 3:K:324:ALA:HB1  | 3:K:330:ARG:HA   | 2.01                     | 0.42              |
| 3:K:469:LYS:HZ1  | 3:K:479:GLY:HA2  | 1.85                     | 0.42              |
| 4:L:253:LEU:HG   | 4:L:309:LEU:CD2  | 2.50                     | 0.42              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 4:L:445:GLY:H    | 4:L:448:SER:HB3  | 1.85                     | 0.42              |
| 5:M:309:GLU:O    | 5:M:313:LEU:HD13 | 2.20                     | 0.42              |
| 6:N:38:LEU:HD12  | 6:N:94:SER:HA    | 2.02                     | 0.42              |
| 6:N:418:MET:HB3  | 6:N:444:LEU:HD13 | 2.02                     | 0.42              |
| 6:N:450:VAL:HA   | 6:N:453:GLN:HB3  | 2.02                     | 0.42              |
| 7:O:47:LYS:HB2   | 7:O:59:SER:O     | 2.18                     | 0.42              |
| 1:A:426:TYR:CD2  | 1:A:438:ILE:HD13 | 2.55                     | 0.42              |
| 1:A:465:ALA:O    | 7:O:428:PRO:HG2  | 2.20                     | 0.42              |
| 2:B:33:ILE:HA    | 2:B:107:ALA:CB   | 2.49                     | 0.42              |
| 2:B:88:SER:O     | 2:B:99:THR:HG23  | 2.20                     | 0.42              |
| 2:B:214:LEU:HA   | 2:B:373:ILE:HA   | 2.01                     | 0.42              |
| 2:B:327:THR:HG23 | 2:B:346:CYS:HB3  | 2.01                     | 0.42              |
| 3:C:132:ASP:HA   | 3:C:135:SER:HB2  | 2.02                     | 0.42              |
| 5:E:110:VAL:O    | 5:E:114:GLY:N    | 2.50                     | 0.42              |
| 5:E:157:VAL:CG2  | 5:E:160:LYS:H    | 2.32                     | 0.42              |
| 5:E:239:MET:HG3  | 5:E:312:HIS:HB2  | 2.01                     | 0.42              |
| 5:E:415:ASP:OD2  | 5:E:417:ARG:NE   | 2.53                     | 0.42              |
| 5:E:533:ILE:HG23 | 7:G:45:MET:O     | 2.20                     | 0.42              |
| 6:F:34:LEU:HD23  | 6:F:37:ASN:HB3   | 2.02                     | 0.42              |
| 6:F:408:VAL:HG11 | 6:F:501:LYS:NZ   | 2.35                     | 0.42              |
| 6:F:514:ASN:OD1  | 6:F:515:ILE:N    | 2.53                     | 0.42              |
| 7:G:174:PHE:CE2  | 7:G:178:MET:HG3  | 2.55                     | 0.42              |
| 7:G:222:TYR:N    | 7:G:225:PHE:HB2  | 2.30                     | 0.42              |
| 7:G:389:LEU:O    | 7:G:393:ILE:N    | 2.34                     | 0.42              |
| 7:G:421:ARG:CB   | 7:G:465:ARG:HH22 | 2.33                     | 0.42              |
| 8:H:146:LEU:HD13 | 8:H:418:GLU:HB3  | 2.01                     | 0.42              |
| 8:H:150:SER:HB3  | 8:H:405:ASP:HB3  | 2.02                     | 0.42              |
| 8:H:477:ASN:O    | 8:H:490:LYS:HB2  | 2.20                     | 0.42              |
| 1:I:333:ASN:HB2  | 1:I:338:GLU:OE1  | 2.19                     | 0.42              |
| 2:J:68:ALA:O     | 2:J:72:LYS:N     | 2.39                     | 0.42              |
| 2:J:91:GLN:HG2   | 2:J:102:VAL:HG23 | 2.02                     | 0.42              |
| 2:J:347:LYS:HB2  | 2:J:363:SER:OG   | 2.20                     | 0.42              |
| 2:J:450:ILE:HD12 | 2:J:450:ILE:HA   | 1.87                     | 0.42              |
| 2:J:450:ILE:HG13 | 2:J:480:MET:HB2  | 2.02                     | 0.42              |
| 3:K:247:TYR:O    | 3:K:294:LYS:HE3  | 2.20                     | 0.42              |
| 4:L:160:ARG:NH1  | 4:L:192:MET:HG3  | 2.34                     | 0.42              |
| 4:L:246:ILE:HD12 | 4:L:246:ILE:HA   | 1.84                     | 0.42              |
| 5:M:38:ILE:HD12  | 5:M:121:GLU:HG3  | 2.01                     | 0.42              |
| 5:M:85:HIS:CD2   | 5:M:87:ILE:H     | 2.37                     | 0.42              |
| 5:M:248:ILE:HB   | 5:M:354:GLY:HA3  | 2.02                     | 0.42              |
| 5:M:250:ILE:O    | 5:M:342:VAL:HB   | 2.20                     | 0.42              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 5:M:285:PHE:HA   | 5:M:288:MET:HB3  | 2.02                     | 0.42              |
| 6:N:282:CYS:HB3  | 6:N:287:LYS:O    | 2.20                     | 0.42              |
| 6:N:425:HIS:O    | 6:N:428:SER:HB3  | 2.20                     | 0.42              |
| 7:O:174:PHE:HD2  | 7:O:175:PHE:CD1  | 2.38                     | 0.42              |
| 7:O:417:SER:OG   | 7:O:439:ALA:O    | 2.26                     | 0.42              |
| 8:P:267:ASN:O    | 8:P:271:GLY:N    | 2.49                     | 0.42              |
| 9:1:35:GLU:HG3   | 9:1:39:ARG:HE    | 1.83                     | 0.42              |
| 13:5:103:PHE:O   | 13:5:107:ILE:N   | 2.52                     | 0.42              |
| 1:A:32:VAL:HG12  | 1:A:58:GLY:HA3   | 2.02                     | 0.41              |
| 1:A:341:GLU:OE1  | 1:A:341:GLU:N    | 2.51                     | 0.41              |
| 1:A:394:ASP:O    | 1:A:398:VAL:HG23 | 2.20                     | 0.41              |
| 1:A:472:ASN:HB2  | 1:A:484:LYS:HE3  | 2.02                     | 0.41              |
| 2:B:209:LEU:HD23 | 2:B:376:ARG:O    | 2.20                     | 0.41              |
| 2:B:412:CYS:HA   | 2:B:469:HIS:CE1  | 2.55                     | 0.41              |
| 2:B:511:ALA:O    | 2:B:515:LEU:HG   | 2.20                     | 0.41              |
| 4:D:301:GLN:HE21 | 4:D:306:ARG:CB   | 2.30                     | 0.41              |
| 4:D:335:PHE:CZ   | 4:D:339:THR:HG21 | 2.55                     | 0.41              |
| 5:E:28:LEU:HD13  | 5:E:33:ALA:HA    | 2.02                     | 0.41              |
| 5:E:73:ASP:O     | 5:E:76:THR:N     | 2.52                     | 0.41              |
| 6:F:145:ARG:O    | 6:F:149:ILE:N    | 2.38                     | 0.41              |
| 6:F:154:THR:HB   | 6:F:494:VAL:HA   | 2.02                     | 0.41              |
| 6:F:228:ALA:O    | 6:F:346:HIS:HA   | 2.20                     | 0.41              |
| 8:H:155:ARG:NH1  | 8:H:189:SER:HB2  | 2.32                     | 0.41              |
| 8:H:293:THR:HG21 | 8:H:297:VAL:HG22 | 2.01                     | 0.41              |
| 8:H:418:GLU:O    | 8:H:422:GLN:HG2  | 2.20                     | 0.41              |
| 8:H:446:GLU:OE2  | 8:H:464:ILE:HG21 | 2.20                     | 0.41              |
| 1:I:4:PRO:HD2    | 1:I:12:SER:O     | 2.19                     | 0.41              |
| 1:I:9:GLY:CA     | 4:L:61:ILE:HA    | 2.50                     | 0.41              |
| 1:I:21:ASN:HB3   | 1:I:71:ALA:CB    | 2.49                     | 0.41              |
| 1:I:69:HIS:HB2   | 1:I:72:ALA:CB    | 2.50                     | 0.41              |
| 1:I:155:SER:O    | 1:I:158:SER:OG   | 2.34                     | 0.41              |
| 1:I:320:ALA:HA   | 1:I:325:ALA:HB3  | 2.02                     | 0.41              |
| 1:I:534:HIS:O    | 4:L:63:ASP:HB3   | 2.20                     | 0.41              |
| 2:J:269:HIS:NE2  | 4:L:257:LYS:HA   | 2.35                     | 0.41              |
| 2:J:319:GLY:O    | 2:J:322:ARG:HB3  | 2.20                     | 0.41              |
| 3:K:230:ARG:HD2  | 3:K:289:VAL:CG2  | 2.47                     | 0.41              |
| 3:K:466:LEU:O    | 3:K:470:HIS:N    | 2.51                     | 0.41              |
| 4:L:38:ILE:HG23  | 4:L:117:LEU:HB3  | 2.02                     | 0.41              |
| 4:L:194:VAL:HG11 | 4:L:207:ASP:HB3  | 2.02                     | 0.41              |
| 4:L:244:ALA:HA   | 4:L:296:ASN:HD22 | 1.85                     | 0.41              |
| 4:L:533:ASP:OD1  | 4:L:533:ASP:N    | 2.51                     | 0.41              |

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| Atom-1           | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 5:M:138:GLU:O    | 5:M:142:ARG:HG2   | 2.20                     | 0.41              |
| 5:M:322:VAL:HG22 | 5:M:372:LEU:HD23  | 2.02                     | 0.41              |
| 6:N:98:ILE:HG12  | 6:N:446:ILE:HG21  | 2.02                     | 0.41              |
| 6:N:141:ARG:N    | 6:N:405:GLY:O     | 2.27                     | 0.41              |
| 6:N:149:ILE:HG23 | 6:N:169:THR:CG2   | 2.49                     | 0.41              |
| 6:N:469:GLU:OE1  | 6:N:486:PRO:HB3   | 2.19                     | 0.41              |
| 8:P:409:VAL:HG12 | 8:P:410:PRO:O     | 2.21                     | 0.41              |
| 9:1:30:ALA:O     | 9:1:34:ILE:HG22   | 2.20                     | 0.41              |
| 13:5:127:MET:O   | 13:5:131:VAL:HG23 | 2.20                     | 0.41              |
| 1:A:118:ILE:HA   | 1:A:121:TYR:CD2   | 2.55                     | 0.41              |
| 1:A:461:THR:HB   | 7:O:430:LYS:HA    | 2.01                     | 0.41              |
| 2:B:51:ILE:HG13  | 2:B:61:LEU:HD13   | 2.02                     | 0.41              |
| 2:B:128:ALA:O    | 2:B:131:ARG:HB2   | 2.20                     | 0.41              |
| 2:B:195:ASN:O    | 2:B:199:ILE:HG12  | 2.20                     | 0.41              |
| 2:B:379:THR:HG23 | 2:B:382:ILE:H     | 1.85                     | 0.41              |
| 2:B:406:THR:HB   | 2:B:494:THR:HG22  | 2.02                     | 0.41              |
| 3:C:126:TYR:HA   | 3:C:129:ALA:HB3   | 2.01                     | 0.41              |
| 3:C:168:TRP:CZ3  | 3:C:171:LEU:HD22  | 2.51                     | 0.41              |
| 3:C:466:LEU:HD12 | 3:C:469:LYS:HB2   | 2.01                     | 0.41              |
| 4:D:135:GLU:CA   | 4:D:527:ARG:HH12  | 2.26                     | 0.41              |
| 4:D:151:MET:HB3  | 4:D:489:LYS:NZ    | 2.35                     | 0.41              |
| 4:D:187:SER:OG   | 4:D:405:ILE:HA    | 2.20                     | 0.41              |
| 4:D:229:LEU:HA   | 4:D:332:ASP:OD2   | 2.19                     | 0.41              |
| 4:D:288:LYS:O    | 4:D:292:LYS:HG3   | 2.20                     | 0.41              |
| 4:D:310:SER:O    | 4:D:314:LEU:N     | 2.40                     | 0.41              |
| 5:E:255:PHE:HE2  | 5:E:314:LEU:HD21  | 1.85                     | 0.41              |
| 5:E:409:ILE:O    | 5:E:413:ILE:HG23  | 2.20                     | 0.41              |
| 5:E:489:LEU:CB   | 5:E:500:ASP:HA    | 2.50                     | 0.41              |
| 6:F:38:LEU:HD22  | 6:F:97:LEU:CD1    | 2.49                     | 0.41              |
| 6:F:349:LEU:HB2  | 6:F:365:LYS:NZ    | 2.34                     | 0.41              |
| 7:G:75:ALA:HA    | 7:G:513:ILE:HG12  | 2.02                     | 0.41              |
| 8:H:22:PHE:O     | 8:H:31:ARG:HD3    | 2.20                     | 0.41              |
| 8:H:193:ASP:OD1  | 8:H:402:LEU:HD23  | 2.19                     | 0.41              |
| 8:H:195:GLY:HA2  | 8:H:402:LEU:HB3   | 2.02                     | 0.41              |
| 8:H:217:VAL:HA   | 8:H:375:ILE:HA    | 2.02                     | 0.41              |
| 8:H:427:GLY:O    | 8:H:435:GLN:HB2   | 2.20                     | 0.41              |
| 1:I:139:ASN:ND2  | 1:I:408:VAL:HB    | 2.35                     | 0.41              |
| 1:I:141:ASP:H    | 1:I:402:VAL:HG21  | 1.85                     | 0.41              |
| 1:I:238:ASP:HB2  | 1:I:313:LYS:NZ    | 2.34                     | 0.41              |
| 2:J:30:ILE:HG13  | 2:J:31:GLY:N      | 2.35                     | 0.41              |
| 2:J:127:ILE:CD1  | 2:J:515:LEU:HD22  | 2.50                     | 0.41              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 2:J:228:GLN:OE1  | 2:J:301:GLU:HG3  | 2.20                     | 0.41              |
| 2:J:411:GLY:O    | 2:J:415:MET:HG3  | 2.21                     | 0.41              |
| 2:J:416:LEU:O    | 2:J:420:ALA:N    | 2.38                     | 0.41              |
| 3:K:236:PRO:HB2  | 3:K:289:VAL:HG21 | 2.02                     | 0.41              |
| 3:K:365:ASP:HB3  | 3:K:368:ASP:OD2  | 2.19                     | 0.41              |
| 5:M:420:TYR:HB3  | 5:M:501:MET:HB2  | 2.01                     | 0.41              |
| 5:M:420:TYR:HD2  | 5:M:487:PRO:O    | 2.03                     | 0.41              |
| 5:M:427:ILE:HD13 | 5:M:456:GLU:HG2  | 2.01                     | 0.41              |
| 6:N:21:ALA:HA    | 6:N:24:ILE:HG12  | 2.01                     | 0.41              |
| 6:N:141:ARG:HD2  | 6:N:407:VAL:CG2  | 2.49                     | 0.41              |
| 6:N:463:LEU:HD11 | 6:N:467:GLN:HE21 | 1.84                     | 0.41              |
| 7:O:50:VAL:HG22  | 7:O:55:LYS:O     | 2.20                     | 0.41              |
| 8:P:69:ALA:HB2   | 8:P:102:ASN:HD22 | 1.85                     | 0.41              |
| 8:P:417:ILE:HG12 | 8:P:418:GLU:H    | 1.85                     | 0.41              |
| 10:2:71:TYR:HE1  | 10:2:80:GLU:OE1  | 2.04                     | 0.41              |
| 1:A:135:ASN:ND2  | 1:A:409:VAL:HB   | 2.34                     | 0.41              |
| 1:A:197:ILE:HG23 | 1:A:375:ILE:HB   | 2.02                     | 0.41              |
| 2:B:437:GLU:O    | 2:B:441:LYS:HG3  | 2.20                     | 0.41              |
| 3:C:46:MET:HB3   | 6:F:517:LEU:O    | 2.21                     | 0.41              |
| 3:C:244:SER:OG   | 3:C:248:LYS:NZ   | 2.27                     | 0.41              |
| 4:D:51:SER:HB3   | 4:D:72:ASN:O     | 2.20                     | 0.41              |
| 4:D:151:MET:HE2  | 4:D:432:LEU:HD22 | 2.03                     | 0.41              |
| 5:E:268:VAL:HB   | 5:E:273:ASP:CB   | 2.50                     | 0.41              |
| 5:E:280:TYR:CD2  | 7:G:259:THR:HA   | 2.55                     | 0.41              |
| 5:E:509:THR:O    | 5:E:512:GLY:N    | 2.53                     | 0.41              |
| 5:E:534:ARG:HH22 | 7:G:66:LEU:N     | 2.18                     | 0.41              |
| 6:F:156:LEU:HB3  | 6:F:165:ALA:HA   | 2.01                     | 0.41              |
| 6:F:392:ARG:O    | 6:F:396:ARG:HG2  | 2.20                     | 0.41              |
| 6:F:400:ASN:HA   | 6:F:403:ASP:HB2  | 2.02                     | 0.41              |
| 6:F:475:GLN:NE2  | 6:F:476:LEU:O    | 2.35                     | 0.41              |
| 7:G:132:ALA:O    | 7:G:136:ILE:HG13 | 2.20                     | 0.41              |
| 8:H:46:ALA:HA    | 8:H:50:ASN:ND2   | 2.35                     | 0.41              |
| 8:H:279:GLN:O    | 8:H:283:ILE:N    | 2.52                     | 0.41              |
| 1:I:294:ASP:OD1  | 1:I:295:MET:N    | 2.53                     | 0.41              |
| 2:J:110:LEU:HD21 | 2:J:511:ALA:HA   | 2.03                     | 0.41              |
| 3:K:155:ILE:HG13 | 3:K:397:VAL:HG11 | 2.02                     | 0.41              |
| 3:K:291:ILE:HD11 | 3:K:331:ILE:HD12 | 2.01                     | 0.41              |
| 3:K:520:ASP:OD1  | 3:K:520:ASP:N    | 2.32                     | 0.41              |
| 4:L:211:VAL:HG23 | 4:L:389:VAL:HA   | 2.01                     | 0.41              |
| 4:L:463:SER:HB3  | 4:L:477:VAL:HA   | 2.01                     | 0.41              |
| 5:M:73:ASP:OD2   | 5:M:75:ALA:HB3   | 2.20                     | 0.41              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 5:M:138:GLU:HG3  | 5:M:142:ARG:NH2  | 2.36                     | 0.41              |
| 5:M:146:GLU:O    | 5:M:150:LYS:HG3  | 2.21                     | 0.41              |
| 5:M:193:VAL:HG13 | 5:M:406:LEU:HD12 | 2.03                     | 0.41              |
| 5:M:248:ILE:HD11 | 5:M:356:ALA:HB3  | 2.03                     | 0.41              |
| 5:M:390:GLY:H    | 5:M:394:ILE:CG2  | 2.32                     | 0.41              |
| 5:M:522:GLN:NE2  | 7:O:377:GLY:HA3  | 2.36                     | 0.41              |
| 6:N:131:LEU:HD21 | 6:N:505:LEU:HB2  | 2.03                     | 0.41              |
| 6:N:348:GLY:HA3  | 6:N:365:LYS:HB3  | 2.02                     | 0.41              |
| 7:O:163:LEU:HB3  | 7:O:168:ILE:HG13 | 2.01                     | 0.41              |
| 7:O:278:LEU:HD13 | 7:O:302:TYR:CD2  | 2.55                     | 0.41              |
| 8:P:161:SER:HB2  | 8:P:165:ARG:HH21 | 1.85                     | 0.41              |
| 8:P:456:SER:HB3  | 8:P:484:ALA:HB1  | 2.01                     | 0.41              |
| 11:3:56:GLN:HB3  | 11:3:60:TYR:CE2  | 2.55                     | 0.41              |
| 14:6:102:GLU:HA  | 14:6:105:ARG:HD2 | 2.02                     | 0.41              |
| 1:A:237:LEU:HD22 | 1:A:328:LEU:HB3  | 2.01                     | 0.41              |
| 2:B:152:GLU:HA   | 2:B:155:PHE:HB3  | 2.02                     | 0.41              |
| 2:B:376:ARG:HD3  | 2:B:376:ARG:HA   | 1.87                     | 0.41              |
| 3:C:183:VAL:HG11 | 3:C:199:ALA:HB2  | 2.02                     | 0.41              |
| 3:C:204:ILE:HD12 | 3:C:360:PHE:CZ   | 2.56                     | 0.41              |
| 3:C:381:LYS:HD2  | 3:C:384:LEU:HD22 | 2.03                     | 0.41              |
| 4:D:173:SER:OG   | 4:D:507:LEU:O    | 2.25                     | 0.41              |
| 4:D:191:VAL:O    | 4:D:195:ILE:HG13 | 2.21                     | 0.41              |
| 4:D:234:SER:HB2  | 4:D:324:VAL:O    | 2.21                     | 0.41              |
| 4:D:426:GLY:O    | 4:D:429:GLU:HB2  | 2.20                     | 0.41              |
| 4:D:483:ARG:HB3  | 4:D:491:ALA:HB3  | 2.03                     | 0.41              |
| 5:E:196:VAL:HG12 | 5:E:204:VAL:HG23 | 2.02                     | 0.41              |
| 5:E:303:GLN:HG3  | 5:E:327:GLY:HA2  | 2.02                     | 0.41              |
| 5:E:514:LYS:HE3  | 5:E:514:LYS:HB3  | 1.89                     | 0.41              |
| 5:E:530:ILE:HD13 | 7:G:59:SER:O     | 2.21                     | 0.41              |
| 6:F:407:VAL:HG12 | 6:F:495:TRP:HB3  | 2.01                     | 0.41              |
| 8:H:51:GLY:O     | 8:H:53:ASN:ND2   | 2.53                     | 0.41              |
| 8:H:137:ARG:O    | 8:H:141:GLU:HG3  | 2.20                     | 0.41              |
| 8:H:421:LYS:CE   | 8:H:471:HIS:HA   | 2.49                     | 0.41              |
| 8:H:446:GLU:O    | 8:H:450:ARG:N    | 2.41                     | 0.41              |
| 1:I:255:THR:HA   | 3:K:274:TYR:CE1  | 2.55                     | 0.41              |
| 2:J:412:CYS:HB2  | 2:J:477:GLY:HA2  | 2.01                     | 0.41              |
| 3:K:134:ILE:HG23 | 3:K:503:LEU:HD22 | 2.02                     | 0.41              |
| 3:K:208:ILE:HG23 | 3:K:211:ASP:H    | 1.84                     | 0.41              |
| 4:L:402:GLU:HA   | 4:L:405:ILE:HG22 | 2.03                     | 0.41              |
| 5:M:59:LYS:HB2   | 5:M:71:THR:O     | 2.20                     | 0.41              |
| 5:M:73:ASP:O     | 5:M:77:ILE:HG13  | 2.21                     | 0.41              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 5:M:432:ALA:O    | 5:M:436:GLU:N    | 2.48                     | 0.41              |
| 5:M:461:ALA:HA   | 5:M:464:GLU:OE1  | 2.21                     | 0.41              |
| 6:N:156:LEU:CD2  | 6:N:394:GLY:HA2  | 2.50                     | 0.41              |
| 6:N:157:ARG:HA   | 6:N:160:VAL:O    | 2.21                     | 0.41              |
| 6:N:222:LYS:CB   | 6:N:225:VAL:HG22 | 2.50                     | 0.41              |
| 6:N:311:VAL:HG12 | 6:N:313:LEU:HG   | 2.03                     | 0.41              |
| 6:N:500:VAL:O    | 6:N:504:LEU:N    | 2.53                     | 0.41              |
| 7:O:37:ARG:HH11  | 7:O:448:GLN:HE22 | 1.69                     | 0.41              |
| 8:P:46:ALA:HA    | 8:P:51:GLY:HA2   | 2.02                     | 0.41              |
| 8:P:59:HIS:NE2   | 8:P:77:GLU:OE2   | 2.36                     | 0.41              |
| 8:P:277:ASP:HA   | 8:P:304:TYR:CE2  | 2.55                     | 0.41              |
| 8:P:433:LEU:HD23 | 8:P:433:LEU:HA   | 1.75                     | 0.41              |
| 12:4:70:GLN:HA   | 12:4:75:PHE:HD1  | 1.86                     | 0.41              |
| 1:A:16:THR:O     | 1:A:19:SER:OG    | 2.21                     | 0.41              |
| 1:A:96:ILE:HA    | 1:A:99:GLU:HB3   | 2.02                     | 0.41              |
| 1:A:235:ALA:HB1  | 1:A:237:LEU:HD21 | 2.02                     | 0.41              |
| 1:A:384:MET:HG3  | 1:A:388:MET:HG2  | 2.02                     | 0.41              |
| 2:B:72:LYS:HA    | 2:B:89:ARG:HH21  | 1.85                     | 0.41              |
| 4:D:164:LEU:HB2  | 4:D:188:VAL:HG21 | 2.02                     | 0.41              |
| 4:D:281:ALA:O    | 4:D:284:LEU:N    | 2.53                     | 0.41              |
| 5:E:49:ARG:HA    | 5:E:52:LEU:HG    | 2.02                     | 0.41              |
| 5:E:385:ILE:HD12 | 5:E:402:LEU:HD13 | 2.01                     | 0.41              |
| 5:E:402:LEU:O    | 5:E:406:LEU:HD13 | 2.20                     | 0.41              |
| 5:E:442:THR:HA   | 4:L:482:ASN:ND2  | 2.35                     | 0.41              |
| 5:E:460:MET:HB2  | 5:E:474:MET:SD   | 2.60                     | 0.41              |
| 5:E:463:SER:HA   | 5:E:466:SER:HB3  | 2.02                     | 0.41              |
| 8:H:356:GLY:HA2  | 8:H:378:ARG:HD3  | 2.02                     | 0.41              |
| 8:H:473:GLU:HG3  | 8:H:475:ASN:H    | 1.85                     | 0.41              |
| 1:I:49:ILE:HD12  | 3:K:74:HIS:HB3   | 2.02                     | 0.41              |
| 1:I:111:LYS:HD2  | 4:L:55:LYS:HE2   | 2.02                     | 0.41              |
| 3:K:316:ARG:CZ   | 3:K:319:ASP:HB2  | 2.50                     | 0.41              |
| 3:K:523:VAL:HG23 | 3:K:525:GLY:H    | 1.85                     | 0.41              |
| 4:L:528:SER:O    | 4:L:532:ILE:HG13 | 2.20                     | 0.41              |
| 5:M:373:VAL:HG22 | 5:M:375:GLU:HB3  | 2.01                     | 0.41              |
| 5:M:387:ILE:HG21 | 5:M:399:LYS:HD3  | 2.02                     | 0.41              |
| 6:N:14:ALA:O     | 6:N:19:ALA:HB2   | 2.21                     | 0.41              |
| 6:N:42:GLY:HA2   | 6:N:454:ASN:ND2  | 2.34                     | 0.41              |
| 6:N:102:LEU:HD13 | 6:N:440:PHE:HA   | 2.03                     | 0.41              |
| 6:N:151:VAL:HG22 | 6:N:495:TRP:HB2  | 2.01                     | 0.41              |
| 6:N:203:ASP:HB3  | 6:N:377:LYS:HG3  | 2.02                     | 0.41              |
| 7:O:143:VAL:HG22 | 7:O:403:ASP:O    | 2.21                     | 0.41              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 7:O:148:LYS:HB2  | 7:O:154:LEU:HB2  | 2.01                     | 0.41              |
| 7:O:210:LEU:HD13 | 7:O:372:PHE:CE1  | 2.55                     | 0.41              |
| 7:O:398:ARG:HE   | 7:O:498:VAL:HG22 | 1.86                     | 0.41              |
| 8:P:436:TYR:HA   | 8:P:439:LYS:HB2  | 2.02                     | 0.41              |
| 10:2:30:PHE:HB3  | 10:2:122:HIS:HE1 | 1.85                     | 0.41              |
| 11:3:126:TRP:O   | 13:5:69:SER:HA   | 2.19                     | 0.41              |
| 13:5:90:TYR:CE2  | 14:6:43:VAL:HG21 | 2.54                     | 0.41              |
| 1:A:150:ASN:HA   | 1:A:153:LYS:CB   | 2.39                     | 0.41              |
| 1:A:215:ALA:H    | 1:A:374:SER:CB   | 2.34                     | 0.41              |
| 1:A:316:LEU:O    | 1:A:320:ALA:N    | 2.31                     | 0.41              |
| 1:A:451:THR:HA   | 1:A:454:VAL:HG23 | 2.02                     | 0.41              |
| 1:A:527:ILE:HD13 | 4:D:60:MET:SD    | 2.60                     | 0.41              |
| 2:B:134:THR:HA   | 2:B:439:TYR:OH   | 2.20                     | 0.41              |
| 2:B:337:HIS:HB3  | 2:B:340:LEU:HB2  | 2.03                     | 0.41              |
| 2:B:440:ALA:HA   | 2:B:443:LEU:HD12 | 2.02                     | 0.41              |
| 3:C:82:GLU:O     | 3:C:86:THR:N     | 2.37                     | 0.41              |
| 3:C:310:THR:HG22 | 3:C:312:ILE:HG13 | 2.03                     | 0.41              |
| 3:C:317:LYS:C    | 3:C:321:ASN:HD22 | 2.23                     | 0.41              |
| 3:C:332:VAL:HG13 | 3:C:343:VAL:HG13 | 2.02                     | 0.41              |
| 4:D:196:ASP:HB2  | 4:D:197:PRO:HD3  | 2.03                     | 0.41              |
| 5:E:37:HIS:HA    | 5:E:85:HIS:HE1   | 1.80                     | 0.41              |
| 5:E:252:THR:HB   | 5:E:342:VAL:O    | 2.21                     | 0.41              |
| 5:E:253:CYS:HB2  | 5:E:254:PRO:HD2  | 2.03                     | 0.41              |
| 8:H:168:ILE:O    | 8:H:172:GLN:N    | 2.44                     | 0.41              |
| 8:H:411:GLY:O    | 8:H:414:ALA:N    | 2.50                     | 0.41              |
| 1:I:78:LEU:HD22  | 1:I:520:ALA:HB2  | 2.01                     | 0.41              |
| 1:I:110:GLN:NE2  | 4:L:472:ASN:HB2  | 2.35                     | 0.41              |
| 1:I:464:VAL:HB   | 1:I:468:ARG:NH1  | 2.36                     | 0.41              |
| 2:J:138:ARG:NH1  | 2:J:505:LEU:HD11 | 2.36                     | 0.41              |
| 2:J:199:ILE:HB   | 2:J:373:ILE:HG12 | 2.03                     | 0.41              |
| 2:J:411:GLY:HA3  | 2:J:447:PRO:HG3  | 2.03                     | 0.41              |
| 3:K:44:LYS:HE2   | 3:K:455:CYS:SG   | 2.60                     | 0.41              |
| 3:K:208:ILE:HG12 | 3:K:209:ILE:H    | 1.86                     | 0.41              |
| 3:K:362:PHE:CE1  | 3:K:375:LEU:HD13 | 2.56                     | 0.41              |
| 4:L:90:MET:SD    | 4:L:525:THR:HB   | 2.60                     | 0.41              |
| 4:L:133:ILE:O    | 4:L:136:SER:HB2  | 2.19                     | 0.41              |
| 4:L:347:HIS:CD2  | 4:L:348:ILE:N    | 2.89                     | 0.41              |
| 6:N:62:VAL:HG11  | 6:N:392:ARG:HH22 | 1.85                     | 0.41              |
| 7:O:411:ALA:HA   | 7:O:476:GLY:HA2  | 2.02                     | 0.41              |
| 7:O:519:THR:HA   | 8:P:55:MET:HB2   | 2.01                     | 0.41              |
| 8:P:36:CYS:HA    | 8:P:39:LEU:HB2   | 2.03                     | 0.41              |

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| Atom-1           | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 8:P:73:LEU:HD22  | 8:P:87:VAL:HG22   | 2.02                     | 0.41              |
| 8:P:99:ASP:HA    | 8:P:171:LYS:HZ3   | 1.86                     | 0.41              |
| 9:1:37:LEU:HD22  | 9:1:87:ALA:HA     | 2.02                     | 0.41              |
| 9:1:42:LYS:HA    | 9:1:45:HIS:HD2    | 1.86                     | 0.41              |
| 10:2:26:VAL:O    | 10:2:122:HIS:NE2  | 2.53                     | 0.41              |
| 11:3:53:LEU:HD22 | 11:3:172:THR:HG23 | 2.02                     | 0.41              |
| 12:4:73:ASP:HB3  | 13:5:72:VAL:HG11  | 2.01                     | 0.41              |
| 1:A:156:MET:SD   | 1:A:165:GLY:HA2   | 2.61                     | 0.41              |
| 2:B:127:ILE:O    | 2:B:131:ARG:N     | 2.49                     | 0.41              |
| 2:B:417:MET:CB   | 2:B:443:LEU:HD13  | 2.49                     | 0.41              |
| 3:C:185:PHE:HB3  | 3:C:370:LYS:HB2   | 2.03                     | 0.41              |
| 3:C:446:VAL:O    | 3:C:449:ARG:HB2   | 2.18                     | 0.41              |
| 4:D:122:LYS:O    | 4:D:125:GLN:N     | 2.54                     | 0.41              |
| 4:D:314:LEU:HD23 | 4:D:318:ASN:ND2   | 2.24                     | 0.41              |
| 5:E:87:ILE:HD12  | 5:E:527:ILE:HG22  | 2.02                     | 0.41              |
| 5:E:164:PRO:HB3  | 5:E:507:ILE:HG12  | 2.03                     | 0.41              |
| 6:F:214:HIS:HB2  | 6:F:314:ARG:O     | 2.20                     | 0.41              |
| 6:F:223:LYS:O    | 6:F:351:TYR:HA    | 2.20                     | 0.41              |
| 6:F:317:LYS:N    | 6:F:320:ASN:HD22  | 2.18                     | 0.41              |
| 6:F:327:ALA:O    | 6:F:366:CYS:HB3   | 2.20                     | 0.41              |
| 7:G:16:SER:HB2   | 7:G:21:GLN:HB2    | 2.02                     | 0.41              |
| 7:G:428:PRO:HA   | 7:G:432:GLN:HB2   | 2.03                     | 0.41              |
| 8:H:138:LYS:O    | 8:H:142:ILE:HG22  | 2.20                     | 0.41              |
| 8:H:164:LEU:HB3  | 8:H:168:ILE:HD12  | 2.03                     | 0.41              |
| 3:K:123:ILE:CG2  | 3:K:518:ARG:HH21  | 2.34                     | 0.41              |
| 3:K:180:VAL:HA   | 3:K:183:VAL:CG2   | 2.51                     | 0.41              |
| 3:K:194:ASP:O    | 3:K:399:ARG:NE    | 2.53                     | 0.41              |
| 3:K:353:LYS:H    | 3:K:362:PHE:HE2   | 1.68                     | 0.41              |
| 3:K:446:VAL:HG12 | 3:K:450:THR:HG1   | 1.86                     | 0.41              |
| 4:L:59:LYS:O     | 4:L:70:ILE:HA     | 2.21                     | 0.41              |
| 4:L:167:ALA:HB1  | 4:L:408:ALA:HB1   | 2.03                     | 0.41              |
| 4:L:207:ASP:O    | 4:L:385:THR:HA    | 2.20                     | 0.41              |
| 4:L:397:VAL:O    | 4:L:400:GLU:HB2   | 2.19                     | 0.41              |
| 5:M:247:LYS:HB3  | 5:M:297:ALA:HA    | 2.03                     | 0.41              |
| 5:M:291:GLN:OE1  | 5:M:345:PHE:HZ    | 2.03                     | 0.41              |
| 5:M:490:GLY:H    | 5:M:500:ASP:HA    | 1.85                     | 0.41              |
| 6:N:68:GLN:HE21  | 6:N:74:ALA:HB1    | 1.86                     | 0.41              |
| 6:N:152:ALA:HB1  | 6:N:156:LEU:HD11  | 2.02                     | 0.41              |
| 6:N:210:LEU:HD13 | 6:N:323:ARG:CB    | 2.47                     | 0.41              |
| 6:N:237:LEU:HG   | 6:N:336:PHE:CE2   | 2.56                     | 0.41              |
| 6:N:415:GLU:HG3  | 6:N:447:ILE:HB    | 2.03                     | 0.41              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 7:O:210:LEU:HA   | 7:O:372:PHE:HA   | 2.02                     | 0.41              |
| 8:P:25:LEU:HD23  | 8:P:523:GLN:HG2  | 2.02                     | 0.41              |
| 8:P:47:TYR:CG    | 8:P:48:GLY:N     | 2.89                     | 0.41              |
| 8:P:207:ILE:O    | 8:P:378:ARG:HG2  | 2.21                     | 0.41              |
| 8:P:354:GLU:HG2  | 8:P:358:THR:C    | 2.41                     | 0.41              |
| 8:P:401:VAL:HG22 | 8:P:404:ARG:CZ   | 2.50                     | 0.41              |
| 12:4:87:LEU:HD21 | 14:6:63:VAL:HG13 | 2.02                     | 0.41              |
| 1:A:191:PRO:HD2  | 1:A:403:LEU:HD13 | 2.03                     | 0.41              |
| 1:A:476:VAL:HG22 | 1:A:485:TRP:CB   | 2.50                     | 0.41              |
| 1:A:522:ILE:O    | 1:A:525:LEU:HB3  | 2.21                     | 0.41              |
| 2:B:106:ALA:O    | 2:B:110:LEU:N    | 2.48                     | 0.41              |
| 2:B:200:HIS:CD2  | 2:B:322:ARG:CZ   | 3.03                     | 0.41              |
| 2:B:214:LEU:HB2  | 2:B:373:ILE:HD12 | 2.02                     | 0.41              |
| 2:B:441:LYS:O    | 2:B:445:MET:HG3  | 2.20                     | 0.41              |
| 3:C:25:GLY:HA2   | 3:C:28:ASN:HD22  | 1.86                     | 0.41              |
| 3:C:240:LEU:HB2  | 3:C:343:VAL:HG12 | 2.02                     | 0.41              |
| 3:C:409:PRO:CB   | 3:C:490:MET:HB2  | 2.46                     | 0.41              |
| 3:C:499:LEU:O    | 3:C:503:LEU:HB3  | 2.21                     | 0.41              |
| 4:D:94:LEU:CD2   | 4:D:110:VAL:HA   | 2.50                     | 0.41              |
| 4:D:426:GLY:HA3  | 4:D:462:PRO:HG3  | 2.03                     | 0.41              |
| 5:E:98:GLN:HE21  | 5:E:109:VAL:HG11 | 1.85                     | 0.41              |
| 5:E:253:CYS:N    | 5:E:342:VAL:O    | 2.50                     | 0.41              |
| 5:E:409:ILE:HG13 | 5:E:412:LEU:HB2  | 2.01                     | 0.41              |
| 6:F:222:LYS:HD3  | 6:F:225:VAL:HG22 | 2.03                     | 0.41              |
| 7:G:82:ILE:HD11  | 7:G:512:LEU:CD1  | 2.50                     | 0.41              |
| 7:G:278:LEU:HD11 | 7:G:302:TYR:HB3  | 2.03                     | 0.41              |
| 7:G:321:ARG:HB3  | 7:G:369:THR:OG1  | 2.21                     | 0.41              |
| 7:G:416:LEU:CB   | 7:G:442:LEU:HD13 | 2.50                     | 0.41              |
| 8:H:47:TYR:CE1   | 8:H:100:GLY:HA2  | 2.56                     | 0.41              |
| 8:H:147:VAL:HG11 | 8:H:407:ARG:HB3  | 2.03                     | 0.41              |
| 8:H:517:THR:O    | 8:H:521:VAL:HG13 | 2.19                     | 0.41              |
| 1:I:192:VAL:CG1  | 1:I:396:LEU:HB3  | 2.48                     | 0.41              |
| 2:J:41:SER:HB2   | 2:J:48:MET:HG2   | 2.02                     | 0.41              |
| 2:J:88:SER:HB2   | 2:J:99:THR:HA    | 2.02                     | 0.41              |
| 2:J:109:LEU:HB3  | 2:J:130:TRP:CZ3  | 2.54                     | 0.41              |
| 2:J:120:LYS:HZ1  | 2:J:123:PRO:HD3  | 1.85                     | 0.41              |
| 2:J:179:PHE:CE1  | 2:J:390:LEU:HD22 | 2.56                     | 0.41              |
| 2:J:410:GLY:HA3  | 2:J:478:LEU:O    | 2.21                     | 0.41              |
| 3:K:36:ILE:HD12  | 3:K:39:THR:OG1   | 2.21                     | 0.41              |
| 3:K:133:MET:O    | 3:K:137:LEU:HB2  | 2.21                     | 0.41              |
| 3:K:246:GLU:N    | 3:K:278:LEU:HD22 | 2.35                     | 0.41              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 3:K:320:ASN:HA   | 3:K:323:ILE:HB   | 2.02                     | 0.41              |
| 4:L:98:GLN:NE2   | 4:L:518:ALA:HB2  | 2.34                     | 0.41              |
| 5:M:233:ASP:OD1  | 5:M:372:LEU:HB2  | 2.20                     | 0.41              |
| 5:M:460:MET:HG3  | 5:M:470:PRO:HB2  | 2.03                     | 0.41              |
| 6:N:210:LEU:HG   | 6:N:211:VAL:N    | 2.35                     | 0.41              |
| 6:N:217:ARG:HE   | 6:N:352:GLU:CB   | 2.32                     | 0.41              |
| 6:N:241:LYS:H    | 6:N:270:ARG:HE   | 1.69                     | 0.41              |
| 6:N:515:ILE:O    | 6:N:518:VAL:HB   | 2.20                     | 0.41              |
| 8:P:203:ARG:HH12 | 8:P:326:LYS:CB   | 2.34                     | 0.41              |
| 8:P:324:LEU:HA   | 8:P:327:THR:HG22 | 2.03                     | 0.41              |
| 8:P:365:HIS:HB3  | 8:P:369:ASP:OD1  | 2.20                     | 0.41              |
| 8:P:410:PRO:HG3  | 8:P:493:LEU:HB2  | 2.02                     | 0.41              |
| 8:P:430:CYS:HB3  | 8:P:435:GLN:HA   | 2.03                     | 0.41              |
| 12:4:41:GLU:O    | 12:4:45:LYS:HG2  | 2.21                     | 0.41              |
| 12:4:51:GLU:HB2  | 12:4:91:LYS:NZ   | 2.36                     | 0.41              |
| 13:5:19:LYS:HG3  | 13:5:128:LYS:CG  | 2.51                     | 0.41              |
| 1:A:41:LEU:HB3   | 3:C:518:ARG:O    | 2.20                     | 0.41              |
| 1:A:80:ASP:O     | 1:A:84:LYS:N     | 2.33                     | 0.41              |
| 1:A:276:GLN:HE21 | 1:A:303:ALA:HA   | 1.85                     | 0.41              |
| 1:A:281:THR:HG21 | 1:A:340:PHE:O    | 2.21                     | 0.41              |
| 2:B:86:ASP:O     | 2:B:90:VAL:HG23  | 2.21                     | 0.41              |
| 2:B:172:LEU:HD11 | 2:B:175:HIS:HB2  | 2.03                     | 0.41              |
| 2:B:407:VAL:HG13 | 2:B:497:PHE:HB2  | 2.02                     | 0.41              |
| 2:B:479:ASP:OD1  | 2:B:488:MET:HE1  | 2.21                     | 0.41              |
| 3:C:75:PRO:HA    | 3:C:78:LYS:NZ    | 2.36                     | 0.41              |
| 3:C:216:ARG:HG2  | 3:C:372:CYS:SG   | 2.61                     | 0.41              |
| 3:C:218:VAL:CG2  | 3:C:325:ARG:HE   | 2.34                     | 0.41              |
| 3:C:366:CYS:SG   | 3:C:371:ALA:HB3  | 2.61                     | 0.41              |
| 3:C:376:LEU:HD22 | 3:C:387:VAL:HG11 | 2.03                     | 0.41              |
| 3:C:420:HIS:HB2  | 3:C:470:HIS:NE2  | 2.36                     | 0.41              |
| 3:C:433:GLU:C    | 3:C:436:PRO:HD2  | 2.40                     | 0.41              |
| 4:D:34:ARG:HH21  | 4:D:533:ASP:HA   | 1.85                     | 0.41              |
| 4:D:209:LYS:HG2  | 4:D:211:VAL:HG23 | 2.01                     | 0.41              |
| 4:D:221:CYS:SG   | 4:D:391:ARG:N    | 2.93                     | 0.41              |
| 4:D:232:LYS:CD   | 4:D:364:GLU:HB2  | 2.50                     | 0.41              |
| 4:D:239:THR:O    | 4:D:364:GLU:N    | 2.48                     | 0.41              |
| 4:D:314:LEU:HD13 | 4:D:326:LYS:HD2  | 2.03                     | 0.41              |
| 4:D:375:LYS:NZ   | 4:D:391:ARG:NH2  | 2.69                     | 0.41              |
| 5:E:33:ALA:O     | 5:E:37:HIS:N     | 2.51                     | 0.41              |
| 5:E:119:GLU:HG3  | 5:E:454:ALA:HB2  | 2.03                     | 0.41              |
| 5:E:176:LYS:HB2  | 5:E:401:SER:OG   | 2.21                     | 0.41              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 5:E:250:ILE:HG12 | 5:E:301:ILE:HB   | 2.02                     | 0.41              |
| 6:F:217:ARG:HD2  | 6:F:299:PRO:HD3  | 2.03                     | 0.41              |
| 6:F:218:HIS:H    | 6:F:302:LEU:HD13 | 1.86                     | 0.41              |
| 6:F:327:ALA:HA   | 6:F:370:ARG:N    | 2.08                     | 0.41              |
| 6:F:358:GLU:HB3  | 6:F:360:PHE:CE2  | 2.55                     | 0.41              |
| 6:F:421:ALA:HA   | 6:F:424:LYS:HE2  | 2.03                     | 0.41              |
| 7:G:63:ALA:O     | 7:G:67:LYS:N     | 2.41                     | 0.41              |
| 7:G:64:THR:O     | 7:G:67:LYS:HB2   | 2.21                     | 0.41              |
| 7:G:175:PHE:O    | 7:G:179:VAL:HG12 | 2.21                     | 0.41              |
| 7:G:182:ALA:HB1  | 7:G:370:CYS:O    | 2.21                     | 0.41              |
| 7:G:198:LYS:HG2  | 7:G:215:ALA:O    | 2.20                     | 0.41              |
| 7:G:222:TYR:OH   | 7:G:312:GLY:N    | 2.53                     | 0.41              |
| 7:G:243:GLU:HB2  | 7:G:294:PRO:O    | 2.21                     | 0.41              |
| 7:G:402:ASN:ND2  | 7:G:404:SER:O    | 2.54                     | 0.41              |
| 7:G:403:ASP:O    | 7:G:405:VAL:HG23 | 2.21                     | 0.41              |
| 7:G:468:HIS:CD2  | 7:G:475:TYR:HB2  | 2.56                     | 0.41              |
| 8:H:54:LYS:HB2   | 8:H:66:THR:O     | 2.21                     | 0.41              |
| 8:H:131:GLY:N    | 8:H:434:GLU:OE1  | 2.42                     | 0.41              |
| 8:H:143:LEU:HD13 | 8:H:419:LEU:HD11 | 2.02                     | 0.41              |
| 8:H:157:ILE:HG23 | 8:H:184:ALA:HB3  | 2.02                     | 0.41              |
| 8:H:182:LEU:O    | 8:H:186:ALA:N    | 2.47                     | 0.41              |
| 8:H:207:ILE:HD13 | 8:H:224:LYS:HD3  | 2.03                     | 0.41              |
| 8:H:349:SER:HB3  | 8:H:351:TYR:HE2  | 1.85                     | 0.41              |
| 1:I:137:ILE:CG2  | 1:I:486:ILE:HG21 | 2.51                     | 0.41              |
| 1:I:243:LYS:HG3  | 1:I:300:PHE:CZ   | 2.56                     | 0.41              |
| 1:I:246:MET:HG3  | 1:I:247:LYS:N    | 2.34                     | 0.41              |
| 1:I:482:ASN:ND2  | 1:I:484:LYS:O    | 2.34                     | 0.41              |
| 2:J:35:ILE:HA    | 2:J:38:LEU:HD12  | 2.03                     | 0.41              |
| 2:J:50:LYS:NZ    | 4:L:534:ASP:HB2  | 2.36                     | 0.41              |
| 2:J:97:ASP:HB2   | 2:J:170:LYS:HZ1  | 1.86                     | 0.41              |
| 2:J:133:ALA:HA   | 2:J:136:ALA:HB3  | 2.02                     | 0.41              |
| 3:K:228:ARG:HB3  | 3:K:305:MET:HB3  | 2.02                     | 0.41              |
| 3:K:286:LYS:HG2  | 3:K:307:ALA:HB1  | 2.02                     | 0.41              |
| 3:K:426:SER:HA   | 3:K:429:MET:HB2  | 2.02                     | 0.41              |
| 4:L:155:VAL:HG23 | 4:L:415:LEU:HD11 | 2.03                     | 0.41              |
| 4:L:191:VAL:HG13 | 4:L:203:VAL:HG21 | 2.02                     | 0.41              |
| 4:L:192:MET:O    | 4:L:195:ILE:HG22 | 2.20                     | 0.41              |
| 4:L:233:VAL:O    | 4:L:372:LYS:HG2  | 2.20                     | 0.41              |
| 4:L:249:ILE:HB   | 4:L:251:PHE:CD2  | 2.56                     | 0.41              |
| 4:L:257:LYS:HG3  | 4:L:275:VAL:HB   | 2.01                     | 0.41              |
| 5:M:102:ILE:O    | 5:M:408:VAL:HG22 | 2.21                     | 0.41              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 5:M:225:ILE:N    | 5:M:384:THR:O    | 2.52                     | 0.41              |
| 5:M:253:CYS:HA   | 7:O:271:TRP:CZ2  | 2.56                     | 0.41              |
| 5:M:331:GLU:HB3  | 7:O:222:TYR:HB3  | 2.02                     | 0.41              |
| 5:M:390:GLY:H    | 5:M:394:ILE:HG21 | 1.85                     | 0.41              |
| 6:N:37:ASN:O     | 6:N:38:LEU:HB2   | 2.20                     | 0.41              |
| 6:N:41:LYS:HG2   | 6:N:455:SER:OG   | 2.21                     | 0.41              |
| 6:N:114:LEU:HB3  | 6:N:118:ILE:HD11 | 2.02                     | 0.41              |
| 6:N:237:LEU:HD11 | 6:N:301:SER:HB2  | 2.02                     | 0.41              |
| 6:N:476:LEU:O    | 6:N:488:VAL:HG23 | 2.20                     | 0.41              |
| 7:O:218:LYS:HB2  | 7:O:313:ARG:O    | 2.21                     | 0.41              |
| 7:O:235:PRO:O    | 7:O:344:ARG:HA   | 2.20                     | 0.41              |
| 8:P:124:SER:HB2  | 8:P:127:GLU:HG3  | 2.03                     | 0.41              |
| 8:P:172:GLN:HG2  | 8:P:174:GLY:N    | 2.20                     | 0.41              |
| 12:4:47:LEU:HB2  | 12:4:94:LEU:HD23 | 2.03                     | 0.41              |
| 12:4:63:ASP:HB3  | 12:4:80:GLN:CB   | 2.51                     | 0.41              |
| 13:5:15:LEU:HB2  | 13:5:135:MET:HB2 | 2.02                     | 0.41              |
| 1:A:46:VAL:HB    | 3:C:524:SER:HA   | 2.02                     | 0.41              |
| 1:A:118:ILE:HD12 | 1:A:121:TYR:HD2  | 1.86                     | 0.41              |
| 1:A:279:LEU:HD11 | 1:A:303:ALA:HB1  | 2.02                     | 0.41              |
| 1:A:322:ALA:O    | 1:A:367:THR:HG21 | 2.21                     | 0.41              |
| 2:B:200:HIS:CE1  | 2:B:219:LEU:O    | 2.74                     | 0.41              |
| 2:B:290:PHE:HE2  | 2:B:296:ILE:HG12 | 1.86                     | 0.41              |
| 3:C:180:VAL:HG21 | 3:C:395:MET:O    | 2.20                     | 0.41              |
| 3:C:293:GLU:OE1  | 3:C:320:ASN:HB2  | 2.20                     | 0.41              |
| 3:C:322:ARG:O    | 3:C:326:ALA:N    | 2.54                     | 0.41              |
| 4:D:244:ALA:CA   | 4:D:296:ASN:HB2  | 2.49                     | 0.41              |
| 4:D:297:VAL:HA   | 4:D:323:MET:O    | 2.20                     | 0.41              |
| 5:E:38:ILE:HG13  | 5:E:121:GLU:CD   | 2.40                     | 0.41              |
| 5:E:209:ILE:HB   | 5:E:383:VAL:O    | 2.21                     | 0.41              |
| 5:E:364:PHE:O    | 5:E:368:LYS:HB2  | 2.21                     | 0.41              |
| 5:E:433:VAL:HG11 | 5:E:451:PHE:CD2  | 2.55                     | 0.41              |
| 5:E:474:MET:HG2  | 4:L:449:TYR:OH   | 2.21                     | 0.41              |
| 6:F:32:ASP:O     | 6:F:35:ARG:HG2   | 2.20                     | 0.41              |
| 6:F:146:GLU:HG3  | 6:F:147:THR:N    | 2.36                     | 0.41              |
| 6:F:261:LYS:O    | 6:F:265:LYS:N    | 2.44                     | 0.41              |
| 6:F:409:PRO:HA   | 6:F:495:TRP:CD1  | 2.56                     | 0.41              |
| 6:F:434:GLN:HA   | 6:F:437:VAL:HB   | 2.02                     | 0.41              |
| 6:F:493:GLY:HA2  | 6:F:495:TRP:CE2  | 2.56                     | 0.41              |
| 7:G:168:ILE:HG13 | 7:G:172:LYS:HB3  | 2.02                     | 0.41              |
| 8:H:323:ARG:HA   | 8:H:326:LYS:HB2  | 2.01                     | 0.41              |
| 8:H:497:ILE:C    | 8:H:498:LEU:HD12 | 2.41                     | 0.41              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 1:I:21:ASN:OD1   | 1:I:70:PRO:HD2   | 2.20                     | 0.41              |
| 1:I:65:LEU:HD23  | 3:K:525:GLY:O    | 2.21                     | 0.41              |
| 1:I:152:ALA:HB2  | 1:I:172:VAL:HB   | 2.03                     | 0.41              |
| 1:I:158:SER:HB3  | 1:I:501:ALA:HB1  | 2.03                     | 0.41              |
| 2:J:148:HIS:HB3  | 2:J:158:ASP:HB2  | 2.03                     | 0.41              |
| 2:J:461:LEU:O    | 2:J:465:LEU:HB3  | 2.21                     | 0.41              |
| 2:J:521:ILE:HD12 | 5:M:61:MET:SD    | 2.61                     | 0.41              |
| 4:L:27:ARG:O     | 4:L:30:PRO:HD2   | 2.21                     | 0.41              |
| 4:L:51:SER:HB2   | 4:L:465:LEU:HG   | 2.02                     | 0.41              |
| 4:L:230:THR:N    | 4:L:332:ASP:OD2  | 2.53                     | 0.41              |
| 4:L:431:GLU:HG3  | 4:L:484:HIS:NE2  | 2.36                     | 0.41              |
| 4:L:462:PRO:HB2  | 4:L:480:LEU:HD22 | 2.03                     | 0.41              |
| 4:L:493:ILE:HG13 | 4:L:499:GLY:O    | 2.21                     | 0.41              |
| 5:M:61:MET:O     | 5:M:69:THR:N     | 2.53                     | 0.41              |
| 5:M:193:VAL:HG12 | 5:M:209:ILE:HD11 | 2.03                     | 0.41              |
| 6:N:14:ALA:O     | 6:N:520:GLU:HG2  | 2.21                     | 0.41              |
| 6:N:197:LYS:HD2  | 6:N:379:PRO:CA   | 2.42                     | 0.41              |
| 6:N:214:HIS:CE1  | 6:N:359:LYS:HD2  | 2.56                     | 0.41              |
| 6:N:291:VAL:HG21 | 6:N:305:LEU:HD13 | 2.03                     | 0.41              |
| 7:O:82:ILE:HG13  | 7:O:509:ALA:CB   | 2.51                     | 0.41              |
| 7:O:109:LYS:N    | 7:O:110:PRO:HD2  | 2.36                     | 0.41              |
| 7:O:150:GLU:HB3  | 7:O:152:ARG:HG2  | 2.03                     | 0.41              |
| 7:O:319:LEU:O    | 7:O:323:MET:N    | 2.36                     | 0.41              |
| 7:O:405:VAL:HG13 | 7:O:494:GLU:C    | 2.42                     | 0.41              |
| 8:P:205:CYS:O    | 8:P:376:VAL:HA   | 2.21                     | 0.41              |
| 8:P:230:ASP:O    | 8:P:311:MET:HB2  | 2.20                     | 0.41              |
| 8:P:340:VAL:O    | 8:P:343:GLU:N    | 2.53                     | 0.41              |
| 9:1:90:LYS:O     | 9:1:94:LEU:HD13  | 2.21                     | 0.41              |
| 11:3:103:THR:OG1 | 12:4:74:VAL:HG12 | 2.21                     | 0.41              |
| 12:4:87:LEU:HD21 | 14:6:62:PRO:HG2  | 2.03                     | 0.41              |
| 13:5:66:LEU:HB2  | 13:5:72:VAL:HB   | 2.03                     | 0.41              |
| 1:A:338:GLU:HG2  | 1:A:339:THR:O    | 2.20                     | 0.40              |
| 1:A:354:GLU:HB3  | 1:A:363:LEU:HB2  | 2.02                     | 0.40              |
| 2:B:70:ILE:O     | 2:B:74:ILE:N     | 2.49                     | 0.40              |
| 2:B:164:GLY:CA   | 2:B:176:LYS:HD2  | 2.51                     | 0.40              |
| 2:B:231:ARG:HG3  | 2:B:349:ILE:O    | 2.22                     | 0.40              |
| 2:B:456:TYR:CE2  | 2:B:483:GLY:HA3  | 2.55                     | 0.40              |
| 2:B:497:PHE:O    | 2:B:501:ARG:HG2  | 2.21                     | 0.40              |
| 3:C:22:VAL:HG11  | 3:C:519:ILE:HG22 | 2.03                     | 0.40              |
| 3:C:198:TYR:HA   | 3:C:325:ARG:HD2  | 2.03                     | 0.40              |
| 3:C:244:SER:O    | 3:C:278:LEU:HD11 | 2.21                     | 0.40              |

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| Atom-1           | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 3:C:466:LEU:HA   | 3:C:469:LYS:HB2   | 2.02                     | 0.40              |
| 4:D:425:GLY:O    | 4:D:493:ILE:HB    | 2.21                     | 0.40              |
| 5:E:418:VAL:O    | 5:E:510:LEU:HB2   | 2.20                     | 0.40              |
| 6:F:133:PHE:HD1  | 6:F:136:GLU:OE1   | 2.04                     | 0.40              |
| 6:F:177:LEU:HD23 | 6:F:180:LYS:HD2   | 2.03                     | 0.40              |
| 6:F:216:ALA:H    | 6:F:359:LYS:HE2   | 1.86                     | 0.40              |
| 6:F:430:LYS:NZ   | 6:F:432:ARG:HB2   | 2.36                     | 0.40              |
| 7:G:27:SER:O     | 7:G:31:VAL:HG23   | 2.21                     | 0.40              |
| 7:G:163:LEU:HG   | 7:G:392:ALA:HB2   | 2.02                     | 0.40              |
| 7:G:209:GLN:N    | 7:G:373:ILE:O     | 2.37                     | 0.40              |
| 8:H:78:VAL:CG2   | 8:H:80:HIS:HD2    | 2.33                     | 0.40              |
| 1:I:216:LEU:HB2  | 1:I:319:ILE:HD11  | 2.02                     | 0.40              |
| 3:K:44:LYS:HE3   | 6:N:432:ARG:HH12  | 1.86                     | 0.40              |
| 3:K:140:ILE:HB   | 3:K:476:GLU:OE2   | 2.21                     | 0.40              |
| 3:K:220:ILE:HD11 | 3:K:323:ILE:HG21  | 2.02                     | 0.40              |
| 3:K:400:ASN:HD21 | 3:K:499:LEU:N     | 2.19                     | 0.40              |
| 5:M:255:PHE:HB2  | 5:M:306:PHE:CD1   | 2.56                     | 0.40              |
| 5:M:299:LEU:HA   | 5:M:299:LEU:HD12  | 1.79                     | 0.40              |
| 6:N:222:LYS:HG2  | 6:N:309:GLY:O     | 2.21                     | 0.40              |
| 7:O:19:ILE:O     | 7:O:23:VAL:HG12   | 2.20                     | 0.40              |
| 7:O:186:LEU:HG   | 7:O:189:LEU:O     | 2.21                     | 0.40              |
| 8:P:22:PHE:CE2   | 8:P:524:ILE:HD12  | 2.56                     | 0.40              |
| 8:P:92:MET:O     | 8:P:95:GLN:HB2    | 2.21                     | 0.40              |
| 8:P:295:GLY:C    | 8:P:296:LYS:HD2   | 2.42                     | 0.40              |
| 8:P:382:ASP:O    | 8:P:386:ASP:N     | 2.43                     | 0.40              |
| 10:2:72:ARG:HH21 | 10:2:89:ALA:HB2   | 1.86                     | 0.40              |
| 11:3:178:ARG:NH2 | 12:4:19:ASP:OD1   | 2.32                     | 0.40              |
| 12:4:39:GLU:HB3  | 12:4:101:LEU:HD21 | 2.03                     | 0.40              |
| 1:A:285:VAL:HG21 | 1:A:351:VAL:HG21  | 2.03                     | 0.40              |
| 1:A:419:LEU:HB3  | 1:A:445:LEU:HD13  | 2.03                     | 0.40              |
| 1:A:421:ILE:HD12 | 1:A:485:TRP:HZ2   | 1.86                     | 0.40              |
| 2:B:85:VAL:O     | 2:B:88:SER:HB3    | 2.21                     | 0.40              |
| 2:B:204:LYS:HD3  | 2:B:221:ASP:HB2   | 2.03                     | 0.40              |
| 2:B:237:ILE:HA   | 2:B:289:CYS:O     | 2.21                     | 0.40              |
| 2:B:467:ALA:HA   | 2:B:470:SER:HB2   | 2.03                     | 0.40              |
| 3:C:125:ALA:HB1  | 3:C:436:PRO:HB2   | 2.04                     | 0.40              |
| 3:C:281:ASP:O    | 3:C:284:GLN:HG2   | 2.22                     | 0.40              |
| 3:C:463:LEU:O    | 3:C:467:ARG:HG2   | 2.21                     | 0.40              |
| 4:D:216:GLY:HA2  | 4:D:369:GLY:HA3   | 2.03                     | 0.40              |
| 4:D:271:GLN:O    | 4:D:275:VAL:HG23  | 2.21                     | 0.40              |
| 4:D:489:LYS:HD3  | 4:D:489:LYS:HA    | 1.82                     | 0.40              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 5:E:184:GLN:HG3  | 5:E:220:GLU:O    | 2.21                     | 0.40              |
| 5:E:260:PRO:O    | 5:E:262:THR:HG23 | 2.22                     | 0.40              |
| 5:E:343:PRO:HB2  | 7:G:302:TYR:CE1  | 2.56                     | 0.40              |
| 6:F:88:THR:OG1   | 6:F:89:GLY:N     | 2.54                     | 0.40              |
| 7:G:132:ALA:HA   | 7:G:416:LEU:HD22 | 2.03                     | 0.40              |
| 7:G:214:VAL:HG11 | 7:G:318:ASP:O    | 2.22                     | 0.40              |
| 7:G:417:SER:HB2  | 7:G:439:ALA:O    | 2.21                     | 0.40              |
| 8:H:162:SER:HA   | 8:H:496:GLY:O    | 2.21                     | 0.40              |
| 8:H:165:ARG:HA   | 8:H:176:GLU:CD   | 2.42                     | 0.40              |
| 8:H:232:THR:CG2  | 8:H:290:VAL:HB   | 2.51                     | 0.40              |
| 8:H:358:THR:O    | 8:H:360:VAL:HG23 | 2.22                     | 0.40              |
| 1:I:121:TYR:HE1  | 1:I:440:GLU:HB2  | 1.86                     | 0.40              |
| 1:I:185:ARG:HH21 | 1:I:189:ARG:HD2  | 1.85                     | 0.40              |
| 2:J:51:ILE:HG21  | 4:L:532:ILE:HG12 | 2.02                     | 0.40              |
| 2:J:231:ARG:NH2  | 2:J:348:LEU:HD13 | 2.36                     | 0.40              |
| 3:K:141:SER:HB3  | 3:K:406:GLN:HB3  | 2.04                     | 0.40              |
| 4:L:412:ILE:O    | 4:L:416:VAL:N    | 2.46                     | 0.40              |
| 6:N:340:SER:O    | 6:N:344:LEU:HG   | 2.21                     | 0.40              |
| 7:O:152:ARG:HA   | 7:O:155:LEU:HG   | 2.02                     | 0.40              |
| 7:O:159:ALA:O    | 7:O:163:LEU:N    | 2.52                     | 0.40              |
| 7:O:183:VAL:HG21 | 7:O:396:VAL:CG1  | 2.51                     | 0.40              |
| 7:O:497:MET:HA   | 7:O:500:ILE:HB   | 2.03                     | 0.40              |
| 8:P:168:ILE:HG22 | 8:P:394:ASP:HB2  | 2.03                     | 0.40              |
| 8:P:292:VAL:HG12 | 8:P:321:LEU:HD23 | 2.03                     | 0.40              |
| 13:5:66:LEU:HD13 | 13:5:72:VAL:HB   | 2.03                     | 0.40              |
| 14:6:38:THR:O    | 14:6:42:ILE:HG13 | 2.21                     | 0.40              |
| 1:A:183:ASP:HB2  | 1:A:187:GLN:CB   | 2.37                     | 0.40              |
| 1:A:349:GLU:OE1  | 1:A:350:GLU:HG2  | 2.21                     | 0.40              |
| 1:A:427:ALA:O    | 1:A:435:GLN:HG3  | 2.20                     | 0.40              |
| 2:B:393:ALA:O    | 2:B:397:LEU:HD13 | 2.21                     | 0.40              |
| 3:C:58:VAL:HG12  | 3:C:60:THR:HG23  | 2.04                     | 0.40              |
| 3:C:434:GLN:O    | 3:C:438:ARG:N    | 2.41                     | 0.40              |
| 4:D:200:ALA:HB3  | 4:D:416:VAL:HB   | 2.03                     | 0.40              |
| 4:D:481:ARG:NH2  | 5:M:445:GLN:HG2  | 2.35                     | 0.40              |
| 5:E:102:ILE:HA   | 5:E:411:ASN:OD1  | 2.21                     | 0.40              |
| 5:E:105:GLY:O    | 5:E:109:VAL:HG22 | 2.22                     | 0.40              |
| 5:E:252:THR:HB   | 5:E:343:PRO:HA   | 2.03                     | 0.40              |
| 6:F:24:ILE:HB    | 6:F:28:ARG:NH2   | 2.36                     | 0.40              |
| 6:F:63:LEU:HD22  | 8:H:523:GLN:OE1  | 2.20                     | 0.40              |
| 6:F:123:PHE:HE1  | 6:F:439:ALA:HB3  | 1.86                     | 0.40              |
| 6:F:387:ILE:O    | 6:F:391:VAL:HG12 | 2.21                     | 0.40              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 6:F:452:ALA:HA   | 6:F:484:GLY:CA   | 2.50                     | 0.40              |
| 7:G:73:HIS:HB2   | 7:G:76:ALA:HB3   | 2.02                     | 0.40              |
| 7:G:193:LYS:HA   | 7:G:321:ARG:NH2  | 2.28                     | 0.40              |
| 7:G:306:ARG:HG3  | 7:G:308:MET:HB2  | 2.04                     | 0.40              |
| 7:G:347:VAL:HG13 | 7:G:349:GLU:HG3  | 2.02                     | 0.40              |
| 8:H:163:LEU:HD21 | 8:H:398:THR:HG22 | 2.03                     | 0.40              |
| 8:H:196:HIS:ND1  | 8:H:369:ASP:OD1  | 2.55                     | 0.40              |
| 8:H:239:ILE:H    | 8:H:344:MET:C    | 2.22                     | 0.40              |
| 8:H:450:ARG:NH2  | 8:H:460:ALA:HB3  | 2.37                     | 0.40              |
| 2:J:89:ARG:HA    | 2:J:99:THR:HG22  | 2.04                     | 0.40              |
| 2:J:130:TRP:CG   | 2:J:439:TYR:HB2  | 2.56                     | 0.40              |
| 3:K:420:HIS:ND1  | 3:K:470:HIS:CD2  | 2.89                     | 0.40              |
| 4:L:463:SER:OG   | 4:L:477:VAL:O    | 2.33                     | 0.40              |
| 4:L:512:LEU:O    | 4:L:516:VAL:HG22 | 2.22                     | 0.40              |
| 5:M:58:ASP:O     | 5:M:59:LYS:HD2   | 2.22                     | 0.40              |
| 5:M:189:ALA:O    | 5:M:193:VAL:HG22 | 2.21                     | 0.40              |
| 5:M:419:VAL:O    | 5:M:507:ILE:HA   | 2.22                     | 0.40              |
| 6:N:56:LEU:HD23  | 6:N:56:LEU:HA    | 1.93                     | 0.40              |
| 6:N:61:ASN:O     | 6:N:64:LEU:HB2   | 2.22                     | 0.40              |
| 6:N:352:GLU:OE2  | 6:N:359:LYS:HB3  | 2.22                     | 0.40              |
| 6:N:480:ASP:OD2  | 6:N:483:THR:HG22 | 2.21                     | 0.40              |
| 7:O:174:PHE:HD2  | 7:O:175:PHE:HD1  | 1.70                     | 0.40              |
| 8:P:39:LEU:HD11  | 8:P:83:ALA:HB1   | 2.03                     | 0.40              |
| 9:1:27:VAL:HG21  | 9:1:102:GLU:OE1  | 2.20                     | 0.40              |
| 11:3:70:LYS:HA   | 11:3:73:ARG:HB3  | 2.02                     | 0.40              |
| 1:A:59:ALA:HB2   | 1:A:90:THR:OG1   | 2.21                     | 0.40              |
| 1:A:188:PRO:O    | 1:A:189:ARG:HB2  | 2.22                     | 0.40              |
| 1:A:287:LEU:HB3  | 1:A:311:VAL:HG21 | 2.03                     | 0.40              |
| 1:A:472:ASN:OD1  | 1:A:483:LEU:HB3  | 2.21                     | 0.40              |
| 2:B:116:LEU:O    | 2:B:121:ILE:N    | 2.51                     | 0.40              |
| 2:B:137:ALA:HB2  | 2:B:439:TYR:HE2  | 1.86                     | 0.40              |
| 2:B:220:LEU:HD12 | 2:B:312:ILE:HD12 | 2.03                     | 0.40              |
| 2:B:238:LEU:CD2  | 2:B:282:ILE:HD12 | 2.51                     | 0.40              |
| 4:D:209:LYS:HB2  | 4:D:335:PHE:CZ   | 2.57                     | 0.40              |
| 5:E:62:VAL:HA    | 5:E:67:ASP:O     | 2.21                     | 0.40              |
| 5:E:111:VAL:HG11 | 5:E:458:ILE:HG13 | 2.04                     | 0.40              |
| 5:E:241:LYS:HB2  | 5:E:370:LYS:HZ1  | 1.86                     | 0.40              |
| 5:E:258:PRO:HA   | 5:E:323:ARG:NH2  | 2.36                     | 0.40              |
| 6:F:210:LEU:HA   | 6:F:373:THR:OG1  | 2.20                     | 0.40              |
| 7:G:210:LEU:HD12 | 7:G:372:PHE:CD1  | 2.52                     | 0.40              |
| 8:H:54:LYS:HD2   | 8:H:54:LYS:N     | 2.35                     | 0.40              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 8:H:239:ILE:HG23 | 8:H:290:VAL:HG13 | 2.03                     | 0.40              |
| 1:I:32:VAL:HA    | 1:I:35:SER:HB2   | 2.02                     | 0.40              |
| 1:I:426:TYR:HD2  | 1:I:438:ILE:HG21 | 1.86                     | 0.40              |
| 1:I:510:LYS:O    | 1:I:513:SER:N    | 2.53                     | 0.40              |
| 2:J:467:ALA:O    | 2:J:471:GLU:HG2  | 2.21                     | 0.40              |
| 3:K:84:SER:OG    | 3:K:99:ILE:HG23  | 2.22                     | 0.40              |
| 4:L:51:SER:O     | 4:L:55:LYS:HD2   | 2.22                     | 0.40              |
| 4:L:253:LEU:HB3  | 4:L:286:LEU:CD1  | 2.47                     | 0.40              |
| 4:L:403:ARG:NH1  | 4:L:406:HIS:HD2  | 2.19                     | 0.40              |
| 4:L:510:GLN:NE2  | 4:L:515:SER:OG   | 2.55                     | 0.40              |
| 5:M:261:LYS:HB2  | 7:O:247:LYS:HE2  | 2.02                     | 0.40              |
| 6:N:39:GLY:HA3   | 6:N:451:LEU:HD21 | 2.03                     | 0.40              |
| 6:N:190:MET:HG2  | 6:N:372:VAL:N    | 2.36                     | 0.40              |
| 7:O:47:LYS:HE3   | 7:O:62:GLY:HA2   | 2.02                     | 0.40              |
| 7:O:247:LYS:HB3  | 7:O:270:GLU:HB3  | 2.04                     | 0.40              |
| 7:O:303:PHE:CG   | 7:O:310:CYS:HB3  | 2.57                     | 0.40              |
| 7:O:328:GLY:HA3  | 7:O:343:GLY:HA2  | 2.04                     | 0.40              |
| 8:P:458:VAL:HB   | 8:P:487:PRO:HB3  | 2.02                     | 0.40              |
| 8:P:461:ASN:HA   | 8:P:464:ILE:HD12 | 2.03                     | 0.40              |
| 11:3:99:ASN:HD22 | 13:5:72:VAL:HG23 | 1.86                     | 0.40              |
| 1:A:271:THR:OG1  | 1:A:337:GLU:OE2  | 2.40                     | 0.40              |
| 2:B:429:PRO:HB2  | 2:J:464:GLN:N    | 2.37                     | 0.40              |
| 2:B:518:ASP:N    | 2:B:518:ASP:OD1  | 2.53                     | 0.40              |
| 3:C:121:VAL:HG13 | 3:C:433:GLU:CG   | 2.52                     | 0.40              |
| 3:C:224:VAL:HG22 | 3:C:315:VAL:CG1  | 2.50                     | 0.40              |
| 3:C:470:HIS:CG   | 3:C:474:ASN:HA   | 2.56                     | 0.40              |
| 4:D:160:ARG:HG3  | 4:D:188:VAL:HG11 | 2.03                     | 0.40              |
| 4:D:182:LEU:O    | 4:D:185:PRO:HG2  | 2.21                     | 0.40              |
| 5:E:193:VAL:HG13 | 5:E:204:VAL:CG1  | 2.50                     | 0.40              |
| 5:E:306:PHE:H    | 5:E:323:ARG:HE   | 1.68                     | 0.40              |
| 5:E:423:GLY:HA3  | 5:E:491:ILE:CG1  | 2.52                     | 0.40              |
| 5:E:435:GLN:O    | 5:E:439:LYS:HG3  | 2.21                     | 0.40              |
| 6:F:48:VAL:HG11  | 8:H:84:LYS:HD2   | 2.03                     | 0.40              |
| 6:F:101:GLU:HG2  | 6:F:446:ILE:HB   | 2.04                     | 0.40              |
| 6:F:138:LYS:HE2  | 6:F:406:CYS:SG   | 2.62                     | 0.40              |
| 6:F:170:GLU:HA   | 6:F:173:VAL:HG22 | 2.04                     | 0.40              |
| 6:F:172:VAL:HG23 | 6:F:391:VAL:HG23 | 2.04                     | 0.40              |
| 6:F:229:TYR:HB3  | 6:F:344:LEU:HD12 | 2.02                     | 0.40              |
| 6:F:381:LYS:HB2  | 6:F:383:THR:OG1  | 2.22                     | 0.40              |
| 7:G:37:ARG:HH22  | 7:G:447:ARG:HB3  | 1.85                     | 0.40              |
| 7:G:105:LEU:O    | 7:G:109:LYS:HG3  | 2.21                     | 0.40              |

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| Atom-1           | Atom-2           | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|------------------|--------------------------|-------------------|
| 7:G:216:PHE:CE1  | 7:G:318:ASP:HB3  | 2.57                     | 0.40              |
| 7:G:243:GLU:HB3  | 7:G:293:LEU:HB3  | 2.02                     | 0.40              |
| 7:G:297:ASP:OD1  | 7:G:298:VAL:HG23 | 2.21                     | 0.40              |
| 8:H:24:GLY:O     | 8:H:27:GLU:N     | 2.55                     | 0.40              |
| 8:H:136:CYS:SG   | 8:H:509:LYS:HA   | 2.61                     | 0.40              |
| 1:I:18:ARG:NH1   | 4:L:57:MET:HB2   | 2.35                     | 0.40              |
| 1:I:32:VAL:CG1   | 1:I:91:THR:HA    | 2.52                     | 0.40              |
| 1:I:133:ASN:OD1  | 1:I:507:THR:OG1  | 2.34                     | 0.40              |
| 2:J:33:ILE:HA    | 2:J:107:ALA:CB   | 2.51                     | 0.40              |
| 2:J:83:VAL:O     | 2:J:87:MET:N     | 2.32                     | 0.40              |
| 2:J:108:GLU:O    | 2:J:111:ARG:HB2  | 2.21                     | 0.40              |
| 3:K:152:MET:HG2  | 3:K:401:VAL:HG21 | 2.03                     | 0.40              |
| 3:K:175:ILE:HD13 | 3:K:375:LEU:O    | 2.21                     | 0.40              |
| 3:K:197:LYS:O    | 3:K:200:ARG:HG3  | 2.21                     | 0.40              |
| 3:K:378:GLY:CA   | 3:K:383:ILE:HG13 | 2.47                     | 0.40              |
| 3:K:466:LEU:CD2  | 3:K:487:LEU:HB3  | 2.51                     | 0.40              |
| 4:L:32:GLN:HG3   | 4:L:33:ILE:N     | 2.37                     | 0.40              |
| 4:L:157:LEU:HD22 | 4:L:198:ALA:C    | 2.41                     | 0.40              |
| 4:L:255:ALA:H    | 4:L:258:THR:HB   | 1.87                     | 0.40              |
| 4:L:462:PRO:C    | 4:L:480:LEU:HD13 | 2.41                     | 0.40              |
| 5:M:86:GLN:HE22  | 7:O:56:ALA:CB    | 2.33                     | 0.40              |
| 5:M:184:GLN:HG3  | 5:M:185:MET:H    | 1.86                     | 0.40              |
| 5:M:263:LYS:HB3  | 5:M:264:HIS:H    | 1.57                     | 0.40              |
| 5:M:286:GLU:O    | 5:M:317:ASN:ND2  | 2.38                     | 0.40              |
| 7:O:214:VAL:HG22 | 7:O:361:PHE:HB2  | 2.03                     | 0.40              |
| 7:O:522:ASN:N    | 8:P:57:ILE:O     | 2.28                     | 0.40              |
| 9:1:22:ASP:O     | 9:1:26:LYS:HG3   | 2.21                     | 0.40              |
| 11:3:164:PHE:HA  | 11:3:167:ASP:HB2 | 2.02                     | 0.40              |

There are no symmetry-related clashes.

## 5.3 Torsion angles [\(i\)](#)

### 5.3.1 Protein backbone [\(i\)](#)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

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     | 519/534 (97%)   | 455 (88%)  | 63 (12%)  | 1 (0%)   | 47          | 81  |
| 1   | I     | 532/534 (100%)  | 494 (93%)  | 37 (7%)   | 1 (0%)   | 47          | 81  |
| 2   | B     | 507/509 (100%)  | 450 (89%)  | 54 (11%)  | 3 (1%)   | 25          | 66  |
| 2   | J     | 506/509 (99%)   | 466 (92%)  | 39 (8%)   | 1 (0%)   | 47          | 81  |
| 3   | C     | 507/513 (99%)   | 445 (88%)  | 61 (12%)  | 1 (0%)   | 47          | 81  |
| 3   | K     | 511/513 (100%)  | 454 (89%)  | 55 (11%)  | 2 (0%)   | 34          | 72  |
| 4   | D     | 506/514 (98%)   | 448 (88%)  | 56 (11%)  | 2 (0%)   | 34          | 72  |
| 4   | L     | 511/514 (99%)   | 457 (89%)  | 54 (11%)  | 0        | 100         | 100 |
| 5   | E     | 515/517 (100%)  | 456 (88%)  | 57 (11%)  | 2 (0%)   | 34          | 72  |
| 5   | M     | 515/517 (100%)  | 477 (93%)  | 35 (7%)   | 3 (1%)   | 25          | 66  |
| 6   | F     | 512/515 (99%)   | 456 (89%)  | 55 (11%)  | 1 (0%)   | 47          | 81  |
| 6   | N     | 511/515 (99%)   | 464 (91%)  | 45 (9%)   | 2 (0%)   | 34          | 72  |
| 7   | G     | 508/514 (99%)   | 449 (88%)  | 55 (11%)  | 4 (1%)   | 19          | 60  |
| 7   | O     | 510/514 (99%)   | 462 (91%)  | 47 (9%)   | 1 (0%)   | 47          | 81  |
| 8   | H     | 508/514 (99%)   | 443 (87%)  | 63 (12%)  | 2 (0%)   | 34          | 72  |
| 8   | P     | 507/514 (99%)   | 455 (90%)  | 51 (10%)  | 1 (0%)   | 47          | 81  |
| 9   | 1     | 105/107 (98%)   | 100 (95%)  | 5 (5%)    | 0        | 100         | 100 |
| 10  | 2     | 101/103 (98%)   | 100 (99%)  | 1 (1%)    | 0        | 100         | 100 |
| 11  | 3     | 130/132 (98%)   | 126 (97%)  | 4 (3%)    | 0        | 100         | 100 |
| 12  | 4     | 102/104 (98%)   | 96 (94%)   | 6 (6%)    | 0        | 100         | 100 |
| 13  | 5     | 125/127 (98%)   | 116 (93%)  | 8 (6%)    | 1 (1%)   | 19          | 60  |
| 14  | 6     | 100/102 (98%)   | 93 (93%)   | 7 (7%)    | 0        | 100         | 100 |
| All | All   | 8848/8935 (99%) | 7962 (90%) | 858 (10%) | 28 (0%)  | 44          | 77  |

All (28) Ramachandran outliers are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 5   | E     | 441 | PRO  |
| 2   | J     | 226 | VAL  |
| 1   | A     | 251 | GLN  |
| 7   | G     | 284 | SER  |
| 1   | I     | 281 | THR  |
| 2   | B     | 172 | LEU  |
| 3   | C     | 476 | GLU  |
| 7   | G     | 168 | ILE  |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 3   | K     | 370 | LYS  |
| 5   | E     | 297 | ALA  |
| 7   | G     | 411 | ALA  |
| 6   | N     | 180 | LYS  |
| 6   | N     | 201 | GLU  |
| 13  | 5     | 56  | SER  |
| 4   | D     | 165 | ASN  |
| 8   | H     | 257 | VAL  |
| 8   | P     | 188 | VAL  |
| 5   | M     | 177 | VAL  |
| 2   | B     | 490 | ILE  |
| 7   | G     | 121 | ILE  |
| 8   | H     | 478 | VAL  |
| 3   | K     | 75  | PRO  |
| 5   | M     | 491 | ILE  |
| 2   | B     | 429 | PRO  |
| 4   | D     | 203 | VAL  |
| 6   | F     | 235 | VAL  |
| 5   | M     | 215 | VAL  |
| 7   | O     | 255 | ILE  |

### 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 PDB entries followed by that with respect to all EM entries.

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     | 434/445 (98%)  | 433 (100%) | 1 (0%)   | 93          | 96  |
| 1   | I     | 445/445 (100%) | 443 (100%) | 2 (0%)   | 91          | 94  |
| 2   | B     | 405/405 (100%) | 405 (100%) | 0        | 100         | 100 |
| 2   | J     | 405/405 (100%) | 405 (100%) | 0        | 100         | 100 |
| 3   | C     | 441/444 (99%)  | 440 (100%) | 1 (0%)   | 93          | 96  |
| 3   | K     | 444/444 (100%) | 442 (100%) | 2 (0%)   | 88          | 93  |
| 4   | D     | 433/439 (99%)  | 432 (100%) | 1 (0%)   | 93          | 96  |
| 4   | L     | 438/439 (100%) | 436 (100%) | 2 (0%)   | 88          | 93  |

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| Mol | Chain | Analysed         | Rotameric   | Outliers | Percentiles |     |
|-----|-------|------------------|-------------|----------|-------------|-----|
| 5   | E     | 436/436 (100%)   | 435 (100%)  | 1 (0%)   | 93          | 96  |
| 5   | M     | 436/436 (100%)   | 436 (100%)  | 0        | 100         | 100 |
| 6   | F     | 429/429 (100%)   | 429 (100%)  | 0        | 100         | 100 |
| 6   | N     | 429/429 (100%)   | 428 (100%)  | 1 (0%)   | 93          | 96  |
| 7   | G     | 420/421 (100%)   | 419 (100%)  | 1 (0%)   | 93          | 96  |
| 7   | O     | 421/421 (100%)   | 420 (100%)  | 1 (0%)   | 93          | 96  |
| 8   | H     | 423/426 (99%)    | 423 (100%)  | 0        | 100         | 100 |
| 8   | P     | 422/426 (99%)    | 421 (100%)  | 1 (0%)   | 93          | 96  |
| 9   | 1     | 97/97 (100%)     | 96 (99%)    | 1 (1%)   | 76          | 86  |
| 10  | 2     | 91/91 (100%)     | 91 (100%)   | 0        | 100         | 100 |
| 11  | 3     | 122/122 (100%)   | 122 (100%)  | 0        | 100         | 100 |
| 12  | 4     | 96/96 (100%)     | 96 (100%)   | 0        | 100         | 100 |
| 13  | 5     | 116/116 (100%)   | 116 (100%)  | 0        | 100         | 100 |
| 14  | 6     | 91/91 (100%)     | 91 (100%)   | 0        | 100         | 100 |
| All | All   | 7474/7503 (100%) | 7459 (100%) | 15 (0%)  | 93          | 96  |

All (15) residues with a non-rotameric sidechain are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1   | A     | 182 | THR  |
| 3   | C     | 100 | ILE  |
| 4   | D     | 503 | ILE  |
| 5   | E     | 427 | ILE  |
| 7   | G     | 479 | ILE  |
| 1   | I     | 234 | ILE  |
| 1   | I     | 527 | ILE  |
| 3   | K     | 156 | ILE  |
| 3   | K     | 296 | ILE  |
| 4   | L     | 328 | ILE  |
| 4   | L     | 405 | ILE  |
| 6   | N     | 511 | ILE  |
| 7   | O     | 427 | ILE  |
| 8   | P     | 417 | ILE  |
| 9   | 1     | 34  | ILE  |

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (154) such sidechains are listed below:



| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1   | A     | 20  | GLN  |
| 1   | A     | 103 | ASN  |
| 1   | A     | 187 | GLN  |
| 1   | A     | 193 | ASN  |
| 1   | A     | 196 | ASN  |
| 1   | A     | 217 | ASN  |
| 1   | A     | 223 | GLN  |
| 1   | A     | 276 | GLN  |
| 1   | A     | 284 | ASN  |
| 1   | A     | 347 | GLN  |
| 1   | A     | 393 | HIS  |
| 1   | A     | 458 | GLN  |
| 2   | B     | 73  | ASN  |
| 2   | B     | 157 | GLN  |
| 2   | B     | 175 | HIS  |
| 2   | B     | 200 | HIS  |
| 3   | C     | 28  | ASN  |
| 3   | C     | 116 | GLN  |
| 3   | C     | 118 | HIS  |
| 3   | C     | 226 | HIS  |
| 3   | C     | 321 | ASN  |
| 3   | C     | 392 | GLN  |
| 3   | C     | 396 | GLN  |
| 3   | C     | 420 | HIS  |
| 3   | C     | 474 | ASN  |
| 4   | D     | 62  | GLN  |
| 4   | D     | 301 | GLN  |
| 4   | D     | 318 | ASN  |
| 4   | D     | 366 | ASN  |
| 5   | E     | 98  | GLN  |
| 5   | E     | 147 | HIS  |
| 5   | E     | 184 | GLN  |
| 5   | E     | 317 | ASN  |
| 5   | E     | 318 | ASN  |
| 5   | E     | 360 | GLN  |
| 5   | E     | 391 | ASN  |
| 5   | E     | 403 | HIS  |
| 5   | E     | 416 | ASN  |
| 5   | E     | 469 | ASN  |
| 5   | E     | 499 | ASN  |
| 6   | F     | 31  | GLN  |
| 6   | F     | 84  | GLN  |
| 6   | F     | 182 | GLN  |

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| <b>Mol</b> | <b>Chain</b> | <b>Res</b> | <b>Type</b> |
|------------|--------------|------------|-------------|
| 6          | F            | 320        | ASN         |
| 6          | F            | 334        | ASN         |
| 6          | F            | 400        | ASN         |
| 6          | F            | 454        | ASN         |
| 6          | F            | 497        | ASN         |
| 6          | F            | 506        | HIS         |
| 7          | G            | 21         | GLN         |
| 7          | G            | 25         | ASN         |
| 7          | G            | 86         | GLN         |
| 7          | G            | 171        | GLN         |
| 7          | G            | 191        | GLN         |
| 7          | G            | 228        | GLN         |
| 7          | G            | 402        | ASN         |
| 7          | G            | 431        | GLN         |
| 7          | G            | 452        | ASN         |
| 7          | G            | 481        | ASN         |
| 7          | G            | 501        | ASN         |
| 8          | H            | 32         | ASN         |
| 8          | H            | 172        | GLN         |
| 8          | H            | 279        | GLN         |
| 8          | H            | 461        | ASN         |
| 1          | I            | 164        | ASN         |
| 1          | I            | 170        | ASN         |
| 1          | I            | 366        | ASN         |
| 1          | I            | 381        | ASN         |
| 1          | I            | 492        | ASN         |
| 2          | J            | 122        | HIS         |
| 2          | J            | 124        | GLN         |
| 2          | J            | 148        | HIS         |
| 2          | J            | 195        | ASN         |
| 2          | J            | 302        | GLN         |
| 2          | J            | 419        | HIS         |
| 2          | J            | 453        | ASN         |
| 2          | J            | 519        | ASN         |
| 3          | K            | 26         | ASN         |
| 3          | K            | 64         | ASN         |
| 3          | K            | 118        | HIS         |
| 3          | K            | 184        | GLN         |
| 3          | K            | 400        | ASN         |
| 3          | K            | 470        | HIS         |
| 3          | K            | 474        | ASN         |
| 4          | L            | 37         | ASN         |

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| <b>Mol</b> | <b>Chain</b> | <b>Res</b> | <b>Type</b> |
|------------|--------------|------------|-------------|
| 4          | L            | 72         | ASN         |
| 4          | L            | 129        | HIS         |
| 4          | L            | 172        | ASN         |
| 4          | L            | 231        | GLN         |
| 4          | L            | 406        | HIS         |
| 4          | L            | 468        | ASN         |
| 4          | L            | 510        | GLN         |
| 5          | M            | 37         | HIS         |
| 5          | M            | 86         | GLN         |
| 5          | M            | 98         | GLN         |
| 5          | M            | 182        | HIS         |
| 5          | M            | 184        | GLN         |
| 5          | M            | 236        | HIS         |
| 5          | M            | 298        | ASN         |
| 5          | M            | 317        | ASN         |
| 5          | M            | 445        | GLN         |
| 5          | M            | 465        | ASN         |
| 5          | M            | 504        | GLN         |
| 5          | M            | 516        | GLN         |
| 6          | N            | 23         | ASN         |
| 6          | N            | 31         | GLN         |
| 6          | N            | 37         | ASN         |
| 6          | N            | 84         | GLN         |
| 6          | N            | 182        | GLN         |
| 6          | N            | 214        | HIS         |
| 6          | N            | 293        | ASN         |
| 6          | N            | 294        | GLN         |
| 6          | N            | 334        | ASN         |
| 6          | N            | 368        | ASN         |
| 6          | N            | 386        | GLN         |
| 6          | N            | 467        | GLN         |
| 7          | O            | 21         | GLN         |
| 7          | O            | 30         | GLN         |
| 7          | O            | 73         | HIS         |
| 7          | O            | 151        | GLN         |
| 7          | O            | 331        | GLN         |
| 7          | O            | 335        | ASN         |
| 7          | O            | 462        | ASN         |
| 7          | O            | 480        | ASN         |
| 8          | P            | 32         | ASN         |
| 8          | P            | 67         | ASN         |
| 8          | P            | 91         | HIS         |

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| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 8   | P     | 102 | ASN  |
| 8   | P     | 201 | ASN  |
| 8   | P     | 309 | ASN  |
| 8   | P     | 316 | ASN  |
| 8   | P     | 435 | GLN  |
| 8   | P     | 455 | ASN  |
| 8   | P     | 472 | GLN  |
| 8   | P     | 513 | ASN  |
| 9   | 1     | 17  | GLN  |
| 9   | 1     | 43  | HIS  |
| 9   | 1     | 45  | HIS  |
| 9   | 1     | 59  | ASN  |
| 9   | 1     | 84  | GLN  |
| 10  | 2     | 31  | ASN  |
| 10  | 2     | 93  | ASN  |
| 11  | 3     | 83  | GLN  |
| 11  | 3     | 110 | ASN  |
| 11  | 3     | 141 | GLN  |
| 11  | 3     | 175 | ASN  |
| 12  | 4     | 29  | ASN  |
| 12  | 4     | 48  | GLN  |
| 12  | 4     | 78  | HIS  |
| 12  | 4     | 80  | GLN  |
| 13  | 5     | 54  | ASN  |
| 13  | 5     | 81  | HIS  |
| 14  | 6     | 20  | GLN  |
| 14  | 6     | 67  | GLN  |

### 5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

### 5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

## 5.6 Ligand geometry [i](#)

There are no ligands in this entry.

## 5.7 Other polymers [i](#)

There are no such residues in this entry.

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

The following chains have linkage breaks:

| Mol | Chain | Number of breaks |
|-----|-------|------------------|
| 7   | O     | 1                |
| 7   | G     | 1                |

All chain breaks are listed below:

| Model | Chain | Residue-1 | Atom-1 | Residue-2 | Atom-2 | Distance (Å) |
|-------|-------|-----------|--------|-----------|--------|--------------|
| 1     | O     | 258:HIS   | C      | 259:THR   | N      | 5.28         |
| 1     | G     | 166:LYS   | C      | 167:LEU   | N      | 3.01         |

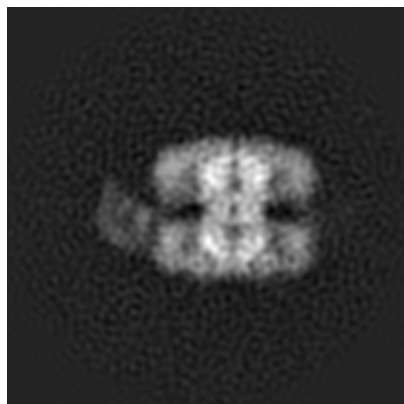
## 6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-0493. These allow visual inspection of the internal detail of the map and identification of artifacts.

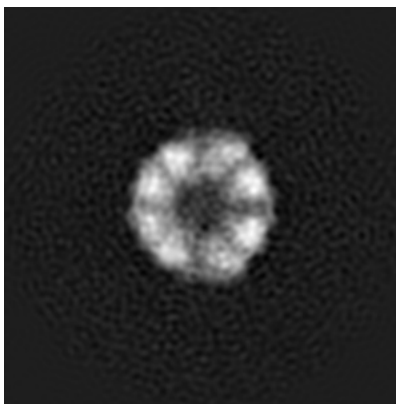
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

### 6.1 Orthogonal projections [i](#)

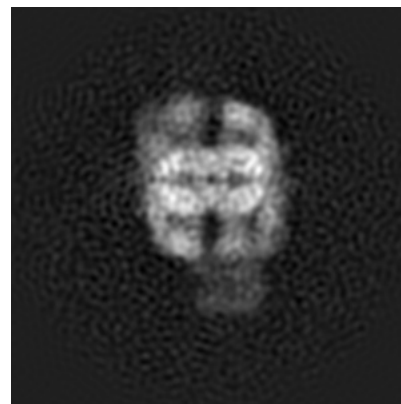
#### 6.1.1 Primary map



X

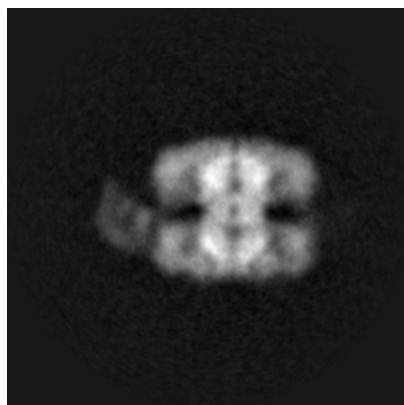


Y

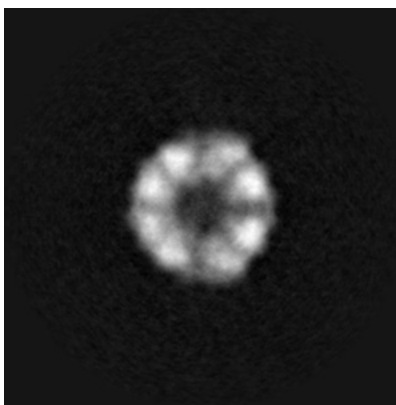


Z

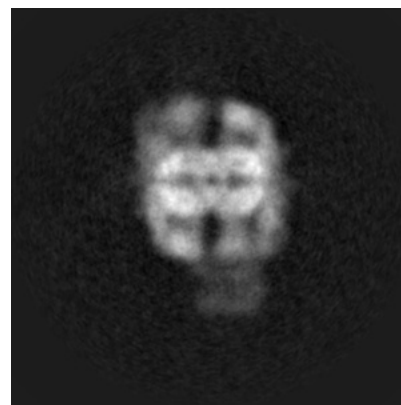
#### 6.1.2 Raw map



X



Y

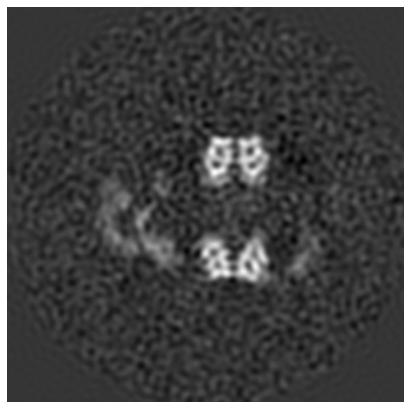


Z

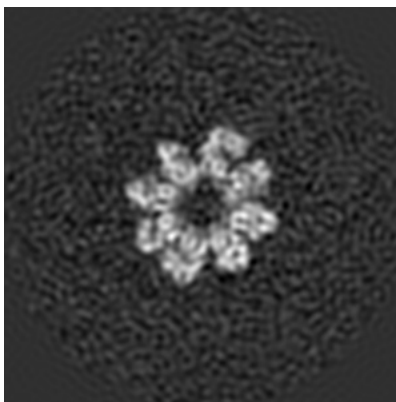
The images above show the map projected in three orthogonal directions.

## 6.2 Central slices [i](#)

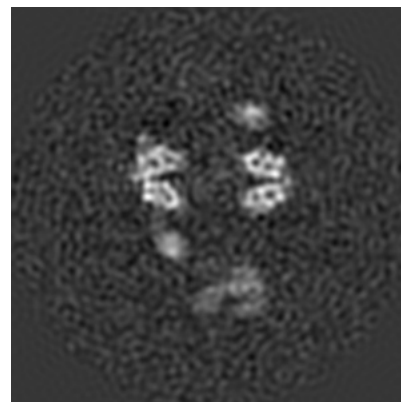
### 6.2.1 Primary map



X Index: 120

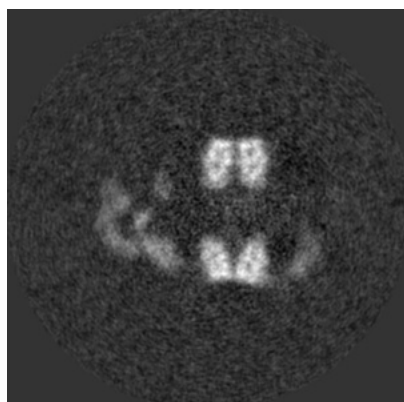


Y Index: 120

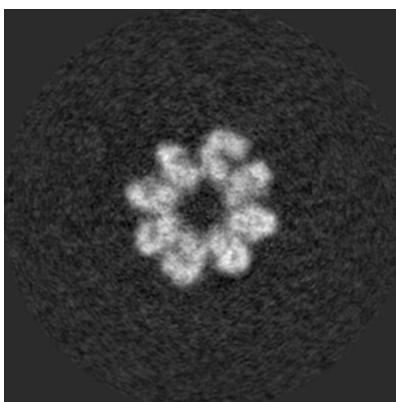


Z Index: 120

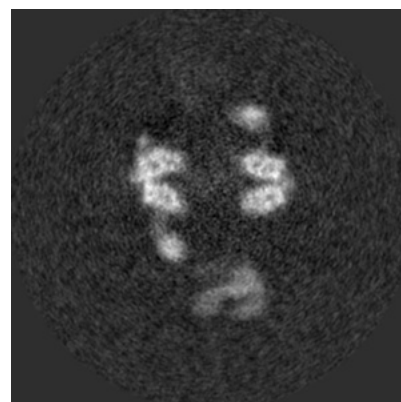
### 6.2.2 Raw map



X Index: 120



Y Index: 120



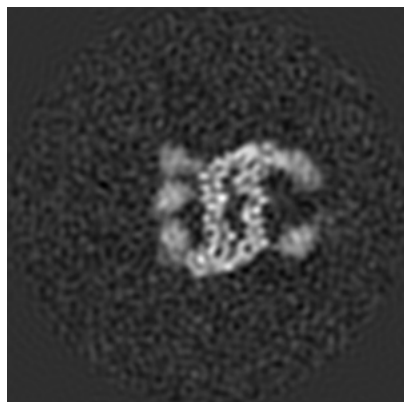
Z Index: 120

The images above show central slices of the map in three orthogonal directions.

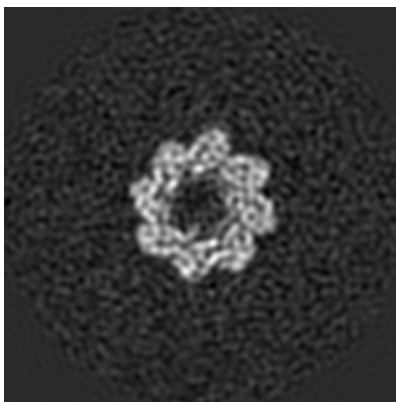


## 6.3 Largest variance slices [i](#)

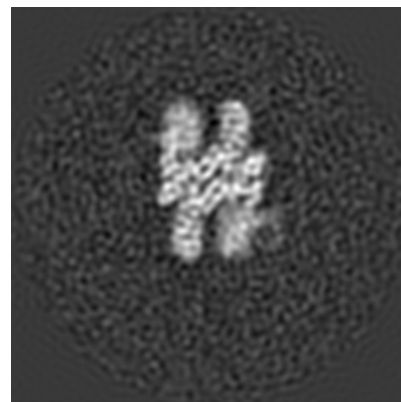
### 6.3.1 Primary map



X Index: 98

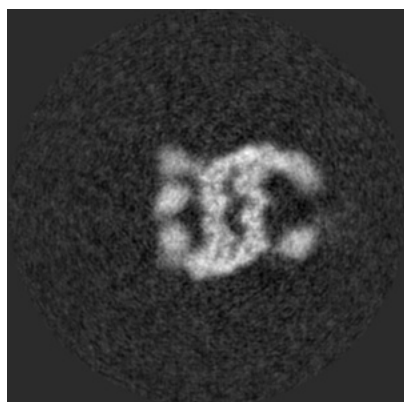


Y Index: 128

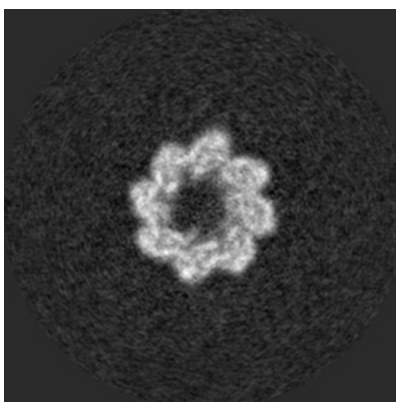


Z Index: 148

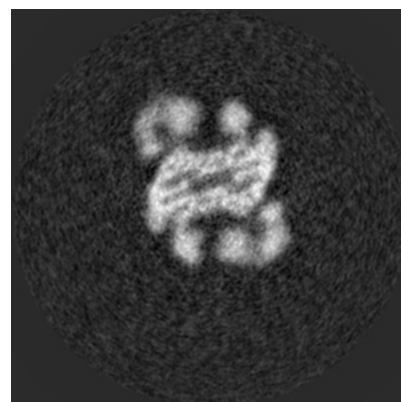
### 6.3.2 Raw map



X Index: 98



Y Index: 128

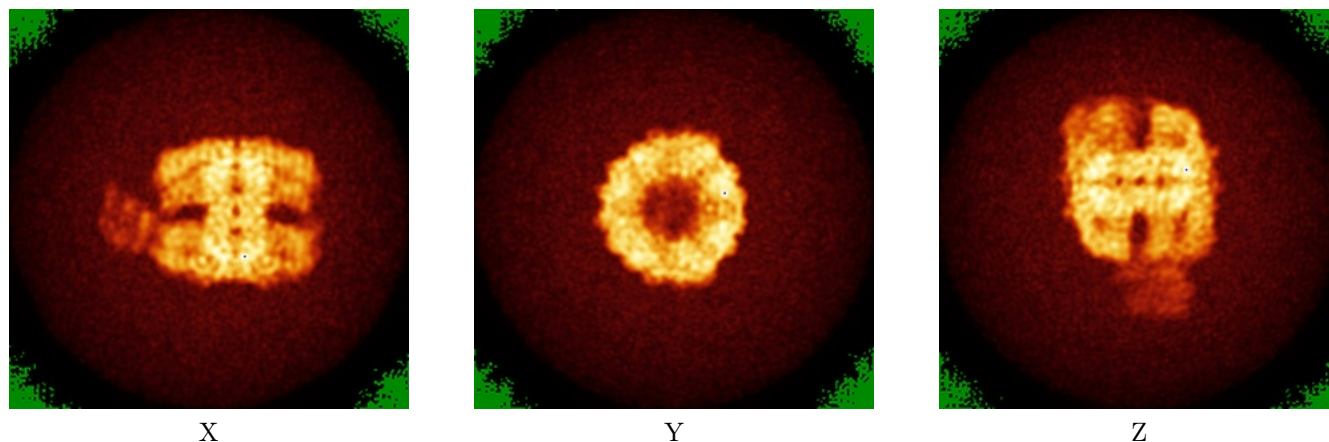


Z Index: 142

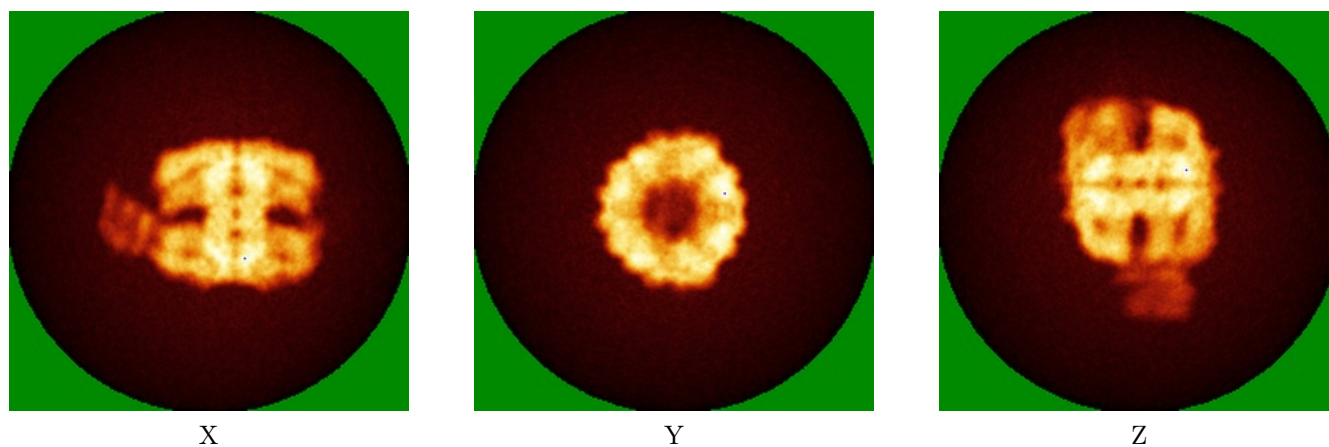
The images above show the largest variance slices of the map in three orthogonal directions.

## 6.4 Orthogonal standard-deviation projections (False-color) [i](#)

### 6.4.1 Primary map



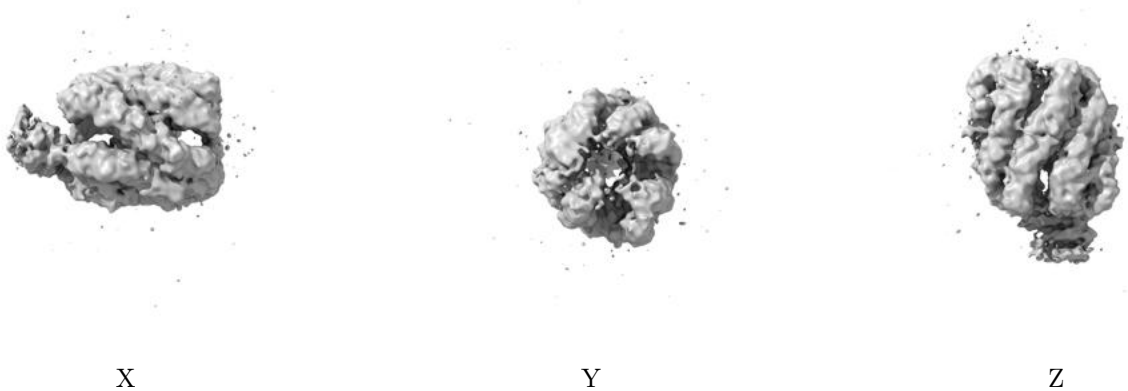
### 6.4.2 Raw map



The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

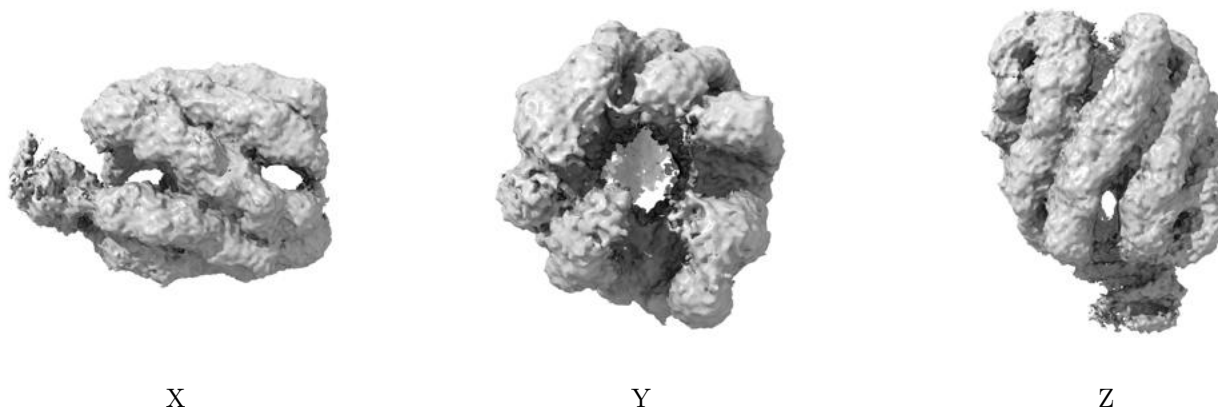
## 6.5 Orthogonal surface views [i](#)

### 6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.025. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

### 6.5.2 Raw map



These images show the 3D surface of the raw map. The raw map's contour level was selected so that its surface encloses the same volume as the primary map does at its recommended contour level.

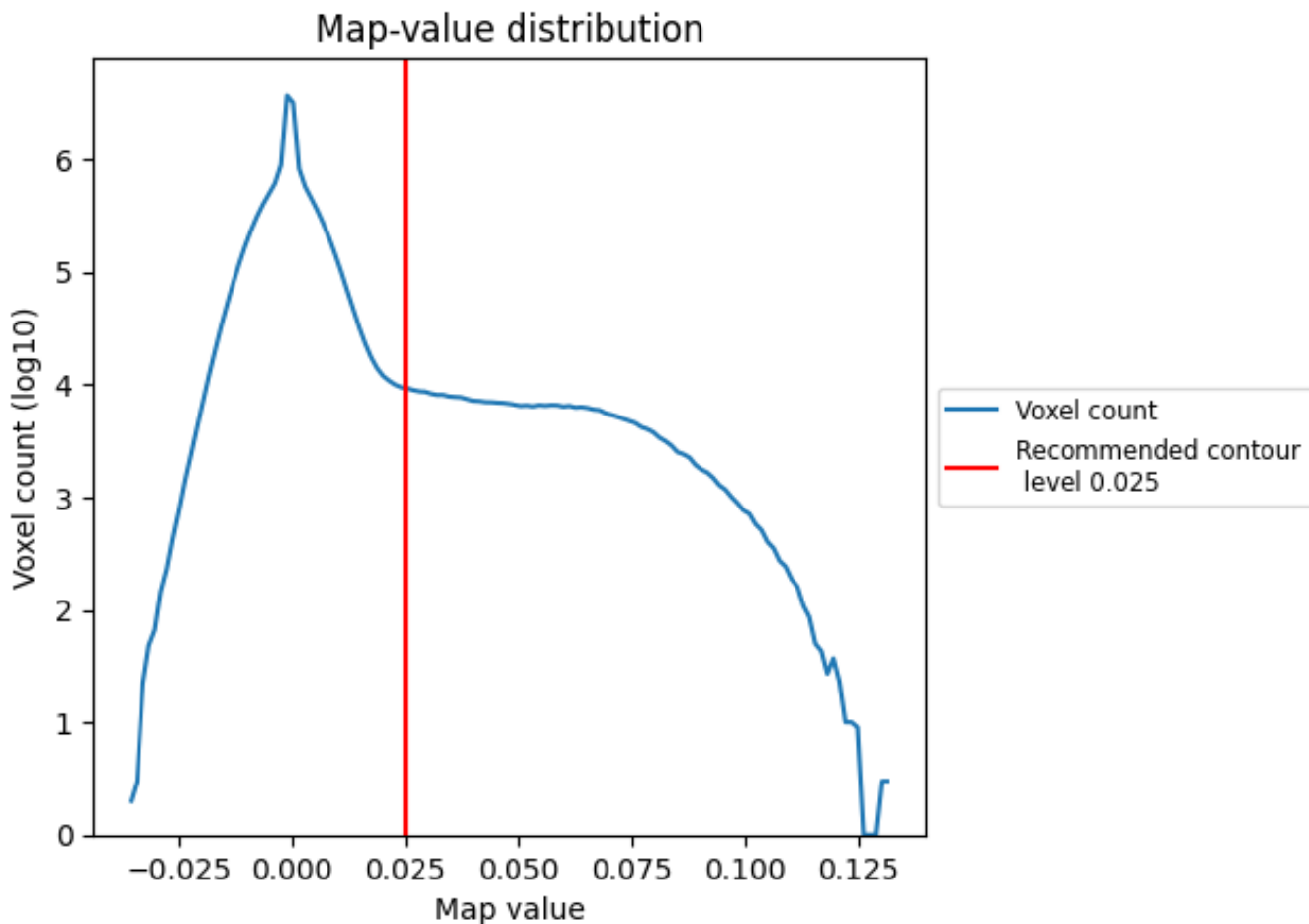
## 6.6 Mask visualisation [i](#)

This section was not generated. No masks/segmentation were deposited.

## 7 Map analysis [i](#)

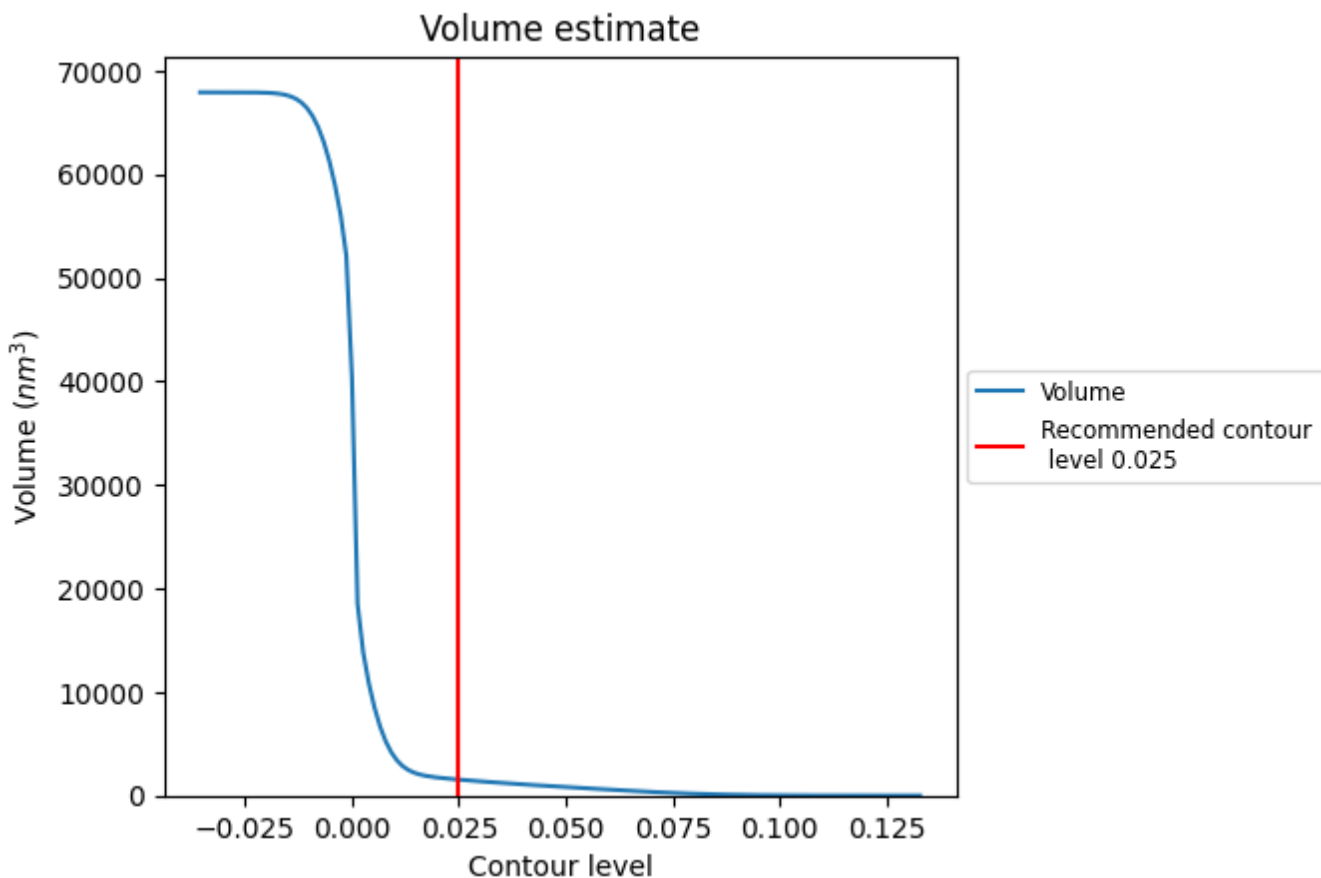
This section contains the results of statistical analysis of the map.

### 7.1 Map-value distribution [i](#)



The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

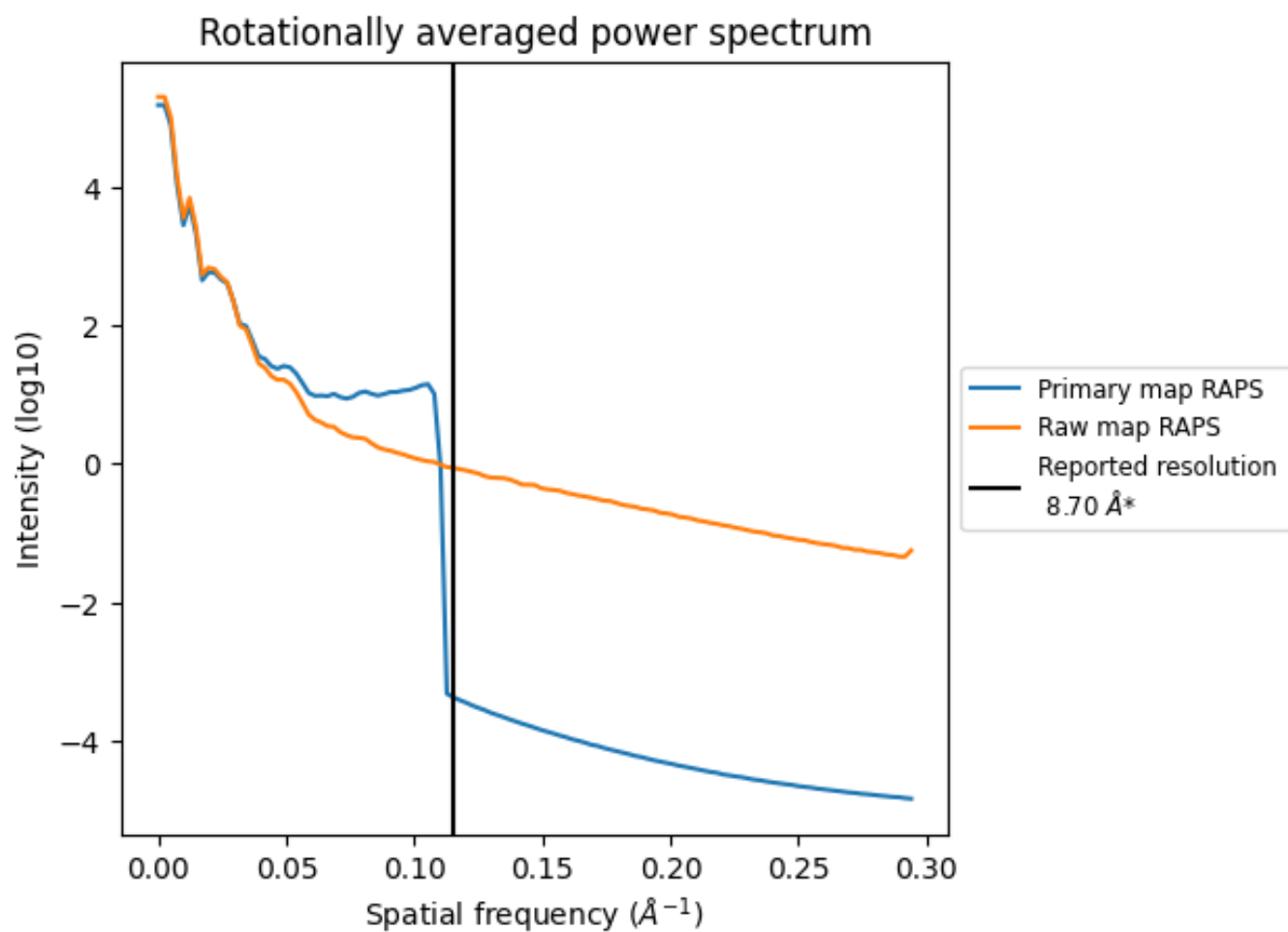
## 7.2 Volume estimate [i](#)



The volume at the recommended contour level is 1539 nm<sup>3</sup>; this corresponds to an approximate mass of 1390 kDa.

The volume estimate graph shows how the enclosed volume varies with the contour level. The recommended contour level is shown as a vertical line and the intersection between the line and the curve gives the volume of the enclosed surface at the given level.

### 7.3 Rotationally averaged power spectrum i

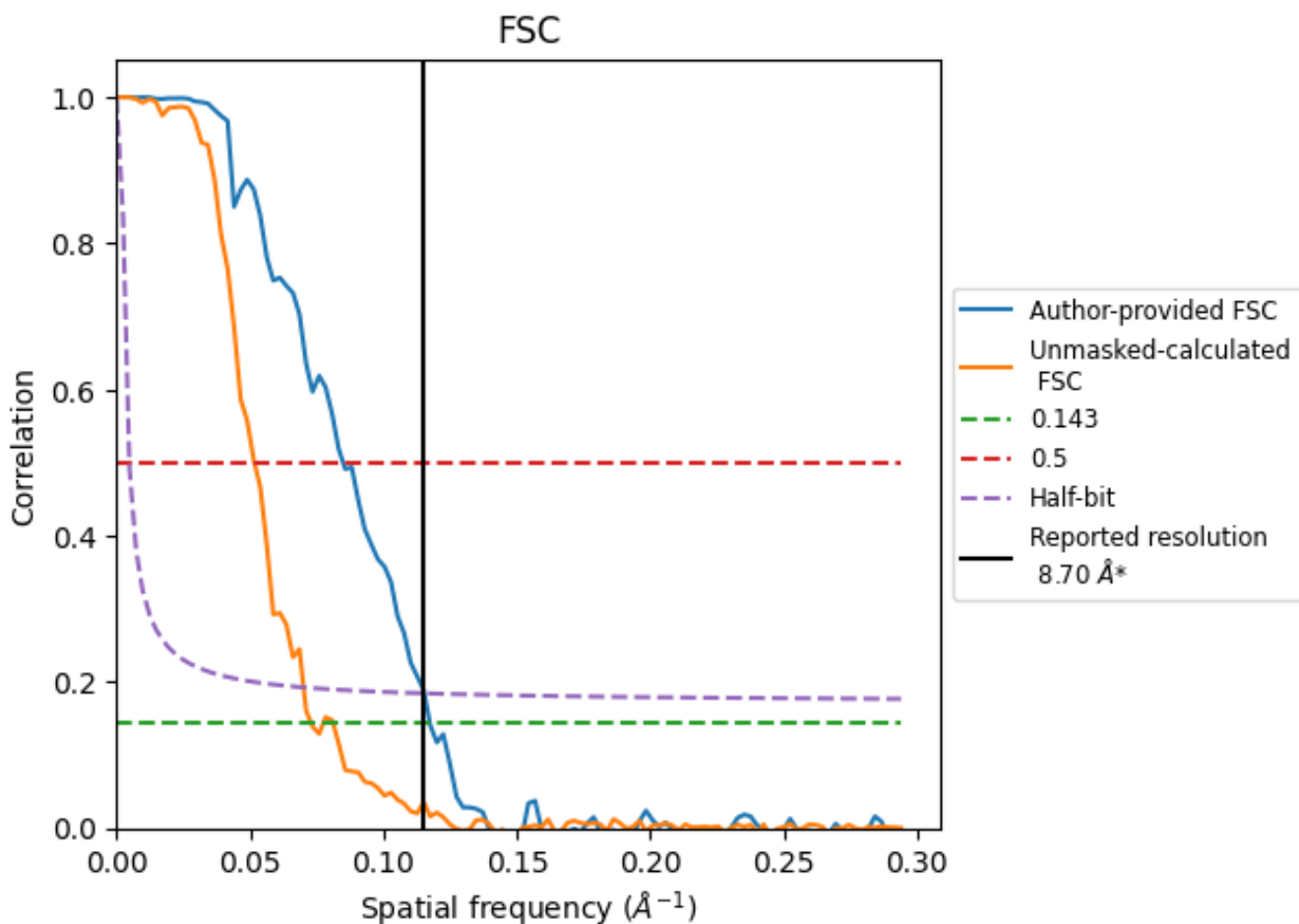


\*Reported resolution corresponds to spatial frequency of 0.115 Å<sup>-1</sup>

## 8 Fourier-Shell correlation [i](#)

Fourier-Shell Correlation (FSC) is the most commonly used method to estimate the resolution of single-particle and subtomogram-averaged maps. The shape of the curve depends on the imposed symmetry, mask and whether or not the two 3D reconstructions used were processed from a common reference. The reported resolution is shown as a black line. A curve is displayed for the half-bit criterion in addition to lines showing the 0.143 gold standard cut-off and 0.5 cut-off.

### 8.1 FSC [i](#)



\*Reported resolution corresponds to spatial frequency of 0.115 Å<sup>-1</sup>



## 8.2 Resolution estimates [i](#)

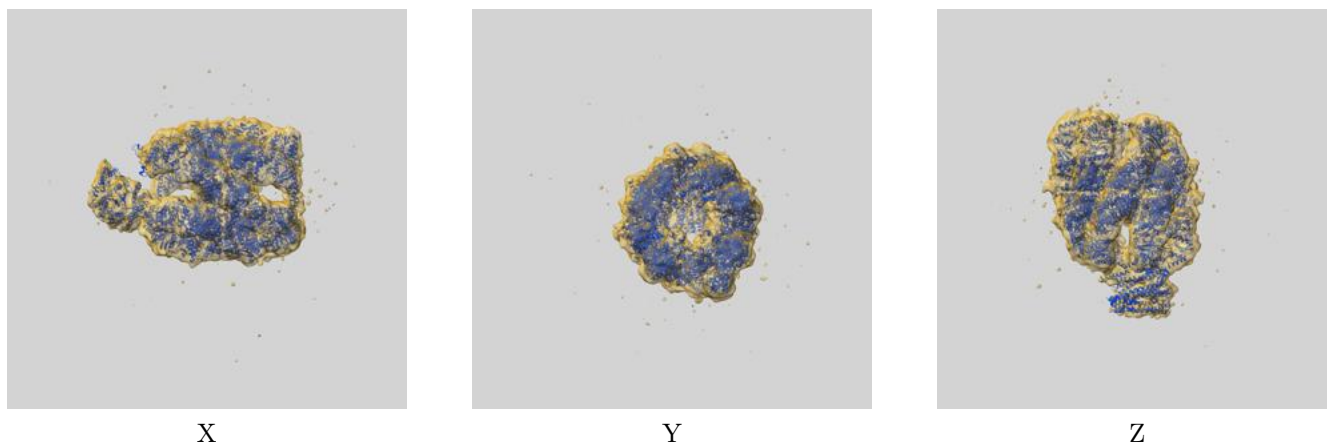
| Resolution estimate (Å)   | Estimation criterion (FSC cut-off) |       |          |
|---------------------------|------------------------------------|-------|----------|
|                           | 0.143                              | 0.5   | Half-bit |
| Reported by author        | 8.70                               | -     | -        |
| Author-provided FSC curve | 8.51                               | 11.76 | 8.67     |
| Unmasked-calculated*      | 13.70                              | 19.34 | 14.25    |

\*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 13.70 differs from the reported value 8.7 by more than 10 %

## 9 Map-model fit [i](#)

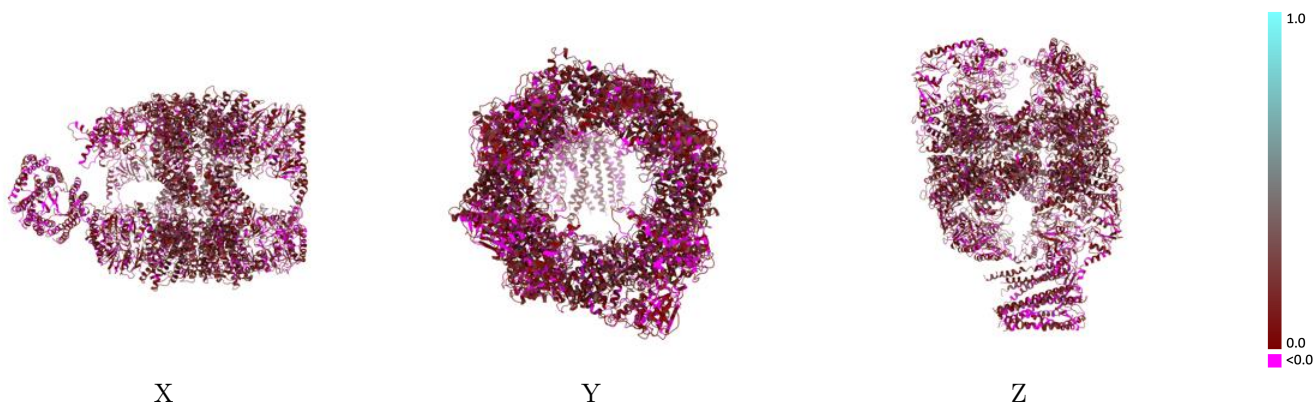
This section contains information regarding the fit between EMDB map EMD-0493 and PDB model 6NRB. Per-residue inclusion information can be found in section 3 on page 7.

### 9.1 Map-model overlay [i](#)



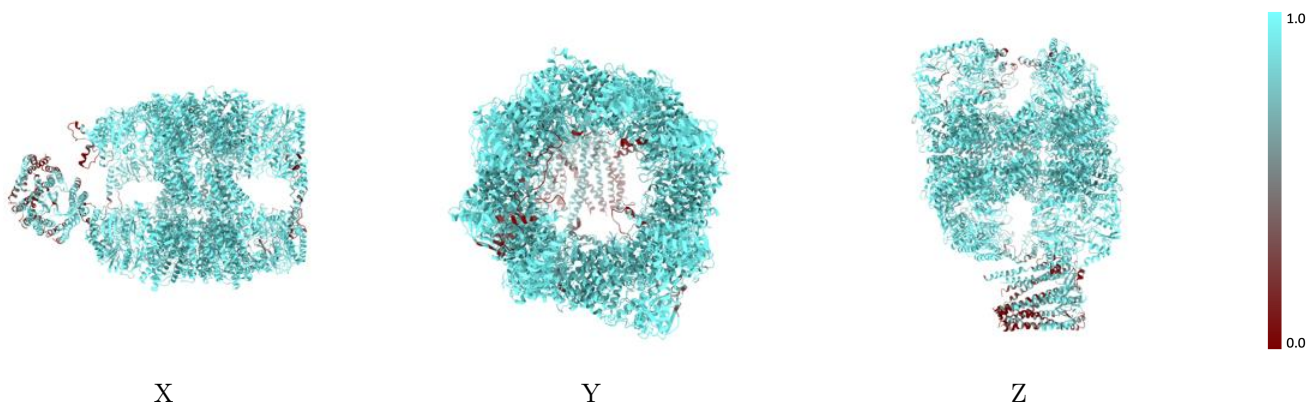
The images above show the 3D surface view of the map at the recommended contour level 0.025 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

## 9.2 Q-score mapped to coordinate model [i](#)



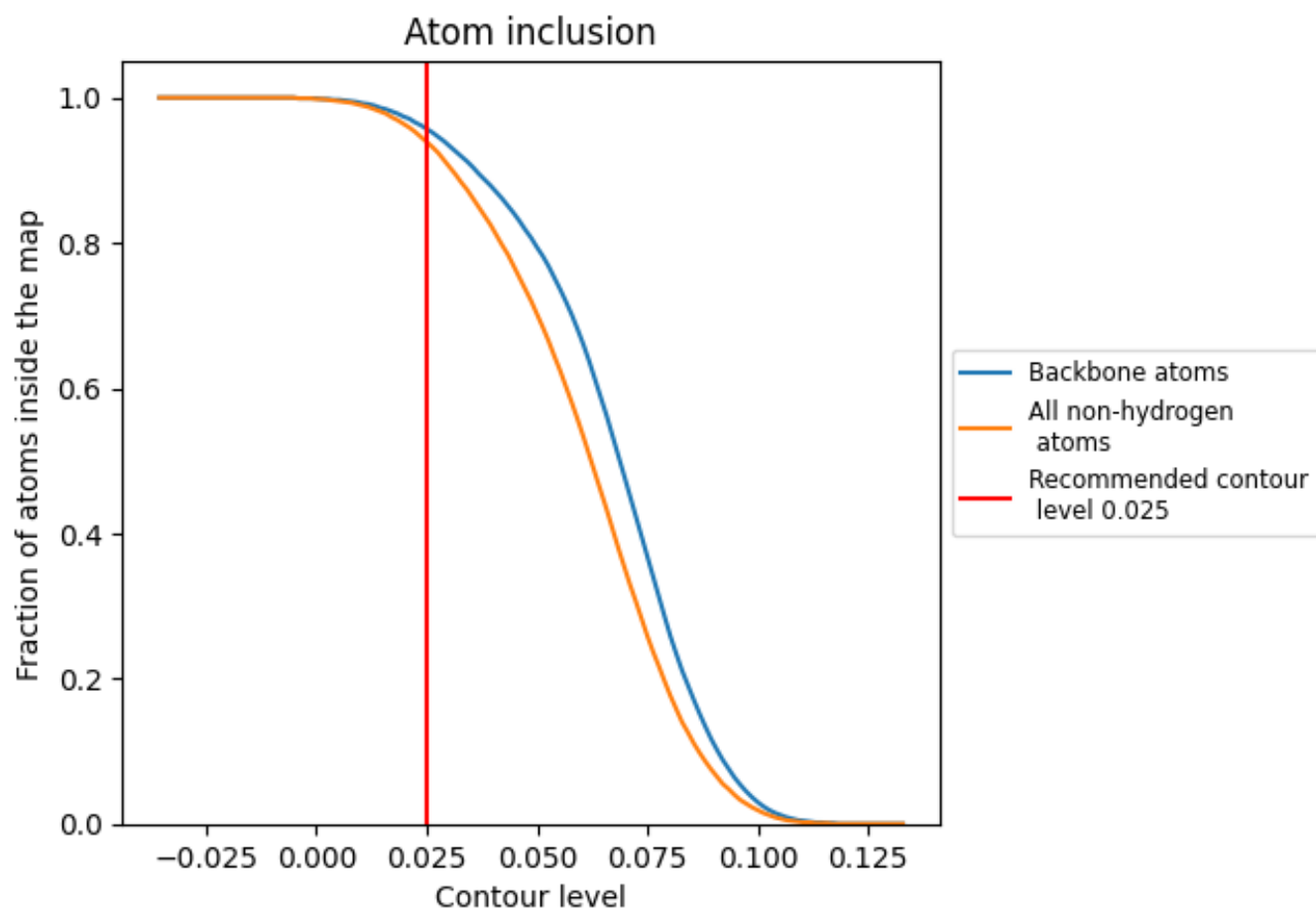
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions at which atoms can be resolved. Low Q-score values may therefore be expected for many entries.

## 9.3 Atom inclusion mapped to coordinate model [i](#)



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.025).















































## 9.4 Atom inclusion [i](#)



At the recommended contour level, 96% of all backbone atoms, 94% of all non-hydrogen atoms, are inside the map.

## 9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.025) and Q-score for the entire model and for each chain.

| Chain | Atom inclusion   | Q-score  |
|-------|--|--|
| All   |  0.9390   |  0.1090   |
| 1     |  0.5440   |  0.0680   |
| 2     |  0.5020   |  0.0370   |
| 3     |  0.7130   |  0.0610   |
| 4     |  0.7900   |  0.0970   |
| 5     |  0.7420   |  0.0880   |
| 6     |  0.8590   |  0.1050   |
| A     |  0.9640   |  0.1160   |
| B     |  0.9760   |  0.1190   |
| C     |  0.9440   |  0.1110   |
| D     |  0.9590   |  0.1230   |
| E     |  0.9860   |  0.1190   |
| F     |  0.9780   |  0.1220   |
| G     |  0.9860   |  0.1220   |
| H     |  0.9680  |  0.1180  |
| I     |  0.9530 |  0.0800 |
| J     |  0.8780 |  0.0920 |
| K     |  0.9510 |  0.1040 |
| L     |  0.9670 |  0.1180 |
| M     |  0.9680 |  0.1120 |
| N     |  0.9660 |  0.1150 |
| O     |  0.9550 |  0.1060 |
| P     |  0.9710 |  0.1120 |

